

## The SAS System

## The CORR Procedure

|                          |   |
|--------------------------|---|
| <b>9 With Variables:</b> | Gasoline_Gallons Diesel_Gallons Highway_Fuel_Use Total_Gallons_ST_Road_Tax Registration_Fee Driver_license_Fee Emission_inspection Overweight Title_fee |
| <b>9 Variables:</b>      | Gasoline_Gallons Diesel_Gallons Highway_Fuel_Use Total_Gallons_ST_Road_Tax Registration_Fee Driver_license_Fee Emission_inspection Overweight Title_fee |

| Simple Statistics         |     |           |          |            |           |           |
|---------------------------|-----|-----------|----------|------------|-----------|-----------|
| Variable                  | N   | Mean      | Std Dev  | Sum        | Minimum   | Maximum   |
| Gasoline_Gallons          | 132 | 376804938 | 34812610 | 4.97383E10 | 218414414 | 476873743 |
| Diesel_Gallons            | 132 | 80003756  | 9364708  | 1.05605E10 | 64939973  | 111638305 |
| Highway_Fuel_Use          | 132 | 6845055   | 4386030  | 903547252  | -956520   | 16880944  |
| Total_Gallons_ST_Road_Tax | 132 | 464435967 | 42808593 | 6.13055E10 | 293865160 | 593016240 |
| Registration_Fee          | 132 | 375309    | 113626   | 49540746   | 0         | 714008    |
| Driver_license_Fee        | 131 | 10041394  | 1518699  | 1315422653 | 4127130   | 13910272  |
| Emission_inspection       | 131 | 1517273   | 1432534  | 198762723  | 126438    | 13039969  |
| Overweight                | 131 | 521834    | 89007    | 68360300   | 319985    | 745824    |
| Title_fee                 | 132 | 8165746   | 2051864  | 1077878435 | 4636369   | 13378093  |

| Pearson Correlation Coefficients<br>Prob >  r  under H0: Rho=0<br>Number of Observations |                           |                           |                           |                           |                          |                          |                           |                           |                          |
|--|---------------------------|---------------------------|---------------------------|---------------------------|--------------------------|--------------------------|---------------------------|---------------------------|--------------------------|
|  | Gasoline_Gallons          | Diesel_Gallons            | Highway_Fuel_Use          | Total_Gallons_ST_Road_Tax | Registration_Fee         | Driver_license_Fee       | Emission_inspection       | Overweight                | Title_fee                |
| Gasoline_Gallons   | 1.00000<br>132            | 0.80794<br><.0001<br>132  | -0.03320<br>0.7055<br>132 | 0.98728<br><.0001<br>132  | 0.30831<br>0.0003<br>132 | 0.24988<br>0.0040<br>131 | 0.13458<br>0.1254<br>131  | 0.38353<br><.0001<br>131  | 0.34302<br><.0001<br>132 |
| Diesel_Gallons   | 0.80794<br><.0001<br>132  | 1.00000<br>132            | -0.08437<br>0.3361<br>132 | 0.87062<br><.0001<br>132  | 0.51741<br><.0001<br>132 | 0.07926<br>0.3682<br>131 | 0.24248<br>0.0053<br>131  | 0.52939<br><.0001<br>131  | 0.54191<br><.0001<br>132 |
| Highway_Fuel_Use   | -0.03320<br>0.7055<br>132 | -0.08437<br>0.3361<br>132 | 1.00000<br>132            | 0.05348<br>0.5425<br>132  | 0.01713<br>0.8454<br>132 | 0.01357<br>0.8777<br>131 | -0.03822<br>0.6647<br>131 | -0.01587<br>0.8572<br>131 | 0.00336<br>0.9695<br>132 |
| Total_Gallons_ST_Road_Tax  | 0.98728<br><.0001<br>132  | 0.87062<br><.0001<br>132  | 0.05348<br>0.5425<br>132  | 1.00000<br>132            | 0.37281<br><.0001<br>132 | 0.22197<br>0.0108<br>131 | 0.16052<br>0.0670<br>131  | 0.43039<br><.0001<br>131  | 0.40391<br><.0001<br>132 |
| Registration_Fee   | 0.30831<br>0.0003<br>132  | 0.51741<br><.0001<br>132  | 0.01713<br>0.8454<br>132  | 0.37281<br><.0001<br>132  | 1.00000<br>132           | 0.26580<br>0.0022<br>131 | 0.34118<br><.0001<br>131  | 0.75917<br><.0001<br>131  | 0.83154<br><.0001<br>132 |
| Driver_license_Fee   | 0.24988<br>0.0040<br>131  | 0.07926<br>0.3682<br>131  | 0.01357<br>0.8777<br>131  | 0.22197<br>0.0108<br>131  | 0.26580<br>0.0022<br>131 | 1.00000<br>131           | 0.10464<br>0.2343<br>131  | 0.23712<br>0.0064<br>131  | 0.33842<br><.0001<br>131 |
| Emission_inspection  | 0.13458<br>0.1254<br>131  | 0.24248<br>0.0053<br>131  | -0.03822<br>0.6647<br>131 | 0.16052<br>0.0670<br>131  | 0.34118<br><.0001<br>131 | 0.10464<br>0.2343<br>131 | 1.00000<br>131            | 0.32581<br>0.0001<br>131  | 0.53440<br><.0001<br>131 |
| Overweight   | 0.38353                   | 0.52939                   | -0.01587                  | 0.43039                   | 0.75917                  | 0.23712                  | 0.32581                   | 1.00000                   | 0.75565                  |

|                  |                          |                          |                          |                          |                          |                          |                          |                          |                |
|------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------|
|                  | <.0001<br>131            | <.0001<br>131            | 0.8572<br>131            | <.0001<br>131            | <.0001<br>131            | 0.0064<br>131            | 0.0001<br>131            | 131                      | <.0001<br>131  |
| <b>Title_fee</b> | 0.34302<br><.0001<br>132 | 0.54191<br><.0001<br>132 | 0.00336<br>0.9695<br>132 | 0.40391<br><.0001<br>132 | 0.83154<br><.0001<br>132 | 0.33842<br><.0001<br>131 | 0.53440<br><.0001<br>131 | 0.75565<br><.0001<br>131 | 1.00000<br>132 |

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|                          |  |
|--------------------------|--|
| <b>6 With Variables:</b> | Quarterly_GDP_of_NC Labor_Force Employment Unemployment CPI_U Monthly_Retail_and_Food_Services |
| <b>6 Variables:</b>      | Quarterly_GDP_of_NC Labor_Force Employment Unemployment CPI_U Monthly_Retail_and_Food_Services |

| Simple Statistics                |     |           |          |           |           |           |
|----------------------------------|-----|-----------|----------|-----------|-----------|-----------|
| Variable                         | N   | Mean      | Std Dev  | Sum       | Minimum   | Maximum   |
| Quarterly_GDP_of_NC              | 132 | 493635    | 60921    | 65159802  | 409551    | 601788    |
| Labor_Force                      | 132 | 4789807   | 161915   | 632254564 | 4548549   | 5114662   |
| Employment                       | 132 | 4458659   | 271197   | 588542962 | 4049529   | 4932056   |
| Unemployment                     | 132 | 331149    | 118863   | 43711602  | 182606    | 615512    |
| CPI_U                            | 132 | 229.81942 | 11.36626 | 30336     | 208.81900 | 248.41200 |
| Monthly_Retail_and_Food_Services | 132 | 84599     | 15923    | 11167021  | 49870     | 115297    |

| Pearson Correlation Coefficients, N = 132<br>Prob >  r  under H0: Rho=0 |                     |                    |                    |                    |                    |                                  |
|---|---------------------|--------------------|--------------------|--------------------|--------------------|----------------------------------|
|   | Quarterly_GDP_of_NC | Labor_Force        | Employment         | Unemployment       | CPI_U              | Monthly_Retail_and_Food_Services |
| Quarterly_GDP_of_NC   | 1.00000<br><.0001   | 0.96667<br><.0001  | 0.95703<br><.0001  | -0.86675<br><.0001 | 0.95954<br><.0001  | 0.85374<br><.0001                |
| Labor_Force   | 0.96667<br><.0001   | 1.00000            | 0.97511<br><.0001  | -0.86261<br><.0001 | 0.90941<br><.0001  | 0.82500<br><.0001                |
| Employment  | 0.95703<br><.0001   | 0.97511<br><.0001  | 1.00000            | -0.95330<br><.0001 | 0.90467<br><.0001  | 0.85523<br><.0001                |
| Unemployment  | -0.86675<br><.0001  | -0.86261<br><.0001 | -0.95330<br><.0001 | 1.00000            | -0.82530<br><.0001 | -0.82747<br><.0001               |
| CPI_U   | 0.95954<br><.0001   | 0.90941<br><.0001  | 0.90467<br><.0001  | -0.82530<br><.0001 | 1.00000            | 0.88073<br><.0001                |
| Monthly_Retail_and_Food_Services  | 0.85374<br><.0001   | 0.82500<br><.0001  | 0.85523<br><.0001  | -0.82747<br><.0001 | 0.88073<br><.0001  | 1.00000                          |

## The SAS System

## The CORR Procedure

|                          |   |
|--------------------------|---|
| <b>7 With Variables:</b> | Ave_Temperature_F Ave_Precipitation Ave_Snowfall Ave_heating_degree_day Ave_Cooling_Degree_Day Hurrican_times_occurred Daily_Wind_Speed |
| <b>7 Variables:</b>      | Ave_Temperature_F Ave_Precipitation Ave_Snowfall Ave_heating_degree_day Ave_Cooling_Degree_Day Hurrican_times_occurred Daily_Wind_Speed |

| Simple Statistics       |     |          |          |           |          |          |
|-------------------------|-----|----------|----------|-----------|----------|----------|
| Variable                | N   | Mean     | Std Dev  | Sum       | Minimum  | Maximum  |
| Ave_Temperature_F       | 132 | 61.59394 | 14.31568 | 8130      | 34.80000 | 83.70000 |
| Ave_Precipitation       | 132 | 0.13220  | 0.06327  | 17.45000  | 0.02000  | 0.34000  |
| Ave_Snowfall            | 132 | 0.01932  | 0.05444  | 2.55000   | 0        | 0.30000  |
| Ave_heating_degree_day  | 132 | 8.47197  | 9.12081  | 1118      | 0        | 29.90000 |
| Ave_Cooling_Degree_Day  | 132 | 4.68561  | 5.59558  | 618.50000 | 0        | 16.80000 |
| Hurrican_times_occurred | 132 | 0.16667  | 0.44835  | 22.00000  | 0        | 2.00000  |
| Daily_Wind_Speed        | 132 | 5.76591  | 0.97947  | 761.10000 | 4.00000  | 8.70000  |

| Pearson Correlation Coefficients, N = 132<br>Prob >  r  under H0: Rho=0 |                    |                    |                    |                        |                        |                         |                    |
|---|--------------------|--------------------|--------------------|------------------------|------------------------|-------------------------|--------------------|
|   | Ave_Temperature_F  | Ave_Precipitation  | Ave_Snowfall       | Ave_heating_degree_day | Ave_Cooling_Degree_Day | Hurrican_times_occurred | Daily_Wind_Speed   |
| Ave_Temperature_F   | 1.00000            | 0.26508<br>0.0021  | -0.45923<br><.0001 | -0.96067<br><.0001     | 0.89811<br><.0001      | 0.29749<br>0.0005       | -0.09353<br>0.2861 |
| Ave_Precipitation   | 0.26508<br>0.0021  | 1.00000            | -0.02904<br>0.7410 | -0.26968<br>0.0018     | 0.22290<br>0.0102      | 0.14037<br>0.1084       | 0.09668<br>0.2701  |
| Ave_Snowfall  | -0.45923<br><.0001 | -0.02904<br>0.7410 | 1.00000            | 0.52696<br><.0001      | -0.27949<br>0.0012     | -0.11728<br>0.1805      | 0.02962<br>0.7360  |
| Ave_heating_degree_day  | -0.96067<br><.0001 | -0.26968<br>0.0018 | 0.52696<br><.0001  | 1.00000                | -0.74263<br><.0001     | -0.28707<br>0.0008      | 0.02833<br>0.7471  |
| Ave_Cooling_Degree_Day  | 0.89811<br><.0001  | 0.22290<br>0.0102  | -0.27949<br>0.0012 | -0.74263<br><.0001     | 1.00000                | 0.27420<br>0.0015       | -0.18967<br>0.0294 |
| Hurrican_times_occurred   | 0.29749<br>0.0005  | 0.14037<br>0.1084  | -0.11728<br>0.1805 | -0.28707<br>0.0008     | 0.27420<br>0.0015      | 1.00000                 | -0.08257<br>0.3466 |
| Daily_Wind_Speed  | -0.09353<br>0.2861 | 0.09668<br>0.2701  | 0.02962<br>0.7360  | 0.02833<br>0.7471      | -0.18967<br>0.0294     | -0.08257<br>0.3466      | 1.00000            |