

Never a dull moment

With Dr Tony Davoren

Just when one thinks you've seen it all one is jolted back to reality. Sure it has been warm and dry, but really irrigating in May! Will the warm dry continue and what does that bring for the next irrigation season, potentially just 3 months way.

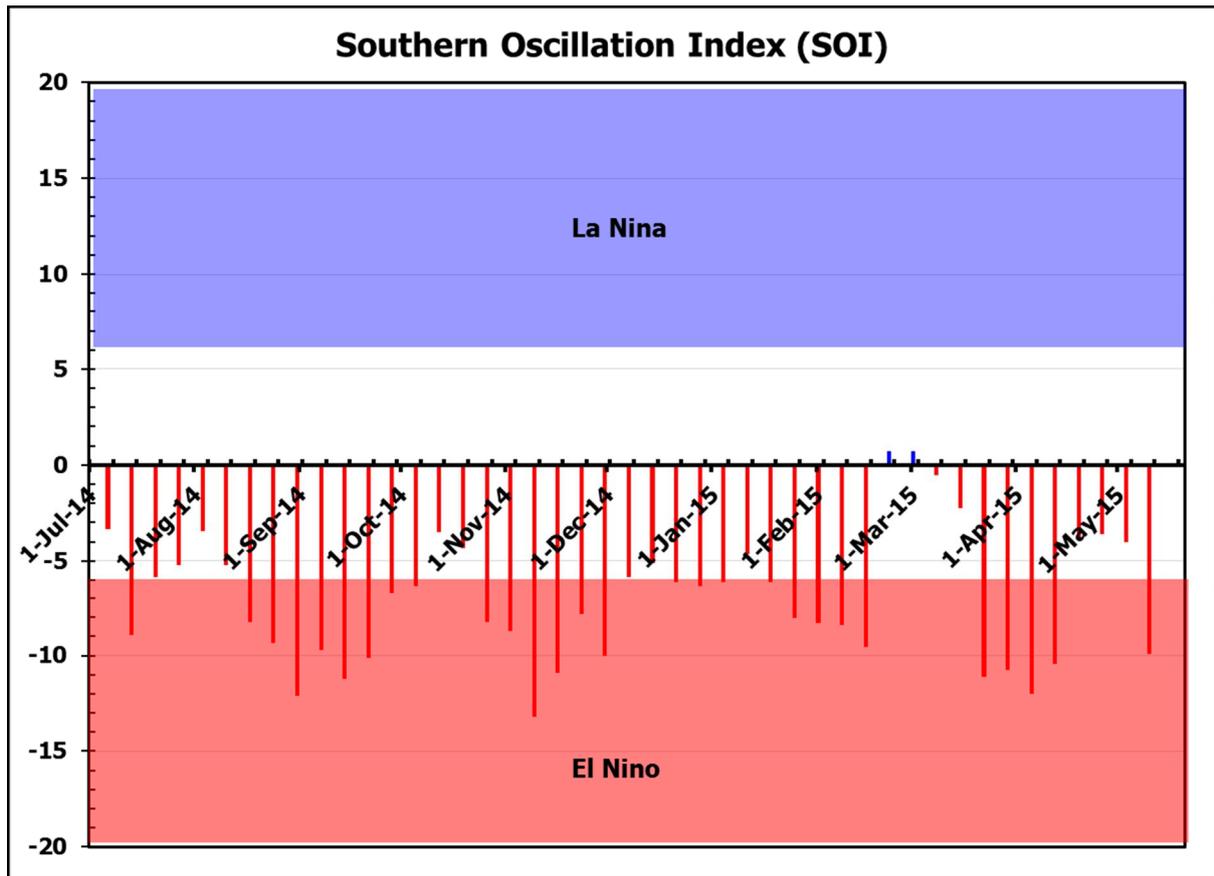
Knew it – three days of north-west weather 5, 6 and 7 May and itchy fingers couldn't help themselves. We had been at staff planning meeting in Hanmer those days and there was a little wager whether we would see irrigators going on the way back to Christchurch. Sure enough, in an area where irrigation has not been restricted there they were – at least three centre pivots and a couple in the distance that couldn't be confirmed (pivot or otherwise because water was certainly being applied). Beggar's belief in May when soil moisture levels under irrigation were not sufficiently low to warrant irrigation, there they were for all to see.



However, if for no other reason than it is a good lead line, it made me think we could be in spring and irrigation needs to be close to the forefront of thinking. Climate scientists are again warning of pending El Niño for spring and summer 2015-16. On top of an El Niño this season a second stronger event might not be that welcome. The thought of El Niño generates two immediate concerns:

- When will irrigation start, and
- What about water supply?

In the first instance, how good is the evidence. Well the Southern Oscillation Index (SOI) that I watch from Weatherzone has not waned from El Niño this season and in the last week has gotten stronger.



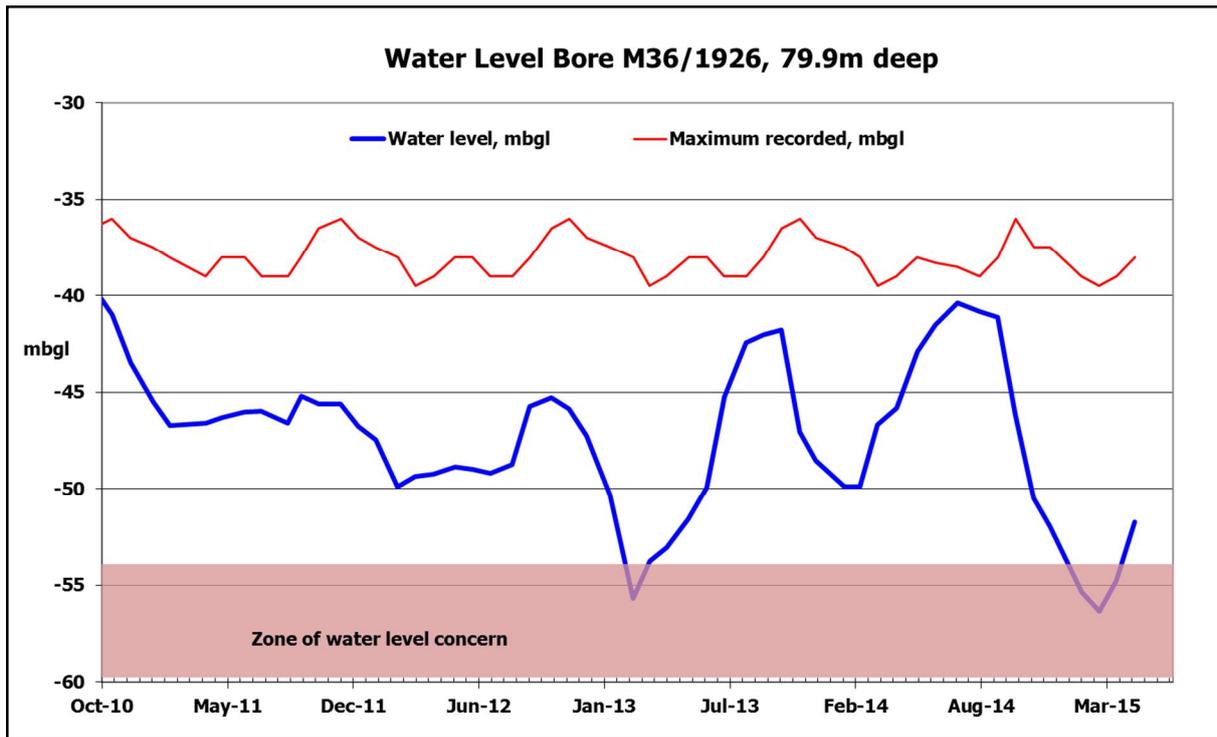
Weekly SOI trend 4 (from Weatherzone).

The SOI has been strong and over the last month or so has averaged -7.3, an indication of a strong event (anything over -6 is considered strong). This would suggest a prevalence of south-westerly to westerly weather, which though might be cold are not traditionally big rainmakers for Canterbury.

So how do we stack up for groundwater given irrigation is possibly just one season away. Once again I have a favourite site I like to follow; in this case bore M36/1926 (an ECan observation bore) in the mid plains. There are a couple of features that stand out:

- The “droughts” of 2012-13 and 2014-15 and subsequent water use (comprising environmental flow and pumping) resulted in water levels falling to about the same level (56.695mbgl and 56.366mbgl respectively);
- Much more water was used in 2014-15 given water level started from a much higher level following the very wet autumn and early winter of 2014; and
- Groundwater recharge, including the immediate “kick-back” (consistently about 2m) when everyone turns off has followed a similar pattern recovering to 51.6-51.7mbgl in May of both years.

What is required this year are large rainfall events in autumn (doesn't look promising with 15 days of autumn to go) and early winter (as occurred in June 2013) to rapidly recharge groundwater. With El Niño predicted to strengthen for 2015 likely bringing more south-westerly and westerly weather; these are very different conditions to the strong La Nina conditions of 2013 (more easterly weather).



Water level record in M36/1926

Time will tell, but with El Niño predicted, low water levels are not a palatable thought for such a spring or summer. Let's rain dance for a couple of trend-breaking easterly or south-easterly storms.