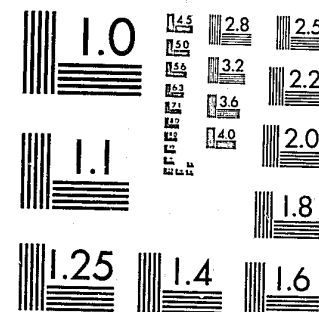


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CRIME AND ARREST RATE PREDICTIONS  
FOR THE STATES OF ALASKA AND OREGON:  
BOX-JENKINS MONTHLY FORECASTS

U.S. Department of Justice  
National Institute of Justice 92959

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Crime And Arrest Rate Prediction  
Johnson, K et al.

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CRIME AND ARREST RATE PREDICTIONS  
FOR THE STATES OF ALASKA AND OREGON:  
BOX-JENKINS MONTHLY FORECASTS

Prepared by  
The Research Team

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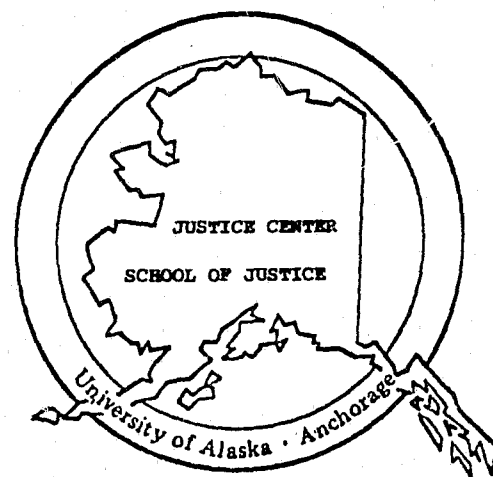


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ACQUISITIONS

\* Terms Non Violent and Property used interchangeably

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| i. over 18                                  | 58   |
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| i. over 18                                  | 64   |
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| iii. non-white                              | 68   |
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| i. over 18                                  | 70   |
| ii. under 18                                | 72   |
| iii. non-white                              | 74   |
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| i. over 18                                  | 76   |
| ii. under 18                                | 78   |
| iii. non-white                              | 80   |
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| i. over 18                                  | -    |
| ii. under 18                                | 82   |
| iii. non-white                              | 84   |
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| a. Statewide                                |      |
| i. over 18                                  | 86   |
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| iii. non-white                              | 90   |
| b. Anchorage (#2)                           |      |
| i. over 18                                  | 92   |
| ii. under 18                                | 94   |
| iii. non-white                              | 96   |
| c. Fairbanks (#4)                           |      |
| i. over 18                                  | 98   |
| ii. under 18                                | 100  |
| iii. non-white                              | 102  |
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| i. over 18                                  | 104  |
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|                                  |      |
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| i. over 18                       | 118  |
| ii. under 18                     | -    |
| iii. non-white                   | 120  |
| b. Region 1                      |      |
| i. over 18                       | 122  |
| ii. under 18                     | 124  |
| iii. non-white                   | 126  |
| c. Region 2                      |      |
| i. over 18                       | 128  |
| ii. under 18                     | 130  |
| iii. non-white                   | 132  |
| d. Region 3                      |      |
| i. over 18                       | 134  |
| ii. under 18                     | 136  |
| iii. non-white                   | 138  |
| e. Region 4                      |      |
| i. over 18                       | 140  |
| ii. under 18                     | 142  |
| iii. non-white                   | 144  |
| f. Region 5                      |      |
| i. over 18                       | 146  |
| ii. under 18                     | 148  |
| iii. non-white                   | 150  |
| g. Region 6                      |      |
| i. over 18                       | 152  |
| ii. under 18                     | 154  |
| iii. non-white                   | 156  |
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| iii. non-white                   | 162  |

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| a. Statewide Total   |             |
| i. over 18           | 164         |
| ii. under 18         | -           |
| iii. non-white       | 166         |
| b. Region 1          |             |
| i. over 18           | 168         |
| ii. under 18         | 170         |
| iii. non-white       | 172         |
| c. Region 2          |             |
| i. over 18           | 174         |
| ii. under 18         | 176         |
| iii. non-white       | 178         |
| d. Region 3          |             |
| i. over 18           | 180         |
| ii. under 18         | 182         |
| iii. non-white       | 184         |
| e. Region 4          |             |
| i. over 18           | 186         |
| ii. under 18         | 188         |
| iii. non-white       | 190         |
| f. Region 5          |             |
| i. over 18           | 192         |
| ii. under 18         | 194         |
| iii. non-white       | 196         |
| g. Region 6          |             |
| i. over 18           | 198         |
| ii. under 18         | 200         |
| iii. non-white       | 202         |
| h. Region 7          |             |
| i. over 18           | 204         |
| ii. under 18         | 206         |
| iii. non-white       | 208         |

## INTRODUCTION

In 1970, George E.P. Box and Gwilym M. Jenkins collaborated on the seminal work outlining the mathematics and methods of ARIMA time series analysis. Although these methods were in existence (in one form or another) for at least fifty years, Box and Jenkins must be credited with synthesizing a diverse range of methods into a comprehensive system of time series models. The acronym ARIMA stands for AutoRegressive Integrated Moving Average and an ARIMA time series model in the general case consists of a "best combination" of autoregressive, three types integrated, and moving average components. The methods by which one selects the "best combination" of these components for any given time series are described in detail by McCleary and Hay (1980: Ch. 2). In each specific case, however, modeling methods may differ substantially. So that our work may be replicated, we describe the exact method used in this research. In addition, each model and its monthly forecasts are presented in this volume for a five year period from 1983 to 1987.

Since ARIMA time series analysis requires a series of possibly subjective judgments, each analysis was independently replicated at least one time. In over 80 percent of the cases, the independent replications arrived at exactly the same ARIMA model. In 20 percent of the cases, independent replications arrived at different ARIMA models and, in these cases, disagreements were resolved by logical and statistical criteria.

ARIMA time series analysis consists generally of three itera-

tive analytic procedures: identification, estimation, and diagnosis. In addition to these three procedures, McCleary and Hay (1980: Ch. 2.11) recommend a series statistical procedure called "metadiagnosis." This analytic scheme was applied to all monthly time series.

In the identification procedure, autocorrelation functions were estimated for each of the time series. For a broad class of time series, the autocorrelation function is a statistic that describes the underlying characteristics of the series; and, in particular, whether the series follows an autoregressive, integrated, or moving average process model. To make each analysis roughly comparable, a 30-lag autocorrelation function was used for every analysis. From the autocorrelation function, the analyst determines the specific form of the forecasting model. In the general case, we can write an ARIMA model as

$$C(t) = f: C(t-1), C(t-2), \dots, C(t-k)$$

where  $C(t)$  is the current time series observation (crime rate) and where  $C(t), \dots, C(t-k)$  are the  $k$  preceding observations. The analytic problem is determining how many and which of the  $k$  preceding observations are to be included in the model. The identification procedure consists simply of "reading" the autocorrelation function of a time series to make this determination.

After a tentative ARIMA model has been identified, model parameters must be estimated. All estimation was executed with an appropriate nonlinear software package (Pack, 1977). Statistical significance is a crucial issue of the estimation procedures; all parameter estimates must be statistically signif-

icant. To avoid ambiguity here, we adopted a nominal 95 percent significance criterion for all estimates. A parameter estimate was not considered statistically significant, in other words, unless its size was greater than what would be expected 95 percent of the time by chance alone.

After the parameters of a tentative ARIMA model have been estimated, the model must be evaluated to assure that all statistical assumptions have been satisfied. This procedure, diagnosis, consists of performing a series of statistical tests on the model residuals. In all analyses we required that the residual autocorrelation function (autocorrelation function estimated from the model residuals) have no statistically significant values at the first two lags and at seasonal lags; and that the entire residual autocorrelation function be not statistically significant by a chi-square criterion test of all 30 lags.

If a tentative model satisfies all diagnostic criteria, it is accepted as the final forecasting model for a time series; otherwise, the iterative analytic procedure returns to the identification procedures, a new tentative model is selected, parameters estimated, residuals diagnosed, and so forth. Even after an ARIMA model passes diagnosis, however, metadiagnosis procedures must be performed. In our cases, metadiagnosis consisted of checking each series for a "best" Box-Cox transformation and adding extra parameters to the tentative model. Metadiagnosis in this sense tries to overanalyze the series; and, to the extent that overanalysis does not improve the forecasting power of an ARIMA model, it ensures that the final model is the

best possible.

The final ARIMA forecasting models for the Alaska and Oregon crime time series consisted of three conceptually distinct components: seasonality, trend, and error or noise. Two of these three components, trend and seasonality, form the basis of the ARIMA forecast; that is, patterns of trend and seasonality can be extrapolated into the future. The third component, error, is essentially random and nonforecastable. Without error or noise, of course, each ARIMA forecast would be precise and correct; and since every time series has some amount of noise in its process, each ARIMA forecast will be imprecise and incorrect to some extent. The degree of impreciseness, however, is a function of the relative proportion of trend and seasonality in the series. Series that have heavy trend and/or seasonal components will be more forecastable than series with light trend and/or seasonal components.

As a measure of relative imprecision, our forecasts include detailed 95 percent confidence intervals around each monthly forecast. At the risk of oversimplification, these confidence intervals may be interpreted as the upper and lower bounds of error. That is, only five percent of the monthly forecasts are expected to lie outside these intervals. In the following sections we present models and monthly forecasts for 96 Alaska and Oregon crime and arrest time series.

## SECTION I: MODELS AND FORECASTS OF REPORTED CRIME

A. ALASKA

1. Violent Crime

- a. Statewide Total
- b. Anchorage (#2)
- c. Fairbanks (#4)
- d. Juneau (#6)
- e. Rest of State (#17)

2. Non Violent Crime

- a. Statewide Total
- b. Anchorage (#2)
- c. Fairbanks (#4)
- d. Juneau (#6)
- e. Rest of State (#17)

# TIME SERIES FORECASTING FOR MODEL 1

DATA - 2 = ALASKA STATEWIDE; VIOLENT CRIMES, TOTAL

84 OBSERVATIONS

DIFFERENCING ON 2 - 1) 1 OF ORDER 1 2) 1 OF ORDER 12

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | AUTOREGRESSIVE 1  | 8                  | -.29360+00         |
| 2                   | MOVING AVERAGE 1  | 1                  | .23286+00          |
| 3                   | MOVING AVERAGE 1  | 12                 | .98103+00          |
| 4                   | TREND CONSTANT    |                    | .28025+01          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE 1= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .6795117+03     | .1012376+04 | .1145244+04     |                  |
| 2             | .6911193+03     | .8565783+03 | .1026037+04     |                  |
| 3             | .7524858+03     | .9485256+03 | .1144565+04     |                  |
| 4             | .6899870+03     | .9109410+03 | .1131895+04     |                  |
| 5             | .7582921+03     | .1001623+04 | .1244953+04     |                  |
| 6             | .7100695+03     | .9738655+03 | .1237701+04     |                  |
| 7             | .7604812+03     | .1043303+04 | .1326424+04     |                  |
| 8             | .7865683+03     | .1067190+04 | .1367824+04     |                  |
| 9             | .7069742+03     | .1014115+04 | .1321256+04     |                  |
| 10            | .7348706+03     | .1050338+04 | .1365805+04     |                  |
| 11            | .7014607+03     | .1025060+04 | .1348640+04     |                  |
| 12            | .7851109+03     | .1116604+04 | .1448098+04     |                  |
| 13            | .7578760+03     | .1097643+04 | .1437409+04     |                  |
| 14            | .6228086+03     | .9653590+03 | .1307909+04     |                  |
| 15            | .6797909+03     | .1025103+04 | .1370414+04     |                  |
| 16            | .6446496+03     | .9927007+03 | .1340752+04     |                  |
| 17            | .7206209+03     | .1072990+04 | .1425372+04     |                  |
| 18            | .6914569+03     | .1047704+04 | .1403948+04     |                  |
| 19            | .7549382+03     | .1115012+04 | .1475087+04     |                  |
| 20            | .7868228+03     | .1150685+04 | .1514548+04     |                  |
| 21            | .7021360+03     | .1069643+04 | .1437150+04     |                  |
| 22            | .7298633+03     | .1102352+04 | .1474840+04     |                  |
| 23            | .7113406+03     | .1088744+04 | .1466148+04     |                  |
| 24            | .7993133+03     | .1181569+04 | .1563825+04     |                  |
| 25            | .7815432+03     | .1168459+04 | .1555375+04     |                  |
| 26            | .6502053+03     | .1038261+04 | .1426316+04     |                  |
| 27            | .7122342+03     | .1101428+04 | .1490617+04     |                  |
| 28            | .6839156+03     | .1074240+04 | .1464564+04     |                  |
| 29            | .7682054+03     | .1159675+04 | .1551145+04     |                  |
| 30            | .7437977+03     | .1138216+04 | .1530634+04     |                  |
| 31            | .8115375+03     | .1204902+04 | .1598266+04     |                  |
| 32            | .8486931+03     | .1243001+04 | .1637309+04     |                  |
| 33            | .7677766+03     | .1163043+04 | .1558310+04     |                  |
| 34            | .8010059+03     | .1197942+04 | .1594878+04     |                  |
| 35            | .7875343+03     | .1186133+04 | .1584731+04     |                  |
| 36            | .8799747+03     | .1280228+04 | .1680482+04     |                  |
| 37            | .8662798+03     | .1268412+04 | .1670544+04     |                  |
| 38            | .7376645+03     | .1139890+04 | .1542116+04     |                  |
| 39            | .8037217+03     | .1206041+04 | .1608359+04     |                  |
| 40            | .7785325+03     | .1180945+04 | .1583357+04     |                  |
| 41            | .8663606+03     | .1268862+04 | .1671366+04     |                  |
| 42            | .8470159+03     | .1249565+04 | .1652113+04     |                  |
| 43            | .9159317+03     | .1318525+04 | .1721118+04     |                  |
| 44            | .9564157+03     | .1359054+04 | .1761691+04     |                  |
| 45            | .8788460+03     | .1281518+04 | .1664191+04     |                  |
| 46            | .9158071+03     | .1318727+04 | .1721647+04     |                  |
| 47            | .9056761+03     | .1308844+04 | .1712011+04     |                  |
| 48            | .1001713+04     | .1405129+04 | .1808544+04     |                  |
| 49            | .9916258+03     | .1395385+04 | .1799144+04     |                  |
| 50            | .8650465+03     | .1269031+04 | .1673017+04     |                  |
| 51            | .9331060+03     | .1337317+04 | .1741528+04     |                  |
| 52            | .9098738+03     | .1314310+04 | .1718747+04     |                  |
| 53            | .9996663+03     | .1404321+04 | .1808976+04     |                  |
| 54            | .9821784+03     | .1387145+04 | .1792113+04     |                  |
| 55            | .1053064+04     | .1458343+04 | .1863622+04     |                  |
| 56            | .1095441+04     | .1501031+04 | .1906622+04     |                  |
| 57            | .1019758+04     | .1425690+04 | .1831622+04     |                  |
| 58            | .1059058+04     | .1465065+04 | .1871071+04     |                  |
| 59            | .1051276+04     | .1457357+04 | .1863438+04     |                  |
| 60            | .1149675+04     | .1555811+04 | .1961986+04     |                  |

TIME SERIES FORECASTING FOR MODEL 1

\*\*\*\*\*

DATA - Z = ALASKA #2: TOTAL VIOLENT CRIME 84 OBSERVATIONS

DIFFERENCING ON Z - 1) 1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

\*\*\*\*\*

UNIVARIATE MODEL PARAMETERS

\*\*\*\*\*

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
|---------------------|-------------------|--------------------|--------------------|

\*\*\*\*\*

|   |                  |   |           |
|---|------------------|---|-----------|
| 1 | MOVING AVERAGE 1 | 1 | .65963+00 |
|---|------------------|---|-----------|

|   |                  |   |           |
|---|------------------|---|-----------|
| 2 | MOVING AVERAGE 2 | 4 | .21192+00 |
|---|------------------|---|-----------|

|   |                |  |           |
|---|----------------|--|-----------|
| 3 | TREND CONSTANT |  | .44159+00 |
|---|----------------|--|-----------|

\*\*\*\*\*

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE 1= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

TIME SERIES FORECASTING FOR MODEL 1  
\*\*\*\*\*  
DATA - Z = ALASKA #2: TOTAL VIOLENT CRIME 84 OBSERVATIONS  
DIFFERENCING ON Z - 1) 1 OF ORDER 1  
TRANSFORMATIONS EXAMINED - NONE  
\*\*\*\*\*  
UNIVARIATE MODEL PARAMETERS  
\*\*\*\*\*  
PARAMETER            PARAMETER            PARAMETER            BEGINNING  
NUMBER            TYPE            ORDER            VALUE  
\*\*\*\*\*  
1            MOVING AVERAGE 1            1            .65963+00  
2            MOVING AVERAGE 2            4            .21192+00  
3            TREND CONSTANT                       .44159+00  
\*\*\*\*\*  
NUMBER OF TIME ORIGINS FOR FORECASTS = 1  
NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60  
FORECAST TIME ORIGINS ARE 1= 84  
BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS



REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .6651236+02     | .9241831+02 | .1183243+03     |                  |
| 2             | .6701012+02     | .9437556+02 | .1217410+03     |                  |
| 3             | .6261969+02     | .9137062+02 | .1201215+03     |                  |
| 4             | .5797770+02     | .8805036+02 | .1181230+03     |                  |
| 5             | .6066329+02     | .9091948+02 | .1211757+03     |                  |
| 6             | .6031716+02     | .9136107+02 | .1224050+03     |                  |
| 7             | .5999053+02     | .9180266+02 | .1236148+03     |                  |
| 8             | .5968202+02     | .9224425+02 | .1248065+03     |                  |
| 9             | .5939041+02     | .9268584+02 | .1259813+03     |                  |
| 10            | .5911460+02     | .9312743+02 | .1271403+03     |                  |
| 11            | .5885361+02     | .9356902+02 | .1282844+03     |                  |
| 12            | .5860656+02     | .9401061+02 | .1294147+03     |                  |
| 13            | .5837265+02     | .9445221+02 | .1305318+03     |                  |
| 14            | .5815116+02     | .9489380+02 | .1316364+03     |                  |
| 15            | .5794142+02     | .9533539+02 | .1327294+03     |                  |
| 16            | .5774284+02     | .9577698+02 | .1338111+03     |                  |
| 17            | .5755485+02     | .9621857+02 | .1348823+03     |                  |
| 18            | .5737696+02     | .9666016+02 | .1359434+03     |                  |
| 19            | .5720868+02     | .9710175+02 | .1369948+03     |                  |
| 20            | .5704958+02     | .9754334+02 | .1380371+03     |                  |
| 21            | .5689927+02     | .9798494+02 | .1390706+03     |                  |
| 22            | .5675737+02     | .9842653+02 | .1400957+03     |                  |
| 23            | .5662352+02     | .9886812+02 | .1411127+03     |                  |
| 24            | .5649741+02     | .9930971+02 | .1421220+03     |                  |
| 25            | .5637872+02     | .9975130+02 | .1431239+03     |                  |
| 26            | .5626719+02     | .1001929+03 | .1441186+03     |                  |
| 27            | .5616253+02     | .1006345+03 | .1451064+03     |                  |
| 28            | .5606450+02     | .1010761+03 | .1460877+03     |                  |
| 29            | .5597286+02     | .1015177+03 | .1470625+03     |                  |
| 30            | .5588740+02     | .1019593+03 | .1480311+03     |                  |
| 31            | .5580789+02     | .1024008+03 | .1489938+03     |                  |
| 32            | .5573415+02     | .1028424+03 | .1499507+03     |                  |
| 33            | .5566599+02     | .1032840+03 | .1509021+03     |                  |
| 34            | .5560322+02     | .1037256+03 | .1518480+03     |                  |
| 35            | .5554569+02     | .1041672+03 | .1527887+03     |                  |
| 36            | .5549323+02     | .1046098+03 | .1537244+03     |                  |
| 37            | .5544569+02     | .1050504+03 | .1546551+03     |                  |
| 38            | .5540293+02     | .1054920+03 | .1555810+03     |                  |
| 39            | .5536480+02     | .1059336+03 | .1565024+03     |                  |
| 40            | .5533119+02     | .1063752+03 | .1574192+03     |                  |
| 41            | .5530195+02     | .1068166+03 | .1583316+03     |                  |
| 42            | .5527699+02     | .1072584+03 | .1592397+03     |                  |
| 43            | .5525617+02     | .1076999+03 | .1601437+03     |                  |
| 44            | .5523939+02     | .1081415+03 | .1610437+03     |                  |
| 45            | .5522655+02     | .1085831+03 | .1619397+03     |                  |
| 46            | .5521755+02     | .1090247+03 | .1628319+03     |                  |
| 47            | .5521229+02     | .1094663+03 | .1637203+03     |                  |
| 48            | .5521068+02     | .1099079+03 | .1646051+03     |                  |
| 49            | .5521264+02     | .1103495+03 | .1654863+03     |                  |
| 50            | .5521807+02     | .1107911+03 | .1663641+03     |                  |
| 51            | .5522690+02     | .1112327+03 | .1672385+03     |                  |
| 52            | .5523904+02     | .1116743+03 | .1681095+03     |                  |
| 53            | .5525443+02     | .1121159+03 | .1689773+03     |                  |
| 54            | .5527299+02     | .1125574+03 | .1698419+03     |                  |
| 55            | .5529465+02     | .1129990+03 | .1707034+03     |                  |
| 56            | .5531935+02     | .1134406+03 | .1715619+03     |                  |
| 57            | .5534702+02     | .1138822+03 | .1724174+03     |                  |
| 58            | .5537752+02     | .1143238+03 | .1732700+03     |                  |
| 59            | .5541101+02     | .1147654+03 | .1741198+03     |                  |
| 60            | .5544721+02     | .1152070+03 | .1749668+03     |                  |

TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = ALASKA #4: TOTAL VIOLENT CRIME

83 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .11831+02          |
| 2                   | AUTOREGRESSIVE 1  | 1                  | .12029+00          |
| 3                   | AUTOREGRESSIVE 2  | 5                  | .31971+00          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61

FORECAST TIME ORIGINS ARE T= 83

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 81 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .5007155+00     | .1005459+02 | .1960847+02     |                  |
| 2             | .3116852+01     | .1273960+02 | .2236235+02     |                  |
| 3             | .2248972+01     | .1187272+02 | .2149646+02     |                  |
| 4             | .28999467+01    | .1252322+02 | .2214698+02     |                  |
| 5             | .2962707+00     | .9327487+01 | .1895125+02     |                  |
| 6             | .1166424+01     | .1126334+02 | .2136027+02     |                  |
| 7             | .2018176+01     | .1212178+02 | .2222539+02     |                  |
| 8             | .1740932+01     | .1164463+02 | .2194833+02     |                  |
| 9             | .1948903+01     | .1205261+02 | .2215631+02     |                  |
| 10            | .9272029+00     | .1103091+02 | .2113461+02     |                  |
| 11            | .1499022+01     | .1164981+02 | .2160060+02     |                  |
| 12            | .1772790+01     | .1192426+02 | .2207573+02     |                  |
| 13            | .1684175+01     | .1183566+02 | .2198714+02     |                  |
| 14            | .1750665+01     | .1190215+02 | .2205363+02     |                  |
| 15            | .1424020+01     | .1157550+02 | .2172698+02     |                  |
| 16            | .1617089+01     | .1177337+02 | .2192965+02     |                  |
| 17            | .1704762+01     | .1186111+02 | .2201746+02     |                  |
| 18            | .1676433+01     | .1183279+02 | .2198914+02     |                  |
| 19            | .1697691+01     | .1185404+02 | .2201939+02     |                  |
| 20            | .1593260+01     | .1174961+02 | .2190596+02     |                  |
| 21            | .1656030+01     | .1181287+02 | .2196971+02     |                  |
| 22            | .1684075+01     | .1184092+02 | .2199777+02     |                  |
| 23            | .1675018+01     | .1183187+02 | .2198872+02     |                  |
| 24            | .1681814+01     | .1183866+02 | .2199551+02     |                  |
| 25            | .1648427+01     | .1180528+02 | .2196213+02     |                  |
| 26            | .1668602+01     | .1182550+02 | .2198240+02     |                  |
| 27            | .1677569+01     | .1183447+02 | .2199137+02     |                  |
| 28            | .1674674+01     | .1183157+02 | .2198847+02     |                  |
| 29            | .1676847+01     | .1183375+02 | .2199065+02     |                  |
| 30            | .1666172+01     | .1182307+02 | .2197997+02     |                  |
| 31            | .1672633+01     | .1182954+02 | .2198644+02     |                  |
| 32            | .1675501+01     | .1183241+02 | .2198931+02     |                  |
| 33            | .1674575+01     | .1183148+02 | .2198839+02     |                  |
| 34            | .1675269+01     | .1183218+02 | .2198908+02     |                  |
| 35            | .1671857+01     | .1182876+02 | .2198567+02     |                  |
| 36            | .1673924+01     | .1183083+02 | .2198774+02     |                  |
| 37            | .1674840+01     | .1183175+02 | .2198865+02     |                  |
| 38            | .1674544+01     | .1183145+02 | .2198836+02     |                  |
| 39            | .1674766+01     | .1183167+02 | .2198858+02     |                  |
| 40            | .1673675+01     | .1183058+02 | .2198749+02     |                  |
| 41            | .1674336+01     | .1183124+02 | .2198815+02     |                  |
| 42            | .1674629+01     | .1183154+02 | .2198844+02     |                  |
| 43            | .1674535+01     | .1183144+02 | .2198835+02     |                  |
| 44            | .1674606+01     | .1183151+02 | .2198842+02     |                  |
| 45            | .1674257+01     | .1183116+02 | .2198807+02     |                  |
| 46            | .1674463+01     | .1183137+02 | .2198828+02     |                  |
| 47            | .1674562+01     | .1183147+02 | .2198837+02     |                  |
| 48            | .1674532+01     | .1183144+02 | .2198834+02     |                  |
| 49            | .1674554+01     | .1183146+02 | .2198837+02     |                  |
| 50            | .1674443+01     | .1183135+02 | .2198826+02     |                  |
| 51            | .1674510+01     | .1183142+02 | .2198832+02     |                  |
| 52            | .1674540+01     | .1183145+02 | .2198835+02     |                  |
| 53            | .1674531+01     | .1183144+02 | .2198834+02     |                  |
| 54            | .1674538+01     | .1183144+02 | .2198835+02     |                  |
| 55            | .1674502+01     | .1183141+02 | .2198831+02     |                  |
| 56            | .1674524+01     | .1183143+02 | .2198834+02     |                  |
| 57            | .1674533+01     | .1183144+02 | .2198835+02     |                  |
| 58            | .1674530+01     | .1183144+02 | .2198834+02     |                  |
| 59            | .1674533+01     | .1183144+02 | .2198834+02     |                  |
| 60            | .1674521+01     | .1183143+02 | .2198833+02     |                  |
| 61            | .1674528+01     | .1183143+02 | .2198834+02     |                  |

TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = ALASKA #17: VIOLENT CRIME, TOTAL

83 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .81392+02          |
| 2                   | MOVING AVERAGE 1  | 6                  | .17244+00          |
| 3                   | MOVING AVERAGE 1  | 12                 | -.82782-01         |
| 4                   | MOVING AVERAGE 1  | 18                 | .20204+00          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61

FORECAST TIME ORIGINS ARE 1 83

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 83 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .4265647+02     | .7699267+02 | .1113289+03     |                  |
| 2             | .3779951+02     | .7213571+02 | .1064719+03     |                  |
| 3             | .4009593+02     | .7443213+02 | .1087683+03     |                  |
| 4             | .4110647+02     | .7544267+02 | .1097789+03     |                  |
| 5             | .4825701+02     | .8259321+02 | .1169294+03     |                  |
| 6             | .4015914+02     | .7449535+02 | .1088315+03     |                  |
| 7             | .4762663+02     | .8249917+02 | .1173717+03     |                  |
| 8             | .4545963+02     | .8033218+02 | .1152047+03     |                  |
| 9             | .4598232+02     | .8085487+02 | .1157274+03     |                  |
| 10            | .4906010+02     | .8393264+02 | .1188052+03     |                  |
| 11            | .4562387+02     | .8049641+02 | .1153690+03     |                  |
| 12            | .5490208+02     | .8977462+02 | .1246472+03     |                  |
| 13            | .3853321+02     | .7352180+02 | .1065096+03     |                  |
| 14            | .4186235+02     | .7665054+02 | .1118387+03     |                  |
| 15            | .4306478+02     | .7805297+02 | .1130412+03     |                  |
| 16            | .4625870+02     | .8124690+02 | .1162351+03     |                  |
| 17            | .4960777+02     | .8459596+02 | .1195842+03     |                  |
| 18            | .3661777+02     | .7160597+02 | .1065942+03     |                  |
| 19            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 20            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 21            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 22            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 23            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 24            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 25            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 26            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 27            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 28            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 29            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 30            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 31            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 32            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 33            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 34            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 35            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 36            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 37            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 38            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 39            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 40            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 41            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 42            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 43            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 44            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 45            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 46            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 47            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 48            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 49            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 50            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 51            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 52            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 53            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 54            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 55            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 56            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 57            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 58            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 59            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 60            | .4572242+02     | .8139172+02 | .1170610+03     |                  |
| 61            | .4572242+02     | .8139172+02 | .1170610+03     |                  |

TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = ALASKA STATEWIDE: NONVIOLENT CRIMES, TOTAL

83 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .18392+04          |
| 2                   | AUTOREGRESSIVE 1  | 1                  | .51366+00          |
| 3                   | AUTOREGRESSIVE 1  | 3                  | -.29191+00         |
| 4                   | AUTOREGRESSIVE 1  | 6                  | -.37177+00         |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61

FORECAST TIME ORIGINS ARE T= 83

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 83 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .1248497+04     | .1536442+04 | .1824387+04     |                  |
| 2             | .1251902+04     | .1575613+04 | .1699324+04     |                  |
| 3             | .1412872+04     | .1745379+04 | .2677886+04     |                  |
| 4             | .1573691+04     | .1909233+04 | .2244775+04     |                  |
| 5             | .1703879+04     | .2045909+04 | .2387939+04     |                  |
| 6             | .1757113+04     | .2103736+04 | .2450358+04     |                  |
| 7             | .1699498+04     | .2067228+04 | .2434957+04     |                  |
| 8             | .1613269+04     | .1994015+04 | .2374752+04     |                  |
| 9             | .1490567+04     | .1876414+04 | .2262261+04     |                  |
| 10            | .1379358+04     | .1765748+04 | .2152137+04     |                  |
| 11            | .1287812+04     | .1679461+04 | .2071111+04     |                  |
| 12            | .1249753+04     | .1647970+04 | .2046187+04     |                  |
| 13            | .1272140+04     | .1677671+04 | .2083202+04     |                  |
| 14            | .1335759+04     | .1745333+04 | .2154907+04     |                  |
| 15            | .1422203+04     | .1833002+04 | .2243802+04     |                  |
| 16            | .1499479+04     | .1910507+04 | .2321535+04     |                  |
| 17            | .1548674+04     | .1962646+04 | .2376419+04     |                  |
| 18            | .1557377+04     | .1975545+04 | .2393713+04     |                  |
| 19            | .1526660+04     | .1948504+04 | .2370348+04     |                  |
| 20            | .1470862+04     | .1894239+04 | .2317616+04     |                  |
| 21            | .1406442+04     | .1830007+04 | .2253572+04     |                  |
| 22            | .1352268+04     | .1776093+04 | .2199917+04     |                  |
| 23            | .1319521+04     | .1744856+04 | .2170190+04     |                  |
| 24            | .1315102+04     | .1742765+04 | .2170428+04     |                  |
| 25            | .1338024+04     | .1767482+04 | .2196939+04     |                  |
| 26            | .1379394+04     | .1809471+04 | .2239548+04     |                  |
| 27            | .1425437+04     | .1855529+04 | .2285620+04     |                  |
| 28            | .1461658+04     | .1892016+04 | .2322374+04     |                  |
| 29            | .1478857+04     | .1910114+04 | .2341371+04     |                  |
| 30            | .1474308+04     | .1906743+04 | .2339176+04     |                  |
| 31            | .1451923+04     | .1885174+04 | .2318420+04     |                  |
| 32            | .1419720+04     | .1853198+04 | .2286675+04     |                  |
| 33            | .1387157+04     | .1820635+04 | .2254113+04     |                  |
| 34            | .1362944+04     | .1796641+04 | .2230337+04     |                  |
| 35            | .1352690+04     | .1786921+04 | .2221152+04     |                  |
| 36            | .1357863+04     | .1792686+04 | .2227510+04     |                  |
| 37            | .1375496+04     | .1810672+04 | .2245848+04     |                  |
| 38            | .1399386+04     | .1834635+04 | .2269883+04     |                  |
| 39            | .1422109+04     | .1857366+04 | .2292624+04     |                  |
| 40            | .1437299+04     | .1872713+04 | .2308127+04     |                  |
| 41            | .1441495+04     | .1877215+04 | .2312935+04     |                  |
| 42            | .1434734+04     | .1870748+04 | .2306762+04     |                  |
| 43            | .1420099+04     | .1856260+04 | .2292421+04     |                  |
| 44            | .1402416+04     | .1838595+04 | .2274774+04     |                  |
| 45            | .1386764+04     | .1822958+04 | .2259153+04     |                  |
| 46            | .1377151+04     | .1813450+04 | .2249748+04     |                  |
| 47            | .1375581+04     | .1812044+04 | .2248515+04     |                  |
| 48            | .1381689+04     | .1818297+04 | .2254906+04     |                  |
| 49            | .1393002+04     | .1829669+04 | .2266336+04     |                  |
| 50            | .1405617+04     | .1842487+04 | .2279156+04     |                  |
| 51            | .1416374+04     | .1853060+04 | .2289746+04     |                  |
| 52            | .1421955+04     | .1858706+04 | .2295458+04     |                  |
| 53            | .1421545+04     | .1858386+04 | .2295228+04     |                  |
| 54            | .1415905+04     | .1852812+04 | .2289719+04     |                  |
| 55            | .1407144+04     | .1844073+04 | .2281002+04     |                  |
| 56            | .1397983+04     | .1834912+04 | .2271841+04     |                  |
| 57            | .1390960+04     | .1827903+04 | .2264846+04     |                  |
| 58            | .1387772+04     | .1824754+04 | .2261737+04     |                  |
| 59            | .1388901+04     | .1825930+04 | .2262959+04     |                  |
| 60            | .1393594+04     | .1830653+04 | .2267711+04     |                  |
| 61            | .1400181+04     | .1837246+04 | .2274312+04     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = ALASKA #2: TOTAL NONVIOLENT CRIME 84 OBSERVATIONS

DIFFERENCING ON Z = 11 1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MOVING AVERAGE 1  | 1                  | .48758+00          |
| 2                   | MOVING AVERAGE 2  | 4                  | .24698+00          |
| 3                   | MOVING AVERAGE 2  | 5                  | .25379+00          |
| 4                   | TREND CONSTANT    |                    | .43589+01          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE 1= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS.

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .8367038+03     | .1005519+04 | .1174335+04     |                  |
| 2             | .8463683+03     | .1036056+04 | .1225744+04     |                  |
| 3             | .8492890+03     | .1057770+04 | .1266251+04     |                  |
| 4             | .8474758+03     | .1073191+04 | .1298906+04     |                  |
| 5             | .8381582+03     | .1068278+04 | .1298398+04     |                  |
| 6             | .8389026+03     | .1070100+04 | .1301298+04     |                  |
| 7             | .8392428+03     | .1078452+04 | .1309656+04     |                  |
| 8             | .8396897+03     | .1078818+04 | .1317946+04     |                  |
| 9             | .8401803+03     | .1083177+04 | .1326173+04     |                  |
| 10            | .8407316+03     | .1087536+04 | .1334340+04     |                  |
| 11            | .8413406+03     | .1091895+04 | .1342449+04     |                  |
| 12            | .8420050+03     | .1096254+04 | .1350502+04     |                  |
| 13            | .8427223+03     | .1100612+04 | .1358503+04     |                  |
| 14            | .8434903+03     | .1104971+04 | .1366452+04     |                  |
| 15            | .8443070+03     | .1109330+04 | .1374354+04     |                  |
| 16            | .8451703+03     | .1113689+04 | .1382208+04     |                  |
| 17            | .8460786+03     | .1118048+04 | .1390017+04     |                  |
| 18            | .8470302+03     | .1122407+04 | .1397784+04     |                  |
| 19            | .8480234+03     | .1126766+04 | .1405508+04     |                  |
| 20            | .8490567+03     | .1131125+04 | .1413193+04     |                  |
| 21            | .8501288+03     | .1135484+04 | .1420838+04     |                  |
| 22            | .8512383+03     | .1139842+04 | .1428447+04     |                  |
| 23            | .8523840+03     | .1144201+04 | .1436019+04     |                  |
| 24            | .8535647+03     | .1148560+04 | .1443556+04     |                  |
| 25            | .8547793+03     | .1152919+04 | .1451059+04     |                  |
| 26            | .8560267+03     | .1157278+04 | .1458529+04     |                  |
| 27            | .8573059+03     | .1161637+04 | .1465968+04     |                  |
| 28            | .8586160+03     | .1165996+04 | .1473376+04     |                  |
| 29            | .8599560+03     | .1170355+04 | .1480753+04     |                  |
| 30            | .8613251+03     | .1174714+04 | .1488102+04     |                  |
| 31            | .8627224+03     | .1179072+04 | .1495422+04     |                  |
| 32            | .8641472+03     | .1183431+04 | .1502715+04     |                  |
| 33            | .8655988+03     | .1187790+04 | .1509962+04     |                  |
| 34            | .8670763+03     | .1192149+04 | .1517222+04     |                  |
| 35            | .8685791+03     | .1196508+04 | .1524437+04     |                  |
| 36            | .8701066+03     | .1200867+04 | .1531627+04     |                  |
| 37            | .8716582+03     | .1205226+04 | .1538793+04     |                  |
| 38            | .8732332+03     | .1209585+04 | .1545936+04     |                  |
| 39            | .8748310+03     | .1213944+04 | .1553056+04     |                  |
| 40            | .8764511+03     | .1218302+04 | .1560154+04     |                  |
| 41            | .8780930+03     | .1222661+04 | .1567230+04     |                  |
| 42            | .8797561+03     | .1227020+04 | .1574284+04     |                  |
| 43            | .8814400+03     | .1231379+04 | .1581318+04     |                  |
| 44            | .8831443+03     | .1235736+04 | .1588332+04     |                  |
| 45            | .8848683+03     | .1240097+04 | .1595325+04     |                  |
| 46            | .8866117+03     | .1244456+04 | .1602300+04     |                  |
| 47            | .8883742+03     | .1248815+04 | .1609255+04     |                  |
| 48            | .8901552+03     | .1253173+04 | .1616192+04     |                  |
| 49            | .8919543+03     | .1257532+04 | .1623110+04     |                  |
| 50            | .8937713+03     | .1261891+04 | .1630011+04     |                  |
| 51            | .8956057+03     | .1266250+04 | .1636895+04     |                  |
| 52            | .8974572+03     | .1270609+04 | .1643761+04     |                  |
| 53            | .8993254+03     | .1274968+04 | .1650610+04     |                  |
| 54            | .9012100+03     | .1279327+04 | .1657444+04     |                  |
| 55            | .9031107+03     | .1283686+04 | .1664261+04     |                  |
| 56            | .9050272+03     | .1288045+04 | .1671062+04     |                  |
| 57            | .9069592+03     | .1292403+04 | .1677848+04     |                  |
| 58            | .9089063+03     | .1296762+04 | .1684618+04     |                  |
| 59            | .9108684+03     | .1301121+04 | .1691374+04     |                  |
| 60            | .9128451+03     | .1305480+04 | .1698115+04     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

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DATA - Z = ALASKA #47 TOTAL NONVIOLENT CRIME 83 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

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## UNIVARIATE MODEL PARAMETERS

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| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
|---------------------|-------------------|--------------------|--------------------|

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|   |      |  |           |
|---|------|--|-----------|
| 1 | MEAN |  | .18762+03 |
|---|------|--|-----------|

|   |                  |   |           |
|---|------------------|---|-----------|
| 2 | AUTOREGRESSIVE 1 | 1 | .66479+00 |
|---|------------------|---|-----------|

|   |                  |   |           |
|---|------------------|---|-----------|
| 3 | MOVING AVERAGE 1 | 6 | .19332+00 |
|---|------------------|---|-----------|

|   |                  |    |            |
|---|------------------|----|------------|
| 4 | MOVING AVERAGE 2 | 12 | -.24754+00 |
|---|------------------|----|------------|

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NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61

FORECAST TIME ORIGINS ARE T= 83

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD .83 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .6797311+02     | .1284021+03 | .1888312+03     |                  |
| 2             | .6837012+02     | .1409340+03 | .2134978+03     |                  |
| 3             | .8371204+02     | .1610344+03 | .2383567+03     |                  |
| 4             | .9768367+02     | .1770181+03 | .2563526+03     |                  |
| 5             | .1005408+03     | .1807485+03 | .2609561+03     |                  |
| 6             | .1247248+03     | .2053153+03 | .2859058+03     |                  |
| 7             | .1113463+03     | .1921956+03 | .2730452+03     |                  |
| 8             | .1106525+03     | .1916162+03 | .2725798+03     |                  |
| 9             | .9992472+02     | .1809388+03 | .2619529+03     |                  |
| 10            | .1027414+03     | .1837777+03 | .2648141+03     |                  |
| 11            | .9940664+02     | .1804528+03 | .2614990+03     |                  |
| 12            | .8012400+02     | .1611745+03 | .2422251+03     |                  |
| 13            | .8857834+02     | .1708982+03 | .2532181+03     |                  |
| 14            | .9371862+02     | .1765933+03 | .2594679+03     |                  |
| 15            | .9899542+02     | .1821141+03 | .2652327+03     |                  |
| 16            | .1003249+03     | .1835511+03 | .2667774+03     |                  |
| 17            | .1027242+03     | .1859979+03 | .2692717+03     |                  |
| 18            | .1072353+03     | .1905301+03 | .2738248+03     |                  |
| 19            | .1062444+03     | .1895555+03 | .2728665+03     |                  |
| 20            | .1055893+03     | .1889075+03 | .2722258+03     |                  |
| 21            | .1051553+03     | .1884768+03 | .2717983+03     |                  |
| 22            | .1048676+03     | .1881905+03 | .2715133+03     |                  |
| 23            | .1046766+03     | .1880001+03 | .2713236+03     |                  |
| 24            | .1045498+03     | .1878736+03 | .2711973+03     |                  |
| 25            | .1044655+03     | .1877894+03 | .2711433+03     |                  |
| 26            | .1044096+03     | .1877335+03 | .2710574+03     |                  |
| 27            | .1043723+03     | .1876963+03 | .2710203+03     |                  |
| 28            | .1043476+03     | .1876716+03 | .2709956+03     |                  |
| 29            | .1043312+03     | .1876552+03 | .2709792+03     |                  |
| 30            | .1043203+03     | .1876442+03 | .2709682+03     |                  |
| 31            | .1043130+03     | .1876374+03 | .2709610+03     |                  |
| 32            | .1043082+03     | .1876322+03 | .2709562+03     |                  |
| 33            | .1043050+03     | .1876290+03 | .2709529+03     |                  |
| 34            | .1043028+03     | .1876268+03 | .2709506+03     |                  |
| 35            | .1043014+03     | .1876254+03 | .2709494+03     |                  |
| 36            | .1043005+03     | .1876245+03 | .2709484+03     |                  |
| 37            | .1042998+03     | .1876238+03 | .2709478+03     |                  |
| 38            | .1042994+03     | .1876234+03 | .2709474+03     |                  |
| 39            | .1042991+03     | .1876231+03 | .2709471+03     |                  |
| 40            | .1042990+03     | .1876229+03 | .2709469+03     |                  |
| 41            | .1042988+03     | .1876228+03 | .2709468+03     |                  |
| 42            | .1042988+03     | .1876227+03 | .2709467+03     |                  |
| 43            | .1042987+03     | .1876227+03 | .2709467+03     |                  |
| 44            | .1042987+03     | .1876227+03 | .2709466+03     |                  |
| 45            | .1042986+03     | .1876226+03 | .2709466+03     |                  |
| 46            | .1042986+03     | .1876226+03 | .2709466+03     |                  |
| 47            | .1042986+03     | .1876226+03 | .2709466+03     |                  |
| 48            | .1042986+03     | .1876226+03 | .2709466+03     |                  |
| 49            | .1042986+03     | .1876226+03 | .2709466+03     |                  |
| 50            | .1042986+03     | .1876226+03 | .2709466+03     |                  |
| 51            | .1042986+03     | .1876226+03 | .2709466+03     |                  |
| 52            | .1042986+03     | .1876226+03 | .2709466+03     |                  |
| 53            | .1042986+03     | .1876226+03 | .2709466+03     |                  |
| 54            | .1042986+03     | .1876226+03 | .2709466+03     |                  |
| 55            | .1042986+03     | .1876226+03 | .2709466+03     |                  |
| 56            | .1042986+03     | .1876226+03 | .2709466+03     |                  |
| 57            | .1042986+03     | .1876226+03 | .2709466+03     |                  |
| 58            | .1042986+03     | .1876226+03 | .2709466+03     |                  |
| 59            | .1042986+03     | .1876226+03 | .2709466+03     |                  |
| 60            | .1042986+03     | .1876226+03 | .2709466+03     |                  |
| 61            | .1042986+03     | .1876226+03 | .2709466+03     |                  |

TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = ALASKA #6: TOTAL NONVIOLENT 83 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .51286+02          |
| 2                   | AUTOREGRESSIVE 1  | 1                  | .28336+00          |
| 3                   | MOVING AVERAGE 1  | 5                  | .29544+00          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61

FORECAST TIME ORIGINS ARE T= 83

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 83 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .2422684+02     | .4853258+02 | .7283833+02     |                  |
| 2             | .2712136+02     | .5238405+02 | .7764673+02     |                  |
| 3             | .2461892+02     | .4995687+02 | .7529482+02     |                  |
| 4             | .2568612+02     | .5103010+02 | .7637409+02     |                  |
| 5             | .2870151+02     | .5404598+02 | .7939045+02     |                  |
| 6             | .2573777+02     | .5206786+02 | .7639794+02     |                  |
| 7             | .2509971+02     | .5150734+02 | .7791497+02     |                  |
| 8             | .2493467+02     | .5134851+02 | .7776235+02     |                  |
| 9             | .2488916+02     | .5130351+02 | .7771785+02     |                  |
| 10            | .2487637+02     | .5129075+02 | .7770514+02     |                  |
| 11            | .2487276+02     | .5128714+02 | .7770152+02     |                  |
| 12            | .2487173+02     | .5128612+02 | .7770050+02     |                  |
| 13            | .2487144+02     | .5128583+02 | .7770021+02     |                  |
| 14            | .2487136+02     | .5128574+02 | .7770013+02     |                  |
| 15            | .2487134+02     | .5128572+02 | .7770011+02     |                  |
| 16            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 17            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 18            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 19            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 20            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 21            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 22            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 23            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 24            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 25            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 26            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 27            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 28            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 29            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 30            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 31            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 32            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 33            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 34            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 35            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 36            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 37            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 38            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 39            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 40            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 41            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 42            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 43            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 44            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 45            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 46            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 47            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 48            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 49            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 50            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 51            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 52            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 53            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 54            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 55            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 56            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 57            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 58            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 59            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 60            | .2487133+02     | .5128571+02 | .7770010+02     |                  |
| 61            | .2487133+02     | .5128571+02 | .7770010+02     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = ALASKA #17: NONVIOLENT CRIME, TOTAL 83 OBSERVATIONS

DIFFERENCING ON Z - 1) 1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
|---------------------|-------------------|--------------------|--------------------|

|   |                  |   |           |
|---|------------------|---|-----------|
| 1 | MOVING AVERAGE 1 | 1 | .39756*00 |
|---|------------------|---|-----------|

|   |                  |    |           |
|---|------------------|----|-----------|
| 2 | MOVING AVERAGE 1 | 18 | .29889*00 |
|---|------------------|----|-----------|

|   |                |  |            |
|---|----------------|--|------------|
| 3 | TREND CONSTANT |  | -.82931*00 |
|---|----------------|--|------------|

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61

FORECAST TIME ORIGINS ARE T= 83

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 81 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .2409107+C3     | .4890775+03 | .7372443+03     |                  |
| 2             | .1793574+C3     | .4690752+03 | .7588010+03     |                  |
| 3             | .1028644+C3     | .4288869+03 | .7549095+03     |                  |
| 4             | .1376037+C3     | .4962716+03 | .6549395+03     |                  |
| 5             | .1513061+C3     | .5398863+03 | .9284666+03     |                  |
| 6             | .1400163+C3     | .5563654+03 | .9727146+03     |                  |
| 7             | .1118120+C3     | .5541903+03 | .9965686+03     |                  |
| 8             | .7450709+C2     | .5414659+03 | .1008425+04     |                  |
| 9             | .4301983+C2     | .5333284+03 | .1023637+04     |                  |
| 10            | .1302672+C2     | .5256225+03 | .1038218+04     |                  |
| 11            | .9777902+C1     | .5241746+03 | .1058128+04     |                  |
| 12            | .3328236+C2     | .5212070+03 | .1075696+04     |                  |
| 13            | .1413280+C3     | .4329632+03 | .1007254+04     |                  |
| 14            | .2255641+C3     | .3678686+03 | .9613013+03     |                  |
| 15            | .1891904+C3     | .4227853+03 | .1034761+04     |                  |
| 16            | .1492231+C3     | .4807502+03 | .1110723+04     |                  |
| 17            | .1198529+C3     | .5276178+03 | .1175088+04     |                  |
| 18            | .1222699+C3     | .5422376+03 | .1206745+04     |                  |
| 19            | .1273556+C3     | .5414083+03 | .1210172+04     |                  |
| 20            | .1326143+C3     | .5405790+03 | .1213572+04     |                  |
| 21            | .1374466+C3     | .5397497+03 | .1216946+04     |                  |
| 22            | .1424530+C3     | .5369204+03 | .1220294+04     |                  |
| 23            | .1474340+C3     | .5380911+03 | .1223616+04     |                  |
| 24            | .1523900+C3     | .5372618+03 | .1226914+04     |                  |
| 25            | .1573214+C3     | .5364325+03 | .1230186+04     |                  |
| 26            | .1622287+C3     | .5356032+03 | .1233435+04     |                  |
| 27            | .1671123+C3     | .5347739+03 | .1236660+04     |                  |
| 28            | .1719726+C3     | .5339445+03 | .1239862+04     |                  |
| 29            | .1768101+C3     | .5331152+03 | .1243041+04     |                  |
| 30            | .1816250+C3     | .5322859+03 | .1246197+04     |                  |
| 31            | .1864178+C3     | .5314566+03 | .1249331+04     |                  |
| 32            | .1911889+C3     | .5306273+03 | .1252443+04     |                  |
| 33            | .1959385+C3     | .5297980+03 | .1255535+04     |                  |
| 34            | .2006671+C3     | .5289687+03 | .1258604+04     |                  |
| 35            | .2053749+C3     | .5281394+03 | .1261654+04     |                  |
| 36            | .2100624+C3     | .5273101+03 | .1264683+04     |                  |
| 37            | .2147297+C3     | .5264808+03 | .1267691+04     |                  |
| 38            | .2193773+C3     | .5256515+03 | .1270680+04     |                  |
| 39            | .2240054+C3     | .5248222+03 | .1273650+04     |                  |
| 40            | .2286144+C3     | .5239929+03 | .1276600+04     |                  |
| 41            | .2332045+C3     | .5231636+03 | .1279532+04     |                  |
| 42            | .2377759+C3     | .5223342+03 | .1282444+04     |                  |
| 43            | .2423290+C3     | .5215049+03 | .1285339+04     |                  |
| 44            | .2468641+C3     | .5206756+03 | .1288215+04     |                  |
| 45            | .2513813+C3     | .5198463+03 | .1291074+04     |                  |
| 46            | .2558810+C3     | .5190170+03 | .1293915+04     |                  |
| 47            | .2603634+C3     | .5181877+03 | .1296739+04     |                  |
| 48            | .2648288+C3     | .5173584+03 | .1299546+04     |                  |
| 49            | .2692773+C3     | .5165291+03 | .1302335+04     |                  |
| 50            | .2737092+C3     | .5156998+03 | .1305109+04     |                  |
| 51            | .2781247+C3     | .5148705+03 | .1307866+04     |                  |
| 52            | .2825241+C3     | .5140412+03 | .1310606+04     |                  |
| 53            | .2869076+C3     | .5132119+03 | .1313331+04     |                  |
| 54            | .2912754+C3     | .5123826+03 | .1316040+04     |                  |
| 55            | .2956276+C3     | .5115532+03 | .1318734+04     |                  |
| 56            | .2999645+C3     | .5107239+03 | .1321412+04     |                  |
| 57            | .3042864+C3     | .5098946+03 | .1324076+04     |                  |
| 58            | .3085933+C3     | .5090653+03 | .1326724+04     |                  |
| 59            | .3128854+C3     | .5082360+03 | .1329357+04     |                  |
| 60            | .3171631+C3     | .5074067+03 | .1331976+04     |                  |
| 61            | .3214264+C3     | .5065774+03 | .1334581+04     |                  |

B. OREGON

1. Violent Crime

- a. Statewide Total
- b. Region 1
- c. Region 2
- d. Region 3
- e. Region 4
- f. ~~Region 5~~
- g. Region 6
- h. ~~Region 7~~

2. Non Violent Crime

- a. Statewide Total
- b. Region 1
- c. Region 2
- d. Region 3
- e. Region 4
- f. Region 5
- g. Region 6
- h. Region 7

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON STATEWIDE: VIOLENT CRIMES, TOTAL

84 OBSERVATIONS

DIFFERENCING ON 2 - 1) 1 OF ORDER 1 2) 1 OF ORDER 12

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | AUTOREGRESSIVE 1  | 8                  | -.29360+00         |
| 2                   | MOVING AVERAGE 1  | 1                  | .23286+00          |
| 3                   | MOVING AVERAGE 1  | 12                 | .98103+00          |
| 4                   | TREND CONSTANT    |                    | .28025+01          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .6795117+03     | .1012378+04 | .1145244+04     |                  |
| 2             | .6911193+03     | .8545783+03 | .1026037+04     |                  |
| 3             | .7524858+03     | .9465256+03 | .1144565+04     |                  |
| 4             | .6899870+03     | .9109410+03 | .1131895+04     |                  |
| 5             | .7582921+03     | .1001623+04 | .1244953+04     |                  |
| 6             | .7100695+03     | .9738855+03 | .1237701+04     |                  |
| 7             | .7604812+03     | .1043303+04 | .1326124+04     |                  |
| 8             | .7865683+03     | .1087196+04 | .1387824+04     |                  |
| 9             | .7069740+03     | .1014115+04 | .1321256+04     |                  |
| 10            | .7348706+03     | .1050338+04 | .1365805+04     |                  |
| 11            | .7014807+03     | .1025060+04 | .1348640+04     |                  |
| 12            | .7851109+03     | .1116604+04 | .1448098+04     |                  |
| 13            | .7578760+03     | .1097643+04 | .1437409+04     |                  |
| 14            | .6228086+03     | .9653590+03 | .1307909+04     |                  |
| 15            | .6797909+03     | .1025103+04 | .1370414+04     |                  |
| 16            | .6446496+03     | .9927007+03 | .1340752+04     |                  |
| 17            | .7206209+03     | .1072996+04 | .1425372+04     |                  |
| 18            | .6914569+03     | .1047703+04 | .1403948+04     |                  |
| 19            | .7549382+03     | .1115012+04 | .1475087+04     |                  |
| 20            | .7868228+03     | .1150685+04 | .1514548+04     |                  |
| 21            | .7021360+03     | .1069643+04 | .1437150+04     |                  |
| 22            | .7298633+03     | .1102352+04 | .1474840+04     |                  |
| 23            | .7113406+03     | .1088744+04 | .1466148+04     |                  |
| 24            | .7993133+03     | .1181569+04 | .1563825+04     |                  |
| 25            | .7815432+03     | .1168459+04 | .1555375+04     |                  |
| 26            | .6502053+03     | .1038261+04 | .1426316+04     |                  |
| 27            | .7122342+03     | .1101426+04 | .1490617+04     |                  |
| 28            | .6839156+03     | .1074240+04 | .1464564+04     |                  |
| 29            | .7682054+03     | .1159675+04 | .1551145+04     |                  |
| 30            | .7457977+03     | .1138216+04 | .1530634+04     |                  |
| 31            | .8115375+03     | .1204902+04 | .1598266+04     |                  |
| 32            | .8486931+03     | .1243001+04 | .1637309+04     |                  |
| 33            | .7677766+03     | .1163043+04 | .1558310+04     |                  |
| 34            | .8010059+03     | .1197942+04 | .1594878+04     |                  |
| 35            | .7875343+03     | .1186133+04 | .1584731+04     |                  |
| 36            | .8799747+03     | .1280228+04 | .1680482+04     |                  |
| 37            | .8662798+03     | .1268412+04 | .1670544+04     |                  |
| 38            | .7376645+03     | .1139890+04 | .1542116+04     |                  |
| 39            | .8037217+03     | .1206041+04 | .1609359+04     |                  |
| 40            | .7785325+03     | .1160945+04 | .1583357+04     |                  |
| 41            | .8663606+03     | .1268865+04 | .1671368+04     |                  |
| 42            | .8470159+03     | .1249565+04 | .1652113+04     |                  |
| 43            | .9159317+03     | .1318525+04 | .1721118+04     |                  |
| 44            | .9564157+03     | .1359054+04 | .1761691+04     |                  |
| 45            | .8788460+03     | .1281518+04 | .1684191+04     |                  |
| 46            | .9158071+03     | .1318727+04 | .1721647+04     |                  |
| 47            | .9056761+03     | .1308844+04 | .1712011+04     |                  |
| 48            | .1001713+04     | .1405129+04 | .1808544+04     |                  |
| 49            | .9916258+03     | .1395385+04 | .1799144+04     |                  |
| 50            | .8650465+03     | .1269032+04 | .1673017+04     |                  |
| 51            | .9331060+03     | .1337317+04 | .1741528+04     |                  |
| 52            | .9098736+03     | .1314310+04 | .1718747+04     |                  |
| 53            | .9996663+03     | .1404321+04 | .1808976+04     |                  |
| 54            | .9821784+03     | .1387145+04 | .1792113+04     |                  |
| 55            | .1053064+04     | .1458343+04 | .1863622+04     |                  |
| 56            | .1095441+04     | .1501031+04 | .1906622+04     |                  |
| 57            | .1019758+04     | .1425690+04 | .1831622+04     |                  |
| 58            | .1059058+04     | .1465065+04 | .1871071+04     |                  |
| 59            | .1051276+04     | .1457357+04 | .1863438+04     |                  |
| 60            | .1149675+04     | .1555831+04 | .1961986+04     |                  |

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TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #1: TOTAL VIOLENT CRIME 84 OBSERVATIONS

DIFFERENCING ON Z - 1) 1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | AUTOREGRESSIVE 1  | 6                  | -.34199+00         |
| 2                   | MOVING AVERAGE 1  | 1                  | .85110+00          |
| 3                   | MOVING AVERAGE 1  | 8                  | .42797+00          |
| 4                   | TREND CONSTANT    |                    | .11959+00          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .5522586+03     | .6358875+03 | .7195165+03     |                  |
| 2             | .5096452+03     | .5941961+03 | .6787470+03     |                  |
| 3             | .5044960+03     | .5899589+03 | .6754218+03     |                  |
| 4             | .4928524+03     | .5792176+03 | .6655929+03     |                  |
| 5             | .4777332+03     | .5649915+03 | .6522492+03     |                  |
| 6             | .4760533+03     | .5641956+03 | .6523379+03     |                  |
| 7             | .4797758+03     | .5693850+03 | .6589942+03     |                  |
| 8             | .4935370+03     | .5835201+03 | .6735031+03     |                  |
| 9             | .4909687+03     | .5850887+03 | .6792086+03     |                  |
| 10            | .4907991+03     | .5888816+03 | .6869641+03     |                  |
| 11            | .4919752+03     | .5938663+03 | .6957574+03     |                  |
| 12            | .4886957+03     | .5942580+03 | .6998204+03     |                  |
| 13            | .4855476+03     | .5926030+03 | .6996584+03     |                  |
| 14            | .4776878+03     | .5878886+03 | .6980894+03     |                  |
| 15            | .4763976+03     | .5874717+03 | .6985458+03     |                  |
| 16            | .4743536+03     | .5862942+03 | .6982348+03     |                  |
| 17            | .4719086+03     | .5847091+03 | .6975096+03     |                  |
| 18            | .4710409+03     | .5846947+03 | .6983485+03     |                  |
| 19            | .4704255+03     | .5853803+03 | .7003351+03     |                  |
| 20            | .4712590+03     | .5871121+03 | .7029653+03     |                  |
| 21            | .4700399+03     | .5873743+03 | .7047086+03     |                  |
| 22            | .4690994+03     | .5878965+03 | .7066937+03     |                  |
| 23            | .4683161+03     | .5865582+03 | .7088003+03     |                  |
| 24            | .4670128+03     | .5886827+03 | .7103526+03     |                  |
| 25            | .4656542+03     | .5885678+03 | .7114815+03     |                  |
| 26            | .4638097+03     | .5880952+03 | .7123806+03     |                  |
| 27            | .4626846+03     | .5881251+03 | .7135655+03     |                  |
| 28            | .4614812+03     | .5880661+03 | .7146510+03     |                  |
| 29            | .4602403+03     | .5879594+03 | .7156785+03     |                  |
| 30            | .4591931+03     | .5880364+03 | .7168797+03     |                  |
| 31            | .4581857+03     | .5881952+03 | .7182047+03     |                  |
| 32            | .4573548+03     | .5884765+03 | .7195981+03     |                  |
| 33            | .4562974+03     | .5885858+03 | .7208742+03     |                  |
| 34            | .4552806+03     | .5887256+03 | .7221706+03     |                  |
| 35            | .4542900+03     | .5888817+03 | .7234733+03     |                  |
| 36            | .4532464+03     | .5889749+03 | .7247035+03     |                  |
| 37            | .4522012+03     | .5890402+03 | .7258791+03     |                  |
| 38            | .4511087+03     | .5890636+03 | .7270184+03     |                  |
| 39            | .4501049+03     | .5891458+03 | .7281866+03     |                  |
| 40            | .4490992+03     | .5892175+03 | .7293359+03     |                  |
| 41            | .4480961+03     | .5892837+03 | .7304714+03     |                  |
| 42            | .4471225+03     | .5893714+03 | .7316204+03     |                  |
| 43            | .4461608+03     | .5894687+03 | .7327766+03     |                  |
| 44            | .4452259+03     | .5895803+03 | .7339347+03     |                  |
| 45            | .4442715+03     | .5896718+03 | .7350720+03     |                  |
| 46            | .4433282+03     | .5897668+03 | .7362054+03     |                  |
| 47            | .4423941+03     | .5898637+03 | .7373334+03     |                  |
| 48            | .4414598+03     | .5899533+03 | .7384468+03     |                  |
| 49            | .4405311+03     | .5900396+03 | .7395482+03     |                  |
| 50            | .4396028+03     | .5901211+03 | .7406394+03     |                  |
| 51            | .4386903+03     | .5902094+03 | .7417284+03     |                  |
| 52            | .4377832+03     | .5902965+03 | .7428097+03     |                  |
| 53            | .4368819+03     | .5903829+03 | .7438839+03     |                  |
| 54            | .4359893+03     | .5904718+03 | .7449543+03     |                  |
| 55            | .4351036+03     | .5905619+03 | .7460202+03     |                  |
| 56            | .4342261+03     | .5906536+03 | .7470812+03     |                  |
| 57            | .4333514+03     | .5907430+03 | .7481346+03     |                  |
| 58            | .4324831+03     | .5908328+03 | .7491826+03     |                  |
| 59            | .4316207+03     | .5909228+03 | .7502250+03     |                  |
| 60            | .4307631+03     | .5910120+03 | .7512609+03     |                  |

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DIFFERENCING ON Z - 1) 1 OF ORDER 1

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|   |                |             |
|---|----------------|-------------|
| 2 | TREND CONSTANT | -0.11638+00 |
|---|----------------|-------------|

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NUMBER OF FORECASTS AT EACH TIME ORIGIN = 50

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .5089603+02     | .9124956+02 | .1316031+03     |                  |
| 2             | .4651795+02     | .9113319+02 | .1357484+03     |                  |
| 3             | .4251289+02     | .9101681+02 | .1395207+03     |                  |
| 4             | .3879725+02     | .9090044+02 | .1430036+03     |                  |
| 5             | .3531467+02     | .9078406+02 | .1462535+03     |                  |
| 6             | .3202500+02     | .9066769+02 | .1493104+03     |                  |
| 7             | .2889845+02     | .9055131+02 | .1522042+03     |                  |
| 8             | .2591217+02     | .9043494+02 | .1549577+03     |                  |
| 9             | .2304822+02     | .9031856+02 | .1575889+03     |                  |
| 10            | .2029218+02     | .9020219+02 | .1601122+03     |                  |
| 11            | .1763223+02     | .9008581+02 | .1625394+03     |                  |
| 12            | .1505861+02     | .8996944+02 | .1648803+03     |                  |
| 13            | .1256307+02     | .8985306+02 | .1671431+03     |                  |
| 14            | .1013860+02     | .8973669+02 | .1693348+03     |                  |
| 15            | .7779208+01     | .8962031+02 | .1714614+03     |                  |
| 16            | .5479670+01     | .8950394+02 | .1735282+03     |                  |
| 17            | .3235435+01     | .8938756+02 | .1755397+03     |                  |
| 18            | .1042506+01     | .8927119+02 | .1774999+03     |                  |
| 19            | .1102660+01     | .8915481+02 | .1794123+03     |                  |
| 20            | .3203217+01     | .8903844+02 | .1812801+03     |                  |
| 21            | .5261981+01     | .8892206+02 | .1831061+03     |                  |
| 22            | .7281487+01     | .8880569+02 | .1848929+03     |                  |
| 23            | .9264026+01     | .8868931+02 | .1866426+03     |                  |
| 24            | .1121167+02     | .8857294+02 | .1883575+03     |                  |
| 25            | .1312631+02     | .8845656+02 | .1900394+03     |                  |
| 26            | .1500966+02     | .8834019+02 | .1916900+03     |                  |
| 27            | .1686330+02     | .8822381+02 | .1933109+03     |                  |
| 28            | .1868869+02     | .8810744+02 | .1949036+03     |                  |
| 29            | .2048716+02     | .8799106+02 | .1964693+03     |                  |
| 30            | .2225994+02     | .8787469+02 | .1980093+03     |                  |
| 31            | .2400817+02     | .8775831+02 | .1995248+03     |                  |
| 32            | .2573292+02     | .8764194+02 | .2010168+03     |                  |
| 33            | .2743517+02     | .8752556+02 | .2024863+03     |                  |
| 34            | .2911583+02     | .8740919+02 | .2039342+03     |                  |
| 35            | .3077577+02     | .8729281+02 | .2053614+03     |                  |
| 36            | .3241580+02     | .8717644+02 | .2067687+03     |                  |
| 37            | .3403665+02     | .8706006+02 | .2081568+03     |                  |
| 38            | .3563904+02     | .8694369+02 | .2095264+03     |                  |
| 39            | .3722363+02     | .8682731+02 | .2108783+03     |                  |
| 40            | .3879104+02     | .8671094+02 | .2122129+03     |                  |
| 41            | .4034187+02     | .8659456+02 | .2135310+03     |                  |
| 42            | .4187667+02     | .8647819+02 | .2148330+03     |                  |
| 43            | .4339596+02     | .8636181+02 | .2161196+03     |                  |
| 44            | .4490025+02     | .8624544+02 | .2173911+03     |                  |
| 45            | .4639000+02     | .8612906+02 | .2186481+03     |                  |
| 46            | .4786567+02     | .8601269+02 | .2198910+03     |                  |
| 47            | .4932767+02     | .8589631+02 | .2211203+03     |                  |
| 48            | .5077641+02     | .8577994+02 | .2223363+03     |                  |
| 49            | .5221228+02     | .8566356+02 | .2235394+03     |                  |
| 50            | .5363564+02     | .8554719+02 | .2247300+03     |                  |
| 51            | .5504683+02     | .8543081+02 | .2259085+03     |                  |
| 52            | .5644621+02     | .8531444+02 | .2270751+03     |                  |
| 53            | .5783407+02     | .8519806+02 | .2282302+03     |                  |
| 54            | .5921074+02     | .8508169+02 | .2293741+03     |                  |
| 55            | .6057648+02     | .8496531+02 | .2305074+03     |                  |
| 56            | .6193159+02     | .8484894+02 | .2316295+03     |                  |
| 57            | .6327634+02     | .8473256+02 | .2327415+03     |                  |
| 58            | .6461098+02     | .8461619+02 | .2338434+03     |                  |
| 59            | .6593575+02     | .8449981+02 | .2349354+03     |                  |
| 60            | .6725089+02     | .8438344+02 | .2360178+03     |                  |

TIME SERIES FORECASTING FOR MODEL 1

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DATA - Z = OREGON #3: VIOLENT CRIME, TOTAL 84 OBSERVATIONS

DIFFERENCING ON 2 - 1) 1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

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UNIVARIATE MODEL PARAMETERS

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| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
|---------------------|-------------------|--------------------|--------------------|

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|   |                  |   |           |
|---|------------------|---|-----------|
| 1 | MOVING AVERAGE 1 | 1 | .58222+00 |
|---|------------------|---|-----------|

|   |                |           |
|---|----------------|-----------|
| 2 | TREND CONSTANT | .73337+00 |
|---|----------------|-----------|

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NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .7152724+02     | .1023817+03 | .1332362+03     |                  |
| 2             | .6967621+02     | .1031151+03 | .1365539+03     |                  |
| 3             | .6801107+02     | .1038484+03 | .1396858+03     |                  |
| 4             | .6649668+02     | .1045818+03 | .1426669+03     |                  |
| 5             | .6510776+02     | .1053152+03 | .1455226+03     |                  |
| 6             | .6382538+02     | .1060485+03 | .1482717+03     |                  |
| 7             | .6263493+02     | .1067819+03 | .1509289+03     |                  |
| 8             | .6152490+02     | .1075153+03 | .1535056+03     |                  |
| 9             | .6048595+02     | .1082486+03 | .1560413+03     |                  |
| 10            | .5951046+02     | .1089820+03 | .1584535+03     |                  |
| 11            | .5859206+02     | .1097154+03 | .1608387+03     |                  |
| 12            | .5772538+02     | .1104487+03 | .1631721+03     |                  |
| 13            | .5690584+02     | .1111821+03 | .1654583+03     |                  |
| 14            | .5612952+02     | .1119155+03 | .1677014+03     |                  |
| 15            | .5539299+02     | .1126488+03 | .1699046+03     |                  |
| 16            | .5469327+02     | .1133822+03 | .1720711+03     |                  |
| 17            | .5402771+02     | .1141155+03 | .1742034+03     |                  |
| 18            | .5339399+02     | .1148489+03 | .1763038+03     |                  |
| 19            | .5279002+02     | .1155823+03 | .1783745+03     |                  |
| 20            | .5221395+02     | .1163156+03 | .1804473+03     |                  |
| 21            | .5166410+02     | .1170490+03 | .1824339+03     |                  |
| 22            | .5113895+02     | .1177824+03 | .1844258+03     |                  |
| 23            | .5063714+02     | .1185157+03 | .1863943+03     |                  |
| 24            | .5015739+02     | .1192491+03 | .1883408+03     |                  |
| 25            | .4969859+02     | .1199825+03 | .1902663+03     |                  |
| 26            | .4925967+02     | .1207158+03 | .1921720+03     |                  |
| 27            | .4883968+02     | .1214492+03 | .1940587+03     |                  |
| 28            | .4843772+02     | .1221826+03 | .1959274+03     |                  |
| 29            | .4805298+02     | .1229159+03 | .1977789+03     |                  |
| 30            | .4768469+02     | .1236493+03 | .1996139+03     |                  |
| 31            | .4733216+02     | .1243827+03 | .2014332+03     |                  |
| 32            | .4699471+02     | .1251160+03 | .2032373+03     |                  |
| 33            | .4667175+02     | .1258494+03 | .2050270+03     |                  |
| 34            | .4636269+02     | .1265828+03 | .2068028+03     |                  |
| 35            | .4606701+02     | .1273161+03 | .2085652+03     |                  |
| 36            | .4578420+02     | .1280495+03 | .2103148+03     |                  |
| 37            | .4551379+02     | .1287828+03 | .2120519+03     |                  |
| 38            | .4525533+02     | .1295162+03 | .2137771+03     |                  |
| 39            | .4500842+02     | .1302496+03 | .2154907+03     |                  |
| 40            | .4477265+02     | .1309829+03 | .2171932+03     |                  |
| 41            | .4454765+02     | .1317163+03 | .2188850+03     |                  |
| 42            | .4433308+02     | .1324497+03 | .2205663+03     |                  |
| 43            | .4412860+02     | .1331830+03 | .2222375+03     |                  |
| 44            | .4393389+02     | .1339164+03 | .2238989+03     |                  |
| 45            | .4374865+02     | .1346498+03 | .2255509+03     |                  |
| 46            | .4357261+02     | .1353831+03 | .2271936+03     |                  |
| 47            | .4340549+02     | .1361165+03 | .2288275+03     |                  |
| 48            | .4324702+02     | .1368499+03 | .2304527+03     |                  |
| 49            | .4309698+02     | .1375832+03 | .2320695+03     |                  |
| 50            | .4295512+02     | .1383166+03 | .2336780+03     |                  |
| 51            | .4282122+02     | .1390499+03 | .2352787+03     |                  |
| 52            | .4269506+02     | .1397833+03 | .2368716+03     |                  |
| 53            | .4257645+02     | .1405167+03 | .2384669+03     |                  |
| 54            | .4246519+02     | .1412500+03 | .2400349+03     |                  |
| 55            | .4236109+02     | .1419834+03 | .2416057+03     |                  |
| 56            | .4226397+02     | .1427168+03 | .2431696+03     |                  |
| 57            | .4217366+02     | .1434501+03 | .2447266+03     |                  |
| 58            | .4208999+02     | .1441835+03 | .2462770+03     |                  |
| 59            | .4201281+02     | .1449169+03 | .2478209+03     |                  |
| 60            | .4194197+02     | .1456502+03 | .2493585+03     |                  |

TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #4: VIOLENT CRIME, TOTAL

84 OBSERVATIONS

DIFFERENCING ON Z - 1) 1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | AUTOREGRESSIVE 1  | 13                 | .33936+00          |
| 2                   | MOVING AVERAGE 1  | 1                  | .46515+00          |
| 3                   | TREND CONSTANT    |                    | -.15872+00         |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .1184496+02     | .3078190+02 | .4971882+02     |                  |
| 2             | .1152333+02     | .3299867+02 | .5447400+02     |                  |
| 3             | .8417321+01     | .3216123+02 | .5590514+02     |                  |
| 4             | .5509913+01     | .3132380+02 | .5713768+02     |                  |
| 5             | .5471443+01     | .3320121+02 | .6093097+02     |                  |
| 6             | .7593183+01     | .3711475+02 | .6663632+02     |                  |
| 7             | .9943719+00     | .3220505+02 | .6341573+02     |                  |
| 8             | .4323713+01     | .3713666+02 | .6994961+02     |                  |
| 9             | -.7561626+00    | .3358438+02 | .6792493+02     |                  |
| 10            | -.6449631+01    | .2935339+02 | .6515641+02     |                  |
| 11            | -.6316612+01    | .3089145+02 | .6809950+02     |                  |
| 12            | -.1122277+02    | .2733916+02 | .6590110+02     |                  |
| 13            | -.1065329+02    | .2921658+02 | .6908644+02     |                  |
| 14            | -.1452569+02    | .2864448+02 | .7181466+02     |                  |
| 15            | -.1601333+02    | .2923803+02 | .7448939+02     |                  |
| 16            | -.1844582+02    | .2879512+02 | .7603607+02     |                  |
| 17            | -.2079785+02    | .2835221+02 | .7750227+02     |                  |
| 18            | -.2215715+02    | .2883060+02 | .7981834+02     |                  |
| 19            | -.2276150+02    | .2999996+02 | .8276141+02     |                  |
| 20            | -.2630235+02    | .2817510+02 | .8265255+02     |                  |
| 21            | -.2645107+02    | .2968995+02 | .8583096+02     |                  |
| 22            | -.2943096+02    | .2832574+02 | .8608243+02     |                  |
| 23            | -.3259718+02    | .2673120+02 | .8605958+02     |                  |
| 24            | -.3376507+02    | .2709442+02 | .8795392+02     |                  |
| 25            | -.3667281+02    | .2573021+02 | .8808324+02     |                  |
| 26            | -.3760301+02    | .2620860+02 | .9002021+02     |                  |
| 27            | -.3986995+02    | .2585573+02 | .9158742+02     |                  |
| 28            | -.4145803+02    | .2589844+02 | .9325490+02     |                  |
| 29            | -.4335928+02    | .2558941+02 | .9453809+02     |                  |
| 30            | -.4522458+02    | .2528038+02 | .9578533+02     |                  |
| 31            | -.4674361+02    | .2528400+02 | .9731161+02     |                  |
| 32            | -.4799662+02    | .2552211+02 | .9904084+02     |                  |
| 33            | -.5023610+02    | .2474411+02 | .9972431+02     |                  |
| 34            | -.5131428+02    | .2509945+02 | .1015132+03     |                  |
| 35            | -.5334308+02    | .2447778+02 | .1022986+03     |                  |
| 36            | -.5542505+02    | .2377794+02 | .1029809+03     |                  |
| 37            | -.5681893+02    | .2374248+02 | .1043039+03     |                  |
| 38            | -.5877650+02    | .2312080+02 | .1050181+03     |                  |
| 39            | -.6008733+02    | .2312442+02 | .1063362+03     |                  |
| 40            | -.6179196+02    | .2284595+02 | .1074839+03     |                  |
| 41            | -.6327748+02    | .2270172+02 | .1086809+03     |                  |
| 42            | -.6486176+02    | .2243813+02 | .1097380+03     |                  |
| 43            | -.6642635+02    | .2217453+02 | .1107754+03     |                  |
| 44            | -.6786601+02    | .2201704+02 | .1119001+03     |                  |
| 45            | -.6920807+02    | .2193912+02 | .1130863+03     |                  |
| 46            | -.7087765+02    | .2151638+02 | .1139104+03     |                  |
| 47            | -.7214602+02    | .2147824+02 | .1151025+03     |                  |
| 48            | -.7372999+02    | .2110855+02 | .1159471+03     |                  |
| 49            | -.7532514+02    | .2071233+02 | .1167498+03     |                  |
| 50            | -.7668004+02    | .2054157+02 | .1177632+03     |                  |
| 51            | -.7821963+02    | .2017188+02 | .1185634+03     |                  |
| 52            | -.7953327+02    | .2001439+02 | .1195620+03     |                  |
| 53            | -.8096740+02    | .1976116+02 | .1204897+03     |                  |
| 54            | -.8232473+02    | .1955349+02 | .1214317+03     |                  |
| 55            | -.8370974+02    | .1930532+02 | .1223204+03     |                  |
| 56            | -.8508233+02    | .1905714+02 | .1231966+03     |                  |
| 57            | -.8640691+02    | .1884497+02 | .1240969+03     |                  |
| 58            | -.8769285+02    | .1865981+02 | .1250125+03     |                  |
| 59            | -.8908453+02    | .1835762+02 | .1257998+03     |                  |
| 60            | -.9033476+02    | .1818596+02 | .1267067+03     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #6: VIOLENT CRIME, TOTAL

84 OBSERVATIONS

DIFFERENCING ON Z - 1) 1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | AUTOREGRESSIVE 1  | 5                  | .28965+00          |
| 2                   | AUTOREGRESSIVE 1  | 7                  | .34849+00          |
| 3                   | MOVING AVERAGE 1  | 1                  | .77228+00          |
| 4                   | TREND CONSTANT    |                    | -.12034+00         |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA

MODEL 1 FORECASTS AT BASE PERIOD R4 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .3775122+02     | .7632049+02 | .1148898+03     |                  |
| 2             | .3879774+02     | .7835442+02 | .1179111+03     |                  |
| 3             | .3606669+02     | .7658673+02 | .1171068+03     |                  |
| 4             | .2590398+02     | .6736500+02 | .1088260+03     |                  |
| 5             | .3751768+02     | .7969679+02 | .1222799+03     |                  |
| 6             | .2385360+02     | .7069750+02 | .1175414+03     |                  |
| 7             | .2645723+02     | .7465115+02 | .1228451+03     |                  |
| 8             | .1855069+02     | .7273654+02 | .1269224+03     |                  |
| 9             | .1459039+02     | .7065391+02 | .1267174+03     |                  |
| 10            | .1566768+02     | .7354800+02 | .1314283+03     |                  |
| 11            | .7044888+01     | .6754884+02 | .1280528+03     |                  |
| 12            | .1057578+02     | .7294154+02 | .1353073+03     |                  |
| 13            | .2619106+01     | .6906011+02 | .1355011+03     |                  |
| 14            | .1158175+01     | .6971433+02 | .1382705+03     |                  |
| 15            | -.2107911+01    | .6976506+02 | .1416380+03     |                  |
| 16            | -.7135622+01    | .6718129+02 | .1414982+03     |                  |
| 17            | -.6876288+01    | .6963150+02 | .1461393+03     |                  |
| 18            | -.1319157+02    | .6629628+02 | .1457841+03     |                  |
| 19            | -.1347039+02    | .6824472+02 | .1499598+03     |                  |
| 20            | -.1810884+02    | .6678645+02 | .1516817+03     |                  |
| 21            | -.2110738+02    | .6614571+02 | .1533986+03     |                  |
| 22            | -.2312682+02    | .6675276+02 | .1566323+03     |                  |
| 23            | -.2767623+02    | .6476596+02 | .1572082+03     |                  |
| 24            | -.2864717+02    | .6606386+02 | .1607749+03     |                  |
| 25            | -.3309642+02    | .6435886+02 | .1618141+03     |                  |
| 26            | -.3500722+02    | .6473193+02 | .1644711+03     |                  |
| 27            | -.3808925+02    | .6427924+02 | .1666477+03     |                  |
| 28            | -.4135932+02    | .6336014+02 | .1680796+03     |                  |
| 29            | -.4323365+02    | .6382729+02 | .1708882+03     |                  |
| 30            | -.4697605+02    | .6252072+02 | .1720175+03     |                  |
| 31            | -.4874619+02    | .6296074+02 | .1746677+03     |                  |
| 32            | -.5202930+02    | .6211511+02 | .1762595+03     |                  |
| 33            | -.5449581+02    | .6185857+02 | .1782129+03     |                  |
| 34            | -.5694202+02    | .6171579+02 | .1803736+03     |                  |
| 35            | -.5999348+02    | .6089670+02 | .1817869+03     |                  |
| 36            | -.6198231+02    | .6106662+02 | .1841155+03     |                  |
| 37            | -.6504242+02    | .6024602+02 | .1855345+03     |                  |
| 38            | -.6718202+02    | .6020472+02 | .1875915+03     |                  |
| 39            | -.6982410+02    | .5974833+02 | .1893208+03     |                  |
| 40            | -.7235759+02    | .5930134+02 | .1909603+03     |                  |
| 41            | -.7456598+02    | .5918046+02 | .1929269+03     |                  |
| 42            | -.7728827+02    | .5853700+02 | .1943623+03     |                  |
| 43            | -.7937072+02    | .5846391+02 | .1962985+03     |                  |
| 44            | -.8196012+02    | .5792542+02 | .1978110+03     |                  |
| 45            | -.8419607+02    | .5766122+02 | .1995185+03     |                  |
| 46            | -.8650300+02    | .5734682+02 | .2011966+03     |                  |
| 47            | -.8891711+02    | .5688434+02 | .2026858+03     |                  |
| 48            | -.9102693+02    | .5670071+02 | .2044283+03     |                  |
| 49            | -.9345558+02    | .5620016+02 | .2058559+03     |                  |
| 50            | -.9555573+02    | .5597782+02 | .2075114+03     |                  |
| 51            | -.9784530+02    | .5557876+02 | .2090028+03     |                  |
| 52            | -.1000395+03    | .5523232+02 | .2105093+03     |                  |
| 53            | -.1021642+03    | .5494931+02 | .2120628+03     |                  |
| 54            | -.1044139+03    | .5452281+02 | .2134595+03     |                  |
| 55            | -.1064581+03    | .5427409+02 | .2150063+03     |                  |
| 56            | -.1086626+03    | .5386373+02 | .2163901+03     |                  |
| 57            | -.1107216+03    | .5356558+02 | .2178527+03     |                  |
| 58            | -.1128209+03    | .5322418+02 | .2192693+03     |                  |
| 59            | -.1149195+03    | .5285961+02 | .2206387+03     |                  |
| 60            | -.1169299+03    | .5256857+02 | .2220670+03     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #7: VIOLENT CRIME, TOTAL

84 OBSERVATIONS

DIFFERENCING ON Z - 1) 1 OF ORDER 1 2) 1 OF ORDER 12

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
|---------------------|-------------------|--------------------|--------------------|

|   |                  |   |           |
|---|------------------|---|-----------|
| 1 | MOVING AVERAGE 1 | 1 | .44168+00 |
|---|------------------|---|-----------|

|   |                  |    |           |
|---|------------------|----|-----------|
| 2 | MOVING AVERAGE 2 | 12 | .63302+00 |
|---|------------------|----|-----------|

|   |                |  |           |
|---|----------------|--|-----------|
| 3 | TREND CONSTANT |  | .33331-01 |
|---|----------------|--|-----------|

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 24

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .5661976+01     | .4247648+02 | .7929099+02     |                  |
| 2             | .6416922+00     | .4240551+02 | .8496934+02     |                  |
| 3             | .9335961+01     | .5624297+02 | .1031500+03     |                  |
| 4             | .2087417+01     | .5330019+02 | .1045130+03     |                  |
| 5             | -.6725452+01    | .4845813+02 | .1036417+03     |                  |
| 6             | -.3319061+01    | .5556619+02 | .1144554+03     |                  |
| 7             | .1103489+02     | .7340676+02 | .1357776+03     |                  |
| 8             | .1305610+02     | .7872701+02 | .1443979+03     |                  |
| 9             | -.4047498+01    | .6476491+02 | .1335773+03     |                  |
| 10            | -.1937601+02    | .5244062+02 | .1242572+03     |                  |
| 11            | -.2667688+02    | .4802324+02 | .1227234+03     |                  |
| 12            | -.4096094+02    | .3651542+02 | .1139918+03     |                  |
| 13            | -.5405535+02    | .3057902+02 | .1152134+03     |                  |
| 14            | -.5823505+02    | .3094139+02 | .1201178+03     |                  |
| 15            | -.4908593+02    | .4441218+02 | .1379103+03     |                  |
| 16            | -.5612594+02    | .4150272+02 | .1391314+03     |                  |
| 17            | -.6489742+02    | .3669400+02 | .1382854+03     |                  |
| 18            | -.6156791+02    | .4383738+02 | .1492427+03     |                  |
| 19            | -.4737712+02    | .6170879+02 | .1707947+03     |                  |
| 20            | -.4558347+02    | .6706287+02 | .1797092+03     |                  |
| 21            | -.6296351+02    | .5313410+02 | .1692317+03     |                  |
| 22            | -.7860608+02    | .4084314+02 | .1602924+03     |                  |
| 23            | -.8625022+02    | .3645909+02 | .1591684+03     |                  |
| 24            | -.1009004+03    | .2498461+02 | .1508696+03     |                  |
| 25            | -.1135013+03    | .1908154+02 | .1516644+03     |                  |
| 26            | -.1178124+03    | .1947724+02 | .1567669+03     |                  |
| 27            | -.1088590+03    | .3298136+02 | .1748217+03     |                  |
| 28            | -.1161443+03    | .3010524+02 | .1763548+03     |                  |
| 29            | -.1251997+03    | .2532984+02 | .1758594+03     |                  |
| 30            | -.1221847+03    | .3250656+02 | .1871978+03     |                  |
| 31            | -.1083326+03    | .5041130+02 | .2091552+03     |                  |
| 32            | -.1068969+03    | .5579870+02 | .2184943+03     |                  |
| 33            | -.1246503+03    | .4190327+02 | .2084568+03     |                  |
| 34            | -.1406785+03    | .2964564+02 | .1999698+03     |                  |
| 35            | -.1487182+03    | .2529492+02 | .1993080+03     |                  |
| 36            | -.1637717+03    | .1365377+02 | .1914792+03     |                  |
| 37            | -.1763162+03    | .7984035+01 | .1922842+03     |                  |
| 38            | -.1808787+03    | .8413060+01 | .1977048+03     |                  |
| 39            | -.1722045+03    | .2195051+02 | .2161055+03     |                  |
| 40            | -.1797917+03    | .1910772+02 | .2180071+03     |                  |
| 41            | -.1891676+03    | .1436566+02 | .2178989+03     |                  |
| 42            | -.1864882+03    | .2157571+02 | .2296396+03     |                  |
| 43            | -.1729842+03    | .3951378+02 | .2520117+03     |                  |
| 44            | -.1719069+03    | .4493451+02 | .2617759+03     |                  |
| 45            | -.1900271+03    | .3107241+02 | .2521719+03     |                  |
| 46            | -.2064290+03    | .1864811+02 | .2441252+03     |                  |
| 47            | -.2148480+03    | .1453073+02 | .2439094+03     |                  |
| 48            | -.2302853+03    | .3122906+01 | .2365311+03     |                  |
| 49            | -.2429083+03    | .2713498+01 | .2374813+03     |                  |
| 50            | -.2477439+03    | .2251141+01 | .2432417+03     |                  |
| 51            | -.2393592+03    | .1131964+02 | .2619985+03     |                  |
| 52            | -.2472496+03    | .6510183+01 | .2642699+03     |                  |
| 53            | -.2569402+03    | .3801451+01 | .2645431+03     |                  |
| 54            | -.2545653+03    | .1104483+02 | .2766750+03     |                  |
| 55            | -.2414140+03    | .2901623+02 | .2994465+03     |                  |
| 56            | -.2406764+03    | .3447030+02 | .3096470+03     |                  |
| 57            | -.2591421+03    | .2064153+02 | .3004251+03     |                  |
| 58            | -.2758943+03    | .8450560+01 | .2927955+03     |                  |
| 59            | -.2846677+03    | .4166507+01 | .2930007+03     |                  |
| 60            | -.3004627+03    | .7207983+01 | .2860466+03     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON STATEWIDE: NONVIOLENT CRIMES, TOTAL

84 OBSERVATIONS

DIFFERENCING ON Z - 1) 1 OF ORDER 1 2) 1 OF ORDER 12

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MOVING AVERAGE 1  | 1                  | .15012+00          |
| 2                   | MOVING AVERAGE 1  | 2                  | .86490-01          |
| 3                   | MOVING AVERAGE 1  | 12                 | .68815+00          |
| 4                   | TREND CONSTANT    |                    | .15188+02          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE 1= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .1143261+05     | .1290706+05 | .1438151+05     |                  |
| 2             | .1033851+05     | .1227052+05 | .1420553+05     |                  |
| 3             | .1092069+05     | .1315925+05 | .1539782+05     |                  |
| 4             | .1006626+05     | .1257187+05 | .1507748+05     |                  |
| 5             | .9871427+04     | .1261825+05 | .1536506+05     |                  |
| 6             | .1000118+05     | .1296967+05 | .1593816+05     |                  |
| 7             | .1052094+05     | .1369566+05 | .1687038+05     |                  |
| 8             | .1044689+05     | .1361524+05 | .1718359+05     |                  |
| 9             | .9391459+04     | .1294289+05 | .1649433+05     |                  |
| 10            | .9437974+04     | .1316351+05 | .1668904+05     |                  |
| 11            | .9143162+04     | .1303401+05 | .1692587+05     |                  |
| 12            | .9814391+04     | .1386574+05 | .1791709+05     |                  |
| 13            | .9151484+04     | .1350190+05 | .1785249+05     |                  |
| 14            | .8321312+04     | .1288064+05 | .1743996+05     |                  |
| 15            | .9060536+04     | .1378456+05 | .1850858+05     |                  |
| 16            | .8329196+04     | .1321236+05 | .1809553+05     |                  |
| 17            | .8236639+04     | .1327393+05 | .1831122+05     |                  |
| 18            | .8453709+04     | .1364054+05 | .1882737+05     |                  |
| 19            | .9049534+04     | .1438172+05 | .1971390+05     |                  |
| 20            | .9042814+04     | .1451649+05 | .1999016+05     |                  |
| 21            | .8047729+04     | .1365933+05 | .1927093+05     |                  |
| 22            | .8148910+04     | .1389513+05 | .1964135+05     |                  |
| 23            | .7903078+04     | .1378083+05 | .1965858+05     |                  |
| 24            | .8621338+04     | .1462774+05 | .2063414+05     |                  |
| 25            | .8037833+04     | .1427917+05 | .2052052+05     |                  |
| 26            | .7259756+04     | .1367301+05 | .2008627+05     |                  |
| 27            | .8038848+04     | .1459212+05 | .2114540+05     |                  |
| 28            | .7344750+04     | .1403512+05 | .2072549+05     |                  |
| 29            | .7287166+04     | .1411187+05 | .2093658+05     |                  |
| 30            | .7537223+04     | .1449367+05 | .2145012+05     |                  |
| 31            | .8164292+04     | .1525004+05 | .2233578+05     |                  |
| 32            | .8187275+04     | .1540000+05 | .2261272+05     |                  |
| 33            | .7220523+04     | .1455803+05 | .2189553+05     |                  |
| 34            | .7348822+04     | .1460902+05 | .2226921+05     |                  |
| 35            | .7128596+04     | .1470990+05 | .2229081+05     |                  |
| 36            | .7872285+04     | .1557200+05 | .2327172+05     |                  |
| 37            | .7329656+04     | .1523863+05 | .2314760+05     |                  |
| 38            | .6581252+04     | .1464760+05 | .2271406+05     |                  |
| 39            | .7384776+04     | .1559195+05 | .2377913+05     |                  |
| 40            | .6714241+04     | .1504014+05 | .2336603+05     |                  |
| 41            | .6679423+04     | .1513208+05 | .2358473+05     |                  |
| 42            | .6951527+04     | .1552907+05 | .2410661+05     |                  |
| 43            | .7599986+04     | .1630062+05 | .2500125+05     |                  |
| 44            | .7643758+04     | .1646577+05 | .2528778+05     |                  |
| 45            | .6697247+04     | .1563899+05 | .2458072+05     |                  |
| 46            | .6845280+04     | .1590517+05 | .2496505+05     |                  |
| 47            | .6644727+04     | .1562124+05 | .2499775+05     |                  |
| 48            | .7406856+04     | .1669853+05 | .2599020+05     |                  |
| 49            | .6892739+04     | .1638034+05 | .2586794+05     |                  |
| 50            | .6166415+04     | .1580456+05 | .2544270+05     |                  |
| 51            | .6988980+04     | .1675404+05 | .2651911+05     |                  |
| 52            | .6337057+04     | .1622741+05 | .2611777+05     |                  |
| 53            | .6320461+04     | .1633454+05 | .2634863+05     |                  |
| 54            | .6610424+04     | .1674672+05 | .2688302+05     |                  |
| 55            | .7276405+04     | .1753340+05 | .2779052+05     |                  |
| 56            | .7337388+04     | .1771380+05 | .2809021+05     |                  |
| 57            | .6407797+04     | .1690221+05 | .2739662+05     |                  |
| 58            | .6572481+04     | .1718358+05 | .2779467+05     |                  |
| 59            | .6368327+04     | .1711484+05 | .2784135+05     |                  |
| 60            | .7166619+04     | .1800732+05 | .2864801+05     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #1: TOTAL NONVIOLENT CRIME 84 OBSERVATIONS

DIFFERENCING ON Z - 1) 1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | AUTOREGRESSIVE 1  | 6                  | -.22662+00         |
| 2                   | MOVING AVERAGE 1  | 1                  | .38617+00          |
| 3                   | TREND CONSTANT    |                    | .22318+02          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .4126548+04     | .4635313+04 | .5144077+04     |                  |
| 2             | .4059758+04     | .4656724+04 | .5253690+04     |                  |
| 3             | .4025720+04     | .4699437+04 | .5373155+04     |                  |
| 4             | .4036057+04     | .4778636+04 | .5521214+04     |                  |
| 5             | .4021213+04     | .4826788+04 | .5632362+04     |                  |
| 6             | .3927783+04     | .4791772+04 | .5655761+04     |                  |
| 7             | .3939639+04     | .4825803+04 | .5711966+04     |                  |
| 8             | .3924781+04     | .4843268+04 | .5761786+04     |                  |
| 9             | .3906195+04     | .4855907+04 | .5805618+04     |                  |
| 10            | .3880335+04     | .4860277+04 | .5840218+04     |                  |
| 11            | .3862416+04     | .4871683+04 | .5880949+04     |                  |
| 12            | .3864173+04     | .4901936+04 | .5939698+04     |                  |
| 13            | .3844819+04     | .4916541+04 | .5988264+04     |                  |
| 14            | .3832665+04     | .4934901+04 | .6037138+04     |                  |
| 15            | .3822426+04     | .4954355+04 | .6086284+04     |                  |
| 16            | .3814820+04     | .4975682+04 | .6136544+04     |                  |
| 17            | .3806324+04     | .4995416+04 | .6184507+04     |                  |
| 18            | .3794212+04     | .5010878+04 | .6227543+04     |                  |
| 19            | .3787469+04     | .5029885+04 | .6272302+04     |                  |
| 20            | .3779943+04     | .5048043+04 | .6316442+04     |                  |
| 21            | .3772679+04     | .5065952+04 | .6359225+04     |                  |
| 22            | .3765471+04     | .5083437+04 | .6401402+04     |                  |
| 23            | .3759079+04     | .5101283+04 | .6443487+04     |                  |
| 24            | .3754084+04     | .5120096+04 | .6486109+04     |                  |
| 25            | .3748448+04     | .5138107+04 | .6527766+04     |                  |
| 26            | .3743494+04     | .5156310+04 | .6569126+04     |                  |
| 27            | .3738969+04     | .5174569+04 | .6610169+04     |                  |
| 28            | .3734897+04     | .5192925+04 | .6650952+04     |                  |
| 29            | .3731083+04     | .5211198+04 | .6691313+04     |                  |
| 30            | .3727374+04     | .5229253+04 | .6731131+04     |                  |
| 31            | .3724209+04     | .5247489+04 | .6770769+04     |                  |
| 32            | .3721278+04     | .5265682+04 | .6810086+04     |                  |
| 33            | .3718618+04     | .5283862+04 | .6849105+04     |                  |
| 34            | .3716211+04     | .5302020+04 | .6887828+04     |                  |
| 35            | .3714086+04     | .5320196+04 | .6926307+04     |                  |
| 36            | .3712264+04     | .5338423+04 | .6964582+04     |                  |
| 37            | .3710634+04     | .5356608+04 | .7002582+04     |                  |
| 38            | .3709254+04     | .5374803+04 | .7040352+04     |                  |
| 39            | .3708104+04     | .5393001+04 | .7077898+04     |                  |
| 40            | .3707179+04     | .5411204+04 | .7115229+04     |                  |
| 41            | .3706461+04     | .5429403+04 | .7152344+04     |                  |
| 42            | .3705939+04     | .5447590+04 | .7189241+04     |                  |
| 43            | .3705626+04     | .5465787+04 | .7225947+04     |                  |
| 44            | .3705503+04     | .5483981+04 | .7262459+04     |                  |
| 45            | .3705566+04     | .5502175+04 | .7298784+04     |                  |
| 46            | .3705809+04     | .5520368+04 | .7334926+04     |                  |
| 47            | .3706229+04     | .5538562+04 | .7370894+04     |                  |
| 48            | .3706823+04     | .5556758+04 | .7406693+04     |                  |
| 49            | .3707579+04     | .5574952+04 | .7442325+04     |                  |
| 50            | .3708498+04     | .5593147+04 | .7477795+04     |                  |
| 51            | .3709573+04     | .5611341+04 | .7513109+04     |                  |
| 52            | .3710802+04     | .5629536+04 | .7548271+04     |                  |
| 53            | .3712179+04     | .5647731+04 | .7583283+04     |                  |
| 54            | .3713701+04     | .5665925+04 | .7618150+04     |                  |
| 55            | .3715364+04     | .5684120+04 | .7652877+04     |                  |
| 56            | .3717165+04     | .5702315+04 | .7687465+04     |                  |
| 57            | .3719100+04     | .5720509+04 | .7721919+04     |                  |
| 58            | .3721166+04     | .5738704+04 | .7756242+04     |                  |
| 59            | .3723360+04     | .5756898+04 | .7790437+04     |                  |
| 60            | .3725679+04     | .5775093+04 | .7824508+04     |                  |

TIME SERIES FORECASTING FOR MODEL 1

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DATA - Z = OREGON #2: NONVIOLENT CRIME, TOTAL

84 OBSERVATIONS

DIFFERENCING ON Z - 1) 1 OF ORDER 1 2) 1 OF ORDER 12

TRANSFORMATIONS EXAMINED - NONE

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UNIVARIATE MODEL PARAMETERS

\*\*\*\*\*

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
|---------------------|-------------------|--------------------|--------------------|

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|   |                  |   |           |
|---|------------------|---|-----------|
| 1 | MOVING AVERAGE 1 | 1 | .51788+00 |
|---|------------------|---|-----------|

|   |                  |   |           |
|---|------------------|---|-----------|
| 2 | MOVING AVERAGE 1 | 2 | .10274+00 |
|---|------------------|---|-----------|

|   |                  |    |           |
|---|------------------|----|-----------|
| 3 | MOVING AVERAGE 2 | 12 | .59928+00 |
|---|------------------|----|-----------|

|   |                |  |           |
|---|----------------|--|-----------|
| 4 | TREND CONSTANT |  | .30973+01 |
|---|----------------|--|-----------|

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NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE 1= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA

\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

PERIODS AHEAD LO. CONF. LIMIT FORECAST UP. CONF. LIMIT ACTUAL, IF KNOWN

|    |             |             |             |  |
|----|-------------|-------------|-------------|--|
| 1  | .2005005+04 | .2295465+04 | .2585924+04 |  |
| 2  | .1914990+04 | .2237444+04 | .2559898+04 |  |
| 3  | .2030325+04 | .2371088+04 | .2711851+04 |  |
| 4  | .2000102+04 | .2358239+04 | .2716376+04 |  |
| 5  | .1945510+04 | .2320217+04 | .2694924+04 |  |
| 6  | .1964921+04 | .2355495+04 | .2746068+04 |  |
| 7  | .2106424+04 | .2512245+04 | .2918066+04 |  |
| 8  | .2108868+04 | .2529383+04 | .2949899+04 |  |
| 9  | .1741457+04 | .2176171+04 | .2610885+04 |  |
| 10 | .1769606+04 | .2218069+04 | .2666532+04 |  |
| 11 | .1852466+04 | .2314268+04 | .2776071+04 |  |
| 12 | .1977499+04 | .2452267+04 | .2927035+04 |  |
| 13 | .1891180+04 | .2417247+04 | .2943314+04 |  |
| 14 | .1811564+04 | .2363294+04 | .2915023+04 |  |
| 15 | .1927122+04 | .2500035+04 | .3072948+04 |  |
| 16 | .1896942+04 | .2490283+04 | .3083625+04 |  |
| 17 | .1842269+04 | .2455359+04 | .3068448+04 |  |
| 18 | .1861513+04 | .2493734+04 | .3125954+04 |  |
| 19 | .2002791+04 | .2653581+04 | .3304370+04 |  |
| 20 | .2004973+04 | .2673817+04 | .3342660+04 |  |
| 21 | .1637279+04 | .2323701+04 | .3010124+04 |  |
| 22 | .1665134+04 | .2368697+04 | .3072259+04 |  |
| 23 | .1747699+04 | .2467994+04 | .3188288+04 |  |
| 24 | .1872443+04 | .2609090+04 | .3345737+04 |  |
| 25 | .1792341+04 | .2577167+04 | .3361992+04 |  |
| 26 | .1713754+04 | .2526311+04 | .3338867+04 |  |
| 27 | .1829696+04 | .2666149+04 | .3502602+04 |  |
| 28 | .1799809+04 | .2659495+04 | .3519180+04 |  |
| 29 | .1745361+04 | .2627667+04 | .3509974+04 |  |
| 30 | .1764776+04 | .2669139+04 | .3573501+04 |  |
| 31 | .1906192+04 | .2832084+04 | .3757976+04 |  |
| 32 | .1908484+04 | .2855417+04 | .3802350+04 |  |
| 33 | .1540883+04 | .2508399+04 | .3475915+04 |  |
| 34 | .1568821+04 | .2556491+04 | .3544162+04 |  |
| 35 | .1651464+04 | .2658885+04 | .3666307+04 |  |
| 36 | .1776286+04 | .2803079+04 | .3829872+04 |  |
| 37 | .1700257+04 | .2774253+04 | .3848249+04 |  |
| 38 | .1622728+04 | .2726494+04 | .3830261+04 |  |
| 39 | .1739303+04 | .2869430+04 | .3999557+04 |  |
| 40 | .1709986+04 | .2865873+04 | .4021759+04 |  |
| 41 | .1656058+04 | .2837142+04 | .4018227+04 |  |
| 42 | .1675956+04 | .2881712+04 | .4087468+04 |  |
| 43 | .1817821+04 | .3047754+04 | .4277686+04 |  |
| 44 | .1820541+04 | .3074184+04 | .4327827+04 |  |
| 45 | .1453350+04 | .2730263+04 | .4007176+04 |  |
| 46 | .1481686+04 | .2761453+04 | .4081220+04 |  |
| 47 | .1564719+04 | .2866944+04 | .4209170+04 |  |
| 48 | .1689926+04 | .3034235+04 | .4378544+04 |  |
| 49 | .1617072+04 | .3008506+04 | .4399941+04 |  |
| 50 | .1540693+04 | .2963845+04 | .4386996+04 |  |
| 51 | .1658111+04 | .3109878+04 | .4561645+04 |  |
| 52 | .1629588+04 | .3109418+04 | .4589247+04 |  |
| 53 | .1576415+04 | .3083785+04 | .4591154+04 |  |
| 54 | .1597036+04 | .3131451+04 | .4665866+04 |  |
| 55 | .1739598+04 | .3300590+04 | .4861583+04 |  |
| 56 | .1742993+04 | .3330118+04 | .4917242+04 |  |
| 57 | .1376461+04 | .2989294+04 | .4602128+04 |  |
| 58 | .1405442+04 | .3043581+04 | .4681720+04 |  |
| 59 | .1489110+04 | .3152170+04 | .4815229+04 |  |
| 60 | .1614946+04 | .3302557+04 | .4990169+04 |  |

**CONTINUED**

**1 OF 5**

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TIME SERIES FORECASTING FOR MODEL 1
*****
DATA - Z = OREGON #3: NONVIOLENT CRIME, TOTAL 84 OBSERVATIONS
DIFFERENCING ON Z - 1) 1 OF ORDER 1 2) 1 OF ORDER 12
TRANSFORMATIONS EXAMINED - NONE
*****
UNIVARIATE MODEL PARAMETERS
*****
PARAMETER          PARAMETER          PARAMETER          BEGINNING
NUMBER             TYPE                ORDER             VALUE
*****
1             MOVING AVERAGE 1             1             .53790+00
2             MOVING AVERAGE 2             12            .60946+00
3             TREND CONSTANT                  -             -.21067+01
*****
NUMBER OF TIME ORIGINS FOR FORECASTS = 1
NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60
FORECAST TIME ORIGINS ARE T= 84
BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

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REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .1214465+04     | .1447219+04 | .1679973+04     |                  |
| 2             | .1085340+04     | .1341743+04 | .1598146+04     |                  |
| 3             | .1198485+04     | .1476533+04 | .1754582+04     |                  |
| 4             | .1019988+04     | .1318114+04 | .1616240+04     |                  |
| 5             | .9678077+03     | .1284741+04 | .1601675+04     |                  |
| 6             | .9303642+03     | .1265051+04 | .1599738+04     |                  |
| 7             | .1025304+04     | .1376848+04 | .1728392+04     |                  |
| 8             | .9467666+03     | .1314396+04 | .1662026+04     |                  |
| 9             | .8963319+03     | .1279372+04 | .1662412+04     |                  |
| 10            | .9514731+03     | .1349327+04 | .1747181+04     |                  |
| 11            | .9262104+03     | .1338346+04 | .1750482+04     |                  |
| 12            | .1056970+04     | .1482909+04 | .1908848+04     |                  |
| 13            | .8757814+03     | .1345684+04 | .1815587+04     |                  |
| 14            | .7449719+03     | .1238101+04 | .1731231+04     |                  |
| 15            | .6554746+03     | .1370785+04 | .1886095+04     |                  |
| 16            | .6736837+03     | .1210259+04 | .1746834+04     |                  |
| 17            | .6177508+03     | .1174780+04 | .1731809+04     |                  |
| 18            | .5762247+03     | .1152982+04 | .1729740+04     |                  |
| 19            | .6668395+03     | .1262673+04 | .1858507+04     |                  |
| 20            | .5837970+03     | .1198114+04 | .1812432+04     |                  |
| 21            | .5287223+03     | .1160983+04 | .1793244+04     |                  |
| 22            | .5791226+03     | .1228832+04 | .1878541+04     |                  |
| 23            | .5490431+03     | .1215744+04 | .1882445+04     |                  |
| 24            | .6749297+03     | .1358200+04 | .2041471+04     |                  |
| 25            | .4945211+03     | .1218869+04 | .1943216+04     |                  |
| 26            | .3599288+03     | .1109179+04 | .1858430+04     |                  |
| 27            | .4664043+03     | .1239756+04 | .2013109+04     |                  |
| 28            | .2803987+03     | .1077124+04 | .1873848+04     |                  |
| 29            | .2201064+03     | .1039538+04 | .1858969+04     |                  |
| 30            | .1741085+03     | .1015634+04 | .1857159+04     |                  |
| 31            | .2601640+03     | .1123218+04 | .1986271+04     |                  |
| 32            | .1724941+03     | .1056552+04 | .1940610+04     |                  |
| 33            | .1127396+03     | .1017314+04 | .1921889+04     |                  |
| 34            | .1584198+03     | .1083056+04 | .2007693+04     |                  |
| 35            | .1235900+03     | .1067862+04 | .2012434+04     |                  |
| 36            | .2447038+03     | .1208211+04 | .2171719+04     |                  |
| 37            | .6271486+02     | .1066773+04 | .2070831+04     |                  |
| 38            | .7589029+02     | .9549771+03 | .1985845+04     |                  |
| 39            | .2645065+02     | .1083447+04 | .2140444+04     |                  |
| 40            | .1637877+03     | .9187080+03 | .2001204+04     |                  |
| 41            | .2283922+03     | .8790154+03 | .1986423+04     |                  |
| 42            | .2787666+03     | .8530047+03 | .1984776+04     |                  |
| 43            | .1971395+03     | .9584819+03 | .2114103+04     |                  |
| 44            | .2892794+03     | .8897098+03 | .2068699+04     |                  |
| 45            | .3535373+03     | .8483654+03 | .2050268+04     |                  |
| 46            | .3123870+03     | .9120006+03 | .2136388+04     |                  |
| 47            | .3517672+03     | .8946996+03 | .2141166+04     |                  |
| 48            | .2352196+03     | .1032942+04 | .2301104+04     |                  |
| 49            | .4196155+03     | .8893973+03 | .2198410+04     |                  |
| 50            | .5622107+03     | .7754946+03 | .2113200+04     |                  |
| 51            | .4639370+03     | .9018583+03 | .2267654+04     |                  |
| 52            | .6583069+03     | .7350121+03 | .2128331+04     |                  |
| 53            | .7270966+03     | .6932128+03 | .2113522+04     |                  |
| 54            | .7817010+03     | .6650954+03 | .2111892+04     |                  |
| 55            | .7043412+03     | .7684660+03 | .2241273+04     |                  |
| 56            | .8007793+03     | .6975872+03 | .2195954+04     |                  |
| 57            | .8693609+03     | .6541361+03 | .2177633+04     |                  |
| 58            | .8325551+03     | .7156646+03 | .2263884+04     |                  |
| 59            | .8762968+03     | .6962569+03 | .2268811+04     |                  |
| 60            | .7641241+03     | .8323928+03 | .2428910+04     |                  |

TIME SERIES FORECASTING FOR MODEL 1

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DATA - Z = OREGON #4: NONVIOLENT CRIME, TOTAL 84 OBSERVATIONS

DIFFERENCING ON Z = NONE

TRANSFORMATIONS EXAMINED = NONE

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UNIVARIATE MODEL PARAMETERS

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| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .81423+03          |
| 2                   | AUTOREGRESSIVE 1  | 1                  | .11536+00          |
| 3                   | AUTOREGRESSIVE 1  | 2                  | .29099+00          |
| 4                   | AUTOREGRESSIVE 1  | 3                  | .27756+00          |

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NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .6203409+03     | .7538908+03 | .8874408+03     |                  |
| 2             | .6367744+03     | .7712100+03 | .9056456+03     |                  |
| 3             | .6256683+03     | .7661119+03 | .9065556+03     |                  |
| 4             | .6315556+03     | .7794150+03 | .9272744+03     |                  |
| 5             | .6348681+03     | .7842731+03 | .9336782+03     |                  |
| 6             | .6354275+03     | .7872896+03 | .9391517+03     |                  |
| 7             | .6392660+03     | .7927436+03 | .9462211+03     |                  |
| 8             | .6412446+03     | .7955989+03 | .9499532+03     |                  |
| 9             | .6431805+03     | .7983525+03 | .9535245+03     |                  |
| 10            | .6453174+03     | .8010148+03 | .9567122+03     |                  |
| 11            | .6468536+03     | .8029157+03 | .9589778+03     |                  |
| 12            | .6483311+03     | .8046740+03 | .9610168+03     |                  |
| 13            | .6496350+03     | .8061689+03 | .9627027+03     |                  |
| 14            | .6507086+03     | .8073806+03 | .9640525+03     |                  |
| 15            | .6516711+03     | .8084433+03 | .9652156+03     |                  |
| 16            | .6524906+03     | .8093335+03 | .9661763+03     |                  |
| 17            | .6531878+03     | .8100817+03 | .9669756+03     |                  |
| 18            | .6537916+03     | .8107220+03 | .9676524+03     |                  |
| 19            | .6543042+03     | .8112607+03 | .9682171+03     |                  |
| 20            | .6547416+03     | .8117168+03 | .9686920+03     |                  |
| 21            | .6551152+03     | .8121039+03 | .9690925+03     |                  |
| 22            | .6554325+03     | .8124308+03 | .9694290+03     |                  |
| 23            | .6557026+03     | .8127077+03 | .9697129+03     |                  |
| 24            | .6559321+03     | .8129422+03 | .9699523+03     |                  |
| 25            | .6561270+03     | .8131406+03 | .9701542+03     |                  |
| 26            | .6562924+03     | .8133086+03 | .9703247+03     |                  |
| 27            | .6564328+03     | .8134508+03 | .9704687+03     |                  |
| 28            | .6565518+03     | .8135711+03 | .9705904+03     |                  |
| 29            | .6566528+03     | .8136730+03 | .9706932+03     |                  |
| 30            | .6567384+03     | .8137592+03 | .9707801+03     |                  |
| 31            | .6568109+03     | .8138322+03 | .9708536+03     |                  |
| 32            | .6568723+03     | .8138940+03 | .9709157+03     |                  |
| 33            | .6569244+03     | .8139463+03 | .9709682+03     |                  |
| 34            | .6569685+03     | .8139906+03 | .9710127+03     |                  |
| 35            | .6570058+03     | .8140281+03 | .9710503+03     |                  |
| 36            | .6570375+03     | .8140598+03 | .9710821+03     |                  |
| 37            | .6570643+03     | .8140867+03 | .9711090+03     |                  |
| 38            | .6570870+03     | .8141094+03 | .9711318+03     |                  |
| 39            | .6571062+03     | .8141286+03 | .9711511+03     |                  |
| 40            | .6571224+03     | .8141449+03 | .9711674+03     |                  |
| 41            | .6571362+03     | .8141587+03 | .9711812+03     |                  |
| 42            | .6571479+03     | .8141704+03 | .9711929+03     |                  |
| 43            | .6571577+03     | .8141803+03 | .9712028+03     |                  |
| 44            | .6571661+03     | .8141886+03 | .9712111+03     |                  |
| 45            | .6571732+03     | .8141957+03 | .9712182+03     |                  |
| 46            | .6571791+03     | .8142017+03 | .9712242+03     |                  |
| 47            | .6571842+03     | .8142068+03 | .9712293+03     |                  |
| 48            | .6571885+03     | .8142111+03 | .9712336+03     |                  |
| 49            | .6571921+03     | .8142147+03 | .9712372+03     |                  |
| 50            | .6571952+03     | .8142178+03 | .9712403+03     |                  |
| 51            | .6571978+03     | .8142204+03 | .9712429+03     |                  |
| 52            | .6572000+03     | .8142226+03 | .9712451+03     |                  |
| 53            | .6572019+03     | .8142244+03 | .9712470+03     |                  |
| 54            | .6572035+03     | .8142260+03 | .9712486+03     |                  |
| 55            | .6572048+03     | .8142273+03 | .9712499+03     |                  |
| 56            | .6572059+03     | .8142285+03 | .9712510+03     |                  |
| 57            | .6572069+03     | .8142294+03 | .9712520+03     |                  |
| 58            | .6572077+03     | .8142302+03 | .9712528+03     |                  |
| 59            | .6572084+03     | .8142309+03 | .9712535+03     |                  |
| 60            | .6572090+03     | .8142315+03 | .9712541+03     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

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DATA - Z = OREGON #5: NONVICLENT CRIME, TOTAL 84 OBSERVATIONS

DIFFERENCING ON Z - 1) 1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

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## UNIVARIATE MODEL PARAMETERS

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| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
|---------------------|-------------------|--------------------|--------------------|

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|   |                  |   |           |
|---|------------------|---|-----------|
| 1 | MOVING AVERAGE 1 | 1 | .80452*00 |
|---|------------------|---|-----------|

|   |                |  |           |
|---|----------------|--|-----------|
| 2 | TREND CONSTANT |  | .59126*00 |
|---|----------------|--|-----------|

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NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE 1= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
 \*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .1036981+04     | .1400661+04 | .1764340+04     |                  |
| 2             | .1030690+04     | .1401252+04 | .1771814+04     |                  |
| 3             | .1024523+04     | .1401843+04 | .1779163+04     |                  |
| 4             | .1018476+04     | .1402434+04 | .1786393+04     |                  |
| 5             | .1012541+04     | .1403025+04 | .1793510+04     |                  |
| 6             | .1006714+04     | .1403617+04 | .1800520+04     |                  |
| 7             | .1000989+04     | .1404208+04 | .1807927+04     |                  |
| 8             | .9953609+03     | .1404799+04 | .1814238+04     |                  |
| 9             | .9898262+03     | .1405390+04 | .1820955+04     |                  |
| 10            | .9843805+03     | .1405982+04 | .1827583+04     |                  |
| 11            | .9790201+03     | .1406573+04 | .1834126+04     |                  |
| 12            | .9737414+03     | .1407164+04 | .1840587+04     |                  |
| 13            | .9685411+03     | .1407755+04 | .1846970+04     |                  |
| 14            | .9634162+03     | .1408347+04 | .1853277+04     |                  |
| 15            | .9583638+03     | .1408938+04 | .1859512+04     |                  |
| 16            | .9533812+03     | .1409529+04 | .1865677+04     |                  |
| 17            | .9484660+03     | .1410120+04 | .1871775+04     |                  |
| 18            | .9436156+03     | .1410712+04 | .1877808+04     |                  |
| 19            | .9388279+03     | .1411303+04 | .1883778+04     |                  |
| 20            | .9341008+03     | .1411894+04 | .1889688+04     |                  |
| 21            | .9294322+03     | .1412485+04 | .1895539+04     |                  |
| 22            | .9248202+03     | .1413077+04 | .1901333+04     |                  |
| 23            | .9202632+03     | .1413668+04 | .1907073+04     |                  |
| 24            | .9157592+03     | .1414259+04 | .1912759+04     |                  |
| 25            | .9113069+03     | .1414850+04 | .1918394+04     |                  |
| 26            | .9069046+03     | .1415442+04 | .1923979+04     |                  |
| 27            | .9025508+03     | .1416033+04 | .1929515+04     |                  |
| 28            | .8982442+03     | .1416624+04 | .1935004+04     |                  |
| 29            | .8939835+03     | .1417215+04 | .1940447+04     |                  |
| 30            | .8897673+03     | .1417807+04 | .1945846+04     |                  |
| 31            | .8855945+03     | .1418398+04 | .1951201+04     |                  |
| 32            | .8814639+03     | .1418989+04 | .1956514+04     |                  |
| 33            | .8773745+03     | .1419580+04 | .1961786+04     |                  |
| 34            | .8733251+03     | .1420172+04 | .1967018+04     |                  |
| 35            | .8693147+03     | .1420763+04 | .1972211+04     |                  |
| 36            | .8653425+03     | .1421354+04 | .1977366+04     |                  |
| 37            | .8614073+03     | .1421945+04 | .1982483+04     |                  |
| 38            | .8575085+03     | .1422537+04 | .1987565+04     |                  |
| 39            | .8536451+03     | .1423128+04 | .1992611+04     |                  |
| 40            | .8498162+03     | .1423719+04 | .1997622+04     |                  |
| 41            | .8460211+03     | .1424310+04 | .2002600+04     |                  |
| 42            | .8422590+03     | .1424902+04 | .2007544+04     |                  |
| 43            | .8385293+03     | .1425493+04 | .2012457+04     |                  |
| 44            | .8348310+03     | .1426084+04 | .2017337+04     |                  |
| 45            | .8311637+03     | .1426675+04 | .2022187+04     |                  |
| 46            | .8275267+03     | .1427267+04 | .2027007+04     |                  |
| 47            | .8239192+03     | .1427858+04 | .2031797+04     |                  |
| 48            | .8203407+03     | .1428449+04 | .2036558+04     |                  |
| 49            | .8167906+03     | .1429040+04 | .2041290+04     |                  |
| 50            | .8132684+03     | .1429632+04 | .2045995+04     |                  |
| 51            | .8097734+03     | .1430223+04 | .2050672+04     |                  |
| 52            | .8063052+03     | .1430814+04 | .2055323+04     |                  |
| 53            | .8028631+03     | .1431405+04 | .2059948+04     |                  |
| 54            | .7994468+03     | .1431997+04 | .2064546+04     |                  |
| 55            | .7960557+03     | .1432588+04 | .2069120+04     |                  |
| 56            | .7926894+03     | .1433179+04 | .2073669+04     |                  |
| 57            | .7893474+03     | .1433770+04 | .2078193+04     |                  |
| 58            | .7860292+03     | .1434362+04 | .2082694+04     |                  |
| 59            | .7827345+03     | .1434953+04 | .2087171+04     |                  |
| 60            | .7794628+03     | .1435544+04 | .2091625+04     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

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 DATA - Z = OREGON #6: NONVIOLENT CRIME, TOTAL 84 OBSERVATIONS  
 DIFFERENCING ON - 1) 1 OF ORDER 1 2) 1 OF ORDER 12  
 TRANSFORMATIONS EXAMINED - NONE  
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## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MOVING AVERAGE 1  | 1                  | .67604+00          |
| 2                   | MOVING AVERAGE 2  | 12                 | .60189+00          |
| 3                   | TREND CONSTANT    |                    | -.53100+01         |

\*\*\*\*\*  
 NUMBER OF TIME ORIGINS FOR FORECASTS = 1  
 NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60  
 FORECAST TIME ORIGINS ARE 1= 84  
 BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .1131175+04     | .1409579+04 | .1687983+04     |                  |
| 2             | .1061995+04     | .1354643+04 | .1647292+04     |                  |
| 3             | .1099946+04     | .1406178+04 | .1712409+04     |                  |
| 4             | .9596142+03     | .1278851+04 | .1598087+04     |                  |
| 5             | .9580788+03     | .1289811+04 | .1621544+04     |                  |
| 6             | .1021435+04     | .1365209+04 | .1708984+04     |                  |
| 7             | .1030981+04     | .1386124+04 | .1741728+04     |                  |
| 8             | .1057161+04     | .1423835+04 | .1790509+04     |                  |
| 9             | .8903259+03     | .1267922+04 | .1645532+04     |                  |
| 10            | .7748415+03     | .1163066+04 | .1551291+04     |                  |
| 11            | .8111082+03     | .1209672+04 | .1608235+04     |                  |
| 12            | .8911751+03     | .1299816+04 | .1708456+04     |                  |
| 13            | .7695251+03     | .1224938+04 | .1680347+04     |                  |
| 14            | .6921443+03     | .1164690+04 | .1637236+04     |                  |
| 15            | .7218335+03     | .1210914+04 | .1699995+04     |                  |
| 16            | .5732028+03     | .1078278+04 | .1583352+04     |                  |
| 17            | .5633503+03     | .1063928+04 | .1604506+04     |                  |
| 18            | .6183842+03     | .1154016+04 | .1689648+04     |                  |
| 19            | .6196120+03     | .1169888+04 | .1720161+04     |                  |
| 20            | .6374844+03     | .1202022+04 | .1766559+04     |                  |
| 21            | .4623568+03     | .1040305+04 | .1619254+04     |                  |
| 22            | .3385995+03     | .9306327+03 | .1522666+04     |                  |
| 23            | .3666151+03     | .9719281+03 | .1577241+04     |                  |
| 24            | .4384547+03     | .1056762+04 | .1675070+04     |                  |
| 25            | .3144232+03     | .9765725+03 | .1638722+04     |                  |
| 26            | .2293373+03     | .9110167+03 | .1592696+04     |                  |
| 27            | .2512655+03     | .9519308+03 | .1652596+04     |                  |
| 28            | .9483382+02     | .8139839+03 | .1533134+04     |                  |
| 29            | .7715269+02     | .8143243+03 | .1551496+04     |                  |
| 30            | .1243395+03     | .8791024+03 | .1633865+04     |                  |
| 31            | .1177094+03     | .8896628+03 | .1661616+04     |                  |
| 32            | .1277187+03     | .9164881+03 | .1705257+04     |                  |
| 33            | .5527248+02     | .7499617+03 | .1555196+04     |                  |
| 34            | .1866901+03     | .6344789+03 | .1455848+04     |                  |
| 35            | .1667288+03     | .6704643+03 | .1507657+04     |                  |
| 36            | .1027350+03     | .7499884+03 | .1602712+04     |                  |
| 37            | .2308206+03     | .6644887+03 | .1559798+04     |                  |
| 38            | .3232997+03     | .5936228+03 | .1510545+04     |                  |
| 39            | .3088110+03     | .6292269+03 | .1567265+04     |                  |
| 40            | .4727182+03     | .4859700+03 | .1444658+04     |                  |
| 41            | .4979028+03     | .4810003+03 | .1459903+04     |                  |
| 42            | .4582405+03     | .5404684+03 | .1539177+04     |                  |
| 43            | .4724107+03     | .5457187+03 | .1563848+04     |                  |
| 44            | .4679524+03     | .5672340+03 | .1604420+04     |                  |
| 45            | .6605019+03     | .3953976+03 | .1451297+04     |                  |
| 46            | .7996819+03     | .2746048+03 | .1348891+04     |                  |
| 47            | .7870843+03     | .3052801+03 | .1397645+04     |                  |
| 48            | .7306536+03     | .3794942+03 | .1489642+04     |                  |
| 49            | .8635969+03     | .2886844+03 | .1440966+04     |                  |
| 50            | .9632559+03     | .2125085+03 | .1388273+04     |                  |
| 51            | .9559850+03     | .2428025+03 | .1441590+04     |                  |
| 52            | .1127141+04     | .9423562+02 | .1315612+04     |                  |
| 53            | .1159600+04     | .8395587+02 | .1327512+04     |                  |
| 54            | .1127232+04     | .1381139+03 | .1403460+04     |                  |
| 55            | .1148713+04     | .1380542+03 | .1424822+04     |                  |
| 56            | .1153579+04     | .1542595+03 | .1462097+04     |                  |
| 57            | .1351461+04     | .2288695+02 | .1305687+04     |                  |
| 58            | .1497982+04     | .1489898+03 | .1200002+04     |                  |
| 59            | .1492730+04     | .1236245+03 | .1245481+04     |                  |
| 60            | .1443648+04     | .5472046+02 | .1334207+04     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

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DATA - Z = OREGON #7: NONVIOLENT CRIME, TOTAL 84 OBSERVATIONS

DIFFERENCING ON Z - 1) 1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

\*\*\*\*\*

## UNIVARIATE MODEL PARAMETERS

\*\*\*\*\*

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
|---------------------|-------------------|--------------------|--------------------|

\*\*\*\*\*

|   |                  |   |            |
|---|------------------|---|------------|
| 1 | AUTOREGRESSIVE_1 | 1 | -.56847+00 |
|---|------------------|---|------------|

|   |                  |   |            |
|---|------------------|---|------------|
| 2 | AUTOREGRESSIVE_1 | 2 | -.36796+00 |
|---|------------------|---|------------|

|   |                |  |            |
|---|----------------|--|------------|
| 3 | TREND CONSTANT |  | -.25410+01 |
|---|----------------|--|------------|

\*\*\*\*\*

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA

\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER.CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .8776776+03     | .1174281+04 | .1470884+04     |                  |
| 2             | .8200385+03     | .1143080+04 | .1466121+04     |                  |
| 3             | .8157392+03     | .1158540+04 | .1501342+04     |                  |
| 4             | .7694877+03     | .1158691+04 | .1547895+04     |                  |
| 5             | .7334014+03     | .1150376+04 | .1567350+04     |                  |
| 6             | .7114558+03     | .1152506+04 | .1593557+04     |                  |
| 7             | .6826930+03     | .1151814+04 | .1620935+04     |                  |
| 8             | .6554881+03     | .1148893+04 | .1642277+04     |                  |
| 9             | .6323096+03     | .1148263+04 | .1664216+04     |                  |
| 10            | .6085412+03     | .1147153+04 | .1685764+04     |                  |
| 11            | .5854938+03     | .1145471+04 | .1705448+04     |                  |
| 12            | .5638890+03     | .1144294+04 | .1724700+04     |                  |
| 13            | .5426901+03     | .1143041+04 | .1743392+04     |                  |
| 14            | .5220553+03     | .1141646+04 | .1761236+04     |                  |
| 15            | .5021472+03     | .1140359+04 | .1778571+04     |                  |
| 16            | .4827141+03     | .1139063+04 | .1795412+04     |                  |
| 17            | .4637451+03     | .1137732+04 | .1811719+04     |                  |
| 18            | .4452585+03     | .1136425+04 | .1827591+04     |                  |
| 19            | .4271793+03     | .1135117+04 | .1843054+04     |                  |
| 20            | .4094818+03     | .1133800+04 | .1858119+04     |                  |
| 21            | .3921537+03     | .1132489+04 | .1872824+04     |                  |
| 22            | .3751633+03     | .1131178+04 | .1887193+04     |                  |
| 23            | .3584898+03     | .1129865+04 | .1901240+04     |                  |
| 24            | .3421178+03     | .1128553+04 | .1914988+04     |                  |
| 25            | .3260286+03     | .1127241+04 | .1928453+04     |                  |
| 26            | .3102066+03     | .1125928+04 | .1941650+04     |                  |
| 27            | .2946386+03     | .1124616+04 | .1954594+04     |                  |
| 28            | .2793113+03     | .1123304+04 | .1967297+04     |                  |
| 29            | .2642128+03     | .1121992+04 | .1979771+04     |                  |
| 30            | .2493325+03     | .1120680+04 | .1992027+04     |                  |
| 31            | .2346603+03     | .1119368+04 | .2004075+04     |                  |
| 32            | .2201868+03     | .1118055+04 | .2015924+04     |                  |
| 33            | .2059035+03     | .1116743+04 | .2027683+04     |                  |
| 34            | .1918024+03     | .1115431+04 | .2039060+04     |                  |
| 35            | .1778759+03     | .1114119+04 | .2050362+04     |                  |
| 36            | .1641171+03     | .1112807+04 | .2061496+04     |                  |
| 37            | .1505196+03     | .1111494+04 | .2072469+04     |                  |
| 38            | .1370771+03     | .1110182+04 | .2083287+04     |                  |
| 39            | .1237840+03     | .1108870+04 | .2093956+04     |                  |
| 40            | .1106348+03     | .1107558+04 | .2104481+04     |                  |
| 41            | .9762457+02     | .1106246+04 | .2114867+04     |                  |
| 42            | .8474846+02     | .1104934+04 | .2125119+04     |                  |
| 43            | .7200195+02     | .1103621+04 | .2135241+04     |                  |
| 44            | .5936081+02     | .1102309+04 | .2145237+04     |                  |
| 45            | .4688101+02     | .1100997+04 | .2155113+04     |                  |
| 46            | .3449869+02     | .1099685+04 | .2164871+04     |                  |
| 47            | .2223022+02     | .1098373+04 | .2174515+04     |                  |
| 48            | .1007219+02     | .1097060+04 | .2184049+04     |                  |
| 49            | -.1978668+01    | .1095748+04 | .2193475+04     |                  |
| 50            | -.1392552+02    | .1094436+04 | .2202798+04     |                  |
| 51            | -.2577126+02    | .1093124+04 | .2212019+04     |                  |
| 52            | -.3751875+02    | .1091812+04 | .2221142+04     |                  |
| 53            | -.4917073+02    | .1090499+04 | .2230170+04     |                  |
| 54            | -.6072972+02    | .1089187+04 | .2239104+04     |                  |
| 55            | -.7219824+02    | .1087875+04 | .2247948+04     |                  |
| 56            | -.8357857+02    | .1086563+04 | .2256704+04     |                  |
| 57            | -.9487302+02    | .1085251+04 | .2265374+04     |                  |
| 58            | -.1060837+03    | .1083939+04 | .2273961+04     |                  |
| 59            | -.1172128+03    | .1082626+04 | .2282465+04     |                  |
| 60            | -.1282621+03    | .1081314+04 | .2290890+04     |                  |

SECTION II: MODELS AND FORECASTS OF ARRESTS

A. ALASKA

1. Violent Crime

- a. Statewide
  - i. over 18
  - ii. under 18
  - iii. non-white
- b. Anchorage (#2)
  - i. over 18
  - ii. under 18
  - iii. non-white
- c. Fairbanks (#4)
  - i. over 18
  - ii. under 18
  - iii. non-white
- d. Juneau (#6)
  - i. over 18
  - ii. under 18
  - iii. non-white
- e. Rest of State (#17)
  - i. over 18
  - ii. under 18
  - iii. non-white

2. Non Violent Crime

- a. Statewide
  - i. over 18
  - ii. under 18
  - iii. non-white
- b. Anchorage (#2)
  - i. over 18
  - ii. under 18
  - iii. non-white
- c. Fairbanks (#4)
  - i. over 18
  - ii. under 18
  - iii. non-white
- d. Juneau (#6)
  - i. over 18
  - ii. under 18
  - iii. non-white
- e. Rest of State (#17)
  - i. over 18
  - ii. under 18
  - iii. non-white

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TIME SERIES FORECASTING FOR MODEL 1
*****
DATA - Z = ALASKA STATEWIDE: VIOLENT CRIMES, OVER 16      83 OBSERVATIONS
DIFFERENCING ON Z - 1) 1 OF ORDER 1
TRANSFORMATIONS EXAMINED - NONE
*****
UNIVARIATE MODEL PARAMETERS
*****
PARAMETER      PARAMETER      PARAMETER      BEGINNING
NUMBER          TYPE          ORDER          VALUE
*****
1      AUTOREGRESSIVE 1      0      .34478+00
2      MOVING AVERAGE 1      1      .72507+00
3      MOVING AVERAGE 1      6      .68331+00
4      TREND CONSTANT      -4.0080+00
*****
NUMBER OF TIME ORIGINS FOR FORECASTS = 1
NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61
FORECAST TIME ORIGINS ARE T= 83
BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

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MODEL 1 FORECASTS AT BASE PERIOD 83 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | -.4500552+02    | .3417421+02 | .1133539+03     |                  |
| 2             | -.3415737+02    | .4796029+02 | .1300779+03     |                  |
| 3             | -.2189217+02    | .6306188+02 | .1480159+03     |                  |
| 4             | -.3142262+02    | .5627613+02 | .1439749+03     |                  |
| 5             | -.1392013+02    | .7643998+02 | .1668001+03     |                  |
| 6             | -.3123198+02    | .6171333+02 | .1546586+03     |                  |
| 7             | -.4123427+02    | .5717522+02 | .1555847+03     |                  |
| 8             | -.4095022+02    | .6263562+02 | .1662215+03     |                  |
| 9             | -.5623869+02    | .4746951+02 | .1511777+03     |                  |
| 10            | -.5481746+02    | .5182183+02 | .1584611+03     |                  |
| 11            | -.5286424+02    | .5662770+02 | .1661196+03     |                  |
| 12            | -.5838479+02    | .5388734+02 | .1661595+03     |                  |
| 13            | -.5454656+02    | .6043855+02 | .1754237+03     |                  |
| 14            | -.6267519+02    | .5496036+02 | .1725959+03     |                  |
| 15            | -.7242039+02    | .5299493+02 | .1784103+03     |                  |
| 16            | -.7826317+02    | .5447675+02 | .1872167+03     |                  |
| 17            | -.8819601+02    | .4864704+02 | .1858901+03     |                  |
| 18            | -.9306832+02    | .4994682+02 | .1929620+03     |                  |
| 19            | -.9754468+02    | .5120297+02 | .1999506+03     |                  |
| 20            | -.1044099+03    | .4965737+02 | .2041247+03     |                  |
| 21            | -.1078809+03    | .5171527+02 | .2113114+03     |                  |
| 22            | -.1153270+03    | .4942573+02 | .2141785+03     |                  |
| 23            | -.1230686+03    | .4834730+02 | .2197632+03     |                  |
| 24            | -.1293722+03    | .4845740+02 | .2262869+03     |                  |
| 25            | -.1370964+03    | .4611561+02 | .2293277+03     |                  |
| 26            | -.1429112+03    | .4609399+02 | .2350991+03     |                  |
| 27            | -.1444996+03    | .4612679+02 | .2407522+03     |                  |
| 28            | -.1548272+03    | .4526156+02 | .2453504+03     |                  |
| 29            | -.1599052+03    | .4550132+02 | .2509078+03     |                  |
| 30            | -.1662786+03    | .4431114+02 | .2549011+03     |                  |
| 31            | -.1725986+03    | .4353853+02 | .2596756+03     |                  |
| 32            | -.1783698+03    | .4317569+02 | .2647212+03     |                  |
| 33            | -.1846200+03    | .4196751+02 | .2665551+03     |                  |
| 34            | -.1901285+03    | .4155926+02 | .2732470+03     |                  |
| 35            | -.1955085+03    | .4116959+02 | .2778477+03     |                  |
| 36            | -.2010947+03    | .4047066+02 | .2820360+03     |                  |
| 37            | -.2062032+03    | .4015253+02 | .2865082+03     |                  |
| 38            | -.2117133+03    | .3934119+02 | .2903960+03     |                  |
| 39            | -.2171387+03    | .3867421+02 | .2944871+03     |                  |
| 40            | -.2223360+03    | .3814832+02 | .2986326+03     |                  |
| 41            | -.2276712+03    | .3733097+02 | .3023331+03     |                  |
| 42            | -.2327056+03    | .3678942+02 | .3062844+03     |                  |
| 43            | -.2376598+03    | .3625427+02 | .3101684+03     |                  |
| 44            | -.2426506+03    | .3561250+02 | .3138756+03     |                  |
| 45            | -.2474431+03    | .3510272+02 | .3176472+03     |                  |
| 46            | -.2523417+03    | .3442156+02 | .3211848+03     |                  |
| 47            | -.2571740+03    | .3379074+02 | .3247555+03     |                  |
| 48            | -.2618976+03    | .3320863+02 | .3283150+03     |                  |
| 49            | -.2666426+03    | .3252603+02 | .3316949+03     |                  |
| 50            | -.2712540+03    | .3193852+02 | .3351310+03     |                  |
| 51            | -.2758103+03    | .3135322+02 | .3385167+03     |                  |
| 52            | -.2803526+03    | .3073113+02 | .3418149+03     |                  |
| 53            | -.2848009+03    | .3015436+02 | .3451096+03     |                  |
| 54            | -.2892608+03    | .2951895+02 | .3482987+03     |                  |
| 55            | -.2936721+03    | .2890066+02 | .3514734+03     |                  |
| 56            | -.2980225+03    | .2829917+02 | .3546209+03     |                  |
| 57            | -.3023582+03    | .2766303+02 | .3576842+03     |                  |
| 58            | -.3066249+03    | .2705967+02 | .3607443+03     |                  |
| 59            | -.3108511+03    | .2645706+02 | .3637653+03     |                  |
| 60            | -.3150515+03    | .2584171+02 | .3667351+03     |                  |
| 1             | -.3191990+03    | .2524213+02 | .3696833+03     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = ALASKA STATEWIDE: VIOLENT CRIMES, UNDER 18

83 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .76088*01          |
| 2                   | AUTOREGRESSIVE 1  | 10                 | -.40489*00         |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61

FORECAST TIME ORIGINS ARE 1= 83

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

60.

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 83 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .1262520+01     | .7450380+01 | .1363824+02     |                  |
| 2             | .1667409+01     | .7855268+01 | .1404313+02     |                  |
| 3             | .2882074+01     | .9069934+01 | .1525779+02     |                  |
| 4             | .3570331+00     | .5830826+01 | .1201869+02     |                  |
| 5             | .7619216+00     | .5425938+01 | .1161380+02     |                  |
| 6             | .1262520+01     | .7450380+01 | .1363824+02     |                  |
| 7             | .3191252+01     | .2996607+01 | .9184467+01     |                  |
| 8             | .2882074+01     | .9069934+01 | .1525779+02     |                  |
| 9             | .2882074+01     | .9069934+01 | .1525779+02     |                  |
| 10            | .4785526+01     | .6235715+01 | .1242357+02     |                  |
| 11            | .9970929+00     | .7672915+01 | .1434874+02     |                  |
| 12            | .8331584+00     | .7508980+01 | .1418480+02     |                  |
| 13            | .3413545+00     | .7017176+01 | .1369300+02     |                  |
| 14            | .1652631+01     | .8328653+01 | .1500447+02     |                  |
| 15            | .1816766+01     | .6492588+01 | .1516841+02     |                  |
| 16            | .9970929+00     | .7672915+01 | .1434874+02     |                  |
| 17            | .2800374+01     | .9476196+01 | .1615202+02     |                  |
| 18            | .3413545+00     | .7017176+01 | .1369300+02     |                  |
| 19            | .3413545+00     | .7017176+01 | .1369300+02     |                  |
| 20            | .1488897+01     | .8164719+01 | .1484054+02     |                  |
| 21            | .8303607+00     | .7582813+01 | .1433527+02     |                  |
| 22            | .8967358+00     | .7649188+01 | .1440164+02     |                  |
| 23            | .1095861+01     | .7848314+01 | .1460077+02     |                  |
| 24            | .5648597+00     | .7317312+01 | .1406976+02     |                  |
| 25            | .4964845+00     | .7250937+01 | .1400339+02     |                  |
| 26            | .8303607+00     | .7582813+01 | .1433527+02     |                  |
| 27            | .1002331+00     | .6852685+01 | .1360514+02     |                  |
| 28            | .1095861+01     | .7848314+01 | .1460077+02     |                  |
| 29            | .1095861+01     | .7848314+01 | .1460077+02     |                  |
| 30            | .6312349+00     | .7383687+01 | .1413614+02     |                  |
| 31            | .8543622+00     | .7619294+01 | .1438423+02     |                  |
| 32            | .8274876+00     | .7592420+01 | .1435735+02     |                  |
| 33            | .7468640+00     | .7511796+01 | .1427673+02     |                  |
| 34            | .9618604+00     | .7726792+01 | .1449172+02     |                  |
| 35            | .9887350+00     | .7753667+01 | .1451860+02     |                  |
| 36            | .8543622+00     | .7619294+01 | .1438423+02     |                  |
| 37            | .1149982+01     | .7914914+01 | .1467985+02     |                  |
| 38            | .7468640+00     | .7511796+01 | .1427673+02     |                  |
| 39            | .7468640+00     | .7511796+01 | .1427673+02     |                  |
| 40            | .9349859+00     | .7699916+01 | .1446485+02     |                  |
| 41            | .6375478+00     | .7604523+01 | .1437150+02     |                  |
| 42            | .8484289+00     | .7615404+01 | .1438238+02     |                  |
| 43            | .8810725+00     | .7648048+01 | .1441502+02     |                  |
| 44            | .7940230+00     | .7560999+01 | .1432797+02     |                  |
| 45            | .7831418+00     | .7550117+01 | .1431709+02     |                  |
| 46            | .8375478+00     | .7604523+01 | .1437150+02     |                  |
| 47            | .7178546+00     | .7484830+01 | .1425181+02     |                  |
| 48            | .8810725+00     | .7648048+01 | .1441502+02     |                  |
| 49            | .8810725+00     | .7648048+01 | .1441502+02     |                  |
| 50            | .8049042+00     | .7571880+01 | .1433886+02     |                  |
| 51            | .8431933+00     | .7610504+01 | .1437781+02     |                  |
| 52            | .8387877+00     | .7606098+01 | .1437341+02     |                  |
| 53            | .8255707+00     | .7592881+01 | .1436019+02     |                  |
| 54            | .8608160+00     | .7628127+01 | .1439544+02     |                  |
| 55            | .8652217+00     | .7632532+01 | .1439984+02     |                  |
| 56            | .8431933+00     | .7610504+01 | .1437781+02     |                  |
| 57            | .8916557+00     | .7658966+01 | .1442628+02     |                  |
| 58            | .8255707+00     | .7592881+01 | .1436019+02     |                  |
| 59            | .8255707+00     | .7592881+01 | .1436019+02     |                  |
| 60            | .8564103+00     | .7623721+01 | .1439103+02     |                  |
| 61            | .8407170+00     | .7608082+01 | .1437545+02     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = ALASKA STATEWIDE: VIOLENT CRIMES, NATIVE

83 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .23770+02          |
| 2                   | AUTOREGRESSIVE 1  | 1                  | .14348+00          |
| 3                   | AUTOREGRESSIVE 1  | 2                  | .23838+00          |
| 4                   | AUTOREGRESSIVE 1  | 3                  | .24154+00          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61

FORECAST TIME ORIGINS ARE T= 83

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 83 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .6756296+01     | .2301469+02 | .3927309+02     |                  |
| 2             | .1217147+02     | .2859637+02 | .4502126+02     |                  |
| 3             | .9314264+01     | .2627023+02 | .4322619+02     |                  |
| 4             | .6648374+01     | .2364399+02 | .4063960+02     |                  |
| 5             | .7850645+01     | .2468649+02 | .4192234+02     |                  |
| 6             | .6129888+01     | .2371766+02 | .4130543+02     |                  |
| 7             | .7545257+01     | .2519434+02 | .4284339+02     |                  |
| 8             | .6771286+01     | .2456572+02 | .4236016+02     |                  |
| 9             | .6373093+01     | .2419320+02 | .4201331+02     |                  |
| 10            | .6444017+01     | .2429002+02 | .4213602+02     |                  |
| 11            | .6030252+01     | .2393279+02 | .4163533+02     |                  |
| 12            | .6341409+01     | .2426124+02 | .4218116+02     |                  |
| 13            | .6123662+01     | .2407143+02 | .4201920+02     |                  |
| 14            | .6075943+01     | .2403252+02 | .4198910+02     |                  |
| 15            | .6040029+01     | .2400506+02 | .4197010+02     |                  |
| 16            | .5931913+01     | .2390557+02 | .4187922+02     |                  |
| 17            | .5925949+01     | .2396409+02 | .4194222+02     |                  |
| 18            | .5919584+01     | .2390291+02 | .4188623+02     |                  |
| 19            | .5912962+01     | .2389864+02 | .4188440+02     |                  |
| 20            | .5886989+01     | .2387686+02 | .4186473+02     |                  |
| 21            | .5859159+01     | .2384869+02 | .4183822+02     |                  |
| 22            | .5862957+01     | .2365358+02 | .4184421+02     |                  |
| 23            | .5841153+01     | .2383279+02 | .4182443+02     |                  |
| 24            | .5837726+01     | .2382905+02 | .4182218+02     |                  |
| 25            | .5826596+01     | .2381932+02 | .4181204+02     |                  |
| 26            | .5817235+01     | .2381031+02 | .4180339+02     |                  |
| 27            | .5814334+01     | .2380767+02 | .4180100+02     |                  |
| 28            | .5806576+01     | .2380014+02 | .4179366+02     |                  |
| 29            | .5804039+01     | .2379772+02 | .4179140+02     |                  |
| 30            | .5799216+01     | .2379301+02 | .4178680+02     |                  |
| 31            | .5795714+01     | .2378950+02 | .4178345+02     |                  |
| 32            | .5793402+01     | .2378733+02 | .4178126+02     |                  |
| 33            | .5790395+01     | .2378437+02 | .4177834+02     |                  |
| 34            | .5786822+01     | .2378283+02 | .4177683+02     |                  |
| 35            | .5786731+01     | .2378076+02 | .4177479+02     |                  |
| 36            | .5785223+01     | .2377927+02 | .4177332+02     |                  |
| 37            | .5783960+01     | .2377802+02 | .4177208+02     |                  |
| 38            | .5782699+01     | .2377677+02 | .4177084+02     |                  |
| 39            | .5781642+01     | .2377592+02 | .4177000+02     |                  |
| 40            | .5780918+01     | .2377500+02 | .4176908+02     |                  |
| 41            | .5780220+01     | .2377431+02 | .4176839+02     |                  |
| 42            | .5779596+01     | .2377366+02 | .4176777+02     |                  |
| 43            | .5779037+01     | .2377313+02 | .4176722+02     |                  |
| 44            | .5778603+01     | .2377269+02 | .4176676+02     |                  |
| 45            | .5778185+01     | .2377228+02 | .4176637+02     |                  |
| 46            | .5777853+01     | .2377195+02 | .4176604+02     |                  |
| 47            | .5777556+01     | .2377165+02 | .4176575+02     |                  |
| 48            | .5777300+01     | .2377139+02 | .4176549+02     |                  |
| 49            | .5777087+01     | .2377118+02 | .4176528+02     |                  |
| 50            | .5776895+01     | .2377099+02 | .4176509+02     |                  |
| 51            | .5776737+01     | .2377083+02 | .4176493+02     |                  |
| 52            | .5776597+01     | .2377069+02 | .4176479+02     |                  |
| 53            | .5776477+01     | .2377057+02 | .4176467+02     |                  |
| 54            | .5776375+01     | .2377047+02 | .4176457+02     |                  |
| 55            | .5776285+01     | .2377030+02 | .4176446+02     |                  |
| 56            | .5776210+01     | .2377031+02 | .4176440+02     |                  |
| 57            | .5776144+01     | .2377024+02 | .4176434+02     |                  |
| 58            | .5776080+01     | .2377018+02 | .4176428+02     |                  |
| 59            | .5776039+01     | .2377014+02 | .4176423+02     |                  |
| 60            | .5775997+01     | .2377009+02 | .4176419+02     |                  |
| 61            | .5775962+01     | .2377006+02 | .4176415+02     |                  |

\*\*\*\*\*

84 OBSERVATIONS

TRANSFORMATIONS EXAMINED - NONE

\*\*\*\*\*

\*\*\*\*\*

2 AUTOREGRESSIVE 1 1 29629+00

\*\*\*\*\*

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS.

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .6838520+01     | .1478977+02 | .2274103+02     |                  |
| 2             | .8504719+01     | .1679765+02 | .2509057+02     |                  |
| 3             | .7590791+01     | .1591304+02 | .2423530+02     |                  |
| 4             | .5565864+01     | .1446355+02 | .2336123+02     |                  |
| 5             | .5698008+01     | .1477674+02 | .2385548+02     |                  |
| 6             | .5429066+01     | .1454234+02 | .2365562+02     |                  |
| 7             | .4716689+01     | .1393676+02 | .2315682+02     |                  |
| 8             | .4569848+01     | .1387317+02 | .2315648+02     |                  |
| 9             | .4464041+01     | .1376763+02 | .2307121+02     |                  |
| 10            | .4182524+01     | .1351236+02 | .2284220+02     |                  |
| 11            | .4063621+01     | .1341321+02 | .2276279+02     |                  |
| 12            | .3986352+01     | .1334479+02 | .2270323+02     |                  |
| 13            | .3863981+01     | .1323010+02 | .2259622+02     |                  |
| 14            | .3787263+01     | .1315945+02 | .2253163+02     |                  |
| 15            | .3737679+01     | .1311321+02 | .2248873+02     |                  |
| 16            | .3679104+01     | .1305709+02 | .2243507+02     |                  |
| 17            | .3634453+01     | .1301432+02 | .2239419+02     |                  |
| 18            | .3603506+01     | .1298455+02 | .2236559+02     |                  |
| 19            | .3573116+01     | .1295477+02 | .2233682+02     |                  |
| 20            | .3547934+01     | .1293039+02 | .2231284+02     |                  |
| 21            | .3529241+01     | .1291209+02 | .2229494+02     |                  |
| 22            | .3512509+01     | .1289573+02 | .2227885+02     |                  |
| 23            | .3498475+01     | .1288179+02 | .2226510+02     |                  |
| 24            | .3487445+01     | .1287089+02 | .2225434+02     |                  |
| 25            | .3478074+01     | .1286161+02 | .2224515+02     |                  |
| 26            | .3470105+01     | .1285371+02 | .2223731+02     |                  |
| 27            | .3463688+01     | .1284733+02 | .2223098+02     |                  |
| 28            | .3458337+01     | .1284201+02 | .2222568+02     |                  |
| 29            | .3453815+01     | .1283751+02 | .2222120+02     |                  |
| 30            | .3450110+01     | .1283382+02 | .2221753+02     |                  |
| 31            | .3447038+01     | .1283076+02 | .2221446+02     |                  |
| 32            | .3444459+01     | .1282818+02 | .2221191+02     |                  |
| 33            | .3442327+01     | .1282606+02 | .2220979+02     |                  |
| 34            | .3440561+01     | .1282429+02 | .2220803+02     |                  |
| 35            | .3439086+01     | .1282282+02 | .2220656+02     |                  |
| 36            | .3437861+01     | .1282160+02 | .2220534+02     |                  |
| 37            | .3436845+01     | .1282058+02 | .2220432+02     |                  |
| 38            | .3435999+01     | .1281974+02 | .2220348+02     |                  |
| 39            | .3435295+01     | .1281903+02 | .2220277+02     |                  |
| 40            | .3434711+01     | .1281845+02 | .2220219+02     |                  |
| 41            | .3434225+01     | .1281797+02 | .2220171+02     |                  |
| 42            | .3433821+01     | .1281756+02 | .2220130+02     |                  |
| 43            | .3433485+01     | .1281723+02 | .2220097+02     |                  |
| 44            | .3433206+01     | .1281695+02 | .2220069+02     |                  |
| 45            | .3432974+01     | .1281671+02 | .2220046+02     |                  |
| 46            | .3432781+01     | .1281652+02 | .2220026+02     |                  |
| 47            | .3432621+01     | .1281636+02 | .2220010+02     |                  |
| 48            | .3432487+01     | .1281623+02 | .2219997+02     |                  |
| 49            | .3432377+01     | .1281612+02 | .2219986+02     |                  |
| 50            | .3432284+01     | .1281603+02 | .2219977+02     |                  |
| 51            | .3432208+01     | .1281595+02 | .2219969+02     |                  |
| 52            | .3432144+01     | .1281588+02 | .2219963+02     |                  |
| 53            | .3432091+01     | .1281583+02 | .2219957+02     |                  |
| 54            | .3432047+01     | .1281579+02 | .2219953+02     |                  |
| 55            | .3432010+01     | .1281575+02 | .2219949+02     |                  |
| 56            | .3431980+01     | .1281572+02 | .2219946+02     |                  |
| 57            | .3431955+01     | .1281570+02 | .2219944+02     |                  |
| 58            | .3431934+01     | .1281567+02 | .2219941+02     |                  |
| 59            | .3431916+01     | .1281566+02 | .2219940+02     |                  |
| 60            | .3431902+01     | .1281564+02 | .2219938+02     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

\*\*\*\*\*

DATA - Z = ALASKA #2: VIOLENT CRIME, UNDER 18 84 OBSERVATIONS

DIFFERENCING ON Z = NONE

TRANSFORMATIONS EXAMINED = NONE

\*\*\*\*\*

## UNIVARIATE MODEL PARAMETERS

\*\*\*\*\*

| PARAMETER<br>NUMER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|--------------------|-------------------|--------------------|--------------------|
|--------------------|-------------------|--------------------|--------------------|

\*\*\*\*\*

|   |      |  |           |
|---|------|--|-----------|
| 1 | MEAN |  | .24741+01 |
|---|------|--|-----------|

|   |                  |   |            |
|---|------------------|---|------------|
| 2 | MOVING AVERAGE 1 | 1 | -.23178+00 |
|---|------------------|---|------------|

\*\*\*\*\*

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | -.6602567+00    | .3033375+01 | .6727007+01     |                  |
| 2             | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 3             | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 4             | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 5             | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 6             | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 7             | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 8             | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 9             | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 10            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 11            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 12            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 13            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 14            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 15            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 16            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 17            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 18            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 19            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 20            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 21            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 22            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 23            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 24            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 25            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 26            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 27            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 28            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 29            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 30            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 31            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 32            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 33            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 34            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 35            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 36            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 37            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 38            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 39            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 40            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 41            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 42            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 43            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 44            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 45            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 46            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 47            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 48            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 49            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 50            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 51            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 52            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 53            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 54            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 55            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 56            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 57            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 58            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 59            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |
| 60            | -.1317474+01    | .2474077+01 | .6265627+01     |                  |

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TIME SERIES FORECASTING FOR MODEL 1

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DATA - Z = ALASKA #2: VIOLENT CRIME, NATIVE 84 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

\*\*\*\*\*

UNIVARIATE MODEL PARAMETERS

\*\*\*\*\*

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
|---------------------|-------------------|--------------------|--------------------|

\*\*\*\*\*

|   |      |  |           |
|---|------|--|-----------|
| 1 | MEAN |  | .26723+01 |
|---|------|--|-----------|

|   |                  |   |           |
|---|------------------|---|-----------|
| 2 | AUTOREGRESSIVE 1 | 1 | .87962-01 |
|---|------------------|---|-----------|

|   |                  |   |           |
|---|------------------|---|-----------|
| 3 | AUTOREGRESSIVE 1 | 2 | .23875+00 |
|---|------------------|---|-----------|

\*\*\*\*\*

65

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE 1= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

=====

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1. FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | -.6506749+00    | .2779380+01 | .6209436+01     |                  |
| 2             | -.6833253+00    | .2759974+01 | .6203274+01     |                  |
| 3             | -.8399816+00    | .2705595+01 | .6251171+01     |                  |
| 4             | -.8524193+00    | .2696178+01 | .6244776+01     |                  |
| 5             | -.8727214+00    | .2682367+01 | .6237455+01     |                  |
| 6             | -.8765922+00    | .2678904+01 | .6234400+01     |                  |
| 7             | -.8806352+00    | .2675302+01 | .6231239+01     |                  |
| 8             | -.8818233+00    | .2674158+01 | .6230140+01     |                  |
| 9             | -.8828152+00    | .2673198+01 | .6229210+01     |                  |
| 10            | -.8831771+00    | .2672840+01 | .6228857+01     |                  |
| 11            | -.8834402+00    | .2672579+01 | .6228599+01     |                  |
| 12            | -.8835489+00    | .2672471+01 | .6228491+01     |                  |
| 13            | -.8836208+00    | .2672399+01 | .6228419+01     |                  |
| 14            | -.8836530+00    | .2672367+01 | .6228387+01     |                  |
| 15            | -.8836730+00    | .2672347+01 | .6228367+01     |                  |
| 16            | -.8836824+00    | .2672336+01 | .6228358+01     |                  |
| 17            | -.8836880+00    | .2672332+01 | .6228352+01     |                  |
| 18            | -.8836908+00    | .2672329+01 | .6228349+01     |                  |
| 19            | -.8836924+00    | .2672328+01 | .6228348+01     |                  |
| 20            | -.8836932+00    | .2672327+01 | .6228347+01     |                  |
| 21            | -.8836936+00    | .2672326+01 | .6228346+01     |                  |
| 22            | -.8836938+00    | .2672326+01 | .6228346+01     |                  |
| 23            | -.8836940+00    | .2672326+01 | .6228346+01     |                  |
| 24            | -.8836940+00    | .2672326+01 | .6228346+01     |                  |
| 25            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 26            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 27            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 28            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 29            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 30            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 31            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 32            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 33            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 34            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 35            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 36            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 37            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 38            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 39            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 40            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 41            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 42            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 43            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 44            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 45            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 46            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 47            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 48            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 49            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 50            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 51            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 52            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 53            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 54            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 55            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 56            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 57            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 58            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 59            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |
| 60            | -.8836941+00    | .2672326+01 | .6228346+01     |                  |

```

TIME SERIES FORECASTING FOR MODEL 1
*****
DATA - Z = ALASKA #4: OVER EIGHTEEN VIOLENT CRIME 83 OBSERVATIONS
DIFFERENCING ON Z - NONE
TRANSFORMATIONS EXAMINED - NONE
*****
UNIVARIATE MODEL PARAMETERS
*****
PARAMETER      PARAMETER      PARAMETER      BEGINNING
NUMBER      TYPE      ORDER      VALUE
*****
1      MEAN      .53141+01
2      AUTOREGRESSIVE 1      1      .21291+00
3      AUTOREGRESSIVE 1      2      .31619+00
*****
NUMBER OF TIME ORIGINS FOR FORECASTS = 1
NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61
FORECAST TIME ORIGINS ARE T= 83
BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

```

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 83 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | -.2102466+01    | .4509167+01 | .1112080+02     |                  |
| 2             | -.2665013+01    | .4094813+01 | .1085464+02     |                  |
| 3             | -.2370002+01    | .4799971+01 | .1196994+02     |                  |
| 4             | -.2414072+01    | .4819090+01 | .1205225+02     |                  |
| 5             | -.2250318+01    | .5046125+01 | .1234257+02     |                  |
| 6             | -.2213446+01    | .5100507+01 | .1241446+02     |                  |
| 7             | -.2191613+01    | .5183873+01 | .1250936+02     |                  |
| 8             | -.2110845+01    | .5218817+01 | .1254848+02     |                  |
| 9             | -.2079320+01    | .5252616+01 | .1258455+02     |                  |
| 10            | -.2062010+01    | .5270861+01 | .1260373+02     |                  |
| 11            | -.2047904+01    | .5265433+01 | .1261877+02     |                  |
| 12            | -.2039236+01    | .5294304+01 | .1262785+02     |                  |
| 13            | -.2032837+01    | .5300801+01 | .1263444+02     |                  |
| 14            | -.2028693+01    | .5304989+01 | .1263867+02     |                  |
| 15            | -.2025768+01    | .5307934+01 | .1264164+02     |                  |
| 16            | -.2023826+01    | .5309886+01 | .1264360+02     |                  |
| 17            | -.2022483+01    | .5311233+01 | .1264495+02     |                  |
| 18            | -.2021581+01    | .5312137+01 | .1264585+02     |                  |
| 19            | -.2020964+01    | .5312755+01 | .1264637+02     |                  |
| 20            | -.2020547+01    | .5313172+01 | .1264689+02     |                  |
| 21            | -.2020263+01    | .5313457+01 | .1264718+02     |                  |
| 22            | -.2020070+01    | .5313649+01 | .1264737+02     |                  |
| 23            | -.2019939+01    | .5313780+01 | .1264750+02     |                  |
| 24            | -.2019851+01    | .5313869+01 | .1264759+02     |                  |
| 25            | -.2019790+01    | .5313929+01 | .1264765+02     |                  |
| 26            | -.2019749+01    | .5313970+01 | .1264769+02     |                  |
| 27            | -.2019722+01    | .5313998+01 | .1264772+02     |                  |
| 28            | -.2019703+01    | .5314017+01 | .1264774+02     |                  |
| 29            | -.2019690+01    | .5314029+01 | .1264775+02     |                  |
| 30            | -.2019681+01    | .5314038+01 | .1264776+02     |                  |
| 31            | -.2019675+01    | .5314044+01 | .1264776+02     |                  |
| 32            | -.2019671+01    | .5314048+01 | .1264777+02     |                  |
| 33            | -.2019669+01    | .5314051+01 | .1264777+02     |                  |
| 34            | -.2019667+01    | .5314053+01 | .1264777+02     |                  |
| 35            | -.2019666+01    | .5314054+01 | .1264777+02     |                  |
| 36            | -.2019665+01    | .5314055+01 | .1264777+02     |                  |
| 37            | -.2019664+01    | .5314055+01 | .1264777+02     |                  |
| 38            | -.2019664+01    | .5314056+01 | .1264777+02     |                  |
| 39            | -.2019664+01    | .5314056+01 | .1264778+02     |                  |
| 40            | -.2019663+01    | .5314056+01 | .1264778+02     |                  |
| 41            | -.2019663+01    | .5314056+01 | .1264778+02     |                  |
| 42            | -.2019663+01    | .5314056+01 | .1264778+02     |                  |
| 43            | -.2019663+01    | .5314056+01 | .1264778+02     |                  |
| 44            | -.2019663+01    | .5314056+01 | .1264778+02     |                  |
| 45            | -.2019663+01    | .5314056+01 | .1264778+02     |                  |
| 46            | -.2019663+01    | .5314056+01 | .1264778+02     |                  |
| 47            | -.2019663+01    | .5314056+01 | .1264778+02     |                  |
| 48            | -.2019663+01    | .5314056+01 | .1264778+02     |                  |
| 49            | -.2019663+01    | .5314056+01 | .1264778+02     |                  |
| 50            | -.2019663+01    | .5314056+01 | .1264778+02     |                  |
| 51            | -.2019663+01    | .5314056+01 | .1264778+02     |                  |
| 52            | -.2019663+01    | .5314056+01 | .1264778+02     |                  |
| 53            | -.2019663+01    | .5314056+01 | .1264778+02     |                  |
| 54            | -.2019663+01    | .5314056+01 | .1264778+02     |                  |
| 55            | -.2019663+01    | .5314056+01 | .1264778+02     |                  |
| 56            | -.2019663+01    | .5314056+01 | .1264778+02     |                  |
| 57            | -.2019663+01    | .5314056+01 | .1264778+02     |                  |
| 58            | -.2019663+01    | .5314056+01 | .1264778+02     |                  |
| 59            | -.2019663+01    | .5314056+01 | .1264778+02     |                  |
| 60            | -.2019663+01    | .5314056+01 | .1264778+02     |                  |
| 61            | -.2019663+01    | .5314056+01 | .1264778+02     |                  |

```

TIME SERIES FORECASTING FOR MODEL 1
*****
DATA - Z = ALASKA #4: UNDER EIGHTEEN VIOLENT CRIME 83 OBSERVATIONS
DIFFERENCING ON Z - NONE
TRANSFORMATIONS EXAMINED - NONE
*****
UNIVARIATE MODEL PARAMETERS
*****
PARAMETER      PARAMETER      PARAMETER      BEGINNING
NUMBER          TYPE          ORDER          VALUE
*****
1      MEAN      .57831+00
*****
NUMBER OF TIME ORIGINS FOR FORECASTS = 1
NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61
FORECAST TIME ORIGINS ARE T= 83
BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

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REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD .83 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 2             | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 3             | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 4             | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 5             | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 6             | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 7             | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 8             | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 9             | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 10            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 11            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 12            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 13            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 14            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 15            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 16            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 17            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 18            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 19            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 20            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 21            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 22            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 23            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 24            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 25            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 26            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 27            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 28            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 29            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 30            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 31            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 32            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 33            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 34            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 35            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 36            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 37            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 38            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 39            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 40            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 41            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 42            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 43            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 44            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 45            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 46            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 47            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 48            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 49            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 50            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 51            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 52            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 53            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 54            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 55            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 56            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 57            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 58            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 59            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 60            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |
| 61            | -.1610262+01    | .5783135+00 | .2766889+01     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = ALASKA #4: NATIVES ARRESTED FOR VIOLENT CRIMES

83 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .58181+02          |
| 2                   | AUTOREGRESSIVE 1  | 1                  | .33434+00          |
| 3                   | AUTOREGRESSIVE 1  | 2                  | .31216+00          |
| 4                   | AUTOREGRESSIVE 1  | 3                  | .35337+00          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1  
 NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61  
 FORECAST TIME ORIGINS ARE T= 83  
 BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 83 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | -.1920146+01    | .1048657+01 | .4017459+01     |                  |
| 2             | -.2459991+01    | .6703453+00 | .3800681+01     |                  |
| 3             | -.2461461+01    | .9124217+00 | .4286305+01     |                  |
| 4             | -.2922060+01    | .8924561+00 | .4706972+01     |                  |
| 5             | -.3214930+01    | .8276634+00 | .4870257+01     |                  |
| 6             | -.3408746+01    | .8853111+00 | .5179369+01     |                  |
| 7             | -.3681477+01    | .8773041+00 | .5436085+01     |                  |
| 8             | -.3910128+01    | .8697267+00 | .5649581+01     |                  |
| 9             | -.4115700+01    | .8850646+00 | .5885829+01     |                  |
| 10            | -.4330443+01    | .8849974+00 | .6100438+01     |                  |
| 11            | -.4529320+01    | .8870854+00 | .6303491+01     |                  |
| 12            | -.4719267+01    | .8931823+00 | .6505632+01     |                  |
| 13            | -.4906229+01    | .8958488+00 | .6697927+01     |                  |
| 14            | -.5085387+01    | .8993816+00 | .6864150+01     |                  |
| 15            | -.5258984+01    | .9035497+00 | .7066084+01     |                  |
| 16            | -.5428276+01    | .9069881+00 | .7242252+01     |                  |
| 17            | -.5592546+01    | .9106874+00 | .7413920+01     |                  |
| 18            | -.5752589+01    | .9144702+00 | .7581530+01     |                  |
| 19            | -.5908811+01    | .9181051+00 | .7745022+01     |                  |
| 20            | -.6061262+01    | .9218082+00 | .7904879+01     |                  |
| 21            | -.6210293+01    | .9255180+00 | .8061329+01     |                  |
| 22            | -.6356126+01    | .9291987+00 | .8214523+01     |                  |
| 23            | -.6498913+01    | .9328957+00 | .8364704+01     |                  |
| 24            | -.6638855+01    | .9365916+00 | .8512039+01     |                  |
| 25            | -.6776110+01    | .9402823+00 | .8656675+01     |                  |
| 26            | -.6910814+01    | .9439764+00 | .8798767+01     |                  |
| 27            | -.7043106+01    | .9476695+00 | .8938445+01     |                  |
| 28            | -.7173106+01    | .9513617+00 | .9075829+01     |                  |
| 29            | -.7300924+01    | .9550538+00 | .9211032+01     |                  |
| 30            | -.7426664+01    | .9587460+00 | .9344156+01     |                  |
| 31            | -.7550420+01    | .9624376+00 | .9475295+01     |                  |
| 32            | -.7672279+01    | .9661293+00 | .9604538+01     |                  |
| 33            | -.7792324+01    | .9698210+00 | .9731966+01     |                  |
| 34            | -.7910632+01    | .9735117+00 | .9857655+01     |                  |
| 35            | -.8027270+01    | .9772029+00 | .9981676+01     |                  |
| 36            | -.8142307+01    | .9808936+00 | .1010409+02     |                  |
| 37            | -.8255804+01    | .9845839+00 | .1022497+02     |                  |
| 38            | -.8367818+01    | .9882741+00 | .1034437+02     |                  |
| 39            | -.8476405+01    | .9919643+00 | .1046233+02     |                  |
| 40            | -.8587615+01    | .9956536+00 | .1057892+02     |                  |
| 41            | -.8695495+01    | .9993434+00 | .1069418+02     |                  |
| 42            | -.8802093+01    | .1003033+01 | .1080816+02     |                  |
| 43            | -.8907450+01    | .1006721+01 | .1092089+02     |                  |
| 44            | -.9011607+01    | .1010410+01 | .1103243+02     |                  |
| 45            | -.9114603+01    | .1014099+01 | .1114280+02     |                  |
| 46            | -.9216473+01    | .1017787+01 | .1125205+02     |                  |
| 47            | -.9317252+01    | .1021475+01 | .1136020+02     |                  |
| 48            | -.9416973+01    | .1025163+01 | .1146730+02     |                  |
| 49            | -.9515667+01    | .1028851+01 | .1157337+02     |                  |
| 50            | -.9613363+01    | .1032538+01 | .1167844+02     |                  |
| 51            | -.9710091+01    | .1036225+01 | .1178254+02     |                  |
| 52            | -.9805877+01    | .1039912+01 | .1188570+02     |                  |
| 53            | -.9900745+01    | .1043599+01 | .1198794+02     |                  |
| 54            | -.9994723+01    | .1047285+01 | .1208929+02     |                  |
| 55            | -.1008783+02    | .1050971+01 | .1218977+02     |                  |
| 56            | -.1018009+02    | .1054657+01 | .1228941+02     |                  |
| 57            | -.1027153+02    | .1058342+01 | .1238822+02     |                  |
| 58            | -.1036217+02    | .1062028+01 | .1248622+02     |                  |
| 59            | -.1045202+02    | .1065713+01 | .1258344+02     |                  |
| 60            | -.1054110+02    | .1069398+01 | .1267990+02     |                  |
| 61            | -.1062944+02    | .1073083+01 | .1277560+02     |                  |

TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = ALASKA #6: OVER EIGHTEEN VIOLENT CRIMES

83 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .19639+01          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61

FORECAST TIME ORIGINS ARE T= 83

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA

\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 83 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 2             | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 3             | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 4             | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 5             | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 6             | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 7             | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 8             | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 9             | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 10            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 11            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 12            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 13            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 14            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 15            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 16            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 17            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 18            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 19            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 20            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 21            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 22            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 23            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 24            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 25            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 26            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 27            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 28            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 29            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 30            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 31            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 32            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 33            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 34            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 35            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 36            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 37            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 38            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 39            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 40            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 41            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 42            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 43            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 44            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 45            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 46            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 47            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 48            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 49            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 50            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 51            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 52            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 53            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 54            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 55            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 56            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 57            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 58            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 59            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 60            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |
| 61            | -.9472531+00    | .1963854+01 | .4874962+01     |                  |

TIME SERIES FORECASTING FOR MODEL 1

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DATA - Z = ALASKA #6: UNDER EIGHTEEN VIOLENT CRIMES 83 OBSERVATIONS

DIFFERENCING ON Z = NONE

TRANSFORMATIONS EXAMINED - NONE

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UNIVARIATE MODEL PARAMETERS

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| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
|---------------------|-------------------|--------------------|--------------------|

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|   |      |  |           |
|---|------|--|-----------|
| 1 | MEAN |  | .32118+00 |
|---|------|--|-----------|

|   |                  |   |            |
|---|------------------|---|------------|
| 2 | MOVING AVERAGE 1 | 3 | -.40351+00 |
|---|------------------|---|------------|

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NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61

FORECAST TIME ORIGINS ARE T= 83

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

76

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 83 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | -.1420792+01    | .2288854+00 | .1878562+01     |                  |
| 2             | -.1746175+01    | .9649754-01 | .1553179+01     |                  |
| 3             | -.1421671+01    | .2260062+00 | .1877683+01     |                  |
| 4             | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 5             | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 6             | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 7             | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 8             | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 9             | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 10            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 11            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 12            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 13            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 14            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 15            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 16            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 17            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 18            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 19            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 20            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 21            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 22            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 23            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 24            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 25            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 26            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 27            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 28            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 29            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 30            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 31            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 32            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 33            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 34            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 35            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 36            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 37            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 38            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 39            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 40            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 41            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 42            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 43            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 44            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 45            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 46            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 47            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 48            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 49            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 50            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 51            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 52            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 53            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 54            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 55            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 56            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 57            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 58            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 59            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 60            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |
| 61            | -.1457737+01    | .3211784+00 | .2100094+01     |                  |

TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = ALASKA #6: NATIVES ARRESTED FOR VIOLENT CRIMES 83 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .13133+01          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61

FORECAST TIME ORIGINS ARE 1- 83

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD .83 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 2             | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 3             | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 4             | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 5             | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 6             | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 7             | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 8             | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 9             | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 10            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 11            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 12            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 13            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 14            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 15            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 16            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 17            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 18            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 19            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 20            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 21            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 22            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 23            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 24            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 25            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 26            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 27            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 28            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 29            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 30            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 31            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 32            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 33            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 34            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 35            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 36            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 37            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 38            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 39            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 40            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 41            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 42            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 43            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 44            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 45            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 46            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 47            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 48            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 49            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 50            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 51            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 52            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 53            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 54            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 55            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 56            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 57            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 58            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 59            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 60            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |
| 61            | -.1474241+01    | .1313253+01 | .4100747+01     |                  |

TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = ALASKA #17: VIOLENT CRIME, UNDER 18 83 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .44312+01          |
| 2                   | MOVING AVERAGE 1  | 17                 | .28633+00          |
| 3                   | MOVING AVERAGE 1  | 20                 | -.44776+00         |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61

FORECAST TIME ORIGINS ARE T= 83

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 83 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .6685305-C1     | .4248205+01 | .8429557+C1     |                  |
| 2             | -.9080009+00    | .3273351+01 | .74547C3+C1     |                  |
| 3             | .1233529+01     | .5414882+01 | .9596234+01     |                  |
| 4             | -.6473493+00    | .3534003+01 | .7715355+01     |                  |
| 5             | .8359784-01     | .4264950+01 | .8446302+01     |                  |
| 6             | -.7621057+00    | .3419246+01 | .7600599+01     |                  |
| 7             | .5908825+00     | .4772235+01 | .8953587+C1     |                  |
| 8             | .2684177+00     | .4449770+01 | .8631122+01     |                  |
| 9             | .1367162+00     | .4318068+01 | .8499921+01     |                  |
| 10            | .1045901+01     | .5227253+01 | .9408605+01     |                  |
| 11            | -.9900818+00    | .3191270+01 | .7372623+01     |                  |
| 12            | -.1926962+01    | .2254390+01 | .6435742+C1     |                  |
| 13            | .3741552+00     | .4555507+01 | .8736860+01     |                  |
| 14            | .1962807+00     | .4377633+01 | .8558985+01     |                  |
| 15            | .3209975+01     | .7391327+01 | .1157268+02     |                  |
| 16            | .3075639+00     | .4488936+01 | .8670288+01     |                  |
| 17            | .1208622+01     | .5389974+01 | .9571326+C1     |                  |
| 18            | -.5871895+00    | .3762189+01 | .8111667+01     |                  |
| 19            | -.1223305+C1    | .3126074+01 | .7475452+01     |                  |
| 20            | .1856580+C1     | .6205958+01 | .1055534+02     |                  |
| 21            | -.3040002+00    | .4431222+01 | .9166444+01     |                  |
| 22            | -.3040002+00    | .4431222+01 | .9166444+C1     |                  |
| 23            | -.3040002+00    | .4431222+01 | .9166444+01     |                  |
| 24            | -.3040002+00    | .4431222+01 | .9166444+01     |                  |
| 25            | -.3040002+00    | .4431222+01 | .9166444+01     |                  |
| 26            | -.3040002+00    | .4431222+01 | .9166444+01     |                  |
| 27            | -.3040002+00    | .4431222+01 | .9166444+C1     |                  |
| 28            | -.3040002+00    | .4431222+01 | .9166444+C1     |                  |
| 29            | -.3040002+00    | .4431222+01 | .9166444+C1     |                  |
| 30            | -.3040002+00    | .4431222+01 | .9166444+01     |                  |
| 31            | -.3040002+00    | .4431222+01 | .9166444+01     |                  |
| 32            | -.3040002+00    | .4431222+01 | .9166444+C1     |                  |
| 33            | -.3040002+00    | .4431222+01 | .9166444+01     |                  |
| 34            | -.3040002+00    | .4431222+01 | .9166444+01     |                  |
| 35            | -.3040002+00    | .4431222+01 | .9166444+01     |                  |
| 36            | -.3040002+00    | .4431222+01 | .9166444+01     |                  |
| 37            | -.3040002+00    | .4431222+01 | .9166444+01     |                  |
| 38            | -.3040002+00    | .4431222+01 | .9166444+01     |                  |
| 39            | -.3040002+00    | .4431222+01 | .9166444+01     |                  |
| 40            | -.3040002+00    | .4431222+01 | .9166444+01     |                  |
| 41            | -.3040002+00    | .4431222+01 | .9166444+C1     |                  |
| 42            | -.3040002+00    | .4431222+01 | .9166444+01     |                  |
| 43            | -.3040002+00    | .4431222+01 | .9166444+C1     |                  |
| 44            | -.3040002+00    | .4431222+01 | .9166444+01     |                  |
| 45            | -.3040002+00    | .4431222+01 | .9166444+01     |                  |
| 46            | -.3040002+00    | .4431222+01 | .9166444+C1     |                  |
| 47            | -.3040002+00    | .4431222+01 | .9166444+C1     |                  |
| 48            | -.3040002+00    | .4431222+01 | .9166444+01     |                  |
| 49            | -.3040002+00    | .4431222+01 | .9166444+C1     |                  |
| 50            | -.3040002+00    | .4431222+01 | .9166444+C1     |                  |
| 51            | -.3040002+00    | .4431222+01 | .9166444+01     |                  |
| 52            | -.3040002+00    | .4431222+01 | .9166444+C1     |                  |
| 53            | -.3040002+00    | .4431222+01 | .9166444+C1     |                  |
| 54            | -.3040002+00    | .4431222+01 | .9166444+01     |                  |
| 55            | -.3040002+00    | .4431222+01 | .9166444+C1     |                  |
| 56            | -.3040002+00    | .4431222+01 | .9166444+01     |                  |
| 57            | -.3040002+00    | .4431222+C1 | .9166444+C1     |                  |
| 58            | -.3040002+00    | .4431222+01 | .9166444+C1     |                  |
| 59            | -.3040002+00    | .4431222+01 | .9166444+01     |                  |
| 60            | -.3040002+00    | .4431222+01 | .9166444+01     |                  |
| 61            | -.3040002+00    | .4431222+01 | .9166444+C1     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = ALASKA #17: VIOLENT CRIME, NATIVE

83 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .18071+02          |
| 2                   | AUTOREGRESSIVE 1  | 1                  | .11780+00          |
| 3                   | AUTOREGRESSIVE 1  | 2                  | .19475+00          |
| 4                   | AUTOREGRESSIVE 1  | 3                  | .28592+00          |
| 5                   | MOVING AVERAGE 1  | 6                  | .20895+00          |
| 6                   | MOVING AVERAGE 1  | 13                 | -.39255+00         |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61

FORECAST TIME ORIGINS ARE T= 83

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 83 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .2808674+01     | .1619295+02 | .2957722+02     |                  |
| 2             | .3202723+01     | .1667954+02 | .3015635+02     |                  |
| 3             | .7875071+01     | .2163811+02 | .3540114+02     |                  |
| 4             | .1671783+01     | .1614028+02 | .3060878+02     |                  |
| 5             | .4890382+01     | .1943853+02 | .3398668+02     |                  |
| 6             | .1140652+01     | .1580552+02 | .3047039+02     |                  |
| 7             | .2804546+00     | .1497986+02 | .2967927+02     |                  |
| 8             | .3972126+01     | .1868705+02 | .3340198+02     |                  |
| 9             | .2378730+01     | .1709941+02 | .3182009+02     |                  |
| 10            | .6777239+01     | .2149831+02 | .3621939+02     |                  |
| 11            | .5022169+01     | .1974555+02 | .3446893+02     |                  |
| 12            | .4959617+00     | .1521984+02 | .2994382+02     |                  |
| 13            | .3939792+01     | .1866376+02 | .3338774+02     |                  |
| 14            | .2395833+01     | .1806420+02 | .3373256+02     |                  |
| 15            | .1687411+01     | .1737028+02 | .3305314+02     |                  |
| 16            | .2432720+01     | .1815644+02 | .3388016+02     |                  |
| 17            | .2116461+01     | .1794248+02 | .3376851+02     |                  |
| 18            | .2033617+01     | .1787196+02 | .3371034+02     |                  |
| 19            | .2190801+01     | .1804678+02 | .3390276+02     |                  |
| 20            | .2119993+01     | .1799247+02 | .3386495+02     |                  |
| 21            | .2122197+01     | .1799995+02 | .3387771+02     |                  |
| 22            | .2157374+01     | .1804024+02 | .3392310+02     |                  |
| 23            | .2144536+01     | .1803091+02 | .3391729+02     |                  |
| 24            | .2151686+01     | .1803980+02 | .3392791+02     |                  |
| 25            | .2161076+01     | .1805055+02 | .3394002+02     |                  |
| 26            | .2160542+01     | .1805048+02 | .3394122+02     |                  |
| 27            | .2164706+01     | .1805555+02 | .3394640+02     |                  |
| 28            | .2168036+01     | .1805924+02 | .3395045+02     |                  |
| 29            | .2169249+01     | .1806066+02 | .3395211+02     |                  |
| 30            | .2171331+01     | .1806296+02 | .3395448+02     |                  |
| 31            | .2172833+01     | .1806450+02 | .3395617+02     |                  |
| 32            | .2173806+01     | .1806553+02 | .3395726+02     |                  |
| 33            | .2174836+01     | .1806660+02 | .3395837+02     |                  |
| 34            | .2175594+01     | .1806738+02 | .3395918+02     |                  |
| 35            | .2176173+01     | .1806798+02 | .3395979+02     |                  |
| 36            | .2176691+01     | .1806851+02 | .3396033+02     |                  |
| 37            | .2177087+01     | .1806891+02 | .3396073+02     |                  |
| 38            | .2177403+01     | .1806923+02 | .3396106+02     |                  |
| 39            | .2177667+01     | .1806950+02 | .3396133+02     |                  |
| 40            | .2177875+01     | .1806971+02 | .3396154+02     |                  |
| 41            | .2178042+01     | .1806986+02 | .3396171+02     |                  |
| 42            | .2178178+01     | .1807001+02 | .3396185+02     |                  |
| 43            | .2178286+01     | .1807012+02 | .3396196+02     |                  |
| 44            | .2178373+01     | .1807021+02 | .3396204+02     |                  |
| 45            | .2178444+01     | .1807028+02 | .3396211+02     |                  |
| 46            | .2178500+01     | .1807034+02 | .3396217+02     |                  |
| 47            | .2178545+01     | .1807038+02 | .3396222+02     |                  |
| 48            | .2178582+01     | .1807042+02 | .3396225+02     |                  |
| 49            | .2178611+01     | .1807045+02 | .3396228+02     |                  |
| 50            | .2178635+01     | .1807047+02 | .3396231+02     |                  |
| 51            | .2178654+01     | .1807049+02 | .3396233+02     |                  |
| 52            | .2178669+01     | .1807050+02 | .3396234+02     |                  |
| 53            | .2178681+01     | .1807052+02 | .3396235+02     |                  |
| 54            | .2178691+01     | .1807053+02 | .3396236+02     |                  |
| 55            | .2178699+01     | .1807053+02 | .3396237+02     |                  |
| 56            | .2178705+01     | .1807054+02 | .3396238+02     |                  |
| 57            | .2178710+01     | .1807055+02 | .3396238+02     |                  |
| 58            | .2178715+01     | .1807055+02 | .3396239+02     |                  |
| 59            | .2178718+01     | .1807055+02 | .3396239+02     |                  |
| 60            | .2178720+01     | .1807056+02 | .3396239+02     |                  |
| 61            | .2178722+01     | .1807056+02 | .3396239+02     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - 2 = ALASKA STATEWIDE: NONVIOLENT CRIMES, OVER 18

83 OBSERVATIONS

DIFFERENCING ON 2 - NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .14336+03          |
| 2                   | AUTOREGRESSIVE 1  | 1                  | .41052+00          |
| 3                   | MOVING AVERAGE 1  | 3                  | -.15011+00         |
| 4                   | MOVING AVERAGE 1  | 7                  | -.28226+00         |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61

FORECAST TIME ORIGINS ARE 1 = 83

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 83 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .8929885+C2     | .1311049+03 | .1729109+03     |                  |
| 2             | .9672342+C2     | .1419150+03 | .1871067+03     |                  |
| 3             | .1052322+C3     | .1489696+03 | .1947073+03     |                  |
| 4             | .9416123+02     | .1408085+03 | .1874558+03     |                  |
| 5             | .9056706+02     | .1373659+03 | .1841648+03     |                  |
| 6             | .8161236+C2     | .1284367+03 | .1752611+03     |                  |
| 7             | .9213828+02     | .1389670+03 | .1857956+03     |                  |
| 8             | .9320084+02     | .1415576+03 | .1899144+03     |                  |
| 9             | .9441157+02     | .1426212+03 | .1912307+03     |                  |
| 10            | .9440569+02     | .1430576+03 | .1917098+03     |                  |
| 11            | .9457777+C2     | .1432370+03 | .1918962+03     |                  |
| 12            | .9465014+02     | .1433106+03 | .1919710+03     |                  |
| 13            | .9468614+C2     | .1433408+03 | .1920014+03     |                  |
| 14            | .9469251+02     | .1433532+03 | .1920138+03     |                  |
| 15            | .9469759+02     | .1433583+03 | .1920189+03     |                  |
| 16            | .9469968+C2     | .1433603+03 | .1920210+03     |                  |
| 17            | .9470054+02     | .1433612+03 | .1920219+03     |                  |
| 18            | .9470087+02     | .1433616+03 | .1920222+03     |                  |
| 19            | .9470104+C2     | .1433617+03 | .1920224+03     |                  |
| 20            | .9470110+C2     | .1433618+03 | .1920224+03     |                  |
| 21            | .9470112+02     | .1433618+03 | .1920224+03     |                  |
| 22            | .9470113+02     | .1433618+03 | .1920225+03     |                  |
| 23            | .9470113+02     | .1433618+03 | .1920225+03     |                  |
| 24            | .9470114+02     | .1433618+03 | .1920225+03     |                  |
| 25            | .9470114+C2     | .1433618+03 | .1920225+03     |                  |
| 26            | .9470114+02     | .1433618+03 | .1920225+03     |                  |
| 27            | .9470114+02     | .1433618+03 | .1920225+03     |                  |
| 28            | .9470114+C2     | .1433618+03 | .1920225+03     |                  |
| 29            | .9470114+C2     | .1433618+03 | .1920225+03     |                  |
| 30            | .9470114+C2     | .1433618+03 | .1920225+03     |                  |
| 31            | .9470114+02     | .1433618+03 | .1920225+03     |                  |
| 32            | .9470114+C2     | .1433618+03 | .1920225+03     |                  |
| 33            | .9470114+C2     | .1433618+03 | .1920225+03     |                  |
| 34            | .9470114+02     | .1433618+03 | .1920225+03     |                  |
| 35            | .9470114+02     | .1433618+03 | .1920225+03     |                  |
| 36            | .9470114+C2     | .1433618+03 | .1920225+03     |                  |
| 37            | .9470114+C2     | .1433618+03 | .1920225+03     |                  |
| 38            | .9470114+C2     | .1433618+03 | .1920225+03     |                  |
| 39            | .9470114+02     | .1433618+03 | .1920225+03     |                  |
| 40            | .9470114+02     | .1433618+03 | .1920225+03     |                  |
| 41            | .9470114+02     | .1433618+03 | .1920225+03     |                  |
| 42            | .9470114+C2     | .1433618+03 | .1920225+03     |                  |
| 43            | .9470114+C2     | .1433618+03 | .1920225+03     |                  |
| 44            | .9470114+C2     | .1433618+03 | .1920225+03     |                  |
| 45            | .9470114+02     | .1433618+03 | .1920225+03     |                  |
| 46            | .9470114+C2     | .1433618+03 | .1920225+03     |                  |
| 47            | .9470114+C2     | .1433618+03 | .1920225+03     |                  |
| 48            | .9470114+02     | .1433618+03 | .1920225+03     |                  |
| 49            | .9470114+02     | .1433618+03 | .1920225+03     |                  |
| 50            | .9470114+C2     | .1433618+03 | .1920225+03     |                  |
| 51            | .9470114+02     | .1433618+03 | .1920225+03     |                  |
| 52            | .9470114+C2     | .1433618+03 | .1920225+03     |                  |
| 53            | .9470114+C2     | .1433618+03 | .1920225+03     |                  |
| 54            | .9470114+02     | .1433618+03 | .1920225+03     |                  |
| 55            | .9470114+C2     | .1433618+03 | .1920225+03     |                  |
| 56            | .9470114+02     | .1433618+03 | .1920225+03     |                  |
| 57            | .9470114+C2     | .1433618+03 | .1920225+03     |                  |
| 58            | .9470114+02     | .1433618+03 | .1920225+03     |                  |
| 59            | .9470114+02     | .1433618+03 | .1920225+03     |                  |
| 60            | .9470114+C2     | .1433618+03 | .1920225+03     |                  |
| 61            | .9470114+C2     | .1433618+03 | .1920225+03     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = ALASKA STATEWIDE UNDER EIGHTEEN NONVIOLENT CRIMES

84 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
|---------------------|-------------------|--------------------|--------------------|

|   |      |  |           |
|---|------|--|-----------|
| 1 | MEAN |  | .11779+04 |
|---|------|--|-----------|

|   |                  |   |           |
|---|------------------|---|-----------|
| 2 | AUTOREGRESSIVE 1 | 1 | .21627+00 |
|---|------------------|---|-----------|

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

PERIODS AHEAD LO. CONF. LIMIT FORECAST LP. CONF. LIMIT ACTUAL, IF KNOWN

|    |             |             |             |
|----|-------------|-------------|-------------|
| 1  | .6615211.C2 | .1150043.C4 | .1438566.L4 |
| 2  | .767036.C3  | .1171896.C4 | .1467089.L4 |
| 3  | .8611215.C3 | .1176623.C4 | .1472124.L4 |
| 4  | .8821292.C3 | .1177645.C4 | .1473160.C4 |
| 5  | .8823496.C3 | .1177666.C4 | .1473182.C4 |
| 6  | .8823974.C3 | .1177914.C4 | .1473430.C4 |
| 7  | .8824077.C3 | .1177924.C4 | .1473440.C4 |
| 8  | .8824099.C3 | .1177926.C4 | .1473443.C4 |
| 9  | .8824104.C3 | .1177927.C4 | .1473443.C4 |
| 10 | .8824105.C3 | .1177927.C4 | .1473443.C4 |
| 11 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 12 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 13 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 14 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 15 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 16 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 17 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 18 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 19 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 20 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 21 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 22 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 23 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 24 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 25 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 26 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 27 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 28 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 29 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 30 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 31 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 32 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 33 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 34 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 35 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 36 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 37 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 38 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 39 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 40 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 41 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 42 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 43 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 44 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 45 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 46 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 47 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 48 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 49 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 50 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 51 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 52 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 53 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 54 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 55 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 56 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 57 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 58 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 59 | .8824106.C3 | .1177927.C4 | .1473443.C4 |
| 60 | .8824106.C3 | .1177927.C4 | .1473443.C4 |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = ALASKA STATEWIDE: NONVIOLENT CRIMES, NATIVE

83 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .61621*02          |
| 2                   | AUTOREGRESSIVE 1  | 4                  | .27253*00          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61

FORECAST TIME ORIGINS ARE T= 83

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA

MODEL 1 FORECASTS AT BASE PERIOD 83 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .4783211+02     | .7790873+02 | .1079853+03     |                  |
| 2             | .4728704+02     | .7736366+02 | .1074403+03     |                  |
| 3             | .4401665+02     | .7409327+02 | .1041699+03     |                  |
| 4             | .4265399+02     | .7273061+02 | .1028072+03     |                  |
| 5             | .4943561+02     | .8060916+02 | .1117827+03     |                  |
| 6             | .4928706+02     | .8046063+02 | .1116342+03     |                  |
| 7             | .4839577+02     | .7956934+02 | .1107429+03     |                  |
| 8             | .4602440+02     | .7919797+02 | .1103715+03     |                  |
| 9             | .5009163+02     | .8134514+02 | .1125986+03     |                  |
| 10            | .5005114+02     | .8130465+02 | .1125582+03     |                  |
| 11            | .4980824+02     | .8106175+02 | .1123153+03     |                  |
| 12            | .4970703+02     | .8096054+02 | .1122140+03     |                  |
| 13            | .5028627+02     | .8154571+02 | .1128051+03     |                  |
| 14            | .5027524+02     | .8153468+02 | .1127941+03     |                  |
| 15            | .5020904+02     | .8146848+02 | .1127279+03     |                  |
| 16            | .5018145+02     | .8144089+02 | .1127003+03     |                  |
| 17            | .5034049+02     | .8160037+02 | .1128603+03     |                  |
| 18            | .5033749+02     | .8159736+02 | .1128572+03     |                  |
| 19            | .5031944+02     | .8157932+02 | .1128392+03     |                  |
| 20            | .5031193+02     | .8157181+02 | .1128317+03     |                  |
| 21            | .5035536+02     | .8161527+02 | .1128752+03     |                  |
| 22            | .5035454+02     | .8161445+02 | .1128744+03     |                  |
| 23            | .5034962+02     | .8160953+02 | .1128694+03     |                  |
| 24            | .5034757+02     | .8160746+02 | .1128674+03     |                  |
| 25            | .5035942+02     | .8161933+02 | .1128792+03     |                  |
| 26            | .5035919+02     | .8161911+02 | .1128790+03     |                  |
| 27            | .5035785+02     | .8161777+02 | .1128777+03     |                  |
| 28            | .5035729+02     | .8161721+02 | .1128771+03     |                  |
| 29            | .5036052+02     | .8162044+02 | .1128804+03     |                  |
| 30            | .5036046+02     | .8162037+02 | .1128803+03     |                  |
| 31            | .5036010+02     | .8162001+02 | .1128799+03     |                  |
| 32            | .5035994+02     | .8161986+02 | .1128798+03     |                  |
| 33            | .5036082+02     | .8162074+02 | .1128807+03     |                  |
| 34            | .5036081+02     | .8162072+02 | .1128806+03     |                  |
| 35            | .5036071+02     | .8162062+02 | .1128805+03     |                  |
| 36            | .5036067+02     | .8162056+02 | .1128805+03     |                  |
| 37            | .5036090+02     | .8162082+02 | .1128807+03     |                  |
| 38            | .5036090+02     | .8162081+02 | .1128807+03     |                  |
| 39            | .5036087+02     | .8162079+02 | .1128807+03     |                  |
| 40            | .5036086+02     | .8162076+02 | .1128807+03     |                  |
| 41            | .5036093+02     | .8162084+02 | .1128808+03     |                  |
| 42            | .5036093+02     | .8162084+02 | .1128808+03     |                  |
| 43            | .5036092+02     | .8162083+02 | .1128807+03     |                  |
| 44            | .5036092+02     | .8162083+02 | .1128807+03     |                  |
| 45            | .5036093+02     | .8162085+02 | .1128808+03     |                  |
| 46            | .5036093+02     | .8162085+02 | .1128808+03     |                  |
| 47            | .5036093+02     | .8162085+02 | .1128808+03     |                  |
| 48            | .5036093+02     | .8162084+02 | .1128808+03     |                  |
| 49            | .5036094+02     | .8162085+02 | .1128808+03     |                  |
| 50            | .5036094+02     | .8162085+02 | .1128808+03     |                  |
| 51            | .5036093+02     | .8162085+02 | .1128808+03     |                  |
| 52            | .5036093+02     | .8162085+02 | .1128808+03     |                  |
| 53            | .5036094+02     | .8162085+02 | .1128808+03     |                  |
| 54            | .5036094+02     | .8162085+02 | .1128808+03     |                  |
| 55            | .5036094+02     | .8162085+02 | .1128808+03     |                  |
| 56            | .5036094+02     | .8162085+02 | .1128808+03     |                  |
| 57            | .5036094+02     | .8162085+02 | .1128808+03     |                  |
| 58            | .5036094+02     | .8162085+02 | .1128808+03     |                  |
| 59            | .5036094+02     | .8162085+02 | .1128808+03     |                  |
| 60            | .5036094+02     | .8162085+02 | .1128808+03     |                  |
| 61            | .5036094+02     | .8162085+02 | .1128808+03     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

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DATA - Z = ALASKA #2: NONVIOLENT CRIME, OVER 18 84 OBSERVATIONS

DIFFERENCING ON Z - 1) 1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

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## UNIVARIATE MODEL PARAMETERS

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| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MOVING AVERAGE 1  | 1                  | .57713+00          |
| 2                   | MOVING AVERAGE 1  | 4                  | .12656+00          |
| 3                   | TREND CONSTANT    |                    | -.19743+00         |

\*\*\*\*\*

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .2116926+02     | .4550328+02 | .6983730+02     |                  |
| 2             | .1924236+02     | .4566268+02 | .7208299+02     |                  |
| 3             | .1567524+02     | .4402875+02 | .7238225+02     |                  |
| 4             | .1326053+02     | .4342358+02 | .7358664+02     |                  |
| 5             | .1221322+02     | .4322616+02 | .7423910+02     |                  |
| 6             | .1118856+02     | .4302873+02 | .7486888+02     |                  |
| 7             | .1018490+02     | .4283130+02 | .7547776+02     |                  |
| 8             | .9200650+01     | .4263387+02 | .7608709+02     |                  |
| 9             | .8234500+01     | .4243644+02 | .7663839+02     |                  |
| 10            | .7285253+01     | .4223902+02 | .7719278+02     |                  |
| 11            | .6351839+01     | .4204159+02 | .7773133+02     |                  |
| 12            | .5433299+01     | .4184416+02 | .7825502+02     |                  |
| 13            | .4528765+01     | .4164673+02 | .7876470+02     |                  |
| 14            | .3637453+01     | .4144930+02 | .7926115+02     |                  |
| 15            | .2758646+01     | .4125197+02 | .7974510+02     |                  |
| 16            | .1891693+01     | .4105445+02 | .8021720+02     |                  |
| 17            | .1035996+01     | .4085702+02 | .8067804+02     |                  |
| 18            | .1910043+00     | .4065959+02 | .8112817+02     |                  |
| 19            | -.6437874+00    | .4046216+02 | .8156811+02     |                  |
| 20            | -.1468846+01    | .4026473+02 | .8199831+02     |                  |
| 21            | -.2284605+01    | .4006730+02 | .8241921+02     |                  |
| 22            | -.3091465+01    | .3986988+02 | .8283122+02     |                  |
| 23            | -.3889600+01    | .3967245+02 | .8323970+02     |                  |
| 24            | -.4679957+01    | .3947502+02 | .8363000+02     |                  |
| 25            | -.5462264+01    | .3927759+02 | .8401745+02     |                  |
| 26            | -.6237622+01    | .3908016+02 | .8439735+02     |                  |
| 27            | -.7004517+01    | .3888274+02 | .8476999+02     |                  |
| 28            | -.7765016+01    | .3868531+02 | .8513563+02     |                  |
| 29            | -.8518771+01    | .3848790+02 | .8549453+02     |                  |
| 30            | -.9266016+01    | .3829047+02 | .8584692+02     |                  |
| 31            | -.1000696+02    | .3809304+02 | .8619303+02     |                  |
| 32            | -.1074187+02    | .3789559+02 | .8653306+02     |                  |
| 33            | -.1147088+02    | .3769817+02 | .8686722+02     |                  |
| 34            | -.1219421+02    | .3750074+02 | .8719569+02     |                  |
| 35            | -.1291203+02    | .3730331+02 | .8751865+02     |                  |
| 36            | -.1362452+02    | .3710588+02 | .8783628+02     |                  |
| 37            | -.1433182+02    | .3690845+02 | .8814873+02     |                  |
| 38            | -.1503411+02    | .3671102+02 | .8845616+02     |                  |
| 39            | -.1573151+02    | .3651360+02 | .8875870+02     |                  |
| 40            | -.1642418+02    | .3631617+02 | .8905651+02     |                  |
| 41            | -.1711223+02    | .3611874+02 | .8934871+02     |                  |
| 42            | -.1779581+02    | .3592131+02 | .8963843+02     |                  |
| 43            | -.1847502+02    | .3572388+02 | .8992279+02     |                  |
| 44            | -.1915000+02    | .3552646+02 | .9020291+02     |                  |
| 45            | -.1982083+02    | .3532903+02 | .9047889+02     |                  |
| 46            | -.2048764+02    | .3513160+02 | .9075084+02     |                  |
| 47            | -.2115052+02    | .3493417+02 | .9101886+02     |                  |
| 48            | -.2180956+02    | .3473674+02 | .9128305+02     |                  |
| 49            | -.2246487+02    | .3453931+02 | .9154350+02     |                  |
| 50            | -.2311653+02    | .3434189+02 | .9180031+02     |                  |
| 51            | -.2376463+02    | .3414446+02 | .9205355+02     |                  |
| 52            | -.2440925+02    | .3394703+02 | .9230331+02     |                  |
| 53            | -.2505046+02    | .3374960+02 | .9254867+02     |                  |
| 54            | -.2568836+02    | .3355217+02 | .9279270+02     |                  |
| 55            | -.2632300+02    | .3335474+02 | .9303249+02     |                  |
| 56            | -.2695446+02    | .3315732+02 | .9326909+02     |                  |
| 57            | -.2758281+02    | .3295989+02 | .9350259+02     |                  |
| 58            | -.2820811+02    | .3276246+02 | .9373303+02     |                  |
| 59            | -.2883044+02    | .3256503+02 | .9396050+02     |                  |
| 60            | -.2944984+02    | .3236760+02 | .9418505+02     |                  |

**CONTINUED**

**2 OF 5**

TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = ALASKA #2: NONVIOLENT CRIME, UNDER 18

84 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .92926+02          |
| 2                   | AUTOREGRESSIVE 1  | 4                  | .17793+00          |
| 3                   | AUTOREGRESSIVE 1  | 12                 | .35594+00          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE 1= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .4276681+02     | .8122033+02 | .1196738+03     |                  |
| 2             | .4614676+02     | .8460076+02 | .1230538+03     |                  |
| 3             | .4419011+02     | .8264363+02 | .1210971+03     |                  |
| 4             | .4935151+02     | .8780502+02 | .1262585+03     |                  |
| 5             | .4789680+02     | .8695428+02 | .1260118+03     |                  |
| 6             | .5597284+02     | .9503032+02 | .1340878+03     |                  |
| 7             | .4067580+02     | .7973288+02 | .1187904+03     |                  |
| 8             | .5298371+02     | .9204119+02 | .1310987+03     |                  |
| 9             | .4640652+02     | .8548298+02 | .1245594+03     |                  |
| 10            | .6172498+02     | .1008014+03 | .1398779+03     |                  |
| 11            | .4939284+02     | .8846929+02 | .1275457+03     |                  |
| 12            | .4837945+02     | .8745590+02 | .1265323+03     |                  |
| 13            | .4595898+02     | .8743522+02 | .1289115+03     |                  |
| 14            | .4988765+02     | .9136389+02 | .1328401+03     |                  |
| 15            | .4699694+02     | .8847318+02 | .1299494+03     |                  |
| 16            | .4865375+02     | .9012999+02 | .1316062+03     |                  |
| 17            | .4805774+02     | .8982350+02 | .1315893+03     |                  |
| 18            | .5163132+02     | .9339708+02 | .1351628+03     |                  |
| 19            | .4567207+02     | .8783783+02 | .1292036+03     |                  |
| 20            | .5034783+02     | .9211360+02 | .1338794+03     |                  |
| 21            | .4793856+02     | .8972476+02 | .1315110+03     |                  |
| 22            | .5402679+02     | .9581299+02 | .1375992+03     |                  |
| 23            | .4857701+02     | .9036321+02 | .1321494+03     |                  |
| 24            | .4904827+02     | .9083447+02 | .1326207+03     |                  |
| 25            | .4829586+02     | .9040207+02 | .1325083+03     |                  |
| 26            | .5077749+02     | .9288370+02 | .1349899+03     |                  |
| 27            | .4877890+02     | .9088511+02 | .1329913+03     |                  |
| 28            | .4945247+02     | .9155868+02 | .1336649+03     |                  |
| 29            | .4918192+02     | .9137265+02 | .1335634+03     |                  |
| 30            | .5089544+02     | .9308617+02 | .1352769+03     |                  |
| 31            | .4841873+02     | .9060946+02 | .1328002+03     |                  |
| 32            | .5020285+02     | .9239358+02 | .1345843+03     |                  |
| 33            | .4930900+02     | .9151020+02 | .1337114+03     |                  |
| 34            | .5178091+02     | .9398211+02 | .1361833+03     |                  |
| 35            | .4940045+02     | .9160166+02 | .1338029+03     |                  |
| 36            | .4988564+02     | .9208684+02 | .1342880+03     |                  |
| 37            | .4952664+02     | .9177576+02 | .1340249+03     |                  |
| 38            | .5084977+02     | .9309889+02 | .1353480+03     |                  |
| 39            | .4971485+02     | .9196396+02 | .1342131+03     |                  |
| 40            | .5004093+02     | .9229004+02 | .1345392+03     |                  |
| 41            | .4989912+02     | .9216847+02 | .1344378+03     |                  |
| 42            | .5074445+02     | .9301380+02 | .1352832+03     |                  |
| 43            | .4966096+02     | .9193011+02 | .1341997+03     |                  |
| 44            | .5035401+02     | .9262336+02 | .1348927+03     |                  |
| 45            | .5001415+02     | .9228731+02 | .1345605+03     |                  |
| 46            | .5104439+02     | .9331756+02 | .1355907+03     |                  |
| 47            | .5000432+02     | .9227748+02 | .1345506+03     |                  |
| 48            | .5030033+02     | .9257349+02 | .1348467+03     |                  |
| 49            | .5012192+02     | .9240297+02 | .1346840+03     |                  |
| 50            | .5077618+02     | .9305723+02 | .1353383+03     |                  |
| 51            | .5018716+02     | .9246821+02 | .1347493+03     |                  |
| 52            | .5035589+02     | .9263694+02 | .1349180+03     |                  |
| 53            | .5027787+02     | .9256333+02 | .1348488+03     |                  |
| 54            | .5069516+02     | .9298063+02 | .1352661+03     |                  |
| 55            | .5020470+02     | .9249017+02 | .1347756+03     |                  |
| 56            | .5048141+02     | .9276688+02 | .1350523+03     |                  |
| 57            | .5034756+02     | .9263416+02 | .1349208+03     |                  |
| 58            | .5078851+02     | .9307512+02 | .1353617+03     |                  |
| 59            | .5033104+02     | .9261765+02 | .1349043+03     |                  |
| 60            | .5048564+02     | .9277224+02 | .1350589+03     |                  |

TIME SERIES FORECASTING FOR MODEL 1

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DATA - Z = ALASKA #2: NONVICLENT CRIME, NATIVE 84 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

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UNIVARIATE MODEL PARAMETERS

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| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .24182+02          |
| 2                   | MOVING AVERAGE 1  | 6                  | .80223-01          |
| 3                   | MOVING AVERAGE 1  | 12                 | .13948+00          |
| 4                   | MOVING AVERAGE 1  | 18                 | .38300+00          |
| 5                   | MOVING AVERAGE 1  | 24                 | .31059+00          |

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NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
 \*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD .84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .6712742+01     | .1883614+02 | .3095954+02     |                  |
| 2             | .1473961+02     | .2686301+02 | .3898641+02     |                  |
| 3             | .1520016+02     | .2732356+02 | .3944696+02     |                  |
| 4             | .1212165+02     | .2424505+02 | .3636845+02     |                  |
| 5             | .7784281+01     | .1990766+02 | .3203108+02     |                  |
| 6             | .1164173+02     | .2376513+02 | .3588853+02     |                  |
| 7             | .8722001+01     | .2088435+02 | .3304670+02     |                  |
| 8             | .1528716+02     | .2744951+02 | .3961186+02     |                  |
| 9             | .1518772+02     | .2735007+02 | .3951242+02     |                  |
| 10            | .1035464+02     | .2251699+02 | .3467934+02     |                  |
| 11            | .1135591+02     | .2351826+02 | .3568061+02     |                  |
| 12            | .1215161+02     | .2431396+02 | .3647631+02     |                  |
| 13            | .1126231+02     | .2354165+02 | .3582099+02     |                  |
| 14            | .1410067+02     | .2638001+02 | .3865936+02     |                  |
| 15            | .1339317+02     | .2567251+02 | .3795186+02     |                  |
| 16            | .1168175+02     | .2396109+02 | .3624043+02     |                  |
| 17            | .1400067+02     | .2628002+02 | .3855936+02     |                  |
| 18            | .1245906+02     | .2473841+02 | .3701775+02     |                  |
| 19            | .1158478+02     | .2471268+02 | .3784058+02     |                  |
| 20            | .1149614+02     | .2462404+02 | .3775194+02     |                  |
| 21            | .1190502+02     | .2503292+02 | .3816082+02     |                  |
| 22            | .1257437+02     | .2570227+02 | .3883018+02     |                  |
| 23            | .1183975+02     | .2496765+02 | .3809556+02     |                  |
| 24            | .1153942+02     | .2466732+02 | .3779523+02     |                  |
| 25            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 26            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 27            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 28            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 29            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 30            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 31            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 32            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 33            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 34            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 35            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 36            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 37            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 38            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 39            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 40            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 41            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 42            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 43            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 44            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 45            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 46            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 47            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 48            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 49            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 50            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 51            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 52            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 53            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 54            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 55            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 56            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 57            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 58            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 59            | .1052459+02     | .2418183+02 | .3783908+02     |                  |
| 60            | .1052459+02     | .2418183+02 | .3783908+02     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = ALASKA #4: OVER EIGHTEEN NONVIOLENT CRIME

83 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .30369+02          |
| 2                   | AUTOREGRESSIVE 1  | 1                  | .25410+00          |
| 3                   | AUTOREGRESSIVE 1  | 2                  | .10937+00          |
| 4                   | AUTOREGRESSIVE 1  | 3                  | .28756+00          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61

FORECAST TIME ORIGINS ARE T= 83

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 83 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .1303458+02     | .3038464+02 | .4773470+02     |                  |
| 2             | .1207795+02     | .2997938+02 | .4788082+02     |                  |
| 3             | .1287410+02     | .3102814+02 | .4918218+02     |                  |
| 4             | .1130230+02     | .3049824+02 | .4969418+02     |                  |
| 5             | .1090372+02     | .3036177+02 | .4981881+02     |                  |
| 6             | .1097020+02     | .3057071+02 | .5017122+02     |                  |
| 7             | .1066520+02     | .3045650+02 | .5024779+02     |                  |
| 8             | .1053165+02     | .3041108+02 | .5029051+02     |                  |
| 9             | .1051465+02     | .3044714+02 | .5037962+02     |                  |
| 10            | .1043952+02     | .3041849+02 | .5039746+02     |                  |
| 11            | .1039593+02     | .3040209+02 | .5040825+02     |                  |
| 12            | .1038171+02     | .3040516+02 | .5042861+02     |                  |
| 13            | .1035962+02     | .3039591+02 | .5043219+02     |                  |
| 14            | .1034470+02     | .3038918+02 | .5043366+02     |                  |
| 15            | .1033750+02     | .3038734+02 | .5043717+02     |                  |
| 16            | .1032991+02     | .3038347+02 | .5043703+02     |                  |
| 17            | .1032434+02     | .3038035+02 | .5043637+02     |                  |
| 18            | .1032097+02     | .3037861+02 | .5043625+02     |                  |
| 19            | .1031798+02     | .3037672+02 | .5043545+02     |                  |
| 20            | .1031567+02     | .3037515+02 | .5043462+02     |                  |
| 21            | .1031408+02     | .3037404+02 | .5043400+02     |                  |
| 22            | .1031275+02     | .3037304+02 | .5043333+02     |                  |
| 23            | .1031171+02     | .3037221+02 | .5043272+02     |                  |
| 24            | .1031092+02     | .3037158+02 | .5043223+02     |                  |
| 25            | .1031028+02     | .3037104+02 | .5043179+02     |                  |
| 26            | .1030977+02     | .3037059+02 | .5043141+02     |                  |
| 27            | .1030938+02     | .3037024+02 | .5043110+02     |                  |
| 28            | .1030905+02     | .3036994+02 | .5043084+02     |                  |
| 29            | .1030879+02     | .3036970+02 | .5043061+02     |                  |
| 30            | .1030858+02     | .3036951+02 | .5043043+02     |                  |
| 31            | .1030841+02     | .3036935+02 | .5043028+02     |                  |
| 32            | .1030828+02     | .3036922+02 | .5043015+02     |                  |
| 33            | .1030816+02     | .3036911+02 | .5043005+02     |                  |
| 34            | .1030807+02     | .3036902+02 | .5042997+02     |                  |
| 35            | .1030800+02     | .3036895+02 | .5042990+02     |                  |
| 36            | .1030794+02     | .3036889+02 | .5042984+02     |                  |
| 37            | .1030789+02     | .3036884+02 | .5042979+02     |                  |
| 38            | .1030785+02     | .3036880+02 | .5042975+02     |                  |
| 39            | .1030782+02     | .3036877+02 | .5042972+02     |                  |
| 40            | .1030779+02     | .3036874+02 | .5042969+02     |                  |
| 41            | .1030777+02     | .3036872+02 | .5042967+02     |                  |
| 42            | .1030775+02     | .3036870+02 | .5042966+02     |                  |
| 43            | .1030774+02     | .3036869+02 | .5042964+02     |                  |
| 44            | .1030773+02     | .3036868+02 | .5042963+02     |                  |
| 45            | .1030772+02     | .3036867+02 | .5042962+02     |                  |
| 46            | .1030771+02     | .3036866+02 | .5042961+02     |                  |
| 47            | .1030770+02     | .3036865+02 | .5042961+02     |                  |
| 48            | .1030770+02     | .3036865+02 | .5042960+02     |                  |
| 49            | .1030769+02     | .3036864+02 | .5042960+02     |                  |
| 50            | .1030769+02     | .3036864+02 | .5042959+02     |                  |
| 51            | .1030769+02     | .3036864+02 | .5042959+02     |                  |
| 52            | .1030769+02     | .3036864+02 | .5042959+02     |                  |
| 53            | .1030768+02     | .3036863+02 | .5042958+02     |                  |
| 54            | .1030768+02     | .3036863+02 | .5042958+02     |                  |
| 55            | .1030768+02     | .3036863+02 | .5042958+02     |                  |
| 56            | .1030768+02     | .3036863+02 | .5042958+02     |                  |
| 57            | .1030768+02     | .3036863+02 | .5042958+02     |                  |
| 58            | .1030768+02     | .3036863+02 | .5042958+02     |                  |
| 59            | .1030768+02     | .3036863+02 | .5042958+02     |                  |
| 60            | .1030768+02     | .3036863+02 | .5042958+02     |                  |
| 61            | .1030768+02     | .3036863+02 | .5042958+02     |                  |

TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = ALASKA #4: UNDER EIGHTEEN NONVIOLENT CRIME 83 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
|---------------------|-------------------|--------------------|--------------------|

|   |      |  |           |
|---|------|--|-----------|
| 1 | MEAN |  | .21491+02 |
|---|------|--|-----------|

|   |                  |   |           |
|---|------------------|---|-----------|
| 2 | AUTOREGRESSIVE 1 | 1 | .29498+00 |
|---|------------------|---|-----------|

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61

FORECAST TIME ORIGINS ARE T= 83

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA

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MODEL 1 FORECASTS AT BASE PERIOD 83 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .1799590+01     | .1544632+02 | .3269222+02     |                  |
| 2             | .1727125+01     | .1970770+02 | .3768827+02     |                  |
| 3             | .2921637+01     | .2096472+02 | .3900780+02     |                  |
| 4             | .3287006+01     | .2133552+02 | .3938403+02     |                  |
| 5             | .3395911+01     | .2144490+02 | .3949388+02     |                  |
| 6             | .3428135+01     | .2147716+02 | .3952618+02     |                  |
| 7             | .3437649+01     | .2148668+02 | .3953571+02     |                  |
| 8             | .3440456+01     | .2148948+02 | .3953851+02     |                  |
| 9             | .3441284+01     | .2149031+02 | .3953934+02     |                  |
| 10            | .3441528+01     | .2149056+02 | .3953959+02     |                  |
| 11            | .3441600+01     | .2149063+02 | .3953966+02     |                  |
| 12            | .3441621+01     | .2149065+02 | .3953968+02     |                  |
| 13            | .3441628+01     | .2149066+02 | .3953969+02     |                  |
| 14            | .3441629+01     | .2149066+02 | .3953969+02     |                  |
| 15            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 16            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 17            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 18            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 19            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 20            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 21            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 22            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 23            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 24            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 25            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 26            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 27            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 28            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 29            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 30            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 31            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 32            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 33            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 34            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 35            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 36            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 37            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 38            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 39            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 40            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 41            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 42            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 43            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 44            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 45            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 46            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 47            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 48            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 49            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 50            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 51            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 52            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 53            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 54            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 55            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 56            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 57            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 58            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 59            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 60            | .3441630+01     | .2149066+02 | .3953969+02     |                  |
| 61            | .3441630+01     | .2149066+02 | .3953969+02     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = ALASKA #4: NATIVES ARRESTED FOR NONVIOLENT CRIMES 83 OBSERVATIONS

DIFFERENCING ON Z = NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .12682+02          |
| 2                   | AUTOREGRESSIVE 1  | 1                  | .28858+00          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61

FORECAST TIME ORIGINS ARE 1= 83

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 83 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | -.1025567+00    | .1017619+02 | .2045494+02     |                  |
| 2             | .1260342+01     | .1195855+02 | .2265675+02     |                  |
| 3             | .1740508+01     | .1247290+02 | .2320530+02     |                  |
| 4             | .1886101+01     | .1262134+02 | .2335658+02     |                  |
| 5             | .1928701+01     | .1266418+02 | .2339965+02     |                  |
| 6             | .1941043+01     | .1267654+02 | .2341203+02     |                  |
| 7             | .1944608+01     | .1268011+02 | .2341560+02     |                  |
| 8             | .1945638+01     | .1268114+02 | .2341663+02     |                  |
| 9             | .1945935+01     | .1268143+02 | .2341693+02     |                  |
| 10            | .1946021+01     | .1268152+02 | .2341702+02     |                  |
| 11            | .1946045+01     | .1268154+02 | .2341704+02     |                  |
| 12            | .1946053+01     | .1268155+02 | .2341705+02     |                  |
| 13            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 14            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 15            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 16            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 17            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 18            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 19            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 20            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 21            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 22            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 23            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 24            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 25            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 26            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 27            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 28            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 29            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 30            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 31            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 32            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 33            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 34            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 35            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 36            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 37            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 38            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 39            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 40            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 41            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 42            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 43            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 44            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 45            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 46            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 47            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 48            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 49            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 50            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 51            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 52            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 53            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 54            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 55            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 56            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 57            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 58            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 59            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 60            | .1946055+01     | .1268155+02 | .2341705+02     |                  |
| 61            | .1946055+01     | .1268155+02 | .2341705+02     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = ALASKA #6: OVER EIGHTEEN NONVIOLENT CRIMES

83 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .35422+01          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61

FORECAST TIME ORIGINS ARE 1- 83

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 83 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 2             | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 3             | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 4             | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 5             | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 6             | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 7             | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 8             | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 9             | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 10            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 11            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 12            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 13            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 14            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 15            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 16            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 17            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 18            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 19            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 20            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 21            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 22            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 23            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 24            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 25            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 26            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 27            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 28            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 29            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 30            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 31            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 32            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 33            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 34            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 35            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 36            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 37            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 38            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 39            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 40            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 41            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 42            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 43            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 44            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 45            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 46            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 47            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 48            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 49            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 50            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 51            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 52            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 53            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 54            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 55            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 56            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 57            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 58            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 59            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 60            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |
| 61            | -.1103114+01    | .3542169+01 | .8187452+01     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - 2 = ALASKA #6: UNDER EIGHTEEN NONVIOLENT CRIMES

83 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .55660+01          |
| 2                   | MOVING AVERAGE 1  | 11                 | -.24904+00         |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61

FORECAST TIME ORIGINS ARE T= 83

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 83 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | -.2592462+01    | .5821564+01 | .1423559+02     |                  |
| 2             | -.3889565+01    | .4524461+01 | .1293849+02     |                  |
| 3             | -.3108985+01    | .5305041+01 | .1371907+02     |                  |
| 4             | -.3061860+01    | .5352166+01 | .1376619+02     |                  |
| 5             | -.2149580+01    | .6264446+01 | .1467847+02     |                  |
| 6             | -.3463503+01    | .4950523+01 | .1336455+02     |                  |
| 7             | -.3990032+01    | .4423994+01 | .1283802+02     |                  |
| 8             | -.3292549+01    | .5121478+01 | .1353550+02     |                  |
| 9             | -.3808640+01    | .4605386+01 | .1301941+02     |                  |
| 10            | -.3787701+01    | .4626325+01 | .1304035+02     |                  |
| 11            | -.3371599+01    | .5042427+01 | .1345645+02     |                  |
| 12            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 13            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 14            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 15            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 16            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 17            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 18            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 19            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 20            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 21            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 22            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 23            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 24            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 25            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 26            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 27            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 28            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 29            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 30            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 31            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 32            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 33            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 34            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 35            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 36            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 37            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 38            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 39            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 40            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 41            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 42            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 43            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 44            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 45            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 46            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 47            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 48            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 49            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 50            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 51            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 52            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 53            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 54            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 55            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 56            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 57            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 58            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 59            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 60            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |
| 61            | -.3105028+01    | .5565986+01 | .1423700+02     |                  |

TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = ALASKA #6: NATIVES ARRESTED FOR NONVIOLENT CRIMES

83 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .49518*01          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61

FORECAST TIME ORIGINS ARE 1= 83

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 83 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 2             | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 3             | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 4             | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 5             | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 6             | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 7             | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 8             | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 9             | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 10            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 11            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 12            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 13            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 14            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 15            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 16            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 17            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 18            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 19            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 20            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 21            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 22            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 23            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 24            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 25            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 26            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 27            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 28            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 29            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 30            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 31            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 32            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 33            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 34            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 35            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 36            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 37            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 38            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 39            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 40            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 41            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 42            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 43            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 44            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 45            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 46            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 47            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 48            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 49            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 50            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 51            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 52            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 53            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 54            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 55            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 56            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 57            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 58            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 59            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 60            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |
| 61            | -.1926289+01    | .4951809+01 | .1182991+02     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = ALASKA #17: NONVIOLENT CRIME, OVER 18 83 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .58458+02          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61

FORECAST TIME ORIGINS ARE 1= 83

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 83 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 2             | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 3             | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 4             | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 5             | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 6             | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 7             | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 8             | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 9             | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 10            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 11            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 12            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 13            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 14            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 15            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 16            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 17            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 18            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 19            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 20            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 21            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 22            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 23            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 24            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 25            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 26            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 27            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 28            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 29            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 30            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 31            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 32            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 33            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 34            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 35            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 36            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 37            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 38            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 39            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 40            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 41            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 42            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 43            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 44            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 45            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 46            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 47            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 48            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 49            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 50            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 51            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 52            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 53            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 54            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 55            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 56            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 57            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 58            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 59            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 60            | .3021137+02     | .5845784+02 | .8670430+02     |                  |
| 61            | .3021137+02     | .5845784+02 | .8670430+02     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = ALASKA #17: NONVIOLENT CRIME, UNDER 18 83 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .74471+02          |
| 2                   | AUTOREGRESSIVE 1  | 1                  | .16994+00          |
| 3                   | AUTOREGRESSIVE 1  | 2                  | .24699+00          |
| 4                   | AUTOREGRESSIVE 1  | 3                  | .35629+00          |
| 5                   | MOVING AVERAGE 1  | 6                  | .39337+00          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61

FORECAST TIME ORIGINS ARE T= 83

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 83 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .9196695+C1     | .3639049+02 | .8197768+C2     |                  |
| 2             | .1112380+02     | .5736460+02 | .1036054+03     |                  |
| 3             | .1311845+02     | .6103892+02 | .1089594+03     |                  |
| 4             | .1524392+02     | .6728400+02 | .1193241+03     |                  |
| 5             | .2313149+02     | .7599869+02 | .1288659+03     |                  |
| 6             | .1572400+C2     | .6973896+02 | .1237539+03     |                  |
| 7             | .1707665+02     | .7148362+02 | .1258906+03     |                  |
| 8             | .1870759+02     | .7333896+02 | .1279703+03     |                  |
| 9             | .1713127+C2     | .7185491+02 | .1265786+03     |                  |
| 10            | .1795603+02     | .7268256+02 | .1274091+03     |                  |
| 11            | .1833629+C2     | .7311770+02 | .1278991+03     |                  |
| 12            | .1806778+02     | .7286732+02 | .1276669+03     |                  |
| 13            | .1842378+02     | .7322712+02 | .1280305+03     |                  |
| 14            | .1856196+02     | .7338146+02 | .1282010+03     |                  |
| 15            | .1858066+02     | .7340736+02 | .1282341+03     |                  |
| 16            | .1874678+02     | .7357807+02 | .1284094+03     |                  |
| 17            | .1883113+02     | .7366847+02 | .1285058+03     |                  |
| 18            | .1889426+02     | .7373522+02 | .1285762+03     |                  |
| 19            | .1898589+02     | .7382971+02 | .1286735+03     |                  |
| 20            | .1904797+02     | .7389446+02 | .1287410+03     |                  |
| 21            | .1910421+02     | .7395259+02 | .1288010+03     |                  |
| 22            | .1916221+02     | .7401213+02 | .1288620+03     |                  |
| 23            | .1920848+C2     | .7405967+02 | .1289109+03     |                  |
| 24            | .1925099+02     | .7410317+02 | .1289553+03     |                  |
| 25            | .1929055+02     | .7414351+02 | .1289965+03     |                  |
| 26            | .1932445+02     | .7417805+02 | .1290317+03     |                  |
| 27            | .1935528+02     | .7420939+02 | .1290635+03     |                  |
| 28            | .1938311+C2     | .7423762+02 | .1290921+03     |                  |
| 29            | .1940763+02     | .7426246+02 | .1291173+03     |                  |
| 30            | .1942974+02     | .7428482+02 | .1291399+03     |                  |
| 31            | .1944952+C2     | .7430481+02 | .1291601+03     |                  |
| 32            | .1946713+02     | .7432258+02 | .1291780+03     |                  |
| 33            | .1948293+C2     | .7433850+02 | .1291941+03     |                  |
| 34            | .1949704+02     | .7435272+02 | .1292084+03     |                  |
| 35            | .1950964+02     | .7436540+02 | .1292212+03     |                  |
| 36            | .1952092+C2     | .7437674+02 | .1292326+03     |                  |
| 37            | .1953099+02     | .7438687+02 | .1292428+03     |                  |
| 38            | .1953999+C2     | .7439591+02 | .1292518+03     |                  |
| 39            | .1954803+C2     | .7440399+02 | .1292599+03     |                  |
| 40            | .1955522+02     | .7441120+02 | .1292672+03     |                  |
| 41            | .1956164+02     | .7441764+02 | .1292736+03     |                  |
| 42            | .1956737+02     | .7442340+02 | .1292794+03     |                  |
| 43            | .1957250+02     | .7442853+02 | .1292846+03     |                  |
| 44            | .1957706+C2     | .7443312+02 | .1292892+03     |                  |
| 45            | .1958117+02     | .7443722+02 | .1292933+03     |                  |
| 46            | .1958482+C2     | .7444088+02 | .1292969+03     |                  |
| 47            | .1958809+02     | .7444415+02 | .1293002+03     |                  |
| 48            | .1959100+C2     | .7444707+02 | .1293031+03     |                  |
| 49            | .1959361+02     | .7444968+02 | .1293058+03     |                  |
| 50            | .1959594+02     | .7445201+02 | .1293081+03     |                  |
| 51            | .1959801+02     | .7445409+02 | .1293102+03     |                  |
| 52            | .1959987+C2     | .7445595+02 | .1293120+03     |                  |
| 53            | .1960153+C2     | .7445761+02 | .1293137+03     |                  |
| 54            | .1960301+02     | .7445909+02 | .1293152+03     |                  |
| 55            | .1960433+02     | .7446042+02 | .1293165+03     |                  |
| 56            | .1960552+02     | .7446160+02 | .1293177+03     |                  |
| 57            | .1960657+C2     | .7446266+02 | .1293187+03     |                  |
| 58            | .1960751+C2     | .7446360+02 | .1293197+03     |                  |
| 59            | .1960836+02     | .7446444+02 | .1293205+03     |                  |
| 60            | .1960911+C2     | .7446519+02 | .1293213+03     |                  |
| 61            | .1960978+02     | .7446587+02 | .1293219+03     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = ALASKA #17: NONVIOLENT CRIME, NATIVE 83 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .40011+02          |
| 2                   | AUTOREGRESSIVE 1  | 1                  | .24759+00          |
| 3                   | MOVING AVERAGE 1  | 5                  | -.15263+00         |
| 4                   | MOVING AVERAGE 1  | 11                 | -.37112+00         |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 61

FORECAST TIME ORIGINS ARE T= 83

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 83 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .1437210+02     | .3764577+02 | .6091945+02     |                  |
| 2             | .1521550+02     | .3919193+02 | .6316836+02     |                  |
| 3             | .2076695+02     | .4478579+02 | .6880463+02     |                  |
| 4             | .1397999+02     | .3800143+02 | .6202287+02     |                  |
| 5             | .1459392+02     | .3861552+02 | .6263712+02     |                  |
| 6             | .1887897+02     | .4316496+02 | .6745098+02     |                  |
| 7             | .1673214+02     | .4103426+02 | .6533639+02     |                  |
| 8             | .1430608+02     | .3861119+02 | .6291430+02     |                  |
| 9             | .1538289+02     | .3968606+02 | .6398923+02     |                  |
| 10            | .7308208+01     | .3161138+02 | .5591456+02     |                  |
| 11            | .1182491+02     | .3612809+02 | .6043126+02     |                  |
| 12            | .1325672+02     | .3904943+02 | .6484214+02     |                  |
| 13            | .1389150+02     | .3977273+02 | .6565396+02     |                  |
| 14            | .1406517+02     | .3995182+02 | .6583847+02     |                  |
| 15            | .1410918+02     | .3999616+02 | .6588314+02     |                  |
| 16            | .1412014+02     | .4000714+02 | .6589414+02     |                  |
| 17            | .1412286+02     | .4000986+02 | .6589686+02     |                  |
| 18            | .1412353+02     | .4001053+02 | .6589753+02     |                  |
| 19            | .1412370+02     | .4001070+02 | .6589770+02     |                  |
| 20            | .1412374+02     | .4001074+02 | .6589774+02     |                  |
| 21            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 22            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 23            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 24            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 25            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 26            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 27            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 28            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 29            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 30            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 31            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 32            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 33            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 34            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 35            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 36            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 37            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 38            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 39            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 40            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 41            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 42            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 43            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 44            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 45            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 46            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 47            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 48            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 49            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 50            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 51            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 52            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 53            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 54            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 55            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 56            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 57            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 58            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 59            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 60            | .1412375+02     | .4001075+02 | .6589775+02     |                  |
| 61            | .1412375+02     | .4001075+02 | .6589775+02     |                  |

B. OREGON

1. Violent Crime

- a. Statewide Total
  - i. over 18
  - ii. under 18
  - iii. non-white

- b. Region 1
  - i. over 18
  - ii. under 18
  - iii. non-white

- c. Region 2
  - i. over 18
  - ii. under 18
  - iii. non-white

- d. Region 3
  - i. over 18
  - ii. under 18
  - iii. non-white

- e. Region 4
  - i. over 18
  - ii. under 18
  - iii. non-white

- f. Region 5
  - i. over 18
  - ii. under 18
  - iii. non-white

- g. Region 6
  - i. over 18
  - ii. under 18
  - iii. non-white

- h. Region 7
  - i. over 18
  - ii. under 18
  - iii. non-white

2. Non Violent Crime

- a. Statewide Total
  - i. over 18
  - ii. under 18
  - iii. non-white

b. Region 1  
i. over 18  
ii. under 18  
iii. non-white

c. Region 2  
i. over 18  
ii. under 18  
iii. non-white

d. Region 3  
i. over 18  
ii. under 18  
iii. non-white

e. Region 4  
i. over 18  
ii. under 18  
iii. non-white

f. Region 5  
i. over 18  
ii. under 18  
iii. non-white

g. Region 6  
i. over 18  
ii. under 18  
iii. non-white

h. Region 7  
i. over 18  
ii. under 18  
iii. non-white

TIME SERIES FORECASTING FOR HOEFL 1

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 DATA - 2 = OREGON STATEWIDE: OVER EIGHTEEN VIOLENT CRIMES 84 OBSERVATIONS  
 DIFFERENCING ON 2 - 1) 1 OF ORDER 1 2) 1 OF ORDER 12

TRANSFORMATIONS EXAMINED - NONE  
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UNIVARIATE MODEL PARAMETERS

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| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MOVING AVERAGE 1  | 1                  | .65273+00          |
| 2                   | MOVING AVERAGE 1  | 12                 | .43207+00          |
| 3                   | TREND CONSTANT    |                    | .18466+01          |

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NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE 1= 84

BACKCASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .5192901+03     | .6066273+03 | .6939646+03     |                  |
| 2             | .4472296+03     | .5396835+03 | .6321371+03     |                  |
| 3             | .4876456+03     | .5849472+03 | .6822486+03     |                  |
| 4             | .4965545+03     | .5964733+03 | .7003921+03     |                  |
| 5             | .5766419+03     | .6829777+03 | .7893136+03     |                  |
| 6             | .5909349+03     | .7015116+03 | .8120882+03     |                  |
| 7             | .5755338+03     | .6901945+03 | .8048552+03     |                  |
| 8             | .6159531+03     | .7345573+03 | .8531615+03     |                  |
| 9             | .5335426+03     | .6559634+03 | .7763841+03     |                  |
| 10            | .5024797+03     | .6286016+03 | .7547234+03     |                  |
| 11            | .5435970+03     | .6733144+03 | .8030318+03     |                  |
| 12            | .6025787+03     | .7357946+03 | .8690105+03     |                  |
| 13            | .5679129+03     | .7232696+03 | .8786242+03     |                  |
| 14            | .5011337+03     | .6561713+03 | .8152090+03     |                  |
| 15            | .5465798+03     | .7052817+03 | .8639836+03     |                  |
| 16            | .5603056+03     | .7206545+03 | .8810033+03     |                  |
| 17            | .6450265+03     | .8070056+03 | .9689846+03     |                  |
| 18            | .6637930+03     | .8273860+03 | .9909790+03     |                  |
| 19            | .6527245+03     | .8179156+03 | .9831068+03     |                  |
| 20            | .6973511+03     | .8641251+03 | .1030899+04     |                  |
| 21            | .6190356+03     | .7873776+03 | .9557198+03     |                  |
| 22            | .5919671+03     | .7618677+03 | .9317582+03     |                  |
| 23            | .6369671+03     | .8064221+03 | .9798570+03     |                  |
| 24            | .6997882+03     | .8727489+03 | .1045710+04     |                  |
| 25            | .6745193+03     | .8620696+03 | .1049620+04     |                  |
| 26            | .6106280+03     | .7988190+03 | .9870100+03     |                  |
| 27            | .6589464+03     | .8477760+03 | .1036606+04     |                  |
| 28            | .6755294+03     | .8649954+03 | .1054461+04     |                  |
| 29            | .7630929+03     | .9531932+03 | .1143293+04     |                  |
| 30            | .7846678+03     | .9754203+03 | .1166153+04     |                  |
| 31            | .7764340+03     | .9677965+03 | .1159159+04     |                  |
| 32            | .8238621+03     | .1015853+04 | .1207643+04     |                  |
| 33            | .7463355+03     | .9409520+03 | .1133569+04     |                  |
| 34            | .7240430+03     | .9172835+03 | .1110524+04     |                  |
| 35            | .7718272+03     | .9656896+03 | .1159552+04     |                  |
| 36            | .8373808+03     | .1031863+04 | .1226345+04     |                  |
| 37            | .8179362+03     | .1023030+04 | .1228425+04     |                  |
| 38            | .7563720+03     | .9616264+03 | .1166881+04     |                  |
| 39            | .8070155+03     | .1012430+04 | .1217845+04     |                  |
| 40            | .8259216+03     | .1031496+04 | .1237071+04     |                  |
| 41            | .9158061+03     | .1121541+04 | .1327275+04     |                  |
| 42            | .9397201+03     | .1145614+04 | .1351509+04     |                  |
| 43            | .9337834+03     | .1139837+04 | .1345891+04     |                  |
| 44            | .9835266+03     | .1169740+04 | .1395953+04     |                  |
| 45            | .9103132+03     | .1116686+04 | .1323059+04     |                  |
| 46            | .8863321+03     | .1094864+04 | .1301396+04     |                  |
| 47            | .9384257+03     | .1145117+04 | .1351808+04     |                  |
| 48            | .1006287+04     | .1213137+04 | .1419987+04     |                  |
| 49            | .9914010+03     | .1206151+04 | .1420901+04     |                  |
| 50            | .9318426+03     | .1146594+04 | .1361345+04     |                  |
| 51            | .9844918+03     | .1199244+04 | .1413996+04     |                  |
| 52            | .1005403+04     | .1220157+04 | .1434910+04     |                  |
| 53            | .1097293+04     | .1312046+04 | .1526802+04     |                  |
| 54            | .1123212+04     | .1337966+04 | .1552724+04     |                  |
| 55            | .1119281+04     | .1334038+04 | .1548795+04     |                  |
| 56            | .1171029+04     | .1385787+04 | .1600545+04     |                  |
| 57            | .1099621+04     | .1314520+04 | .1529339+04     |                  |
| 58            | .1079644+04     | .1294605+04 | .1509365+04     |                  |
| 59            | .1131943+04     | .1346774+04 | .1561465+04     |                  |
| 60            | .1201806+04     | .1416571+04 | .1631333+04     |                  |

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TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON STATEWIDE: VIOLENT CRIMES, NONWHITE

84 OBSERVATIONS

DIFFERENCING ON 2 - 1) 1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MOVING AVERAGE 1  | 1                  | .61025+00          |
| 2                   | TREND CONSTANT    |                    | .78294+00          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE 1- 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

130

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .9073362+02     | .1191516+03 | .1475699+03     |                  |
| 2             | .6943438+02     | .1199347+03 | .1504350+03     |                  |
| 3             | .8826647+02     | .1207177+03 | .1531666+03     |                  |
| 4             | .8721315+02     | .1215006+03 | .1557880+03     |                  |
| 5             | .8625149+02     | .1222835+03 | .1583156+03     |                  |
| 6             | .8537049+02     | .1230665+03 | .1607625+03     |                  |
| 7             | .8455989+02     | .1238494+03 | .1631389+03     |                  |
| 8             | .8361146+02     | .1246324+03 | .1654532+03     |                  |
| 9             | .8311843+02     | .1254153+03 | .1677122+03     |                  |
| 10            | .8247520+02     | .1261982+03 | .1699213+03     |                  |
| 11            | .8187704+02     | .1269812+03 | .1720853+03     |                  |
| 12            | .8131993+02     | .1277641+03 | .1742083+03     |                  |
| 13            | .8060042+02     | .1285471+03 | .1762937+03     |                  |
| 14            | .8031550+02     | .1293300+03 | .1783445+03     |                  |
| 15            | .7986256+02     | .1301129+03 | .1803633+03     |                  |
| 16            | .7943930+02     | .1308959+03 | .1823524+03     |                  |
| 17            | .7904367+02     | .1316788+03 | .1843139+03     |                  |
| 18            | .7867386+02     | .1324618+03 | .1862496+03     |                  |
| 19            | .7832824+02     | .1332447+03 | .1881611+03     |                  |
| 20            | .7800535+02     | .1340276+03 | .1900499+03     |                  |
| 21            | .7770387+02     | .1348106+03 | .1919173+03     |                  |
| 22            | .7742261+02     | .1355935+03 | .1937644+03     |                  |
| 23            | .7716047+02     | .1363764+03 | .1955924+03     |                  |
| 24            | .7691645+02     | .1371594+03 | .1974023+03     |                  |
| 25            | .7668965+02     | .1379423+03 | .1991956+03     |                  |
| 26            | .7647922+02     | .1387253+03 | .2009713+03     |                  |
| 27            | .7628446+02     | .1395082+03 | .2027320+03     |                  |
| 28            | .7610448+02     | .1402911+03 | .2044778+03     |                  |
| 29            | .7593879+02     | .1410741+03 | .2062094+03     |                  |
| 30            | .7578671+02     | .1418570+03 | .2079273+03     |                  |
| 31            | .7564769+02     | .1426400+03 | .2096323+03     |                  |
| 32            | .7552118+02     | .1434229+03 | .2113246+03     |                  |
| 33            | .7540669+02     | .1442058+03 | .2130050+03     |                  |
| 34            | .7530376+02     | .1449888+03 | .2146738+03     |                  |
| 35            | .7521195+02     | .1457717+03 | .2163315+03     |                  |
| 36            | .7513085+02     | .1465547+03 | .2179785+03     |                  |
| 37            | .7506008+02     | .1473376+03 | .2196151+03     |                  |
| 38            | .7499926+02     | .1481205+03 | .2212418+03     |                  |
| 39            | .7494610+02     | .1489035+03 | .2228586+03     |                  |
| 40            | .7490223+02     | .1496864+03 | .2244666+03     |                  |
| 41            | .7487335+02     | .1504694+03 | .2260654+03     |                  |
| 42            | .7484919+02     | .1512523+03 | .2276554+03     |                  |
| 43            | .7483346+02     | .1520352+03 | .2292376+03     |                  |
| 44            | .7482591+02     | .1528182+03 | .2308105+03     |                  |
| 45            | .7482630+02     | .1536011+03 | .2323760+03     |                  |
| 46            | .7483493+02     | .1543840+03 | .2339341+03     |                  |
| 47            | .7484993+02     | .1551670+03 | .2354841+03     |                  |
| 48            | .7487275+02     | .1559499+03 | .2370271+03     |                  |
| 49            | .7490263+02     | .1567329+03 | .2385631+03     |                  |
| 50            | .7493938+02     | .1575156+03 | .2400923+03     |                  |
| 51            | .7498281+02     | .1582986+03 | .2416147+03     |                  |
| 52            | .7503275+02     | .1590817+03 | .2431307+03     |                  |
| 53            | .7508902+02     | .1598646+03 | .2446403+03     |                  |
| 54            | .7515147+02     | .1606476+03 | .2461437+03     |                  |
| 55            | .7521994+02     | .1614305+03 | .2476411+03     |                  |
| 56            | .7529426+02     | .1622135+03 | .2491327+03     |                  |
| 57            | .7537436+02     | .1629964+03 | .2506185+03     |                  |
| 58            | .7546002+02     | .1637793+03 | .2520987+03     |                  |
| 59            | .7555115+02     | .1645623+03 | .2535734+03     |                  |
| 60            | .7564762+02     | .1653452+03 | .2550426+03     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #1: VIOLENT CRIME, OVER 18

84 OBSERVATIONS

DIFFERENCING ON "Z" - 1) 1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | AUTOREGRESSIVE 1  | 1                  | -.61247+00         |
| 2                   | AUTOREGRESSIVE 1  | 2                  | -.21766+00         |
| 3                   | TREND CONSTANT    |                    | .22890+01          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

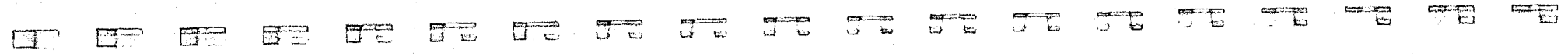
FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .1412572+03     | .1747811+03 | .2083050+03     |                  |
| 2             | .1431695+03     | .1791226+03 | .2150758+03     |                  |
| 3             | .1386889+03     | .1790179+03 | .2193469+03     |                  |
| 4             | .1356274+03     | .1804261+03 | .2252247+03     |                  |
| 5             | .1337434+03     | .1818754+03 | .2300074+03     |                  |
| 6             | .1314059+03     | .1829702+03 | .2345346+03     |                  |
| 7             | .1295367+03     | .1842732+03 | .2390098+03     |                  |
| 8             | .1278269+03     | .1855259+03 | .2432249+03     |                  |
| 9             | .1262178+03     | .1867641+03 | .2473104+03     |                  |
| 10            | .1247668+03     | .1880221+03 | .2512774+03     |                  |
| 11            | .1234181+03     | .1892711+03 | .2551242+03     |                  |
| 12            | .1221672+03     | .1905213+03 | .2588755+03     |                  |
| 13            | .1210071+03     | .1917728+03 | .2625384+03     |                  |
| 14            | .1199252+03     | .1930232+03 | .2661212+03     |                  |
| 15            | .1189157+03     | .1942740+03 | .2696323+03     |                  |
| 16            | .1179722+03     | .1955248+03 | .2730773+03     |                  |
| 17            | .1170889+03     | .1967755+03 | .2764620+03     |                  |
| 18            | .1162614+03     | .1980262+03 | .2797910+03     |                  |
| 19            | .1154854+03     | .1992770+03 | .2830685+03     |                  |
| 20            | .1147573+03     | .2005277+03 | .2862981+03     |                  |
| 21            | .1140738+03     | .2017784+03 | .2894831+03     |                  |
| 22            | .1134321+03     | .2030292+03 | .2926263+03     |                  |
| 23            | .1128295+03     | .2042799+03 | .2957303+03     |                  |
| 24            | .1122637+03     | .2055307+03 | .2987976+03     |                  |
| 25            | .1117327+03     | .2067814+03 | .3018301+03     |                  |
| 26            | .1112344+03     | .2080321+03 | .3048298+03     |                  |
| 27            | .1107672+03     | .2092829+03 | .3077985+03     |                  |
| 28            | .1103294+03     | .2105336+03 | .3107378+03     |                  |
| 29            | .1099197+03     | .2117843+03 | .3136490+03     |                  |
| 30            | .1095365+03     | .2130351+03 | .3165337+03     |                  |
| 31            | .1091788+03     | .2142858+03 | .3193929+03     |                  |
| 32            | .1088453+03     | .2155366+03 | .3222279+03     |                  |
| 33            | .1085350+03     | .2167873+03 | .3250397+03     |                  |
| 34            | .1082468+03     | .2180380+03 | .3278293+03     |                  |
| 35            | .1079800+03     | .2192888+03 | .3305976+03     |                  |
| 36            | .1077336+03     | .2205395+03 | .3333455+03     |                  |
| 37            | .1075067+03     | .2217903+03 | .3360738+03     |                  |
| 38            | .1072988+03     | .2230410+03 | .3387832+03     |                  |
| 39            | .1071090+03     | .2242917+03 | .3414745+03     |                  |
| 40            | .1069366+03     | .2255425+03 | .3441483+03     |                  |
| 41            | .1067812+03     | .2267932+03 | .3468052+03     |                  |
| 42            | .1066421+03     | .2280440+03 | .3494459+03     |                  |
| 43            | .1065186+03     | .2292947+03 | .3520708+03     |                  |
| 44            | .1064104+03     | .2305454+03 | .3546805+03     |                  |
| 45            | .1063169+03     | .2317962+03 | .3572754+03     |                  |
| 46            | .1062377+03     | .2330469+03 | .3598562+03     |                  |
| 47            | .1061723+03     | .2342977+03 | .3624231+03     |                  |
| 48            | .1061202+03     | .2355484+03 | .3649766+03     |                  |
| 49            | .1060811+03     | .2367991+03 | .3675172+03     |                  |
| 50            | .1060547+03     | .2380499+03 | .3700451+03     |                  |
| 51            | .1060404+03     | .2393006+03 | .3725608+03     |                  |
| 52            | .1060381+03     | .2405514+03 | .3750646+03     |                  |
| 53            | .1060473+03     | .2418021+03 | .3775569+03     |                  |
| 54            | .1060678+03     | .2430528+03 | .3800378+03     |                  |
| 55            | .1060993+03     | .2443036+03 | .3825079+03     |                  |
| 56            | .1061414+03     | .2455543+03 | .3849673+03     |                  |
| 57            | .1061939+03     | .2468051+03 | .3874163+03     |                  |
| 58            | .1062565+03     | .2480558+03 | .3898551+03     |                  |
| 59            | .1063290+03     | .2493065+03 | .3922841+03     |                  |
| 60            | .1064111+03     | .2505573+03 | .3947035+03     |                  |



TIME SERIES FORECASTING FOR MODEL 1

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DATA - Z = OREGON #1: VIOLENT CRIME, UNDER 18 84 OBSERVATIONS

DIFFERENCING ON Z - 1) 1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

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UNIVARIATE MODEL PARAMETERS

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| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MOVING AVERAGE 1  | 1                  | .81671+00          |
| 2                   | TREND CONSTANT    |                    | .87563-01          |

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NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .1217419+02     | .2713628+02 | .4209837+02     |                  |
| 2             | .1201250+02     | .2722384+02 | .4243518+02     |                  |
| 3             | .1185483+02     | .2731140+02 | .4275797+02     |                  |
| 4             | .1170100+02     | .2739896+02 | .4309693+02     |                  |
| 5             | .1155082+02     | .2748653+02 | .4342223+02     |                  |
| 6             | .1140414+02     | .2757409+02 | .4374404+02     |                  |
| 7             | .1126080+02     | .2766165+02 | .4406250+02     |                  |
| 8             | .1112067+02     | .2774921+02 | .4437776+02     |                  |
| 9             | .1098361+02     | .2783677+02 | .4468994+02     |                  |
| 10            | .1084951+02     | .2792434+02 | .4499917+02     |                  |
| 11            | .1071825+02     | .2801190+02 | .4530555+02     |                  |
| 12            | .1058972+02     | .2809946+02 | .4560920+02     |                  |
| 13            | .1046383+02     | .2818702+02 | .4591022+02     |                  |
| 14            | .1034047+02     | .2827459+02 | .4620870+02     |                  |
| 15            | .1021957+02     | .2836215+02 | .4650472+02     |                  |
| 16            | .1010104+02     | .2844971+02 | .4679838+02     |                  |
| 17            | .9984801+01     | .2853727+02 | .4708975+02     |                  |
| 18            | .9870773+01     | .2862484+02 | .4737890+02     |                  |
| 19            | .9758889+01     | .2871240+02 | .4766591+02     |                  |
| 20            | .9649082+01     | .2879996+02 | .4795084+02     |                  |
| 21            | .9541289+01     | .2888752+02 | .4823376+02     |                  |
| 22            | .9435446+01     | .2897508+02 | .4851472+02     |                  |
| 23            | .9331504+01     | .2906265+02 | .4879379+02     |                  |
| 24            | .9229400+01     | .2915021+02 | .4907102+02     |                  |
| 25            | .9129085+01     | .2923777+02 | .4934646+02     |                  |
| 26            | .9030509+01     | .2932533+02 | .4962016+02     |                  |
| 27            | .8933625+01     | .2941290+02 | .4989217+02     |                  |
| 28            | .8838388+01     | .2950046+02 | .5016253+02     |                  |
| 29            | .8744754+01     | .2958802+02 | .5043129+02     |                  |
| 30            | .8652681+01     | .2967558+02 | .5069849+02     |                  |
| 31            | .8562130+01     | .2976315+02 | .5096416+02     |                  |
| 32            | .8473063+01     | .2985071+02 | .5122835+02     |                  |
| 33            | .8385444+01     | .2993827+02 | .5149110+02     |                  |
| 34            | .8299237+01     | .3002583+02 | .5175243+02     |                  |
| 35            | .8214409+01     | .3011339+02 | .5201238+02     |                  |
| 36            | .8130928+01     | .3020096+02 | .5227099+02     |                  |
| 37            | .8048762+01     | .3028852+02 | .5252828+02     |                  |
| 38            | .7967881+01     | .3037608+02 | .5278428+02     |                  |
| 39            | .7888257+01     | .3046364+02 | .5303903+02     |                  |
| 40            | .7809863+01     | .3055121+02 | .5329255+02     |                  |
| 41            | .7732670+01     | .3063877+02 | .5354487+02     |                  |
| 42            | .7656654+01     | .3072633+02 | .5379601+02     |                  |
| 43            | .7581790+01     | .3081389+02 | .5404600+02     |                  |
| 44            | .7508054+01     | .3090146+02 | .5429486+02     |                  |
| 45            | .7435422+01     | .3098902+02 | .5454261+02     |                  |
| 46            | .7363873+01     | .3107658+02 | .5478929+02     |                  |
| 47            | .7293384+01     | .3116414+02 | .5503490+02     |                  |
| 48            | .7223934+01     | .3125170+02 | .5527948+02     |                  |
| 49            | .7155504+01     | .3133927+02 | .5552303+02     |                  |
| 50            | .7088074+01     | .3142683+02 | .5576558+02     |                  |
| 51            | .7021625+01     | .3151439+02 | .5600716+02     |                  |
| 52            | .6956138+01     | .3160195+02 | .5624777+02     |                  |
| 53            | .6891595+01     | .3168952+02 | .5648744+02     |                  |
| 54            | .6827980+01     | .3177708+02 | .5672618+02     |                  |
| 55            | .6765275+01     | .3186464+02 | .5696401+02     |                  |
| 56            | .6703465+01     | .3195220+02 | .5720094+02     |                  |
| 57            | .6642533+01     | .3203977+02 | .5743700+02     |                  |
| 58            | .6582465+01     | .3212733+02 | .5767219+02     |                  |
| 59            | .6523244+01     | .3221489+02 | .5790654+02     |                  |
| 60            | .6464857+01     | .3230245+02 | .5814005+02     |                  |

[illegible]

84 OBSERVATIONS

TRANSFORMATIONS EXAMINED - NONE

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
|---------------------|-------------------|--------------------|--------------------|

|   |                |           |
|---|----------------|-----------|
| 2 | TREND CONSTANT | .44074+00 |
|---|----------------|-----------|

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .5157218+02     | .7550869+02 | .9944519+02     |                  |
| 2             | .5074366+02     | .7594942+02 | .1011552+03     |                  |
| 3             | .4997606+02     | .7639016+02 | .1028043+03     |                  |
| 4             | .4926136+02     | .7683089+02 | .1044004+03     |                  |
| 5             | .4859318+02     | .7727163+02 | .1059501+03     |                  |
| 6             | .4796631+02     | .7771236+02 | .1074584+03     |                  |
| 7             | .4737646+02     | .7815310+02 | .1089297+03     |                  |
| 8             | .4682001+02     | .7859384+02 | .1103677+03     |                  |
| 9             | .4629392+02     | .7903457+02 | .1117752+03     |                  |
| 10            | .4579557+02     | .7947531+02 | .1131550+03     |                  |
| 11            | .4532271+02     | .7991604+02 | .1145094+03     |                  |
| 12            | .4487336+02     | .8035678+02 | .1158402+03     |                  |
| 13            | .4444580+02     | .8079751+02 | .1171492+03     |                  |
| 14            | .4403850+02     | .8123825+02 | .1184380+03     |                  |
| 15            | .4365010+02     | .8167899+02 | .1197079+03     |                  |
| 16            | .4327940+02     | .8211972+02 | .1209600+03     |                  |
| 17            | .4292531+02     | .8256046+02 | .1221956+03     |                  |
| 18            | .4258685+02     | .8300119+02 | .1234155+03     |                  |
| 19            | .4226314+02     | .8344193+02 | .1246207+03     |                  |
| 20            | .4195335+02     | .8388267+02 | .1258420+03     |                  |
| 21            | .4165677+02     | .8432340+02 | .1269900+03     |                  |
| 22            | .4137271+02     | .8476414+02 | .1281556+03     |                  |
| 23            | .4110056+02     | .8520487+02 | .1293092+03     |                  |
| 24            | .4083976+02     | .8564561+02 | .1304515+03     |                  |
| 25            | .4058977+02     | .8608634+02 | .1315829+03     |                  |
| 26            | .4035011+02     | .8652708+02 | .1327041+03     |                  |
| 27            | .4012033+02     | .8696782+02 | .1338153+03     |                  |
| 28            | .3990001+02     | .8740855+02 | .1349171+03     |                  |
| 29            | .3968877+02     | .8784929+02 | .1360098+03     |                  |
| 30            | .3948623+02     | .8829002+02 | .1370938+03     |                  |
| 31            | .3929207+02     | .8873076+02 | .1381695+03     |                  |
| 32            | .3910595+02     | .8917150+02 | .1392370+03     |                  |
| 33            | .3892759+02     | .8961223+02 | .1402969+03     |                  |
| 34            | .3875670+02     | .9005297+02 | .1413492+03     |                  |
| 35            | .3859301+02     | .9049370+02 | .1423944+03     |                  |
| 36            | .3843629+02     | .9093444+02 | .1434326+03     |                  |
| 37            | .3828629+02     | .9137517+02 | .1444641+03     |                  |
| 38            | .3814279+02     | .9181591+02 | .1454890+03     |                  |
| 39            | .3800558+02     | .9225665+02 | .1465077+03     |                  |
| 40            | .3787446+02     | .9269738+02 | .1475203+03     |                  |
| 41            | .3774925+02     | .9313812+02 | .1485270+03     |                  |
| 42            | .3762976+02     | .9357885+02 | .1495279+03     |                  |
| 43            | .3751582+02     | .9401959+02 | .1505234+03     |                  |
| 44            | .3740728+02     | .9446033+02 | .1515134+03     |                  |
| 45            | .3730398+02     | .9490106+02 | .1524981+03     |                  |
| 46            | .3720576+02     | .9534180+02 | .1534778+03     |                  |
| 47            | .3711250+02     | .9578253+02 | .1544526+03     |                  |
| 48            | .3702405+02     | .9622327+02 | .1554225+03     |                  |
| 49            | .3694030+02     | .9666400+02 | .1563877+03     |                  |
| 50            | .3686111+02     | .9710474+02 | .1573484+03     |                  |
| 51            | .3678636+02     | .9754548+02 | .1583046+03     |                  |
| 52            | .3671596+02     | .9798621+02 | .1592565+03     |                  |
| 53            | .3664978+02     | .9842695+02 | .1602041+03     |                  |
| 54            | .3658773+02     | .9886768+02 | .1611476+03     |                  |
| 55            | .3652971+02     | .9930842+02 | .1620871+03     |                  |
| 56            | .3647561+02     | .9974916+02 | .1630227+03     |                  |
| 57            | .3642536+02     | .1001899+03 | .1639544+03     |                  |
| 58            | .3637886+02     | .1006306+03 | .1648824+03     |                  |
| 59            | .3633603+02     | .1010714+03 | .1658067+03     |                  |
| 60            | .3629678+02     | .1015121+03 | .1667274+03     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #2: OVER EIGHTEEN VIOLENT CRIMES

84 OBSERVATIONS

DIFFERENCING ON Z-1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | AUTOREGRESSIVE 1  | 1                  | -.47362+00         |
| 2                   | AUTOREGRESSIVE 1  | 2                  | -.89232-01         |
| 3                   | AUTOREGRESSIVE 1  | 4                  | -.49058+00         |
| 4                   | TREND CONSTANT    |                    | .14344+01          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 94

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .6270189+02     | .8526307+02 | .1078243+03     |                  |
| 2             | .6078427+02     | .8628018+02 | .1117761+03     |                  |
| 3             | .5833574+02     | .8787807+02 | .1174204+03     |                  |
| 4             | .6392508+02     | .9660478+02 | .1296845+03     |                  |
| 5             | .5627707+02     | .8932452+02 | .1223720+03     |                  |
| 6             | .5716530+02     | .9300623+02 | .1288472+03     |                  |
| 7             | .5577452+02     | .9258053+02 | .1293866+03     |                  |
| 8             | .5129498+02     | .8950841+02 | .1277226+03     |                  |
| 9             | .5493710+02     | .9610571+02 | .1372743+03     |                  |
| 10            | .5102212+02     | .9288367+02 | .1347452+03     |                  |
| 11            | .5148150+02     | .9546431+02 | .1394471+03     |                  |
| 12            | .5226339+02     | .9747093+02 | .1426785+03     |                  |
| 13            | .4841436+02     | .9448043+02 | .1405625+03     |                  |
| 14            | .5067064+02     | .9873704+02 | .1468034+03     |                  |
| 15            | .4831887+02     | .9715939+02 | .1459999+03     |                  |
| 16            | .4765812+02     | .9797751+02 | .1482969+03     |                  |
| 17            | .4896899+02     | .1006284+03 | .1522878+03     |                  |
| 18            | .4617335+02     | .9865005+02 | .1511267+03     |                  |
| 19            | .4751995+02     | .1015589+03 | .1555978+03     |                  |
| 20            | .4649039+02     | .1013908+03 | .1562913+03     |                  |
| 21            | .4533608+02     | .1013448+03 | .1573536+03     |                  |
| 22            | .4652347+02     | .1037866+03 | .1610497+03     |                  |
| 23            | .4457973+02     | .1026417+03 | .1607036+03     |                  |
| 24            | .4515327+02     | .1044829+03 | .1638426+03     |                  |
| 25            | .4492052+02     | .1051700+03 | .1654195+03     |                  |
| 26            | .4373196+02     | .1049169+03 | .1661017+03     |                  |
| 27            | .4464610+02     | .1069716+03 | .1692970+03     |                  |
| 28            | .4342890+02     | .1065522+03 | .1696754+03     |                  |
| 29            | .4348115+02     | .1076648+03 | .1718485+03     |                  |
| 30            | .4362503+02     | .1087339+03 | .1738428+03     |                  |
| 31            | .4260118+02     | .1085547+03 | .1745083+03     |                  |
| 32            | .4320211+02     | .1101844+03 | .1771666+03     |                  |
| 33            | .4253477+02     | .1103171+03 | .1780995+03     |                  |
| 34            | .4231179+02     | .1110188+03 | .1797258+03     |                  |
| 35            | .4259075+02     | .1121970+03 | .1818032+03     |                  |
| 36            | .4181164+02     | .1122113+03 | .1826410+03     |                  |
| 37            | .4213914+02     | .1134687+03 | .1847983+03     |                  |
| 38            | .4183858+02     | .1139621+03 | .1860857+03     |                  |
| 39            | .4151344+02     | .1144777+03 | .1874319+03     |                  |
| 40            | .4179683+02     | .1156142+03 | .1894316+03     |                  |
| 41            | .4126657+02     | .1158456+03 | .1904247+03     |                  |
| 42            | .4139794+02     | .1168265+03 | .1922551+03     |                  |
| 43            | .4131831+02     | .1175253+03 | .1937322+03     |                  |
| 44            | .4099832+02     | .1179812+03 | .1949641+03     |                  |
| 45            | .4122868+02     | .1190239+03 | .1968190+03     |                  |
| 46            | .4090958+02     | .1194426+03 | .1979756+03     |                  |
| 47            | .4092308+02     | .1202429+03 | .1995627+03     |                  |
| 48            | .4096162+02     | .1210372+03 | .2011129+03     |                  |
| 49            | .4070283+02     | .1215125+03 | .2023223+03     |                  |
| 50            | .4086807+02     | .1224456+03 | .2040231+03     |                  |
| 51            | .4070908+02     | .1230031+03 | .2052971+03     |                  |
| 52            | .4066821+02     | .1237005+03 | .2067328+03     |                  |
| 53            | .4075996+02     | .1245217+03 | .2082835+03     |                  |
| 54            | .4058270+02     | .1250473+03 | .2095118+03     |                  |
| 55            | .4069374+02     | .1258860+03 | .2110783+03     |                  |
| 56            | .4064635+02     | .1265342+03 | .2124220+03     |                  |
| 57            | .4059557+02     | .1271839+03 | .2137723+03     |                  |
| 58            | .4070470+02     | .1279950+03 | .2152852+03     |                  |
| 59            | .4060801+02     | .1285758+03 | .2165436+03     |                  |
| 60            | .4068410+02     | .1293448+03 | .2180055+03     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #2: UNDER EIGHTEEN VIOLENT CRIMES 84 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMEER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
|---------------------|-------------------|--------------------|--------------------|

|   |      |  |           |
|---|------|--|-----------|
| 1 | MEAN |  | .11476*02 |
|---|------|--|-----------|

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 94

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA

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MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

PERIODS AHEAD LO. CONF. LIMIT FORECAST UP. CONF. LIMIT ACTUAL, IF KNOWN

|    |             |             |             |  |
|----|-------------|-------------|-------------|--|
| 1  | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 2  | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 3  | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 4  | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 5  | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 6  | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 7  | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 8  | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 9  | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 10 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 11 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 12 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 13 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 14 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 15 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 16 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 17 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 18 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 19 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 20 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 21 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 22 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 23 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 24 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 25 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 26 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 27 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 28 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 29 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 30 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 31 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 32 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 33 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 34 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 35 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 36 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 37 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 38 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 39 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 40 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 41 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 42 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 43 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 44 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 45 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 46 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 47 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 48 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 49 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 50 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 51 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 52 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 53 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 54 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 55 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 56 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 57 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 58 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 59 | .3041927+01 | .1147619+02 | .1991045+02 |  |
| 60 | .3041927+01 | .1147619+02 | .1991045+02 |  |

TIME SERIES FORECASTING FOR MODEL 1

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DATA - Z = OREGON #2: NATIVES ARRESTED FOR VIOLENT CRIMES 84 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

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UNIVARIATE MODEL PARAMETERS

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| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .48308+01          |
| 2                   | AUTOREGRESSIVE 1  | 1                  | .26578+00          |
| 3                   | AUTOREGRESSIVE 1  | 2                  | .33348+00          |
| 4                   | AUTOREGRESSIVE 1  | 8                  | .38960+00          |
| 5                   | AUTOREGRESSIVE 1  | 12                 | -.93387-01         |

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NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .1371016+01     | .5177671+01 | .8984185+01     |                  |
| 2             | .2646370+01     | .6585106+01 | .1052384+02     |                  |
| 3             | .3369097+01     | .7597580+01 | .1182606+02     |                  |
| 4             | .2016912+01     | .6310737+01 | .1060456+02     |                  |
| 5             | .4275536+01     | .8627885+01 | .1298023+02     |                  |
| 6             | .2508345+01     | .6882669+01 | .1125699+02     |                  |
| 7             | .2226591+01     | .6615184+01 | .1100378+02     |                  |
| 8             | .2330086+01     | .6725237+01 | .1112039+02     |                  |
| 9             | .7884912+00     | .5488354+01 | .1018822+02     |                  |
| 10            | .1329801+01     | .6118221+01 | .1090664+02     |                  |
| 11            | .1372637+01     | .6360991+01 | .1134934+02     |                  |
| 12            | .9594207+00     | .6040828+01 | .1112224+02     |                  |
| 13            | .1987431+01     | .7109632+01 | .1223183+02     |                  |
| 14            | .1321696+01     | .6475560+01 | .1162942+02     |                  |
| 15            | .1298219+01     | .6464701+01 | .1163118+02     |                  |
| 16            | .1237643+01     | .6413414+01 | .1158918+02     |                  |
| 17            | .4629446+00     | .5697887+01 | .1093283+02     |                  |
| 18            | .6264855+00     | .5898984+01 | .1117148+02     |                  |
| 19            | .4776763+00     | .5833378+01 | .1118908+02     |                  |
| 20            | .3307644+00     | .5747993+01 | .1116522+02     |                  |
| 21            | .7820673+00     | .6235330+01 | .1168859+02     |                  |
| 22            | .5470895+00     | .6030527+01 | .1151396+02     |                  |
| 23            | .6157080+00     | .6111710+01 | .1160771+02     |                  |
| 24            | .5695589+00     | .6074907+01 | .1158025+02     |                  |
| 25            | .1895342+00     | .5713620+01 | .1123771+02     |                  |
| 26            | .2029140+00     | .5742885+01 | .1128286+02     |                  |
| 27            | .3372979+01     | .5605635+01 | .1117154+02     |                  |
| 28            | .5223382+01     | .5550440+01 | .1115311+02     |                  |
| 29            | .1194639+00     | .5746685+01 | .1137391+02     |                  |
| 30            | .3245491+01     | .5681866+01 | .1133128+02     |                  |
| 31            | .1066527+00     | .5767838+01 | .1142902+02     |                  |
| 32            | .9289235+01     | .5762707+01 | .1143252+02     |                  |
| 33            | .7528740+01     | .5603747+01 | .1128278+02     |                  |
| 34            | .9663421+01     | .5590315+01 | .1127726+02     |                  |
| 35            | .2272836+00     | .5472681+01 | .1117265+02     |                  |
| 36            | .2951713+00     | .5418871+01 | .1113291+02     |                  |
| 37            | .2522821+00     | .5475536+01 | .1120335+02     |                  |
| 38            | .2967516+00     | .5444665+01 | .1118608+02     |                  |
| 39            | .2488773+00     | .5501669+01 | .1125221+02     |                  |
| 40            | .2479172+00     | .5509680+01 | .1126728+02     |                  |
| 41            | .3129349+00     | .5450562+01 | .1121406+02     |                  |
| 42            | .3299210+00     | .5438341+01 | .1120660+02     |                  |
| 43            | .4128329+00     | .5361521+01 | .1113587+02     |                  |
| 44            | .4643847+00     | .5316543+01 | .1109747+02     |                  |
| 45            | .4721134+00     | .5315891+01 | .1110390+02     |                  |
| 46            | .5055111+00     | .5289946+01 | .1108540+02     |                  |
| 47            | .4854289+00     | .5316027+01 | .1111748+02     |                  |
| 48            | .4840327+00     | .5322453+01 | .1112894+02     |                  |
| 49            | .5059924+00     | .5304535+01 | .1111506+02     |                  |
| 50            | .5136817+00     | .5300037+01 | .1111376+02     |                  |
| 51            | .5594249+00     | .5257614+01 | .1107465+02     |                  |
| 52            | .5938141+00     | .5226568+01 | .1104695+02     |                  |
| 53            | .6145579+00     | .5209436+01 | .1103343+02     |                  |
| 54            | .6423200+00     | .5185562+01 | .1101344+02     |                  |
| 55            | .6405762+00     | .5190839+01 | .1102225+02     |                  |
| 56            | .6436350+00     | .5190984+01 | .1102560+02     |                  |
| 57            | .6514337+00     | .5185862+01 | .1102316+02     |                  |
| 58            | .6542425+00     | .5185220+01 | .1102468+02     |                  |
| 59            | .6770926+00     | .5164378+01 | .1100585+02     |                  |
| 60            | .6974168+00     | .5145928+01 | .1098927+02     |                  |

TIME SERIES FORECASTING FOR MODEL 1

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DATA - Z = OREGON #3: VIOLENT CRIME, OVER 18 84 OBSERVATIONS

DIFFERENCING ON Z - 1) 1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

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UNIVARIATE MODEL PARAMETERS

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| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
|---------------------|-------------------|--------------------|--------------------|

\*\*\*\*\*

|   |                  |   |            |
|---|------------------|---|------------|
| 1 | AUTOREGRESSIVE 1 | 1 | -.43966+00 |
|---|------------------|---|------------|

|   |                  |   |            |
|---|------------------|---|------------|
| 2 | AUTOREGRESSIVE 1 | 2 | -.38592+00 |
|---|------------------|---|------------|

|   |                  |   |            |
|---|------------------|---|------------|
| 3 | AUTOREGRESSIVE 1 | 5 | -.11970+00 |
|---|------------------|---|------------|

|   |                |  |           |
|---|----------------|--|-----------|
| 4 | TREND CONSTANT |  | .18349+01 |
|---|----------------|--|-----------|

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NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .7462039+02     | .9951875+02 | .1244171+03     |                  |
| 2             | .7750495+02     | .1060456+03 | .1345863+03     |                  |
| 3             | .7342789+02     | .1034012+03 | .1333744+03     |                  |
| 4             | .7193664+02     | .1056753+03 | .1394140+03     |                  |
| 5             | .6994862+02     | .1066930+03 | .1434374+03     |                  |
| 6             | .6929746+02     | .1072604+03 | .1452234+03     |                  |
| 7             | .6740791+02     | .1076719+03 | .1479358+03     |                  |
| 8             | .6672168+02     | .1094234+03 | .1521252+03     |                  |
| 9             | .6580426+02     | .1100572+03 | .1543102+03     |                  |
| 10            | .6481443+02     | .1108157+03 | .1568169+03     |                  |
| 11            | .6399193+02     | .1120046+03 | .1600473+03     |                  |
| 12            | .6338707+02     | .1129748+03 | .1625626+03     |                  |
| 13            | .6259084+02     | .1137147+03 | .1648385+03     |                  |
| 14            | .6195983+02     | .1147740+03 | .1675881+03     |                  |
| 15            | .6143145+02     | .1157668+03 | .1701022+03     |                  |
| 16            | .6085406+02     | .1166141+03 | .1723741+03     |                  |
| 17            | .6032612+02     | .1175772+03 | .1748282+03     |                  |
| 18            | .5989347+02     | .1185731+03 | .1772527+03     |                  |
| 19            | .5944522+02     | .1194716+03 | .1794981+03     |                  |
| 20            | .5902300+02     | .1204083+03 | .1817936+03     |                  |
| 21            | .5866276+02     | .1213832+03 | .1841036+03     |                  |
| 22            | .5831383+02     | .1223127+03 | .1863116+03     |                  |
| 23            | .5797828+02     | .1232435+03 | .1885087+03     |                  |
| 24            | .5768513+02     | .1242029+03 | .1907206+03     |                  |
| 25            | .5741131+02     | .1251446+03 | .1928780+03     |                  |
| 26            | .5714956+02     | .1260785+03 | .1950075+03     |                  |
| 27            | .5691624+02     | .1270281+03 | .1971400+03     |                  |
| 28            | .5670383+02     | .1279737+03 | .1992436+03     |                  |
| 29            | .5650392+02     | .1289116+03 | .2013492+03     |                  |
| 30            | .5632442+02     | .1298565+03 | .2033885+03     |                  |
| 31            | .5616405+02     | .1308022+03 | .2054403+03     |                  |
| 32            | .5601672+02     | .1317430+03 | .2074692+03     |                  |
| 33            | .5588525+02     | .1326861+03 | .2094869+03     |                  |
| 34            | .5577035+02     | .1336310+03 | .2114916+03     |                  |
| 35            | .5566836+02     | .1345734+03 | .2134784+03     |                  |
| 36            | .5557968+02     | .1355161+03 | .2154524+03     |                  |
| 37            | .5550519+02     | .1364602+03 | .2174152+03     |                  |
| 38            | .5544295+02     | .1374033+03 | .2193636+03     |                  |
| 39            | .5539246+02     | .1383461+03 | .2212997+03     |                  |
| 40            | .5535424+02     | .1392897+03 | .2232252+03     |                  |
| 41            | .5532735+02     | .1402330+03 | .2251387+03     |                  |
| 42            | .5531110+02     | .1411760+03 | .2270409+03     |                  |
| 43            | .5530565+02     | .1421194+03 | .2289131+03     |                  |
| 44            | .5531055+02     | .1430627+03 | .2308149+03     |                  |
| 45            | .5532519+02     | .1440059+03 | .2326865+03     |                  |
| 46            | .5534951+02     | .1449491+03 | .2345487+03     |                  |
| 47            | .5538325+02     | .1458925+03 | .2364017+03     |                  |
| 48            | .5542595+02     | .1468357+03 | .2382454+03     |                  |
| 49            | .5547743+02     | .1477789+03 | .2400803+03     |                  |
| 50            | .5553750+02     | .1487222+03 | .2419069+03     |                  |
| 51            | .5560584+02     | .1496654+03 | .2437250+03     |                  |
| 52            | .5568222+02     | .1506087+03 | .2455351+03     |                  |
| 53            | .5576647+02     | .1515519+03 | .2473374+03     |                  |
| 54            | .5585836+02     | .1524952+03 | .2491320+03     |                  |
| 55            | .5595766+02     | .1534384+03 | .2509192+03     |                  |
| 56            | .5606422+02     | .1543817+03 | .2526991+03     |                  |
| 57            | .5617785+02     | .1553249+03 | .2544720+03     |                  |
| 58            | .5629834+02     | .1562682+03 | .2562380+03     |                  |
| 59            | .5642556+02     | .1572114+03 | .2579973+03     |                  |
| 60            | .5655934+02     | .1581547+03 | .2597501+03     |                  |

TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #3: VIOLENT CRIME, UNDER 18 84 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .11357+02          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE 1= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 2             | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 3             | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 4             | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 5             | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 6             | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 7             | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 8             | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 9             | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 10            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 11            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 12            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 13            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 14            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 15            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 16            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 17            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 18            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 19            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 20            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 21            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 22            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 23            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 24            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 25            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 26            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 27            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 28            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 29            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 30            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 31            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 32            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 33            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 34            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 35            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 36            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 37            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 38            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 39            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 40            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 41            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 42            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 43            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 44            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 45            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 46            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 47            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 48            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 49            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 50            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 51            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 52            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 53            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 54            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 55            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 56            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 57            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 58            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 59            | .5502683+00     | .1135714+02 | .2216402+02     |                  |
| 60            | .5502683+00     | .1135714+02 | .2216402+02     |                  |

56 .2191925-02  
57 .1997480-02

TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #3: VIOLENT CRIME, NONWHITE 84 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
|---------------------|-------------------|--------------------|--------------------|

|   |      |  |           |
|---|------|--|-----------|
| 1 | MEAN |  | .76622*01 |
|---|------|--|-----------|

|   |                  |   |           |
|---|------------------|---|-----------|
| 2 | AUTOREGRESSIVE 1 | 1 | .30888*00 |
|---|------------------|---|-----------|

|   |                  |   |           |
|---|------------------|---|-----------|
| 3 | AUTOREGRESSIVE 1 | 2 | .19561*00 |
|---|------------------|---|-----------|

|   |                  |   |           |
|---|------------------|---|-----------|
| 4 | AUTOREGRESSIVE 1 | 4 | .29346*00 |
|---|------------------|---|-----------|

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .5173483+01     | .1414552+02 | .2311756+02     |                  |
| 2             | .3569382+01     | .1295966+02 | .2234997+02     |                  |
| 3             | .6256065+00     | .1037234+02 | .2011887+02     |                  |
| 4             | .4490559+01     | .1432995+02 | .2416933+02     |                  |
| 5             | .1690759+01     | .1215443+02 | .2261810+02     |                  |
| 6             | .1220910+01     | .1190859+02 | .2259627+02     |                  |
| 7             | -.2509901+00    | .1064784+02 | .2154667+02     |                  |
| 8             | .3727221+00     | .1137171+02 | .2237070+02     |                  |
| 9             | -.4550039+00    | .1071027+02 | .2187555+02     |                  |
| 10            | -.6930438+00    | .1057542+02 | .2184388+02     |                  |
| 11            | -.1329789+01    | .1003441+02 | .2139861+02     |                  |
| 12            | -.1372662+01    | .1005335+02 | .2147935+02     |                  |
| 13            | -.1731466+01    | .9759268+01 | .2125000+02     |                  |
| 14            | -.1906485+01    | .9632563+01 | .2117161+02     |                  |
| 15            | -.2204815+01    | .9377140+01 | .2095909+02     |                  |
| 16            | -.2334991+01    | .9279017+01 | .2089303+02     |                  |
| 17            | -.2530372+01    | .9112448+01 | .2075527+02     |                  |
| 18            | -.2661126+01    | .9004622+01 | .2067037+02     |                  |
| 19            | -.2821667+01    | .8863779+01 | .2054923+02     |                  |
| 20            | -.2930735+01    | .8770389+01 | .2047151+02     |                  |
| 21            | -.3049401+01    | .8665113+01 | .2037963+02     |                  |
| 22            | -.3142748+01    | .8582685+01 | .2030812+02     |                  |
| 23            | -.3239342+01    | .8495300+01 | .2022994+02     |                  |
| 24            | -.3317385+01    | .8424780+01 | .2016694+02     |                  |
| 25            | -.3393466+01    | .8355010+01 | .2010349+02     |                  |
| 26            | -.3458200+01    | .8295476+01 | .2004915+02     |                  |
| 27            | -.3520226+01    | .8237797+01 | .1999582+02     |                  |
| 28            | -.3573969+01    | .8187641+01 | .1994925+02     |                  |
| 29            | -.3624209+01    | .8140391+01 | .1990499+02     |                  |
| 30            | -.3668560+01    | .8098516+01 | .1986559+02     |                  |
| 31            | -.3709724+01    | .8059412+01 | .1982855+02     |                  |
| 32            | -.3746419+01    | .8024424+01 | .1979527+02     |                  |
| 33            | -.3780161+01    | .7992103+01 | .1976437+02     |                  |
| 34            | -.3810454+01    | .7962987+01 | .1973643+02     |                  |
| 35            | -.3838224+01    | .7936196+01 | .1971062+02     |                  |
| 36            | -.3863274+01    | .7911958+01 | .1968719+02     |                  |
| 37            | -.3886161+01    | .7889746+01 | .1966565+02     |                  |
| 38            | -.3906867+01    | .7869600+01 | .1964607+02     |                  |
| 39            | -.3925762+01    | .7851170+01 | .1962810+02     |                  |
| 40            | -.3942894+01    | .7834424+01 | .1961174+02     |                  |
| 41            | -.3958511+01    | .7819128+01 | .1959677+02     |                  |
| 42            | -.3972690+01    | .7805216+01 | .1958312+02     |                  |
| 43            | -.3985608+01    | .7792518+01 | .1957065+02     |                  |
| 44            | -.3997350+01    | .7780961+01 | .1955927+02     |                  |
| 45            | -.4008044+01    | .7770419+01 | .1954888+02     |                  |
| 46            | -.4017771+01    | .7760819+01 | .1953941+02     |                  |
| 47            | -.4026629+01    | .7752066+01 | .1953076+02     |                  |
| 48            | -.4034690+01    | .7744092+01 | .1952287+02     |                  |
| 49            | -.4042031+01    | .7736824+01 | .1951568+02     |                  |
| 50            | -.4048713+01    | .7730202+01 | .1950912+02     |                  |
| 51            | -.4054799+01    | .7724166+01 | .1950313+02     |                  |
| 52            | -.4060340+01    | .7718667+01 | .1949767+02     |                  |
| 53            | -.4065387+01    | .7713654+01 | .1949270+02     |                  |
| 54            | -.4069983+01    | .7709087+01 | .1948816+02     |                  |
| 55            | -.4074169+01    | .7704925+01 | .1948402+02     |                  |
| 56            | -.4077981+01    | .7701132+01 | .1948024+02     |                  |
| 57            | -.4081455+01    | .7697675+01 | .1947680+02     |                  |
| 58            | -.4084618+01    | .7694525+01 | .1947367+02     |                  |
| 59            | -.4087500+01    | .7691655+01 | .1947081+02     |                  |
| 60            | -.4090125+01    | .7689039+01 | .1946820+02     |                  |

TIME SERIES FORECASTING FOR MODEL 1

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DATA - Z = OREGON #4: VIOLENT CRIME, OVER 18 84 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

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UNIVARIATE MODEL PARAMETERS

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| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .31119+02          |
| 2                   | AUTOREGRESSIVE 1  | 4                  | -.22131+00         |
| 3                   | AUTOREGRESSIVE 1  | 5                  | .31016+00          |

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NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

140.

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .1561277+02     | .3057730+02 | .4554483+02     |                  |
| 2             | .1468395+02     | .2964848+02 | .4461301+02     |                  |
| 3             | .2039596+02     | .3536049+02 | .5032502+02     |                  |
| 4             | .9458152+01     | .2442268+02 | .3938721+02     |                  |
| 5             | .2176874+02     | .3709534+02 | .5242495+02     |                  |
| 6             | .1526279+02     | .3127676+02 | .4729073+02     |                  |
| 7             | .1371061+02     | .2972458+02 | .4573855+02     |                  |
| 8             | .1790284+02     | .3391681+02 | .4993078+02     |                  |
| 9             | .1166908+02     | .2771981+02 | .4375055+02     |                  |
| 10            | .1677622+02     | .3293805+02 | .4909987+02     |                  |
| 11            | .1525105+02     | .3147687+02 | .4770268+02     |                  |
| 12            | .1384186+02     | .3006768+02 | .4629349+02     |                  |
| 13            | .1651274+02     | .3273937+02 | .4896599+02     |                  |
| 14            | .1342154+02     | .2966249+02 | .4590343+02     |                  |
| 15            | .1533529+02     | .3160434+02 | .4787338+02     |                  |
| 16            | .1518783+02     | .3146300+02 | .4773817+02     |                  |
| 17            | .1415945+02     | .3043467+02 | .4670988+02     |                  |
| 18            | .1566779+02     | .3194425+02 | .4822070+02     |                  |
| 19            | .1427823+02     | .3056018+02 | .4684213+02     |                  |
| 20            | .1490699+02     | .3119374+02 | .4748049+02     |                  |
| 21            | .1509021+02     | .3137748+02 | .4766475+02     |                  |
| 22            | .1443709+02     | .3072446+02 | .4701182+02     |                  |
| 23            | .1521085+02     | .3149897+02 | .4778708+02     |                  |
| 24            | .1463989+02     | .3092948+02 | .4721906+02     |                  |
| 25            | .1479503+02     | .3108532+02 | .4737561+02     |                  |
| 26            | .1499652+02     | .3128683+02 | .4757714+02     |                  |
| 27            | .1462249+02     | .3091288+02 | .4720327+02     |                  |
| 28            | .1498845+02     | .3127913+02 | .4756982+02     |                  |
| 29            | .1477702+02     | .3106801+02 | .4735901+02     |                  |
| 30            | .1478067+02     | .3107175+02 | .4736284+02     |                  |
| 31            | .1492593+02     | .3121701+02 | .4750809+02     |                  |
| 32            | .1472885+02     | .3101997+02 | .4731410+02     |                  |
| 33            | .1488908+02     | .3118029+02 | .4747450+02     |                  |
| 34            | .1482271+02     | .3111398+02 | .4740525+02     |                  |
| 35            | .1479172+02     | .3108300+02 | .4737427+02     |                  |
| 36            | .1488038+02     | .3117165+02 | .4746293+02     |                  |
| 37            | .1478377+02     | .3107506+02 | .4736636+02     |                  |
| 38            | .1484815+02     | .3113946+02 | .4743078+02     |                  |
| 39            | .1483443+02     | .3112575+02 | .4741708+02     |                  |
| 40            | .1480520+02     | .3109652+02 | .4738785+02     |                  |
| 41            | .1485407+02     | .3114540+02 | .4743672+02     |                  |
| 42            | .1480985+02     | .3110118+02 | .4739252+02     |                  |
| 43            | .1483286+02     | .3112419+02 | .4741553+02     |                  |
| 44            | .1483507+02     | .3112641+02 | .4741275+02     |                  |
| 45            | .1481519+02     | .3110653+02 | .4739786+02     |                  |
| 46            | .1484013+02     | .3113147+02 | .4742281+02     |                  |
| 47            | .1482133+02     | .3111267+02 | .4740400+02     |                  |
| 48            | .1482797+02     | .3111931+02 | .4741065+02     |                  |
| 49            | .1483306+02     | .3112440+02 | .4741574+02     |                  |
| 50            | .1482137+02     | .3111271+02 | .4740405+02     |                  |
| 51            | .1483327+02     | .3112461+02 | .4741595+02     |                  |
| 52            | .1482597+02     | .3111731+02 | .4740865+02     |                  |
| 53            | .1482690+02     | .3111824+02 | .4740958+02     |                  |
| 54            | .1483107+02     | .3112241+02 | .4741375+02     |                  |
| 55            | .1482481+02     | .3111615+02 | .4740749+02     |                  |
| 56            | .1483012+02     | .3112146+02 | .4741279+02     |                  |
| 57            | .1482764+02     | .3111898+02 | .4741032+02     |                  |
| 58            | .1482701+02     | .3111835+02 | .4740969+02     |                  |
| 59            | .1482969+02     | .3112103+02 | .4741237+02     |                  |
| 60            | .1482657+02     | .3111791+02 | .4740925+02     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #4: VIOLENT CRIME, UNDER 18

84 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .58906*01          |
| 2                   | AUTOREGRESSIVE 1  | 11                 | -.29558*00         |
| 3                   | AUTOREGRESSIVE 1  | 12                 | -.19285*00         |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

**CONTINUED**

**3 OF 5**

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA

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MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .9599379+00     | .4179358+01 | .9318654+01     |                  |
| 2             | .1759270+00     | .4963369+01 | .1010267+02     |                  |
| 3             | .8009361+00     | .5940232+01 | .1107953+02     |                  |
| 4             | .8910611+00     | .6030357+01 | .1116965+02     |                  |
| 5             | .9937883+00     | .6133084+01 | .1127238+02     |                  |
| 6             | .2912562+00     | .4848040+01 | .9987336+01     |                  |
| 7             | .3687792+00     | .4770517+01 | .9909813+01     |                  |
| 8             | .1392095+01     | .6531391+01 | .1167069+02     |                  |
| 9             | .1276766+01     | .6416062+01 | .1155536+02     |                  |
| 10            | .9937883+00     | .6133084+01 | .1127238+02     |                  |
| 11            | .1482220+01     | .6621516+01 | .1176081+02     |                  |
| 12            | .1402255+01     | .6761354+01 | .1212045+02     |                  |
| 13            | .1045048+01     | .6495027+01 | .1194501+02     |                  |
| 14            | .6051092+00     | .6055088+01 | .1150507+02     |                  |
| 15            | .3900800+00     | .5840059+01 | .1129004+02     |                  |
| 16            | .3423352+00     | .5792314+01 | .1124229+02     |                  |
| 17            | .7023566+00     | .6152335+01 | .1160231+02     |                  |
| 18            | .9730944+00     | .6423073+01 | .1187305+02     |                  |
| 19            | .4675669+00     | .5917545+01 | .1136752+02     |                  |
| 20            | .1620675+00     | .5612046+01 | .1106202+02     |                  |
| 21            | .2679512+00     | .5717930+01 | .1116791+02     |                  |
| 22            | .1781537+00     | .5628132+01 | .1107811+02     |                  |
| 23            | .2416066+01     | .5492604+01 | .1096105+02     |                  |
| 24            | .4461455+01     | .5544357+01 | .1104410+02     |                  |
| 25            | .2226926+00     | .5725755+01 | .1122882+02     |                  |
| 26            | .3710940+00     | .5874157+01 | .1137722+02     |                  |
| 27            | .4266752+00     | .5929738+01 | .1143280+02     |                  |
| 28            | .3294681+00     | .5832531+01 | .1133559+02     |                  |
| 29            | .1800126+00     | .5683075+01 | .1118614+02     |                  |
| 30            | .2772237+00     | .5780286+01 | .1128335+02     |                  |
| 31            | .4650151+00     | .5968078+01 | .1147414+02     |                  |
| 32            | .4926343+00     | .5995697+01 | .1149876+02     |                  |
| 33            | .4987566+00     | .6001819+01 | .1150988+02     |                  |
| 34            | .5545335+00     | .6059196+01 | .1156386+02     |                  |
| 35            | .5592473+00     | .6070036+01 | .1158083+02     |                  |
| 36            | .4930431+00     | .6006438+01 | .1151983+02     |                  |
| 37            | .4140723+00     | .5927590+01 | .1144111+02     |                  |
| 38            | .3690242+00     | .5862542+01 | .1139606+02     |                  |
| 39            | .3870376+00     | .5900556+01 | .1141407+02     |                  |
| 40            | .4499602+00     | .5963478+01 | .1147700+02     |                  |
| 41            | .4500493+00     | .5963567+01 | .1147709+02     |                  |
| 42            | .3757948+00     | .5889313+01 | .1140283+02     |                  |
| 43            | .3314151+00     | .5844933+01 | .1135845+02     |                  |
| 44            | .3242791+00     | .5837797+01 | .1135132+02     |                  |
| 45            | .3059993+00     | .5819657+01 | .1133331+02     |                  |
| 46            | .2907796+00     | .5805388+01 | .1132000+02     |                  |
| 47            | .3065773+00     | .5822096+01 | .1133761+02     |                  |
| 48            | .3449759+00     | .5857666+01 | .1137336+02     |                  |
| 49            | .3704926+00     | .5886188+01 | .1140188+02     |                  |
| 50            | .3738558+00     | .5889551+01 | .1140525+02     |                  |
| 51            | .3517833+00     | .5867476+01 | .1138317+02     |                  |
| 52            | .3396221+00     | .5855317+01 | .1137101+02     |                  |
| 53            | .3615531+00     | .5877248+01 | .1139294+02     |                  |
| 54            | .3889909+00     | .5904686+01 | .1142038+02     |                  |
| 55            | .3996589+00     | .5915354+01 | .1143105+02     |                  |
| 56            | .4067848+00     | .5922092+01 | .1143780+02     |                  |
| 57            | .4139711+00     | .5929808+01 | .1144564+02     |                  |
| 58            | .4115637+00     | .5927621+01 | .1144368+02     |                  |
| 59            | .3977336+00     | .5913885+01 | .1143004+02     |                  |
| 60            | .3824334+00     | .5898595+01 | .1141476+02     |                  |

TIME SERIES FORECASTING FOR MODEL 1

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DATA - Z = OREGON #9: VIOLENT CRIME, NONWHITE 84 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

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UNIVARIATE MODEL PARAMETERS

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| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
|---------------------|-------------------|--------------------|--------------------|

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|   |      |  |           |
|---|------|--|-----------|
| 1 | MEAN |  | .13214+01 |
|---|------|--|-----------|

\*\*\*\*\*

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 2             | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 3             | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 4             | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 5             | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 6             | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 7             | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 8             | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 9             | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 10            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 11            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 12            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 13            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 14            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 15            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 16            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 17            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 18            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 19            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 20            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 21            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 22            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 23            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 24            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 25            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 26            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 27            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 28            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 29            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 30            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 31            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 32            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 33            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 34            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 35            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 36            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 37            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 38            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 39            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 40            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 41            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 42            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 43            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 44            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 45            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 46            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 47            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 48            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 49            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 50            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 51            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 52            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 53            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 54            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 55            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 56            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 57            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 58            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 59            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |
| 60            | -.1263107+01    | .1321428+01 | .3905963+01     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

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DATA - Z = OREGON #5: VIOLENT CRIME, OVEP 18 84 OBSERVATIONS

DIFFERENCING ON Z - 1) 1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

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## UNIVARIATE MODEL PARAMETERS

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| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
|---------------------|-------------------|--------------------|--------------------|

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|   |                  |   |           |
|---|------------------|---|-----------|
| 1 | MOVING AVERAGE 1 | 1 | .87204+00 |
|---|------------------|---|-----------|

|   |                |  |           |
|---|----------------|--|-----------|
| 2 | TREND CONSTANT |  | .24931+00 |
|---|----------------|--|-----------|

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NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS.

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .2605196+02     | .4367066+02 | .6128941+02     |                  |
| 2             | .2615760+02     | .4391999+02 | .6168238+02     |                  |
| 3             | .2626440+02     | .4416930+02 | .6207420+02     |                  |
| 4             | .2637232+02     | .4441661+02 | .6246490+02     |                  |
| 5             | .2648134+02     | .4466792+02 | .6285449+02     |                  |
| 6             | .2659144+02     | .4491723+02 | .6324302+02     |                  |
| 7             | .2670258+02     | .4516653+02 | .6363049+02     |                  |
| 8             | .2681475+02     | .4541584+02 | .6401693+02     |                  |
| 9             | .2692793+02     | .4566515+02 | .6440238+02     |                  |
| 10            | .2704208+02     | .4591446+02 | .6478684+02     |                  |
| 11            | .2715720+02     | .4616377+02 | .6517034+02     |                  |
| 12            | .2727326+02     | .4641308+02 | .6555290+02     |                  |
| 13            | .2739024+02     | .4666239+02 | .6593454+02     |                  |
| 14            | .2750812+02     | .4691169+02 | .6631527+02     |                  |
| 15            | .2762688+02     | .4716100+02 | .6669512+02     |                  |
| 16            | .2774652+02     | .4741031+02 | .6707411+02     |                  |
| 17            | .2786700+02     | .4765962+02 | .6745224+02     |                  |
| 18            | .2798832+02     | .4790893+02 | .6782954+02     |                  |
| 19            | .2811045+02     | .4815824+02 | .6820603+02     |                  |
| 20            | .2823338+02     | .4840755+02 | .6858171+02     |                  |
| 21            | .2835710+02     | .4865685+02 | .6895661+02     |                  |
| 22            | .2848160+02     | .4890616+02 | .6933073+02     |                  |
| 23            | .2860685+02     | .4915547+02 | .6970410+02     |                  |
| 24            | .2873284+02     | .4940478+02 | .7007672+02     |                  |
| 25            | .2885957+02     | .4965409+02 | .7044861+02     |                  |
| 26            | .2898702+02     | .4990340+02 | .7081978+02     |                  |
| 27            | .2911517+02     | .5015271+02 | .7119024+02     |                  |
| 28            | .2924401+02     | .5040201+02 | .7156002+02     |                  |
| 29            | .2937354+02     | .5065132+02 | .7192911+02     |                  |
| 30            | .2950374+02     | .5090063+02 | .7229753+02     |                  |
| 31            | .2963459+02     | .5114994+02 | .7266529+02     |                  |
| 32            | .2976610+02     | .5139925+02 | .7303240+02     |                  |
| 33            | .2989824+02     | .5164856+02 | .7339887+02     |                  |
| 34            | .3003101+02     | .5189787+02 | .7376472+02     |                  |
| 35            | .3016440+02     | .5214717+02 | .7412995+02     |                  |
| 36            | .3029840+02     | .5239648+02 | .7449457+02     |                  |
| 37            | .3043300+02     | .5264579+02 | .7485859+02     |                  |
| 38            | .3056818+02     | .5289510+02 | .7522202+02     |                  |
| 39            | .3070395+02     | .5314441+02 | .7558487+02     |                  |
| 40            | .3084028+02     | .5339372+02 | .7594715+02     |                  |
| 41            | .3097718+02     | .5364303+02 | .7630887+02     |                  |
| 42            | .3111464+02     | .5389233+02 | .7667003+02     |                  |
| 43            | .3125264+02     | .5414164+02 | .7703065+02     |                  |
| 44            | .3139118+02     | .5439095+02 | .7739072+02     |                  |
| 45            | .3153025+02     | .5464026+02 | .7775027+02     |                  |
| 46            | .3166985+02     | .5488957+02 | .7810929+02     |                  |
| 47            | .3180996+02     | .5513888+02 | .7846780+02     |                  |
| 48            | .3195058+02     | .5538819+02 | .7882580+02     |                  |
| 49            | .3209170+02     | .5563750+02 | .7918329+02     |                  |
| 50            | .3223331+02     | .5588680+02 | .7954029+02     |                  |
| 51            | .3237542+02     | .5613611+02 | .7989681+02     |                  |
| 52            | .3251800+02     | .5638542+02 | .8025284+02     |                  |
| 53            | .3266106+02     | .5663473+02 | .8060839+02     |                  |
| 54            | .3280459+02     | .5688404+02 | .8096348+02     |                  |
| 55            | .3294859+02     | .5713335+02 | .8131811+02     |                  |
| 56            | .3309303+02     | .5738266+02 | .8167228+02     |                  |
| 57            | .3323793+02     | .5763196+02 | .8202599+02     |                  |
| 58            | .3338326+02     | .5788127+02 | .8237927+02     |                  |
| 59            | .3352906+02     | .5813058+02 | .8273210+02     |                  |
| 60            | .3367528+02     | .5837989+02 | .8308450+02     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #5: VIOLENT CRIME, UNDER 18

84 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .79864+01          |
| 2                   | AUTOREGRESSIVE 1  | 1                  | .21984+00          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE 1= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

145

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA

MODEL 1 FORECASTS AT BASE PERIOD .84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | -.2810942+01    | .7329877+01 | .1747070+02     |                  |
| 2             | -.2540901+01    | .7842083+01 | .1822507+02     |                  |
| 3             | -.2439857+01    | .7954488+01 | .1834923+02     |                  |
| 4             | -.2415661+01    | .7979443+01 | .1837455+02     |                  |
| 5             | -.2410245+01    | .7984895+01 | .1838002+02     |                  |
| 6             | -.2409050+01    | .7986082+01 | .1838121+02     |                  |
| 7             | -.2408787+01    | .7986345+01 | .1838148+02     |                  |
| 8             | -.2408729+01    | .7986403+01 | .1838153+02     |                  |
| 9             | -.2408717+01    | .7986415+01 | .1838155+02     |                  |
| 10            | -.2408714+01    | .7986418+01 | .1838155+02     |                  |
| 11            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 12            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 13            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 14            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 15            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 16            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 17            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 18            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 19            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 20            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 21            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 22            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 23            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 24            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 25            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 26            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 27            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 28            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 29            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 30            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 31            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 32            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 33            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 34            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 35            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 36            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 37            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 38            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 39            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 40            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 41            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 42            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 43            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 44            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 45            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 46            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 47            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 48            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 49            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 50            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 51            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 52            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 53            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 54            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 55            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 56            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 57            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 58            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 59            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |
| 60            | -.2408713+01    | .7986419+01 | .1838155+02     |                  |

TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #5: VIOLENT CRIME, NONWHITE

84 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
|---------------------|-------------------|--------------------|--------------------|

|   |      |  |           |
|---|------|--|-----------|
| 1 | MEAN |  | .32143+01 |
|---|------|--|-----------|

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 89 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 2             | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 3             | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 4             | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 5             | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 6             | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 7             | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 8             | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 9             | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 10            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 11            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 12            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 13            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 14            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 15            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 16            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 17            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 18            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 19            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 20            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 21            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 22            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 23            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 24            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 25            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 26            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 27            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 28            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 29            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 30            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 31            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 32            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 33            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 34            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 35            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 36            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 37            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 38            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 39            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 40            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 41            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 42            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 43            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 44            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 45            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 46            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 47            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 48            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 49            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 50            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 51            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 52            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 53            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 54            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 55            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 56            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 57            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 58            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 59            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |
| 60            | -.5128994+00    | .3214286+01 | .6941471+01     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #6: VIOLENT CRIME, OVER 18

84 OBSERVATIONS

DIFFERENCING ON Z - 1) 1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | AUTOREGRESSIVE 1  | 1                  | -.62648+00         |
| 2                   | AUTOREGRESSIVE 1  | 2                  | -.46728+00         |
| 3                   | AUTOREGRESSIVE 1  | 3                  | -.53675+00         |
| 4                   | AUTOREGRESSIVE 1  | 4                  | -.20696+00         |
| 5                   | MOVING AVERAGE 1  | 8                  | .23547+00          |
| 6                   | TREND CONSTANT    |                    | .22768+01          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

PERIODS AHEAD    LO. CONF. LIMIT    FORECAST    UP. CONF. LIMIT    ACTUAL, IF KNOWN

|    |             |             |             |  |
|----|-------------|-------------|-------------|--|
| 1  | .5657278+02 | .7795366+02 | .9933454+02 |  |
| 2  | .5957696+02 | .8127733+02 | .1029777+03 |  |
| 3  | .5540227+02 | .7864426+02 | .1018863+03 |  |
| 4  | .6028417+02 | .8356203+02 | .1068399+03 |  |
| 5  | .6377275+02 | .8911063+02 | .1144485+03 |  |
| 6  | .6047147+02 | .8663189+02 | .1131923+03 |  |
| 7  | .5940117+02 | .8703126+02 | .1146613+03 |  |
| 8  | .5486252+02 | .8303503+02 | .1112075+03 |  |
| 9  | .6035590+02 | .8859627+02 | .1168366+03 |  |
| 10 | .5959382+02 | .8850881+02 | .1174238+03 |  |
| 11 | .6090434+02 | .9036297+02 | .1198216+03 |  |
| 12 | .5880136+02 | .8899028+02 | .1191792+03 |  |
| 13 | .5990557+02 | .9043117+02 | .1209568+03 |  |
| 14 | .6021329+02 | .9118143+02 | .1221496+03 |  |
| 15 | .6111398+02 | .9251793+02 | .1239219+03 |  |
| 16 | .6091395+02 | .9285026+02 | .1247866+03 |  |
| 17 | .6114152+02 | .9352698+02 | .1259124+03 |  |
| 18 | .6139828+02 | .9421657+02 | .1270346+03 |  |
| 19 | .6191699+02 | .9515225+02 | .1283875+03 |  |
| 20 | .6222405+02 | .9590150+02 | .1295790+03 |  |
| 21 | .6249856+02 | .9661166+02 | .1307248+03 |  |
| 22 | .6276916+02 | .9730649+02 | .1318438+03 |  |
| 23 | .6313355+02 | .9808139+02 | .1330292+03 |  |
| 24 | .6349918+02 | .9885684+02 | .1342145+03 |  |
| 25 | .6384418+02 | .9961074+02 | .1353773+03 |  |
| 26 | .6417088+02 | .1003424+03 | .1365139+03 |  |
| 27 | .6451636+02 | .1010856+03 | .1376549+03 |  |
| 28 | .6467926+02 | .1018411+03 | .1388030+03 |  |
| 29 | .6524628+02 | .1025975+03 | .1399487+03 |  |
| 30 | .6560830+02 | .1033458+03 | .1410833+03 |  |
| 31 | .6597170+02 | .1040914+03 | .1422111+03 |  |
| 32 | .6634247+02 | .1048400+03 | .1433375+03 |  |
| 33 | .6671997+02 | .1055915+03 | .1444631+03 |  |
| 34 | .6710006+02 | .1063423+03 | .1455846+03 |  |
| 35 | .6748161+02 | .1070913+03 | .1467010+03 |  |
| 36 | .6786627+02 | .1078400+03 | .1478136+03 |  |
| 37 | .6825526+02 | .1085895+03 | .1489238+03 |  |
| 38 | .6864799+02 | .1093396+03 | .1500312+03 |  |
| 39 | .6904345+02 | .1100894+03 | .1511353+03 |  |
| 40 | .6944150+02 | .1108388+03 | .1522360+03 |  |
| 41 | .6984255+02 | .1115881+03 | .1533377+03 |  |
| 42 | .7024674+02 | .1123378+03 | .1544288+03 |  |
| 43 | .7065382+02 | .1130875+03 | .1555211+03 |  |
| 44 | .7106353+02 | .1138371+03 | .1566106+03 |  |
| 45 | .7147583+02 | .1145866+03 | .1576973+03 |  |
| 46 | .7189078+02 | .1153361+03 | .1587814+03 |  |
| 47 | .7230834+02 | .1160857+03 | .1598631+03 |  |
| 48 | .7272842+02 | .1168353+03 | .1609422+03 |  |
| 49 | .7315090+02 | .1175849+03 | .1620189+03 |  |
| 50 | .7357576+02 | .1183344+03 | .1630931+03 |  |
| 51 | .7400297+02 | .1190840+03 | .1641651+03 |  |
| 52 | .7443248+02 | .1198336+03 | .1652347+03 |  |
| 53 | .7486424+02 | .1205832+03 | .1663021+03 |  |
| 54 | .7529817+02 | .1213328+03 | .1673673+03 |  |
| 55 | .7573426+02 | .1220823+03 | .1684304+03 |  |
| 56 | .7617245+02 | .1228319+03 | .1694914+03 |  |
| 57 | .7661271+02 | .1235815+03 | .1705502+03 |  |
| 58 | .7705500+02 | .1243311+03 | .1716071+03 |  |
| 59 | .7749927+02 | .1250806+03 | .1726620+03 |  |
| 60 | .7794548+02 | .1258302+03 | .1737149+03 |  |

TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #6: VIOLENT CRIME, UNDER 18

84 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .11849+02          |
| 2                   | AUTOREGRESSIVE 1  | 3                  | .12141+00          |
| 3                   | AUTOREGRESSIVE 1  | 13                 | .30643+00          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .2643674+01     | .1264192+02 | .2263996+02     |                  |
| 2             | .3204719+01     | .1320276+02 | .2320081+02     |                  |
| 3             | .1481749+01     | .1147979+02 | .2147784+02     |                  |
| 4             | .2226334+01     | .1229780+02 | .2236927+02     |                  |
| 5             | .3213725+01     | .1328519+02 | .2335666+02     |                  |
| 6             | .3310964+01     | .1338243+02 | .2345390+02     |                  |
| 7             | .1570611+01     | .1164316+02 | .2171570+02     |                  |
| 8             | .1583351+00     | .1023086+02 | .2030343+02     |                  |
| 9             | .1702301+01     | .1177485+02 | .2184739+02     |                  |
| 10            | .3636136+01     | .1370870+02 | .2378126+02     |                  |
| 11            | .3464666+01     | .1353723+02 | .2360979+02     |                  |
| 12            | .1200669+01     | .1127323+02 | .2134579+02     |                  |
| 13            | .3274058+01     | .1334662+02 | .2341918+02     |                  |
| 14            | .1768582+01     | .1229676+02 | .2282497+02     |                  |
| 15            | .1665561+01     | .1219376+02 | .2272195+02     |                  |
| 16            | .1389326+01     | .1191752+02 | .2244572+02     |                  |
| 17            | .1486273+01     | .1204072+02 | .2259517+02     |                  |
| 18            | .1776333+01     | .1233078+02 | .2288523+02     |                  |
| 19            | .1772591+01     | .1232704+02 | .2288148+02     |                  |
| 20            | .1253711+01     | .1180903+02 | .2236434+02     |                  |
| 21            | .8561615+00     | .1141148+02 | .2196679+02     |                  |
| 22            | .1328828+01     | .1188414+02 | .2243946+02     |                  |
| 23            | .1858505+01     | .1241384+02 | .2296918+02     |                  |
| 24            | .1757692+01     | .1231303+02 | .2286837+02     |                  |
| 25            | .1121320+01     | .1167666+02 | .2223200+02     |                  |
| 26            | .1820985+01     | .1237633+02 | .2293166+02     |                  |
| 27            | .1445371+01     | .1204238+02 | .2263939+02     |                  |
| 28            | .1336536+01     | .1193355+02 | .2253055+02     |                  |
| 29            | .1336840+01     | .1193385+02 | .2253086+02     |                  |
| 30            | .1328530+01     | .1193105+02 | .2253358+02     |                  |
| 31            | .1404200+01     | .1200672+02 | .2260925+02     |                  |
| 32            | .1403090+01     | .1200561+02 | .2260814+02     |                  |
| 33            | .1243691+01     | .1184654+02 | .2244939+02     |                  |
| 34            | .1131056+01     | .1173391+02 | .2233676+02     |                  |
| 35            | .1275762+01     | .1187861+02 | .2248146+02     |                  |
| 36            | .1418751+01     | .1202161+02 | .2262448+02     |                  |
| 37            | .1374184+01     | .1197705+02 | .2257991+02     |                  |
| 38            | .1196746+01     | .1179961+02 | .2240247+02     |                  |
| 39            | .1428510+01     | .1203137+02 | .2263424+02     |                  |
| 40            | .1316666+01     | .1192363+02 | .2253040+02     |                  |
| 41            | .1261972+01     | .1186874+02 | .2247550+02     |                  |
| 42            | .1290204+01     | .1189697+02 | .2250373+02     |                  |
| 43            | .1275347+01     | .1188303+02 | .2249072+02     |                  |
| 44            | .1291869+01     | .1189955+02 | .2250724+02     |                  |
| 45            | .1294957+01     | .1190264+02 | .2251033+02     |                  |
| 46            | .1244434+01     | .1185220+02 | .2245997+02     |                  |
| 47            | .1211926+01     | .1181970+02 | .2242747+02     |                  |
| 48            | .1256643+01     | .1186441+02 | .2247218+02     |                  |
| 49            | .1294335+01     | .1190211+02 | .2250989+02     |                  |
| 50            | .1276731+01     | .1188451+02 | .2249228+02     |                  |
| 51            | .1227786+01     | .1183556+02 | .2244334+02     |                  |
| 52            | .1303385+01     | .1191116+02 | .2251894+02     |                  |
| 53            | .1267865+01     | .1187601+02 | .2248415+02     |                  |
| 54            | .1245102+01     | .1185324+02 | .2246138+02     |                  |
| 55            | .1262931+01     | .1187107+02 | .2247921+02     |                  |
| 56            | .1254257+01     | .1186253+02 | .2247081+02     |                  |
| 57            | .1256557+01     | .1186483+02 | .2247311+02     |                  |
| 58            | .1259666+01     | .1186794+02 | .2247622+02     |                  |
| 59            | .1243157+01     | .1185145+02 | .2245975+02     |                  |
| 60            | .1233475+01     | .1184177+02 | .2245006+02     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #6: VIOLENT CRIME, NONWHITE

84 OBSERVATIONS

DIFFERENCING ON Z = NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .15604+01          |
| 2                   | AUTOREGRESSIVE 1  | 1                  | .19764+00          |
| 3                   | AUTOREGRESSIVE 1  | 13                 | -.20127+00         |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE TO 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | -.9677047+00    | .1957736+01 | .4883176+01     |                  |
| 2             | -.1632817+01    | .1349210+01 | .4331237+01     |                  |
| 3             | -.1554003+01    | .1430212+01 | .4414427+01     |                  |
| 4             | -.1336812+01    | .1647489+01 | .4631790+01     |                  |
| 5             | -.1293873+01    | .1690431+01 | .4674735+01     |                  |
| 6             | -.1084119+01    | .1900186+01 | .4884490+01     |                  |
| 7             | -.1042663+01    | .1941641+01 | .4925945+01     |                  |
| 8             | -.1638275+01    | .1346029+01 | .4330334+01     |                  |
| 9             | -.1152185+01    | .1832120+01 | .4816424+01     |                  |
| 10            | -.1056116+01    | .1928188+01 | .4912493+01     |                  |
| 11            | -.1439665+01    | .1544639+01 | .4528943+01     |                  |
| 12            | -.1314200+01    | .1670104+01 | .4654408+01     |                  |
| 13            | -.1691940+01    | .1292364+01 | .4276668+01     |                  |
| 14            | -.1614351+01    | .1427484+01 | .4469318+01     |                  |
| 15            | -.1474060+01    | .1576665+01 | .4627389+01     |                  |
| 16            | -.1461659+01    | .1569845+01 | .4641350+01     |                  |
| 17            | -.1502840+01    | .1548719+01 | .4600278+01     |                  |
| 18            | -.1519614+01    | .1531949+01 | .4583511+01     |                  |
| 19            | -.1565145+01    | .1486417+01 | .4537979+01     |                  |
| 20            | -.1582488+01    | .1469075+01 | .4520637+01     |                  |
| 21            | -.1466037+01    | .1585525+01 | .4637087+01     |                  |
| 22            | -.1540857+01    | .1510705+01 | .4562267+01     |                  |
| 23            | -.1574980+01    | .1476583+01 | .4528145+01     |                  |
| 24            | -.1504527+01    | .1547035+01 | .4598597+01     |                  |
| 25            | -.1515855+01    | .1535707+01 | .4587269+01     |                  |
| 26            | -.1442067+01    | .1609495+01 | .4661057+01     |                  |
| 27            | -.1456980+01    | .1596883+01 | .4650745+01     |                  |
| 28            | -.1490306+01    | .1564365+01 | .4619036+01     |                  |
| 29            | -.1499512+01    | .1555285+01 | .4610082+01     |                  |
| 30            | -.1493042+01    | .1561768+01 | .4616579+01     |                  |
| 31            | -.1488387+01    | .1566425+01 | .4621237+01     |                  |
| 32            | -.1478303+01    | .1576509+01 | .4631321+01     |                  |
| 33            | -.1472819+01    | .1581993+01 | .4636805+01     |                  |
| 34            | -.1495173+01    | .1559639+01 | .4614451+01     |                  |
| 35            | -.1484532+01    | .1570280+01 | .4625092+01     |                  |
| 36            | -.1475561+01    | .1579250+01 | .4634062+01     |                  |
| 37            | -.1487968+01    | .1566844+01 | .4621655+01     |                  |
| 38            | -.1488140+01    | .1566672+01 | .4621483+01     |                  |
| 39            | -.1503026+01    | .1551786+01 | .4606596+01     |                  |
| 40            | -.1503522+01    | .1551383+01 | .4606288+01     |                  |
| 41            | -.1497115+01    | .1557848+01 | .4612811+01     |                  |
| 42            | -.1491024+01    | .1560953+01 | .4615930+01     |                  |
| 43            | -.1494716+01    | .1560266+01 | .4615242+01     |                  |
| 44            | -.1495792+01    | .1559188+01 | .4614168+01     |                  |
| 45            | -.1498034+01    | .1556946+01 | .4611926+01     |                  |
| 46            | -.1499580+01    | .1555400+01 | .4610380+01     |                  |
| 47            | -.1495387+01    | .1559593+01 | .4614573+01     |                  |
| 48            | -.1496700+01    | .1558280+01 | .4613260+01     |                  |
| 49            | -.1498765+01    | .1556215+01 | .4611195+01     |                  |
| 50            | -.1496676+01    | .1558304+01 | .4613284+01     |                  |
| 51            | -.1496228+01    | .1558752+01 | .4613732+01     |                  |
| 52            | -.1493144+01    | .1561836+01 | .4616616+01     |                  |
| 53            | -.1492457+01    | .1562527+01 | .4617510+01     |                  |
| 54            | -.1493625+01    | .1561362+01 | .4616349+01     |                  |
| 55            | -.1494482+01    | .1560507+01 | .4615496+01     |                  |
| 56            | -.1494512+01    | .1560477+01 | .4615466+01     |                  |
| 57            | -.1494302+01    | .1560687+01 | .4615676+01     |                  |
| 58            | -.1493809+01    | .1561180+01 | .4616162+01     |                  |
| 59            | -.1493400+01    | .1561589+01 | .4616578+01     |                  |
| 60            | -.1494164+01    | .1560825+01 | .4615814+01     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #7: VIOLENT CRIME, OVER 18

84 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .55957+02          |
| 2                   | AUTOREGRESSIVE 1  | 1                  | .32294+00          |
| 3                   | AUTOREGRESSIVE 1  | 2                  | .31854+00          |
| 4                   | AUTOREGRESSIVE 1  | 8                  | .16307+00          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA

MODEL 1 FORECASTS AT BASE PERIOD 64 WITH 95 PER CENT CONFIDENCE LIMITS

PERIODS AHEAD LO. CONF. LIMIT FORECAST UP. CONF. LIMIT ACTUAL, IF KNOWN

|    |             |             |             |  |
|----|-------------|-------------|-------------|--|
| 1  | .4333219+02 | .7054504+02 | .9775789+02 |  |
| 2  | .4272541+02 | .7132213+02 | .9991885+02 |  |
| 3  | .4029237+02 | .7111722+02 | .1019421+03 |  |
| 4  | .4093416+02 | .7244006+02 | .1039460+03 |  |
| 5  | .4060914+02 | .7263892+02 | .1046687+03 |  |
| 6  | .3367848+02 | .6594951+02 | .9822055+02 |  |
| 7  | .3355192+02 | .6597244+02 | .9839295+02 |  |
| 8  | .3265444+02 | .6515355+02 | .9765266+02 |  |
| 9  | .3141676+02 | .6449607+02 | .9757338+02 |  |
| 10 | .3081408+02 | .6414961+02 | .9748514+02 |  |
| 11 | .3006003+02 | .6379488+02 | .9752973+02 |  |
| 12 | .2980824+02 | .6378567+02 | .9776310+02 |  |
| 13 | .2950181+02 | .6370213+02 | .9790244+02 |  |
| 14 | .2823242+02 | .6258138+02 | .9693034+02 |  |
| 15 | .2773532+02 | .6219657+02 | .9665782+02 |  |
| 16 | .2704498+02 | .6158176+02 | .9611854+02 |  |
| 17 | .2651689+02 | .6115342+02 | .9578995+02 |  |
| 18 | .2605317+02 | .6076276+02 | .9547234+02 |  |
| 19 | .2564932+02 | .6044230+02 | .9523528+02 |  |
| 20 | .2535320+02 | .6021287+02 | .9507254+02 |  |
| 21 | .2510029+02 | .6002306+02 | .9494586+02 |  |
| 22 | .2473233+02 | .5970594+02 | .9467955+02 |  |
| 23 | .2446392+02 | .5948032+02 | .9449671+02 |  |
| 24 | .2415630+02 | .5920616+02 | .9425605+02 |  |
| 25 | .2389507+02 | .5897593+02 | .9405679+02 |  |
| 26 | .2364444+02 | .5875054+02 | .9385664+02 |  |
| 27 | .2342229+02 | .5855215+02 | .9368202+02 |  |
| 28 | .2322877+02 | .5837887+02 | .9352898+02 |  |
| 29 | .2306022+02 | .5822877+02 | .9339732+02 |  |
| 30 | .2288901+02 | .5807339+02 | .9325776+02 |  |
| 31 | .2274042+02 | .5793860+02 | .9313678+02 |  |
| 32 | .2259108+02 | .5780087+02 | .9301066+02 |  |
| 33 | .2245595+02 | .5767591+02 | .9289587+02 |  |
| 34 | .2232637+02 | .5755493+02 | .9278349+02 |  |
| 35 | .2220755+02 | .5744371+02 | .9267986+02 |  |
| 36 | .2209830+02 | .5734099+02 | .9258369+02 |  |
| 37 | .2199945+02 | .5724752+02 | .9249638+02 |  |
| 38 | .2190632+02 | .5715980+02 | .9241328+02 |  |
| 39 | .2182186+02 | .5707972+02 | .9233758+02 |  |
| 40 | .2174169+02 | .5700333+02 | .9226497+02 |  |
| 41 | .2166784+02 | .5693277+02 | .9219770+02 |  |
| 42 | .2159816+02 | .5686592+02 | .9213369+02 |  |
| 43 | .2153349+02 | .5680372+02 | .9207395+02 |  |
| 44 | .2147323+02 | .5674559+02 | .9201795+02 |  |
| 45 | .2141761+02 | .5669183+02 | .9196605+02 |  |
| 46 | .2136575+02 | .5664158+02 | .9191741+02 |  |
| 47 | .2131793+02 | .5659517+02 | .9187241+02 |  |
| 48 | .2127326+02 | .5655172+02 | .9183017+02 |  |
| 49 | .2123188+02 | .5651139+02 | .9179091+02 |  |
| 50 | .2119319+02 | .5647363+02 | .9175407+02 |  |
| 51 | .2115721+02 | .5643845+02 | .9171969+02 |  |
| 52 | .2112365+02 | .5640558+02 | .9168751+02 |  |
| 53 | .2109246+02 | .5637499+02 | .9165752+02 |  |
| 54 | .2106339+02 | .5634645+02 | .9162950+02 |  |
| 55 | .2103641+02 | .5631991+02 | .9160342+02 |  |
| 56 | .2101127+02 | .5629517+02 | .9157907+02 |  |
| 57 | .2098791+02 | .5627215+02 | .9155640+02 |  |
| 58 | .2096614+02 | .5625068+02 | .9153522+02 |  |
| 59 | .2094587+02 | .5623067+02 | .9151547+02 |  |
| 60 | .2092699+02 | .5621201+02 | .9149704+02 |  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #7: VIOLENT CRIME, UNDER 18 84 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .75844*01          |
| 2                   | AUTOREGRESSIVE 1  | 4                  | .33177*00          |
| 3                   | MOVING AVERAGE 1  | 13                 | .26994*00          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .2743736-C1     | .9501736+01 | .1641974+02     |                  |
| 2             | .6508698+00     | .7408870+01 | .1432687+02     |                  |
| 3             | .1880971-C1     | .4957030+01 | .1179503+02     |                  |
| 4             | .1614555+01     | .8452556+01 | .1529056+02     |                  |
| 5             | .4516215+00     | .7656136+01 | .1486065+02     |                  |
| 6             | .2150643+00     | .6989450+01 | .1419397+02     |                  |
| 7             | .8604813-01     | .7290563+01 | .1449508+02     |                  |
| 8             | .1728092+00     | .7377324+01 | .1458184+02     |                  |
| 9             | .1574768+00     | .7401202+01 | .1464493+02     |                  |
| 10            | .7107980+00     | .6532927+01 | .1377665+02     |                  |
| 11            | .7465722+00     | .7990297+01 | .1523402+02     |                  |
| 12            | .1066607+01     | .6310332+01 | .1555406+02     |                  |
| 13            | .3932059+00     | .7641234+01 | .1468926+02     |                  |
| 14            | .2438552+00     | .7235524+01 | .1471490+02     |                  |
| 15            | .2396584+00     | .7719036+01 | .1519842+02     |                  |
| 16            | .3458368+00     | .7825216+01 | .1530460+02     |                  |
| 17            | .1233903+00     | .7603229+01 | .1508307+02     |                  |
| 18            | .3624046-01     | .7468626+01 | .1497349+02     |                  |
| 19            | .1241754+00     | .7629042+01 | .1513391+02     |                  |
| 20            | .1594024+00     | .7664269+01 | .1516914+02     |                  |
| 21            | .8570296-C1     | .7590620+01 | .1509554+02     |                  |
| 22            | .3829592-01     | .7545963+01 | .1505363+02     |                  |
| 23            | .9151727-C1     | .7599184+01 | .1510685+02     |                  |
| 24            | .1032045+00     | .7610871+01 | .1511854+02     |                  |
| 25            | .7876438-01     | .7586437+01 | .1509411+02     |                  |
| 26            | .6364584-C1     | .7571621+01 | .1507960+02     |                  |
| 27            | .8130312-01     | .7589278+01 | .1509725+02     |                  |
| 28            | .8518064-01     | .7593155+01 | .1510113+02     |                  |
| 29            | .7707328-01     | .7585049+01 | .1509302+02     |                  |
| 30            | .7212448-01     | .7580133+01 | .1508814+02     |                  |
| 31            | .7798266-C1     | .7585991+01 | .1509400+02     |                  |
| 32            | .7926911-01     | .7587278+01 | .1509529+02     |                  |
| 33            | .7657945-01     | .7584588+01 | .1509260+02     |                  |
| 34            | .7494503-C1     | .7582957+01 | .1509097+02     |                  |
| 35            | .7688856-01     | .7584971+01 | .1509291+02     |                  |
| 36            | .7731539-C1     | .7585328+01 | .1509334+02     |                  |
| 37            | .7642305-01     | .7584435+01 | .1509245+02     |                  |
| 38            | .7588166-01     | .7583894+01 | .1509191+02     |                  |
| 39            | .7652646-C1     | .7584539+01 | .1509255+02     |                  |
| 40            | .7666808-01     | .7584681+01 | .1509269+02     |                  |
| 41            | .7637203-C1     | .7584385+01 | .1509240+02     |                  |
| 42            | .7619250-01     | .7584205+01 | .1509222+02     |                  |
| 43            | .7640636-01     | .7584419+01 | .1509243+02     |                  |
| 44            | .7645333-01     | .7584468+01 | .1509248+02     |                  |
| 45            | .7635516-01     | .7584368+01 | .1509238+02     |                  |
| 46            | .7629561-C1     | .7584308+01 | .1509232+02     |                  |
| 47            | .7636654-01     | .7584379+01 | .1509239+02     |                  |
| 48            | .7638216-C1     | .7584395+01 | .1509241+02     |                  |
| 49            | .7634956-01     | .7584362+01 | .1509238+02     |                  |
| 50            | .7632983-C1     | .7584343+01 | .1509236+02     |                  |
| 51            | .7635337-01     | .7584366+01 | .1509238+02     |                  |
| 52            | .7635850-01     | .7584371+01 | .1509238+02     |                  |
| 53            | .7634771-C1     | .7584361+01 | .1509237+02     |                  |
| 54            | .7634121-01     | .7584354+01 | .1509237+02     |                  |
| 55            | .7634896-C1     | .7584362+01 | .1509237+02     |                  |
| 56            | .7635069-01     | .7584364+01 | .1509238+02     |                  |
| 57            | .7634711-01     | .7584360+01 | .1509237+02     |                  |
| 58            | .7634497-C1     | .7584358+01 | .1509237+02     |                  |
| 59            | .7634753-C1     | .7584360+01 | .1509237+02     |                  |
| 60            | .7634807-01     | .7584361+01 | .1509237+02     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #7: VIOLENT CRIME, NONWHITE

84 OBSERVATIONS

DIFFERENCING ON Z = NONE

TRANSFORMATIONS EXAMINED = NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .86922+01          |
| 2                   | AUTOREGRESSIVE 1  | 1                  | .31298+00          |
| 3                   | AUTOREGRESSIVE 1  | 4                  | .22311+00          |
| 4                   | AUTOREGRESSIVE 1  | 9                  | .32901+00          |

NUMBLR OF TIME ORIGINS FOR FORECASTS = 1

NUMBLR OF FORECASTS AT EACH TIME ORIGIN = 40

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .4128444+01     | .1125053+02 | .1837262+02     |                  |
| 2             | .5055233+01     | .1251800+02 | .1998078+02     |                  |
| 3             | .3127651+01     | .1062296+02 | .1811827+02     |                  |
| 4             | .6384637+01     | .1388333+02 | .2138182+02     |                  |
| 5             | .4954547+01     | .1263401+02 | .2031347+02     |                  |
| 6             | .3792371+01     | .1153875+02 | .1928513+02     |                  |
| 7             | .2683306+01     | .1044415+02 | .1820500+02     |                  |
| 8             | .4052644+01     | .1181599+02 | .1957934+02     |                  |
| 9             | .5507322+01     | .1328265+02 | .2105797+02     |                  |
| 10            | .3373324+01     | .1160571+02 | .1983810+02     |                  |
| 11            | .2850465+01     | .1125366+02 | .1965685+02     |                  |
| 12            | .2384767+01     | .1082606+02 | .1926735+02     |                  |
| 13            | .3640452+01     | .1209213+02 | .2054380+02     |                  |
| 14            | .3155188+01     | .1170321+02 | .2025124+02     |                  |
| 15            | .2522687+01     | .1114260+02 | .1976251+02     |                  |
| 16            | .1864737+01     | .1051161+02 | .1915848+02     |                  |
| 17            | .2393069+01     | .1104793+02 | .1970279+02     |                  |
| 18            | .2939629+01     | .1161156+02 | .2028349+02     |                  |
| 19            | .2341149+01     | .1111117+02 | .1988118+02     |                  |
| 20            | .1857184+01     | .1069795+02 | .1953871+02     |                  |
| 21            | .1679483+01     | .1054759+02 | .1941569+02     |                  |
| 22            | .2161903+01     | .1104282+02 | .1992374+02     |                  |
| 23            | .2035557+01     | .1095623+02 | .1988090+02     |                  |
| 24            | .1688722+01     | .1065511+02 | .1962156+02     |                  |
| 25            | .1328704+01     | .1031910+02 | .1930949+02     |                  |
| 26            | .1500001+01     | .1050087+02 | .1950174+02     |                  |
| 27            | .1709181+01     | .1072433+02 | .1973948+02     |                  |
| 28            | .1512627+01     | .1056201+02 | .1961139+02     |                  |
| 29            | .1219061+01     | .1030029+02 | .1938151+02     |                  |
| 30            | .1110759+01     | .1020946+02 | .1930816+02     |                  |
| 31            | .1284174+01     | .1039382+02 | .1950347+02     |                  |
| 32            | .1258168+01     | .1038747+02 | .1951678+02     |                  |
| 33            | .1075101+01     | .1022737+02 | .1937964+02     |                  |
| 34            | .8779908+00     | .1004644+02 | .1921490+02     |                  |
| 35            | .9130098+00     | .1009076+02 | .1926850+02     |                  |
| 36            | .9889280+00     | .1017673+02 | .1936453+02     |                  |
| 37            | .9109667+00     | .1011451+02 | .1931803+02     |                  |
| 38            | .7492241+00     | .9968564+01 | .1918790+02     |                  |
| 39            | .6727424+00     | .9902888+01 | .1913303+02     |                  |
| 40            | .7241020+00     | .9962170+01 | .1920024+02     |                  |
| 41            | .7163708+00     | .9964755+01 | .1921314+02     |                  |
| 42            | .6199939+00     | .9880327+01 | .1914066+02     |                  |
| 43            | .5095997+00     | .9779725+01 | .1904985+02     |                  |
| 44            | .4991418+00     | .9776042+01 | .1905294+02     |                  |
| 45            | .5202605+00     | .9803752+01 | .1908724+02     |                  |
| 46            | .4813831+00     | .9773119+01 | .1906485+02     |                  |
| 47            | .3929365+00     | .9693068+01 | .1899320+02     |                  |
| 48            | .3388823+00     | .9645585+01 | .1895229+02     |                  |
| 49            | .3444345+00     | .9656409+01 | .1896838+02     |                  |
| 50            | .3360268+00     | .9651813+01 | .1897160+02     |                  |
| 51            | .2831607+00     | .9607364+01 | .1893157+02     |                  |
| 52            | .2192189+00     | .9549133+01 | .1887905+02     |                  |
| 53            | .1977317+00     | .9532112+01 | .1886649+02     |                  |
| 54            | .1967779+00     | .9535322+01 | .1887387+02     |                  |
| 55            | .1727397+00     | .9515885+01 | .1885903+02     |                  |
| 56            | .1226850+00     | .9470473+01 | .1881826+02     |                  |
| 57            | .8510566+00     | .9436835+01 | .1878857+02     |                  |
| 58            | .7550716+00     | .9430590+01 | .1878567+02     |                  |
| 59            | .6496692+00     | .9423444+01 | .1878192+02     |                  |
| 60            | .3375006+00     | .9395793+01 | .1875784+02     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - 2 = OREGON STATEWIDE: NONVIOLENT CRIMES, OVER 18

84 OBSERVATIONS

DIFFERENCING ON 2 - 1) 1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MOVING AVERAGE 1  | 1                  | .65517+00          |
| 2                   | MOVING AVERAGE 1  | 12                 | -.30977+00         |
| 3                   | TREND CONSTANT    |                    | .10065+02          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .1520511+04     | .1732590+04 | .1944670+04     |                  |
| 2             | .1500358+04     | .1724692+04 | .1949027+04     |                  |
| 3             | .1506741+04     | .1742095+04 | .1978649+04     |                  |
| 4             | .1475876+04     | .1722903+04 | .1969931+04     |                  |
| 5             | .1428846+04     | .1686472+04 | .1944097+04     |                  |
| 6             | .1437565+04     | .1705369+04 | .1973174+04     |                  |
| 7             | .1457441+04     | .1735052+04 | .2012662+04     |                  |
| 8             | .1456448+04     | .1743529+04 | .2030611+04     |                  |
| 9             | .1452677+04     | .1748926+04 | .2045176+04     |                  |
| 10            | .1447154+04     | .1752297+04 | .2057440+04     |                  |
| 11            | .1443769+04     | .1757553+04 | .2071337+04     |                  |
| 12            | .1496357+04     | .1818551+04 | .2140745+04     |                  |
| 13            | .1477785+04     | .1828616+04 | .2179447+04     |                  |
| 14            | .1461380+04     | .1838621+04 | .2215981+04     |                  |
| 15            | .1446715+04     | .1849746+04 | .2250777+04     |                  |
| 16            | .1433484+04     | .1858810+04 | .2284137+04     |                  |
| 17            | .1421465+04     | .1868675+04 | .2316285+04     |                  |
| 18            | .1410486+04     | .1878940+04 | .2347394+04     |                  |
| 19            | .1400412+04     | .1889005+04 | .2377597+04     |                  |
| 20            | .1391137+04     | .1899070+04 | .2407003+04     |                  |
| 21            | .1382571+04     | .1909134+04 | .2435698+04     |                  |
| 22            | .1374642+04     | .1919199+04 | .2463757+04     |                  |
| 23            | .1367289+04     | .1929264+04 | .2491239+04     |                  |
| 24            | .1360460+04     | .1939329+04 | .2518198+04     |                  |
| 25            | .1354110+04     | .1949394+04 | .2544678+04     |                  |
| 26            | .1348200+04     | .1959458+04 | .2570716+04     |                  |
| 27            | .1342698+04     | .1969523+04 | .2596348+04     |                  |
| 28            | .1337573+04     | .1979588+04 | .2621603+04     |                  |
| 29            | .1332795+04     | .1989653+04 | .2646506+04     |                  |
| 30            | .1328353+04     | .1999718+04 | .2671082+04     |                  |
| 31            | .1324215+04     | .2009782+04 | .2695350+04     |                  |
| 32            | .1320364+04     | .2019847+04 | .2719330+04     |                  |
| 33            | .1316785+04     | .2029912+04 | .2743039+04     |                  |
| 34            | .1313462+04     | .2039977+04 | .2766491+04     |                  |
| 35            | .1310382+04     | .2050042+04 | .2789702+04     |                  |
| 36            | .1307531+04     | .2060106+04 | .2812682+04     |                  |
| 37            | .1304898+04     | .2070171+04 | .2835445+04     |                  |
| 38            | .1302472+04     | .2080236+04 | .2858000+04     |                  |
| 39            | .1300244+04     | .2090301+04 | .2880358+04     |                  |
| 40            | .1298204+04     | .2100366+04 | .2902528+04     |                  |
| 41            | .1296344+04     | .2110430+04 | .2924517+04     |                  |
| 42            | .1294656+04     | .2120495+04 | .2946335+04     |                  |
| 43            | .1293133+04     | .2130560+04 | .2967987+04     |                  |
| 44            | .1291766+04     | .2140625+04 | .2989481+04     |                  |
| 45            | .1290555+04     | .2150690+04 | .3010824+04     |                  |
| 46            | .1289488+04     | .2160754+04 | .3032020+04     |                  |
| 47            | .1288562+04     | .2170819+04 | .3053076+04     |                  |
| 48            | .1287771+04     | .2180884+04 | .3073997+04     |                  |
| 49            | .1287110+04     | .2190949+04 | .3094787+04     |                  |
| 50            | .1286575+04     | .2201013+04 | .3115452+04     |                  |
| 51            | .1286161+04     | .2211078+04 | .3135995+04     |                  |
| 52            | .1285865+04     | .2221143+04 | .3156421+04     |                  |
| 53            | .1285683+04     | .2231208+04 | .3176733+04     |                  |
| 54            | .1285610+04     | .2241273+04 | .3196935+04     |                  |
| 55            | .1285643+04     | .2251337+04 | .3217031+04     |                  |
| 56            | .1285780+04     | .2261402+04 | .3237024+04     |                  |
| 57            | .1286017+04     | .2271467+04 | .3256917+04     |                  |
| 58            | .1286351+04     | .2281532+04 | .3276713+04     |                  |
| 59            | .1286779+04     | .2291597+04 | .3296414+04     |                  |
| 60            | .1287299+04     | .2301661+04 | .3316024+04     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

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DATA - 2 = OREGON STATEWIDE: NONVIOLENT CRIMES, NONWHITE 84 OBSERVATIONS

DIFFERENCING ON "2" = 1) 1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

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## UNIVARIATE MODEL PARAMETERS

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| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
|---------------------|-------------------|--------------------|--------------------|

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|   |                  |   |           |
|---|------------------|---|-----------|
| 1 | MOVING AVERAGE 1 | 1 | .66274+00 |
|---|------------------|---|-----------|

|   |                |  |           |
|---|----------------|--|-----------|
| 2 | TREND CONSTANT |  | .17411+01 |
|---|----------------|--|-----------|

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NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE 1- 94

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .2428985+03     | .3084732+07 | .3740478+03     |                  |
| 2             | .2410106+03     | .3102143+07 | .3754180+03     |                  |
| 3             | .2393037+03     | .3119554+07 | .3846071+03     |                  |
| 4             | .2377532+03     | .3136965+07 | .3896399+03     |                  |
| 5             | .2363396+03     | .3154376+07 | .3945357+03     |                  |
| 6             | .2350470+03     | .3171786+07 | .3993105+03     |                  |
| 7             | .2338626+03     | .3189199+07 | .4039772+03     |                  |
| 8             | .2327755+03     | .3206610+07 | .4085465+03     |                  |
| 9             | .2317766+03     | .3224021+07 | .4130276+03     |                  |
| 10            | .2308582+03     | .3241432+07 | .4174283+03     |                  |
| 11            | .2300135+03     | .3258844+07 | .4217552+03     |                  |
| 12            | .2292368+03     | .3276255+07 | .4260142+03     |                  |
| 13            | .2285229+03     | .3293666+07 | .4302103+03     |                  |
| 14            | .2278674+03     | .3311077+07 | .4343481+03     |                  |
| 15            | .2272662+03     | .3328488+07 | .4384315+03     |                  |
| 16            | .2267159+03     | .3345900+07 | .4424640+03     |                  |
| 17            | .2262133+03     | .3363311+07 | .4464489+03     |                  |
| 18            | .2257555+03     | .3380722+07 | .4503889+03     |                  |
| 19            | .2253399+03     | .3398133+07 | .4542867+03     |                  |
| 20            | .2249642+03     | .3415544+07 | .4581447+03     |                  |
| 21            | .2246263+03     | .3432956+07 | .4619648+03     |                  |
| 22            | .2243241+03     | .3450367+07 | .4657492+03     |                  |
| 23            | .2240560+03     | .3467778+07 | .4694996+03     |                  |
| 24            | .2238203+03     | .3485189+07 | .4732176+03     |                  |
| 25            | .2236154+03     | .3502600+07 | .4769047+03     |                  |
| 26            | .2234399+03     | .3520012+07 | .4805624+03     |                  |
| 27            | .2232926+03     | .3537423+07 | .4841919+03     |                  |
| 28            | .2231723+03     | .3554834+07 | .4877945+03     |                  |
| 29            | .2230776+03     | .3572245+07 | .4913712+03     |                  |
| 30            | .2230081+03     | .3589656+07 | .4949232+03     |                  |
| 31            | .2229621+03     | .3607067+07 | .4984514+03     |                  |
| 32            | .2229391+03     | .3624479+07 | .5019566+03     |                  |
| 33            | .2229381+03     | .3641890+07 | .5054399+03     |                  |
| 34            | .2229583+03     | .3659301+07 | .5089019+03     |                  |
| 35            | .2229990+03     | .3676712+07 | .5123434+03     |                  |
| 36            | .2230595+03     | .3694123+07 | .5157652+03     |                  |
| 37            | .2231390+03     | .3711534+07 | .5191679+03     |                  |
| 38            | .2232370+03     | .3728946+07 | .5225522+03     |                  |
| 39            | .2233528+03     | .3746357+07 | .5259186+03     |                  |
| 40            | .2234659+03     | .3763768+07 | .5292678+03     |                  |
| 41            | .2236357+03     | .3781179+07 | .5326002+03     |                  |
| 42            | .2238016+03     | .3798591+07 | .5359164+03     |                  |
| 43            | .2239836+03     | .3816002+07 | .5392168+03     |                  |
| 44            | .2241806+03     | .3833413+07 | .5425020+03     |                  |
| 45            | .2243926+03     | .3850824+07 | .5457723+03     |                  |
| 46            | .2246189+03     | .3868235+07 | .5490282+03     |                  |
| 47            | .2248592+03     | .3885647+07 | .5522701+03     |                  |
| 48            | .2251132+03     | .3903058+07 | .5554984+03     |                  |
| 49            | .2253804+03     | .3920469+07 | .5587133+03     |                  |
| 50            | .2256606+03     | .3937880+07 | .5619154+03     |                  |
| 51            | .2259534+03     | .3955291+07 | .5651049+03     |                  |
| 52            | .2262584+03     | .3972703+07 | .5682821+03     |                  |
| 53            | .2265754+03     | .3990114+07 | .5714474+03     |                  |
| 54            | .2269040+03     | .4007525+07 | .5746010+03     |                  |
| 55            | .2272440+03     | .4024936+07 | .5777432+03     |                  |
| 56            | .2275952+03     | .4042347+07 | .5808743+03     |                  |
| 57            | .2279572+03     | .4059759+07 | .5839945+03     |                  |
| 58            | .2283292+03     | .4077170+07 | .5871042+03     |                  |
| 59            | .2287127+03     | .4094581+07 | .5902035+03     |                  |
| 60            | .2291058+03     | .4111992+07 | .5932926+03     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

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DATA - Z = OREGON #1: NONVIOLENT CRIME, OVER 18 84 OBSERVATIONS

DIFFERENCING ON Z - 1) 1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

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## UNIVARIATE MODEL PARAMETERS

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| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
|---------------------|-------------------|--------------------|--------------------|

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|   |                  |   |           |
|---|------------------|---|-----------|
| 1 | MOVING AVERAGE 1 | 1 | .71409+00 |
|---|------------------|---|-----------|

|   |                  |    |           |
|---|------------------|----|-----------|
| 2 | MOVING AVERAGE 1 | 18 | .32642+00 |
|---|------------------|----|-----------|

|   |                |  |           |
|---|----------------|--|-----------|
| 3 | TREND CONSTANT |  | .31004+01 |
|---|----------------|--|-----------|

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NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 04 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .3985816+03     | .4801170+03 | .5616524+03     |                  |
| 2             | .4112074+03     | .4900099+03 | .5808124+03     |                  |
| 3             | .4209429+03     | .5088912+03 | .5968396+03     |                  |
| 4             | .4077797+03     | .4987652+03 | .5897506+03     |                  |
| 5             | .3677884+03     | .4617128+03 | .5556372+03     |                  |
| 6             | .3499229+03     | .4466971+03 | .5434713+03     |                  |
| 7             | .3642508+03     | .4637931+03 | .5633355+03     |                  |
| 8             | .3852505+03     | .4874861+03 | .5897217+03     |                  |
| 9             | .3855158+03     | .4903755+03 | .5952353+03     |                  |
| 10            | .3927180+03     | .5001378+03 | .6075576+03     |                  |
| 11            | .3894104+03     | .4993306+03 | .6092508+03     |                  |
| 12            | .3723713+03     | .4847364+03 | .5971014+03     |                  |
| 13            | .3827936+03     | .4975514+03 | .6123091+03     |                  |
| 14            | .3870797+03     | .5041813+03 | .6212829+03     |                  |
| 15            | .3891775+03     | .5085769+03 | .6279764+03     |                  |
| 16            | .4009267+03     | .5225806+03 | .6442345+03     |                  |
| 17            | .4043271+03     | .5281944+03 | .6520618+03     |                  |
| 18            | .4072282+03     | .5332701+03 | .6593120+03     |                  |
| 19            | .4102854+03     | .5363706+03 | .6624557+03     |                  |
| 20            | .4133426+03     | .5394710+03 | .6655994+03     |                  |
| 21            | .4163998+03     | .5425714+03 | .6687431+03     |                  |
| 22            | .4194570+03     | .5456719+03 | .6718867+03     |                  |
| 23            | .4225142+03     | .5487723+03 | .6750303+03     |                  |
| 24            | .4255715+03     | .5518727+03 | .6781739+03     |                  |
| 25            | .4286287+03     | .5549731+03 | .6813175+03     |                  |
| 26            | .4316860+03     | .5580736+03 | .6844611+03     |                  |
| 27            | .4347433+03     | .5611740+03 | .6876047+03     |                  |
| 28            | .4378006+03     | .5642744+03 | .6907482+03     |                  |
| 29            | .4408579+03     | .5673748+03 | .6938918+03     |                  |
| 30            | .4439152+03     | .5704753+03 | .6970353+03     |                  |
| 31            | .4469726+03     | .5735757+03 | .7001788+03     |                  |
| 32            | .4500299+03     | .5766761+03 | .7033223+03     |                  |
| 33            | .4530873+03     | .5797765+03 | .7064658+03     |                  |
| 34            | .4561447+03     | .5828770+03 | .7096092+03     |                  |
| 35            | .4592021+03     | .5859774+03 | .7127527+03     |                  |
| 36            | .4622595+03     | .5890778+03 | .7158961+03     |                  |
| 37            | .4653170+03     | .5921782+03 | .7190395+03     |                  |
| 38            | .4683744+03     | .5952787+03 | .7221829+03     |                  |
| 39            | .4714319+03     | .5983791+03 | .7253263+03     |                  |
| 40            | .4744893+03     | .6014795+03 | .7284697+03     |                  |
| 41            | .4775468+03     | .6045799+03 | .7316131+03     |                  |
| 42            | .4806043+03     | .6076804+03 | .7347564+03     |                  |
| 43            | .4836619+03     | .6107808+03 | .7378997+03     |                  |
| 44            | .4867194+03     | .6138812+03 | .7410430+03     |                  |
| 45            | .4897769+03     | .6169816+03 | .7441863+03     |                  |
| 46            | .4928345+03     | .6200821+03 | .7473296+03     |                  |
| 47            | .4958921+03     | .6231825+03 | .7504729+03     |                  |
| 48            | .4989497+03     | .6262829+03 | .7536162+03     |                  |
| 49            | .5020073+03     | .6293833+03 | .7567594+03     |                  |
| 50            | .5050649+03     | .6324836+03 | .7599026+03     |                  |
| 51            | .5081225+03     | .6355842+03 | .7630459+03     |                  |
| 52            | .5111802+03     | .6386846+03 | .7661891+03     |                  |
| 53            | .5142378+03     | .6417850+03 | .7693323+03     |                  |
| 54            | .5172955+03     | .6448855+03 | .7724754+03     |                  |
| 55            | .5203532+03     | .6479859+03 | .7756186+03     |                  |
| 56            | .5234109+03     | .6510863+03 | .7787617+03     |                  |
| 57            | .5264686+03     | .6541868+03 | .7819049+03     |                  |
| 58            | .5295264+03     | .6572872+03 | .7850480+03     |                  |
| 59            | .5325841+03     | .6603876+03 | .7881911+03     |                  |
| 60            | .5356419+03     | .6634880+03 | .7913342+03     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #1: NONVIOLENT CRIME, UNDER 18

84 OBSERVATIONS

DIFFERENCING ON Z - 1) 1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | AUTOREGRESSIVE 1  | 1                  | -.45729+00         |
| 2                   | AUTOREGRESSIVE 1  | 2                  | -.37835+00         |
| 3                   | AUTOREGRESSIVE 1  | 4                  | -.29825+00         |
| 4                   | TREND CONSTANT    |                    | -.13703+01         |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1  
 NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60  
 FORECAST TIME ORIGINS ARE T= 84  
 BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .9997044+02     | .1957486+03 | .2915268+03     |                  |
| 2             | .7359708+02     | .1825710+03 | .2915450+03     |                  |
| 3             | .7150576+02     | .1862004+03 | .3008951+03     |                  |
| 4             | .6270660+02     | .1920334+03 | .3213602+03     |                  |
| 5             | .5053746+02     | .1825221+03 | .3145066+03     |                  |
| 6             | .4757935+02     | .1872245+03 | .3268697+03     |                  |
| 7             | .3639687+02     | .1862200+03 | .3360430+03     |                  |
| 8             | .2773150+02     | .1817902+03 | .3358489+03     |                  |
| 9             | .2338912+02     | .1856624+03 | .3479357+03     |                  |
| 10            | .1432034+02     | .1827949+03 | .3512694+03     |                  |
| 11            | .8506104+01     | .1815704+03 | .3546348+03     |                  |
| 12            | .3068798+01     | .1831661+03 | .3632635+03     |                  |
| 13            | .4739683+01     | .1803745+03 | .3654887+03     |                  |
| 14            | .9702503+01     | .1805323+03 | .3707671+03     |                  |
| 15            | .1561909+02     | .1805113+03 | .3766416+03     |                  |
| 16            | .2206771+02     | .1786150+03 | .3792976+03     |                  |
| 17            | .2682780+02     | .1789524+03 | .3847326+03     |                  |
| 18            | .3271866+02     | .1780982+03 | .3889150+03     |                  |
| 19            | .3823557+02     | .1769971+03 | .3922298+03     |                  |
| 20            | .4306100+02     | .1770191+03 | .3970992+03     |                  |
| 21            | .4863596+02     | .1759547+03 | .4005453+03     |                  |
| 22            | .5359200+02     | .1753176+03 | .4042272+03     |                  |
| 23            | .5844910+02     | .1749697+03 | .4083886+03     |                  |
| 24            | .6362117+02     | .1739930+03 | .4116072+03     |                  |
| 25            | .6828545+02     | .1735184+03 | .4153223+03     |                  |
| 26            | .7307941+02     | .1729247+03 | .4189288+03     |                  |
| 27            | .7788812+02     | .1721092+03 | .4221065+03     |                  |
| 28            | .8239484+02     | .1716278+03 | .4256504+03     |                  |
| 29            | .8704572+02     | .1709277+03 | .4289011+03     |                  |
| 30            | .9157543+02     | .1702368+03 | .4320490+03     |                  |
| 31            | .9597123+02     | .1696905+03 | .4353522+03     |                  |
| 32            | .1004439+03     | .1689750+03 | .4383939+03     |                  |
| 33            | .1047728+03     | .1683474+03 | .4414675+03     |                  |
| 34            | .1090615+03     | .1677409+03 | .4445433+03     |                  |
| 35            | .1133571+03     | .1670483+03 | .4474537+03     |                  |
| 36            | .1175384+03     | .1664376+03 | .4504135+03     |                  |
| 37            | .1217130+03     | .1657958+03 | .4533045+03     |                  |
| 38            | .1258512+03     | .1651309+03 | .4561131+03     |                  |
| 39            | .1299143+03     | .1645140+03 | .4589424+03     |                  |
| 40            | .1339713+03     | .1638595+03 | .4616903+03     |                  |
| 41            | .1379763+03     | .1632133+03 | .4644029+03     |                  |
| 42            | .1419354+03     | .1625845+03 | .4671043+03     |                  |
| 43            | .1458780+03     | .1619302+03 | .4697385+03     |                  |
| 44            | .1497702+03     | .1612922+03 | .4723547+03     |                  |
| 45            | .1536324+03     | .1606539+03 | .4749403+03     |                  |
| 46            | .1574689+03     | .1600045+03 | .4774778+03     |                  |
| 47            | .1612632+03     | .1593678+03 | .4799988+03     |                  |
| 48            | .1650335+03     | .1587246+03 | .4824828+03     |                  |
| 49            | .1687737+03     | .1580797+03 | .4849331+03     |                  |
| 50            | .1724603+03     | .1574414+03 | .4873630+03     |                  |
| 51            | .1761639+03     | .1567969+03 | .4897576+03     |                  |
| 52            | .1798173+03     | .1561546+03 | .4921265+03     |                  |
| 53            | .1834432+03     | .1555142+03 | .4944716+03     |                  |
| 54            | .1870458+03     | .1548701+03 | .4967861+03     |                  |
| 55            | .1906204+03     | .1542289+03 | .4990782+03     |                  |
| 56            | .1941713+03     | .1535871+03 | .5013454+03     |                  |
| 57            | .1976988+03     | .1529439+03 | .5035865+03     |                  |
| 58            | .2012012+03     | .1523026+03 | .5058064+03     |                  |
| 59            | .2046818+03     | .1516602+03 | .5080021+03     |                  |
| 60            | .2081397+03     | .1510177+03 | .5101752+03     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #1: NONVIOLENT CRIME, NONWHITE

84 OBSERVATIONS

DIFFERENCING ON Z - 1) 1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMEER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MOVING AVERAGE 1  | 1                  | .74942+00          |
| 2                   | TREND CONSTANT    |                    | .10528+01          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .1531413+03     | .2015734+03 | .2500056+03     |                  |
| 2             | .1526967+03     | .2026262+03 | .2525557+03     |                  |
| 3             | .1522957+03     | .2036790+03 | .2550622+03     |                  |
| 4             | .1519347+03     | .2047317+03 | .2575288+03     |                  |
| 5             | .1516106+03     | .2057845+03 | .2599584+03     |                  |
| 6             | .1513206+03     | .2068373+03 | .2623539+03     |                  |
| 7             | .1510624+03     | .2078900+03 | .2647177+03     |                  |
| 8             | .1508337+03     | .2089428+03 | .2670519+03     |                  |
| 9             | .1506327+03     | .2099956+03 | .2693584+03     |                  |
| 10            | .1504576+03     | .2110483+03 | .2716390+03     |                  |
| 11            | .1503069+03     | .2121011+03 | .2738953+03     |                  |
| 12            | .1501792+03     | .2131539+03 | .2761285+03     |                  |
| 13            | .1500733+03     | .2142066+03 | .2783400+03     |                  |
| 14            | .1499879+03     | .2152594+03 | .2805309+03     |                  |
| 15            | .1499220+03     | .2163122+03 | .2827023+03     |                  |
| 16            | .1498746+03     | .2173649+03 | .2848552+03     |                  |
| 17            | .1498449+03     | .2184177+03 | .2869905+03     |                  |
| 18            | .1498320+03     | .2194705+03 | .2891089+03     |                  |
| 19            | .1498352+03     | .2205232+03 | .2912112+03     |                  |
| 20            | .1498537+03     | .2215760+03 | .2932982+03     |                  |
| 21            | .1498870+03     | .2226288+03 | .2953705+03     |                  |
| 22            | .1499343+03     | .2236815+03 | .2974287+03     |                  |
| 23            | .1499952+03     | .2247343+03 | .2994734+03     |                  |
| 24            | .1500690+03     | .2257871+03 | .3015051+03     |                  |
| 25            | .1501554+03     | .2268398+03 | .3035243+03     |                  |
| 26            | .1502538+03     | .2278926+03 | .3055314+03     |                  |
| 27            | .1503637+03     | .2289454+03 | .3075270+03     |                  |
| 28            | .1504849+03     | .2299981+03 | .3095114+03     |                  |
| 29            | .1506168+03     | .2310509+03 | .3114850+03     |                  |
| 30            | .1507592+03     | .2321037+03 | .3134481+03     |                  |
| 31            | .1509116+03     | .2331564+03 | .3154012+03     |                  |
| 32            | .1510738+03     | .2342092+03 | .3173446+03     |                  |
| 33            | .1512454+03     | .2352620+03 | .3192785+03     |                  |
| 34            | .1514262+03     | .2363147+03 | .3212033+03     |                  |
| 35            | .1516158+03     | .2373675+03 | .3231192+03     |                  |
| 36            | .1518141+03     | .2384203+03 | .3250265+03     |                  |
| 37            | .1520206+03     | .2394730+03 | .3269254+03     |                  |
| 38            | .1522353+03     | .2405258+03 | .3288162+03     |                  |
| 39            | .1524579+03     | .2415786+03 | .3306992+03     |                  |
| 40            | .1526882+03     | .2426313+03 | .3325745+03     |                  |
| 41            | .1529259+03     | .2436841+03 | .3344423+03     |                  |
| 42            | .1531708+03     | .2447369+03 | .3363029+03     |                  |
| 43            | .1534228+03     | .2457896+03 | .3381564+03     |                  |
| 44            | .1536817+03     | .2468424+03 | .3400031+03     |                  |
| 45            | .1539473+03     | .2478952+03 | .3418430+03     |                  |
| 46            | .1542195+03     | .2489479+03 | .3436764+03     |                  |
| 47            | .1544980+03     | .2500007+03 | .3455034+03     |                  |
| 48            | .1547828+03     | .2510535+03 | .3473242+03     |                  |
| 49            | .1550733+03     | .2521062+03 | .3491389+03     |                  |
| 50            | .1553704+03     | .2531590+03 | .3509476+03     |                  |
| 51            | .1556729+03     | .2542118+03 | .3527506+03     |                  |
| 52            | .1559812+03     | .2552645+03 | .3545479+03     |                  |
| 53            | .1562949+03     | .2563173+03 | .3563396+03     |                  |
| 54            | .1566141+03     | .2573701+03 | .3581260+03     |                  |
| 55            | .1569386+03     | .2584228+03 | .3599070+03     |                  |
| 56            | .1572683+03     | .2594756+03 | .3616829+03     |                  |
| 57            | .1576031+03     | .2605284+03 | .3634536+03     |                  |
| 58            | .1579428+03     | .2615811+03 | .3652194+03     |                  |
| 59            | .1582874+03     | .2626339+03 | .3669803+03     |                  |
| 60            | .1586368+03     | .2636866+03 | .3687365+03     |                  |

52 .1677074+00  
53 .1670985+00  
54 .1677005+00  
1677052+00

TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #2: OVER EIGHTEEN NONVIOLENT CRIMES

84 OBSERVATIONS

DIFFERENCING ON Z - 1) 1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | AUTOREGRESSIVE 1  | 1                  | -.81767+00         |
| 2                   | AUTOREGRESSIVE 1  | 2                  | -.71153+00         |
| 3                   | MOVING AVERAGE 1  | 3                  | .57585+00          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1  
NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60  
FORECAST TIME ORIGINS ARE 1- 84  
BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .1480670+03     | .2337023+03 | .3193377+03     |                  |
| 2             | .1443291+03     | .2313762+03 | .3184234+03     |                  |
| 3             | .1451834+03     | .2330452+03 | .3209070+03     |                  |
| 4             | .1441254+03     | .2333356+03 | .3225459+03     |                  |
| 5             | .1441158+03     | .2319106+03 | .3224055+03     |                  |
| 6             | .1414589+03     | .2328692+03 | .3242794+03     |                  |
| 7             | .1404729+03     | .2330993+03 | .3257257+03     |                  |
| 8             | .1384107+03     | .2322291+03 | .3260476+03     |                  |
| 9             | .1379939+03     | .2327769+03 | .3275599+03     |                  |
| 10            | .1370341+03     | .2329482+03 | .3288622+03     |                  |
| 11            | .1353818+03     | .2324184+03 | .3294549+03     |                  |
| 12            | .1347113+03     | .2327297+03 | .3307481+03     |                  |
| 13            | .1337618+03     | .2328521+03 | .3319424+03     |                  |
| 14            | .1323718+03     | .2325305+03 | .3326892+03     |                  |
| 15            | .1315670+03     | .2327064+03 | .3338957+03     |                  |
| 16            | .1306246+03     | .2327914+03 | .3349581+03     |                  |
| 17            | .1294050+03     | .2325967+03 | .3357884+03     |                  |
| 18            | .1285345+03     | .2326954+03 | .3368563+03     |                  |
| 19            | .1276006+03     | .2327532+03 | .3379059+03     |                  |
| 20            | .1264942+03     | .2326357+03 | .3387772+03     |                  |
| 21            | .1255967+03     | .2326907+03 | .3397846+03     |                  |
| 22            | .1246736+03     | .2327293+03 | .3407850+03     |                  |
| 23            | .1236450+03     | .2326586+03 | .3416723+03     |                  |
| 24            | .1227418+03     | .2326889+03 | .3426360+03     |                  |
| 25            | .1218320+03     | .2327145+03 | .3435969+03     |                  |
| 26            | .1208586+03     | .2326720+03 | .3444854+03     |                  |
| 27            | .1199615+03     | .2326885+03 | .3454156+03     |                  |
| 28            | .1190665+03     | .2327052+03 | .3463440+03     |                  |
| 29            | .1181343+03     | .2326798+03 | .3472254+03     |                  |
| 30            | .1172492+03     | .2326887+03 | .3481282+03     |                  |
| 31            | .1163699+03     | .2326995+03 | .3490291+03     |                  |
| 32            | .1154699+03     | .2326844+03 | .3498989+03     |                  |
| 33            | .1145997+03     | .2326891+03 | .3507785+03     |                  |
| 34            | .1137365+03     | .2326960+03 | .3516555+03     |                  |
| 35            | .1128627+03     | .2326870+03 | .3525113+03     |                  |
| 36            | .1120085+03     | .2326894+03 | .3533704+03     |                  |
| 37            | .1111614+03     | .2326938+03 | .3542263+03     |                  |
| 38            | .1103098+03     | .2326885+03 | .3550671+03     |                  |
| 39            | .1094718+03     | .2326897+03 | .3559076+03     |                  |
| 40            | .1086406+03     | .2326925+03 | .3567445+03     |                  |
| 41            | .1078085+03     | .2326894+03 | .3575702+03     |                  |
| 42            | .1069263+03     | .2326899+03 | .3583936+03     |                  |
| 43            | .1061704+03     | .2326917+03 | .3592130+03     |                  |
| 44            | .1053559+03     | .2326898+03 | .3600238+03     |                  |
| 45            | .1045490+03     | .2326901+03 | .3608312+03     |                  |
| 46            | .1037479+03     | .2326912+03 | .3616345+03     |                  |
| 47            | .1029494+03     | .2326901+03 | .3624309+03     |                  |
| 48            | .1021572+03     | .2326902+03 | .3632233+03     |                  |
| 49            | .1013703+03     | .2326909+03 | .3640116+03     |                  |
| 50            | .1005866+03     | .2326903+03 | .3647940+03     |                  |
| 51            | .9980836+02     | .2326903+03 | .3655723+03     |                  |
| 52            | .9903502+02     | .2326907+03 | .3663465+03     |                  |
| 53            | .9826526+02     | .2326904+03 | .3671155+03     |                  |
| 54            | .9750033+02     | .2326904+03 | .3678804+03     |                  |
| 55            | .9673996+02     | .2326906+03 | .3686413+03     |                  |
| 56            | .9598328+02     | .2326904+03 | .3693975+03     |                  |
| 57            | .9523103+02     | .2326904+03 | .3701498+03     |                  |
| 58            | .9448304+02     | .2326906+03 | .3708981+03     |                  |
| 59            | .9373875+02     | .2326904+03 | .3716421+03     |                  |
| 60            | .9299858+02     | .2326904+03 | .3723823+03     |                  |

07 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00

TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #2: UNDER EIGHTEEN NONVIOLENT CRIMES

84 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .21296+03          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 2             | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 3             | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 4             | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 5             | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 6             | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 7             | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 8             | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 9             | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 10            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 11            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 12            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 13            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 14            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 15            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 16            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 17            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 18            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 19            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 20            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 21            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 22            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 23            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 24            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 25            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 26            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 27            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 28            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 29            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 30            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 31            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 32            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 33            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 34            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 35            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 36            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 37            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 38            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 39            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 40            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 41            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 42            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 43            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 44            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 45            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 46            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 47            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 48            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 49            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 50            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 51            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 52            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 53            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 54            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 55            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 56            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 57            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 58            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 59            | .8631201+02     | .2129643+03 | .3396166+03     |                  |
| 60            | .8631201+02     | .2129643+03 | .3396166+03     |                  |

TIME SERIES FORECASTING FOR MODEL 1  
\*\*\*\*\*  
DATA - Z = OREGON #2: NATIVES ARRESTED FOR NONVIOLENT CRIMES 84 OBSERVATIONS  
DIFFERENCING ON Z = NONE  
TRANSFORMATIONS EXAMINED = NONE  
\*\*\*\*\*  
UNIVARIATE MODEL PARAMETERS  
\*\*\*\*\*  
PARAMETER PARAMETER PARAMETER BEGINNING  
NUMEER TYPE ORDER VALUE  
\*\*\*\*\*  
1 MEAN .14322+02  
2 AUTOREGRESSIVE 1 1 .24995+00  
3 AUTOREGRESSIVE 1 3 .36611+00  
\*\*\*\*\*  
NUMBER OF TIME ORIGINS FOR FORECASTS = 1  
NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60  
FORECAST TIME ORIGINS ARE T= 84  
BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .3398563+01     | .2055206+02 | .3770556+02     |                  |
| 2             | .2107520+01     | .1978875+02 | .3746999+02     |                  |
| 3             | .2982612+01     | .2069629+02 | .3840998+02     |                  |
| 4             | .6888256+00     | .1819636+02 | .3708155+02     |                  |
| 5             | .1863418+01     | .1729204+02 | .3644750+02     |                  |
| 6             | .1794362+01     | .1739826+02 | .3659088+02     |                  |
| 7             | .2871450+01     | .1650956+02 | .3589057+02     |                  |
| 8             | .3512545+01     | .1595634+02 | .3542523+02     |                  |
| 9             | .3632677+01     | .1585695+02 | .3534658+02     |                  |
| 10            | .4020509+01     | .1550674+02 | .3503400+02     |                  |
| 11            | .4335125+01     | .1521667+02 | .3476846+02     |                  |
| 12            | .4452439+01     | .1510777+02 | .3466799+02     |                  |
| 13            | .4616679+01     | .1495234+02 | .3452136+02     |                  |
| 14            | .4768252+01     | .1480729+02 | .3438283+02     |                  |
| 15            | .4847265+01     | .1473117+02 | .3430960+02     |                  |
| 16            | .4925481+01     | .1465523+02 | .3423595+02     |                  |
| 17            | .4999288+01     | .1458315+02 | .3416559+02     |                  |
| 18            | .5046079+01     | .1453726+02 | .3412060+02     |                  |
| 19            | .5085974+01     | .1449799+02 | .3408196+02     |                  |
| 20            | .5122640+01     | .1446179+02 | .3404621+02     |                  |
| 21            | .5148757+01     | .1443594+02 | .3402063+02     |                  |
| 22            | .5169771+01     | .1441510+02 | .3399997+02     |                  |
| 23            | .5188360+01     | .1439663+02 | .3398163+02     |                  |
| 24            | .5202516+01     | .1438255+02 | .3396762+02     |                  |
| 25            | .5213714+01     | .1437141+02 | .3395653+02     |                  |
| 26            | .5223295+01     | .1436186+02 | .3394701+02     |                  |
| 27            | .5230858+01     | .1435432+02 | .3393949+02     |                  |
| 28            | .5236838+01     | .1434835+02 | .3393354+02     |                  |
| 29            | .5241834+01     | .1434337+02 | .3392857+02     |                  |
| 30            | .5245847+01     | .1433936+02 | .3392456+02     |                  |
| 31            | .5249037+01     | .1433617+02 | .3392138+02     |                  |
| 32            | .5251661+01     | .1433355+02 | .3391876+02     |                  |
| 33            | .5253785+01     | .1433143+02 | .3391664+02     |                  |
| 34            | .5255483+01     | .1432973+02 | .3391495+02     |                  |
| 35            | .5256868+01     | .1432835+02 | .3391356+02     |                  |
| 36            | .5257992+01     | .1432722+02 | .3391244+02     |                  |
| 37            | .5258894+01     | .1432632+02 | .3391154+02     |                  |
| 38            | .5259626+01     | .1432559+02 | .3391081+02     |                  |
| 39            | .5260220+01     | .1432500+02 | .3391021+02     |                  |
| 40            | .5260699+01     | .1432452+02 | .3390973+02     |                  |
| 41            | .5261087+01     | .1432413+02 | .3390935+02     |                  |
| 42            | .5261401+01     | .1432382+02 | .3390903+02     |                  |
| 43            | .5261655+01     | .1432356+02 | .3390878+02     |                  |
| 44            | .5261861+01     | .1432336+02 | .3390857+02     |                  |
| 45            | .5262027+01     | .1432319+02 | .3390841+02     |                  |
| 46            | .5262161+01     | .1432306+02 | .3390827+02     |                  |
| 47            | .5262270+01     | .1432295+02 | .3390816+02     |                  |
| 48            | .5262358+01     | .1432286+02 | .3390807+02     |                  |
| 49            | .5262430+01     | .1432279+02 | .3390800+02     |                  |
| 50            | .5262487+01     | .1432273+02 | .3390795+02     |                  |
| 51            | .5262534+01     | .1432268+02 | .3390790+02     |                  |
| 52            | .5262572+01     | .1432264+02 | .3390786+02     |                  |
| 53            | .5262603+01     | .1432261+02 | .3390783+02     |                  |
| 54            | .5262627+01     | .1432259+02 | .3390781+02     |                  |
| 55            | .5262647+01     | .1432257+02 | .3390779+02     |                  |
| 56            | .5262663+01     | .1432255+02 | .3390777+02     |                  |
| 57            | .5262676+01     | .1432254+02 | .3390776+02     |                  |
| 58            | .5262687+01     | .1432253+02 | .3390775+02     |                  |
| 59            | .5262696+01     | .1432252+02 | .3390774+02     |                  |
| 60            | .5262703+01     | .1432251+02 | .3390773+02     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #3: NONVIOLENT CRIME, OVER 18 84 OBSERVATIONS

DIFFERENCING ON Z - 1) 1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMEER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MOVING AVERAGE 1  | 1                  | .85163+00          |
| 2                   | TREND CONSTANT    |                    | .17777+01          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE 1-84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .1831400+03     | .2283800+03 | .2736200+03     |                  |
| 2             | .1844224+03     | .2301576+03 | .2758928+03     |                  |
| 3             | .1857102+03     | .2319353+03 | .2781604+03     |                  |
| 4             | .1870030+03     | .2337129+03 | .2804229+03     |                  |
| 5             | .1883009+03     | .2354906+03 | .2826803+03     |                  |
| 6             | .1896036+03     | .2372683+03 | .2849329+03     |                  |
| 7             | .1909109+03     | .2390459+03 | .2871809+03     |                  |
| 8             | .1922226+03     | .2408236+03 | .2894243+03     |                  |
| 9             | .1935392+03     | .2426012+03 | .2916632+03     |                  |
| 10            | .1948598+03     | .2443789+03 | .2938979+03     |                  |
| 11            | .1961846+03     | .2461565+03 | .2961284+03     |                  |
| 12            | .1975135+03     | .2479342+03 | .2983548+03     |                  |
| 13            | .1988463+03     | .2497118+03 | .3005773+03     |                  |
| 14            | .2001830+03     | .2514895+03 | .3027959+03     |                  |
| 15            | .2015235+03     | .2532671+03 | .3050108+03     |                  |
| 16            | .2028676+03     | .2550448+03 | .3072220+03     |                  |
| 17            | .2042153+03     | .2568224+03 | .3094296+03     |                  |
| 18            | .2055665+03     | .2586001+03 | .3116337+03     |                  |
| 19            | .2069210+03     | .2603777+03 | .3138344+03     |                  |
| 20            | .2082789+03     | .2621554+03 | .3160319+03     |                  |
| 21            | .2096401+03     | .2639330+03 | .3182260+03     |                  |
| 22            | .2110044+03     | .2657107+03 | .3204170+03     |                  |
| 23            | .2123718+03     | .2674883+03 | .3226049+03     |                  |
| 24            | .2137422+03     | .2692660+03 | .3247898+03     |                  |
| 25            | .2151157+03     | .2710437+03 | .3269717+03     |                  |
| 26            | .2164920+03     | .2728213+03 | .3291506+03     |                  |
| 27            | .2178711+03     | .2745990+03 | .3313268+03     |                  |
| 28            | .2192530+03     | .2763766+03 | .3335002+03     |                  |
| 29            | .2206377+03     | .2781543+03 | .3356708+03     |                  |
| 30            | .2220250+03     | .2799319+03 | .3378388+03     |                  |
| 31            | .2234150+03     | .2817096+03 | .3400042+03     |                  |
| 32            | .2248074+03     | .2834872+03 | .3421670+03     |                  |
| 33            | .2262025+03     | .2852649+03 | .3443273+03     |                  |
| 34            | .2275999+03     | .2870425+03 | .3464851+03     |                  |
| 35            | .2289998+03     | .2888202+03 | .3486406+03     |                  |
| 36            | .2304021+03     | .2905978+03 | .3507936+03     |                  |
| 37            | .2318067+03     | .2923755+03 | .3529443+03     |                  |
| 38            | .2332135+03     | .2941531+03 | .3550928+03     |                  |
| 39            | .2346226+03     | .2959308+03 | .3572390+03     |                  |
| 40            | .2360339+03     | .2977084+03 | .3593830+03     |                  |
| 41            | .2374474+03     | .2994861+03 | .3615248+03     |                  |
| 42            | .2388630+03     | .3012638+03 | .3636645+03     |                  |
| 43            | .2402807+03     | .3030414+03 | .3658021+03     |                  |
| 44            | .2417004+03     | .3048191+03 | .3679377+03     |                  |
| 45            | .2431222+03     | .3065967+03 | .3700712+03     |                  |
| 46            | .2445460+03     | .3083744+03 | .3722028+03     |                  |
| 47            | .2459716+03     | .3101520+03 | .3743324+03     |                  |
| 48            | .2473993+03     | .3119297+03 | .3764601+03     |                  |
| 49            | .2488288+03     | .3137073+03 | .3785859+03     |                  |
| 50            | .2502601+03     | .3154850+03 | .3807098+03     |                  |
| 51            | .2516933+03     | .3172626+03 | .3828319+03     |                  |
| 52            | .2531283+03     | .3190403+03 | .3849522+03     |                  |
| 53            | .2545651+03     | .3208179+03 | .3870708+03     |                  |
| 54            | .2560036+03     | .3225956+03 | .3891876+03     |                  |
| 55            | .2574438+03     | .3243732+03 | .3913027+03     |                  |
| 56            | .2588857+03     | .3261509+03 | .3934161+03     |                  |
| 57            | .2603293+03     | .3279285+03 | .3955278+03     |                  |
| 58            | .2617745+03     | .3297062+03 | .3976378+03     |                  |
| 59            | .2632214+03     | .3314838+03 | .3997463+03     |                  |
| 60            | .2646698+03     | .3332615+03 | .4018532+03     |                  |

TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #3: NONVIOLENT CRIME, UNDER 18

84 OBSERVATIONS

DIFFERENCING ON Z = NONE

TRANSFORMATIONS EXAMINED = NONE

UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .16389*03          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 2             | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 3             | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 4             | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 5             | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 6             | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 7             | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 8             | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 9             | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 10            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 11            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 12            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 13            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 14            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 15            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 16            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 17            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 18            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 19            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 20            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 21            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 22            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 23            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 24            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 25            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 26            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 27            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 28            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 29            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 30            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 31            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 32            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 33            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 34            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 35            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 36            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 37            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 38            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 39            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 40            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 41            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 42            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 43            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 44            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 45            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 46            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 47            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 48            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 49            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 50            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 51            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 52            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 53            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 54            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 55            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 56            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 57            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 58            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 59            | .1032575+03     | .1638929+03 | .2245282+03     |                  |
| 60            | .1032575+03     | .1638929+03 | .2245282+03     |                  |

59

.5407132\*00  
.5407132\*00

TIME SERIES FORECASTING FOR MODEL 1

84 OBSERVATIONS

DATA - Z = OREGON #3: NONVIOLENT CRIME, NONWHITE

DIFFERENCING ON Z - 11 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | AUTOREGRESSIVE 1  | 1                  | -.63989*00         |
| 2                   | AUTOREGRESSIVE 1  | 2                  | -.20952*00         |
| 3                   | TREND CONSTANT    |                    | .48447*00          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

PERIODS AHEAD    LO. CONF. LIMIT    FORECAST    UP. CONF. LIMIT    ACTUAL, IF KNOWN

|    |             |             |             |  |
|----|-------------|-------------|-------------|--|
| 1  | .2157060+02 | .3219210+02 | .4281361+02 |  |
| 2  | .2193831+02 | .3322753+02 | .4451674+02 |  |
| 3  | .2108671+02 | .3384727+02 | .4660783+02 |  |
| 4  | .1961163+02 | .3371823+02 | .4782484+02 |  |
| 5  | .1900469+02 | .3415542+02 | .4930616+02 |  |
| 6  | .1815532+02 | .3438717+02 | .5061903+02 |  |
| 7  | .1741612+02 | .3463175+02 | .5184737+02 |  |
| 8  | .1676683+02 | .3491116+02 | .5305540+02 |  |
| 9  | .1613113+02 | .3516559+02 | .5420006+02 |  |
| 10 | .1554768+02 | .3542871+02 | .5530274+02 |  |
| 11 | .1499750+02 | .3569151+02 | .5638551+02 |  |
| 12 | .1447635+02 | .3595269+02 | .5742902+02 |  |
| 13 | .1398408+02 | .3621497+02 | .5844586+02 |  |
| 14 | .1351609+02 | .3647688+02 | .5943768+02 |  |
| 15 | .1307063+02 | .3673880+02 | .6040698+02 |  |
| 16 | .1264579+02 | .3700090+02 | .6135580+02 |  |
| 17 | .1223974+02 | .3726274+02 | .6228575+02 |  |
| 18 | .1185108+02 | .3752470+02 | .6319833+02 |  |
| 19 | .1147851+02 | .3778666+02 | .6409482+02 |  |
| 20 | .1112088+02 | .3804862+02 | .6497636+02 |  |
| 21 | .1077719+02 | .3831056+02 | .6584397+02 |  |
| 22 | .1044654+02 | .3857254+02 | .6669854+02 |  |
| 23 | .1012812+02 | .3883450+02 | .6754087+02 |  |
| 24 | .9821206+01 | .3909646+02 | .6837171+02 |  |
| 25 | .9525136+01 | .3935842+02 | .6919169+02 |  |
| 26 | .9239315+01 | .3962037+02 | .7000143+02 |  |
| 27 | .8963197+01 | .3988233+02 | .7080147+02 |  |
| 28 | .8696284+01 | .4014429+02 | .7159230+02 |  |
| 29 | .8438119+01 | .4040625+02 | .7237438+02 |  |
| 30 | .8188283+01 | .4066821+02 | .7314814+02 |  |
| 31 | .7946386+01 | .4093017+02 | .7391395+02 |  |
| 32 | .7712072+01 | .4119213+02 | .7467218+02 |  |
| 33 | .7485007+01 | .4145409+02 | .7542317+02 |  |
| 34 | .7264884+01 | .4171604+02 | .7616721+02 |  |
| 35 | .7051413+01 | .4197800+02 | .7690459+02 |  |
| 36 | .6844327+01 | .4223996+02 | .7763560+02 |  |
| 37 | .6643377+01 | .4250192+02 | .7836047+02 |  |
| 38 | .6448327+01 | .4276388+02 | .7907943+02 |  |
| 39 | .6258957+01 | .4302584+02 | .7979272+02 |  |
| 40 | .6075061+01 | .4328780+02 | .8050054+02 |  |
| 41 | .5896443+01 | .4354976+02 | .8120307+02 |  |
| 42 | .5722921+01 | .4381172+02 | .8190051+02 |  |
| 43 | .5554322+01 | .4407367+02 | .8259303+02 |  |
| 44 | .5390483+01 | .4433563+02 | .8328078+02 |  |
| 45 | .5231250+01 | .4459759+02 | .8396394+02 |  |
| 46 | .5076475+01 | .4485955+02 | .8464263+02 |  |
| 47 | .4926020+01 | .4512151+02 | .8531700+02 |  |
| 48 | .4779755+01 | .4538347+02 | .8598718+02 |  |
| 49 | .4637552+01 | .4564543+02 | .8665330+02 |  |
| 50 | .4499295+01 | .4590739+02 | .8731548+02 |  |
| 51 | .4364868+01 | .4616935+02 | .8797382+02 |  |
| 52 | .4234165+01 | .4643130+02 | .8862844+02 |  |
| 53 | .4107083+01 | .4669326+02 | .8927944+02 |  |
| 54 | .3983522+01 | .4695522+02 | .8992692+02 |  |
| 55 | .3863389+01 | .4721718+02 | .9057097+02 |  |
| 56 | .3746595+01 | .4747914+02 | .9121168+02 |  |
| 57 | .3633053+01 | .4774110+02 | .9184914+02 |  |
| 58 | .3522681+01 | .4800306+02 | .9248343+02 |  |
| 59 | .3415400+01 | .4826502+02 | .9311463+02 |  |
| 60 | .3311134+01 | .4852697+02 | .9374281+02 |  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #4: NONVIOLENT CRIME, OVER 18

84 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .11173+03          |
| 2                   | AUTOREGRESSIVE 1  | 1                  | .35360+00          |
| 3                   | AUTOREGRESSIVE 2  | 12                 | .20088+00          |
| 4                   | AUTOREGRESSIVE 2  | 24                 | .27667+00          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .8757700+02     | .1205591+03 | .1535611+03     |                  |
| 2             | .9190421+02     | .1268991+03 | .1618920+03     |                  |
| 3             | .7593562+02     | .1111718+03 | .1464080+03     |                  |
| 4             | .8214275+02     | .1174091+03 | .1526755+03     |                  |
| 5             | .7021863+02     | .1054886+03 | .1407589+03     |                  |
| 6             | .7231966+02     | .1075903+03 | .1428609+03     |                  |
| 7             | .7105432+02     | .1063250+03 | .1415956+03     |                  |
| 8             | .6655423+02     | .1018249+03 | .1370956+03     |                  |
| 9             | .7854926+02     | .1138199+03 | .1490906+03     |                  |
| 10            | .8841424+02     | .1236849+03 | .1589556+03     |                  |
| 11            | .7450126+02     | .1097719+03 | .1450426+03     |                  |
| 12            | .8478373+02     | .1200544+03 | .1553251+03     |                  |
| 13            | .8571339+02     | .1216014+03 | .1574893+03     |                  |
| 14            | .8580168+02     | .1217661+03 | .1577305+03     |                  |
| 15            | .7460952+02     | .1105835+03 | .1465574+03     |                  |
| 16            | .7503129+02     | .1110064+03 | .1469816+03     |                  |
| 17            | .6959315+02     | .1055684+03 | .1415437+03     |                  |
| 18            | .7139864+02     | .1073740+03 | .1433493+03     |                  |
| 19            | .7474118+02     | .1107165+03 | .1466918+03     |                  |
| 20            | .7107048+02     | .1070458+03 | .1430211+03     |                  |
| 21            | .7514012+02     | .1111154+03 | .1470908+03     |                  |
| 22            | .7241845+02     | .1083938+03 | .1443691+03     |                  |
| 23            | .7294359+02     | .1089189+03 | .1448942+03     |                  |
| 24            | .7888256+02     | .1148579+03 | .1508332+03     |                  |
| 25            | .7869116+02     | .1161561+03 | .1536210+03     |                  |
| 26            | .8029321+02     | .1179402+03 | .1555873+03     |                  |
| 27            | .7367308+02     | .1113428+03 | .1490126+03     |                  |
| 28            | .7548089+02     | .1131535+03 | .1508261+03     |                  |
| 29            | .7109012+02     | .1087631+03 | .1464360+03     |                  |
| 30            | .7203420+02     | .1097072+03 | .1473802+03     |                  |
| 31            | .7235559+02     | .1100286+03 | .1477016+03     |                  |
| 32            | .7037316+02     | .1080462+03 | .1457191+03     |                  |
| 33            | .7450936+02     | .1121824+03 | .1498553+03     |                  |
| 34            | .7669197+02     | .1143650+03 | .1520379+03     |                  |
| 35            | .7294815+02     | .1106211+03 | .1482941+03     |                  |
| 36            | .7698605+02     | .1146590+03 | .1523320+03     |                  |
| 37            | .7746991+02     | .1153478+03 | .1532258+03     |                  |
| 38            | .7784835+02     | .1157518+03 | .1536553+03     |                  |
| 39            | .7342594+02     | .1113326+03 | .1492393+03     |                  |
| 40            | .7390611+02     | .1118134+03 | .1497204+03     |                  |
| 41            | .7151975+02     | .1094269+03 | .1473340+03     |                  |
| 42            | .7220893+02     | .1101160+03 | .1480232+03     |                  |
| 43            | .7319828+02     | .1111054+03 | .1490125+03     |                  |
| 44            | .7178446+02     | .1096916+03 | .1475987+03     |                  |
| 45            | .7374131+02     | .1116484+03 | .1495555+03     |                  |
| 46            | .7342676+02     | .1113339+03 | .1492410+03     |                  |
| 47            | .7261997+02     | .1107271+03 | .1486342+03     |                  |
| 48            | .7527426+02     | .1131814+03 | .1510685+03     |                  |
| 49            | .7559319+02     | .1136789+03 | .1517647+03     |                  |
| 50            | .7614569+02     | .1142537+03 | .1523617+03     |                  |
| 51            | .7342984+02     | .1115406+03 | .1496514+03     |                  |
| 52            | .7402702+02     | .1121382+03 | .1502493+03     |                  |
| 53            | .7233287+02     | .1104441+03 | .1485552+03     |                  |
| 54            | .7273253+02     | .1108437+03 | .1489549+03     |                  |
| 55            | .7302019+02     | .1111314+03 | .1492426+03     |                  |
| 56            | .7218770+02     | .1102989+03 | .1484401+03     |                  |
| 57            | .7372516+02     | .1118164+03 | .1499475+03     |                  |
| 58            | .7426584+02     | .1123770+03 | .1504882+03     |                  |
| 59            | .7310814+02     | .1112193+03 | .1493305+03     |                  |
| 60            | .7471834+02     | .1128295+03 | .1509407+03     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #4: NONVIOLENT CRIME, UNDER 18

84 OBSERVATIONS

DIFFERENCING ON Z = NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .94926+02          |
| 2                   | AUTOREGRESSIVE 1  | 1                  | .25507+00          |
| 3                   | AUTOREGRESSIVE 1  | 12                 | .18636+00          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1  
NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60  
FORECAST TIME ORIGINS ARE T= 84  
BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .4238339+02     | .8235287+02 | .1223224+03     |                  |
| 2             | .5309254+02     | .9434179+02 | .1355910+03     |                  |
| 3             | .5849138+02     | .9982252+02 | .1411537+03     |                  |
| 4             | .5876589+02     | .1001023+03 | .1414388+03     |                  |
| 5             | .5361884+02     | .9495566+02 | .1362925+03     |                  |
| 6             | .5361056+02     | .9494739+02 | .1362842+03     |                  |
| 7             | .4783130+02     | .8916813+02 | .1305050+03     |                  |
| 8             | .5120251+02     | .9253935+02 | .1338762+03     |                  |
| 9             | .4852159+02     | .8985842+02 | .1311953+03     |                  |
| 10            | .5081951+02     | .9215634+02 | .1334932+03     |                  |
| 11            | .5326924+02     | .9460608+02 | .1359429+03     |                  |
| 12            | .4662608+02     | .8796291+02 | .1292997+03     |                  |
| 13            | .4880423+02     | .9080681+02 | .1328094+03     |                  |
| 14            | .5159234+02     | .9376647+02 | .1359406+03     |                  |
| 15            | .5334361+02     | .9554278+02 | .1377420+03     |                  |
| 16            | .5384595+02     | .9604802+02 | .1382501+03     |                  |
| 17            | .5301539+02     | .9521776+02 | .1374201+03     |                  |
| 18            | .5280205+02     | .9500444+02 | .1372068+03     |                  |
| 19            | .5167061+02     | .9387301+02 | .1360754+03     |                  |
| 20            | .5201027+02     | .9421267+02 | .1364151+03     |                  |
| 21            | .5159729+02     | .9379969+02 | .1360021+03     |                  |
| 22            | .5192019+02     | .9412259+02 | .1363250+03     |                  |
| 23            | .5245909+02     | .9466148+02 | .1368639+03     |                  |
| 24            | .5135853+02     | .9356092+02 | .1357633+03     |                  |
| 25            | .5158497+02     | .9381019+02 | .1360354+03     |                  |
| 26            | .5218675+02     | .9442533+02 | .1366639+03     |                  |
| 27            | .5267122+02     | .9491327+02 | .1371553+03     |                  |
| 28            | .5288920+02     | .9513189+02 | .1373746+03     |                  |
| 29            | .5279015+02     | .9503292+02 | .1372757+03     |                  |
| 30            | .5272514+02     | .9496792+02 | .1372107+03     |                  |
| 31            | .5249771+02     | .9474049+02 | .1369833+03     |                  |
| 32            | .5250299+02     | .9474578+02 | .1369886+03     |                  |
| 33            | .5242738+02     | .9467017+02 | .1369130+03     |                  |
| 34            | .5246827+02     | .9471105+02 | .1369538+03     |                  |
| 35            | .5257913+02     | .9482191+02 | .1370647+03     |                  |
| 36            | .5240230+02     | .9464509+02 | .1368879+03     |                  |
| 37            | .5240286+02     | .9464644+02 | .1368900+03     |                  |
| 38            | .5251702+02     | .9476142+02 | .1370058+03     |                  |
| 39            | .5263694+02     | .9488168+02 | .1371264+03     |                  |
| 40            | .5270827+02     | .9495310+02 | .1371979+03     |                  |
| 41            | .5270803+02     | .9495287+02 | .1371977+03     |                  |
| 42            | .5269586+02     | .9494070+02 | .1371855+03     |                  |
| 43            | .5265037+02     | .9489521+02 | .1371401+03     |                  |
| 44            | .5263975+02     | .9488460+02 | .1371294+03     |                  |
| 45            | .5262295+02     | .9486780+02 | .1371426+03     |                  |
| 46            | .5262628+02     | .9487113+02 | .1371160+03     |                  |
| 47            | .5264779+02     | .9489264+02 | .1371375+03     |                  |
| 48            | .5262033+02     | .9486517+02 | .1371100+03     |                  |
| 49            | .5261355+02     | .9485842+02 | .1371033+03     |                  |
| 50            | .5263321+02     | .9487813+02 | .1371230+03     |                  |
| 51            | .5266062+02     | .9490556+02 | .1371505+03     |                  |
| 52            | .5268092+02     | .9492587+02 | .1371708+03     |                  |
| 53            | .5268605+02     | .9493101+02 | .1371760+03     |                  |
| 54            | .5268509+02     | .9493005+02 | .1371760+03     |                  |
| 55            | .5267637+02     | .9492133+02 | .1371663+03     |                  |
| 56            | .5267217+02     | .9491713+02 | .1371621+03     |                  |
| 57            | .5266797+02     | .9491292+02 | .1371579+03     |                  |
| 58            | .5266752+02     | .9491247+02 | .1371574+03     |                  |
| 59            | .5267141+02     | .9491637+02 | .1371613+03     |                  |
| 60            | .5266729+02     | .9491224+02 | .1371572+03     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

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 DATA - Z = OREGON #4: NONVIOLENT CRIME, NONWHITE 84 OBSERVATIONS

DIFFERENCING ON Z = NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

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| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .33333+01          |

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NUMBER OF TIME ORIGINS FOR FORECASTS = 1  
 NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60  
 FORECAST TIME ORIGINS ARE T= 84  
 BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

**CONTINUED**

**4 OF 5**

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CFMT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 2             | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 3             | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 4             | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 5             | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 6             | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 7             | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 8             | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 9             | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 10            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 11            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 12            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 13            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 14            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 15            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 16            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 17            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 18            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 19            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 20            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 21            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 22            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 23            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 24            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 25            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 26            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 27            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 28            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 29            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 30            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 31            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 32            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 33            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 34            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 35            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 36            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 37            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 38            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 39            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 40            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 41            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 42            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 43            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 44            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 45            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 46            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 47            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 48            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 49            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 50            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 51            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 52            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 53            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 54            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 55            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 56            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 57            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 58            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 59            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |
| 60            | -.1641272+01    | .3333333+01 | .8307937+01     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #5: NONVIOLENT CRIME, OVER 18

84 OBSERVATIONS

DIFFERENCING ON Z - 1) 1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MOVING AVERAGE 1  | 1                  | .71892+00          |
| 2                   | TREND CONSTANT    |                    | .49011+00          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1  
 NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60  
 FORECAST TIME ORIGINS ARE T= 84  
 BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .1204049+03     | .1764563+03 | .2325077+03     |                  |
| 2             | .1191230+03     | .1773464+03 | .2355698+03     |                  |
| 3             | .1179192+03     | .1782365+03 | .2385538+03     |                  |
| 4             | .1167857+03     | .1791266+03 | .2414676+03     |                  |
| 5             | .1157158+03     | .1800167+03 | .2443176+03     |                  |
| 6             | .1147040+03     | .1809068+03 | .2471097+03     |                  |
| 7             | .1137453+03     | .1817969+03 | .2498486+03     |                  |
| 8             | .1128355+03     | .1826870+03 | .2525386+03     |                  |
| 9             | .1119709+03     | .1835772+03 | .2551834+03     |                  |
| 10            | .1111483+03     | .1844673+03 | .2577862+03     |                  |
| 11            | .1103649+03     | .1853574+03 | .2603499+03     |                  |
| 12            | .1096179+03     | .1862475+03 | .2628770+03     |                  |
| 13            | .1089052+03     | .1871376+03 | .2653699+03     |                  |
| 14            | .1082247+03     | .1880277+03 | .2678306+03     |                  |
| 15            | .1075745+03     | .1889178+03 | .2702610+03     |                  |
| 16            | .1069530+03     | .1898079+03 | .2726628+03     |                  |
| 17            | .1063585+03     | .1906980+03 | .2750375+03     |                  |
| 18            | .1057897+03     | .1915881+03 | .2773865+03     |                  |
| 19            | .1052454+03     | .1924782+03 | .2797111+03     |                  |
| 20            | .1047242+03     | .1933683+03 | .2820125+03     |                  |
| 21            | .1042251+03     | .1942584+03 | .2842917+03     |                  |
| 22            | .1037472+03     | .1951485+03 | .2865499+03     |                  |
| 23            | .1032894+03     | .1960386+03 | .2887879+03     |                  |
| 24            | .1028510+03     | .1969287+03 | .2910065+03     |                  |
| 25            | .1024310+03     | .1978188+03 | .2932067+03     |                  |
| 26            | .1020288+03     | .1987090+03 | .2953891+03     |                  |
| 27            | .1016436+03     | .1995991+03 | .2975545+03     |                  |
| 28            | .1012749+03     | .2004892+03 | .2997035+03     |                  |
| 29            | .1009219+03     | .2013793+03 | .3018367+03     |                  |
| 30            | .1005841+03     | .2022694+03 | .3039547+03     |                  |
| 31            | .1002609+03     | .2031595+03 | .3060580+03     |                  |
| 32            | .9995193+02     | .2040496+03 | .3081473+03     |                  |
| 33            | .9965657+02     | .2049397+03 | .3102228+03     |                  |
| 34            | .9937442+02     | .2058298+03 | .3122852+03     |                  |
| 35            | .9910504+02     | .2067199+03 | .3143348+03     |                  |
| 36            | .9884802+02     | .2076100+03 | .3163720+03     |                  |
| 37            | .9860297+02     | .2085001+03 | .3183973+03     |                  |
| 38            | .9836953+02     | .2093902+03 | .3204109+03     |                  |
| 39            | .9814735+02     | .2102803+03 | .3224133+03     |                  |
| 40            | .9793609+02     | .2111704+03 | .3244048+03     |                  |
| 41            | .9773544+02     | .2120605+03 | .3263857+03     |                  |
| 42            | .9754510+02     | .2129507+03 | .3283562+03     |                  |
| 43            | .9736478+02     | .2138408+03 | .3303167+03     |                  |
| 44            | .9719421+02     | .2147309+03 | .3322675+03     |                  |
| 45            | .9703312+02     | .2156210+03 | .3342086+03     |                  |
| 46            | .9688128+02     | .2165111+03 | .3361409+03     |                  |
| 47            | .9673843+02     | .2174012+03 | .3380639+03     |                  |
| 48            | .9660434+02     | .2182913+03 | .3399782+03     |                  |
| 49            | .9647681+02     | .2191814+03 | .3418840+03     |                  |
| 50            | .9636161+02     | .2200715+03 | .3437814+03     |                  |
| 51            | .9625255+02     | .2209616+03 | .3456707+03     |                  |
| 52            | .9615144+02     | .2218517+03 | .3475520+03     |                  |
| 53            | .9605807+02     | .2227418+03 | .3494256+03     |                  |
| 54            | .9597229+02     | .2236319+03 | .3512916+03     |                  |
| 55            | .9589390+02     | .2245220+03 | .3531502+03     |                  |
| 56            | .9582276+02     | .2254121+03 | .3550015+03     |                  |
| 57            | .9575869+02     | .2263022+03 | .3568458+03     |                  |
| 58            | .9570155+02     | .2271924+03 | .3586832+03     |                  |
| 59            | .9565118+02     | .2280825+03 | .3605137+03     |                  |
| 60            | .9560745+02     | .2289726+03 | .3623377+03     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #5: NONVIOLENT CRIME, UNDER 18 84 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
|---------------------|-------------------|--------------------|--------------------|

|   |      |  |           |
|---|------|--|-----------|
| 1 | MEAN |  | .16593+03 |
|---|------|--|-----------|

|   |                  |   |           |
|---|------------------|---|-----------|
| 2 | AUTOREGRESSIVE 1 | 6 | .26473+00 |
|---|------------------|---|-----------|

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 89 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .6228223+02     | .1556243+03 | .2489664+03     |                  |
| 2             | .5857596+02     | .1519180+03 | .2452601+03     |                  |
| 3             | .5248708+02     | .1458291+03 | .2391712+03     |                  |
| 4             | .5169288+02     | .1450349+03 | .2383770+03     |                  |
| 5             | .5566389+02     | .1490060+03 | .2423480+03     |                  |
| 6             | .5486969+02     | .1482118+03 | .2415538+03     |                  |
| 7             | .6664455+02     | .1632021+03 | .2597597+03     |                  |
| 8             | .6566337+02     | .1622209+03 | .2587785+03     |                  |
| 9             | .6405144+02     | .1606090+03 | .2571666+03     |                  |
| 10            | .6384119+02     | .1603988+03 | .2569563+03     |                  |
| 11            | .6489245+02     | .1614500+03 | .2580076+03     |                  |
| 12            | .6468220+02     | .1612398+03 | .2577973+03     |                  |
| 13            | .6342930+02     | .1652082+03 | .2619872+03     |                  |
| 14            | .6816955+02     | .1649485+03 | .2617274+03     |                  |
| 15            | .6774282+02     | .1645217+03 | .2613007+03     |                  |
| 16            | .6768716+02     | .1644661+03 | .2612450+03     |                  |
| 17            | .6796546+02     | .1647444+03 | .2615233+03     |                  |
| 18            | .6790980+02     | .1646887+03 | .2614677+03     |                  |
| 19            | .6894490+02     | .1657393+03 | .2625337+03     |                  |
| 20            | .6887613+02     | .1656705+03 | .2624650+03     |                  |
| 21            | .6876316+02     | .1655576+03 | .2623520+03     |                  |
| 22            | .6874843+02     | .1655428+03 | .2623373+03     |                  |
| 23            | .6887210+02     | .1656165+03 | .2624109+03     |                  |
| 24            | .6880737+02     | .1656018+03 | .2623962+03     |                  |
| 25            | .6908441+02     | .1658799+03 | .2626754+03     |                  |
| 26            | .6906620+02     | .1658617+03 | .2626572+03     |                  |
| 27            | .6903630+02     | .1658318+03 | .2626273+03     |                  |
| 28            | .6903240+02     | .1658279+03 | .2626234+03     |                  |
| 29            | .6905190+02     | .1658474+03 | .2626429+03     |                  |
| 30            | .6904800+02     | .1658435+03 | .2626390+03     |                  |
| 31            | .6912155+02     | .1659171+03 | .2627127+03     |                  |
| 32            | .6911673+02     | .1659123+03 | .2627079+03     |                  |
| 33            | .6910682+02     | .1659044+03 | .2627000+03     |                  |
| 34            | .6910778+02     | .1659034+03 | .2626989+03     |                  |
| 35            | .6911295+02     | .1659085+03 | .2627041+03     |                  |
| 36            | .6911191+02     | .1659075+03 | .2627031+03     |                  |
| 37            | .6913140+02     | .1659270+03 | .2627226+03     |                  |
| 38            | .6913013+02     | .1659257+03 | .2627213+03     |                  |
| 39            | .6912803+02     | .1659236+03 | .2627192+03     |                  |
| 40            | .6912775+02     | .1659233+03 | .2627189+03     |                  |
| 41            | .6912912+02     | .1659247+03 | .2627203+03     |                  |
| 42            | .6912885+02     | .1659244+03 | .2627200+03     |                  |
| 43            | .6913401+02     | .1659296+03 | .2627252+03     |                  |
| 44            | .6913367+02     | .1659293+03 | .2627248+03     |                  |
| 45            | .6913312+02     | .1659287+03 | .2627243+03     |                  |
| 46            | .6913304+02     | .1659286+03 | .2627242+03     |                  |
| 47            | .6913341+02     | .1659290+03 | .2627246+03     |                  |
| 48            | .6913333+02     | .1659289+03 | .2627245+03     |                  |
| 49            | .6913470+02     | .1659303+03 | .2627259+03     |                  |
| 50            | .6913461+02     | .1659302+03 | .2627258+03     |                  |
| 51            | .6913446+02     | .1659300+03 | .2627256+03     |                  |
| 52            | .6913444+02     | .1659300+03 | .2627256+03     |                  |
| 53            | .6913454+02     | .1659301+03 | .2627257+03     |                  |
| 54            | .6913452+02     | .1659301+03 | .2627257+03     |                  |
| 55            | .6913488+02     | .1659305+03 | .2627260+03     |                  |
| 56            | .6913486+02     | .1659304+03 | .2627260+03     |                  |
| 57            | .6913482+02     | .1659304+03 | .2627260+03     |                  |
| 58            | .6913482+02     | .1659304+03 | .2627260+03     |                  |
| 59            | .6913484+02     | .1659304+03 | .2627260+03     |                  |
| 60            | .6913483+02     | .1659304+03 | .2627260+03     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #5: NONVIOLENT CRIME, NONWHITE

84 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .10420+02          |
| 2                   | AUTOREGRESSIVE 1  | 1                  | .35453+00          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T=

84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .8036953+01     | .1558927+02 | .2314158+02     |                  |
| 2             | .4239970+01     | .1225287+02 | .2026577+02     |                  |
| 3             | .3001003+01     | .1107002+02 | .1913895+02     |                  |
| 4             | .2574710+01     | .1065066+02 | .1872661+02     |                  |
| 5             | .2425153+01     | .1050198+02 | .1857881+02     |                  |
| 6             | .2372332+01     | .1044927+02 | .1852622+02     |                  |
| 7             | .2353631+01     | .1043052+02 | .1850754+02     |                  |
| 8             | .2347004+01     | .1042396+02 | .1850092+02     |                  |
| 9             | .2344655+01     | .1042161+02 | .1849857+02     |                  |
| 10            | .2343822+01     | .1042078+02 | .1849774+02     |                  |
| 11            | .2343527+01     | .1042048+02 | .1849744+02     |                  |
| 12            | .2343423+01     | .1042038+02 | .1849734+02     |                  |
| 13            | .2343385+01     | .1042034+02 | .1849730+02     |                  |
| 14            | .2343372+01     | .1042033+02 | .1849729+02     |                  |
| 15            | .2343368+01     | .1042032+02 | .1849728+02     |                  |
| 16            | .2343366+01     | .1042032+02 | .1849728+02     |                  |
| 17            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 18            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 19            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 20            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 21            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 22            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 23            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 24            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 25            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 26            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 27            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 28            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 29            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 30            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 31            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 32            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 33            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 34            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 35            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 36            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 37            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 38            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 39            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 40            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 41            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 42            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 43            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 44            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 45            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 46            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 47            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 48            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 49            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 50            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 51            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 52            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 53            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 54            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 55            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 56            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 57            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 58            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 59            | .2343365+01     | .1042032+02 | .1849728+02     |                  |
| 60            | .2343365+01     | .1042032+02 | .1849728+02     |                  |

TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #6: NONVIOLENT CRIME, OVER 18

84 OBSERVATIONS

DIFFERENCING ON Z - 1) 1 OF ORDER 1

TRANSFORMATIONS EXAMINED - NONE

UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | AUTOREGRESSIVE 1  | 30                 | -.95010-01         |
| 2                   | MOVING AVERAGE 1  | 10                 | -.26084+00         |
| 3                   | MOVING AVERAGE 1  | 20                 | -.27202+00         |
| 4                   | TREND CONSTANT    |                    | .34993+01          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1  
NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60  
FORECAST TIME ORIGINS ARE Y= 84  
BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .2410672+03     | .2926869+03 | .3442866+03     |                  |
| 2             | .2324777+03     | .3054508+03 | .3784238+03     |                  |
| 3             | .2017913+03     | .2911647+03 | .3805381+03     |                  |
| 4             | .1877731+03     | .2909726+03 | .3941721+03     |                  |
| 5             | .1800966+03     | .2954771+03 | .4108576+03     |                  |
| 6             | .1673093+03     | .2937023+03 | .4200954+03     |                  |
| 7             | .1566619+03     | .2931820+03 | .4297021+03     |                  |
| 8             | .1488626+03     | .2948087+03 | .4407548+03     |                  |
| 9             | .1494392+03     | .3042384+03 | .4590376+03     |                  |
| 10            | .1675885+03     | .3307612+03 | .4939340+03     |                  |
| 11            | .1657343+03     | .3413986+03 | .5170633+03     |                  |
| 12            | .1535017+03     | .3408269+03 | .5281526+03     |                  |
| 13            | .1384498+03     | .3367511+03 | .5350524+03     |                  |
| 14            | .1284340+03     | .3371349+03 | .5458358+03     |                  |
| 15            | .1209466+03     | .3395530+03 | .5581594+03     |                  |
| 16            | .1223706+03     | .3504527+03 | .5785348+03     |                  |
| 17            | .1202214+03     | .3574009+03 | .5945805+03     |                  |
| 18            | .1077460+03     | .3536867+03 | .5996274+03     |                  |
| 19            | .1082342+03     | .3626345+03 | .6170348+03     |                  |
| 20            | .1278045+03     | .3903920+03 | .6529795+03     |                  |
| 21            | .1167999+03     | .3910411+03 | .6652822+03     |                  |
| 22            | .1082659+03     | .3936853+03 | .6791047+03     |                  |
| 23            | .1057591+03     | .4019351+03 | .6981112+03     |                  |
| 24            | .9868892+02     | .4052445+03 | .7118000+03     |                  |
| 25            | .9252894+02     | .4091238+03 | .7257187+03     |                  |
| 26            | .8259225+02     | .4089178+03 | .7352433+03     |                  |
| 27            | .7892405+02     | .4146974+03 | .7504717+03     |                  |
| 28            | .7437244+02     | .4193366+03 | .7643012+03     |                  |
| 29            | .6578495+02     | .4197008+03 | .7735167+03     |                  |
| 30            | .5323792+02     | .4158844+03 | .7785309+03     |                  |
| 31            | .4897037+02     | .4191285+03 | .7892866+03     |                  |
| 32            | .4389484+02     | .4214151+03 | .7989354+03     |                  |
| 33            | .4153017+02     | .4262716+03 | .8110134+03     |                  |
| 34            | .3795951+02     | .4297894+03 | .8216192+03     |                  |
| 35            | .3406858+02     | .4328607+03 | .8316529+03     |                  |
| 36            | .3089373+02     | .4365287+03 | .8421636+03     |                  |
| 37            | .2771323+02     | .4400774+03 | .8524417+03     |                  |
| 38            | .2443681+02     | .4434222+03 | .8624077+03     |                  |
| 39            | .2052204+02     | .4460257+03 | .8715293+03     |                  |
| 40            | .1508162+02     | .4470051+03 | .8789285+03     |                  |
| 41            | .1145916+02     | .4494937+03 | .8875283+03     |                  |
| 42            | .8985794+01     | .4530474+03 | .8971090+03     |                  |
| 43            | .6926048+01     | .4569340+03 | .9069419+03     |                  |
| 44            | .4520157+01     | .4603968+03 | .9162735+03     |                  |
| 45            | .1995575+01     | .4636664+03 | .9253373+03     |                  |
| 46            | -.1263000+01    | .4661302+03 | .9335234+03     |                  |
| 47            | -.4076942+01    | .4689694+03 | .9420157+03     |                  |
| 48            | -.5811085+01    | .4728216+03 | .9514543+03     |                  |
| 49            | -.8683781+01    | .4754708+03 | .9596254+03     |                  |
| 50            | -.1328132+02    | .4763329+03 | .9659472+03     |                  |
| 51            | -.1504840+02    | .4797706+03 | .9745896+03     |                  |
| 52            | -.1695087+02    | .4830187+03 | .9829883+03     |                  |
| 53            | -.1933340+02    | .4857342+03 | .9908018+03     |                  |
| 54            | -.2119559+02    | .4889191+03 | .9990339+03     |                  |
| 55            | -.2306249+02    | .4920499+03 | .1007162+04     |                  |
| 56            | -.2449321+02    | .4955688+03 | .1015631+04     |                  |
| 57            | -.2644596+02    | .4985190+03 | .1023484+04     |                  |
| 58            | -.2824501+02    | .5015776+03 | .1031400+04     |                  |
| 59            | -.2959373+02    | .5050423+03 | .1039678+04     |                  |
| 60            | -.3050231+02    | .5089043+03 | .1048311+04     |                  |

## TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #6: NONVIOLENT CRIME, UNDER 18

84 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
|---------------------|-------------------|--------------------|--------------------|

|   |      |           |
|---|------|-----------|
| 1 | MEAN | .17100+03 |
|---|------|-----------|

2 AUTOREGRESSIVE 1 1 ,21666+00

|   |                  |   |           |
|---|------------------|---|-----------|
| 3 | AUTOREGRESSIVE 1 | 2 | .23356+00 |
|---|------------------|---|-----------|

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .1078411+03     | .1869059+03 | .2659707+03     |                  |
| 2             | .1061615+03     | .1870607+03 | .2679599+03     |                  |
| 3             | .9431280+02     | .1781969+03 | .2620810+03     |                  |
| 4             | .9196757+02     | .1763126+03 | .2606577+03     |                  |
| 5             | .8919179+02     | .1738341+03 | .2584765+03     |                  |
| 6             | .8813851+02     | .1728570+03 | .2575756+03     |                  |
| 7             | .8731298+02     | .1720665+03 | .2568200+03     |                  |
| 8             | .8690247+02     | .1716670+03 | .2564315+03     |                  |
| 9             | .8662686+02     | .1713956+03 | .2561647+03     |                  |
| 10            | .8647328+02     | .1712437+03 | .2560141+03     |                  |
| 11            | .8637642+02     | .1711474+03 | .2559184+03     |                  |
| 12            | .8631984+02     | .1710910+03 | .2558622+03     |                  |
| 13            | .8628506+02     | .1710563+03 | .2558276+03     |                  |
| 14            | .8626435+02     | .1710356+03 | .2558069+03     |                  |
| 15            | .8625175+02     | .1710231+03 | .2557944+03     |                  |
| 16            | .8624419+02     | .1710155+03 | .2557868+03     |                  |
| 17            | .8623961+02     | .1710109+03 | .2557822+03     |                  |
| 18            | .8623685+02     | .1710082+03 | .2557795+03     |                  |
| 19            | .8623518+02     | .1710065+03 | .2557778+03     |                  |
| 20            | .8623418+02     | .1710055+03 | .2557768+03     |                  |
| 21            | .8623357+02     | .1710049+03 | .2557762+03     |                  |
| 22            | .8623320+02     | .1710045+03 | .2557758+03     |                  |
| 23            | .8623298+02     | .1710043+03 | .2557756+03     |                  |
| 24            | .8623285+02     | .1710042+03 | .2557755+03     |                  |
| 25            | .8623277+02     | .1710041+03 | .2557754+03     |                  |
| 26            | .8623272+02     | .1710040+03 | .2557754+03     |                  |
| 27            | .8623269+02     | .1710040+03 | .2557753+03     |                  |
| 28            | .8623267+02     | .1710040+03 | .2557753+03     |                  |
| 29            | .8623266+02     | .1710040+03 | .2557753+03     |                  |
| 30            | .8623266+02     | .1710040+03 | .2557753+03     |                  |
| 31            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 32            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 33            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 34            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 35            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 36            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 37            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 38            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 39            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 40            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 41            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 42            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 43            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 44            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 45            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 46            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 47            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 48            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 49            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 50            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 51            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 52            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 53            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 54            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 55            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 56            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 57            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 58            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 59            | .8623265+02     | .1710040+03 | .2557753+03     |                  |
| 60            | .8623265+02     | .1710040+03 | .2557753+03     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #6: NONVIOLENT CRIME, NONWHITE

84 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
|---------------------|-------------------|--------------------|--------------------|

|   |      |  |           |
|---|------|--|-----------|
| 1 | MEAN |  | .41667*01 |
|---|------|--|-----------|

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
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MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 2             | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 3             | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 4             | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 5             | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 6             | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 7             | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 8             | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 9             | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 10            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 11            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 12            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 13            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 14            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 15            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 16            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 17            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 18            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 19            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 20            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 21            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 22            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 23            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 24            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 25            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 26            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 27            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 28            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 29            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 30            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 31            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 32            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 33            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 34            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 35            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 36            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 37            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 38            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 39            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 40            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 41            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 42            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 43            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 44            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 45            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 46            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 47            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 48            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 49            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 50            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 51            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 52            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 53            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 54            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 55            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 56            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 57            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 58            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 59            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |
| 60            | -.2357608+01    | .4166666+01 | .1069094+02     |                  |

TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #7: NONVIOLENT CRIME, OVER 18

84 OBSERVATIONS

DIFFERENCING ON Z = NONE

TRANSFORMATIONS EXAMINED = NONE

UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .16657+03          |
| 2                   | AUTOREGRESSIVE 1  | 1                  | .25289+00          |
| 3                   | AUTOREGRESSIVE 1  | 3                  | .27697+00          |
| 4                   | AUTOREGRESSIVE 1  | 4                  | -.92727-01         |
| 5                   | AUTOREGRESSIVE 1  | 7                  | .44206+00          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS...

PERIODS AHEAD    LO. CONF. LIMIT    FORECAST    UP. CONF. LIMIT    ACTUAL, IF KNOWN

|    |             |             |             |  |
|----|-------------|-------------|-------------|--|
| 1  | .1318081+03 | .1792308+03 | .2266535+03 |  |
| 2  | .1408562+03 | .1897719+03 | .2386875+03 |  |
| 3  | .1328447+03 | .1818543+03 | .2308639+03 |  |
| 4  | .1291088+03 | .1800518+03 | .2309949+03 |  |
| 5  | .1323768+03 | .1833783+03 | .2343798+03 |  |
| 6  | .1322568+03 | .1832595+03 | .2342621+03 |  |
| 7  | .1274681+03 | .1786017+03 | .2297352+03 |  |
| 8  | .1232313+03 | .1786143+03 | .2339972+03 |  |
| 9  | .1265568+03 | .1829350+03 | .2393149+03 |  |
| 10 | .1226502+03 | .1792497+03 | .2358491+03 |  |
| 11 | .1198916+03 | .1779560+03 | .2360205+03 |  |
| 12 | .1219888+03 | .1802952+03 | .2386015+03 |  |
| 13 | .1210753+03 | .1794125+03 | .2377427+03 |  |
| 14 | .1185431+03 | .1771138+03 | .2356844+03 |  |
| 15 | .1177124+03 | .1773056+03 | .2368993+03 |  |
| 16 | .1187426+03 | .1788034+03 | .2388642+03 |  |
| 17 | .1166976+03 | .1769978+03 | .2372980+03 |  |
| 18 | .1151686+03 | .1762357+03 | .2373027+03 |  |
| 19 | .1161285+03 | .1774739+03 | .2388193+03 |  |
| 20 | .1153338+03 | .1767579+03 | .2381820+03 |  |
| 21 | .1138673+03 | .1755170+03 | .2371667+03 |  |
| 22 | .1136654+03 | .1757017+03 | .2377380+03 |  |
| 23 | .1138287+03 | .1760973+03 | .2383660+03 |  |
| 24 | .1126605+03 | .1751219+03 | .2375833+03 |  |
| 25 | .1118597+03 | .1747045+03 | .2375493+03 |  |
| 26 | .1121809+03 | .1752388+03 | .2382968+03 |  |
| 27 | .1115931+03 | .1747505+03 | .2379080+03 |  |
| 28 | .1107219+03 | .1740534+03 | .2373846+03 |  |
| 29 | .1106141+03 | .1741454+03 | .2376767+03 |  |
| 30 | .1104921+03 | .1741588+03 | .2378254+03 |  |
| 31 | .1097789+03 | .1735831+03 | .2373874+03 |  |
| 32 | .1093368+03 | .1733432+03 | .2373496+03 |  |
| 33 | .1093660+03 | .1735139+03 | .2376617+03 |  |
| 34 | .1089416+03 | .1731805+03 | .2374194+03 |  |
| 35 | .1084142+03 | .1727749+03 | .2371356+03 |  |
| 36 | .1083017+03 | .1727826+03 | .2372634+03 |  |
| 37 | .1081128+03 | .1726822+03 | .2372517+03 |  |
| 38 | .1076575+03 | .1723210+03 | .2369844+03 |  |
| 39 | .1073852+03 | .1721633+03 | .2369413+03 |  |
| 40 | .1073017+03 | .1721704+03 | .2370390+03 |  |
| 41 | .1069946+03 | .1719340+03 | .2368734+03 |  |
| 42 | .1066636+03 | .1716848+03 | .2367059+03 |  |
| 43 | .1065440+03 | .1716417+03 | .2367394+03 |  |
| 44 | .1063619+03 | .1715204+03 | .2366789+03 |  |
| 45 | .1060610+03 | .1712829+03 | .2365047+03 |  |
| 46 | .1058734+03 | .1711643+03 | .2364551+03 |  |
| 47 | .1057585+03 | .1711078+03 | .2364570+03 |  |
| 48 | .1055346+03 | .1709345+03 | .2363344+03 |  |
| 49 | .1053159+03 | .1707697+03 | .2362235+03 |  |
| 50 | .1052007+03 | .1707043+03 | .2362079+03 |  |
| 51 | .1050458+03 | .1705914+03 | .2361369+03 |  |
| 52 | .1048401+03 | .1704282+03 | .2360163+03 |  |
| 53 | .1047003+03 | .1703317+03 | .2359632+03 |  |
| 54 | .1045876+03 | .1702571+03 | .2359267+03 |  |
| 55 | .1044226+03 | .1701269+03 | .2358313+03 |  |
| 56 | .1042698+03 | .1700096+03 | .2357493+03 |  |
| 57 | .1041668+03 | .1699393+03 | .2357117+03 |  |
| 58 | .1040412+03 | .1698424+03 | .2356437+03 |  |
| 59 | .1038957+03 | .1697254+03 | .2355551+03 |  |
| 60 | .1037869+03 | .1696445+03 | .2355021+03 |  |

TIME SERIES FORECASTING FOR MODEL 1

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DATA - Z = OREGON #7: NONVIOLENT CRIME, UNDER 16 84 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

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UNIVARIATE MODEL PARAMETERS

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| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
|---------------------|-------------------|--------------------|--------------------|

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|   |      |  |           |
|---|------|--|-----------|
| 1 | MEAN |  | .14041+03 |
|---|------|--|-----------|

|   |                  |   |            |
|---|------------------|---|------------|
| 2 | AUTOREGRESSIVE 1 | 5 | -.29561+00 |
|---|------------------|---|------------|

|   |                  |    |           |
|---|------------------|----|-----------|
| 3 | AUTOREGRESSIVE 1 | 15 | .25628+00 |
|---|------------------|----|-----------|

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NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE 1= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA  
\*\*\*\*\*

MODEL 1 FORECASTS AT BASE PERIOD 84 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .9208392+02     | .1592683+03 | .2264526+03     |                  |
| 2             | .7883578+02     | .1460201+03 | .2132045+03     |                  |
| 3             | .7469720+02     | .1418815+03 | .2090659+03     |                  |
| 4             | .7160407+02     | .1387884+03 | .2059728+03     |                  |
| 5             | .6894726+02     | .1352131+03 | .2193160+03     |                  |
| 6             | .5672462+02     | .1267830+03 | .1968414+03     |                  |
| 7             | .7934972+02     | .1494081+03 | .2194665+03     |                  |
| 8             | .7057804+02     | .1406364+03 | .2106948+03     |                  |
| 9             | .6482901+02     | .1348874+03 | .2049458+03     |                  |
| 10            | .6037201+02     | .1304304+03 | .2004888+03     |                  |
| 11            | .7120780+02     | .1415118+03 | .2118157+03     |                  |
| 12            | .6964522+02     | .1399492+03 | .2102532+03     |                  |
| 13            | .6378085+02     | .1340848+03 | .2043888+03     |                  |
| 14            | .7449155+02     | .1468733+03 | .2192551+03     |                  |
| 15            | .7241380+02     | .1447956+03 | .2171773+03     |                  |
| 16            | .6805654+02     | .1404591+03 | .2128617+03     |                  |
| 17            | .6772574+02     | .1401283+03 | .2125309+03     |                  |
| 18            | .7287899+02     | .1452815+03 | .2176841+03     |                  |
| 19            | .6188993+02     | .1350046+03 | .2081194+03     |                  |
| 20            | .6830261+02     | .1414173+03 | .2145320+03     |                  |
| 21            | .6733467+02     | .1404512+03 | .2135677+03     |                  |
| 22            | .6595908+02     | .1390756+03 | .2121921+03     |                  |
| 23            | .6329345+02     | .1364100+03 | .2095265+03     |                  |
| 24            | .6903221+02     | .1422879+03 | .2155436+03     |                  |
| 25            | .6673607+02     | .1399913+03 | .2132475+03     |                  |
| 26            | .6551857+02     | .1387744+03 | .2120303+03     |                  |
| 27            | .6906992+02     | .1424586+03 | .2158472+03     |                  |
| 28            | .6932542+02     | .1427141+03 | .2161027+03     |                  |
| 29            | .6645489+02     | .1398651+03 | .2132753+03     |                  |
| 30            | .6704887+02     | .1404551+03 | .2138693+03     |                  |
| 31            | .6872942+02     | .1421397+03 | .2155499+03     |                  |
| 32            | .6490230+02     | .1384168+03 | .2119312+03     |                  |
| 33            | .6647024+02     | .1399847+03 | .2134992+03     |                  |
| 34            | .6706188+02     | .1405793+03 | .2140967+03     |                  |
| 35            | .6653375+02     | .1400512+03 | .2135686+03     |                  |
| 36            | .6535379+02     | .1368712+03 | .2123886+03     |                  |
| 37            | .6792436+02     | .1414782+03 | .2150320+03     |                  |
| 38            | .6687239+02     | .1404262+03 | .2139800+03     |                  |
| 39            | .6638427+02     | .1399385+03 | .2134926+03     |                  |
| 40            | .6747588+02     | .1410386+03 | .2146016+03     |                  |
| 41            | .6789017+02     | .1414531+03 | .2150159+03     |                  |
| 42            | .6638054+02     | .1399523+03 | .2135240+03     |                  |
| 43            | .6664375+02     | .1404155+03 | .2139872+03     |                  |
| 44            | .6741859+02     | .1409903+03 | .2145621+03     |                  |
| 45            | .6612706+02     | .1397110+03 | .2132949+03     |                  |
| 46            | .6640643+02     | .1399903+03 | .2135742+03     |                  |
| 47            | .6700073+02     | .1405864+03 | .2141720+03     |                  |
| 48            | .6672645+02     | .1403141+03 | .2138997+03     |                  |
| 49            | .6625609+02     | .1398417+03 | .2134274+03     |                  |
| 50            | .6729578+02     | .1408881+03 | .2144804+03     |                  |
| 51            | .6694360+02     | .1405359+03 | .2141282+03     |                  |
| 52            | .6664210+02     | .1402347+03 | .2138273+03     |                  |
| 53            | .6700401+02     | .1405972+03 | .2141903+03     |                  |
| 54            | .6724982+02     | .1408430+03 | .2144361+03     |                  |
| 55            | .6655356+02     | .1401490+03 | .2137445+03     |                  |
| 56            | .6677638+02     | .1403719+03 | .2139673+03     |                  |
| 57            | .6701271+02     | .1406082+03 | .2142037+03     |                  |
| 58            | .6657642+02     | .1401732+03 | .2137700+03     |                  |
| 59            | .6657536+02     | .1401721+03 | .2137689+03     |                  |
| 60            | .6693263+02     | .1405300+03 | .2141274+03     |                  |

# TIME SERIES FORECASTING FOR MODEL 1

DATA - Z = OREGON #7: NONVIOLENT CRIME, NONWHITE 84 OBSERVATIONS

DIFFERENCING ON Z - NONE

TRANSFORMATIONS EXAMINED - NONE

## UNIVARIATE MODEL PARAMETERS

| PARAMETER<br>NUMBER | PARAMETER<br>TYPE | PARAMETER<br>ORDER | BEGINNING<br>VALUE |
|---------------------|-------------------|--------------------|--------------------|
| 1                   | MEAN              |                    | .19868+02          |
| 2                   | AUTOREGRESSIVE 1  | 1                  | .50220+00          |

NUMBER OF TIME ORIGINS FOR FORECASTS = 1

NUMBER OF FORECASTS AT EACH TIME ORIGIN = 60

FORECAST TIME ORIGINS ARE T= 84

BACKFORECASTING WAS SUPPRESSED IN THIS ANALYSIS

208.

REGULAR FORECAST RESULTS IN TERMS OF THE ORIGINAL DATA

MODEL 1 FORECASTS AT BASE PERIOD 89 WITH 95 PER CENT CONFIDENCE LIMITS

| PERIODS AHEAD | LO. CONF. LIMIT | FORECAST    | UP. CONF. LIMIT | ACTUAL, IF KNOWN |
|---------------|-----------------|-------------|-----------------|------------------|
| 1             | .6485758+01     | .2344986+02 | .4041396+02     |                  |
| 2             | .2683795+01     | .2166697+02 | .4065014+02     |                  |
| 3             | .1312253+01     | .2077160+02 | .4023094+02     |                  |
| 4             | .7443321+00     | .2032194+02 | .3989955+02     |                  |
| 5             | .4887991+00     | .2009612+02 | .3970345+02     |                  |
| 6             | .3679056+00     | .1998272+02 | .3959753+02     |                  |
| 7             | .3090651+00     | .1992576+02 | .3954246+02     |                  |
| 8             | .2799873+00     | .1989716+02 | .3951434+02     |                  |
| 9             | .2655032+00     | .1988280+02 | .3950009+02     |                  |
| 10            | .2562593+00     | .1987558+02 | .3949291+02     |                  |
| 11            | .2546294+00     | .1987196+02 | .3948929+02     |                  |
| 12            | .2528081+00     | .1987014+02 | .3948748+02     |                  |
| 13            | .2518940+00     | .1986923+02 | .3948656+02     |                  |
| 14            | .2514348+00     | .1986877+02 | .3948610+02     |                  |
| 15            | .2512045+00     | .1986854+02 | .3948587+02     |                  |
| 16            | .2510886+00     | .1986842+02 | .3948576+02     |                  |
| 17            | .2510304+00     | .1986837+02 | .3948570+02     |                  |
| 18            | .2510014+00     | .1986834+02 | .3948567+02     |                  |
| 19            | .2509868+00     | .1986832+02 | .3948566+02     |                  |
| 20            | .2509794+00     | .1986831+02 | .3948565+02     |                  |
| 21            | .2509756+00     | .1986831+02 | .3948565+02     |                  |
| 22            | .2509737+00     | .1986831+02 | .3948564+02     |                  |
| 23            | .2509727+00     | .1986831+02 | .3948564+02     |                  |
| 24            | .2509723+00     | .1986831+02 | .3948564+02     |                  |
| 25            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 26            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 27            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 28            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 29            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 30            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 31            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 32            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 33            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 34            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 35            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 36            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 37            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 38            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 39            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 40            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 41            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 42            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 43            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 44            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 45            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 46            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 47            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 48            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 49            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 50            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 51            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 52            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 53            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 54            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 55            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 56            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 57            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 58            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 59            | .2509720+00     | .1986831+02 | .3948564+02     |                  |
| 60            | .2509720+00     | .1986831+02 | .3948564+02     |                  |

**END**