

Issued  
2 May  
2022

# Auckland Hydrology Situation Report

Research and  
Evaluation Unit

RIMU



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## Regional summary

The New Zealand Drought Index for the Auckland Region is below the lowest category of Dry. Regional monthly rainfall for April was approximately half the long-term average. Most soil moisture sites are in the Normal range north of the isthmus, and sites in the south are at a Low or Very Low status. River flows are mostly above the mean annual low flow (MALF), with 8 sites below MALF, 7 of which are below 85% MALF, including the Wairoa River. Groundwater levels are similar to previous reports, with most sites in the southern aquifers at a Low or Very Low status, including shallow volcanic aquifers.

## Current drought index

The New Zealand Drought Index (NZDI) is used to determine the severity of drought conditions across the country. The latest NZDI value for Auckland was 0.28 (29 April 2021), which is below the lowest NZDI category of Dry (0.75-1.00). A chart of the NZDI for the Auckland region is shown in Figure 1.

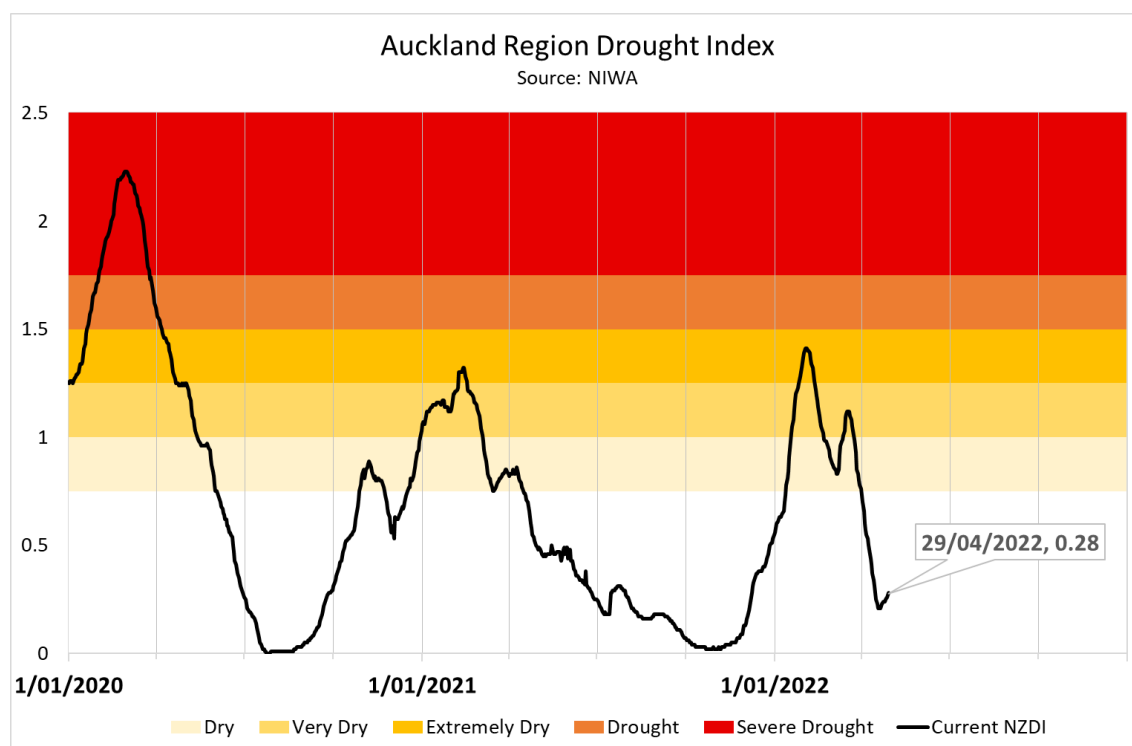
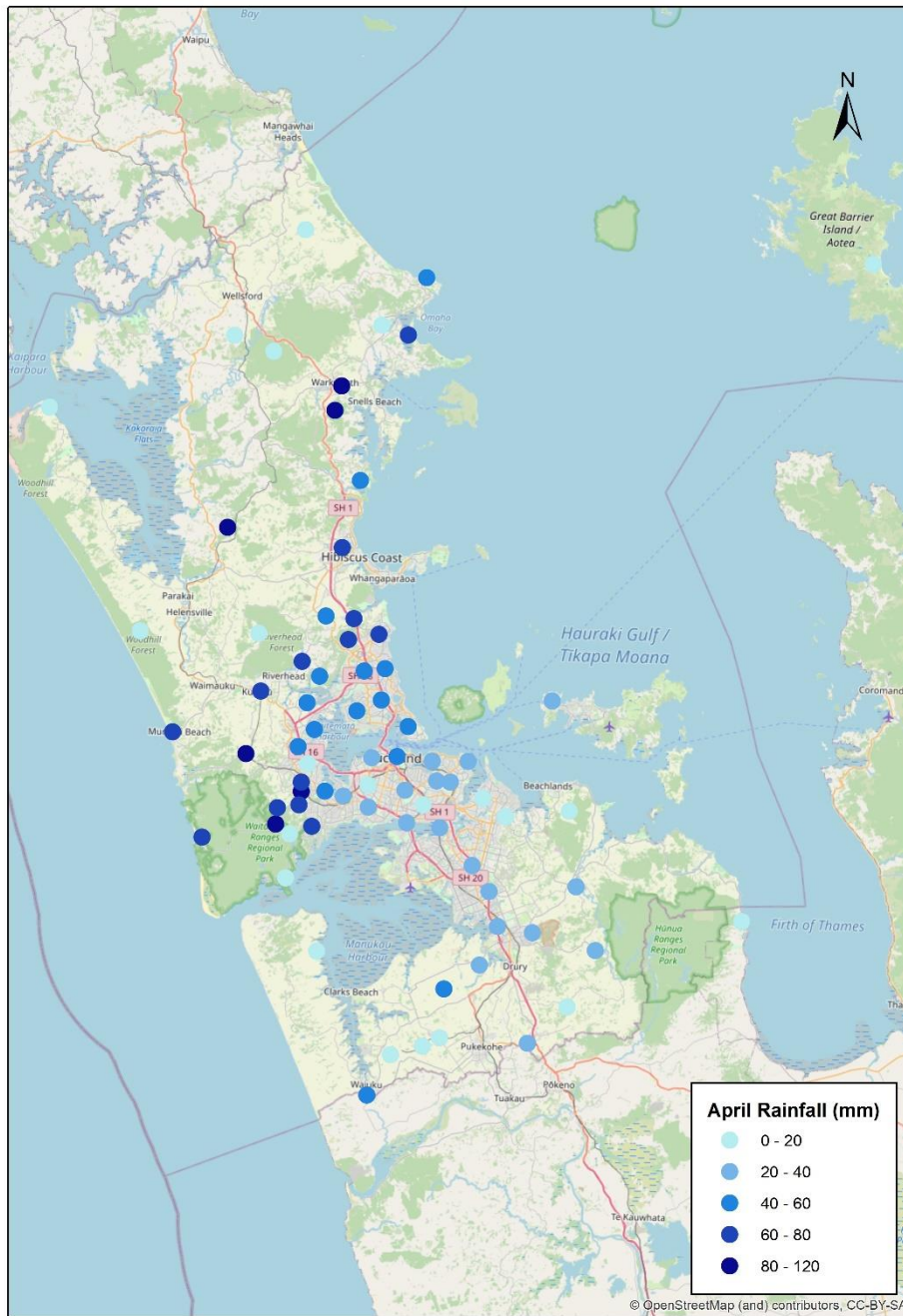


Figure 1: Auckland Region Drought Index 2020-2022 (data source: NIWA).

## Rainfall

Rainfall for April 2022 ranged from 8mm to 120mm with a regional average of 53mm, approximately half the long-term regional average (Figure 2).



**Figure 2: Total rainfall (mm) for April 2022.**

### Soil moisture

Seven of ten soil moisture sites are in the Normal range or higher, with one at Low (Pukekohe) and two at Very Low status (East Tamaki and Waiuku). The observed soil moisture follows recent months of rainfall with higher falls north of the Isthmus and relatively low rainfall in the South. Soil moisture sites are shown in Figure 3.

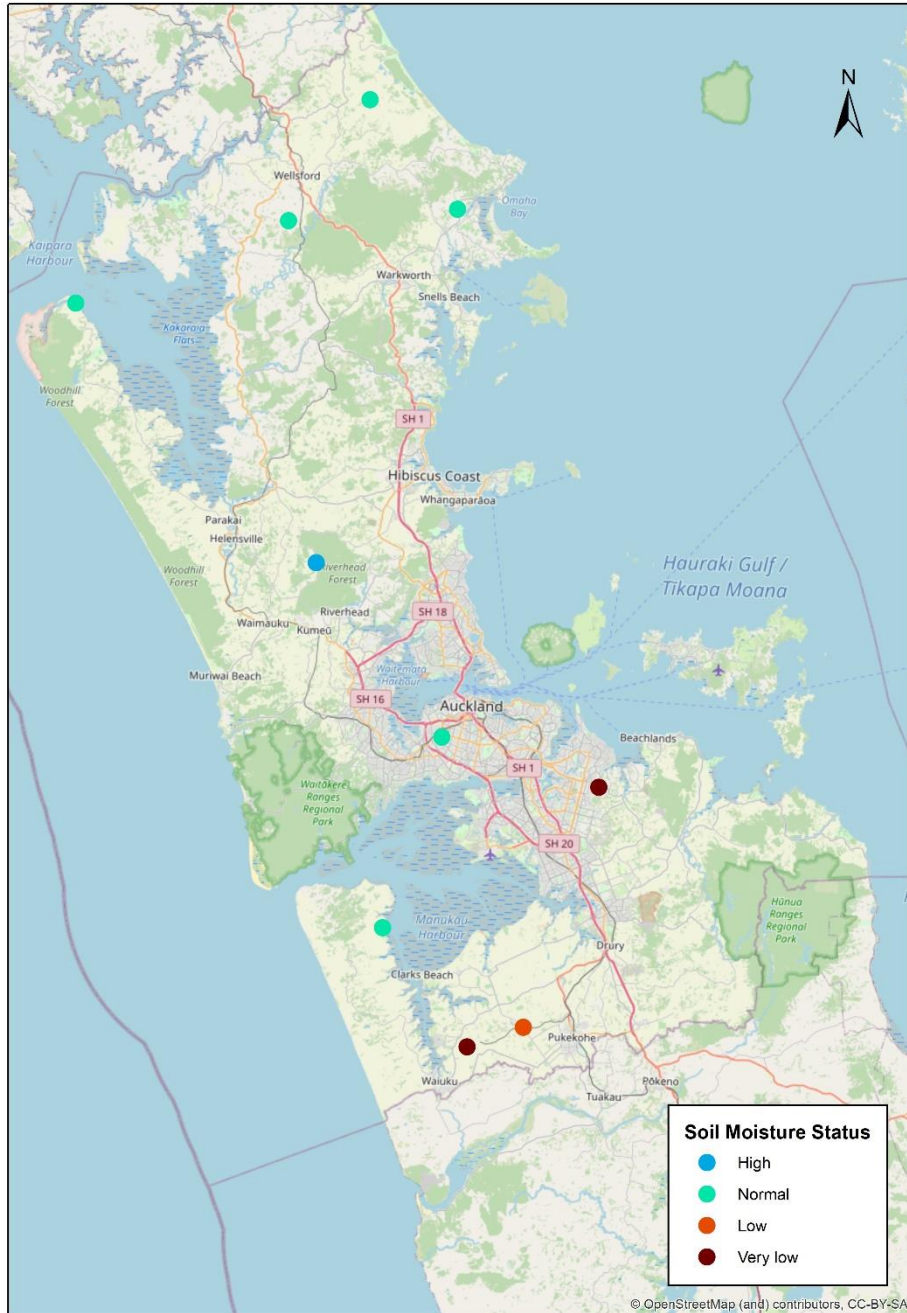


Figure 3: Soil moisture category relative to long-term statistics on 2 May 2022.

### River flows

Eight river flow sites are below the mean annual low flow (MALF), 7 of which are below the Unitary Plan default minimum flow of 85% MALF. The Wairoa River, one of the largest in the Auckland Region, is below its AUP minimum flow. The Mangawheau, Ngakoroa, and Waitangi Streams are also below minimum flows and are significant river systems. The remaining streams below MALF are mostly small urban streams. The locations of sites and the flow relative to MALF are shown in Figure 4.

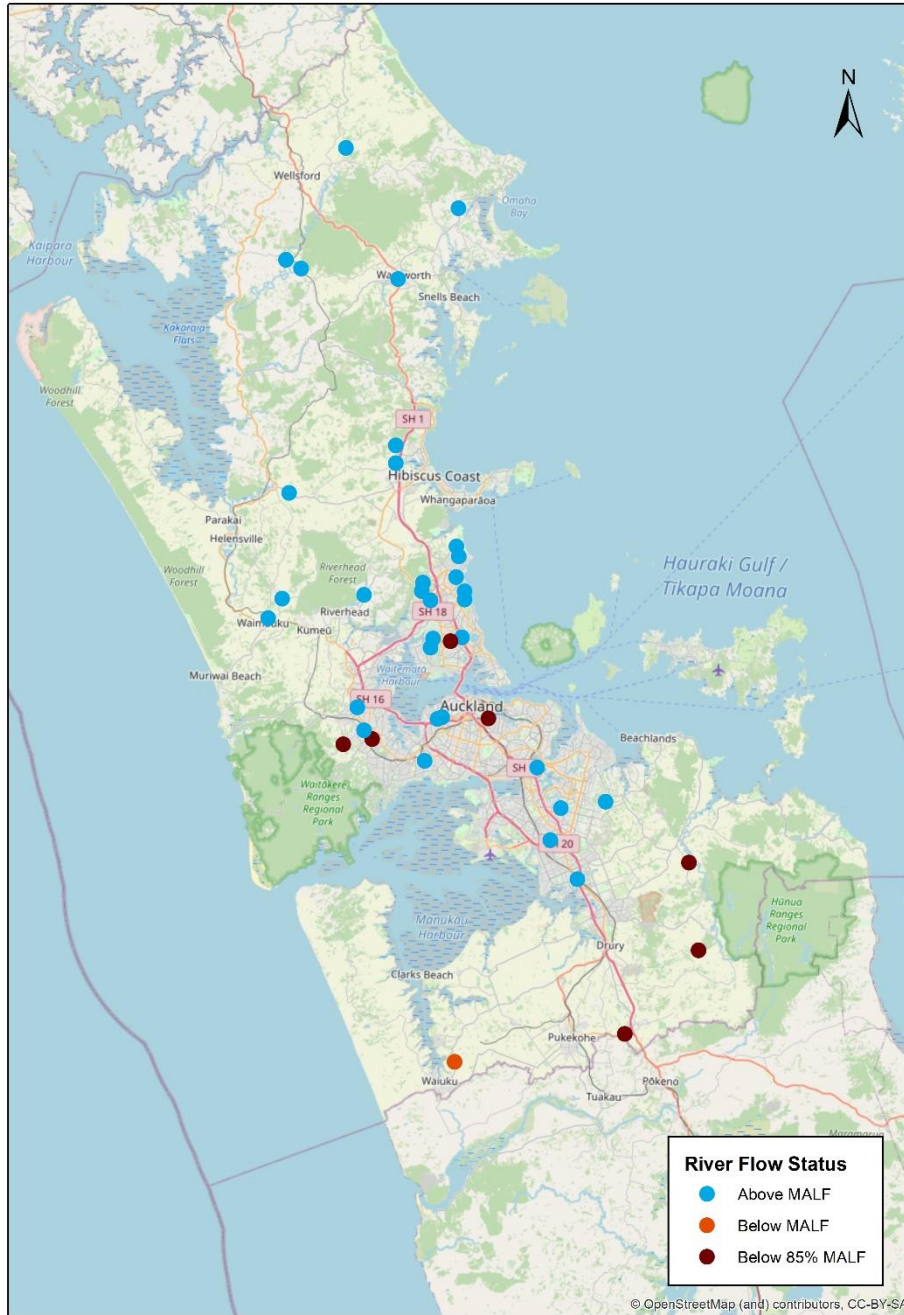
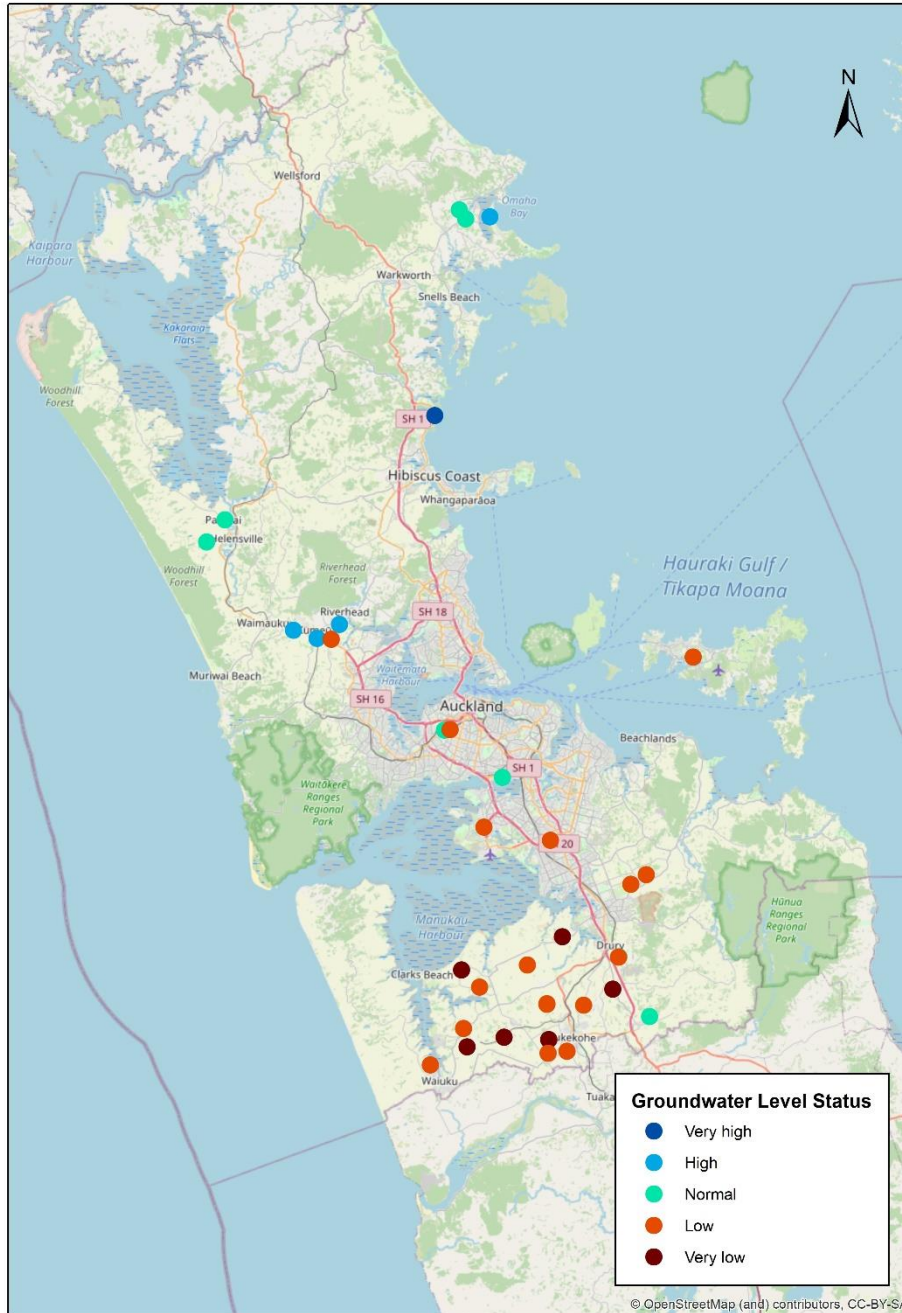


Figure 4: River flow on 2 May 2022 relative to the mean annual low flow (MALF).

## Aquifer water levels

Many aquifer water levels are not recovering as much as they normally do for this time of year. This is particularly so for the southern aquifers. Groundwater levels in the Low and Very Low categories have persisted in deep Waitemata sandstones and Kaawa sand/shellbeds, but now low groundwater levels are being observed in the shallow volcanic aquifers as well. Groundwater monitoring sites and groundwater level category are shown in Figure 5.



**Figure 5: Groundwater levels relative to long-term statistics for 2 May 2022.**

## Disclaimer

This report contains provisional data and is intended for informational purposes only. For detailed questions concerning hydrometric data, please email [EnvironmentalData@aucklandcouncil.govt.nz](mailto:EnvironmentalData@aucklandcouncil.govt.nz).

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