Spring Weather Outlook

Broadacre
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By Anthony Violi, AV Weather

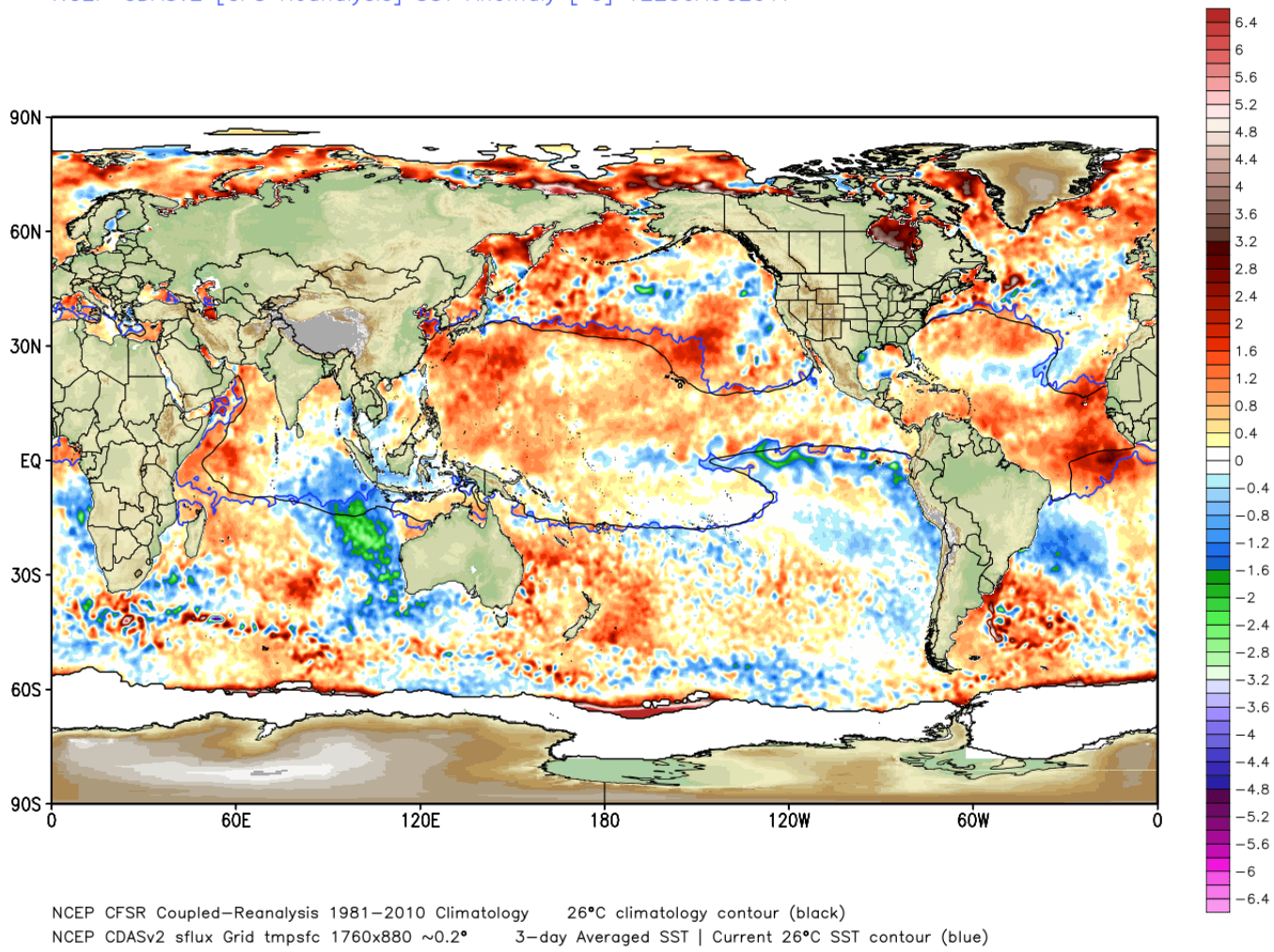
> **Background on Anthony & AV Weather:** For the past 30 years, Anthony has developed an expert understanding of Australian weather conditions, using computer modelling, as well as exhaustive research into 130 years of historical data. Anthony launched AV Weather in March 2016 to help more Australians make weather-dependent decisions based on his personalised advice.

Spring has sprung and given this is the first time I have written a guest post for Syngenta, before I start, I want to provide a little refresher for you. My forecast for this year was a drier year, a 2006 type year. The Indian Ocean currently represents the same as we saw in 2006, when a Positive Indian Ocean Dipole (IOD) set up. The IOD is simply when colder water develops near Australia, we see higher pressure set up there and we see limited rainfall. When it's Negative, we see the Indian turn very warm, lower pressure sets up, and Australia sees lots of rain in the Winter and Spring.

Half way through the year, I adjusted my forecasts to reflect a 2004 type finish to the year, which turned out wetter than 2006. So far, that's exactly what has happened. And the reason is that you need to consider the 3 main drivers. The IOD is one, the El Niño–Southern Oscillation (ENSO) is second, and the most important one of all is the Antarctic Oscillation (AAO), or the Southern Annular mode as it is also known as.

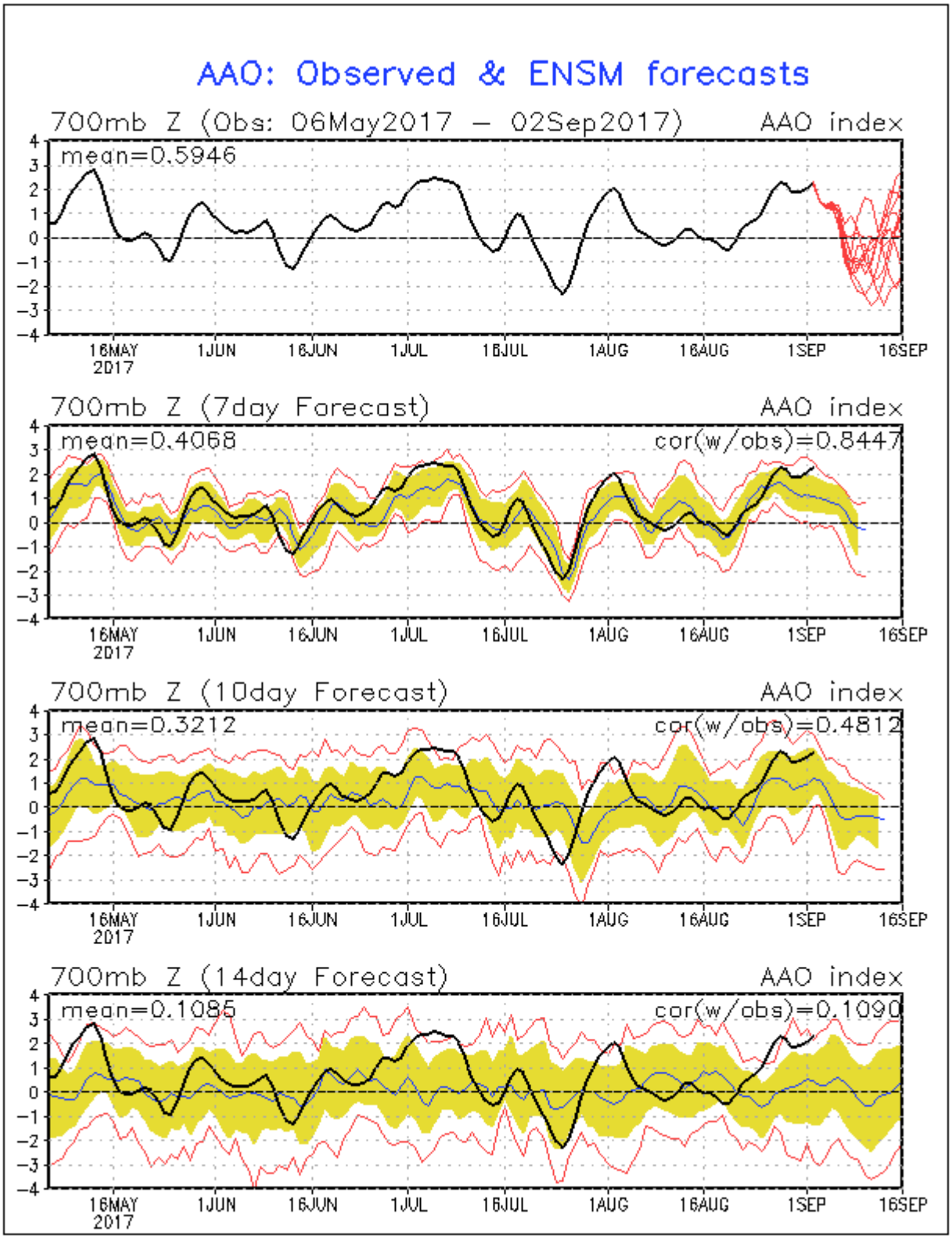
When the AAO is negative, we see very strong cold fronts that move well up into Southern Australia and bring rain. When it's positive, the cold fronts stay well South and misses Southern Australia, and so it becomes dry here. And you guessed it, it has been dry since March inland because the AAO has stayed positive for the last 5 or 6 months. However, that's about to change. It has been swinging to the Negative side recently, and I believe a more meaningful move to the Negative is likely in the weeks ahead.

We also have a developing La Niña in the tropical Pacific, however, it is likely to only be a weak one. Below is a picture of the Sea Surface temperatures, and you can see the colder water developing from South America and spreading East along the equator. This cooling takes place due to the Easterly trade winds, they come from South America and when they strengthen, they have a cooling effect by dragging up colder water from the depths of the Pacific. The response to this is that it pushes all of the warm water East towards the Philippines, hence why this area is known as the West Pacific Warm pool.



It then forces the waters North of Australia to warm, and as you will begin to notice, this will start to create low pressure here in the weeks ahead. You can see the Indian Ocean is very cool, but the IOD is in neutral because the warmer waters are cancelling it out somewhat.

So for Spring, it’s going to be colder and wetter in the South, and may continue to be drier inland. We may see a long and cold Spring, with any heat limited to Northern regions. The AAO is crucial to this, as I expect it to be negative and the cold air will continue to come up and pound the South of the country.



Above is the forecast for the AAO. In the top box you can see it has been mostly above the zero line, in its positive phase. However, the red lines are the forecast from the GFS model, it is expected to swing negative this next few days which means rain will increase next 10 days or so.

If you would like to receive more in-depth forecasts and daily updates, Anthony provides these to AV Weather subscribers. You can sign up online here.

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