**Interpreting TAMSAT-ALERT output**

The aim of this practical is for you to practise interpreting probabilistic output from forecasting models. You will also have the opportunity to work directly with output from the TAMSAT-ALERT system. Before starting the practical, watch this YouTube video on interpreting box and whisker plots, if you are unfamiliar with them:

https://www.youtube.com/watch?v=Hm6Mra5XJSs

You have been provided with a spreadsheet, containing three sets of data. The first two columns contain an observed time series of WRSI for a averaged over a region and season in Southern Africa (Year and Observed WRSI). The season is the October – March growing season.

The second set of columns (Ensemble member, December forecast, February forecast) are WRSI for the same region and season as for the observations, but as they would have been forecast by TAMSAT-ALERT in mid-December and mid-February.

1. Plot a time series and box and whiskers plot of the observed data. To plot the time series, select the ‘Year’ and ‘Observed WRSI’ columns and then

insert -> chart -> scatter.

To make a box and whiskers plot, select the ‘Observed WRSI’ column and then

insert -> select chart -> box and whisker

1. Use your plots to answer the following:
2. Is this region at risk of seasonal agricultural drought (WRSI < 0.5)?
3. Is there evidence of a climate change related trend in the model output?
4. Is there any need for irrigation in this region?
5. Now make box and whisker plots of the observed WRSI, and December and February forecast WRSI. [The simplest way to do this is to select all the data, then create a box and whiskers plot, as before, and then delete the un-needed series by selecting them within the chart]
6. Use your plots to answer the following:
7. In December, are we forecasting WRSI to be higher or lower than average?
8. How confident can we be in this prediction?
9. In February, are we forecasting WRSI to be higher or lower than average?
10. How confident can we be in this prediction?
11. Reflecting on the previous session on the TAMSAT-ALERT predictions, why are we more certain of the seasonal WRSI in February than in December.