CottonInfo: Moisture Manager, 20 October

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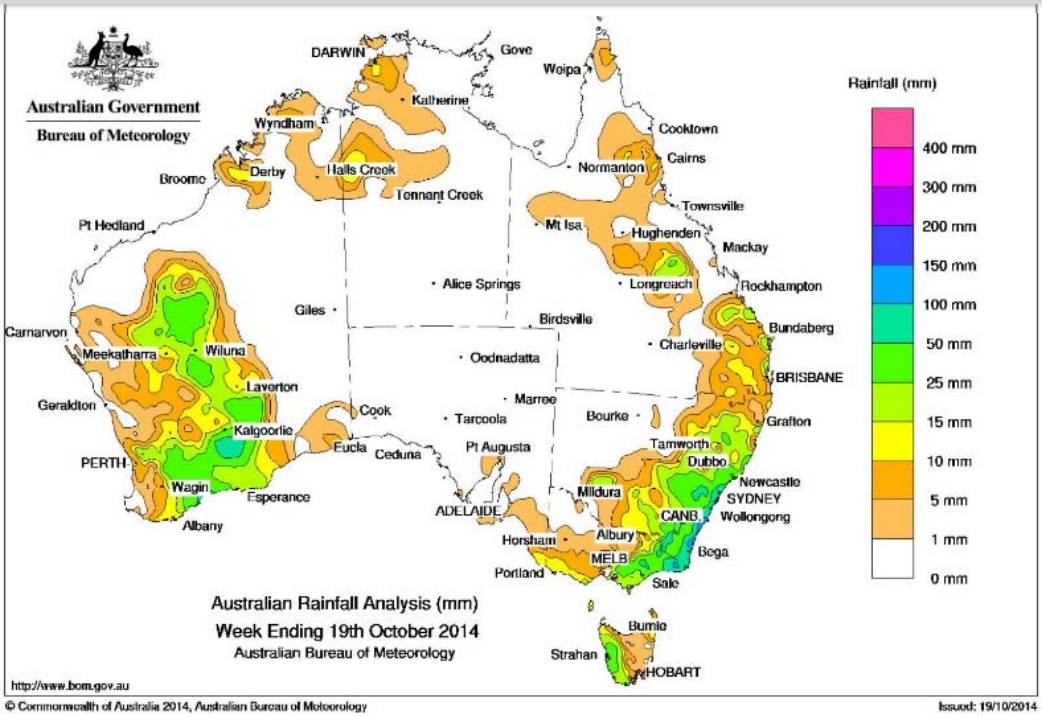
Welcome to the CottonInfo Moisture Manager

In this edition:

Observed rainfall amounts (12-19 October):



Latest weather news:

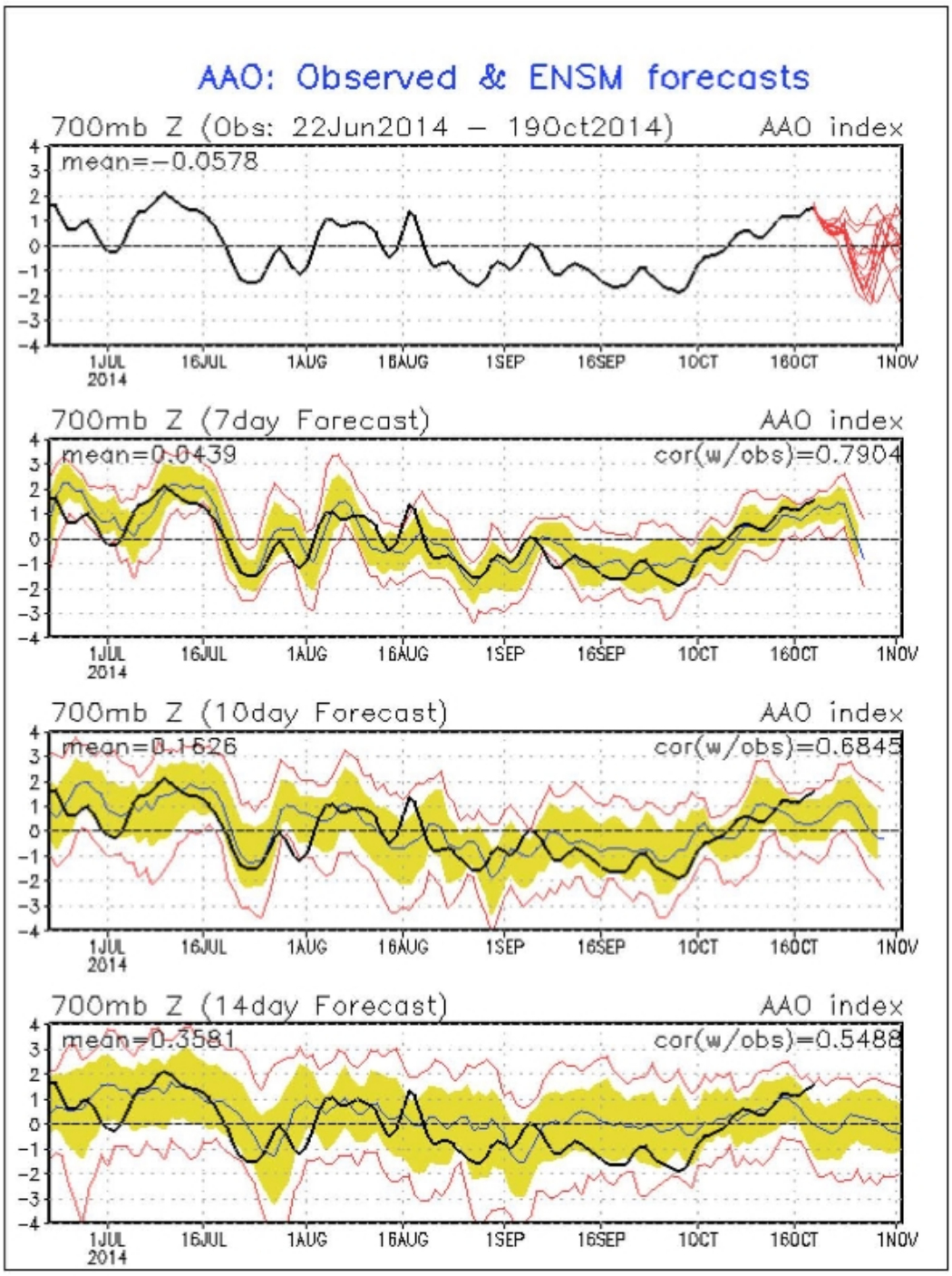
- The Niño 3.4 Sea Surface Temperature predictions have weakened over the last fortnight, now likely to remain under El Niño thresholds this summer.
- The SOI, currently in a neutral range 30 day average SOI = -4 providing some optimism for later spring rainfall
- The Southern Annular Mode continues in a positive phase trending neutral into November, offering some encouragement for easterly moisture supply during spring
- Seasonal Global Circulation Models forecasting above average summer temperatures
- Multi-week rainfall models predicting a rain event in the first week of November
- 2014-15 summer: What can we expect from the monsoon this year? Part 1: Tropical Cyclones

The Southern Annular Mode:

- The SAM is a significant driver of eastern Australian climate during cotton planting time.
- The SAM influences moisture circulation patterns from the Tasman and Coral Sea regions into fronts and troughs forming in inland regions.
- A positive SAM, historically has had a positive influence on spring

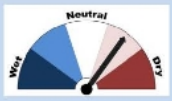
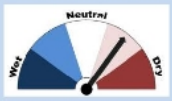
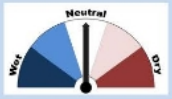
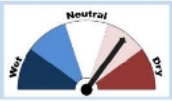
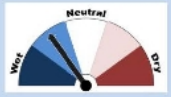
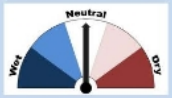
rainfall. The chart below shows the SAM currently in a positive phase and the 14 day forecast is to remain neutral into November.

The Southern Annular Mode (or Antarctic Oscillation Index) Observed and Forecasts (Source: NOAA (US)):



Summary of climate indicators:

For more information on what the climatic indicators mean, click here.

Measure	Indicator	Current Status		Forecast Trend
Sea Surface Temperature Indices 	Pacific Ocean – Niño 3.4	+0.4		Dry
	Pacific Ocean – Composite Index	+0.2		Dry
	Indian Ocean	-0.2		Neutral
Mean Sea Level Air Pressure 	Southern Oscillation Index	-4		Neutral
	Southern Annular Mode	1.5		Neutral
Tasman Sea Upper Atmospheric Air Pressure 	Blocking	0		Neutral

Rainfall and temperature guidance summary:

Source	Model Released	Temperature Forecast	Precipitation Outlook
ECMWF (UK)	10 Oct	Above average NDJ	Average/Below NDJ
UK Met (UK)	13 Oct	Average/Slightly above NDJ	Slightly above Q'ld Average NSW NDJ
BOM (AUS)	19 Oct	Average to Above (Nov)	Average/Below (Nov)
BOM Extreme Heat Model	19 Oct	50% chance of extreme heat for NSW (Nov)	N/A
IRI (USA)	17 Oct	Above average NDJ	No signal for wet or dry NDJ
BCC (CHI)	20 Oct	Above average Q'ld (Nov) Average NSW	Dry NSW/Q'ld (Nov)
NCEP 16-Day	20 Oct	N/A	Dry-land regions: Rain event 3-6 Nov
JMA (JPN)	17 Oct	Average/Slightly above (Nov)	A rain event 2-10 Nov

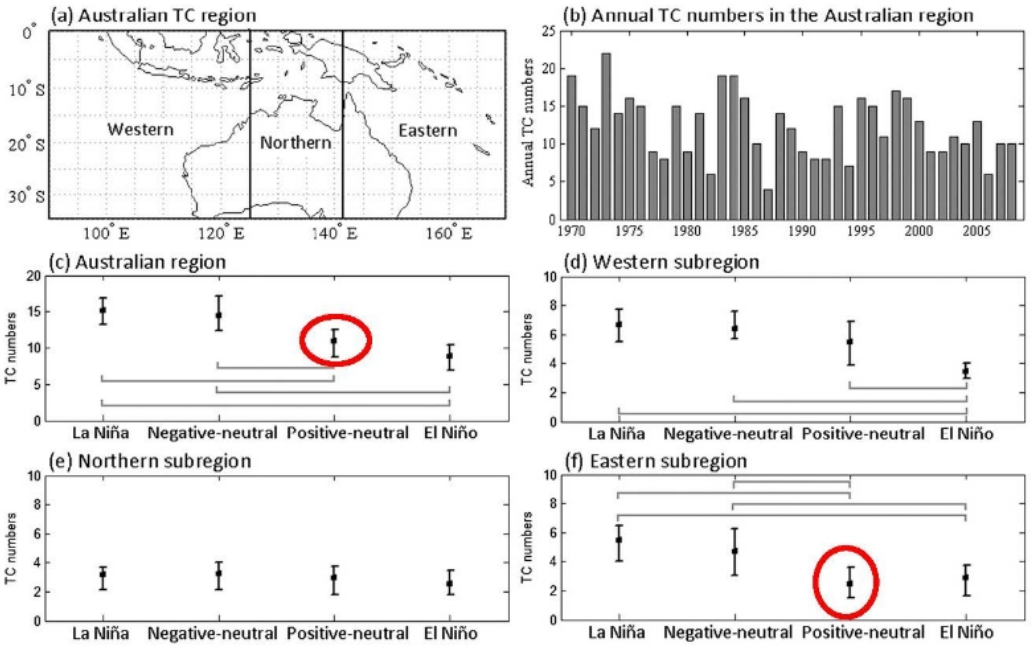
What sort of monsoon can we expect this summer?

In the next two editions of moisture manager we take a look at two key drivers of summer rainfall: tropical cyclone activity and the Madden-Julian Oscillation.

Part 1: Tropical cyclones

Researchers at the Australian Bureau of Meteorology have examined the level of cyclones occurring in the monsoon season, with respect to the El Nino Southern Oscillation mode. Tropical cyclone activity can have much needed positive impacts on water storages levels through residual moisture filtering south into trough systems in eastern Australia. Those tropical cyclones occurring in the Coral Sea in the February/March period often have the greatest influence on cotton growing regions.

The current BOM predictions are for a positive-neutral ENSO summer 2014-15. A study by Chand et al (2013) as shown in Figure 1, the average number of tropical cyclones (TC) in a La Nina summer (c) resulted in 15 over the study period (1970-2009). A positive-neutral ENSO summer yielded approximately 3 cyclones in the Coral Sea region (f) through the study period in contrast to an average of 5.5 TC's in a La Nina summer.



Before relying on the material in any important matter, users should carefully evaluate its accuracy, currency, completeness and relevance for their purposes, and should obtain any appropriate professional advice relevant to their particular circumstances. Next update: 3 November.

Header photo courtesy Cotton Australia and Jamie Condon.