



- Tool for evaluating and comparing different trending methods
    - Uses a rolling series of holdout periods to compare all 31 trending methods to determine which one has the lowest out-of-sample error
  - Provides interactive capability for calculating and manipulating single trends
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- Uses OI Prediction Engine™ for trending and calculation of prediction intervals
  - OI Prediction Engine testing shows our routines to be as accurate as leading commercial software





Step 1:

Clear pre-existing data and results

Erase Old Input Data

Step 2:

Enter or copy historical information into the Historical Input Data column.

Step 3:

Enter number of forecast periods desired:

Input

13

Step 4a:

Enter or clear Exponential Smoothing & Box-Jenkins coefficients (OPTIONAL).  
For each method, values will be optimized if one or more is left blank.

Step 4b:

Use any exponential smoothing method (with no input coefficient values specified)  
to calculate Prediction Intervals (OPTIONAL).

Conf. Level (default 0.95):

Input

Final

0.95

Step 5:

Select trending technique from menu below:

Exponential Smoothing

☐ Include prediction intervals

Select trend type: Additive

☐ Use damped trend

Select seasonality type: None


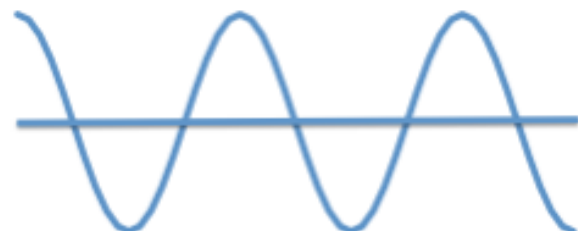
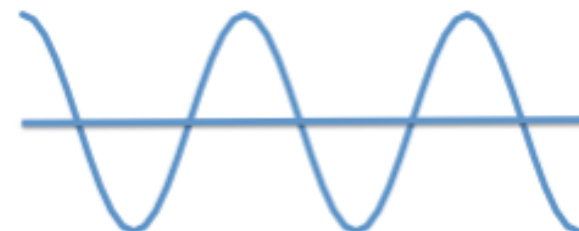


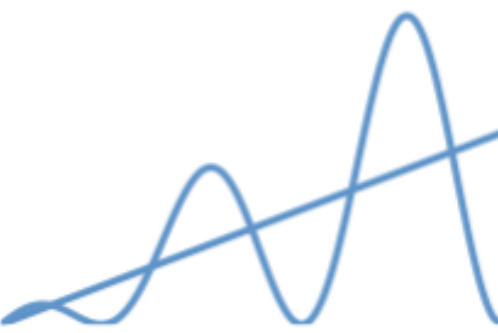



Step 6:

Run Forecast

Run Statistics (In-Sample)

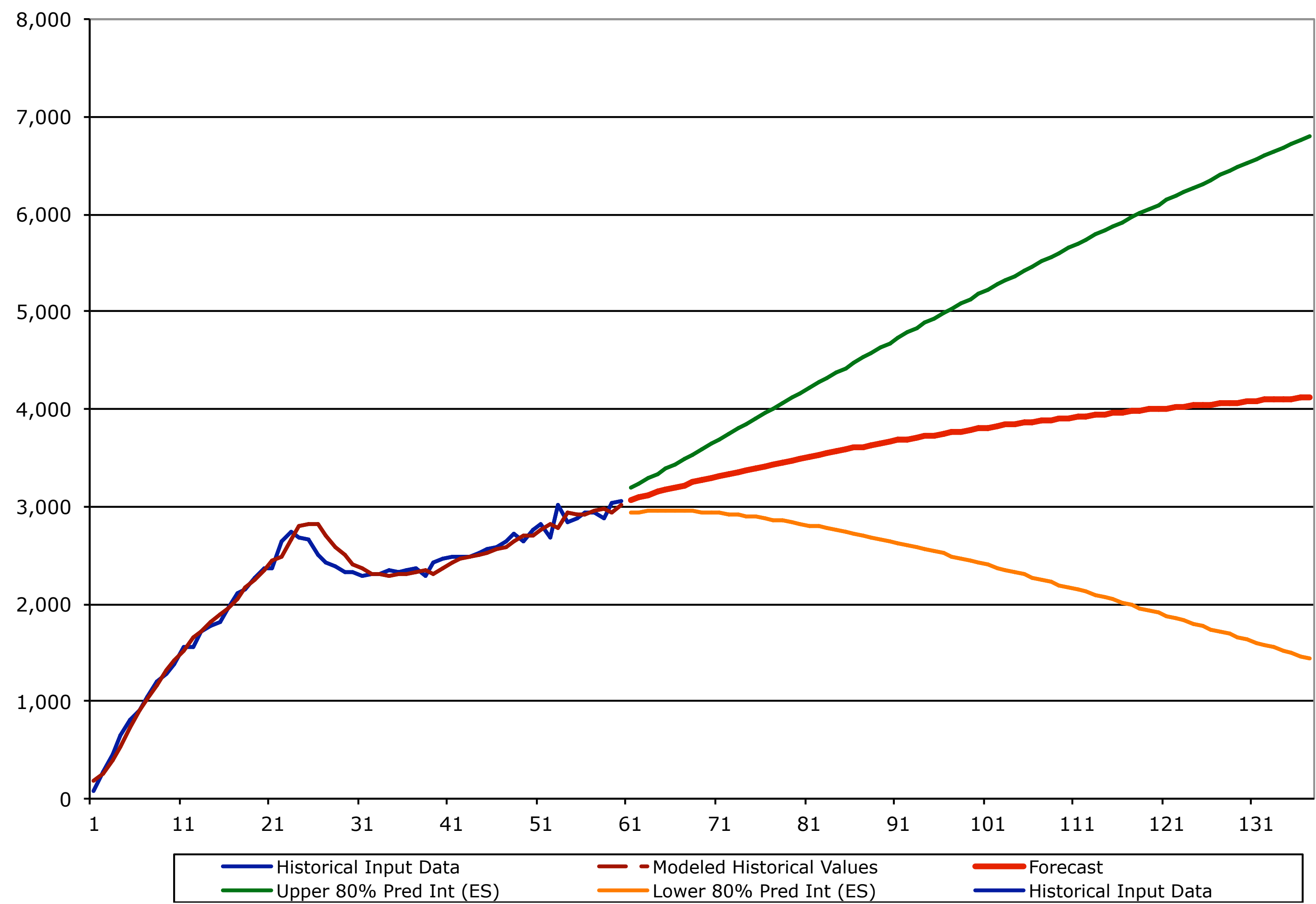


## Exponential Smoothing Methods Implemented

Trend Type	Seasonality		
	None	Additive	Multiplicative
None	 Simple ES		
Additive	 Holt ES		 Holt-Winters ES
Multiplicative			

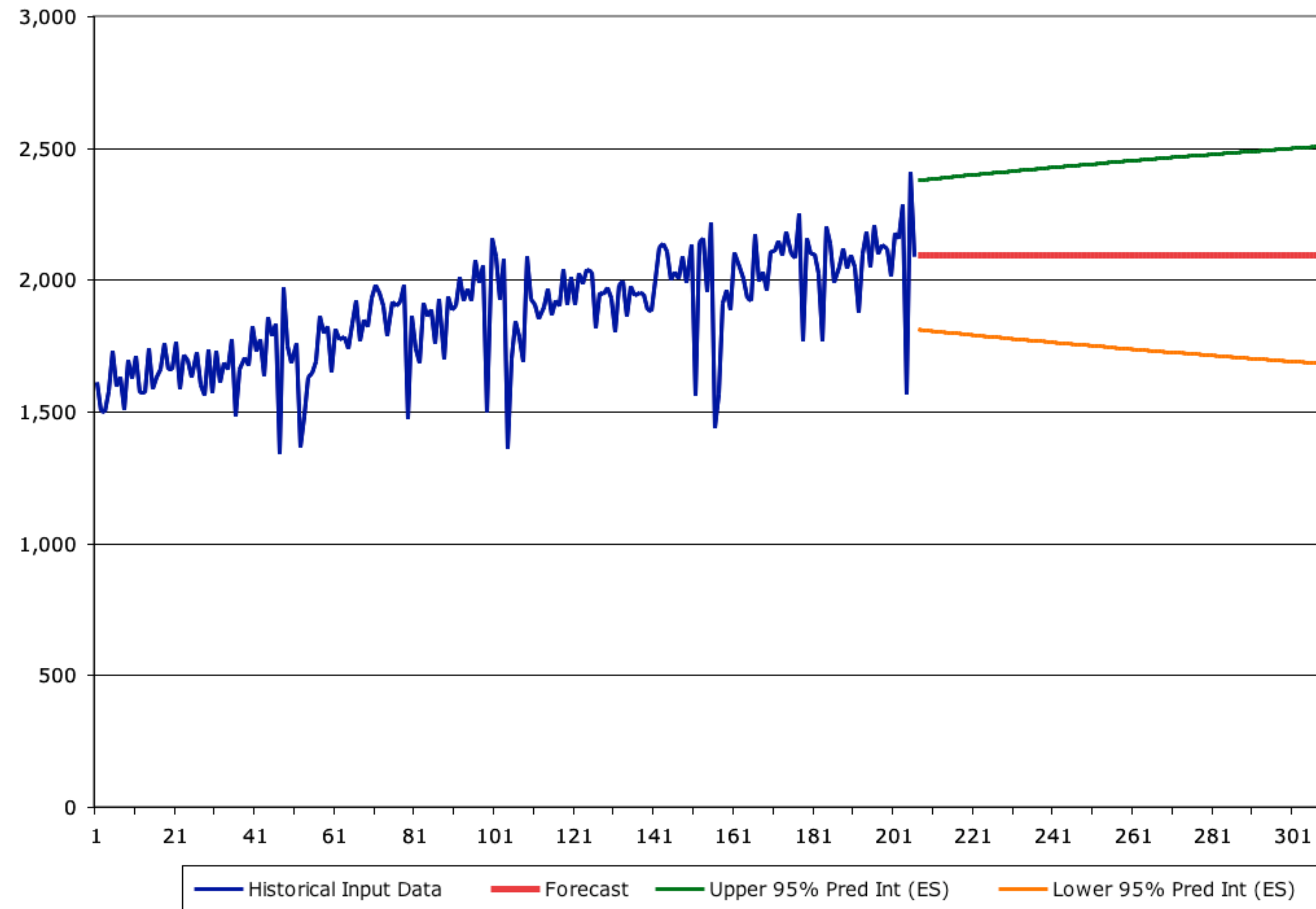


**Damped Holt Exponential Smoothing**





**Box-Jenkins ARIMA (0,1,1) x (0,0,0)sub0**







OUT-OF-SAMPLE TREND RESULTS

Sort results by: MAPE

Color Key

BestWorst

(For an explanation of the statistic, hover the cursor over its title)

Symmetric Mean Absolute Percentage Error (sMAPE)

Mean Absolute Scaled Error (MASE)

Thiel's U

AIC

BIC

Trending Method	Mean Absolute Percentage Error (MAPE)	Mean Squared Error (MSE)	Mean Absolute Error (MAE)	Symmetric Mean Absolute Percentage Error (sMAPE)	Mean Absolute Scaled Error (MASE)	Thiel's U	AIC	BIC
Multiplicative ES	2.85%	895.3	25.11	2.85%	1.929	2.076	89.85	90.98
Holt ES	3.25%	1,247.1	28.71	3.28%	2.188	2.379	93.02	94.15
Box-Jenkins ARIMA (0,2,2) x (0,0,0)sub0	3.46%	1,474.8	30.44	3.50%	2.351	2.569	93.26	94.39
Multiplicative ES, Multiplicative Seasonality	3.49%	1,539.4	30.75	3.49%	2.347	2.514	94.65	96.35
Winters ES, Multiplicative Seasonality	4.05%	2,239.2	35.71	4.10%	2.708	2.937	97.48	99.17
Damped Winters ES, Multiplicative Seasonality	4.42%	2,457.1	38.35	4.26%	2.972	3.300	103.14	105.40
Damped Holt ES	4.59%	2,418.1	39.58	4.43%	3.079	3.527	104.94	106.64
Damped Multiplicative ES	4.63%	2,442.4	39.99	4.47%	3.108	3.559	105.38	107.08
Multiplicative ES, Additive Seasonality	4.83%	2,953.0	42.37	4.80%	3.252	3.468	102.13	103.83
Damped Mult. ES, Multiplicative Seasonality	4.85%	2,800.6	42.07	4.67%	3.258	3.622	106.38	108.64
30-Period Exponential Regression	5.49%	2,710.8	48.48	5.68%	3.742	3.777	106.63	107.76

