

Issued
8 March
2021

RIMU Hydrology Situation Report

Research and
Evaluation Unit

RIMU



Rainfall | Soils | Rivers | Aquifers

Regional summary for 1-8 March 2021

Rainfall varied throughout the region this week, but all sites recorded rainfall. Most sites received between 20-30mm, but rainfall in excess of 50mm was recorded in northern, western, and southern sites. Soil moisture is normal in most locations with only one site near Waiuku below the normal range. River flows are higher than last week with seven sites remaining below the mean annual low flow (MALF), three of which are below 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 0.98 (5 March 2021), dropped into the first NZDI category of Dry (0.75-1.00). A chart of the NZDI for the Auckland region is shown in Figure 1.

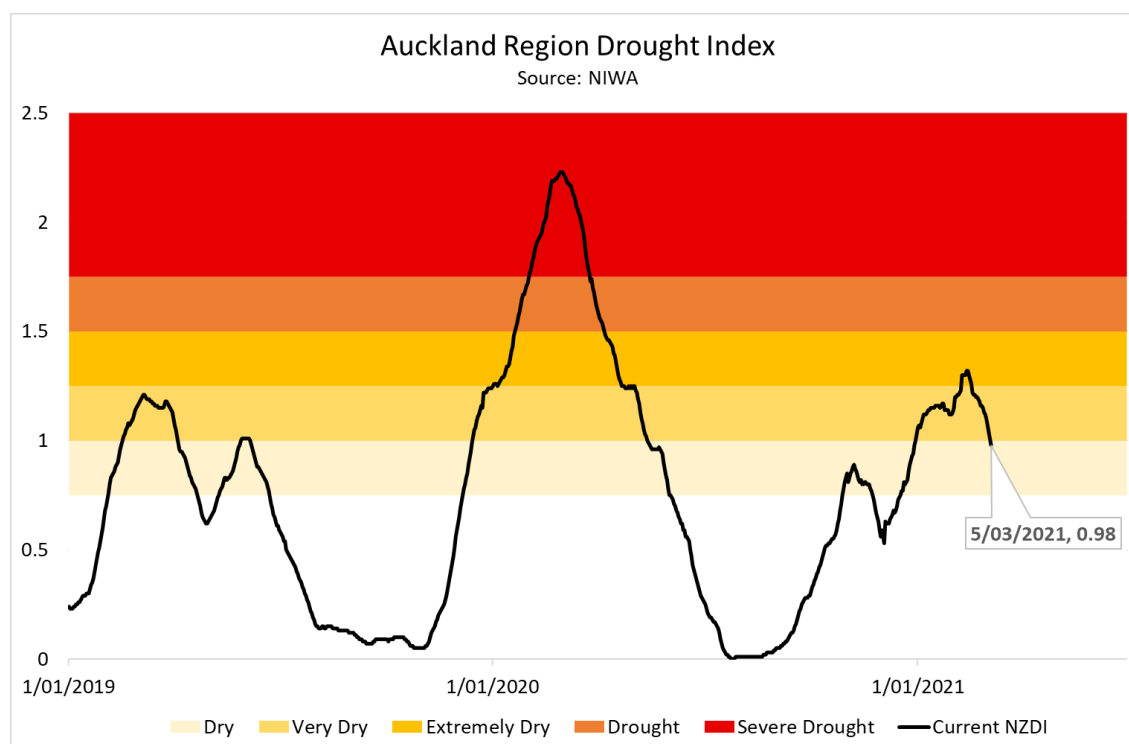


Figure 1: Auckland Region Drought Index 2019-2021 (data source: NIWA).

Rainfall

Rainfall for the week 1-8 March ranged from 16 to 92mm. Most sites recorded between 20 and 30mm with several sites in the north, west, and south exceeding 50mm (Figure 2).

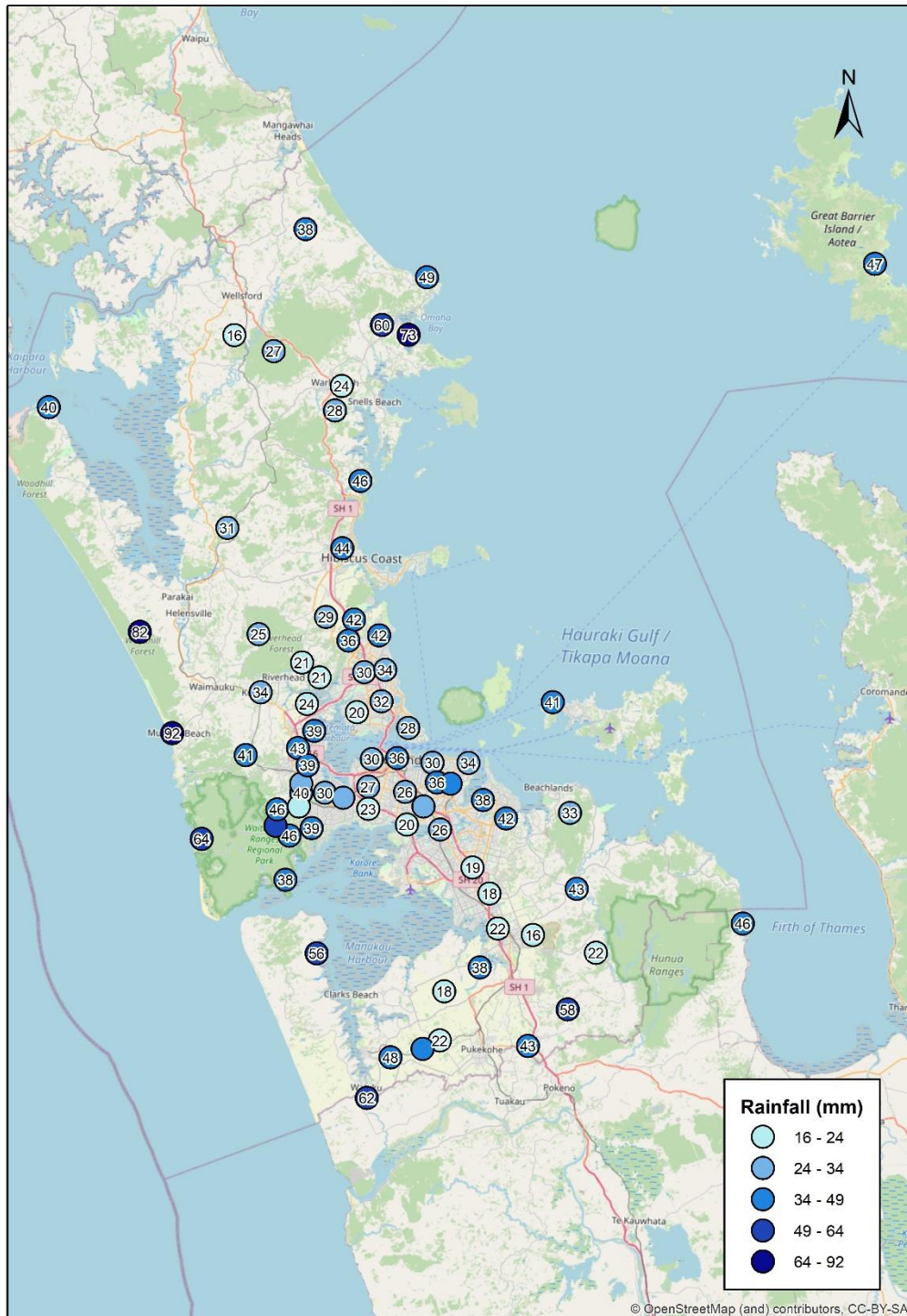


Figure 2: Total rainfall (mm) for the week of 1-8 March 2021.

Soil moisture

Soil moisture increased slightly at most sites and all but one site near Waiuku are in the normal range or higher (Figure 3).

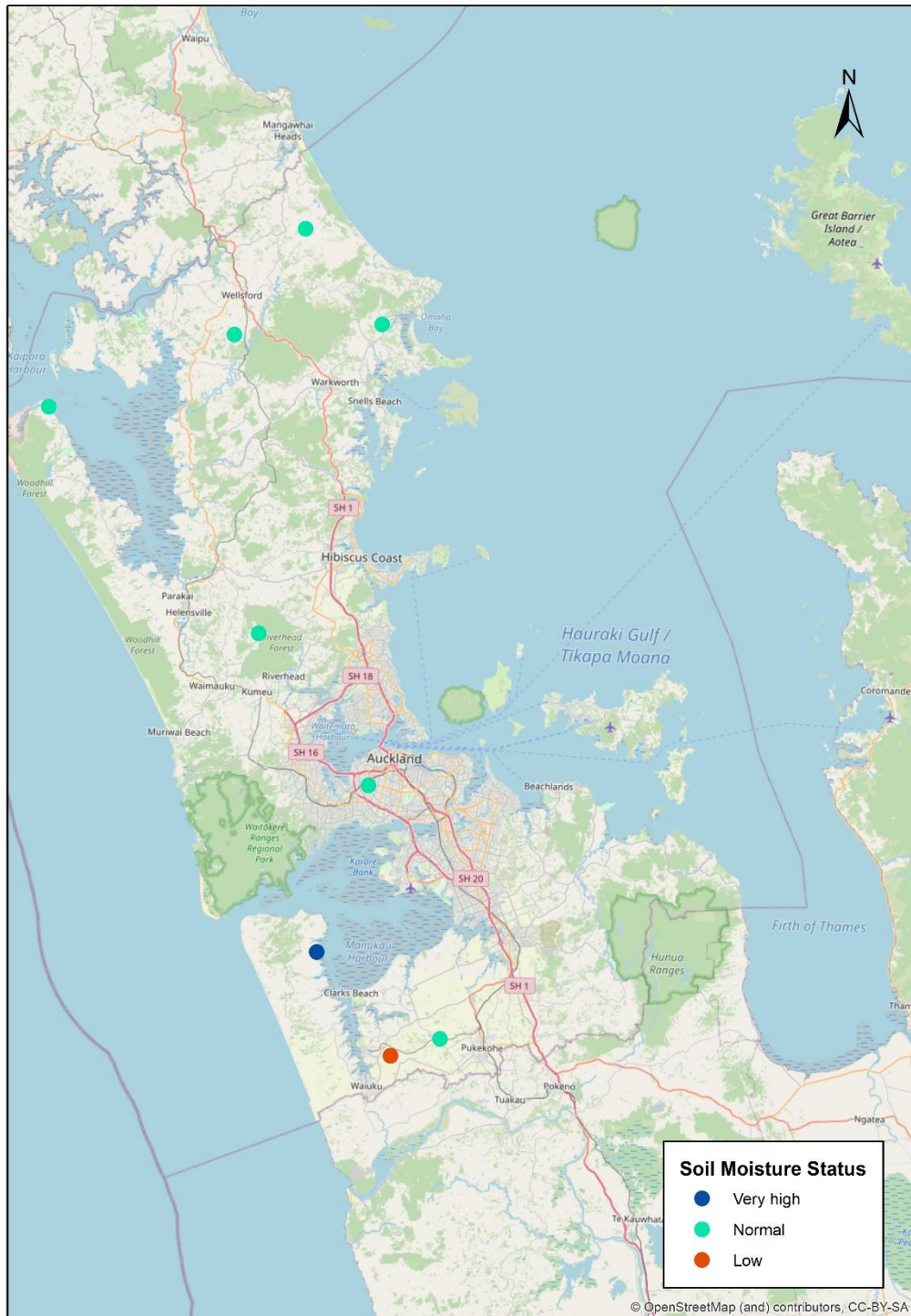


Figure 3: Current soil moisture category relative to long-term statistics for 8 March 2021.

River flows

River flows increased throughout the region following recent rains. Seven sites are below the mean annual low flow (MALF) with three of those sites 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.

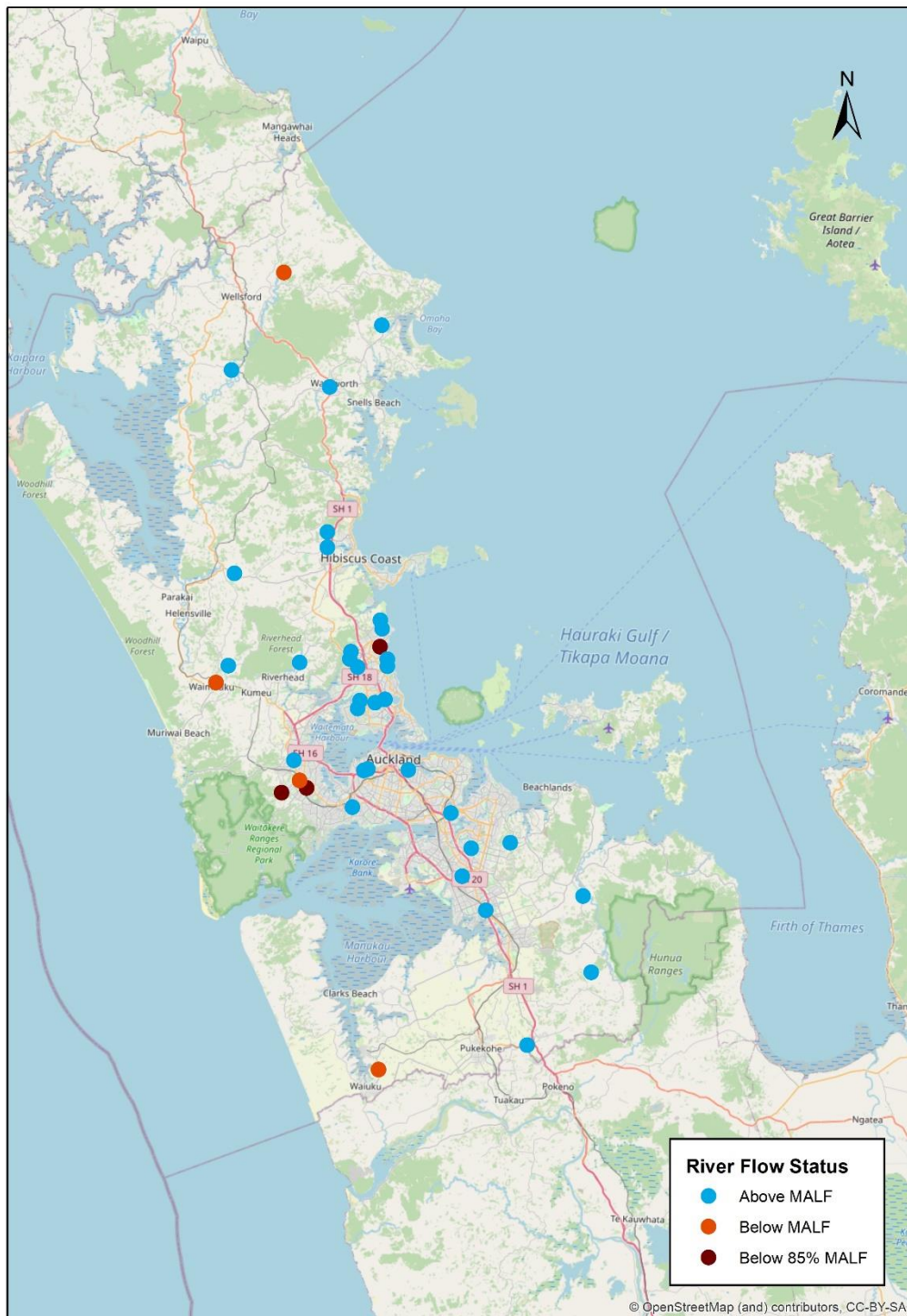


Figure 4: River flow on 8 March 2021 relative to the mean annual low flow (MALF).

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.

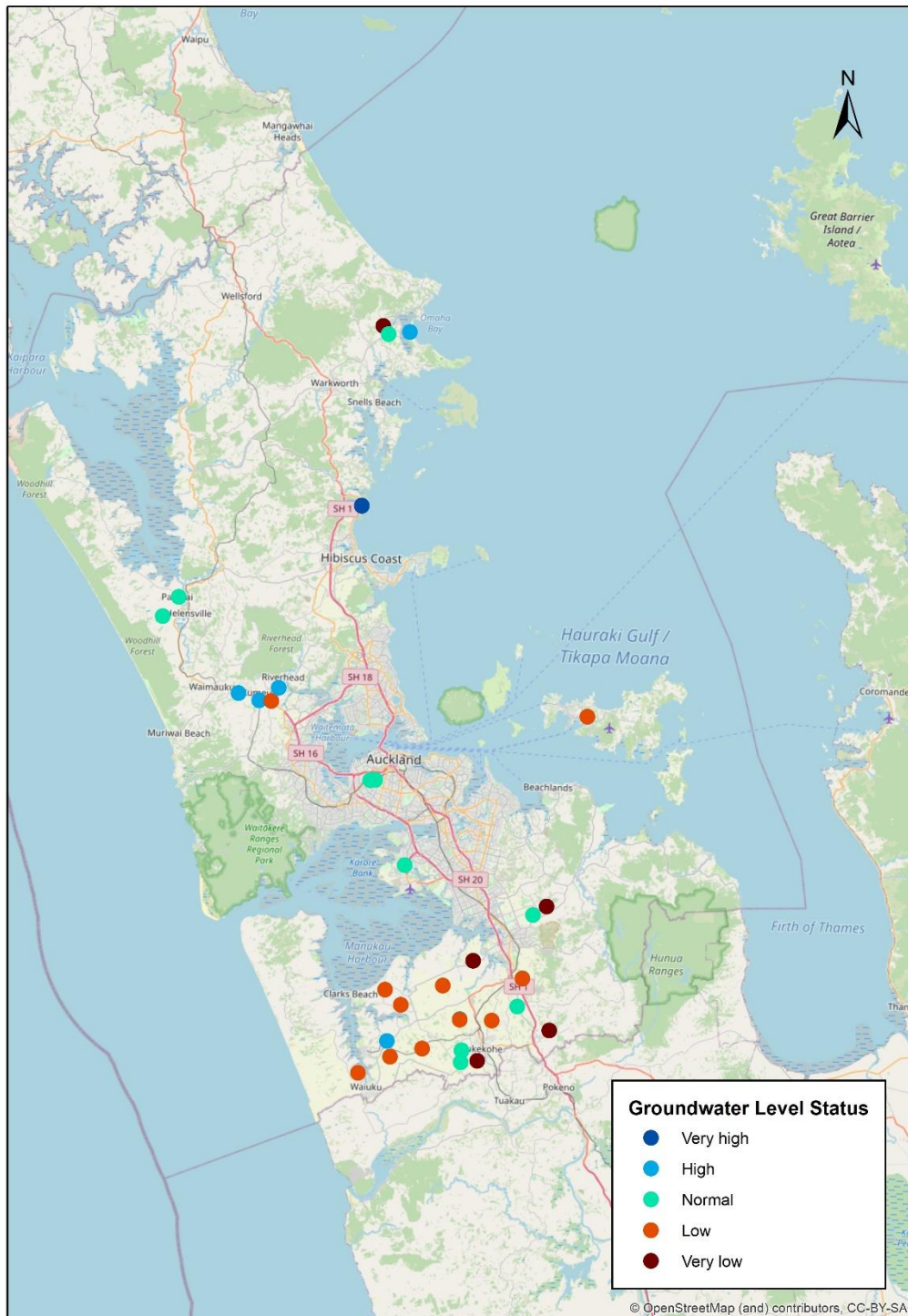


Figure 5: Groundwater levels relative to long-term statistics for 8 March 2021.

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.

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