



Hawke's Bay Trends

THE STATE OF OUR ENVIRONMENT

September 2023



TE KAUNIHERA Ā-ROHE O TE MATAU-A-MĀUI

September 2023

September was brutally dry... until the last week. It took just a few days near the end of the month to take us from 5% of the month's average rainfall to near normal totals across most of the region, and above normal in the north and along the south coast.

Soil moisture, which had dipped below average for the time of year, snaffled most of the rain and had a welcome boost to more typical levels. The late rain didn't save river flows from falling below average and wouldn't have yet dented groundwater levels, which were near normal for the month.

September was hot. Days were almost 2°C warmer than usual and nights were warm too thanks to hotter than usual sea temperatures. It was not only hot but also windy, and dusty conditions meant our air quality wasn't so good at times. However, we didn't get exceedances of the 24-hour average PM₁₀ standard at our Napier, Hastings and Awatoto monitoring sites.

On top of the challenge the dust poses, what we don't need are people thinking it's a hoot to light fires outside on very windy, balmy evenings – I'm looking directly at those who did just that on Mataruahou/Napier Hill, near the botanic gardens.

Dr Kathleen Kozyniak
Team Leader Air and Land Science

SUMMARY September 2023

Short summary

Useful rain. Hot.

October to November Forecast

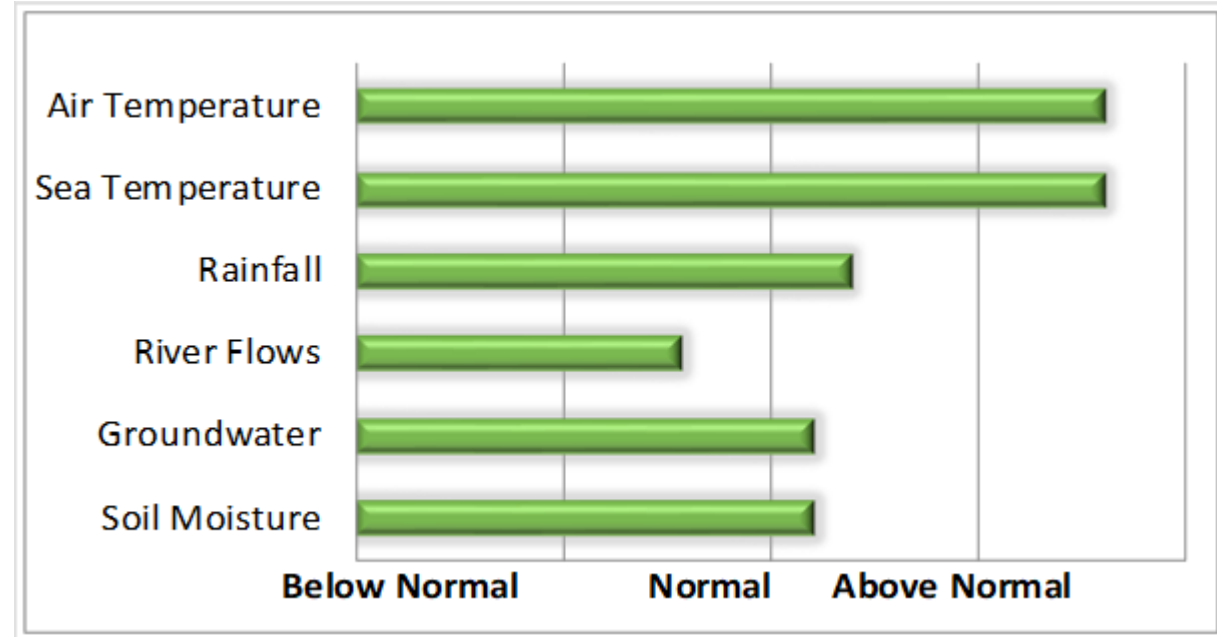
Temperature Above average
Rain Below normal
River flows Below or near normal
Soil moisture Below normal

source : NIWA

For more information

www.hbrc.govt.nz

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RAINFALL

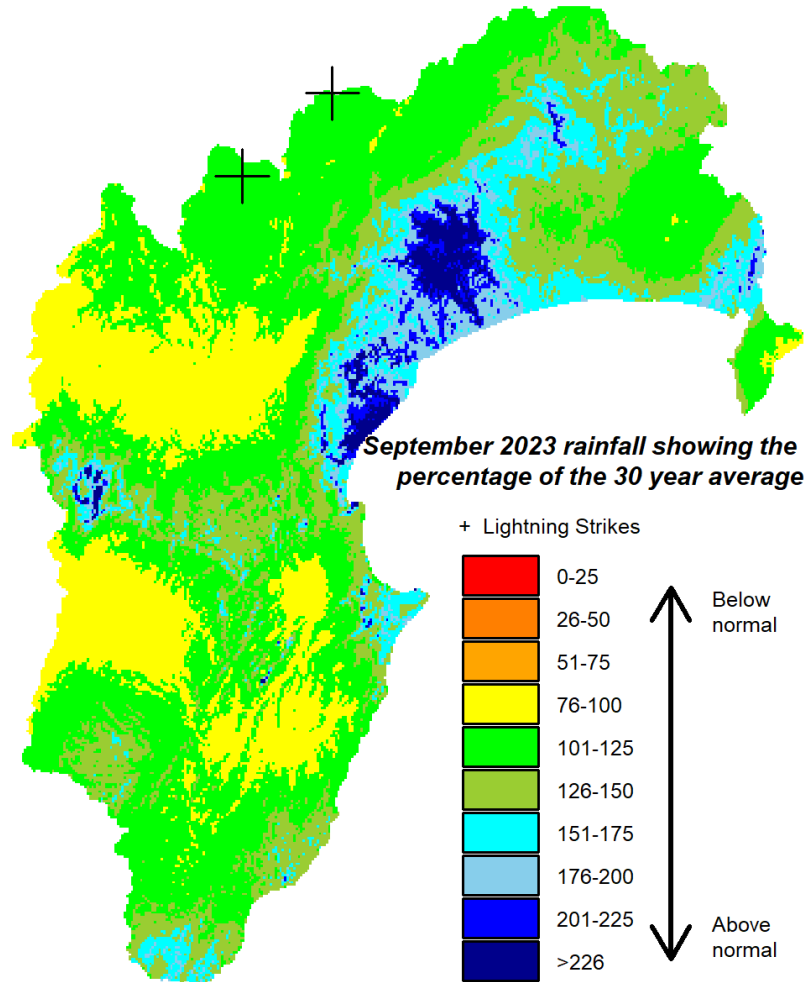
Wetter than usual in the north and along the southern coast, near normal elsewhere. Two cloud to ground lightning strikes.

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

Percentage of normal September rainfall
(30 year average)

For areas in the region:

Waikaremoana	142%
Northern HB	169%
Tangoio	112%
Kaweka	98%
Ruahine	99%
Heretaunga Plains	107%
Ruataniwha Plains	97%
Southern HB	126%
Hawke's Bay Region	119%



AIR TEMPERATURES

Temperatures – well above average.

Mean Difference from Normal

Maximum Temperature: 1.9°C

Minimum Temperature: 1.4°C

Mean Daily Maximum: 17 °C

Mean Daily Minimum: 7°C

Highest Daily: 26.9 °C

Location: Wairoa Aero AWS (Metservice)

Lowest Daily: -3.0 °C

Location: Taharua Climate

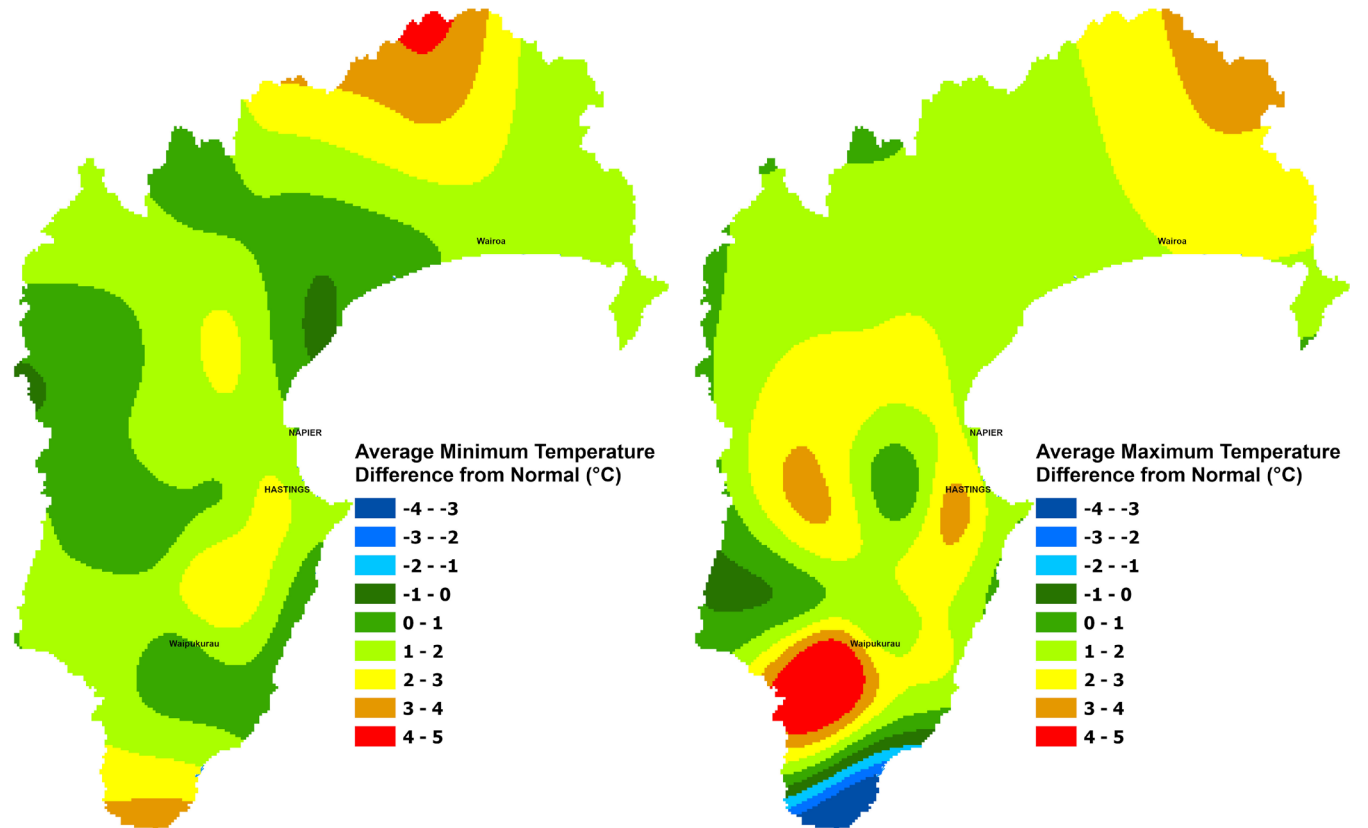
Sea Surface Temperature

The average sea surface temperature (SST) for Hawke's Bay in September 2023 was 13.5°C. This was 0.94°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](#).

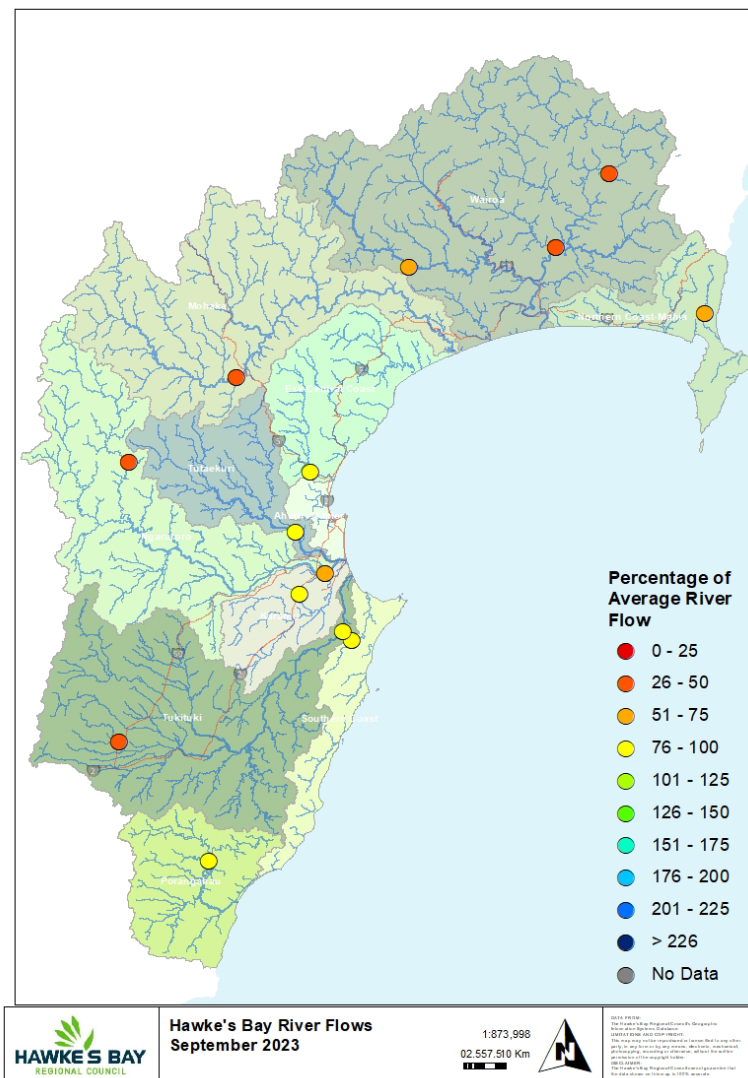
**Note that long term data has experienced some patchiness due to the challenges of electronic devices interacting with salt water and servicing requirements so the long term average in this instance only includes 6 prior September's.*



RIVER FLOW

Percentage of average September flows
for areas in the region:

Northern Coast – Mahia	124%
Northern HB – Hangaroa River	148%
Northern HB – Wairoa River	103%
Northern HB – Waiau River	115%
Mohaka	73%
Esk-Central Coast	56%
Tūtaekuri	75%
Karamu	64%
Ngaruroro – Kuripapango	67%
Ngaruroro – Chesterhope	57%
Southern Coast	109%
Tukituki – Tukipo River	47%
Tukituki – Tukituki River	42%
Porangahau	72%
Hawke's Bay Region	82%



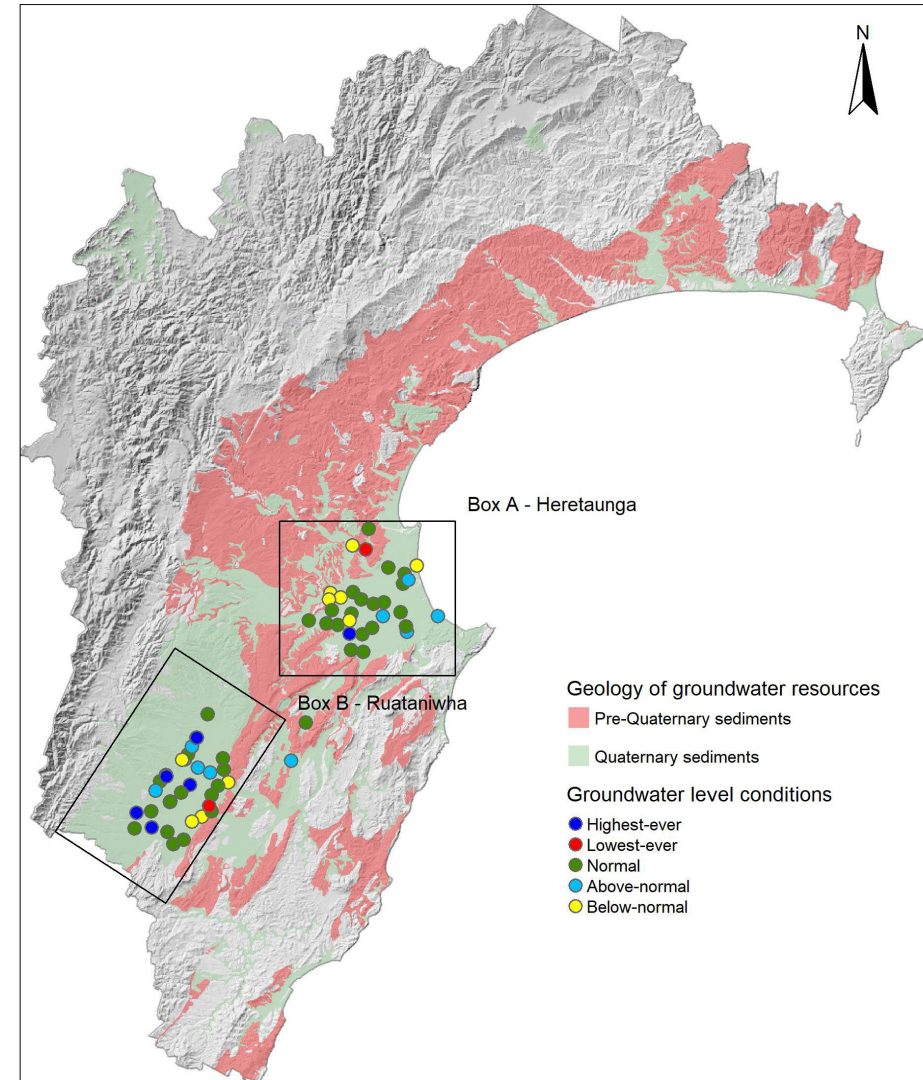
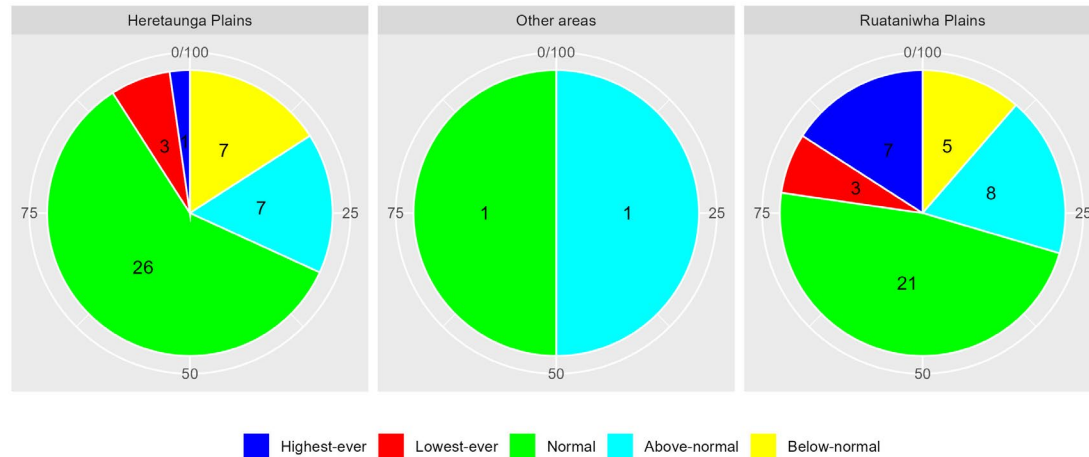
GROUNDWATER & SOIL MOISTURE

Soil Moisture: Near 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

Air Quality: No exceedances

Figure 1: PM₁₀ levels in the Napier, Hastings and Awatoto airsheds during September 2023.

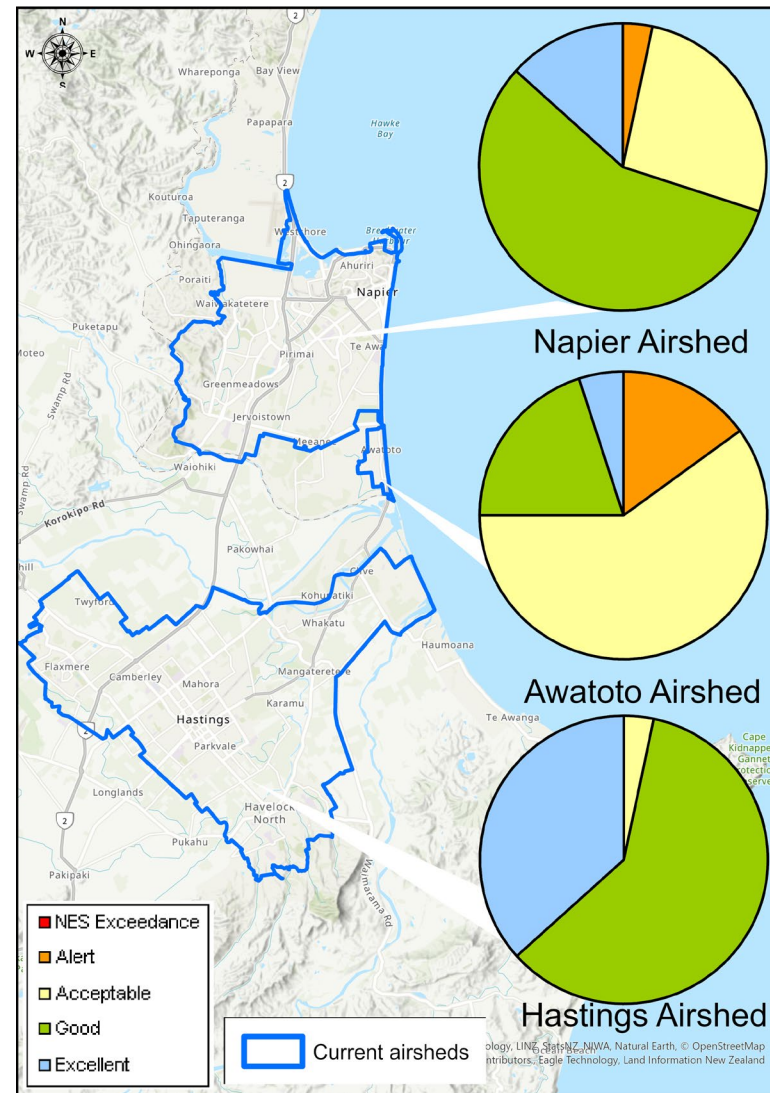
PM₁₀ exceedances:

The National Environmental Standard (NES) for particulate matter (PM₁₀) of 50 micrograms per cubic metre (24 hour average) was not exceeded in the Napier, Hastings and Awatoto airsheds during September 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



LONGER FORECAST

El Niño conditions and a positive Indian Ocean Dipole are upon us and the combination typically isn't a great one for the region when it comes to rainfall. The expected sea level pressure pattern for the next three months features higher than normal pressure north of us and lower pressure to the south, placing us in a westerly flow that is likely to be stronger than normal for the time of year.

We are likely to continue September's theme of warmer than usual temperatures and from here there's a good chance of lower than normal rainfall. The late fillip we received in September may not be a common feature in the months ahead.

Dr Kathleen Kozyniak
Team Leader Air and Land Science