CREATING TIME SERIES GRAPHS USING NZGRAPHER

Relating to page 27 of *Level 3 Time Series Learning Workbook*

Creating time series graphs using NZGrapher

Select 'Upload your own file' and upload the consumer spending data set. This data set (file name: Electronic card transactions. csv) is available at ESA website RESOURCES ˅ www.esa.co.nz.

The following screen should now be visible.

| id	Date	Consumables	Durables	Hospitality	Services	Apparel	Motor vehicles excl. fuel	Fuel	Non-retail excl. services
1	2002Q4	2463	2435.4	945.9	234.6	612.7	165.6	602.8	1738.2
2	2003Q1	2283.9	1934.8	1004.5	214.2	508	159.4	636.9	1762.4
3	2003Q2	2280.3	1987	880.6	224.7	565.3	163.4	571.8	1738.7
4	2003Q3	2352.4	2035.2	890.3	241.6	515.2	176	614.1	1932.5
5	2003Q4	2653	2670.4	981	265	662.3	193.2	690.4	2039.7
6	2004Q1	2468.2	2101.7	1046.7	250	552	185.2	769.1	2181.4
7	2004Q2	2447.3	2137.9	959.1	265.8	609.6	190	786.3	2118
8	2004Q3	2511.6	2171.8	1000.4	279.3	542.8	198.2	819.1	2254.1
9	2004Q4	2837.6	2779.3	1112.6	305.7	699.4	218	862.8	2324.2
10	2005Q1	2675	2268.1	1147.6	278.6	569.8	206.9	878.5	2300.9
11	2005Q2	2659.6	2299	1044.4	303	646.6	213.2	884.2	2253.3
12	2005Q3	2736.3	2326.4	1085	315.7	582.2	219.8	975.8	2422.8
13	2005Q4	3104.9	2971.8	1194.6	337.1	746.3	234.6	1005.4	2475.2
14	2006Q1	2859.5	2386.6	1248.7	313.7	610.1	224.5	1058.1	2565.6
15	2006Q2	2893.7	2440.6	1143.6	327.8	686	224.6	1136.8	2487.4
16	2006Q3	2951.6	2455.5	1207.5	348.7	613.3	235	1150.2	2651.2
17	2006Q4	3375.5	3204.5	1376.6	378.2	799.9	259.3	1073.5	2772.1
18	2007Q1	3137.7	2613.2	1429.6	357.6	672	254.1	1087.9	2871.6
19	2007Q2	3124	2622.6	1306	369.4	749.6	252.1	1102.7	2786.3
20	2007Q3	3183	2637.9	1367.1	388.2	672.2	264.7	1134.8	2950.4
21	2007Q4	3598.2	3399.7	1486.2	420.2	847.7	288.6	1271.7	3076.1
22	2008Q1	3394.4	2670.9	1555.1	385.7	678.7	270.8	1319.4	3094.7

variable 1:   Graph Type: About ▼
variable 2:   Colour by:
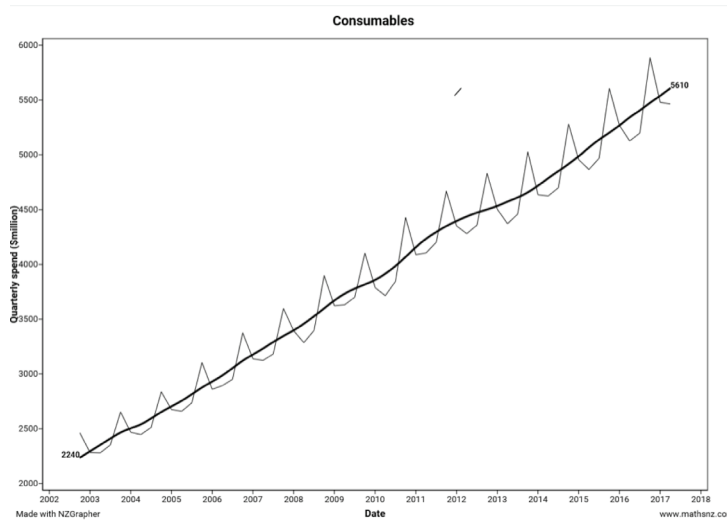variable 3:

Set variable 1: Date and variable 2: Consumables
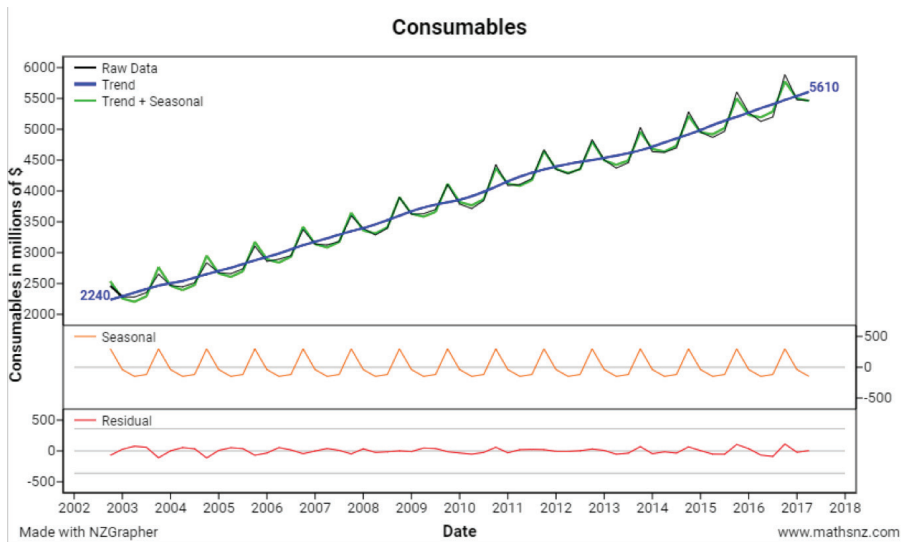
Select graph type: Time series

This will create the following graph:
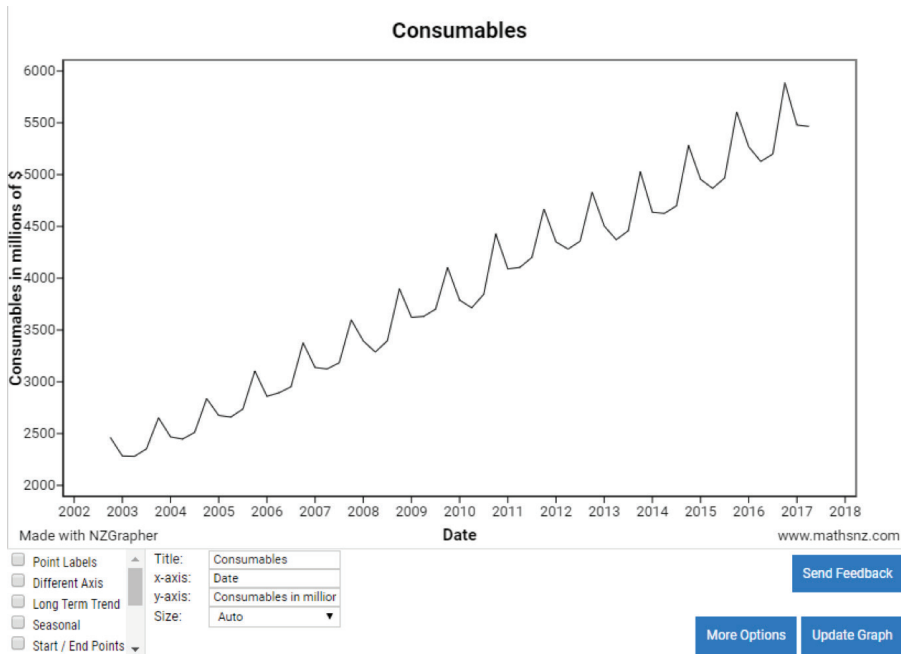
Titles and axes labels can be adjusted as required by entering changes to title, *x*-axis and *y*-axis and pressing Update Graph.

Pressing the options Long-term trend and Start end/points results in the following graph.
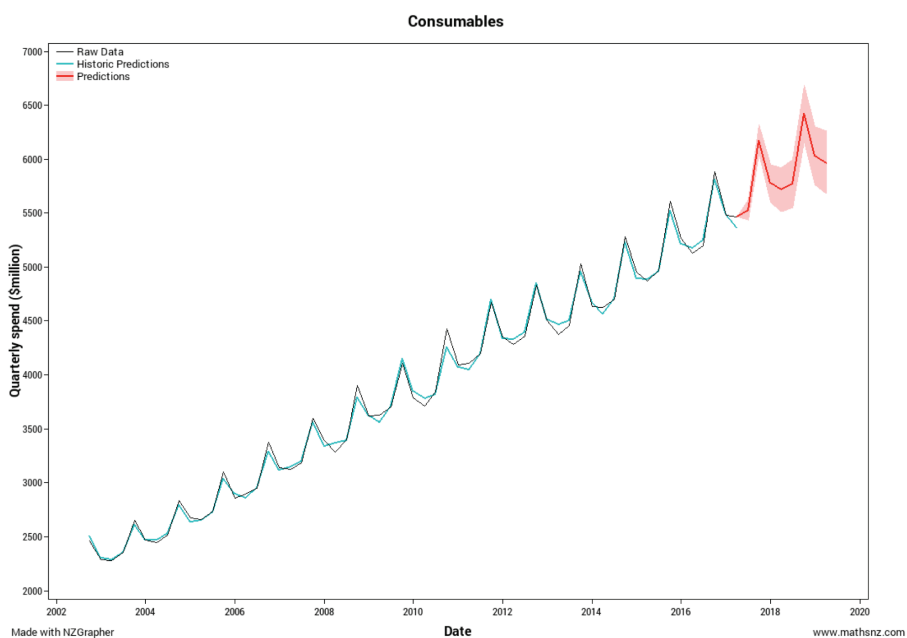

Change graph type to Re-composition for the following graphs.

Change graph type to Seasonal Effects.
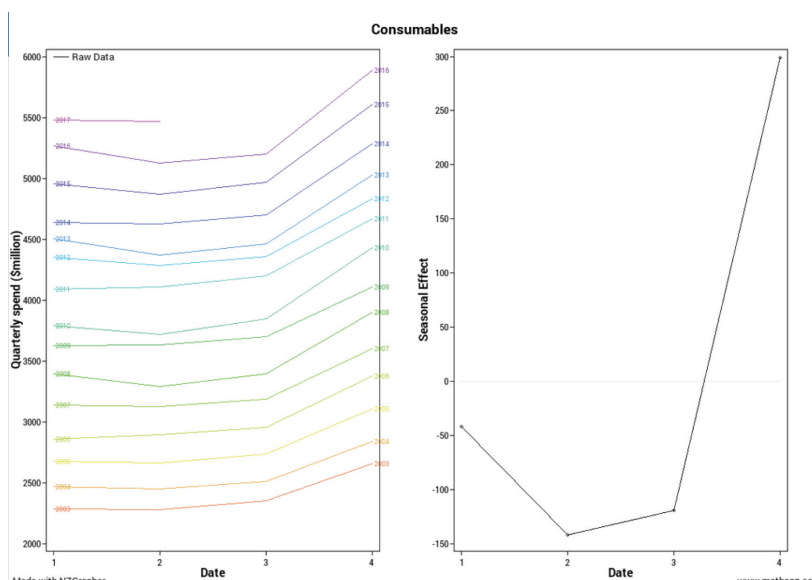
Change graph type to Forecasts.

Select Forecast Output (in options below graph).

This gives the following table of forecasts.

Time	Min	Prediction	Max
2017Q3	5419.4	5522.8	5620.0
2017Q4	6031.1	6176.1	6314.7
2018Q1	5603.7	5778.5	5950.1
2018Q2	5515.7	5712.8	5903.6
2018Q3	5546.5	5772.6	5981.9
2018Q4	6163.6	6425.9	6658.2
2019Q1	5738.4	6028.2	6287.4
2019Q2	5678.5	5962.5	6227.5