



Hawke's Bay Trends

THE STATE OF OUR ENVIRONMENT

December 2022



HAWKES BAY
REGIONAL COUNCIL

TE KAUNIHERA Ā-ROHE O TE MATAU-A-MĀUI

December 2022

That rain has been unrelenting. It's five months and counting that we've had above average rainfall. This time we topped 160% of December rainfall across the region but doubled the month's average rainfall on the Heretaunga and Ruataniwha Plains. 2022 was a soggy year, with the majority of our sites recording their highest annual rainfall.

River flows burst at the seams in December, as they have over recent months. Groundwater levels were biased above normal in December - a novel occurrence for the time of year. Equally novel were soil moisture levels hovering near field capacity and not once in the month thinking I should turn on the garden sprinkler.

Our lacklustre start to summer saw tepid temperatures that were only warmer than usual by night and not by day. That was due to cloudiness, as well as onshore breezes from seas that weren't that warm for December. All of that doesn't make swimming that tempting. Neither did the water quality to be fair, with our December results a victim of the rainy conditions. Roll on the end of the La Niña!

Kathleen Kozyniak
Team Leader Marine Air and Land Science

SUMMARY December 2022

Lots of rain and warm nights.

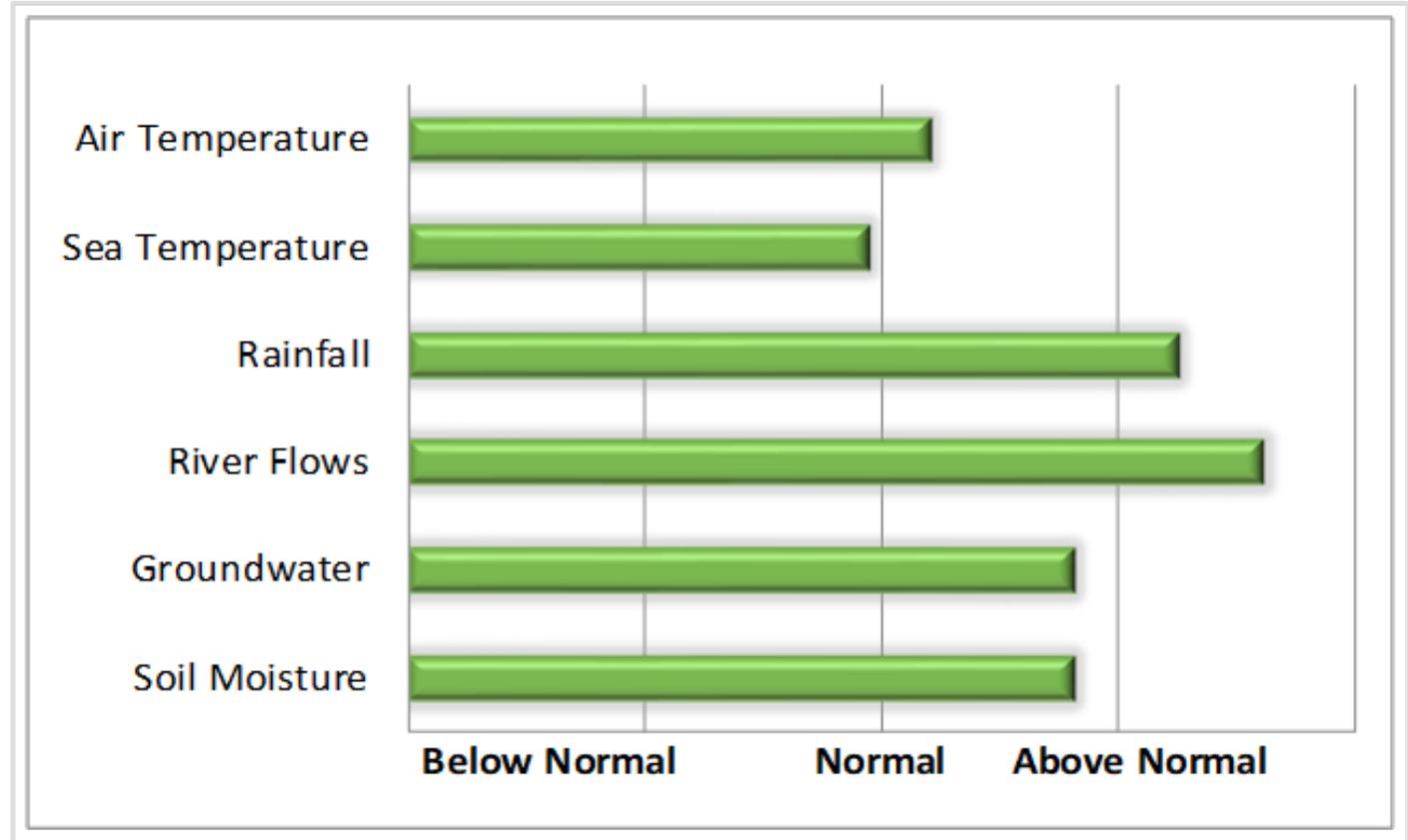
January to March Forecast

Temperature Near or above average
Rain Above normal
River flows Near or above normal
Soil moisture Near normal
source : NIWA

For more information

www.hbrc.govt.nz

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RAINFALL

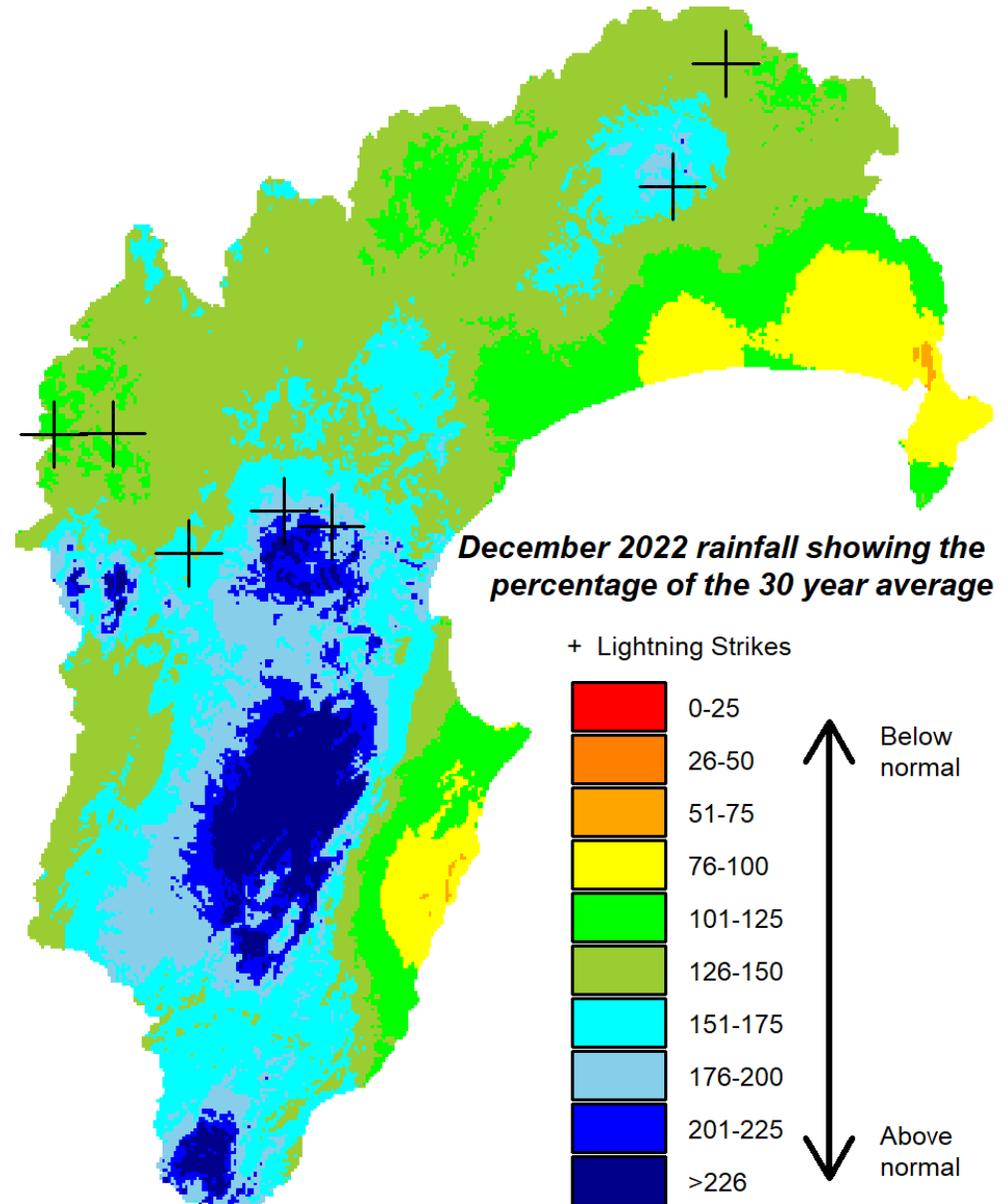
Above normal, especially on the Plains. 7 cloud to ground lightning strikes.

Lightning counts come from the Blitzortung.org lightning network to which HBRC contributes.

Percentage of normal December rainfall
(30 year average)

For areas in the region:

Waikaremoana	143%
Northern HB	112%
Tangoio	176%
Kaweka	151%
Ruahine	149%
Heretaunga Plains	212%
Ruataniwha Plains	199%
Southern HB	154%
Hawke's Bay Region	162%



AIR TEMPERATURES

Near average during the day, warm nights.

Mean Difference from Normal

Maximum Temperature: -0.2°C

Minimum Temperature: 1.5°C

Mean Daily Maximum: 21°C

Mean Daily Minimum: 12°C

Highest Daily: 30°C

Location: Wairoa North Clyde EWS (NIWA)

Lowest Daily: 1.5°C

Location: Taharua Climate

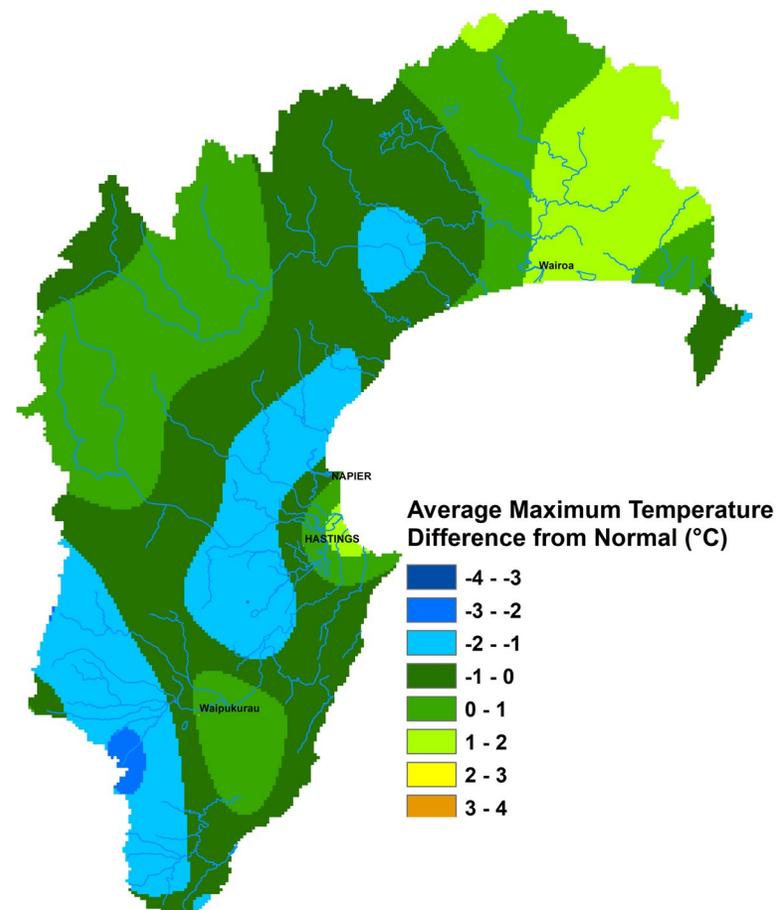
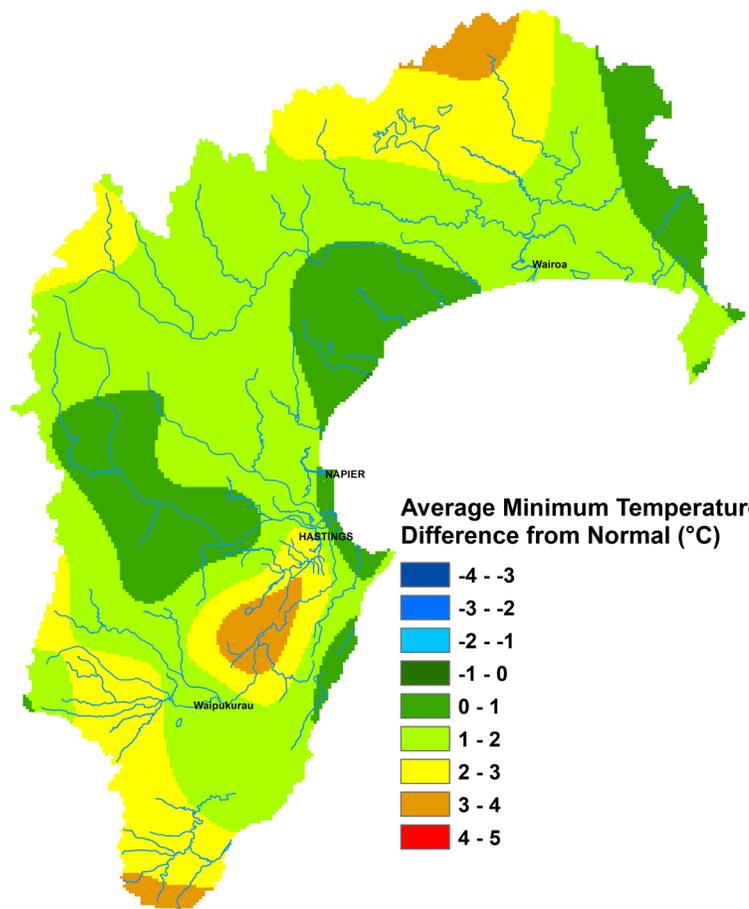
SEA SURFACE TEMPERATURES

The average sea surface temperature (SST) for Hawke's Bay in December was 18.5°C . This was 0.3°C below the long term average for this month*.

This data was collected from the HBRC coastal water quality monitoring buoy HAWQ1 which has been located 4km off the coast of Whirinaki since December 2012.

HAWQ1 collects data on water temperature, salinity and clarity at a range of depths as well as weather information. Check out real time data from HAWQ1 [here](#)

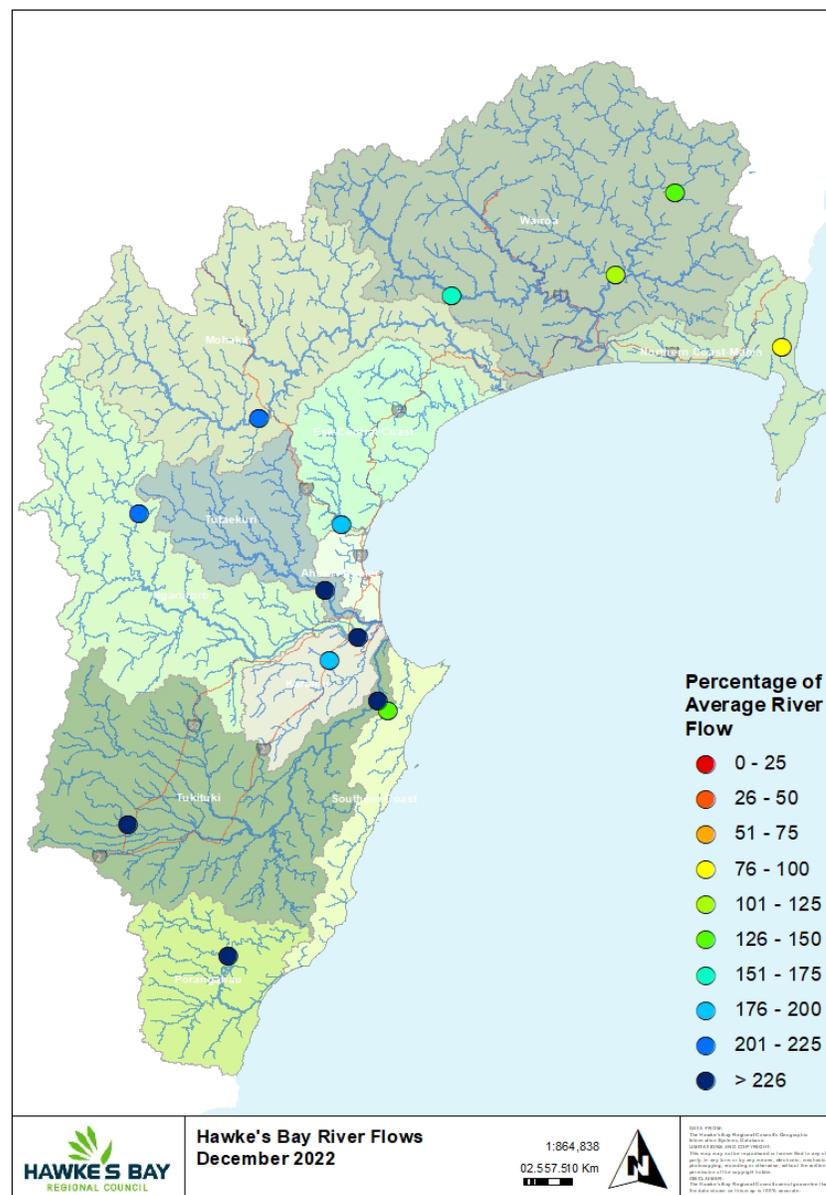
*Note that long term data has experienced some patchiness due to the challenges of electronic devices interacting with salt water and servicing requirements so the long term average in this instance only includes 6 prior Decembers.



RIVER FLOW

Percentage of average December flows
for areas in the region:

Northern Coast – Mahia	97%
Northern HB – Hangaroa River	140%
Northern HB – Wairoa River	110%
Northern HB – Waiau River	166%
Mohaka	224%
Esk-Central Coast	181%
Tūtaekuri	250%
Karamu	178%
Ngaruroro – Kuripapango	205%
Ngaruroro – Chesterhope	243%
Southern Coast	128%
Tukituki – Tukipo River	393%
Tukituki – Tukituki River	239%
Porangahau	622%
Hawke's Bay Region	227%



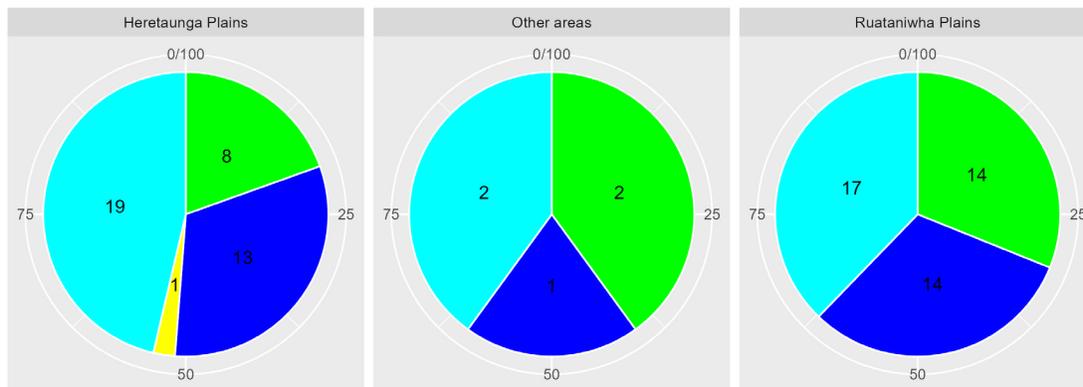
GROUNDWATER & SOIL MOISTURE

Soil Moisture: Above normal.

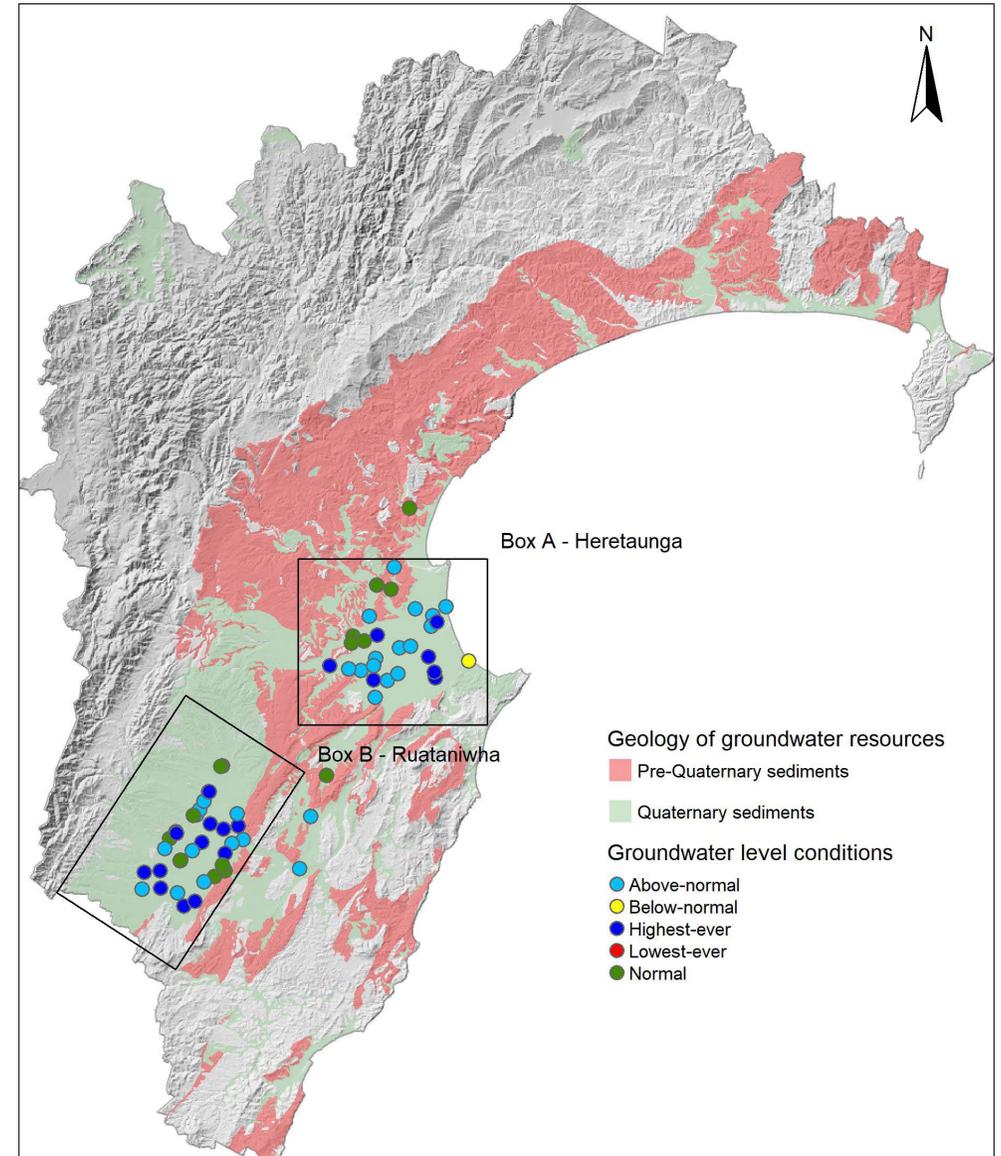
Current state of Groundwater levels:

This report compares groundwater levels in December with historic readings to evaluate current conditions. To assess these conditions, we have grouped groundwater levels at each well relative to their monthly percentiles.

Groundwater levels measuring between their monthly minimum and 25th percentile are considered below-normal, groundwater levels measuring between the 25th and 75th percentiles are classed as normal, and groundwater levels measuring between the 75th-maximum are considered above-normal. Wells with less than 5 years of record are excluded from the analysis.



■ Above-normal
 ■ Below-normal
 ■ Highest-ever
 ■ Lowest-ever
 ■ Normal



RECREATIONAL WATER QUALITY

December continued the 2022 wet weather trend, with a significant number of rainfall related exceedances throughout the region and across the month. As usual, the wetter conditions meant our rivers and lagoons underperformed, while the water quality at our beaches remained in better shape. If the weather allowed for a swim, then the places to be in December were any of the beaches south of Te Awanga. Hopefully 2023 brings with it some much needed sunshine and favourable swimming conditions!



LONGER FORECAST

Good news – the La Niña event is expected to wane to neutral conditions over the next month. It can't come soon enough. Longer term the models favour either staying at neutral or trending towards El Niño.

However, that prospect doesn't bring an immediate change to our pattern of weather. We still see a prediction of higher than normal sea level pressure over southern New Zealand and lower to the north, with the associated easterly wind flow. The forecast models vary though on whether our region sits under higher, lower or near normal pressure, and with that, are mixed about whether we are likely to see above normal or normal rainfall over the next three months. Believe it or not, one even has below normal rainfall for parts of the region.

One thing I can tell you is that we have already hit above normal January rainfall so it's not a great start. It's likely that the daytime temperatures will be muted again by onshore winds bringing some cloud, which will instead blanket warm conditions at night.

Kathleen Kozyniak
Team Leader Marine Air and Land Science