



Hawke's Bay Trends

THE STATE OF OUR ENVIRONMENT

December 2023



TE KAUNIHERA Ā-ROHE O TE MATAU-A-MĀUI

December 2023

So far summer is behaving like summer, perfect when you're in holiday mode. December was a little dry and temperatures were decidedly hot. The little dry was particularly evident on the Heretaunga Plains, which received less than half of December's average rainfall, as well as the Kaweka Range and the south of region, where two-thirds of average totals fell. Most areas were short of their long-term average but some, such as Waikaremoana, Tangoio and the Ruataniwha Plains were close enough to fall within what is considered the normal range (within 20% of the average).

Despite the drier weather, soil moisture remained near or above average for the month and that was also the case for both river flows and groundwater levels. Temperatures came to the party big time, being 1.5°C warmer than usual during daylight hours, then beefing up to 2°C warmer overnight to host late evening barbeques.

December's weather was more inviting than last month to bust out the togs and, while some of the water quality results were mixed for the rivers and lagoons, our beaches were a good place to head. The summery conditions gave us decent air quality too, rounding off a solid, pleasant month overall.

Dr Kathleen Kozyniak
Team Leader Air and Land Science

SUMMARY December 2023

Short summary

Summery – hot and fairly dry

January to March Forecast

Temperature: Above average

Rain: Near normal

River flows: Near or below normal

Soil moisture: Near or below normal

source: NIWA

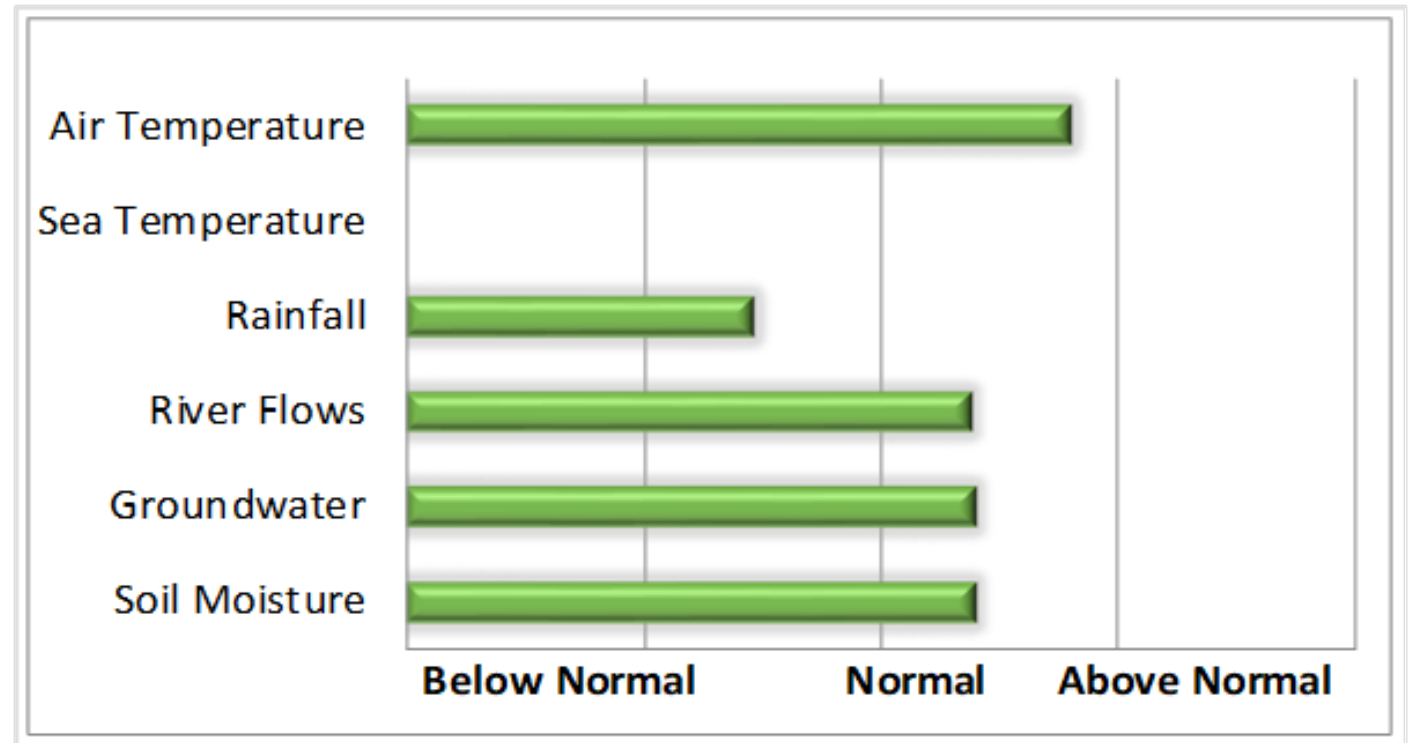
Sea Surface Temperature

The average sea surface temperature (SST) for Hawke's Bay in December 2023 is unavailable due to the HBRC coastal water quality monitoring buoy HAWQi being removed for servicing.

For more information

www.hbrc.govt.nz

Ph: 06 835 9200



RAINFALL

Below normal, especially the Heretaunga Plains and western ranges.

Seven cloud to ground lightning strikes.

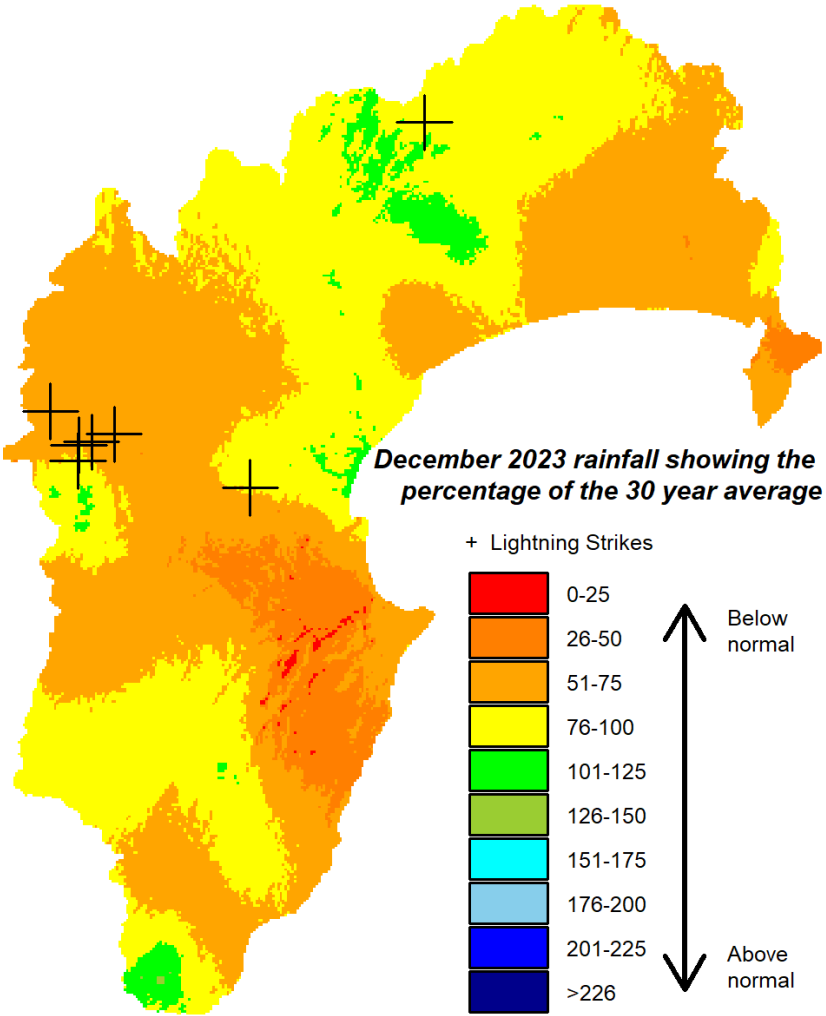
Lightning counts come from the Blitzortung.org lightning network to which HBRC contributes.

Percentage of normal December rainfall
(30 year average)

For areas in the region:

Waikaremoana	89%
Northern HB	71%
Tangoio	86%
Kaweka	66%
Ruahine	74%
Heretaunga Plains	46%
Ruataniwha Plains	86%
Southern HB	67%
Hawke's Bay Region	73%

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



AIR TEMPERATURES

Temperatures – well above average, especially nights.

Mean Difference from Normal

Maximum Temperature: 1.5°C

Minimum Temperature: 2.2°C

Mean Daily Maximum: 22°C

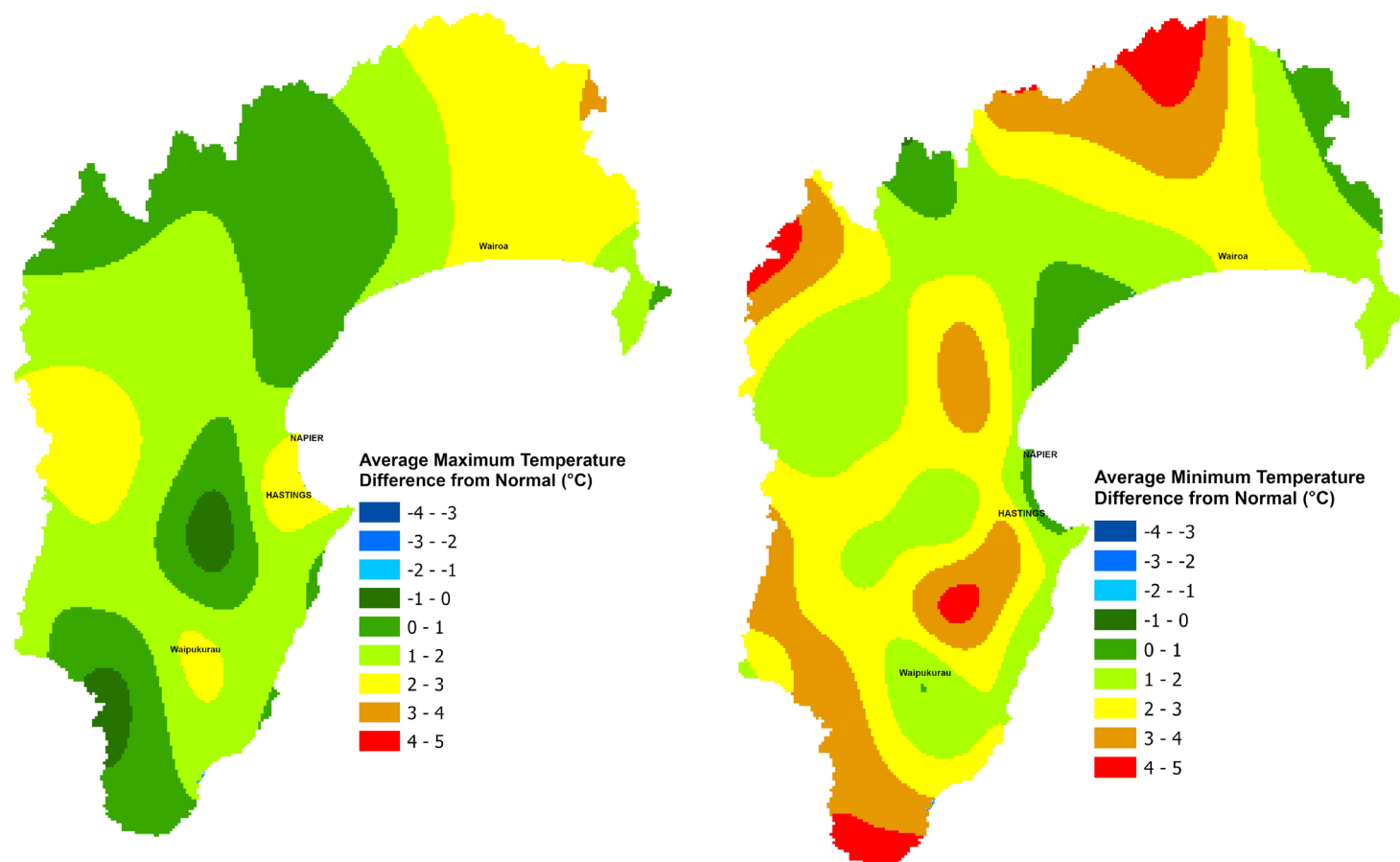
Mean Daily Minimum: 13°C

Highest Daily: 33.2°C

Location: Hastings AWS (MetService)

Lowest Daily: 1.5°C

Location: Taharua Climate

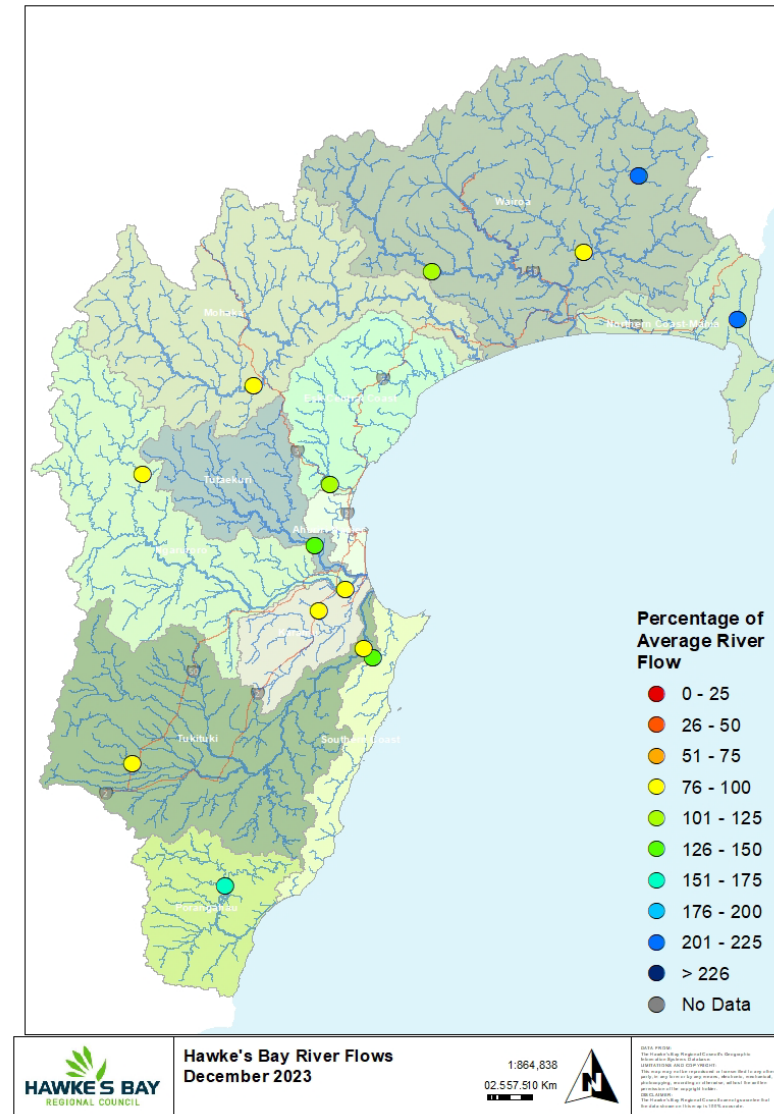


RIVER FLOW

Percentage of average December flows
for areas in the region:

Northern Coast – Mahia	202%
Northern HB – Hangaroa River	205%
Northern HB – Wairoa River	90%
Northern HB – Waiau River	116%
Mohaka	88%
Esk-Central Coast	110%
Tūtaekuri	148%
Karamu	77%
Ngaruroro – Kuripapango	79%
Ngaruroro – Chesterhope	78%
Southern Coast	140%
Tukituki – Tukipo River	85%
Tukituki – Tukituki River	82%
Porangahau	172%
Hawke's Bay Region	119%

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



GROUNDWATER & SOIL MOISTURE

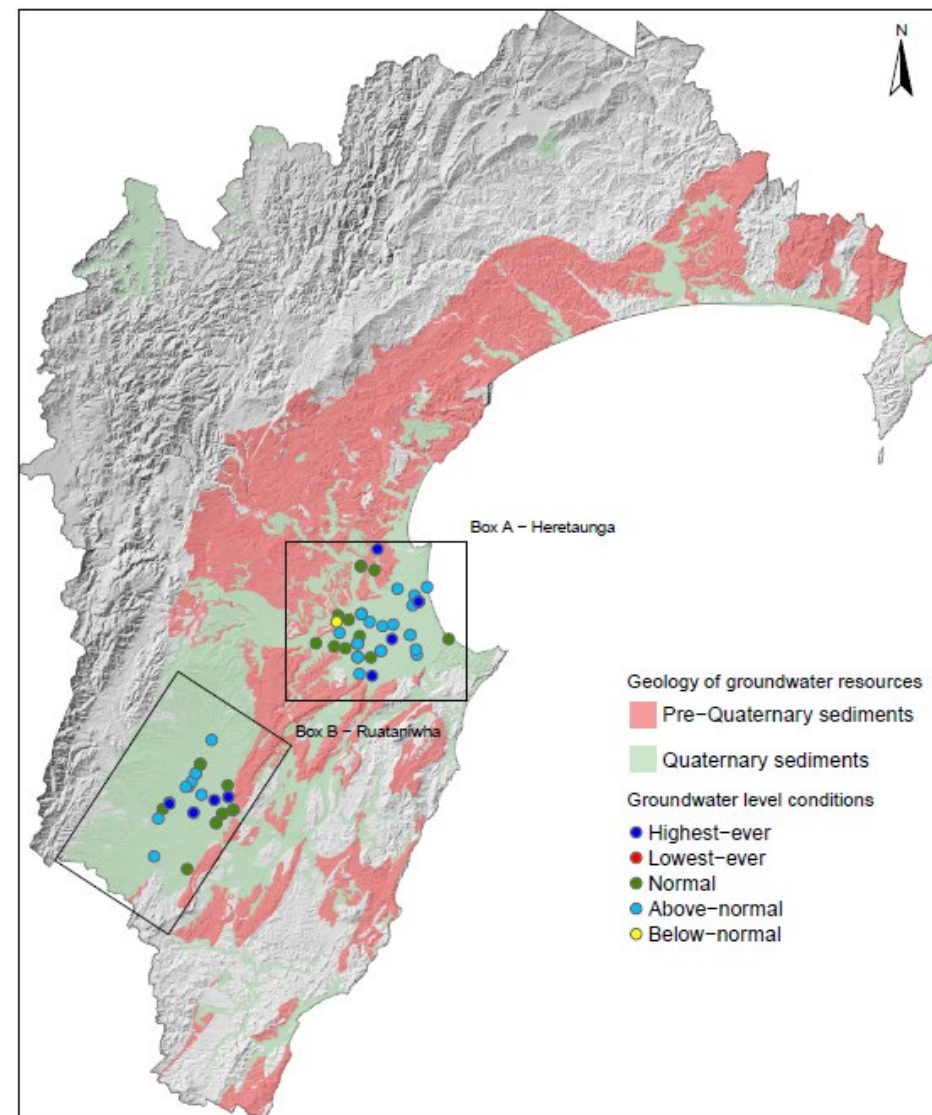
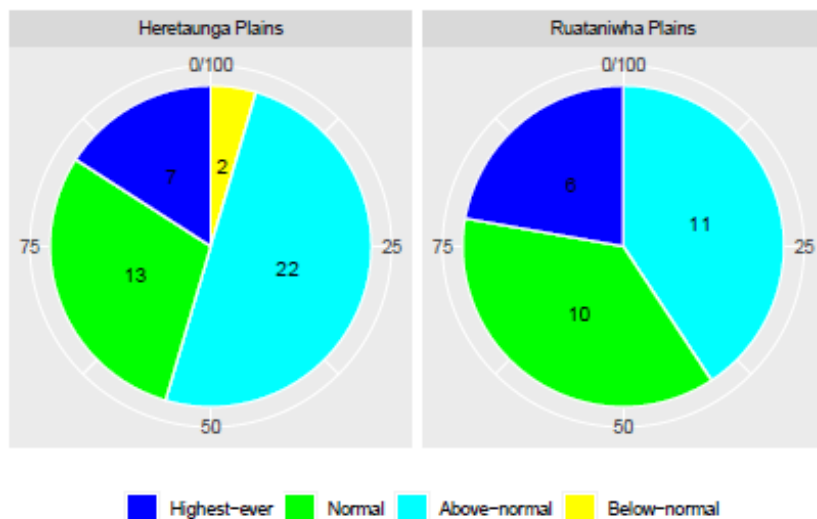
Soil Moisture: Near to above average.

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

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.



AIR QUALITY

Air Quality: All okay. No exceedances

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

PM₁₀ exceedances:

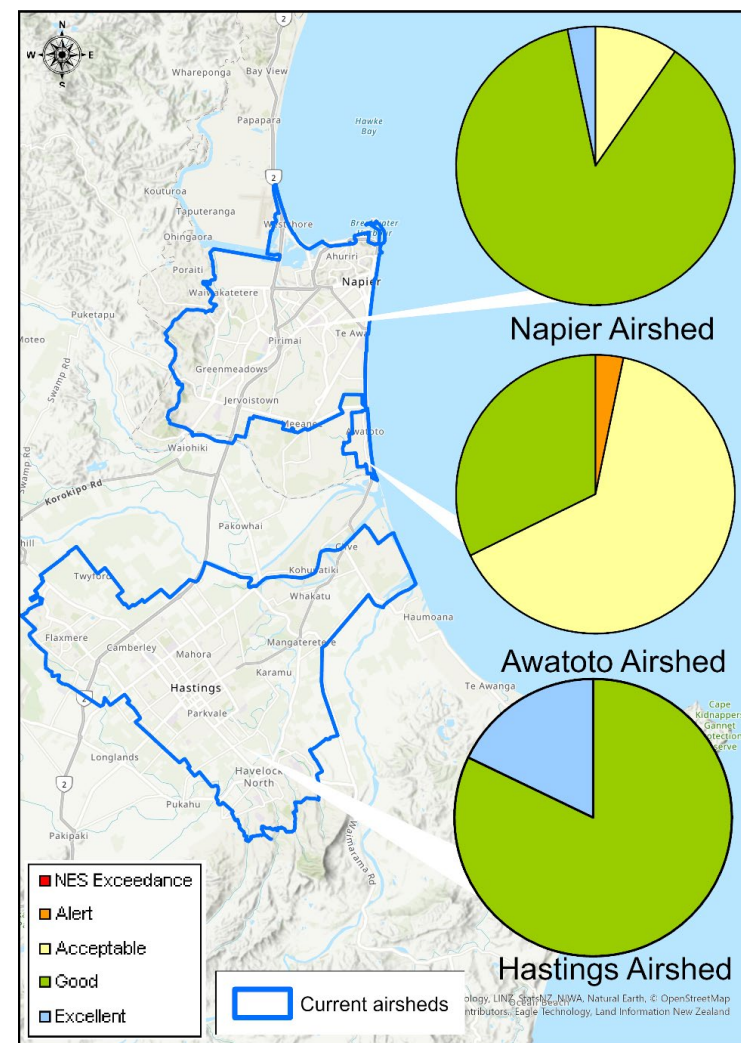
The National Environmental Standard (NES) for particulate matter (PM₁₀) of 50 micrograms per cubic metre (24 hour average) was not exceeded in the Napier, Hastings and Awatoto airsheds during December 2023.

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

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

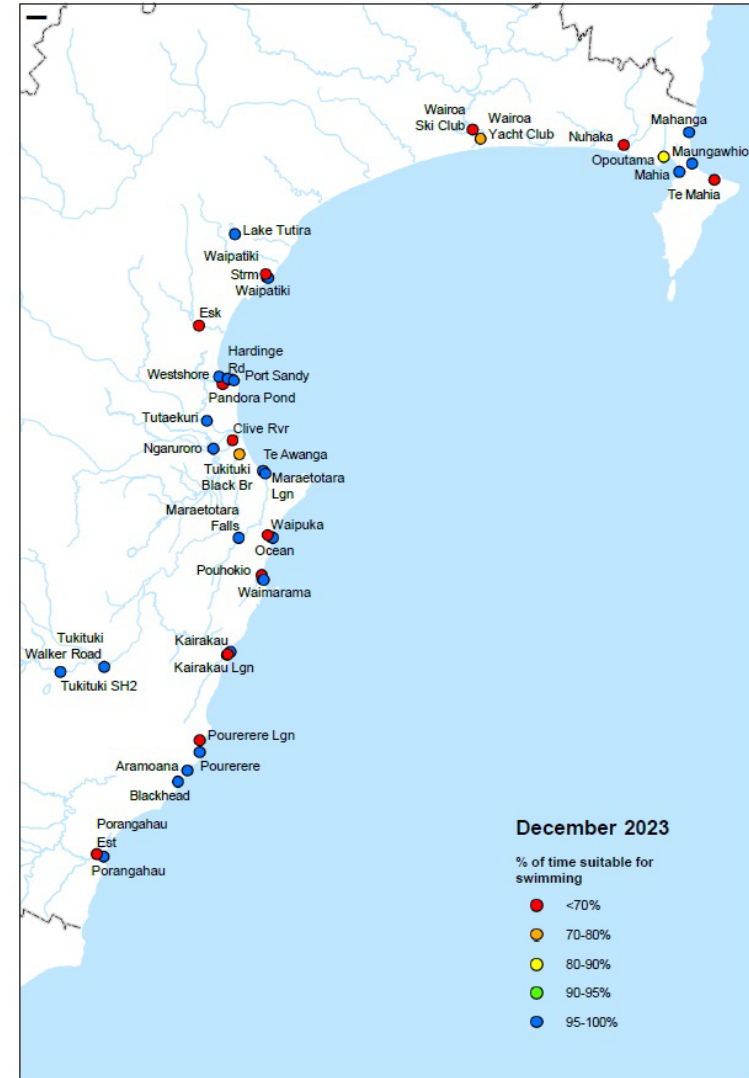


Recreational Water Quality

December brought an improvement in swimmability across many of our bathing sites following a wet November. While many of our rivers and lagoons underperformed this month, the water quality at our beaches remained in much better shape.

Looking forward to seeing what swimming conditions 2024 brings us!

Further information is available at www.hbrc.govt.nz



LONGER FORECAST

The El Niño event remains in force, though one that is less traditional in style due to lingering warmth in the western Pacific Ocean. The expected pressure pattern remains similar to recent months, with higher-than-normal pressure extending over northern and central parts of the country and lower than normal south of New Zealand. As mentioned in previous posts, that increases the likelihood of a westerly dominated wind flow.

The region's sea temperatures are warmer than average so that will help boost our air temperatures over the coming months. Tropical storm activity could receive enhanced energy mid to late January due to a phenomenon called the Madden Julian Oscillation. It is a fluctuation of enhanced and suppressed tropical convection that moves eastward in the equatorial region on a cycle of 30 to 60 days. Whether we see much action coming from the tropics ourselves will depend on the strength of the high-pressure systems that are currently a feature of our weather. Fingers crossed we won't, but the risk steers the seasonal forecasts to one of near normal rainfall.

Dr Kathleen Kozyniak
Team Leader Air and Land Science