

Issued
7 April
2021

RIMU Hydrology Situation Report

Research and
Evaluation Unit

RIMU



Rainfall | Soils | Rivers | Aquifers

Regional summary for 31 March to 7 April 2021

Rainfall was recorded at all sites in the region. Several sites in the north recorded 20mm or greater. Soil moisture has been mostly stable in the normal range, but two sites in the north were low and one site in the south was very low. Several of the larger river systems remain at lower levels. Fourteen river flow sites are currently below mean annual low flow (MALF), 10 of which are below the AUP guideline minimum flow of 85% MALF. Groundwater levels remain at similar levels to the last report. Low groundwater levels persist in deep aquifers and those aquifers which respond slowly to rainfall, most of which are in Franklin and are important sources for irrigation.

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 0.83 (4 April 2021), within the first NZDI category of Dry (0.75-1.00). A chart of the NZDI for the Auckland region is shown in Figure 1.

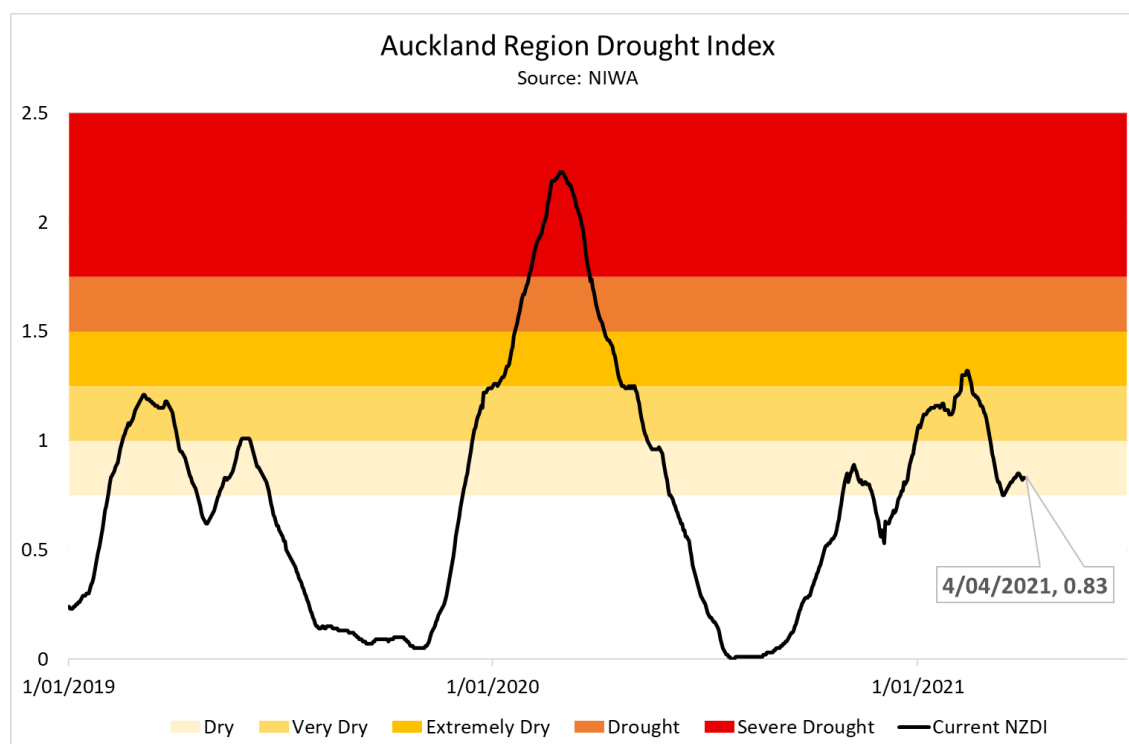


Figure 1: Auckland Region Drought Index 2019-2021 (data source: NIWA).

Rainfall

Rainfall for the period 31 March to 7 April ranged from 6 to 45mm. Several sites in the north recorded rainfall of 20mm or greater whereas most sites in the south recorded less than 20mm (Figure 2).

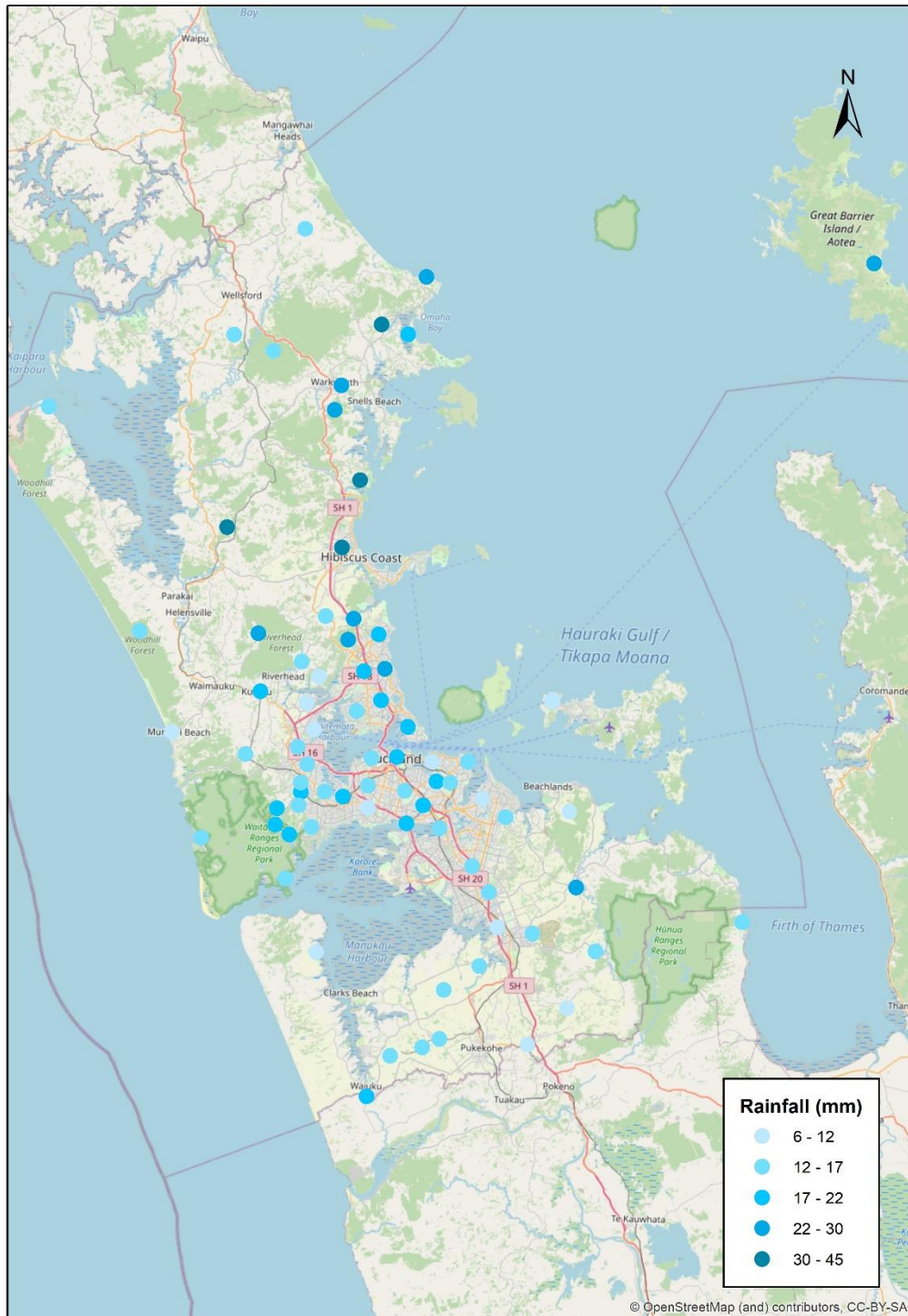


Figure 2: Total rainfall (mm) for the period 31 March to 7 April 2021.

Soil moisture

Soil moisture is in the normal range at most sites. Two sites in the north are at low levels and one site in the south is at a very low soil moisture level (Figure 3).

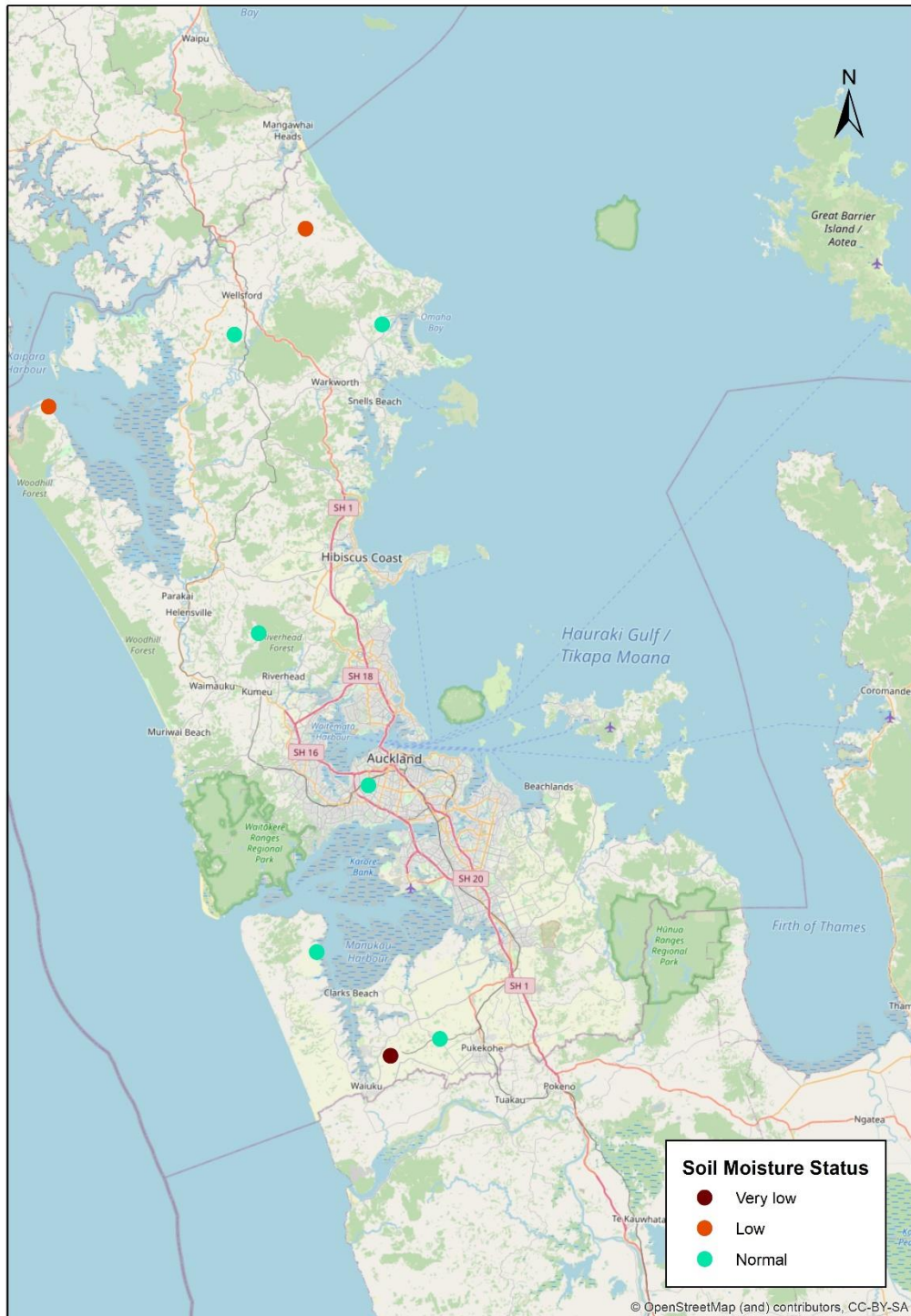


Figure 3: Current soil moisture category relative to long-term statistics for 7 April 2021.

River flows

Fourteen sites are below the MALF and 10 sites are below 85% MALF, which is the default guideline minimum flow in the Auckland Unitary Plan (AUP). The locations of sites and the flow relative to MALF are shown in Figure 4.

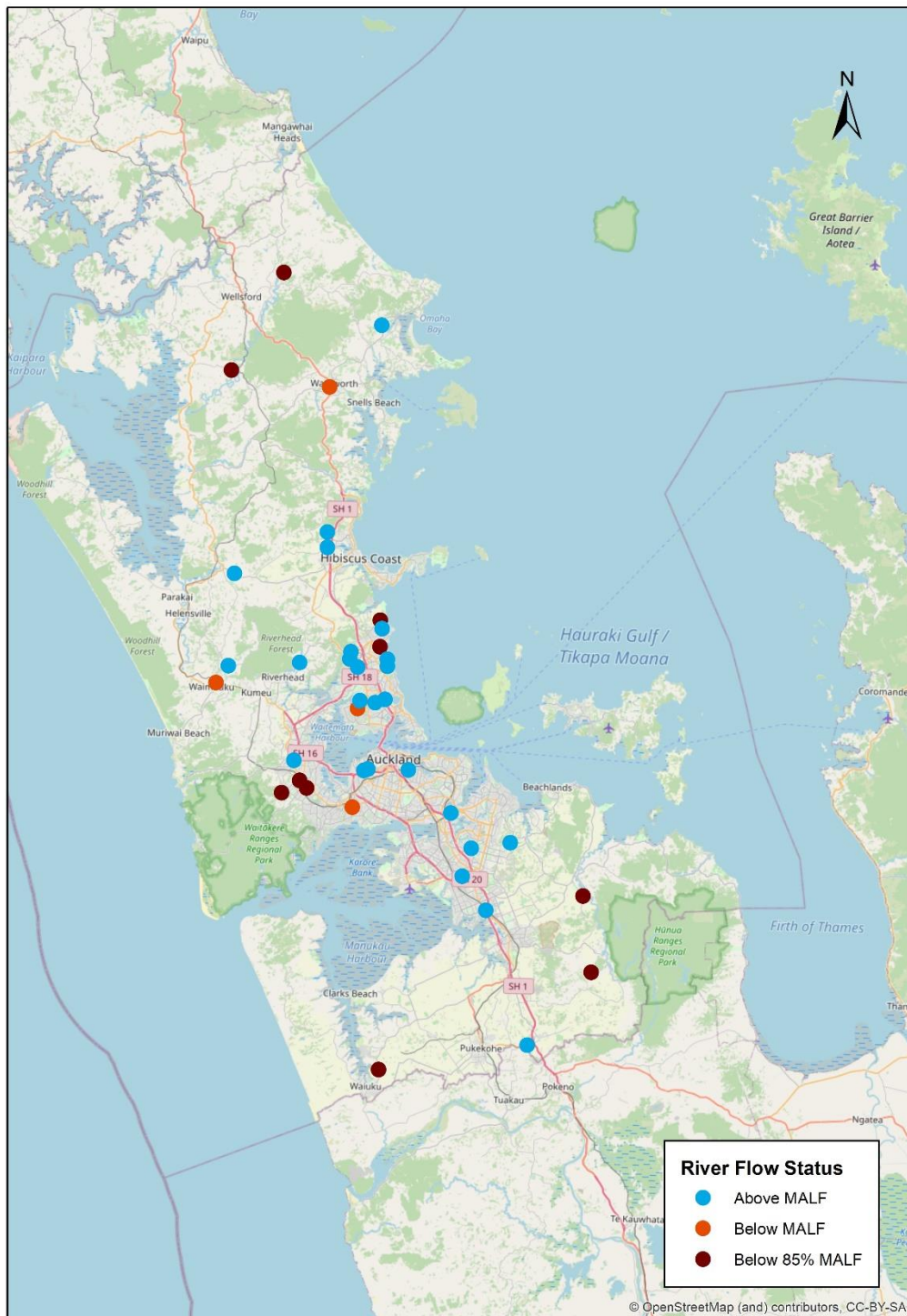


Figure 4: River flow on 7 April 2021 relative to the mean annual low flow (MALF).

Aquifer water levels

Deep aquifers in the Waitematā Group, Waiheke greywacke, and Kaawa Formation rocks remain at low levels. Low groundwater levels are also consistently present in aquifers with high irrigation demand, particularly in Franklin. Groundwater monitoring sites and groundwater level category are shown in Figure 5.

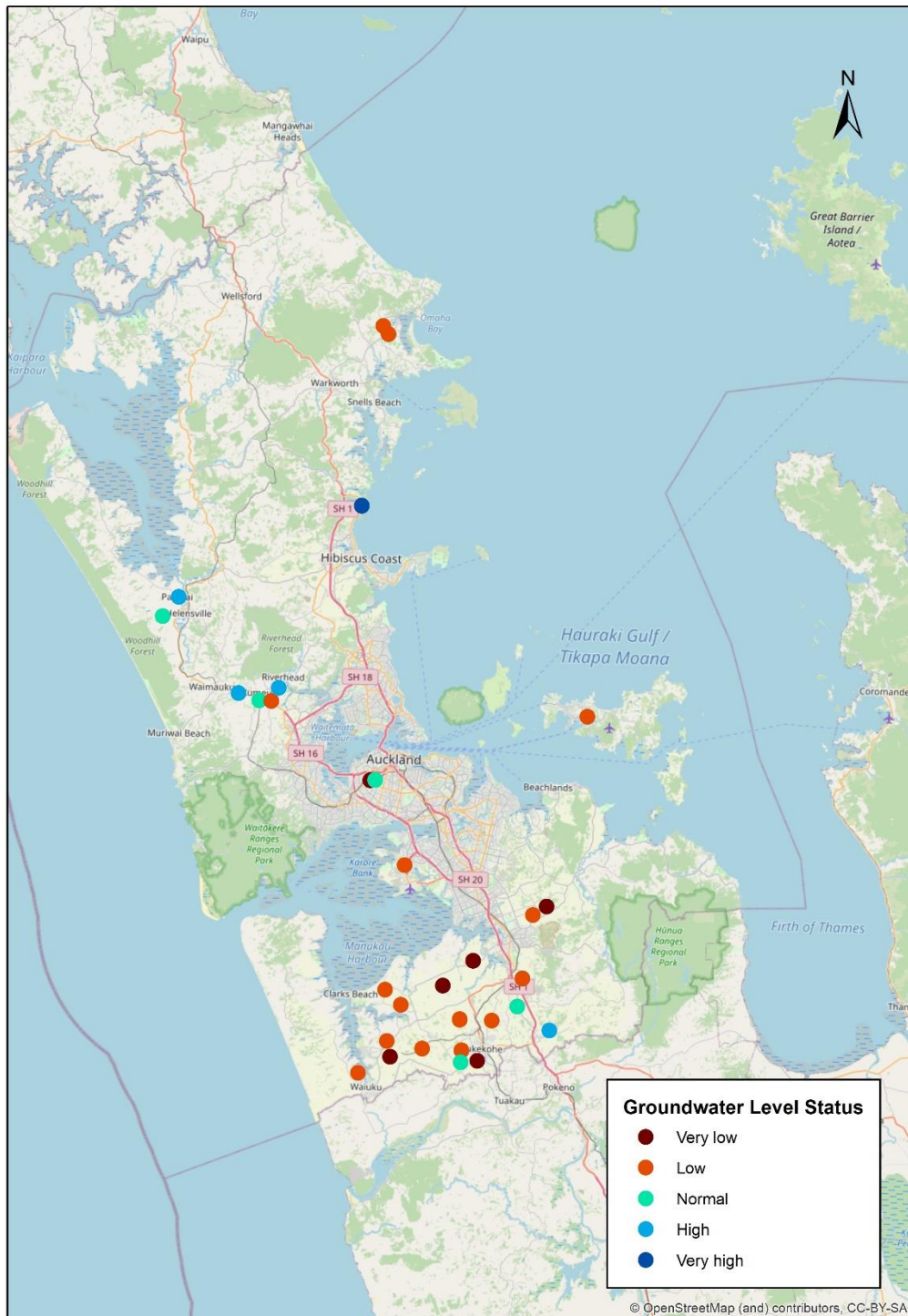


Figure 5: Groundwater levels relative to long-term statistics for 7 April 2021.

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.

Primary contact

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