

El Nino summer brings sun and high fire risk

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Thundery rain rattled Rodney early in December and hail crashed down in Canterbury mid month, national weather experts say.

A hay-maker of a high then brought warm dry sunny weather to Northland.

The dry winds have produced extreme soil moisture deficits in Northland, parts of Waikato and the Bay of Plenty and very dry soils around Nelson, and between Timaru and Gore.

We are experiencing an El Nino summer. A pool of higher-than-normal sea-surface temperatures in the eastern equatorial Pacific Ocean is the cause.

It reached a peak during December near the Galapagos Islands.

Another warm patch of sea near Tarawa continued to intensify during December. In response to this oceanic El Nino, a burst of equatorial westerly winds early in December helped Tropical Cyclone Mick to form and then move across Fiji.

Computer models are forecasting that this El Nino has more than a 90 percent chance of lasting until at least April, at which time it should weaken.

March to May is typically a time of a resetting of the Pacific pattern.

A zone of cooler-than-normal sea now stretches from Vanuatu, across Fiji, to the Kermadecs. This should help to weaken any tropical weather systems that move into this area.

Well to the east of New Zealand, about half way between New Zealand and South America there is a large area of warmer-than-normal sea. It is reasonable to conclude that this is associated with a consistent weather pattern, favoring troughs of low pressure over the Chatham Islands.

This pool of energy may have an increasing influence on our weather later in the year.

Cooler-than-normal seas continue around the South Island and Chatham Islands. That is delaying the natural annual cycle of fish growth.

The southern oscillation index – SOI – is based on the pressure difference between Tahiti and Darwin, and gives us a simple measure of the impact El Nino is having on the weather map.

During December the SOI remained near minus one, indicating a moderate impact.

When it comes to seasonal outlooks it is enticing to try and compare the coming season with similar events in the recent past.

Sea surface temperatures and SOI graphs are now behaving similarly to the El Nino at the start of 2007.

Likely weather patterns for the remainder of summer:

The hottest days of the year are likely to occur in late January or early February, but cooler-than-normal seas surrounding southern New Zealand may well slow crop and pasture growth.

High-pressure systems are likely to linger in the Tasman Sea and occasionally cross the North Island, bringing periods of dry sunny weather.

Low pressure systems in the Southern Ocean may occasionally pass close to Southland or eastern South Island.

The pressure difference between these highs and lows may bring periods of strong west to southwest wind to central and southern New Zealand.

Fire risk in northern and eastern parts of the North Island is likely to rise.

Between the highs there should be cloudy and wet conditions from passing troughs and low-pressure systems. Some of these troughs may come from the subtropics and bring a day or so of widespread wind and rain.

Many of these troughs, accentuated by El Nino, are likely to bring cool, wet, west to southwesterly winds to southwestern areas.

Fronts moving on to the country from the southwest may bring cool moist air onto a sun-heated landscape. This can release instability, which, especially on a summer afternoon, encourages tall clouds to grow over mountains and then dump their contents on the nearby plains, possibly as hail.

The tropical South Pacific cyclone season is proceeding normally.

There is a chance a cyclone may move towards northern New Zealand, but El Nino weakens this chance a little.