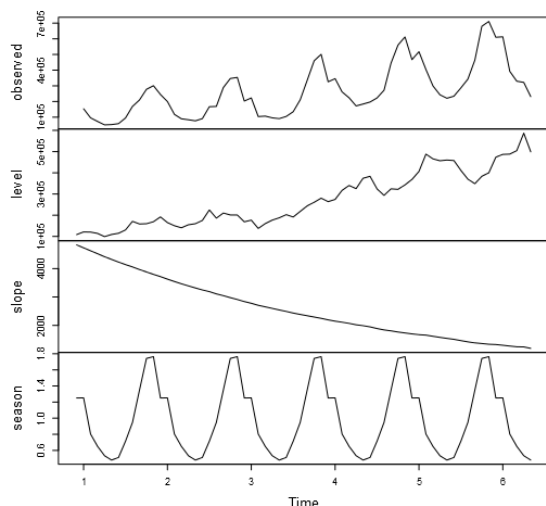


## Plots of Time Series Exponential Smoothing Model ETS\_M\_A\_M\_\_Dampen

In statistics, a time series is a sequence of data points measured at successive points in time spaced at uniform intervals. Examples of time series are the daily closing value of a stock market index or the annual flow volume of a river. Time series analysis comprises methods for analyzing time series data in order to extract meaningful statistics and other characteristics of the data.

Decomposition by ETS(M,Ad,M) method

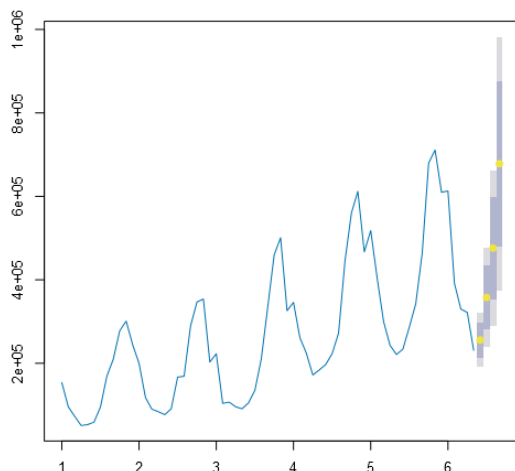


Decomposition Plot separates time series data into several components. Decomposition method is often used to yield information about time series components i.e. trend, cycle, seasonal, etc.

- Observed: This is the actual data.
- Level: This is the overall baseline without seasonal trends.
- Slope: This is the rate of change associated with the Level.
- Season: This shows the seasonal trend of the data.

Not all of the above components will occur each time.

Forecasts from ETS(M,Ad,M)



The Forecast Plot shows the historic data in black and the expected value in blue. The orange in the plot shows the 90% confidence interval, and the yellow shows the 95% confidence interval.

## Summary of Time Series Exponential Smoothing Model ETS\_M\_A\_M\_\_Dampen

Method:

ETS(M,Ad,M)

In-sample error measures:

ME	RMSE	MAE	MPE	MAPE	MASE	ACF1
5572.6821018	33302.042717	25725.4553044	0.1900065	10.54361	0.3752957	0.100576

Information criteria:

AIC	AICc	BIC
1636.5328	1649.554	1673.4973

Smoothing parameters:

Parameter	Value
alpha	0.838431
beta	0.000218
gamma	0.000119
phi	0.978185

Initial states:

State	Value
l	108789.25007
b	4834.770142
s0	1.251266
s1	1.764711
s2	1.742679
s3	1.347974
s4	0.947713
s5	0.713861
s6	0.511773
s7	0.479797
s8	0.534359
s9	0.650301
s10	0.802585