

Another month gone and already into winter

With Dr Tony Davoren

The last week leading up to first day of winter has been one of warnings of a “mega” El Niño. Not really what is needed given the current status of soil moisture, groundwater levels and stored water. With just three months of winter (June, July and August) ahead much needs to change as we build up to the next irrigation season.

Several El Niño press releases were issued in around 26 May 2015 of a strengthening. According to NOAA (National Oceanic and Atmospheric Administration) the El Niño in the tropical Pacific has continued to strengthen. International climate models indicate sea surface temperatures will remain well above El Niño thresholds well into spring. Indicators of El Niño (oceanic and atmospheric indicators) show a clear signal; i.e..

- a) Sea surface temperatures in the tropical Pacific Ocean have exceeded El Niño thresholds for the last two months and are supported by warmer-than-average waters below the surface.
- b) Trade winds have remained consistently weaker than average since the start of the year.
- c) Cloudiness at the Date Line has increased.
- d) And the Southern Oscillation Index (SOI) 90-day average is now below -10 .

The updated weekly SOI graph shows a rapid strengthening since my last article, from -4 for the week ending 3 May to -17.4 for the week ending 24 May. The weather that generally comes with El Niño is not what we want with just three months before irrigation could be required again. Groundwater levels are low and water storage (e.g. Opuha) is still well below historic monthly average water level.

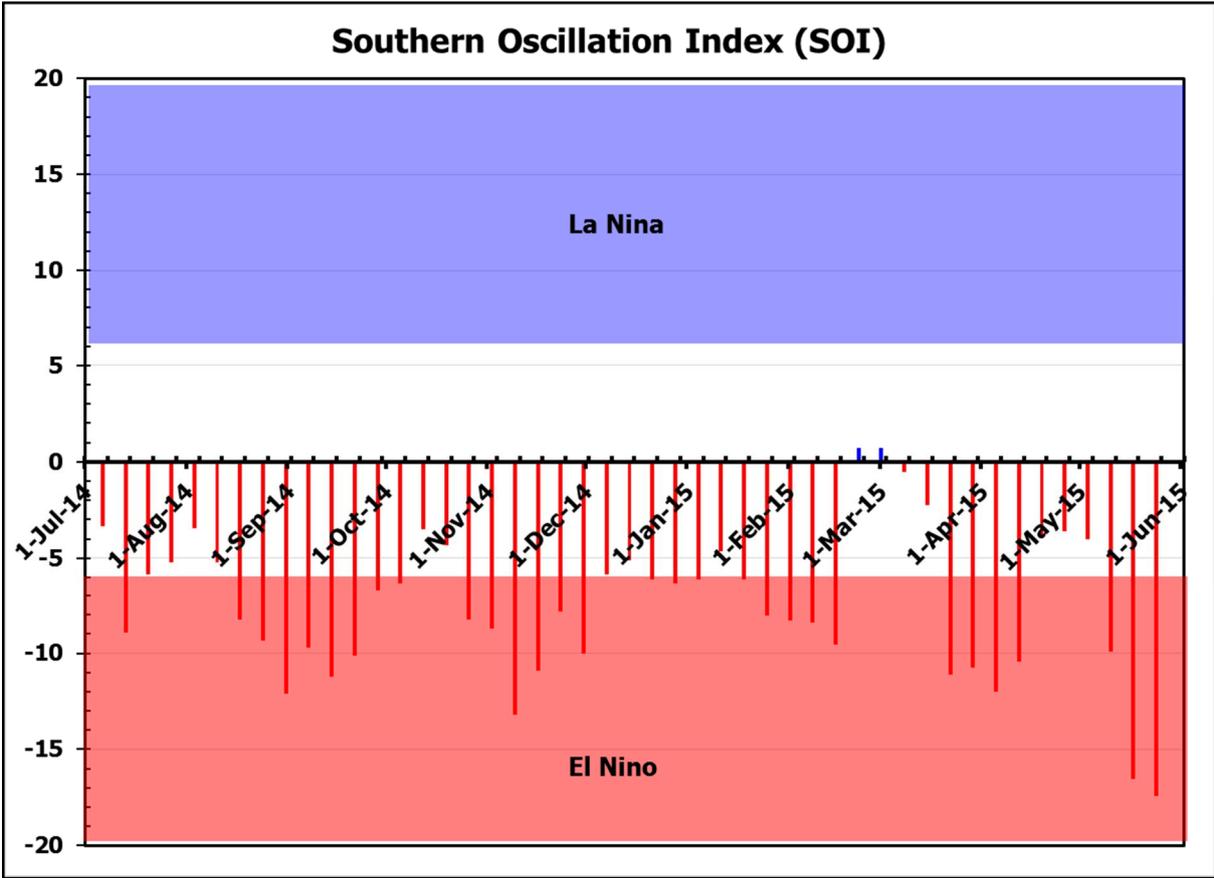
Groundwater level in observation bore K37/0388 (45m deep) is below and well below water levels of 2013 and 2014 respectively; i.e.

- May 2013 water level was 10.79mbgl (metres below ground level);
- May 2014 water level was 7.96mbgl; and
- May 2015 water level was 11.76mbgl.

That is, there is considerable “catching up” required to return water levels to ensure there are no issues abstracting water this coming season. We need a return of the events that gave massive recharge; i.e.

- June 17-20 2013 rainfalls of 125+mm resulted in 100-105mm of drainage recharge; and
- Around April 20 2014 195+mm rainfall resulted in 121mm of drainage recharge.

With strong El Niño and a predominance of westerly quarter weather, one wonders where that south-easterly storm and the big rainfall event(s) is going to come from. It was about this time last year I first wrote of a pending El Niño and those same messages apply – only this time round the indicators are so much stronger.



Weekly SOI trend (from Weatherzone).

