

# State of the Environment

Environmental Science Report



## AUGUST 2024

Rainfall during August was within the normal range at 102%, although variability was observed across the region. Areas like Waikaremoana, Ruahine and Southern Hawke's Bay strayed into the above normal category while Northern Hawke's Bay and Heretaunga Plains recorded below normal rainfall. River flows were normal, while soil moisture levels were near or above normal levels for August. Groundwater levels across the region were above normal.

While things started off on the cooler side, as we rounded the home straight by mid-August, temperatures had risen. Crossing the line, Hawke's Bay delivered a gold-medal-worthy performance with those beautiful weekend temperatures. Daytime highs were 1.4°C warmer than usual, while nighttime temperatures were 0.6°C above average.

August was another good month for air quality, with no exceedances in PM10 recorded at any of our monitoring sites. That wraps up winter and our air quality reporting- welcome, Spring!

**Dr. Nariefa Abraham-Bennet**

Senior Climate Scientist

## Short summary

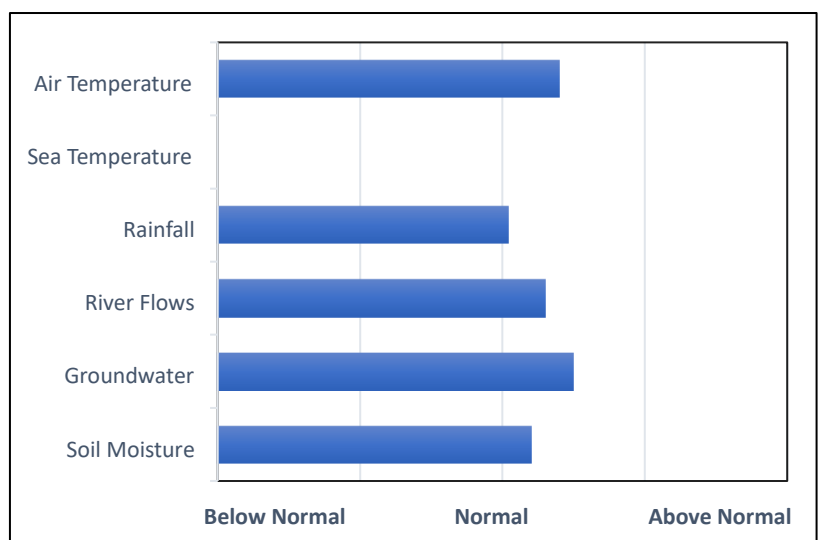
Average rain and warm.

### September to November Forecast

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

### Sea Surface Temperature

The average sea surface temperature (SST) for Hawke's Bay in August 2024 is unavailable due to the HBRC coastal water quality monitoring buoy HAWQi being removed for servicing.



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

Ph: 06 835 9200

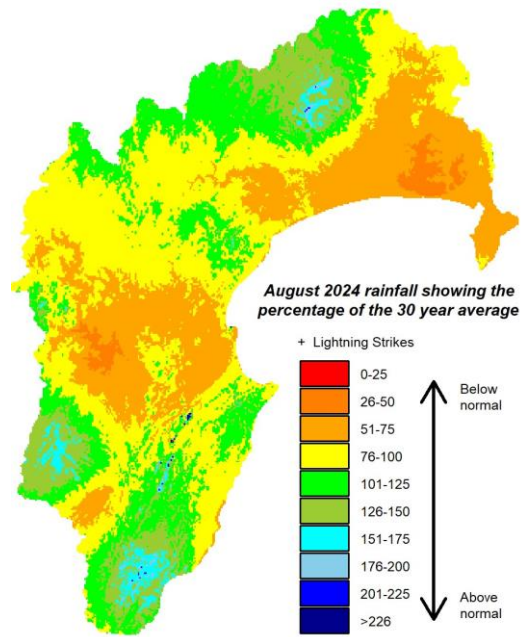
## RAINFALL

Normal. No cloud to ground lightning strikes.

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

**Percentage of normal August rainfall (30 year average) for areas in the region:**

Waikaremoana	123%
Northern HB	67%
Tangoio	88%
Kaweka	92%
Ruahine	135%
Heretaunga Plains	78%
Ruataniwha Plains	100%
Southern HB	138%
Hawke's Bay Region	102%



For a more detailed rainfall report click [here](#) and for a five-year monthly summary click [here](#).

## AIR TEMPERATURES

Above average days and nights.

### Mean Difference from Normal

Maximum Temperature: 1.4°C

Minimum Temperature: 0.6°C

Mean Daily Maximum: 14.2°C

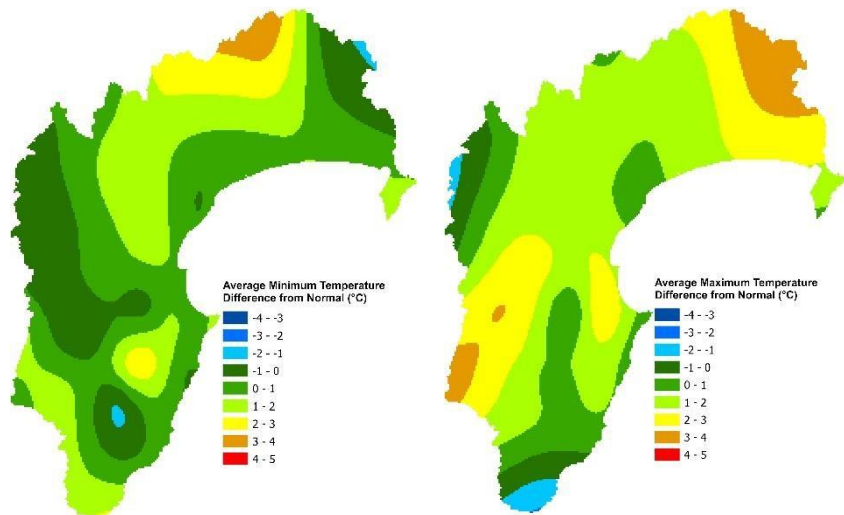
Mean Daily Minimum: 4.9°C

Highest Daily: 24.9 °C

Location: Hastings AWS  
(MetService)

Lowest Daily: -6 °C

Location: Taharua Climate

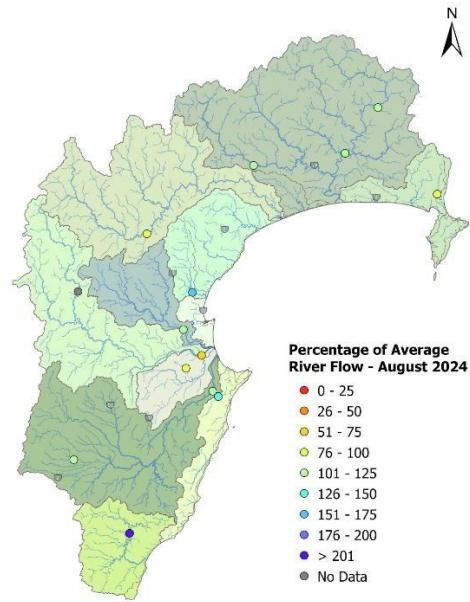


# RIVER FLOW

## Percentage of average August flows for areas in the region:

Northern Coast – Mahia	75%
Northern HB – Hangaroa River	106%
Northern HB – Wairoa River (Marumaru)	101%
Northern HB – Waiau River (Otoi)	115%
Mohaka	82%
Esk-Central Coast	170%
Tūtaekuri	115%
Karamu	83%
Ngaruroro – Chesterhope	69%
Southern Coast	142%
Tukituki – Tukipo River	111%
Tukituki – Red Bridge	103%
<u>Porangahau</u>	<u>228%</u>
<b>Hawke's Bay Region</b>	<b>115%</b>

For a more detailed river flow report click [here](#).



# GROUNDWATER & SOIL MOISTURE

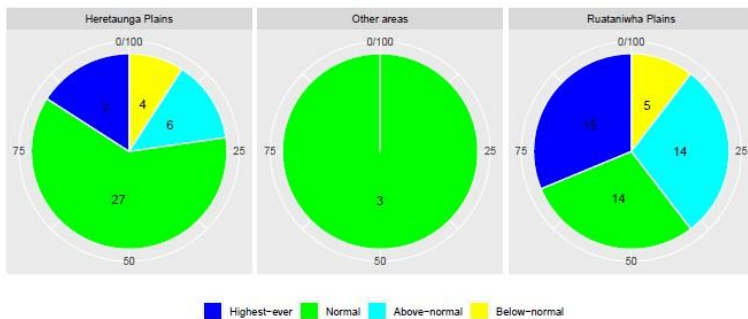
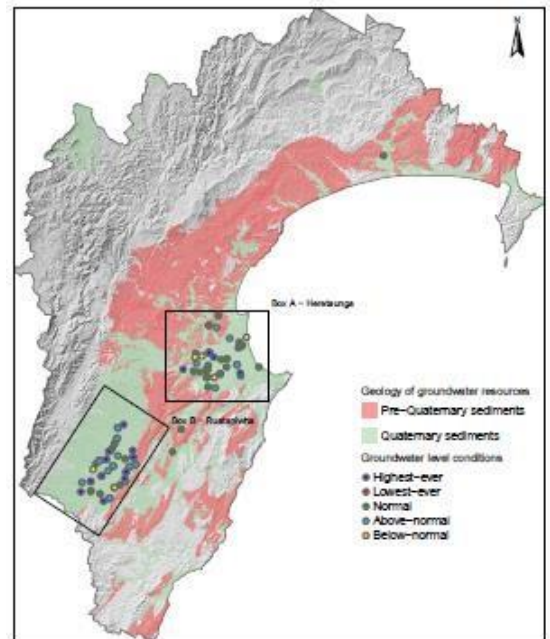
**Soil Moisture:** Near or above normal.

For a more detailed soil moisture report click [here](#).

## Current state of Groundwater levels:

This report compares groundwater levels in August 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 abovenormal. Wells with less than 5 years of record are excluded from the analysis.



## AIR QUALITY

**Air Quality:** No exceedances.

**Figure 1:** PM<sub>10</sub> levels in the Napier, Hastings and

Awatoto airsheds during August 2024.

### 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 not exceeded in the Awatoto, Napier or Hastings airsheds during August 2024.

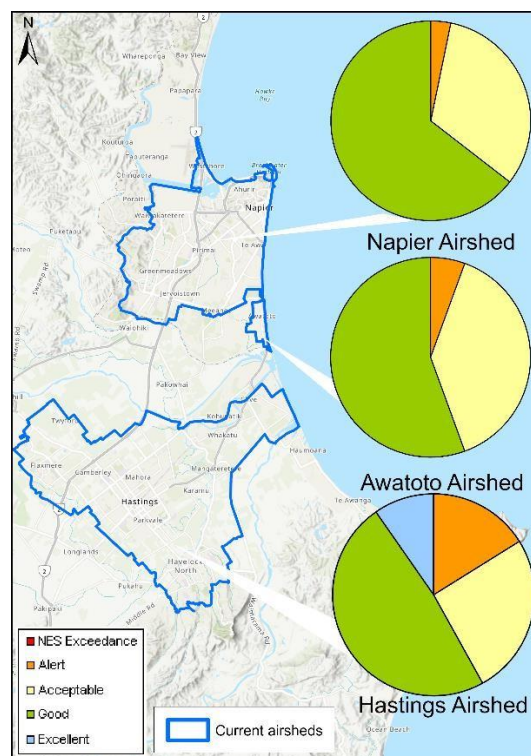
The monitoring sites are located at:

- 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)

For a more detailed air quality report click [here](#).



## LONGER FORECAST

A La Niña may yet develop by the end of spring, but it is also possible that the “La Niña-like” conditions don’t develop enough to be considered a La Niña event. Ultimately, we aren’t expecting a strong La Niña. The same applies to a positive Indian Ocean Dipole. Conditions are suggestive of a positive phase, but they may not develop into a fullblown positive event.

Other influences on our weather are warmer than usual seas around New Zealand, though closer to normal near Hawke’s Bay, and the lingering influence of the sudden stratospheric warming that occurred over Antarctica, which nudged unsettled, windy weather across the country.

The predicted pressure pattern changes from lower-than-normal pressure across New Zealand during September, bringing further unsettled westerly conditions, to higher-than-normal pressure in subsequent months and the chance of more easterlies. Both sea surface and air temperatures are expected to be near or above normal.

Models favour near or below normal rainfall for our region based on the initial westerly flow and the premise of higher-than normal pressure thereafter. Consensus amongst the forecast models isn’t particularly strong so better alignment by the next update will be helpful!

**Dr Kathleen Kozyaniak**

**Team Leader Air and Land Science**