

Issued
1 February
2022

Auckland Hydrology Situation Report

Research and
Evaluation Unit

RIMU



Rainfall | Soils | Rivers | Aquifers

Regional summary

The New Zealand Drought Index for the Auckland Region has risen sharply to Extremely Dry. Regional monthly rainfall for January was very low, approximately 15% of the long-term average. Soil moisture has dropped at many sites, with status currently ranging from Normal to Very Low. River flows have dropped across the region and 14 are below the mean annual low flow (MALF), 12 of which are below 85% MALF. Groundwater levels vary across the region but have dropped at many locations. Many sites in the deep aquifers in the south of the region are at a Very Low status.

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 1.32 (29 January 2021), which is in the NZDI category of Extremely Dry (1.25-1.50). A chart of the NZDI for the Auckland region is shown in Figure 1.

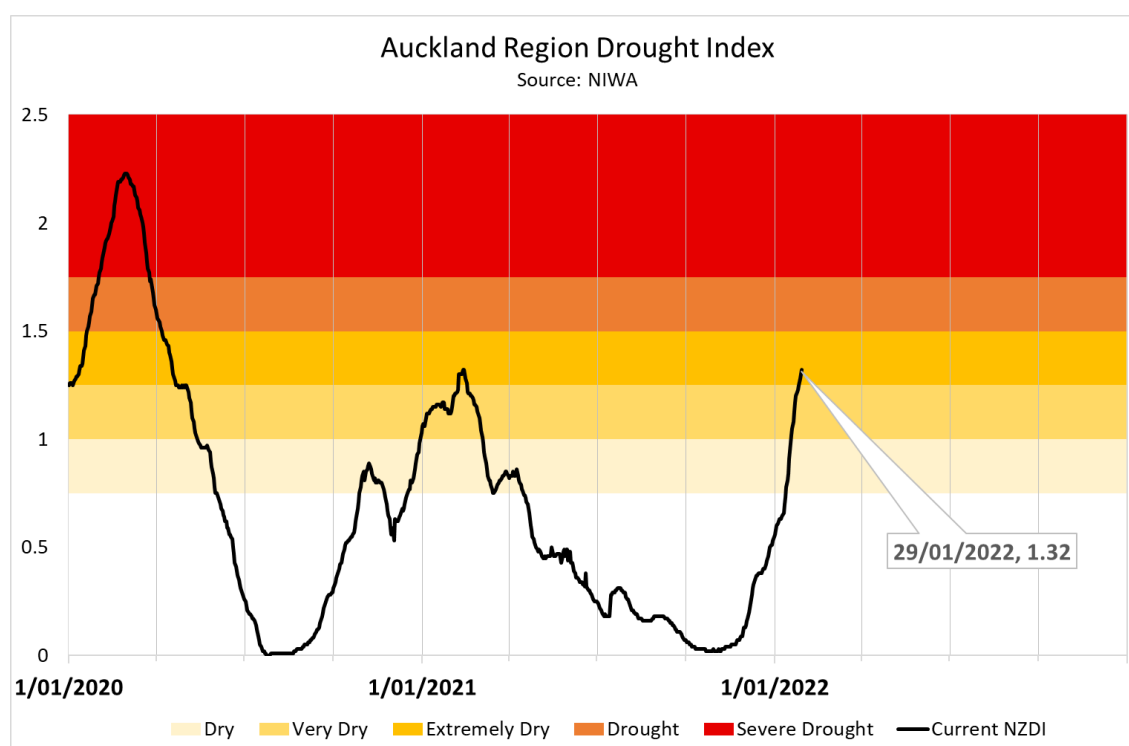


Figure 1: Auckland Region Drought Index 2020-2022 (data source: NIWA).

Rainfall

Rainfall for January 2022 was very low, ranging from 0 to 39mm with a regional average of 11mm, approximately 15% of long-term regional average (Figure 2).

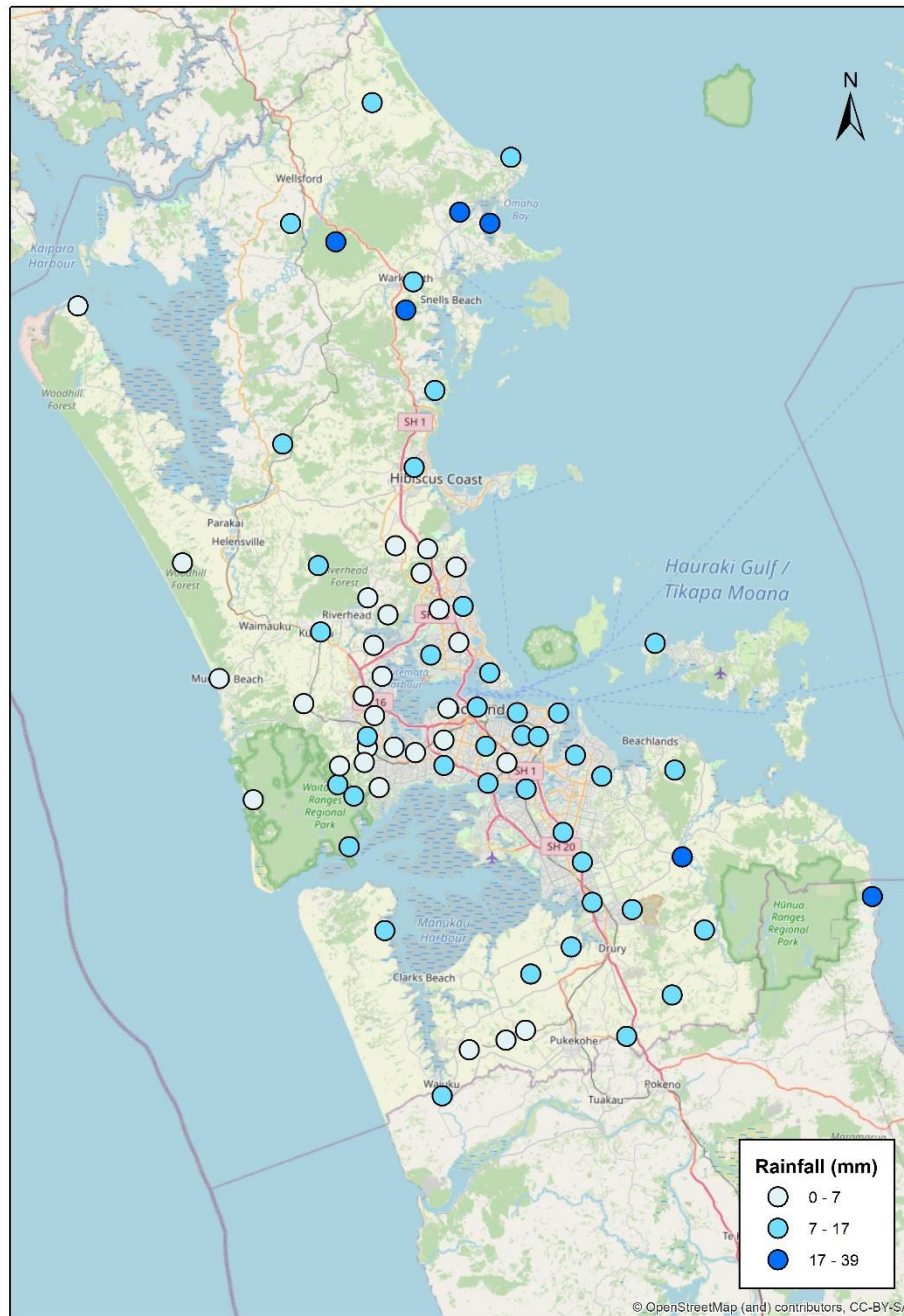


Figure 2: Total rainfall (mm) for January 2022.

Soil moisture

Soil moisture currently ranges from Normal to Very Low status, with most sites exhibiting a drop in soil moisture levels. Soil moisture sites are shown in Figure 3.

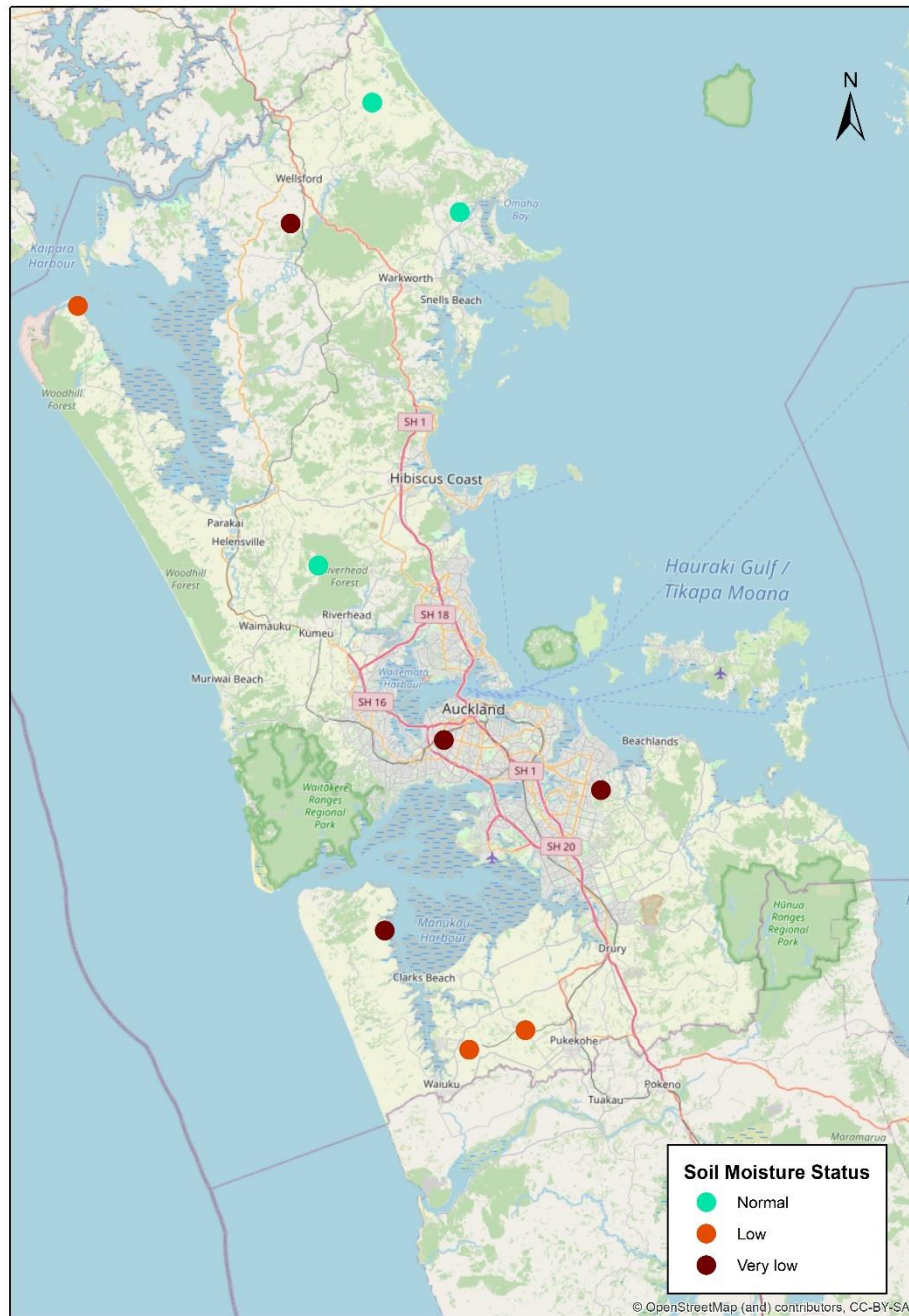


Figure 3: Soil moisture category relative to long-term statistics on 1 February 2022.

River flows

Fourteen river flow sites are now below the mean annual low flow (MALF), 12 of which are below the Unitary Plan default minimum flow of 85% MALF. The locations of sites and the flow relative to MALF are shown in Figure 4.

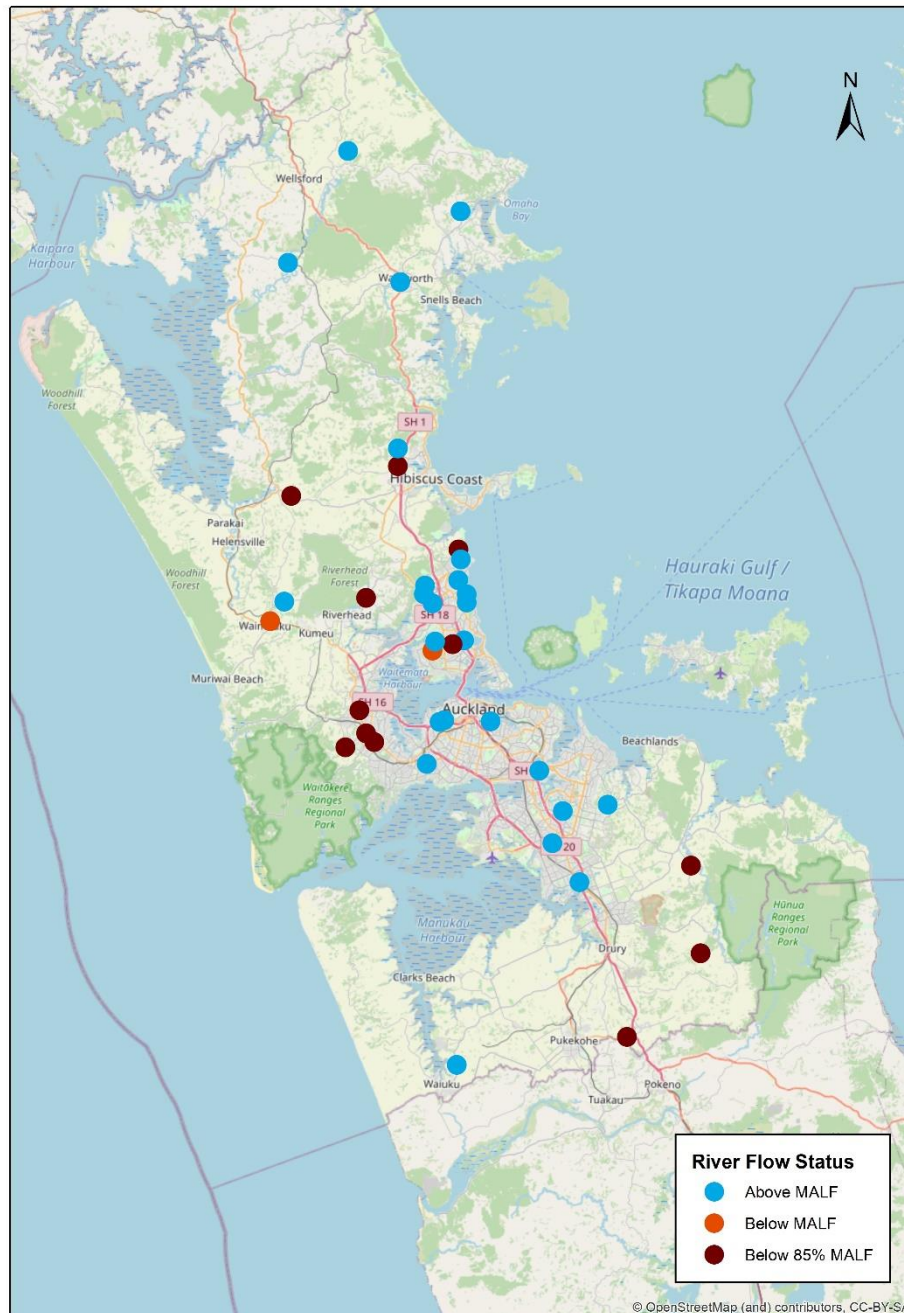


Figure 4: River flow on 1 February 2022 relative to the mean annual low flow (MALF).

Aquifer water levels

Most groundwater levels have dropped in recent weeks. Most aquifers in the south are at a Low or Very Low status for this time of year. Most of the aquifers in the Low and Very Low categories are deep Waitematā sandstones and Kaawa sand/shellbeds which respond slowly to rainfall recharge. Groundwater monitoring sites and groundwater level category are shown in Figure 5.

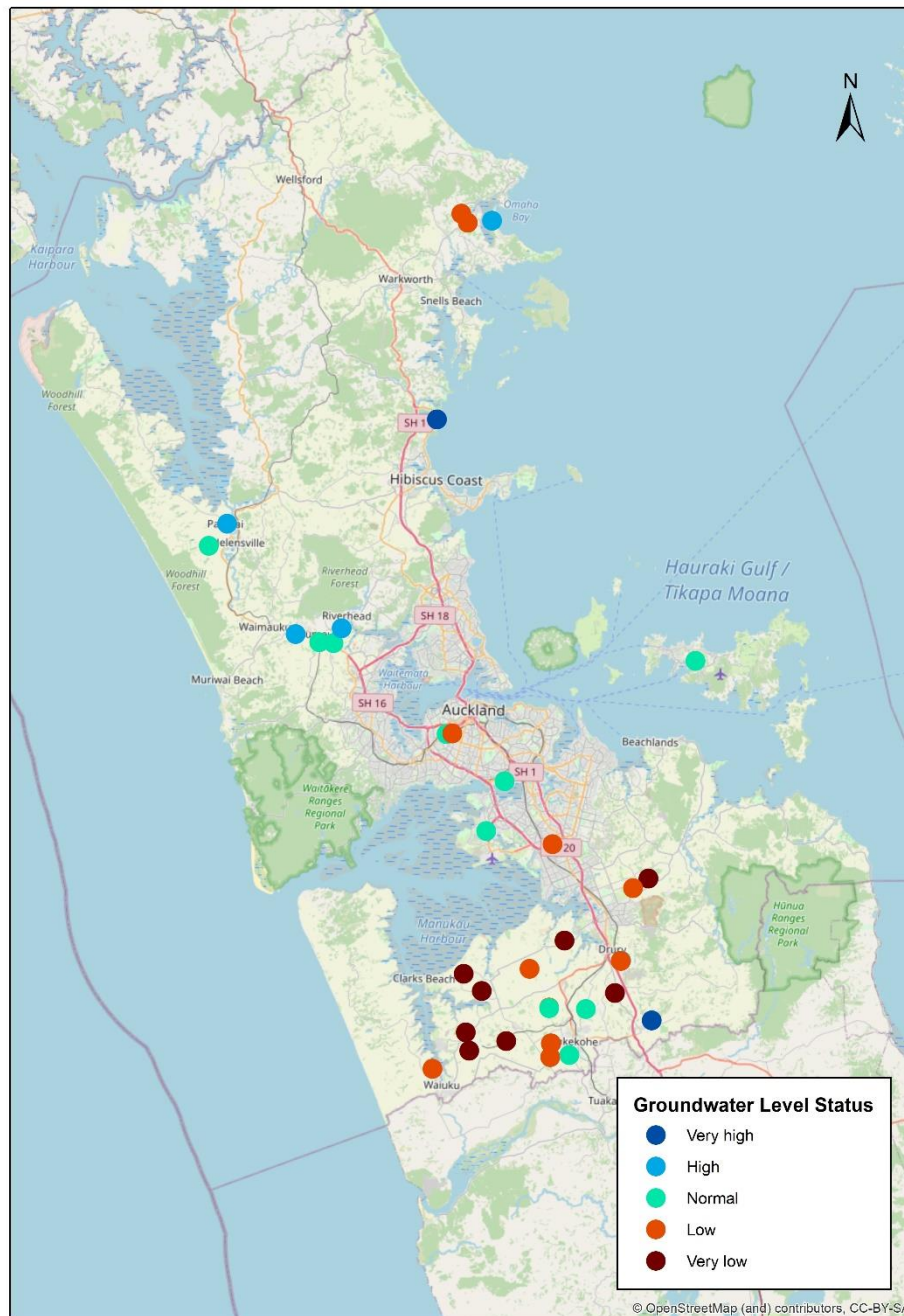


Figure 5: Groundwater levels relative to long-term statistics for 1 February 2022.

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.

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