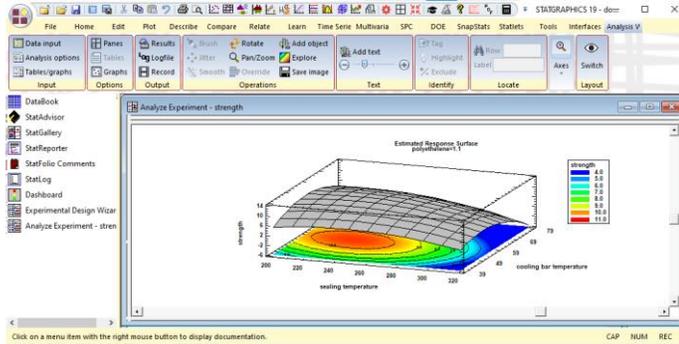
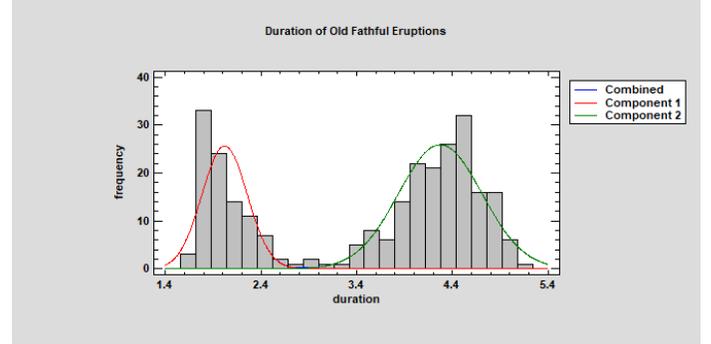


Statgraphics 19 Enhancements and Additions

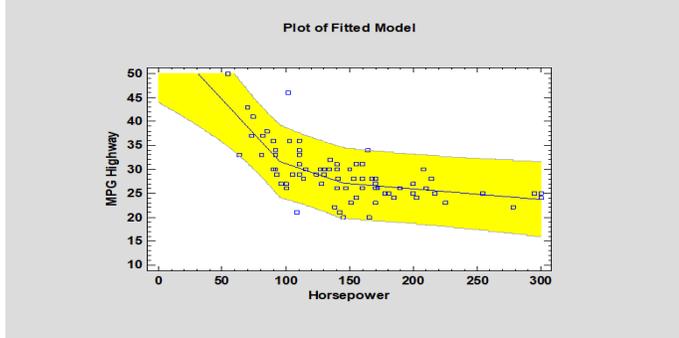
Ribbon bar in main window



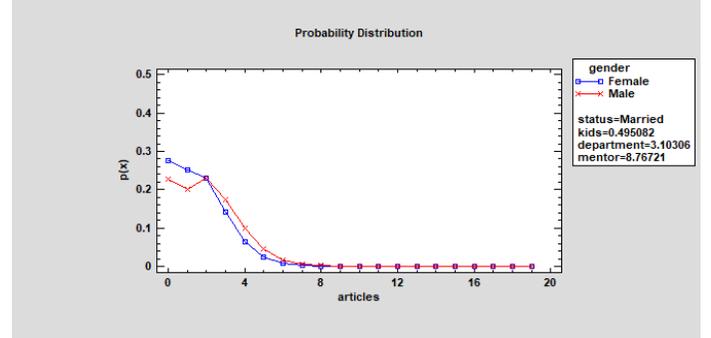
Fitting univariate mixture distributions



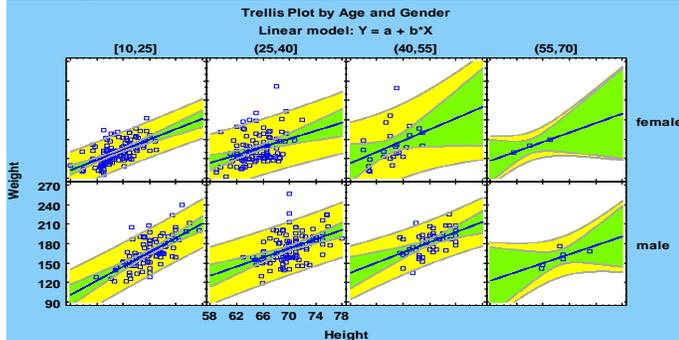
Piecewise linear regression



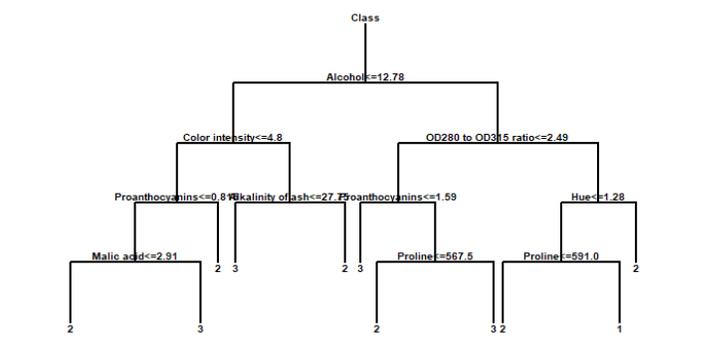
Zero-inflated count regression



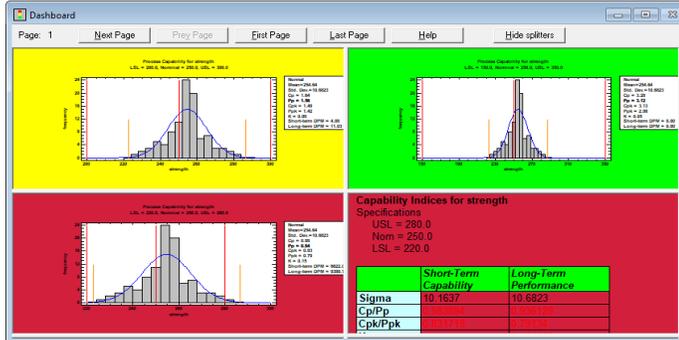
Trellis plots



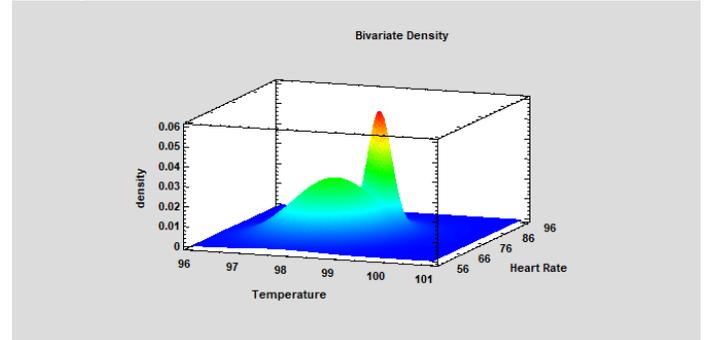
Decision forests



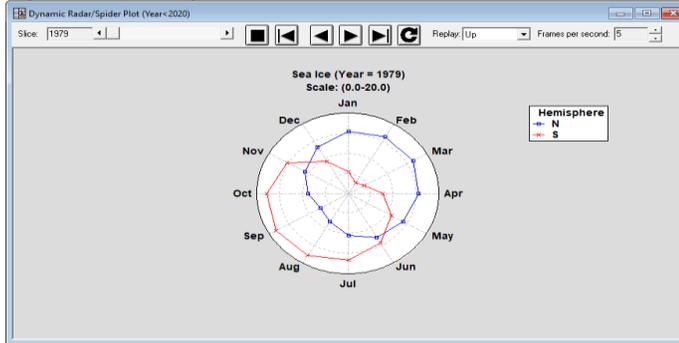
Dashboard



Fitting bivariate mixture distributions



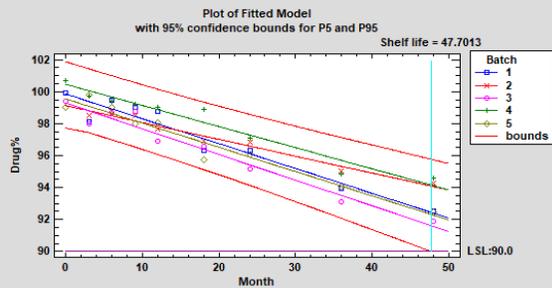
Dynamic radar plots and Pareto charts



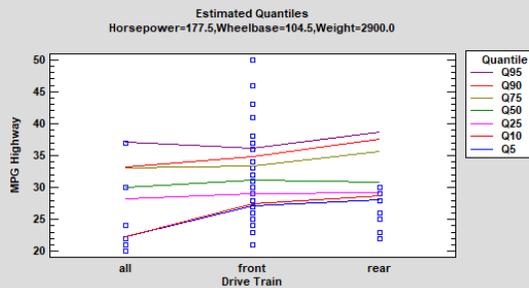
Support vector machines

Item	Value
Type of machine	classification
Regularization parameter C	100.0
Type of kernel	linear
Shrinking heuristic applied	no
Probability estimates enabled	no
Stopping tolerance	0.001
Kernel cache size	200MB
Maximum iterations	unlimited
Class weights	none
Break ties using confidence values	no
Verbose output	no
Results	
Set	Size % Correct
Training	75 97.3333%
Validation	75 96.0%
Prediction	4

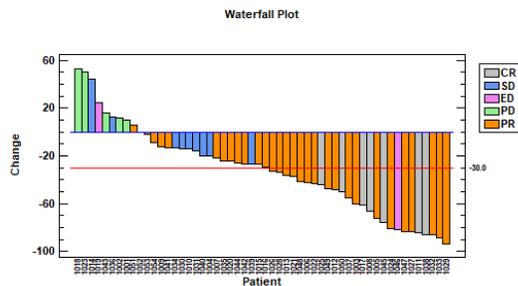
Stability studies



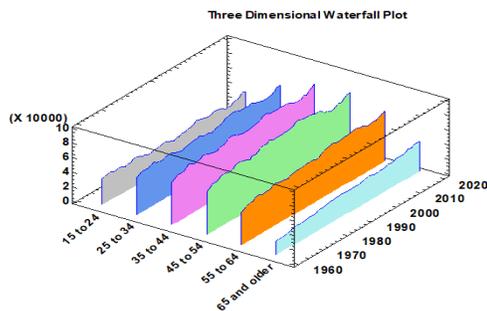
Quantile regression



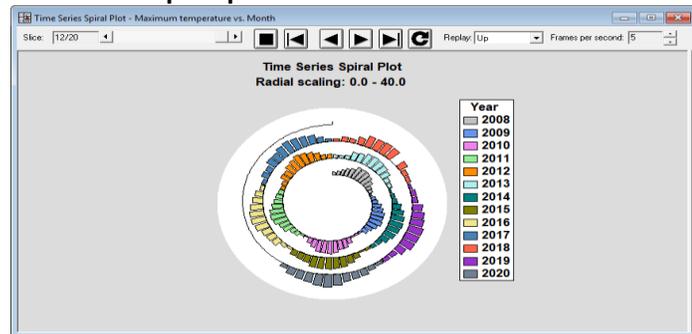
2D waterfall plots



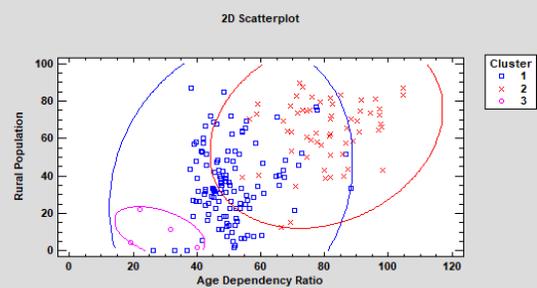
3D waterfall plots



Time series spiral plot



Improved K-means clustering



Alias optimal experimental designs

Alias Optimal Design Options

Potential Model:

- 2-factor interactions
- Quadratic terms
- 3-factor interactions
- Cubic terms
- Mixed third-order terms

Minimum relative D-efficiency: 0.9

Number of alias reduction attempts: 25

OK Cancel Help

Optimal exp. design augmentation

Computer Augmented Design Options

Optimize:

- I-efficiency
- D-efficiency
- A-efficiency
- G-efficiency

Number of continuous factor levels to consider: 5 (Set by factor)

Mixture increment between levels:

Create new block

Number of random starts: 100

Maximum iterations per start: 100

OK Cancel Help

Gage studies – GLM method

Gage R&R - GLM Method - Coating Thickness

Operators: Operator
Parts: Part
Measurements: Coating Thickness
Additional random factors:
Coating
3 operators 10 parts 4 trials

Gage Repeatability and Reproducibility Report

Measurement Unit	Estimated Variance	Percent Contribution	Percent of R&R
Total R&R	24.0274	10.56%	
Repeatability	6.34826	2.79%	26.42%
Reproducibility	17.6791	7.77%	73.58%
Operators	11.4351	5.0235%	47.5919%
Coating	6.24406	2.7431%	25.9872%
Part-to-Part	203.604	89.4446%	
Parts	203.604	89.4446%	
Total Variation	227.632	100%	

Number of distinct categories (ndc): 4

Single pane views

Simple Regression - chlorine vs. weeks

The StatAdvisor:
The output shows the results of fitting a reciprocal-X model to describe the relationship between chlorine and weeks. The equation of the fitted model, shown as a solid line, is
 $chlorine = 0.368063 + 1.02553weeks$
The inner bounds show 95.0% confidence limits for the mean chlorine of many observations at given values of weeks. The outer bounds show 95.0% prediction limits for new observations.

Model	Constant	R-Squared
Squared-Y reciprocal-X	0.3307	87.75%
Reciprocal-X	0.5313	87.75%
Square root-Y reciprocal-X	0.5312	86.71%
C-ratio model	0.5288	86.71%

Python interface

Interface to Python - Execute Script Options

Path to Python: C:\Users\Tom\AppData\Local\Programs\Python\Python37\python.exe

Exported data:
Python DataFrames to be created:
Date: Save strings as categorical variables: Remove unselected rows:
Python script: inches Graph height: Timeout: seconds
Graph width: 5.0 inches: 60.0 seconds

From sklearn.cluster import KMeans as km
from sklearn.cluster import DBSCAN
clusterer=KMeans(n_clusters=3,init='k-means++',random_state=0,verbose=0)
result=clusterer.fit(X_train,columns=['cluster'])
result=sklearn.cluster.DBSCAN(eps=0.5,random_state=0,verbose=0).fit(X_train,columns=['cluster'])
results=sklearn.cluster.DBSCAN(eps=0.5,random_state=0,verbose=0).fit(X_train,columns=['cluster'])

Imported data:
CSV file to be imported if any:
C:\Users\Tom\AppData\Local\Programs\Python\Python37\python.exe
Database: P A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

OK Cancel Help

Levene's test, Wald-Wolfowitz test, Games-Howell test

Two Sample Comparison - Placebo & Test Agent

Wald-Wolfowitz Test
Number of cross-sample ties = 2

	Minimum Statistic	Minimum P-Value	Maximum Statistic
Exact test (number of runs)	6	0.0007	6
Large sample z	-3.12406	0.0009	-3.12406
Large sample z (with cont. corr.)	-2.93662	0.0017	-2.93662

	Maximum P-Value	Average Statistic	Average P-Value
Exact test (number of runs)	0.0007	6.0	0.0007
Large sample z	0.0009	-3.12406	0.0009
Large sample z (with cont. corr.)	0.0017	-2.93662	0.0017

The StatAdvisor:
This option uses a Wald-Wolfowitz test to compare the distributions of the two samples. This test is performed by sorting the combined data from smallest to largest, determining which sample each value came from, and counting the number of runs in the sequence of sample numbers. In this case, the number of runs equals 6. Of particular interest is the P-value for the test. Based on the exact test, P = 0.0007. Since the P-value is less than 0.05, there is a statistically significant difference between the two distributions at the 95.0% confidence level.