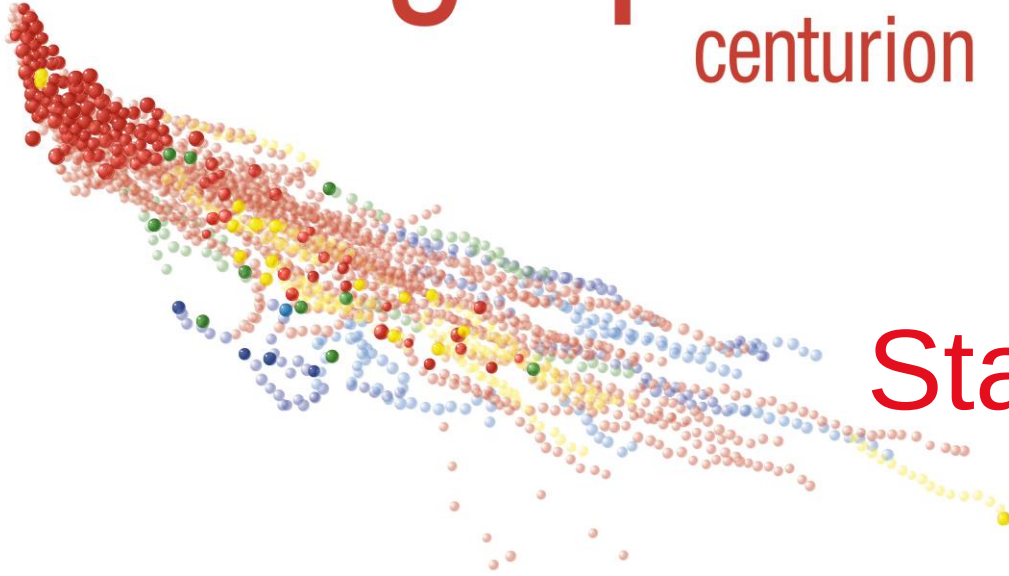




Statistical Analysis and Data Visualization

from Statpoint Technologies, Inc.

STATGRAPHICS

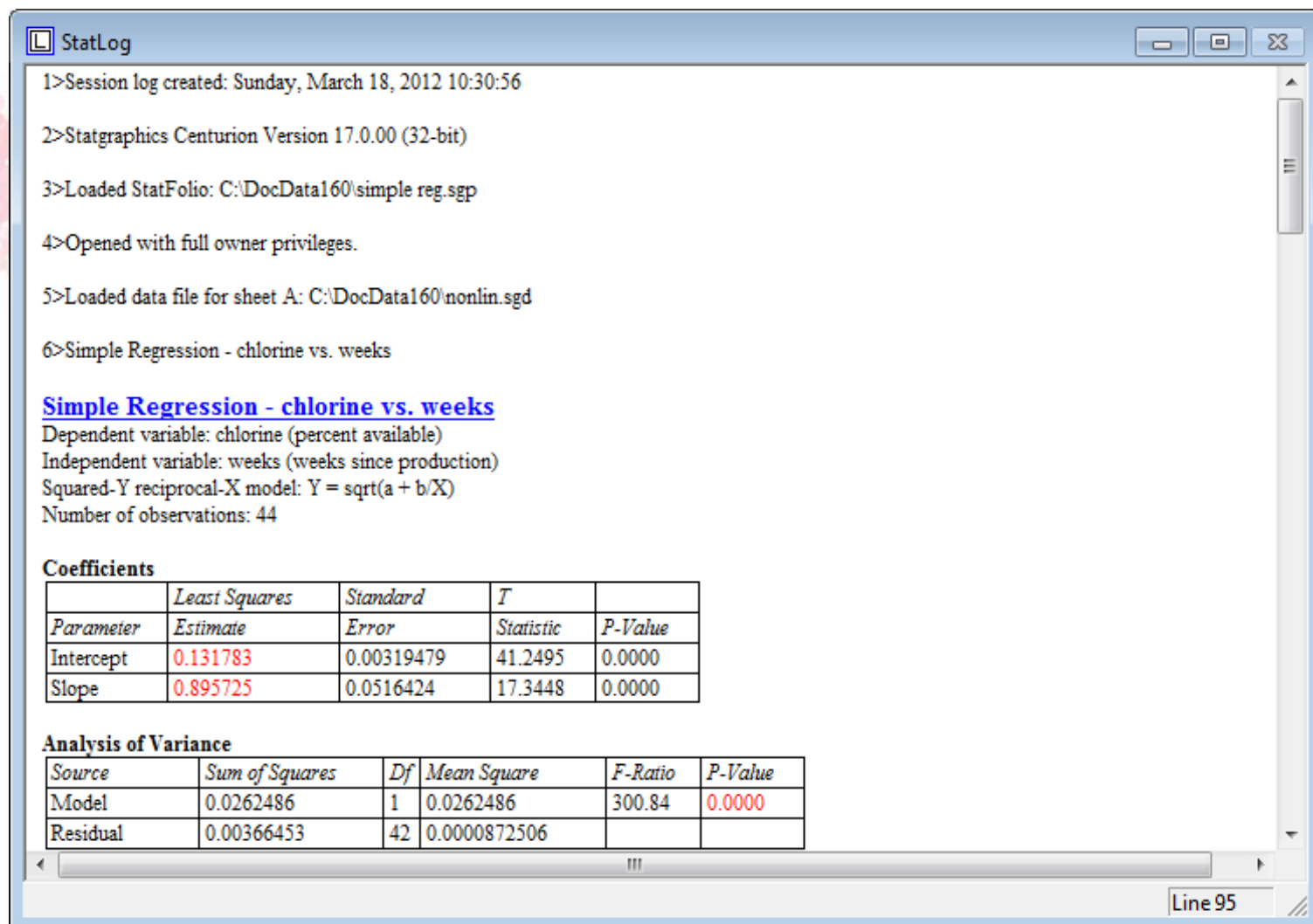
- Statgraphics *Centurion* – for Windows.
- Statgraphics *Sigma express* – for Excel.
- Statgraphics *Stratus* – for web browsers.

Statgraphics Centurion Version XVII

The screenshot displays the Statgraphics Centurion XVII software interface. The main window is titled "STATGRAPHICS Centurion - Untitled StatFolio". The menu bar includes File, Edit, Plot, Describe, Compare, Relate, Forecast, SPC, DOE, SnapStats!!, Statlets, Tools, View, Window, and Help. The toolbar contains various icons for file operations, data manipulation, and analysis. On the left, a sidebar lists components: DataBook, StatAdvisor, StatGallery, StatReporter, StatFolio Comments, and StatLog. The central area shows a data table titled "C:\DocData160\93cars.sgd". The table has columns: Make, Model, Type, Min Price, Mid Price, and Max. The data rows list 15 cars with their respective prices. The status bar at the bottom indicates "For Help, press F1" and "NUM".

	Make	Model	Type	Min Price price for basic version in \$1,000	Mid Price average of min and max prices in \$1,000	Max price premium \$1,000
1	Acura	Integra	Small	12.9	15.9	18.8
2	Acura	Legend	Midsize	29.2	33.9	38.7
3	Audi	90	Compact	25.9	29.1	32.3
4	Audi	100	Midsize	30.8	37.7	44.6
5	BMW	535i	Midsize	23.7	30	36.2
6	Buick	Century	Midsize	14.2	15.7	17.3
7	Buick	LeSabre	Large	19.9	20.8	21.7
8	Buick	Roadmaster	Large	22.6	23.7	24.9
9	Buick	Riviera	Midsize	26.3	26.3	26.3
10	Cadillac	DeVille	Large	33	34.7	36.3
11	Cadillac	Seville	Midsize	37.5	40.1	42.7
12	Chevrolet	Cavalier	Compact	8.5	13.4	18.3
13	Chevrolet	Corsica	Compact	11.4	11.4	11.4
14	Chevrolet	Camaro	Sporty	13.4	15.1	16.8
15	Chevrolet	Lumina	Midsize	13.4	15.9	18.4

New feature: StatLog



The screenshot shows the StatLog application window. The title bar reads 'StatLog'. The main text area contains a session log with the following entries:

- 1>Session log created: Sunday, March 18, 2012 10:30:56
- 2>Statgraphics Centurion Version 17.0.00 (32-bit)
- 3>Loaded StatFolio: C:\DocData160\simple reg.sgp
- 4>Opened with full owner privileges.
- 5>Loaded data file for sheet A: C:\DocData160\nonlin.sgd
- 6>Simple Regression - chlorine vs. weeks

Below the log, the text 'Simple Regression - chlorine vs. weeks' is displayed in blue. This is followed by a description of the model:

- Dependent variable: chlorine (percent available)
- Independent variable: weeks (weeks since production)
- Squared-Y reciprocal-X model: $Y = \sqrt{a + b/X}$
- Number of observations: 44

The 'Coefficients' section contains a table with the following data:

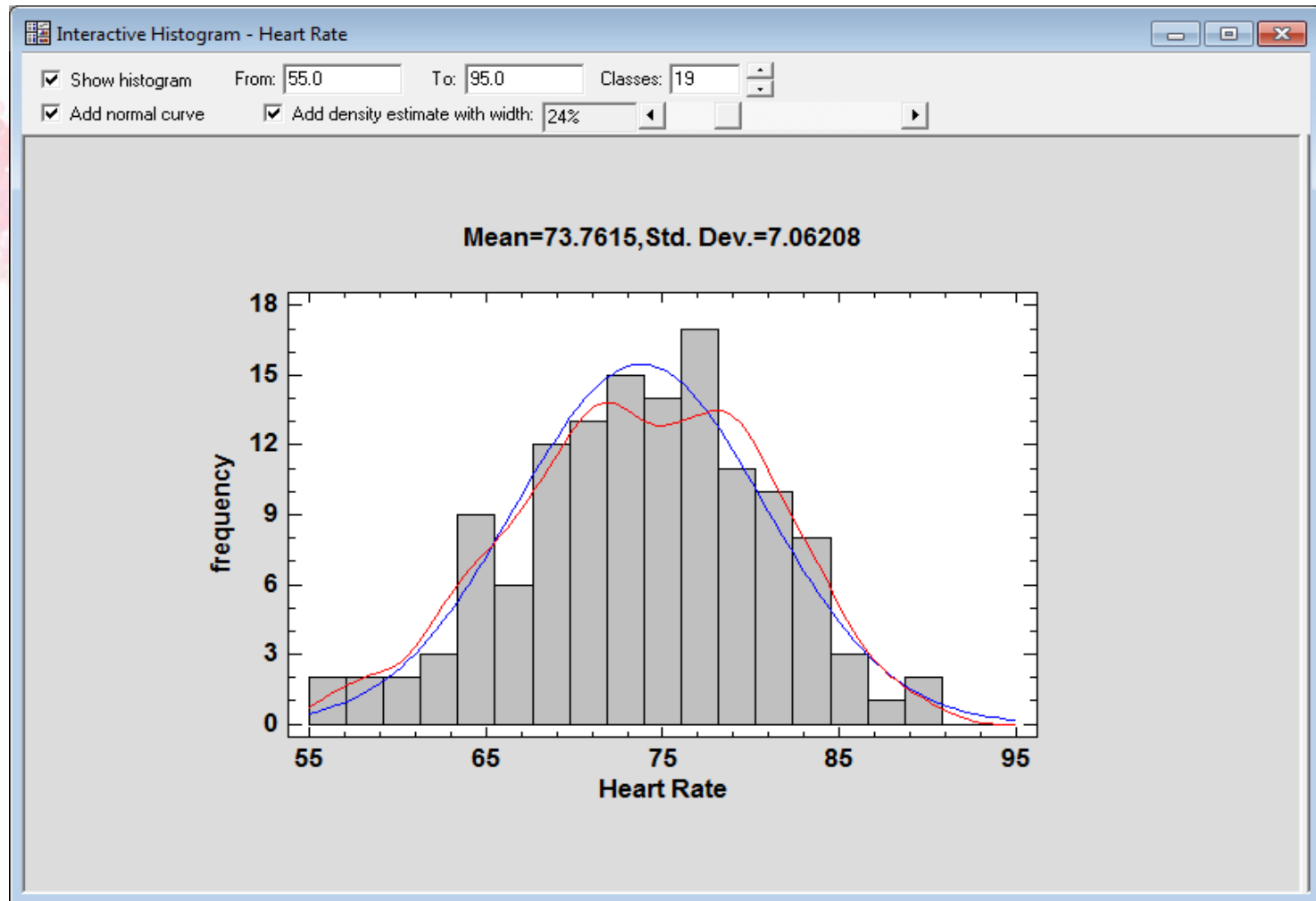
	<i>Least Squares</i>	<i>Standard</i>	<i>T</i>	
<i>Parameter</i>	<i>Estimate</i>	<i>Error</i>	<i>Statistic</i>	<i>P-Value</i>
Intercept	0.131783	0.00319479	41.2495	0.0000
Slope	0.895725	0.0516424	17.3448	0.0000

The 'Analysis of Variance' section contains a table with the following data:

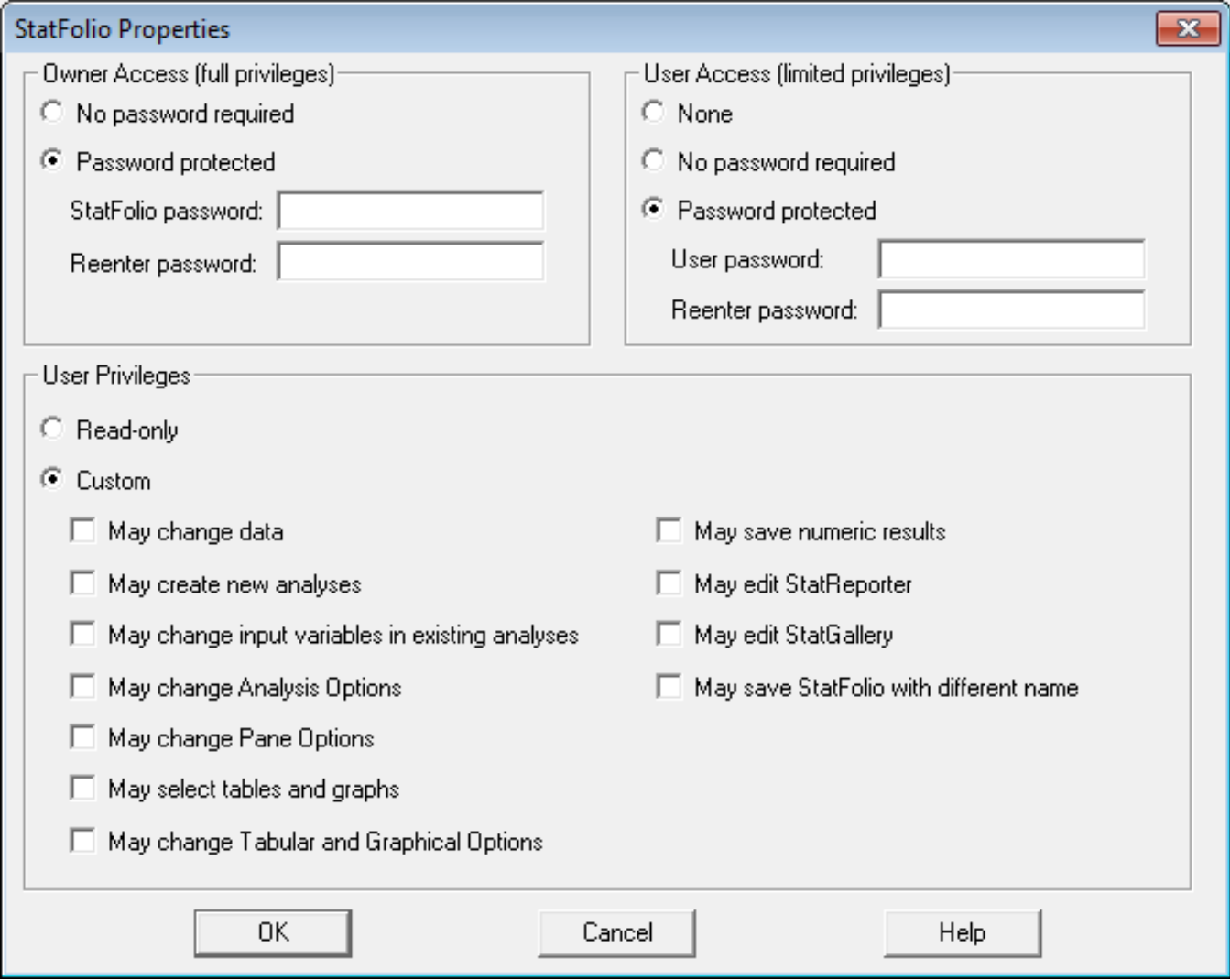
<i>Source</i>	<i>Sum of Squares</i>	<i>Df</i>	<i>Mean Square</i>	<i>F-Ratio</i>	<i>P-Value</i>
Model	0.0262486	1	0.0262486	300.84	0.0000
Residual	0.00366453	42	0.0000872506		

The status bar at the bottom right indicates 'Line 95'.

New: interactive histogram statlet



New feature: StatFolio passwords



The image shows a 'StatFolio Properties' dialog box with three main sections: Owner Access, User Access, and User Privileges. The Owner Access section has 'Password protected' selected, with empty text boxes for the password and reenter password. The User Access section also has 'Password protected' selected, with empty text boxes for the user password and reenter password. The User Privileges section has 'Custom' selected, with a list of unchecked checkboxes for various permissions.

StatFolio Properties

Owner Access (full privileges)

- ☐ No password required
- ☒ Password protected

StatFolio password:

Reenter password:

User Access (limited privileges)

- ☐ None
- ☐ No password required
- ☒ Password protected

User password:

Reenter password:

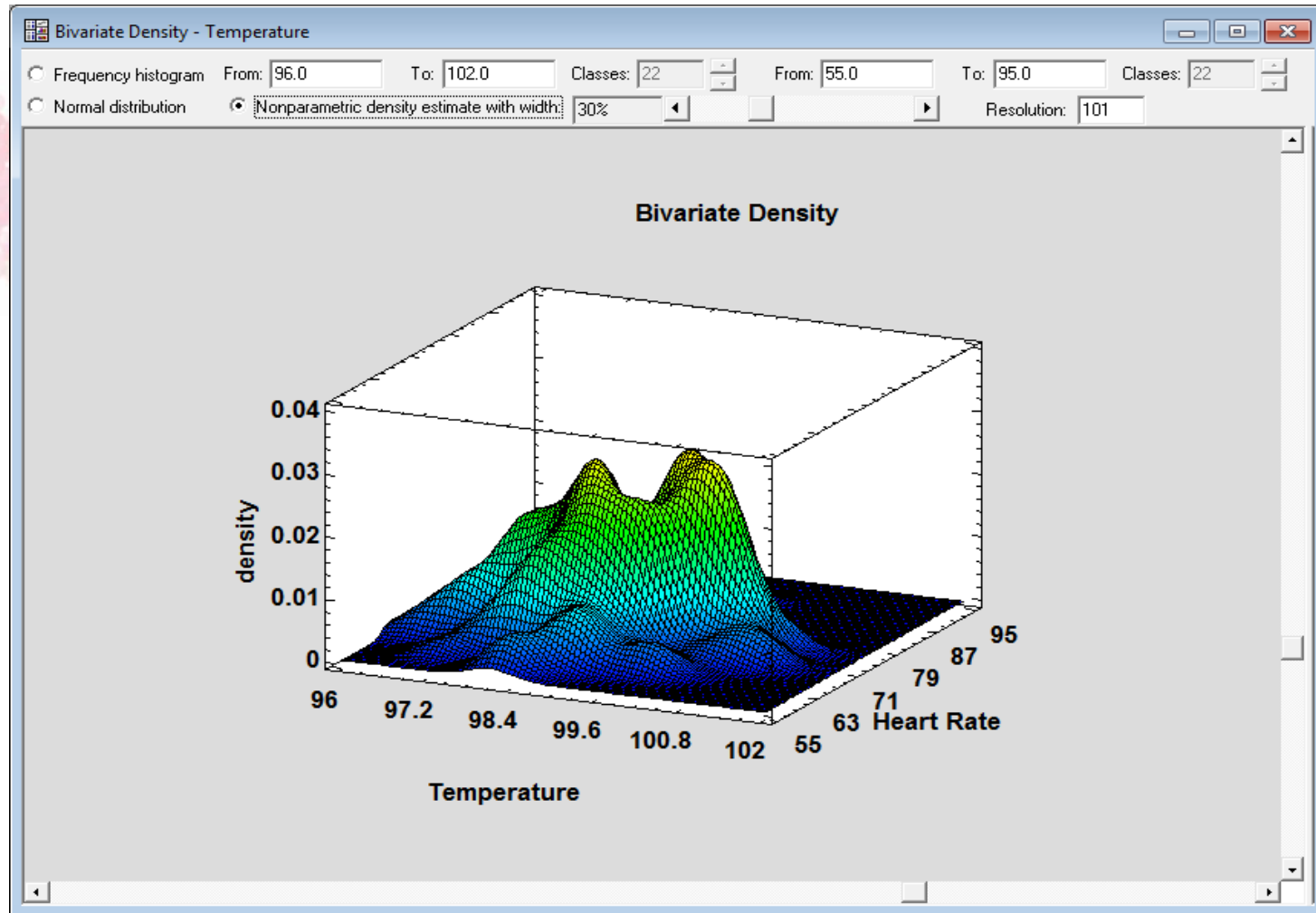
User Privileges

- ☐ Read-only
- ☒ Custom

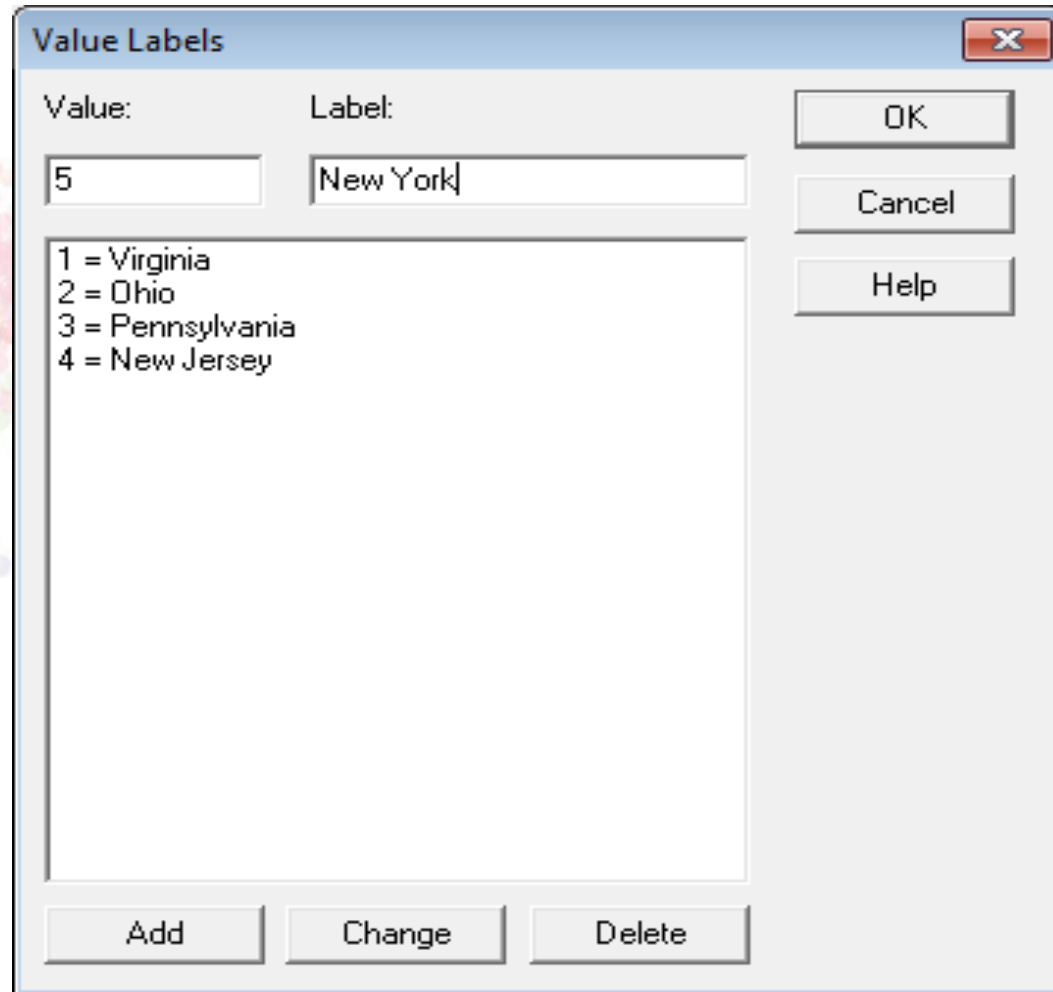
- ☐ May change data
- ☐ May create new analyses
- ☐ May change input variables in existing analyses
- ☐ May change Analysis Options
- ☐ May change Pane Options
- ☐ May select tables and graphs
- ☐ May change Tabular and Graphical Options
- ☐ May save numeric results
- ☐ May edit StatReporter
- ☐ May edit StatGallery
- ☐ May save StatFolio with different name

OK Cancel Help

New: bivariate density statlet



New feature: value labels



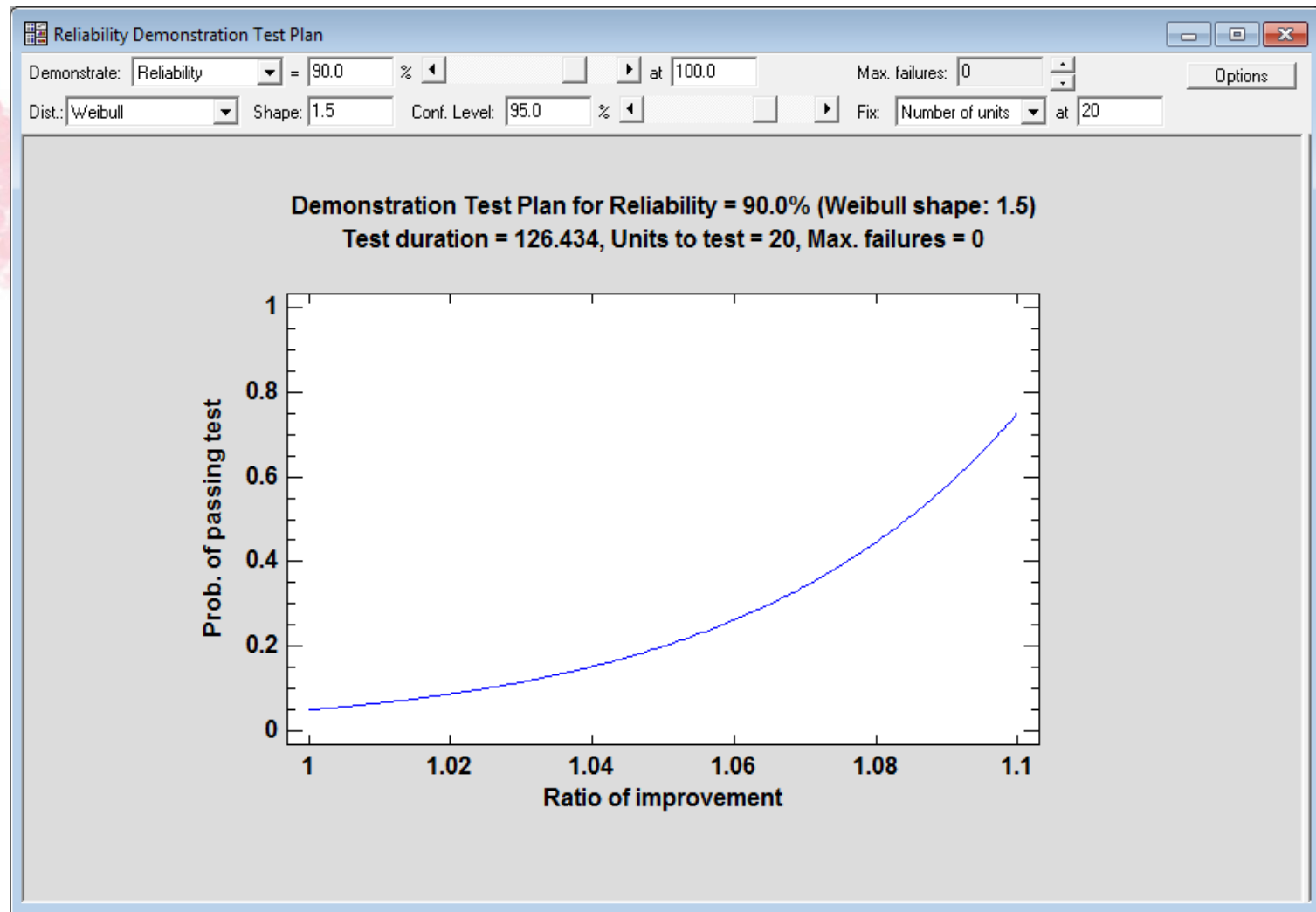
The image shows a 'Value Labels' dialog box from the Statgraphics software. It has a title bar with a close button. Inside, there are two input fields: 'Value:' with the number '5' and 'Label:' with the text 'New York'. Below these is a list box containing four items: '1 = Virginia', '2 = Ohio', '3 = Pennsylvania', and '4 = New Jersey'. To the right of the list box are three buttons: 'OK', 'Cancel', and 'Help'. At the bottom of the dialog are three buttons: 'Add', 'Change', and 'Delete'.

Value:	Label:
5	New York

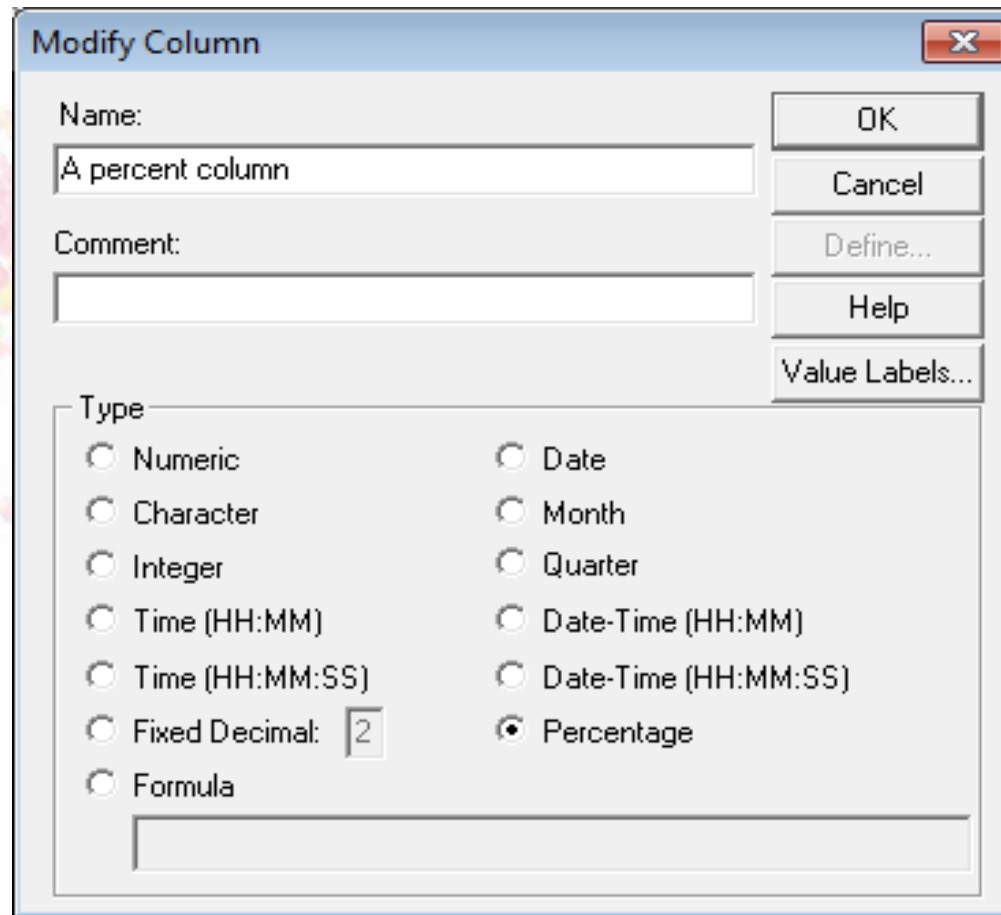
- 1 = Virginia
- 2 = Ohio
- 3 = Pennsylvania
- 4 = New Jersey

Buttons: OK, Cancel, Help, Add, Change, Delete

New: reliability test plan statlet



New feature: percentage data format



Modify Column

Name:

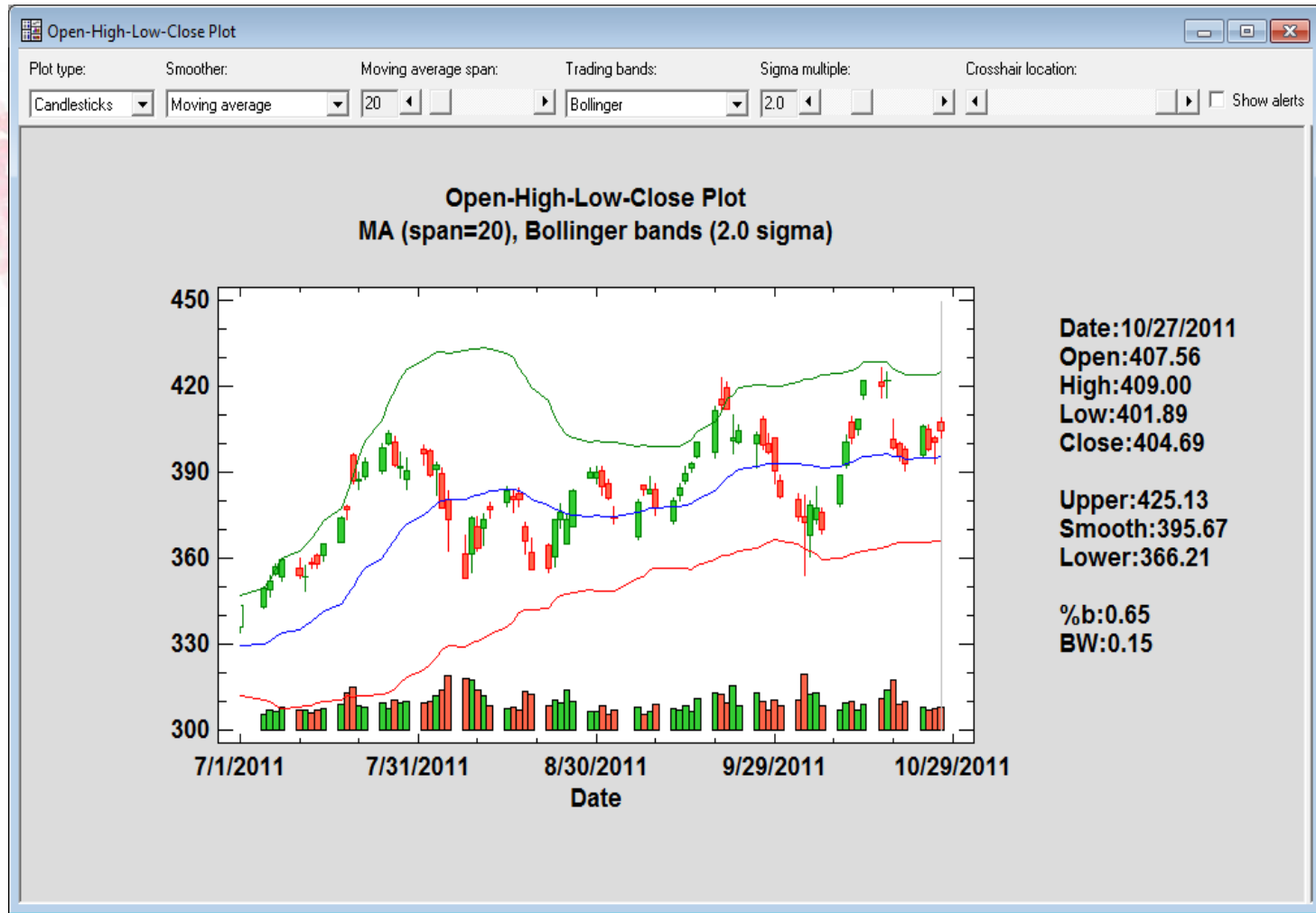
Comment:

Type:

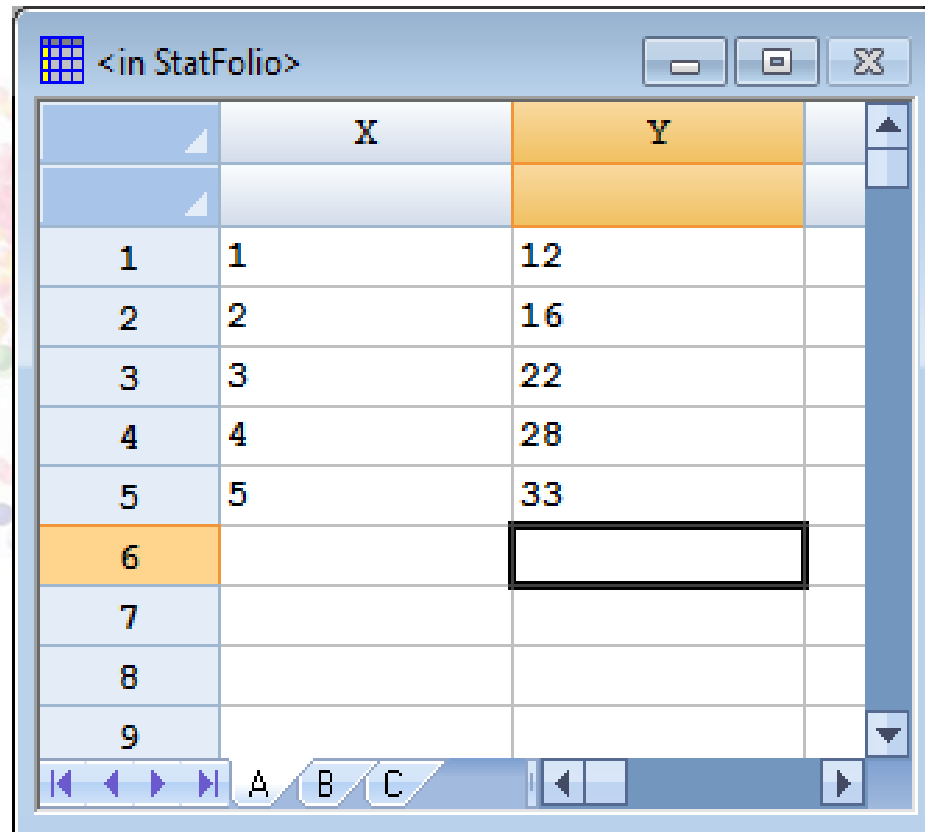
- ☐ Numeric
- ☐ Character
- ☐ Integer
- ☐ Time (HH:MM)
- ☐ Time (HH:MM:SS)
- ☐ Fixed Decimal:
- ☐ Formula
- ☐ Date
- ☐ Month
- ☐ Quarter
- ☐ Date-Time (HH:MM)
- ☐ Date-Time (HH:MM:SS)
- ☒ Percentage

Buttons: OK, Cancel, Define..., Help, Value Labels...

New: open-high-low-close statlet



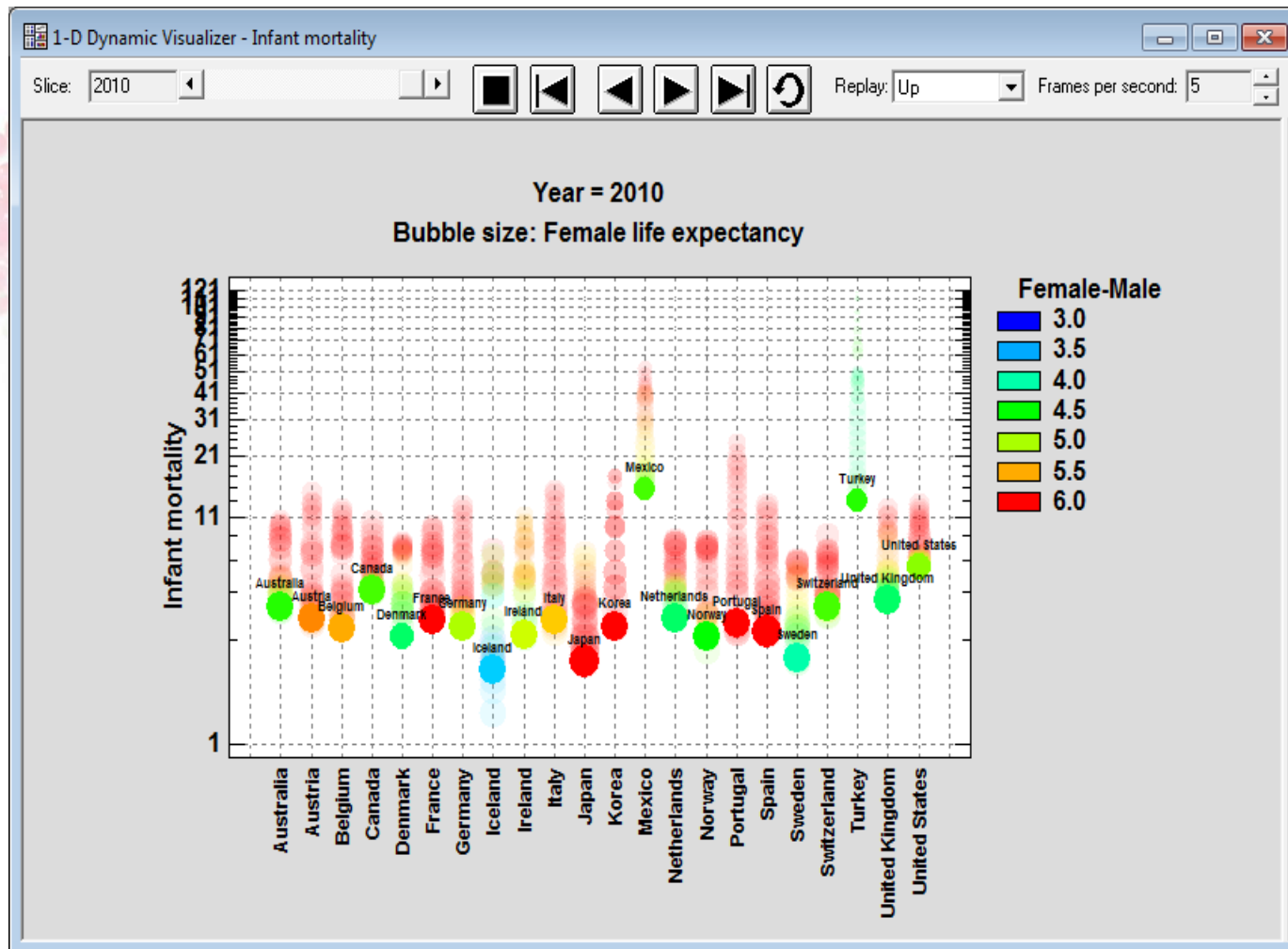
New feature: StatFolio data storage



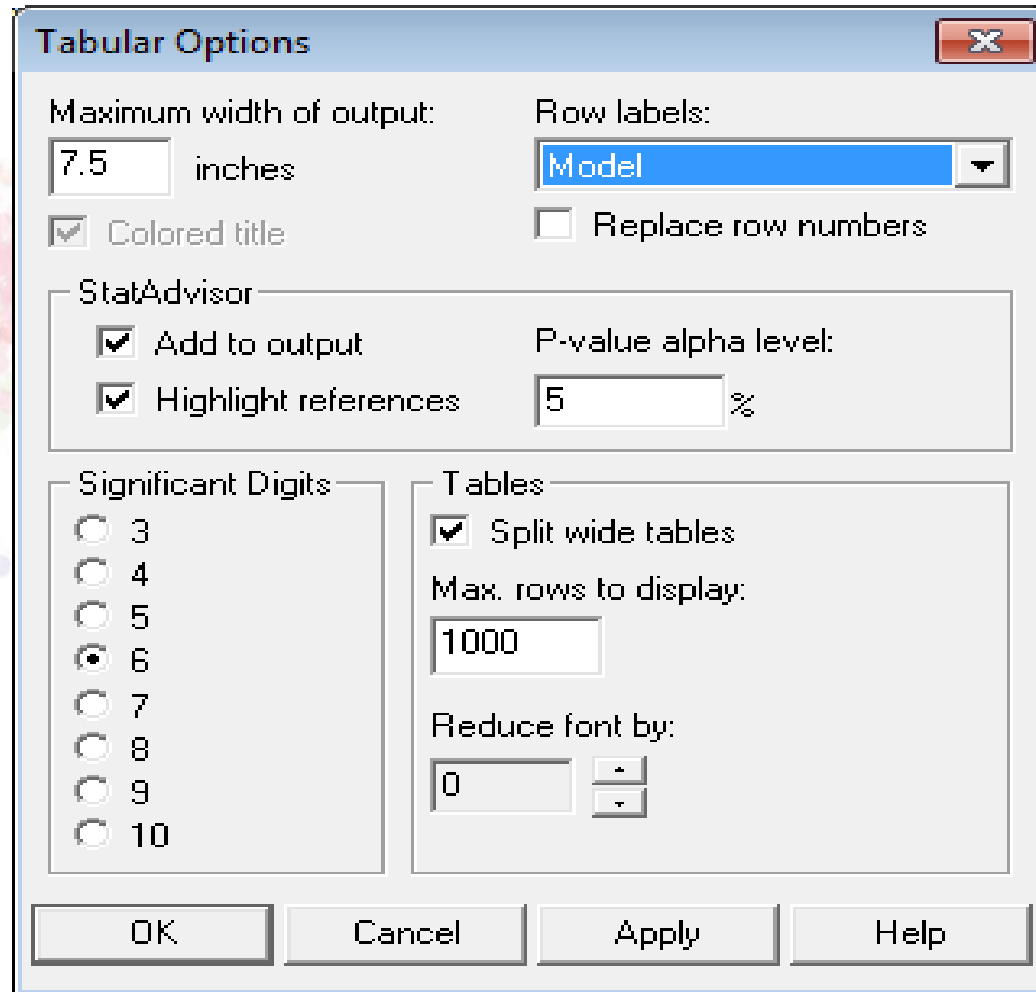
The screenshot shows a window titled "<in StatFolio>" with a table containing two columns, X and Y, and nine rows. The Y column is highlighted in orange. The row 6 is highlighted in orange. The cell at row 6, column Y is empty and has a black border.

	X	Y
1	1	12
2	2	16
3	3	22
4	4	28
5	5	33
6		
7		
8		
9		

New: 1-D visualizer statlet



New feature: tabular options



Tabular Options

Maximum width of output: inches

Row labels: ▼

☒ Colored title ☐ Replace row numbers

StatAdvisor

☒ Add to output P-value alpha level: %

☒ Highlight references

Significant Digits

☐ 3
☐ 4
☐ 5
☒ 6
☐ 7
☐ 8
☐ 9
☐ 10

Tables

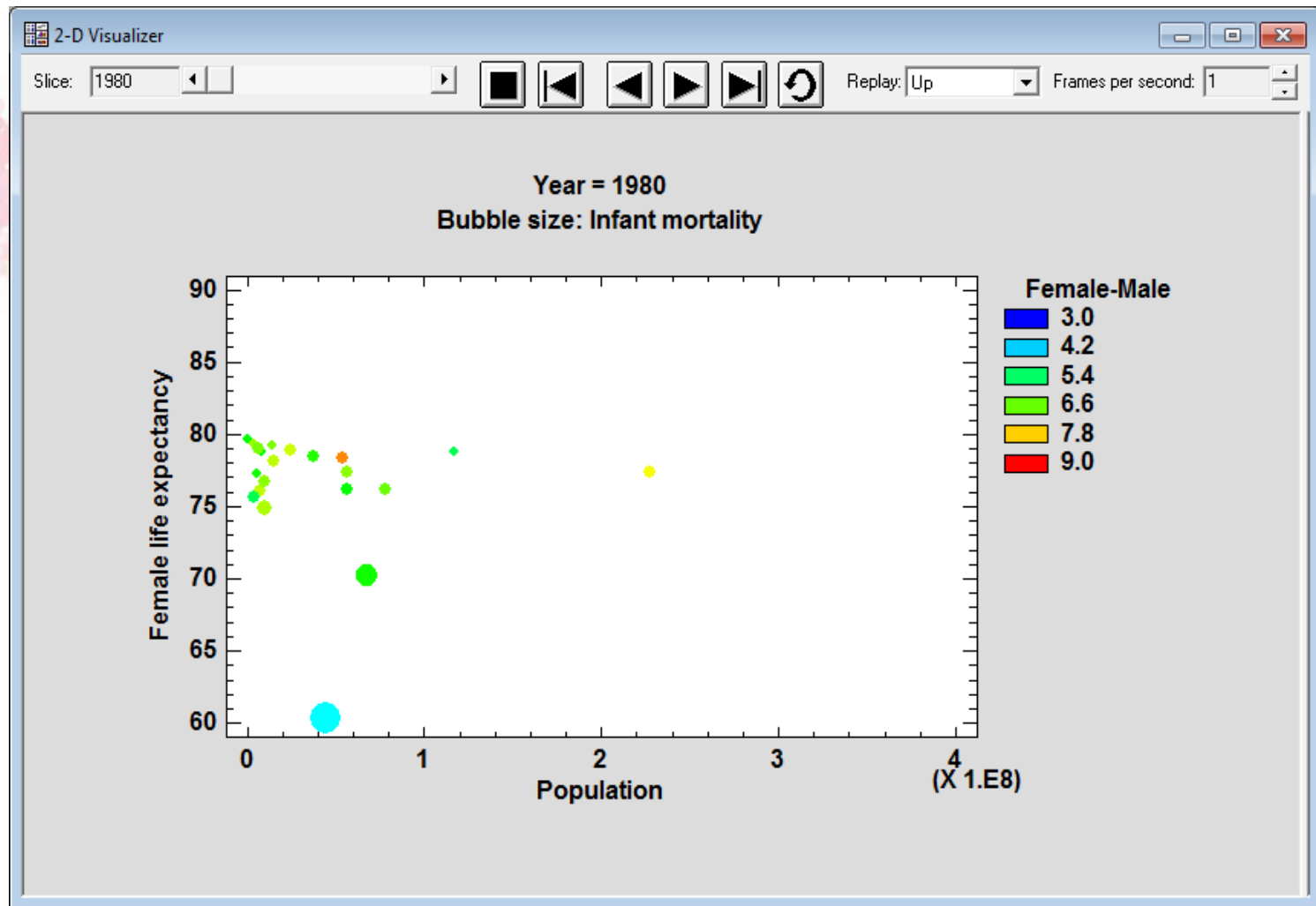
☒ Split wide tables

Max. rows to display:

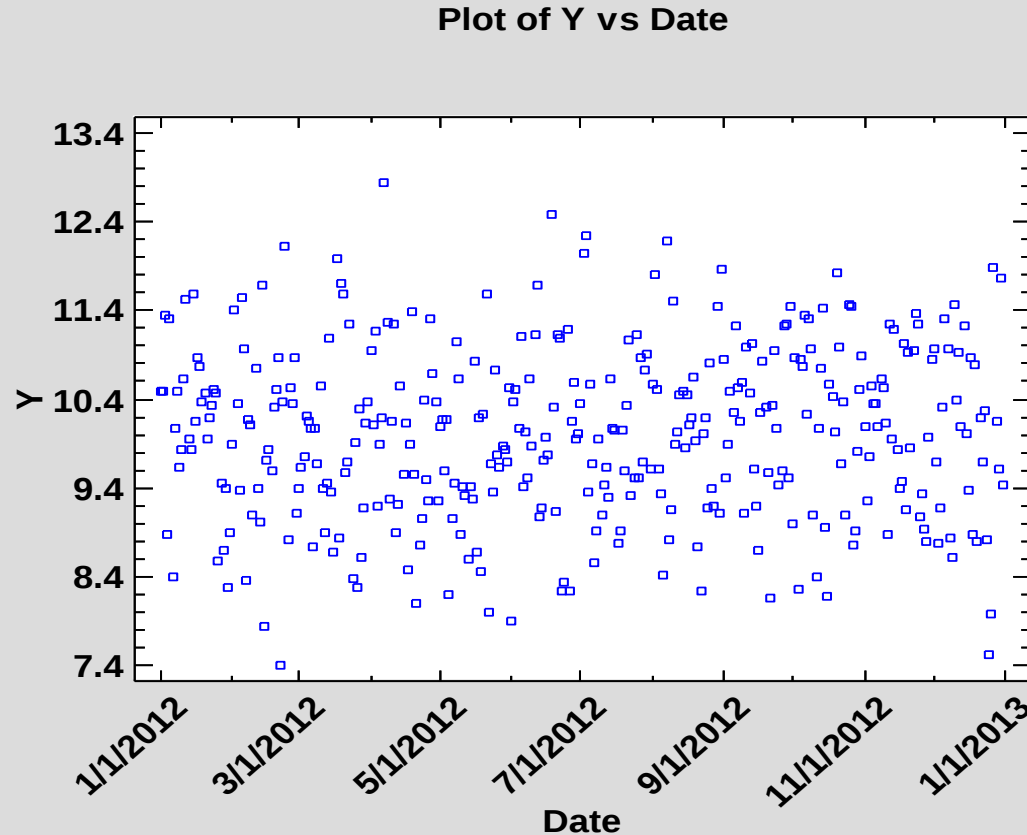
Reduce font by: ▼

OK Cancel Apply Help

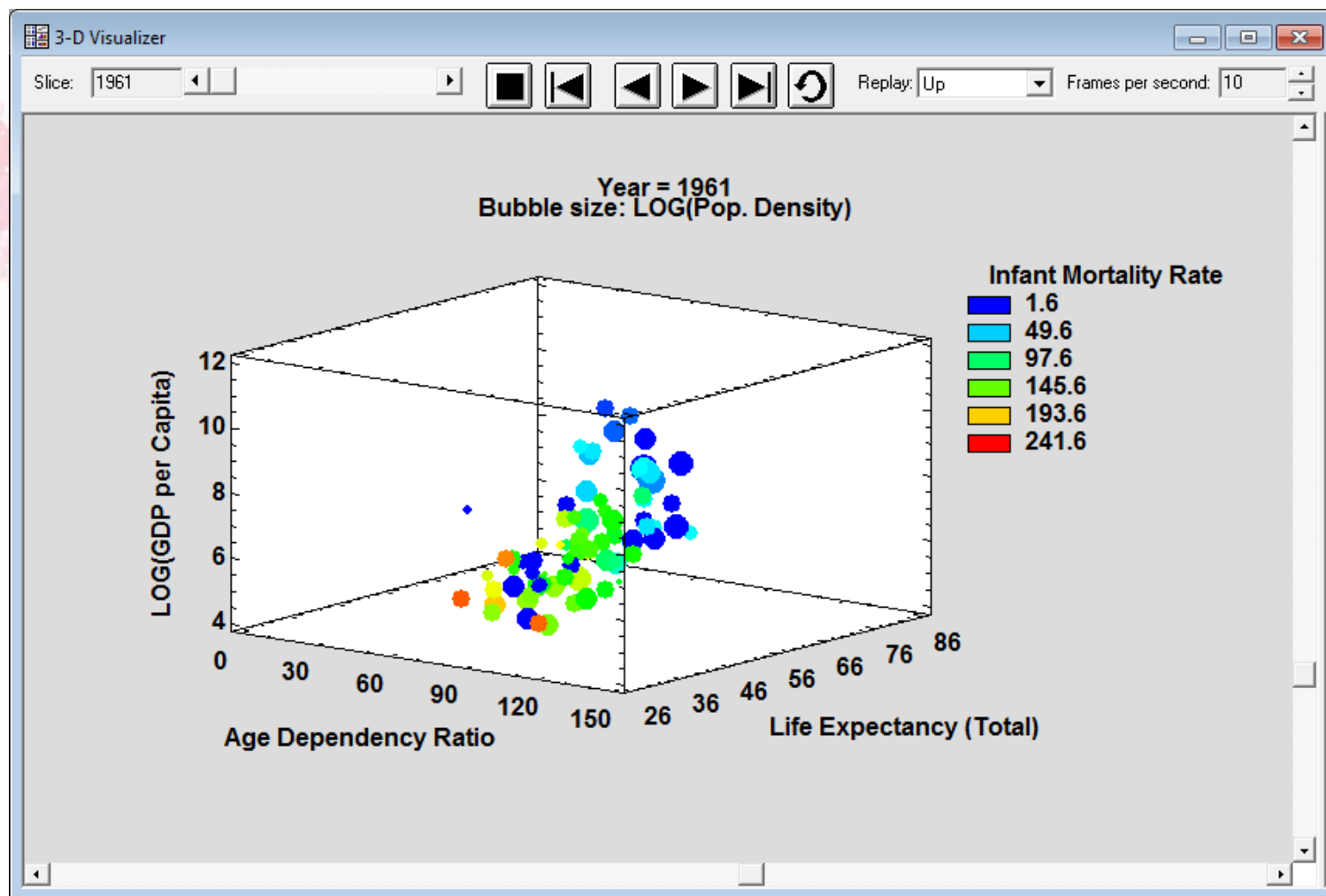
New: 2-D visualizer statlet



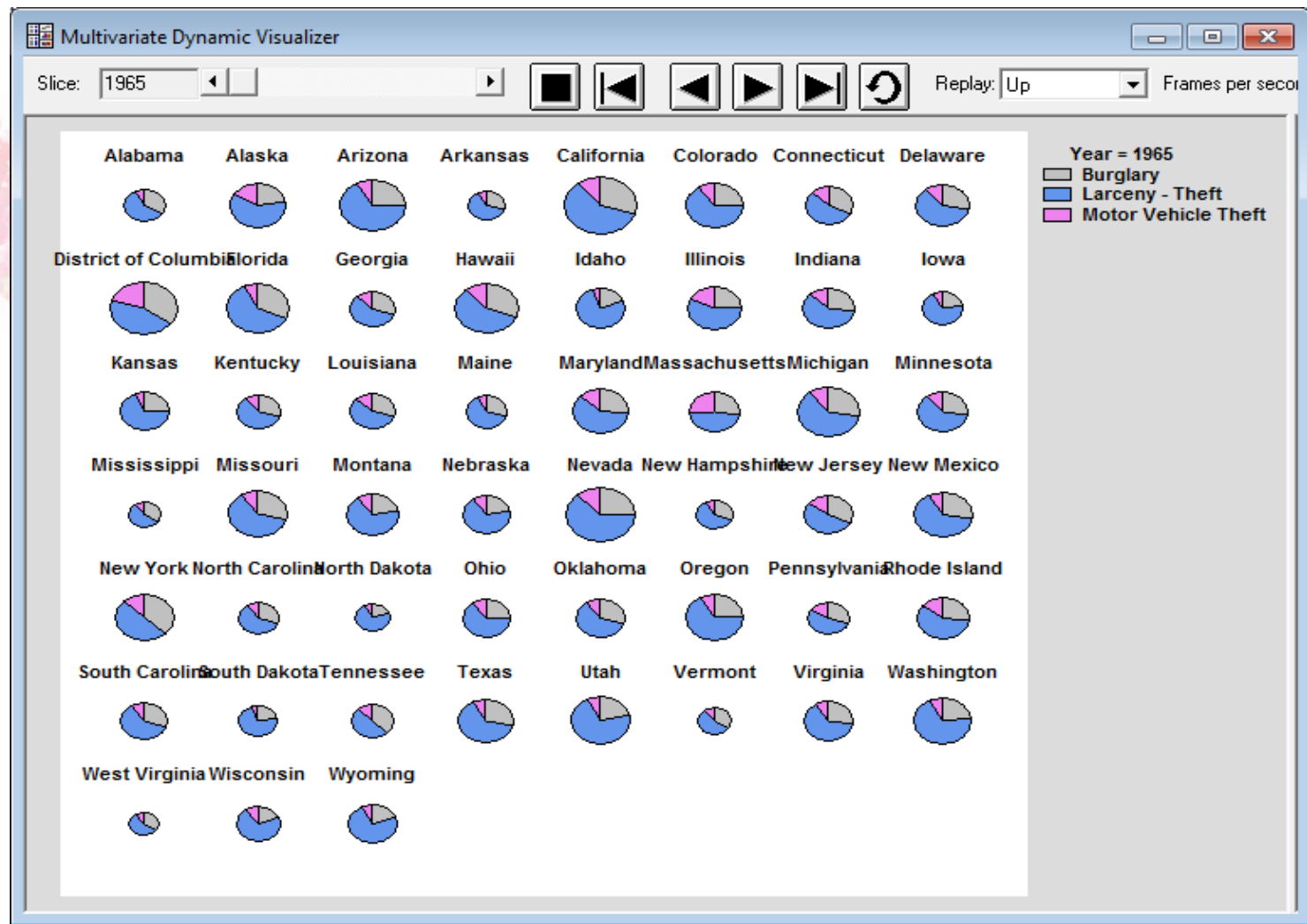
Graphics: improved date scaling



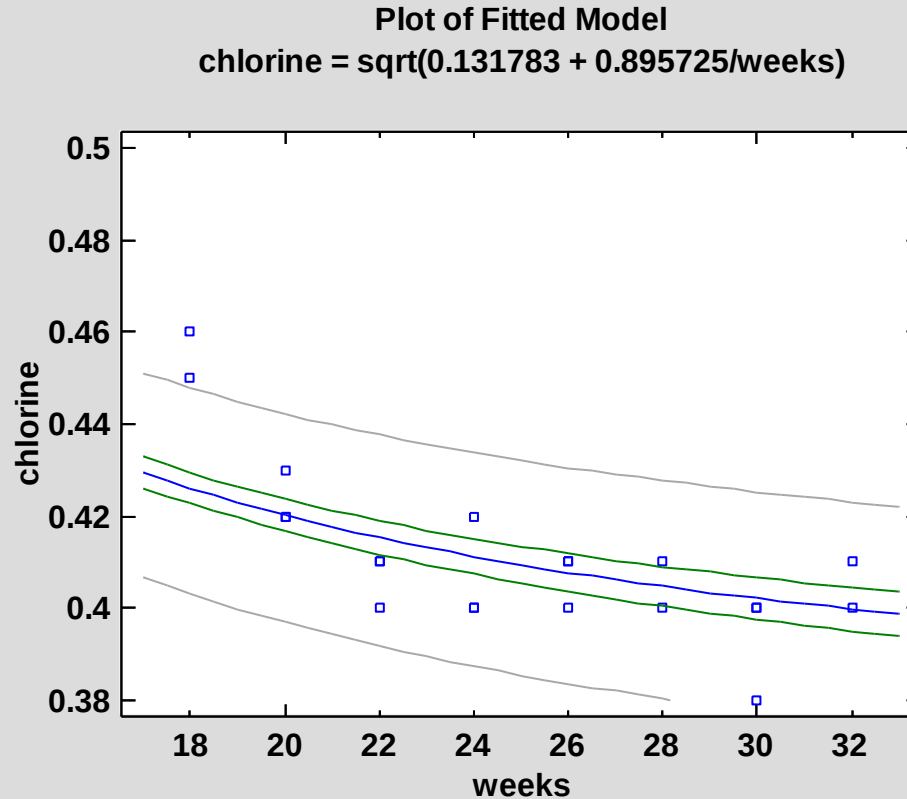
New: 3-D visualizer statlet



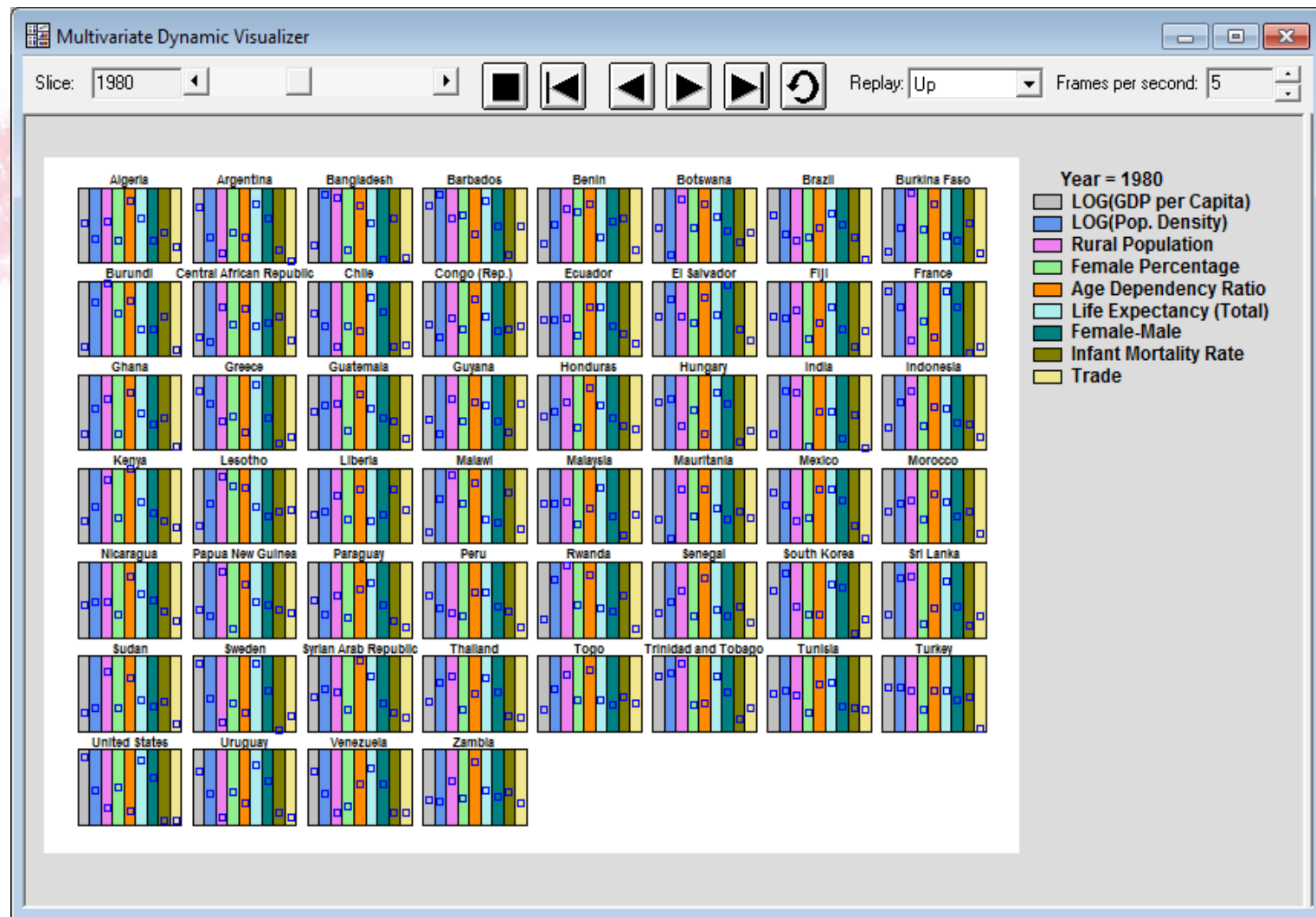
New: multivariate visualizer statlet



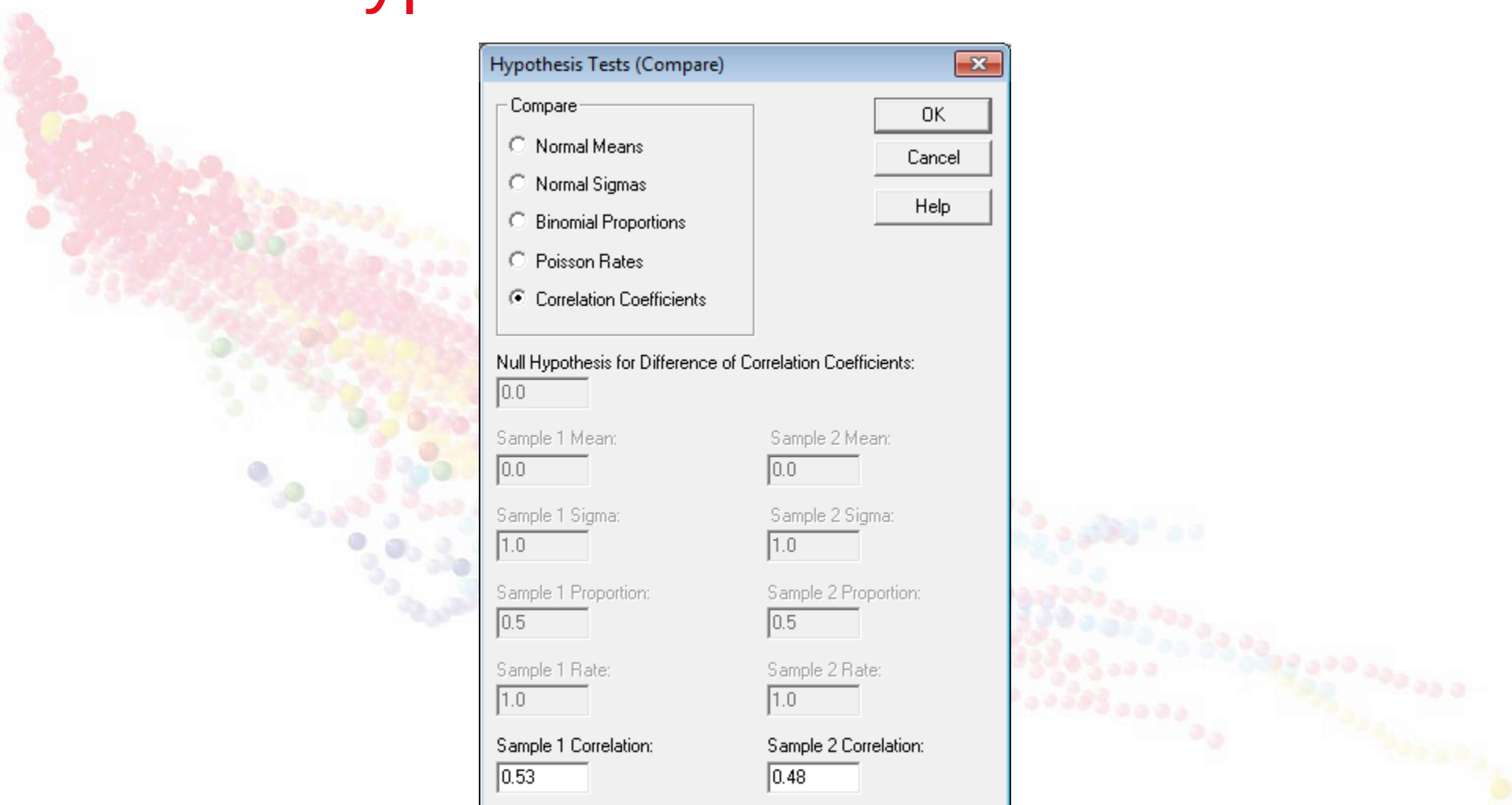
Graphics: extra tickmarks during zoom



New: multivariate visualizer statlet



New: hypothesis tests for correlations



Hypothesis Tests (Compare)

Compare

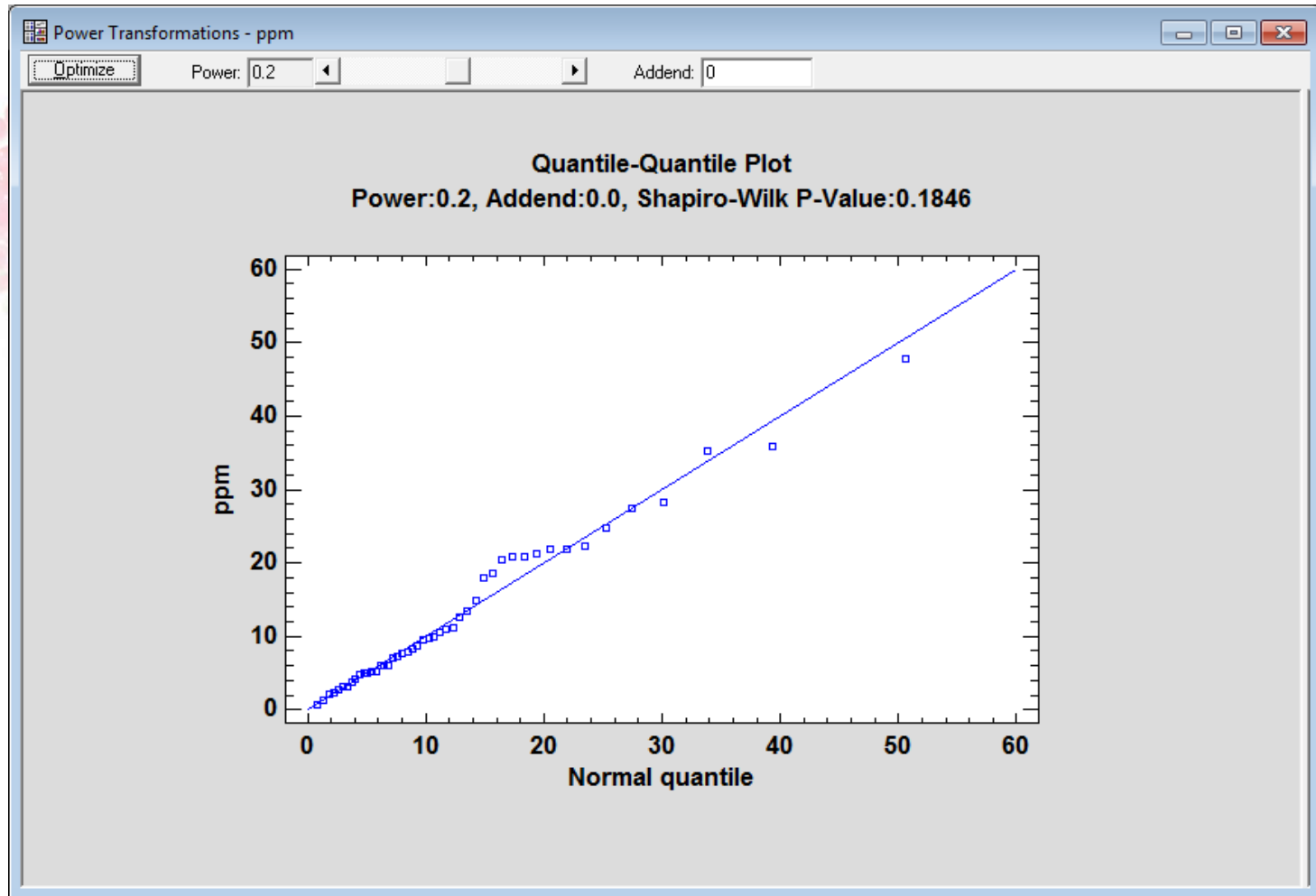
- ☐ Normal Means
- ☐ Normal Sigmas
- ☐ Binomial Proportions
- ☐ Poisson Rates
- ☒ Correlation Coefficients

OK
Cancel
Help

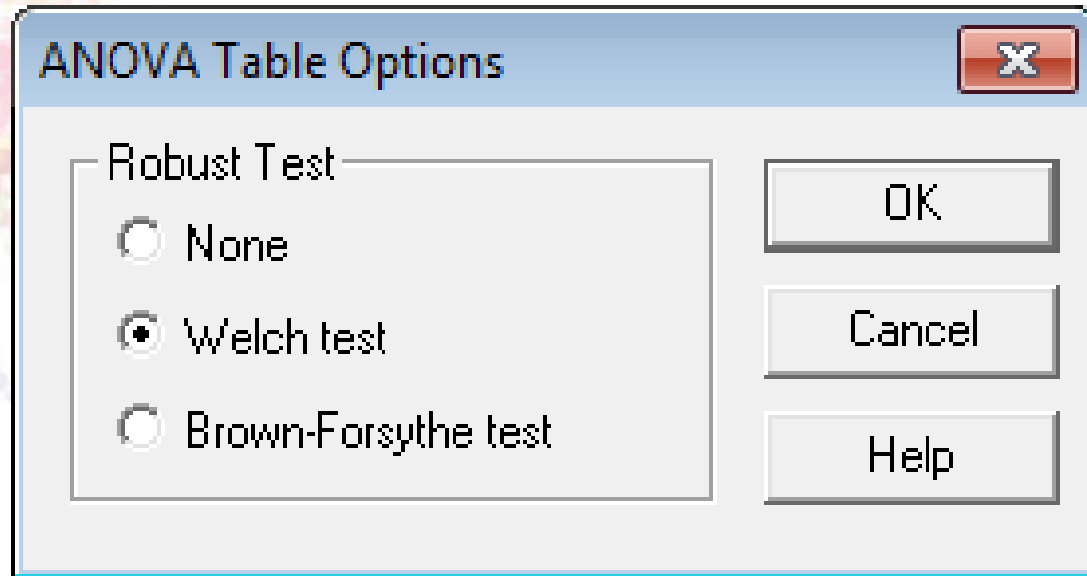
Null Hypothesis for Difference of Correlation Coefficients:
0.0

Sample 1 Mean:	Sample 2 Mean:
0.0	0.0
Sample 1 Sigma:	Sample 2 Sigma:
1.0	1.0
Sample 1 Proportion:	Sample 2 Proportion:
0.5	0.5
Sample 1 Rate:	Sample 2 Rate:
1.0	1.0
Sample 1 Correlation:	Sample 2 Correlation:
0.53	0.48
Sample 1 Size:	Sample 2 Size:
100	100

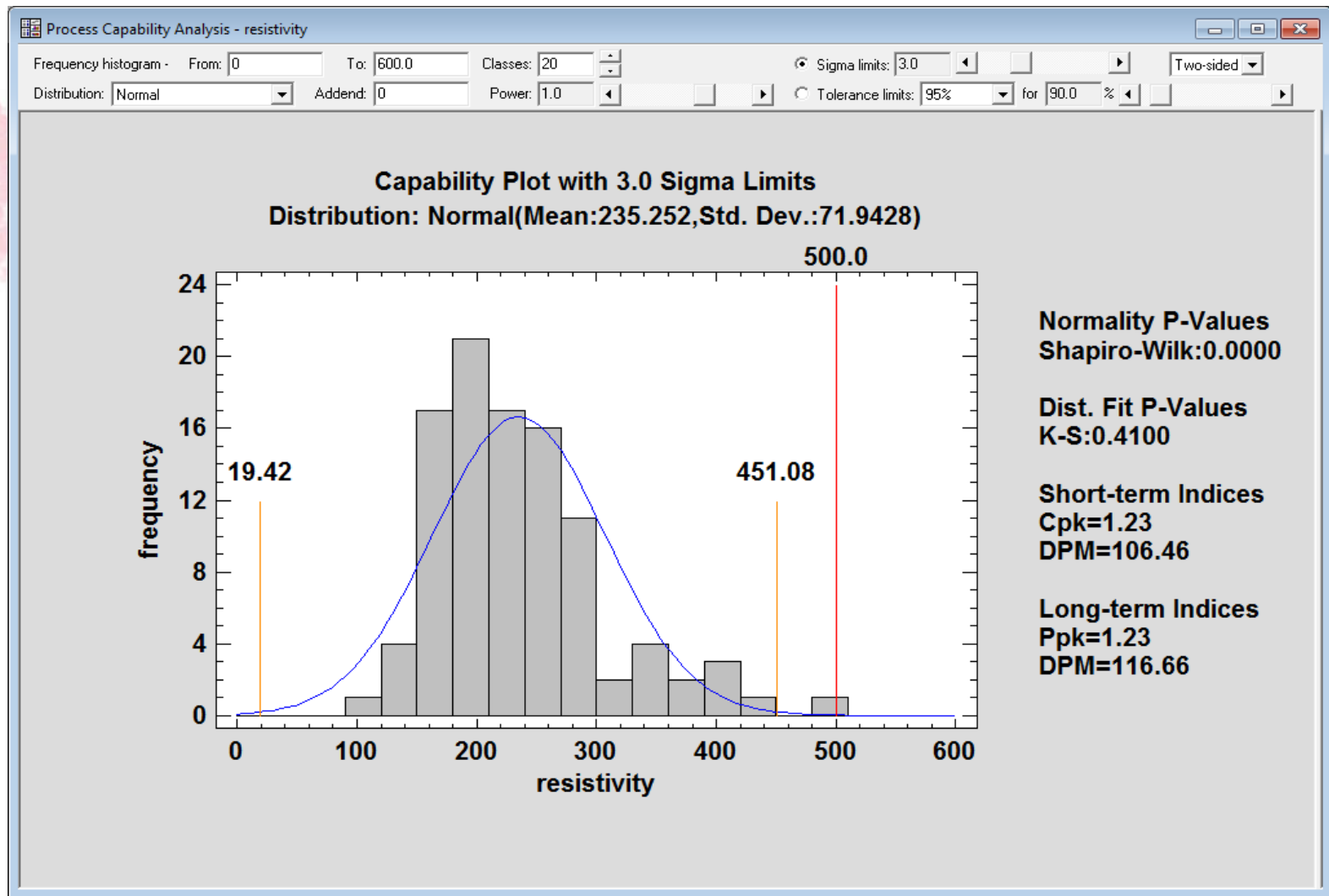
New: power transformations statlet



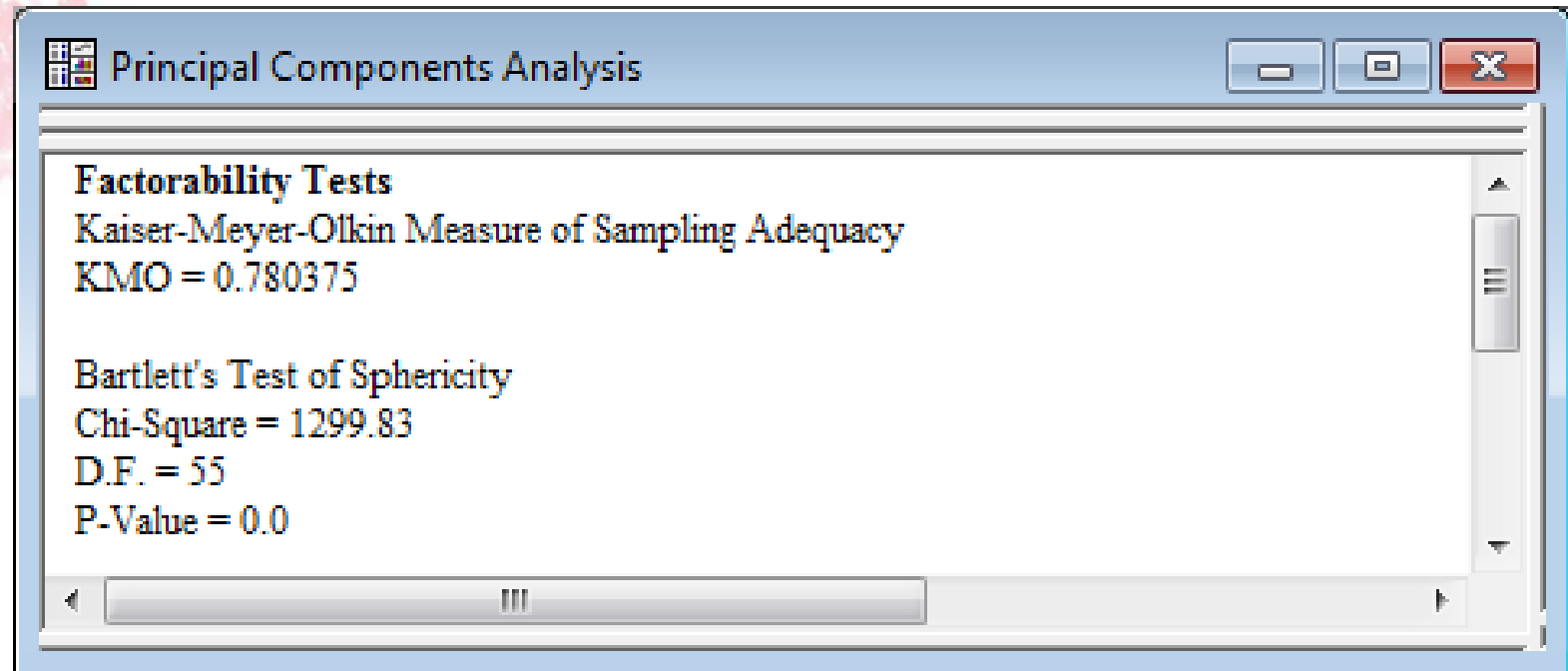
New: robust tests for oneway anova



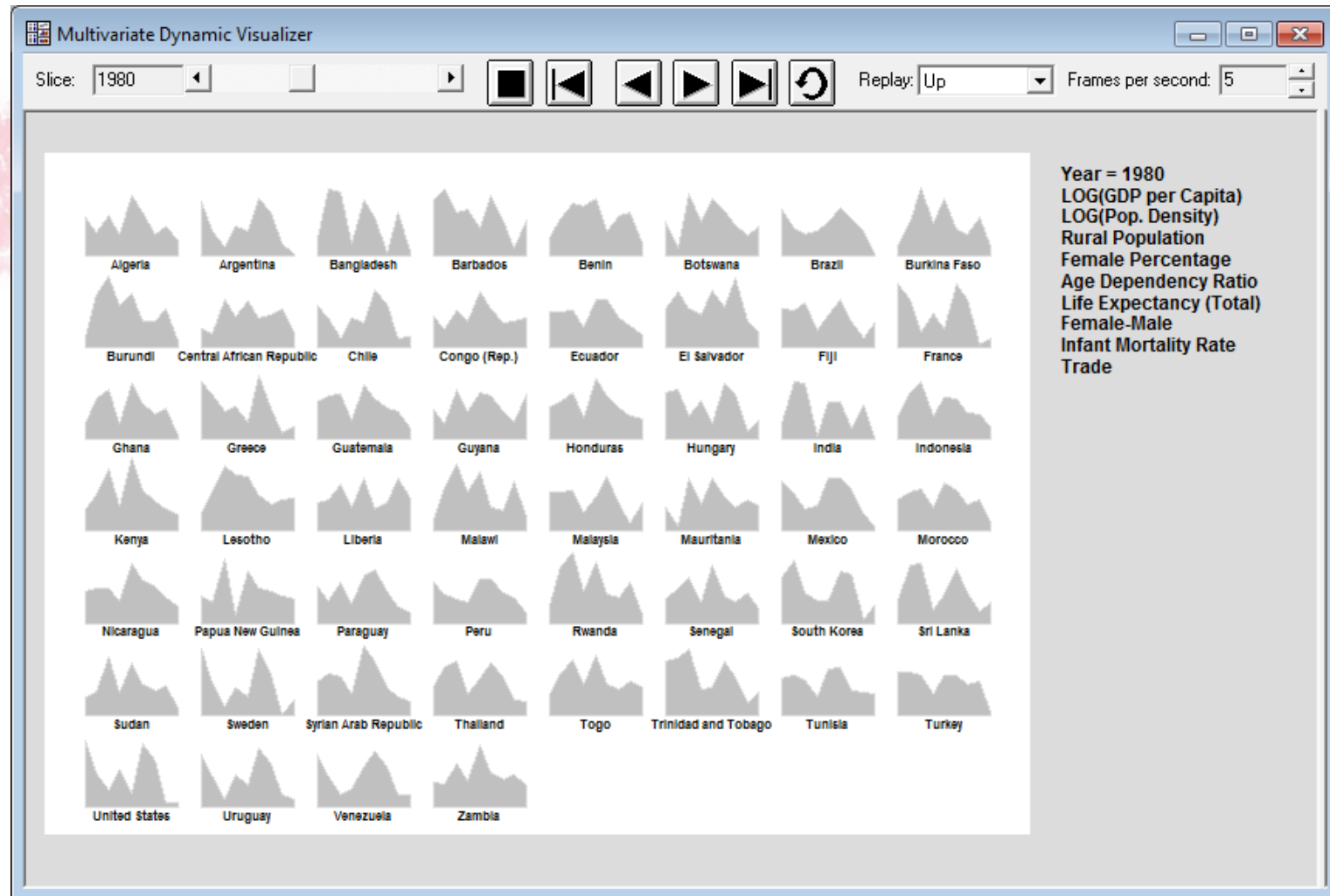
New: capability analysis statlet



New: factorization tests



New: multivariate visualizer statlet



New: computer-generated experiments

Computer Generated Designs

BLOCK	Factor_A	Factor_B	Factor_C
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			

Optimize

- ☒ D-efficiency
- ☐ G-efficiency
- ☐ A-efficiency
- ☐ I-efficiency

Number of coefficients: 10

Display

- ☒ Original units
- ☐ Coded units

☐ Randomize run order

Number of base runs: 13

Number of replicates: 0

Number of centerpoints: 0

☐ Group runs in blocks of size: 2

D-efficiency:

G-efficiency:

A-efficiency:

Average prediction variance:

OK

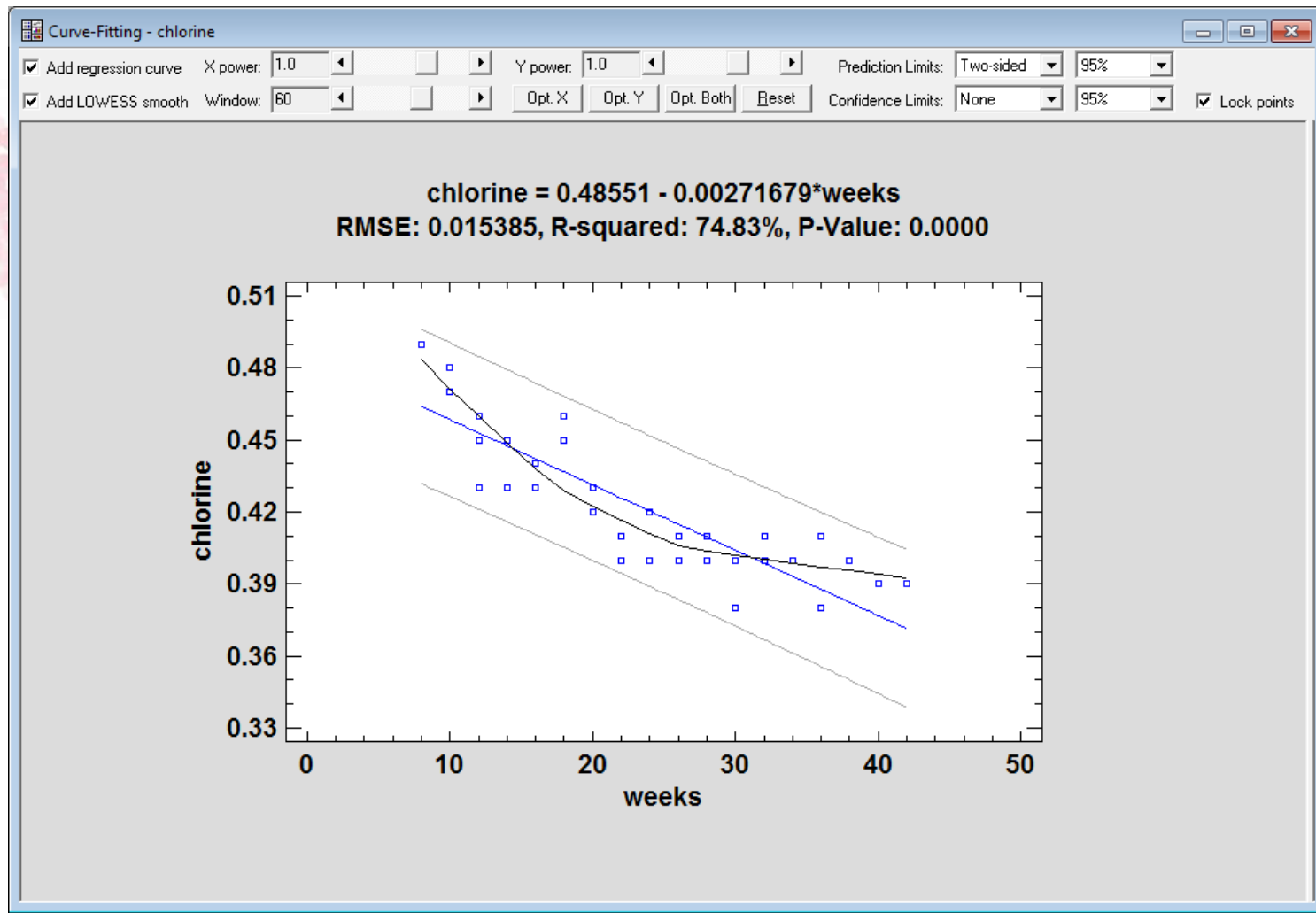
Cancel

Create

Advanced

Help

New: curve-fitting statlet



New procedure: item reliability analysis

Item Reliability Analysis

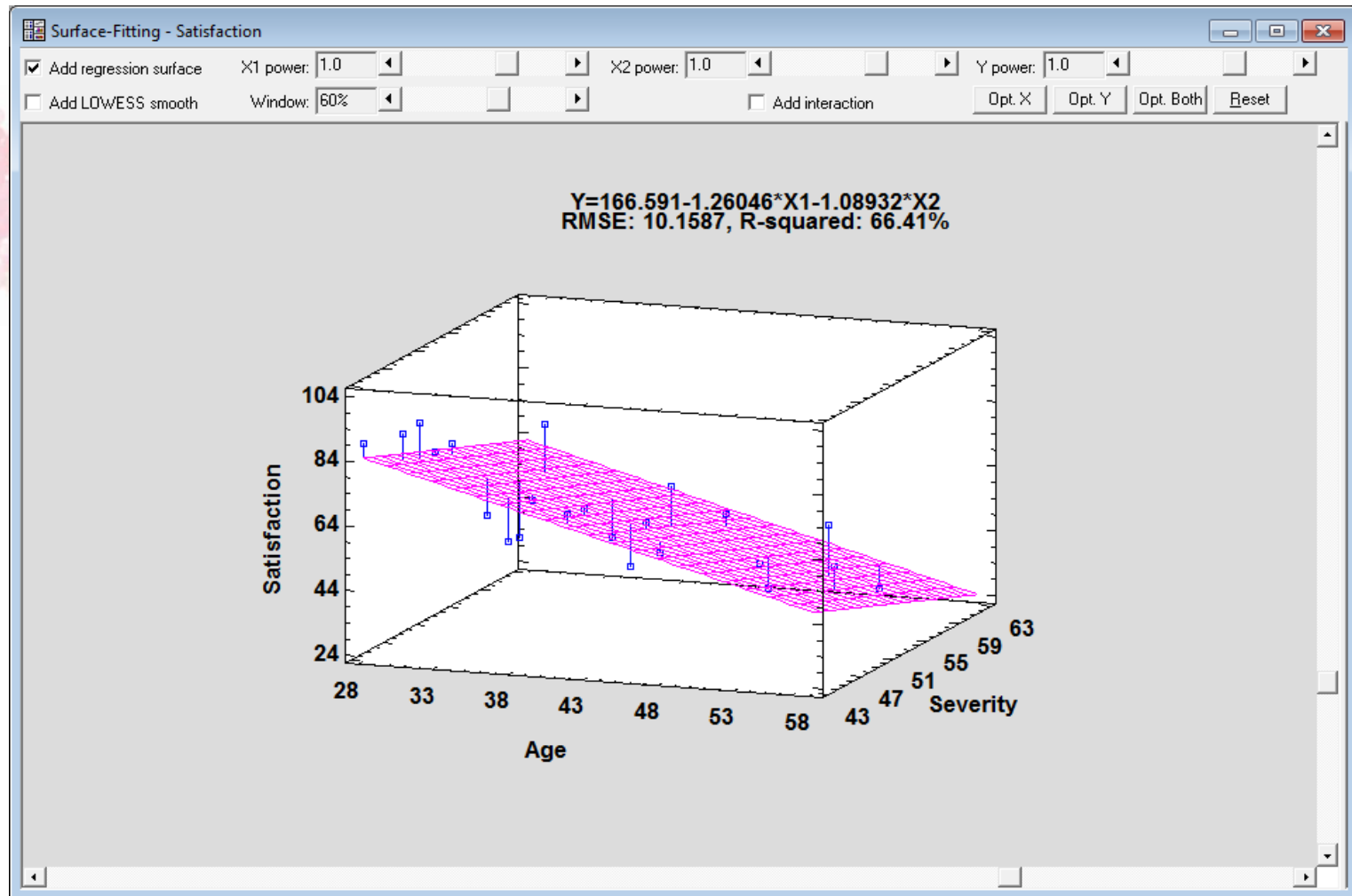
<i>Variable</i>	<i>Count</i>	<i>Sample Mean</i>	<i>Std. Deviation</i>
Q1	15	3.4	1.29835
Q2	15	3.33333	1.17514
Q3	15	3.53333	1.0601
Q4	15	4.06667	0.798809
Q5	15	3.06667	1.38701
Q6	15	3.73333	1.27988
Sum	15	21.1333	4.85308

Cronbach's alpha = 0.772503 (lower 95% confidence bound = 0.582388)

Omitted Item Statistics

<i>Omitted Variable</i>	<i>Adj. Sum Mean</i>	<i>Adj. Sum Std. Deviation</i>	<i>Item-Total Correlation</i>	<i>Squared Multiple R</i>	<i>Alpha if Omitted</i>
Q1	17.7333	3.76955	0.782267	0.742626	0.660188
Q2	17.8	4.03909	0.616996	0.728303	0.712931
Q3	17.6	4.13694	0.605884	0.595351	0.719254
Q4	17.0667	4.18273	0.810943	0.738456	0.696108
Q5	18.0667	4.84719	-0.138824	0.451907	0.905959
Q6	17.4	3.73784	0.83015	0.704872	0.645876

New: surface-fitting statlet



New: repeated measures ANOVA

Sphericity Tests and Adjustments

Mauchly's Sphericity Test

<i>W</i>	<i>Chi-square</i>	<i>D.f.</i>	<i>P-value</i>
0.682477	2.18604	5.0	0.82285

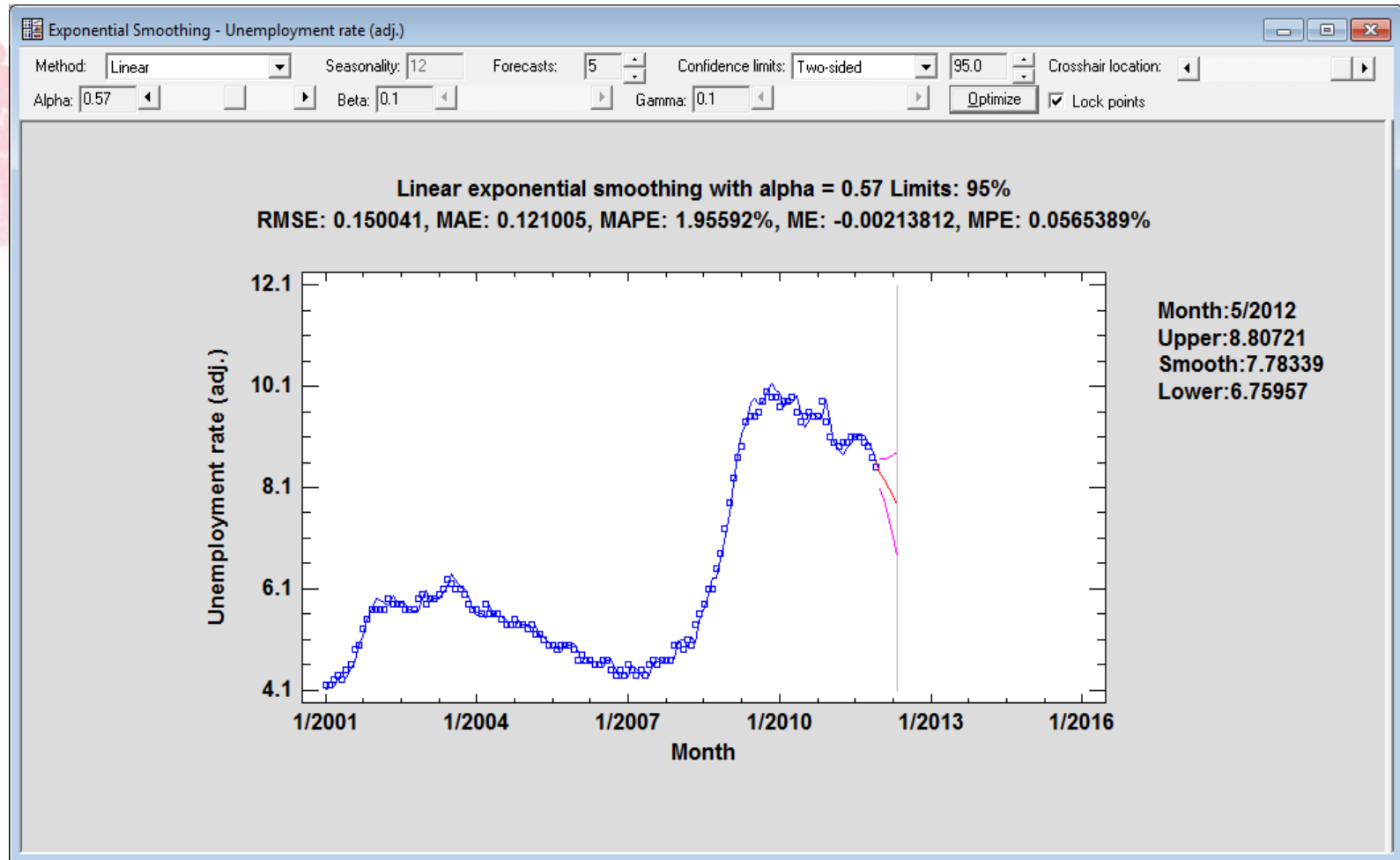
Epsilon

<i>Huynh-Feldt</i>	<i>Greenhouse-Geisser</i>	<i>Lower-bound</i>
1.0	0.78935	0.333333

Tests of Within-Patient Effects

<i>Source</i>	<i>Sphericity Correction</i>	<i>Sum of Squares</i>	<i>Df</i>	<i>Mean Square</i>	<i>F-Ratio</i>	<i>P-Value</i>
Time	None	651.094	3.0	217.031	35.29	0.0000
	Huynh-Feldt	651.094	3.0	217.031	35.29	0.0000
	Greenhouse-Geisser	651.094	2.36805	274.949	35.29	0.0000
	Lower-bound	651.094	1.0	651.094	35.29	0.0006
Error(Time)	None	129.156	21.0	6.1503		
	Huynh-Feldt	129.156	21.0	6.1503		
	Greenhouse-Geisser	129.156	16.5763	7.7916		
	Lower-bound	129.156	7.0	18.4509		

New: exponential smoothing statlet



New: ANSI Z1.4 & Z1.9 sampling plans

Acceptance Sampling Options (Attributes)

Attribute

☒ Percent nonconforming

☐ Nonconformities per unit

Lot size:

281-500

Inspection level:

II (default)

AQL:

1.0%

Type of inspection:

Normal

Sampling plan:

Double

OK Cancel Help

Acceptance Sampling Options (Variables)

Variability

☒ Unknown

☐ Known

Lot size:

26-50

Inspection level:

II (default)

AQL:

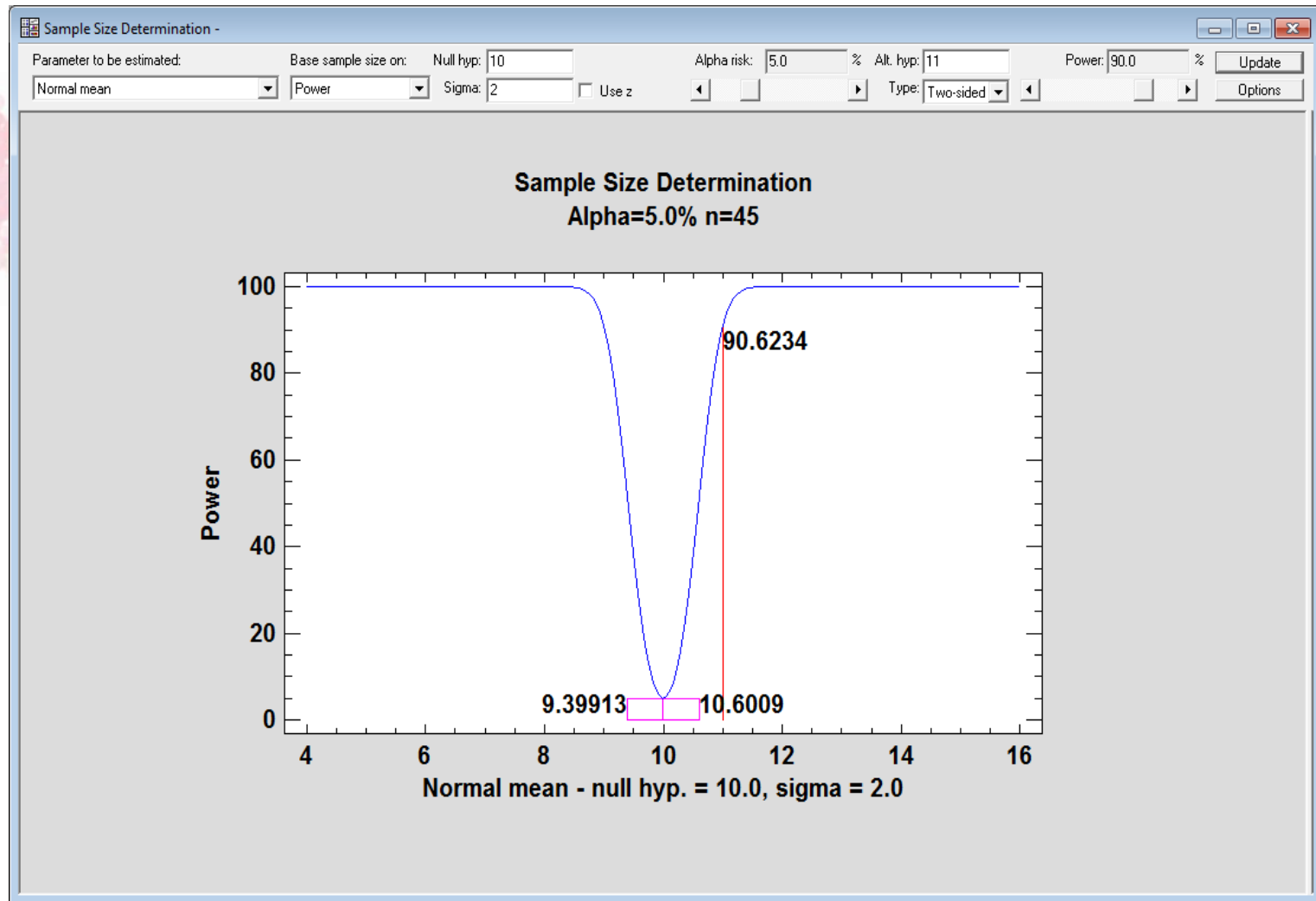
1.0%

Type of inspection:

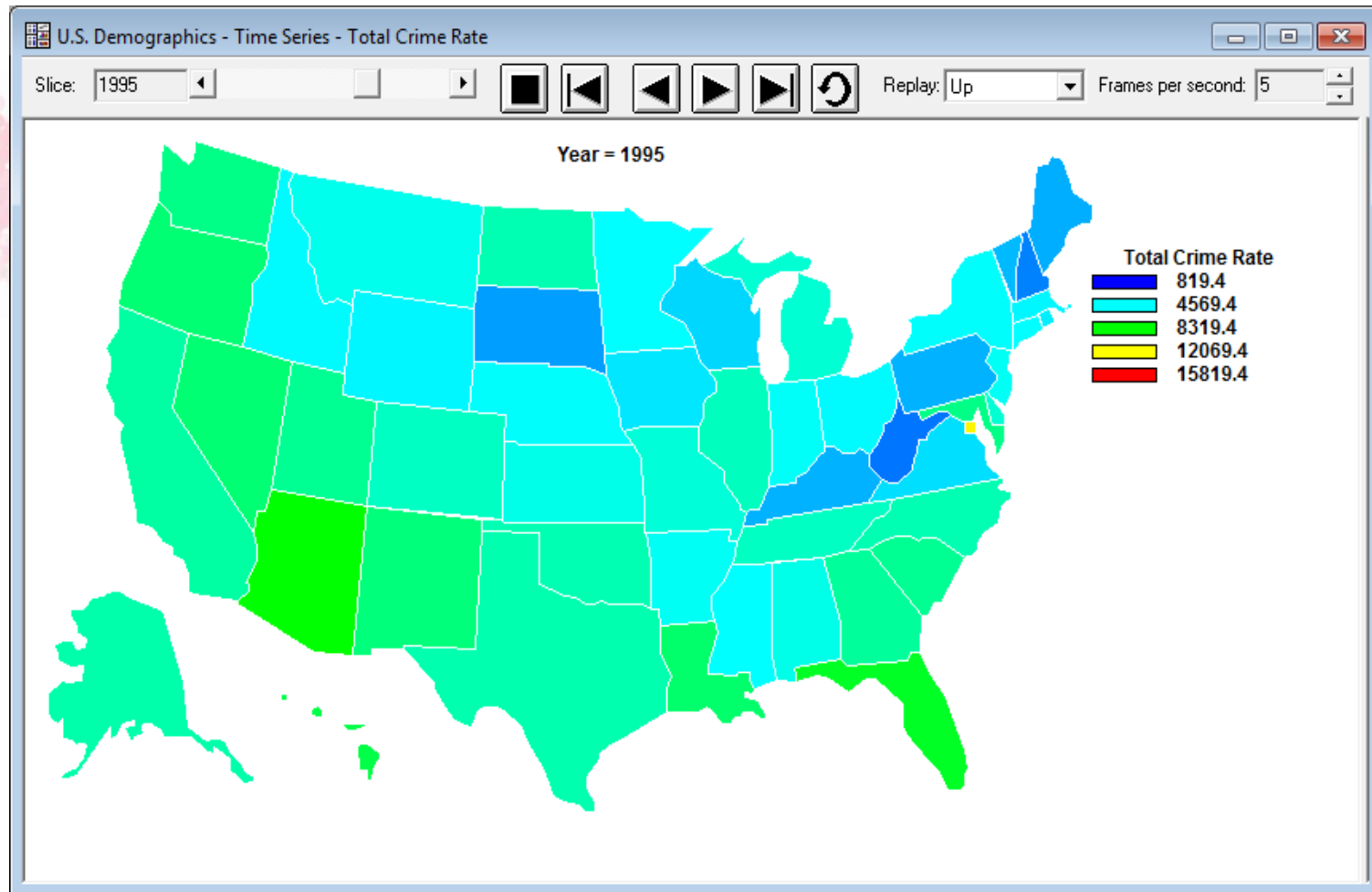
Normal

OK Cancel Help

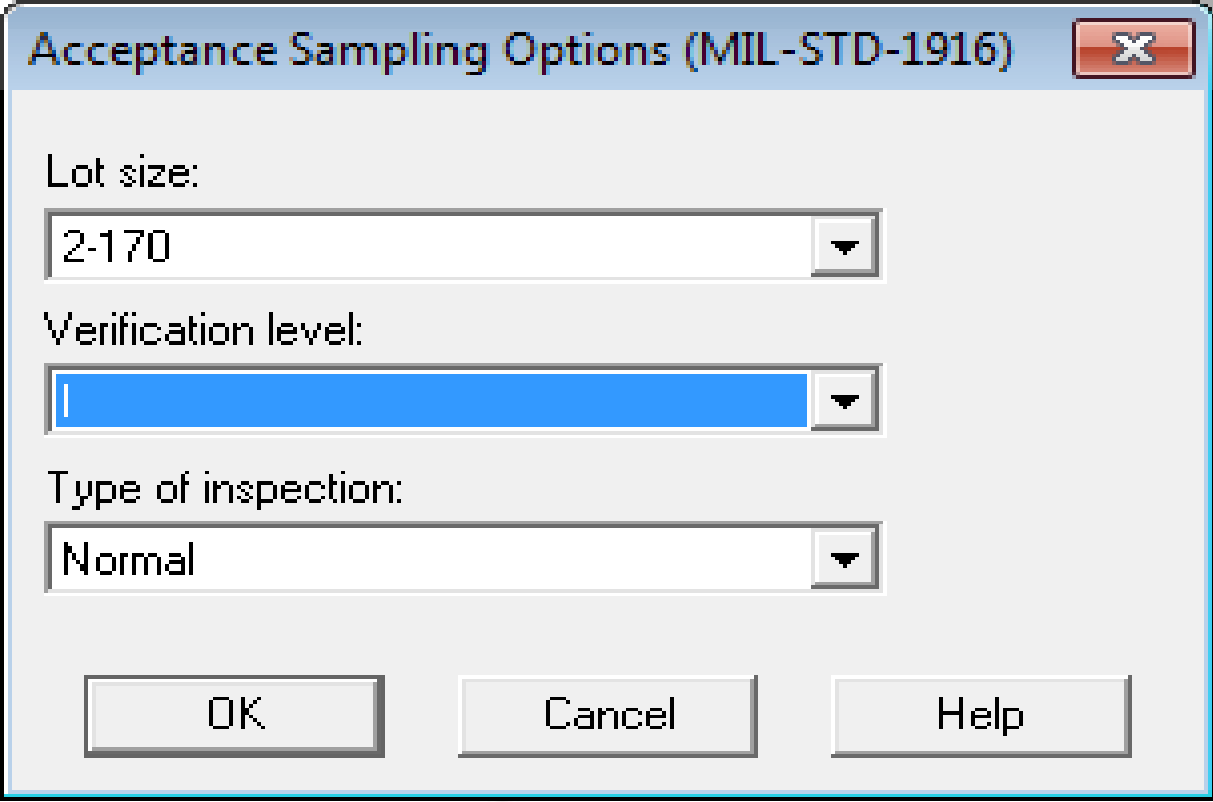
New: sample size determination statlet



New: U.S. Map visualizer statlet



New: MIL-STD-1916 sampling plans



A screenshot of a software dialog box titled "Acceptance Sampling Options (MIL-STD-1916)". The dialog box has a standard Windows-style title bar with a close button (X) in the top right corner. It contains three dropdown menus for configuration: "Lot size:" is set to "2-170", "Verification level:" is set to "I", and "Type of inspection:" is set to "Normal". At the bottom of the dialog, there are three buttons: "OK", "Cancel", and "Help". The background of the slide features a decorative pattern of pink and yellow dots on the left and right sides.

Acceptance Sampling Options (MIL-STD-1916)

Lot size:
2-170

Verification level:
I

Type of inspection:
Normal

OK Cancel Help

New: U.S. Map brushing statlet

