



# Hawke's Bay Trends

THE STATE OF OUR ENVIRONMENT

July 2023



TE KAUNIHERA Ā-ROHE O TE MATAU-A-MĀUI

## July 2023

Unlike a massive footy event currently happening in Australasia, July's rainfall was low on drama and largely ran to form. Totals were very near the July average, though two areas strayed from the game plan – a relatively dry Waikaremoana (71% of normal rainfall) and a wet Ruahine Range (155%).

River flows during July were mostly above normal, but with some below normal exceptions around northern Hawke's Bay. Soil moisture persisted at higher than usual levels. Groundwater levels that were starting to look average for winter, returned to above normal and highest ever categories thanks to June's heavy rainfall kicking in.

Air temperatures were warmer than usual for the fourth consecutive month and were helped along by above average sea temperatures. Winds were predominantly from the westerly sector and speeds were higher than we've had for the past few Julys. Breezy weather usually helps to keep the air clean, except when the wind is blowing around dust in silt affected areas. Awatoto is one of those areas and where we recorded two exceedances of the PM<sub>10</sub> standards. It doesn't bode well for what could be a breezy spring.

**Dr Kathleen Kozyniak**  
Team Leader Air and Land Science

## SUMMARY July 2023

### Short summary

Normal July rainfall and warm (again).

### August to October Forecast

Temperature Above average

Rain Below or near normal

River flows Near or below normal

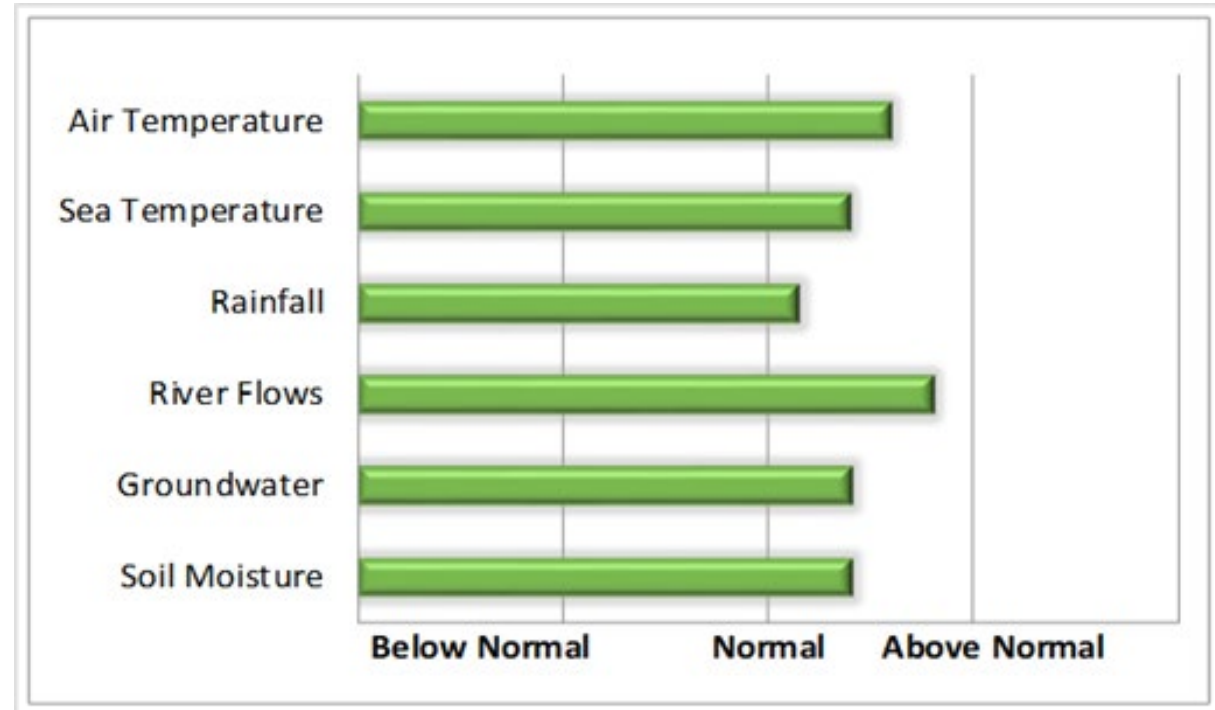
Soil moisture Near or below normal

source : NIWA

### For more information

[www.hbrc.govt.nz](http://www.hbrc.govt.nz)

P: 06 835 9200



## RAINFALL

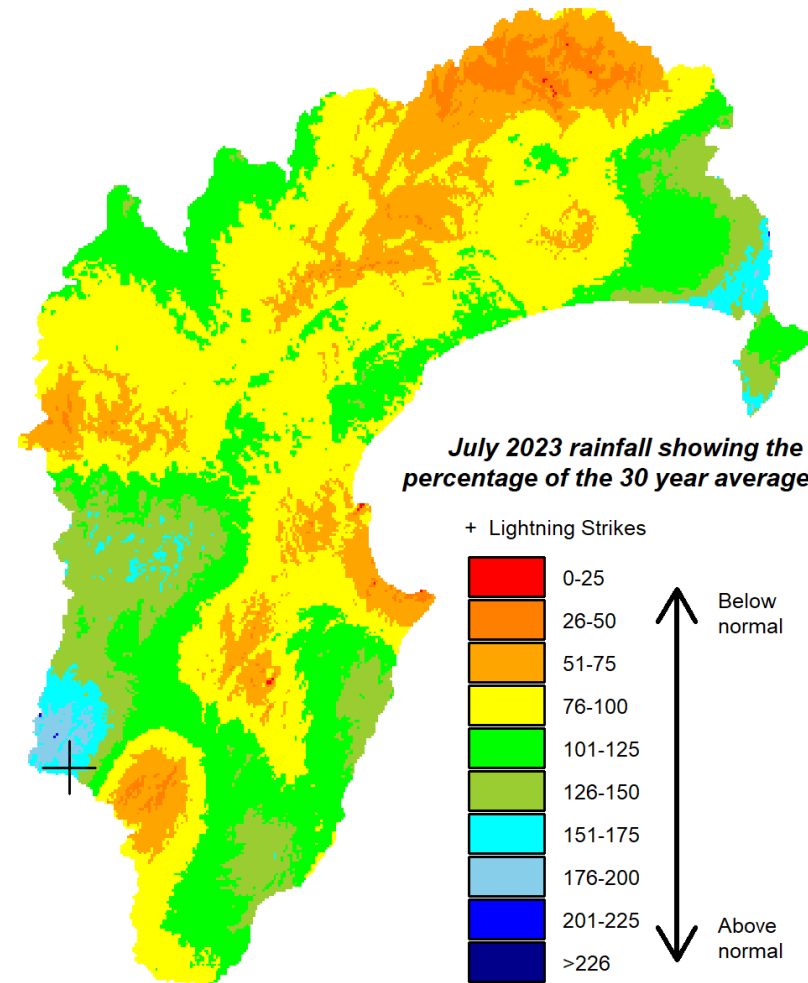
Near normal. One cloud to ground lightning strike.

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

Percentage of normal July rainfall  
(30 year average)

### For areas in the region:

Waikaremoana	71%
Northern HB	103%
Tangoio	101%
Kaweka	106%
Ruahine	155%
Heretaunga Plains	96%
Ruataniwha Plains	104%
Southern HB	199%
<b>Hawke's Bay Region</b>	<b>107%</b>





## AIR TEMPERATURES

**Temperatures** – above normal, especially during the day.

Mean Difference from Normal

Maximum Temperature: 1.3°C

Minimum Temperature: 0.6°C

Mean Daily Maximum: 13 °C

Mean Daily Minimum: 5°C

Highest Daily: 21.1 °C

Location: Wairoa North Clyde EWS (NIWA)

Lowest Daily: -5.2 °C

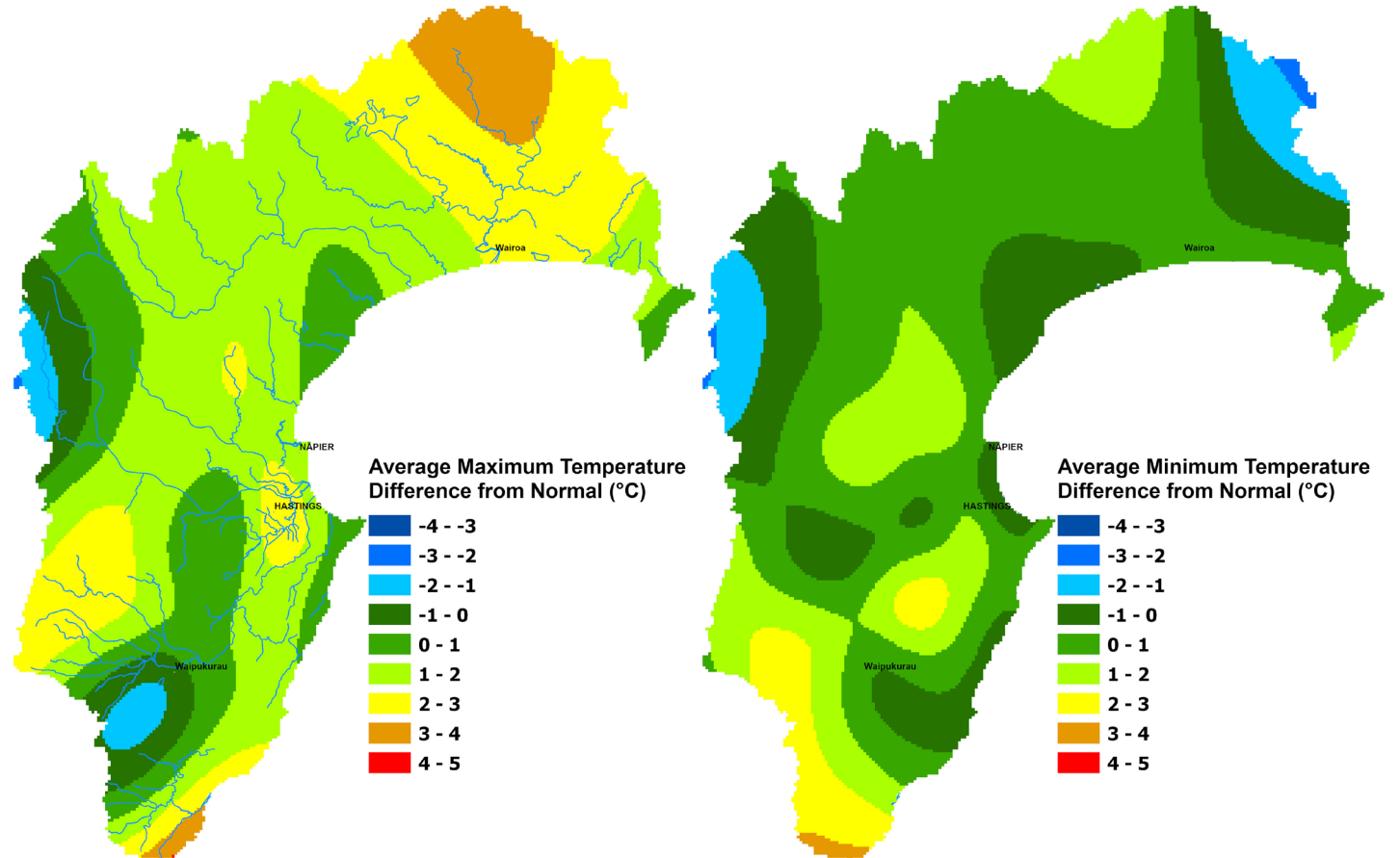
Location: Taharua Climate

### Sea Surface Temperature

*The average sea surface temperature (SST) for Hawke's Bay in July 2023 was 13.3 °C. This was 0.3 °C higher than the long term average for this month\*.*

*This data was collected from the HBRC coastal water quality monitoring buoy HAWQi which has been located 4km off the coast of Whirinaki since December 2012. HAWQi collects data on water temperature, salinity and clarity at a range of depths as well as weather information. Check out real time data from HAWQi [here](#).*

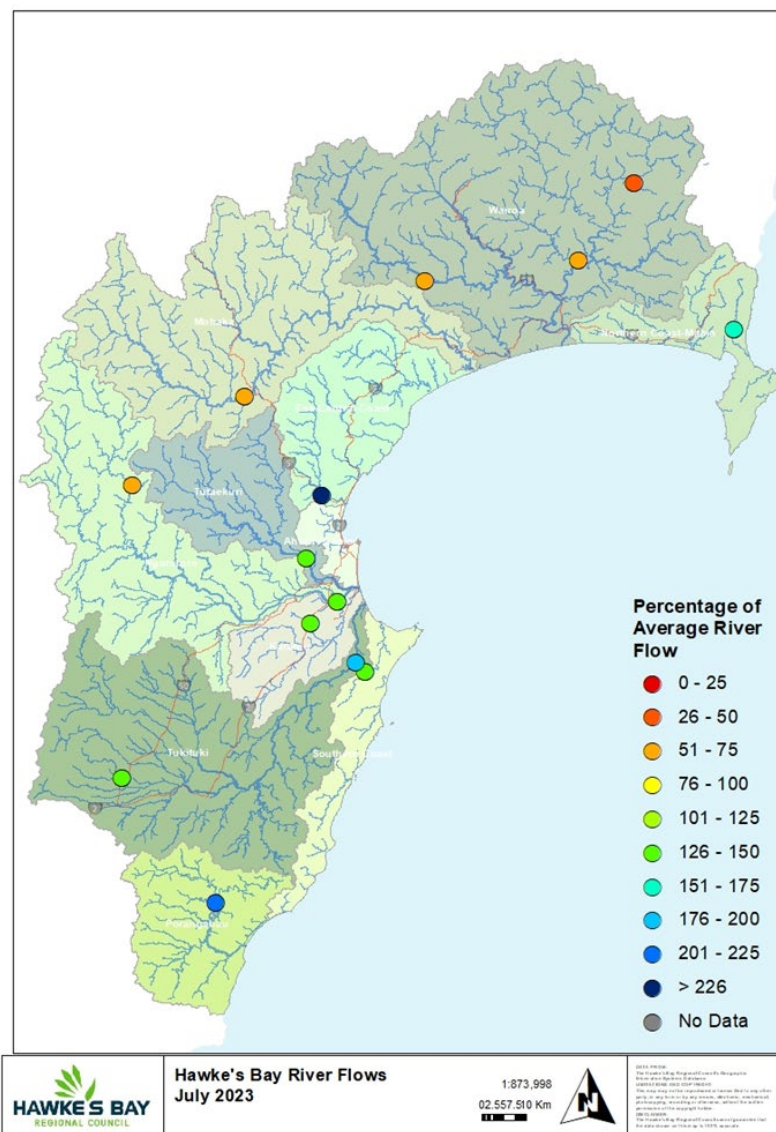
*\*Note that long term data has experienced some patchiness due to the challenges of electronic devices interacting with salt water and servicing requirements so the long term average in this instance only includes 7 prior July's.*



## RIVER FLOW

Percentage of average July flows  
for areas in the region:

Northern Coast – Mahia	157%
Northern HB – Hangaroa River	45%
Northern HB – Wairoa River	72%
Northern HB – Waiau River	69%
Mohaka	70%
Esk-Central Coast	431%
Tūtaekuri	129%
Karamu	133%
Ngaruroro – Kuripapango	73%
Ngaruroro – Chesterhope	139%
Southern Coast	137%
Tukituki – Tukipo River	147%
Tukituki – Tukituki River	178%
Porangahau	208%
<b>Hawke's Bay Region</b>	<b>142%</b>



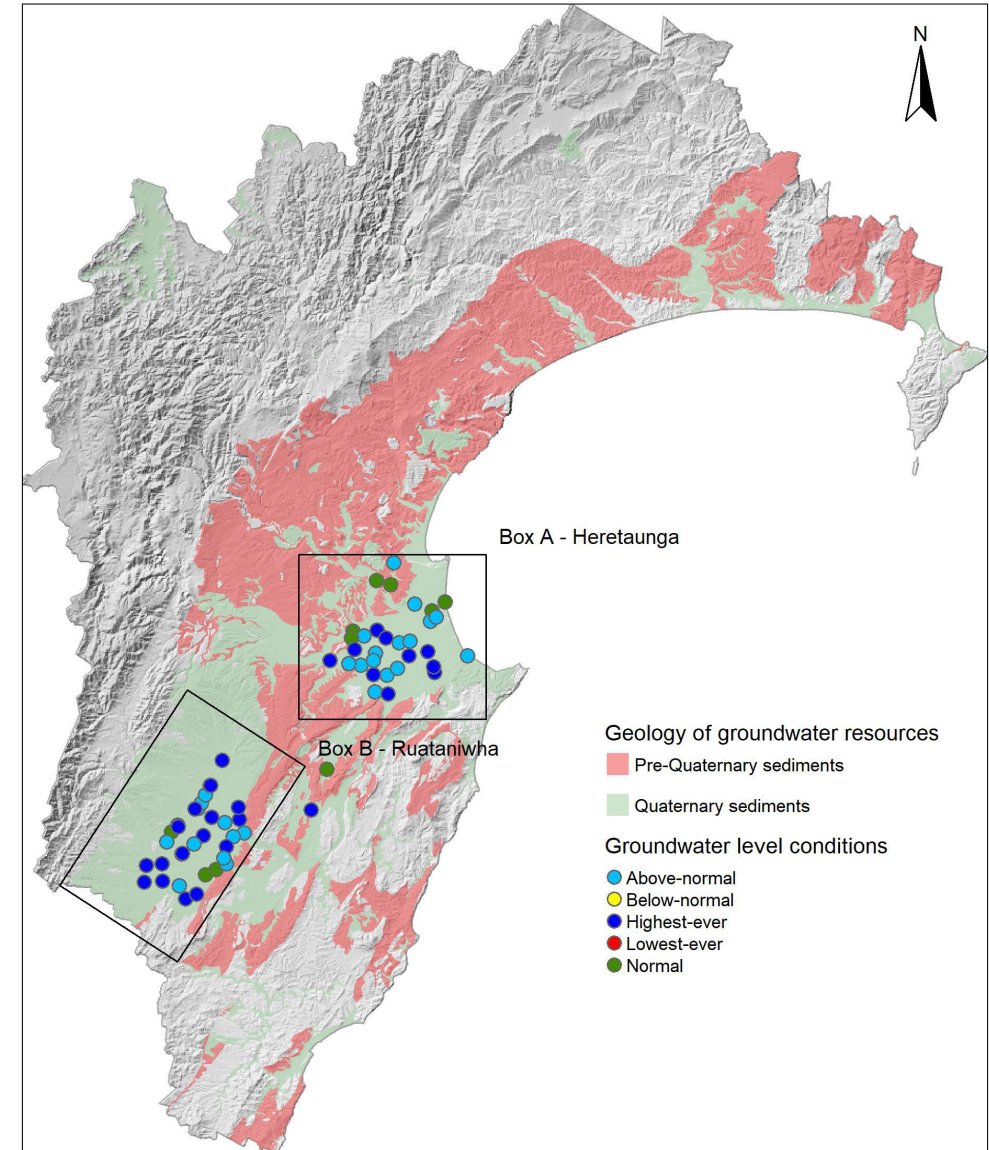
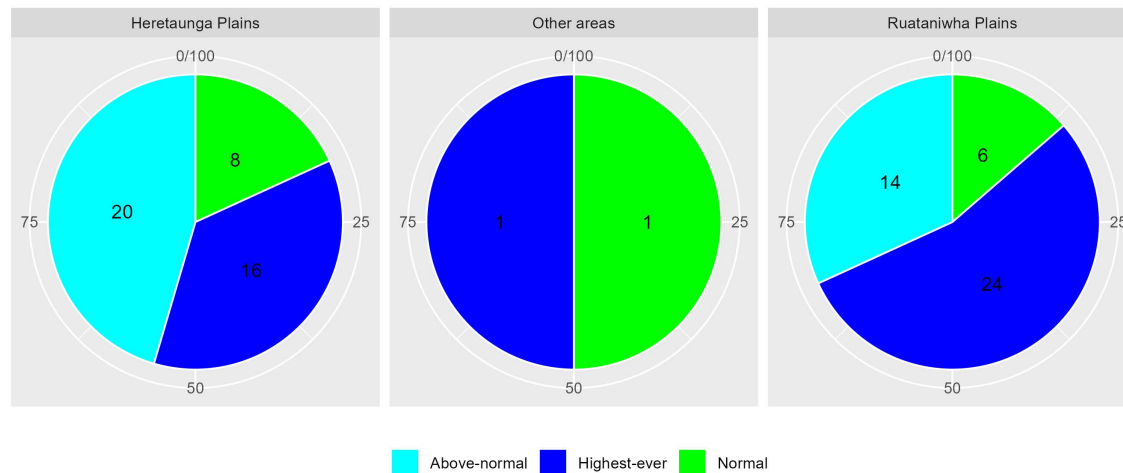
## GROUNDWATER & SOIL MOISTURE

**Soil Moisture:** Above normal

### Current state of Groundwater levels:

This report compares groundwater levels in June 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.





## AIR QUALITY

Could be better. Two exceedances.

**Figure 1:** PM<sub>10</sub> levels in the Napier, Hastings and Awatoto airsheds during July 2023.

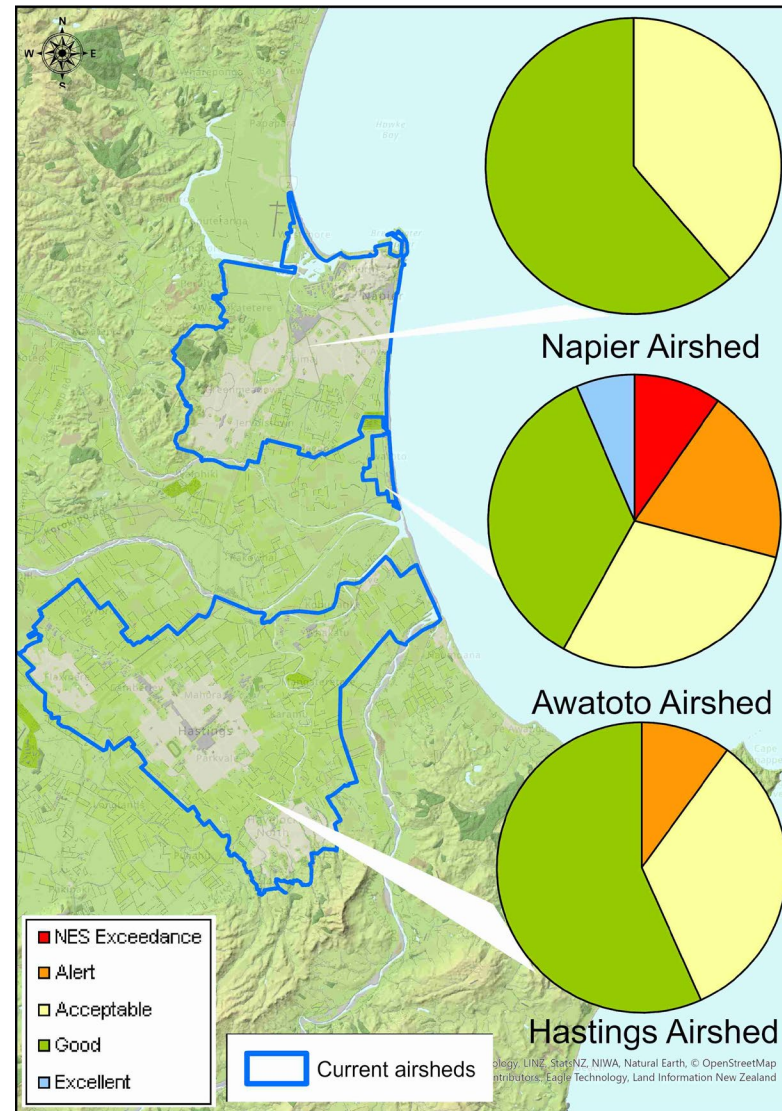
### PM<sub>10</sub> exceedances:

The National Environmental Standard (NES) for particulate matter (PM<sub>10</sub>) of 50 micrograms per cubic metre (24 hour average) was exceeded twice in the Awatoto airshed and not exceeded in the Napier and Hastings airsheds during July 2023.

The monitoring sites are located at:

- Marewa Park in the Napier airshed.
- St Johns College in the Hastings airshed.
- Waitangi Road in the Awatoto airshed.

Further information is available at [www.hbrc.govt.nz](http://www.hbrc.govt.nz)





## LONGER FORECAST

El Niño conditions and a positive Indian Ocean Dipole are expected to bed in over the next month or two. Therefore we can expect more winds from the westerly sector and they are associated with a predicted pattern of higher than normal mean sea level pressure northwest of the country and lower than normal to the south.

Seas around us are still warmer than usual so temperatures should remain relatively warm over the next few months. A westerly flow would imply drier weather but warmer than usual seas muddy the water a little so a forecast of near or below normal rainfall is the result.

**Dr Kathleen Kozyniak**  
**Team Leader Air and Land Science**