

Issued  
22 March  
2021

# RIMU Hydrology Situation Report

Research and  
Evaluation Unit

RIMU



Rainfall | Soils | Rivers | Aquifers

## Regional summary for 15-22 March 2021

Rainfall was recorded at most sites in the region, but 75% of sites had 5mm or less rainfall for the week. Soil moisture dropped at most sites, with six sites in the normal range and three southern sites in the low or very low range. River flows dropped from last week with 16 sites below the mean annual low flow (MALF), 15 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 0.78 (19 March 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.

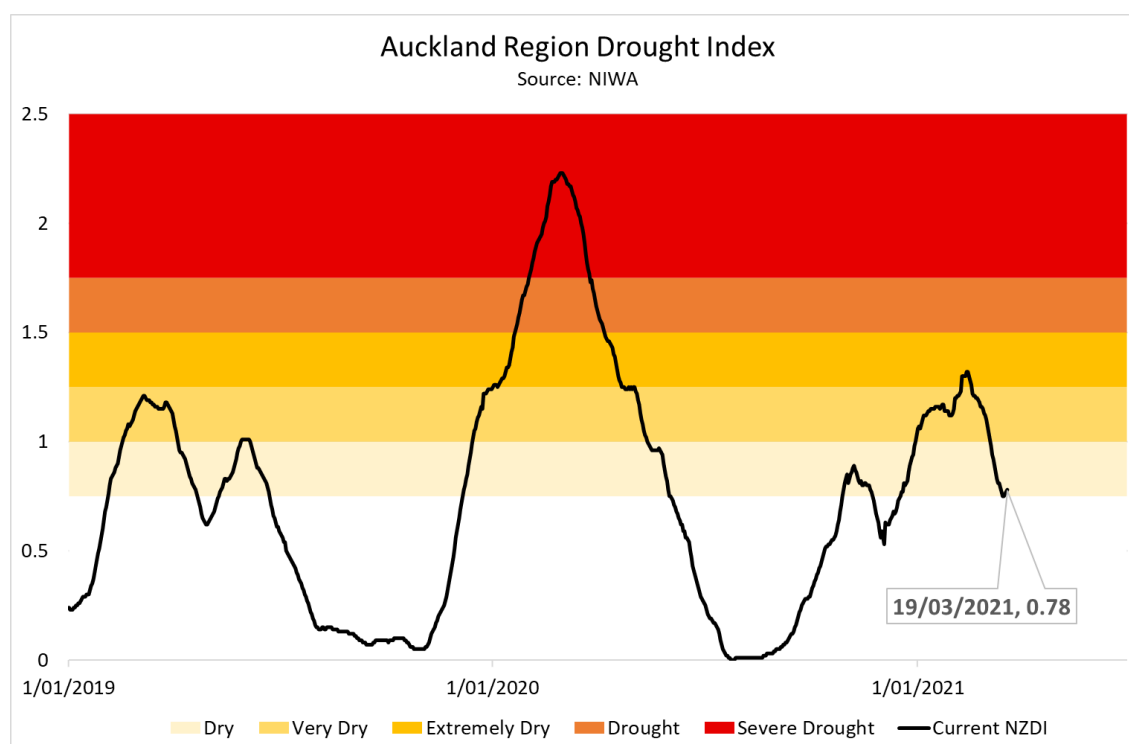


Figure 1: Auckland Region Drought Index 2019-2021 (data source: NIWA).

## Rainfall

Rainfall for the week 15-22 March ranged from 0 to 14mm. Only four sites recorded 10mm or greater total weekly rainfall (Figure 2).

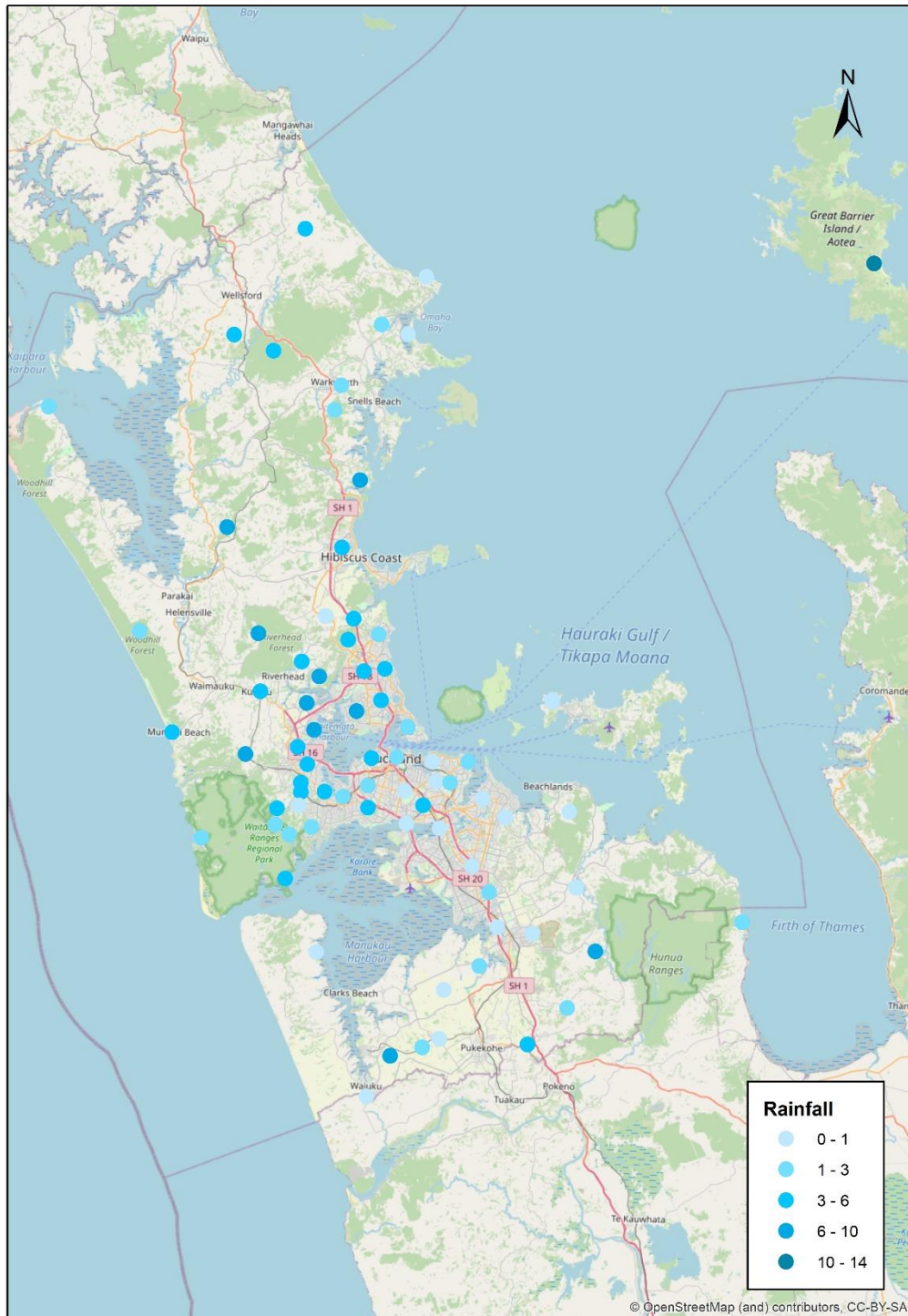


Figure 2: Total rainfall (mm) for the week of 15-22 March 2021.



## Soil moisture

Soil moisture decreased slightly at most sites. Three sites in the north-east dropped from high to normal soil moisture and three sites in the central and southern parts of the region are at low or very low soil moisture levels (Figure 3).

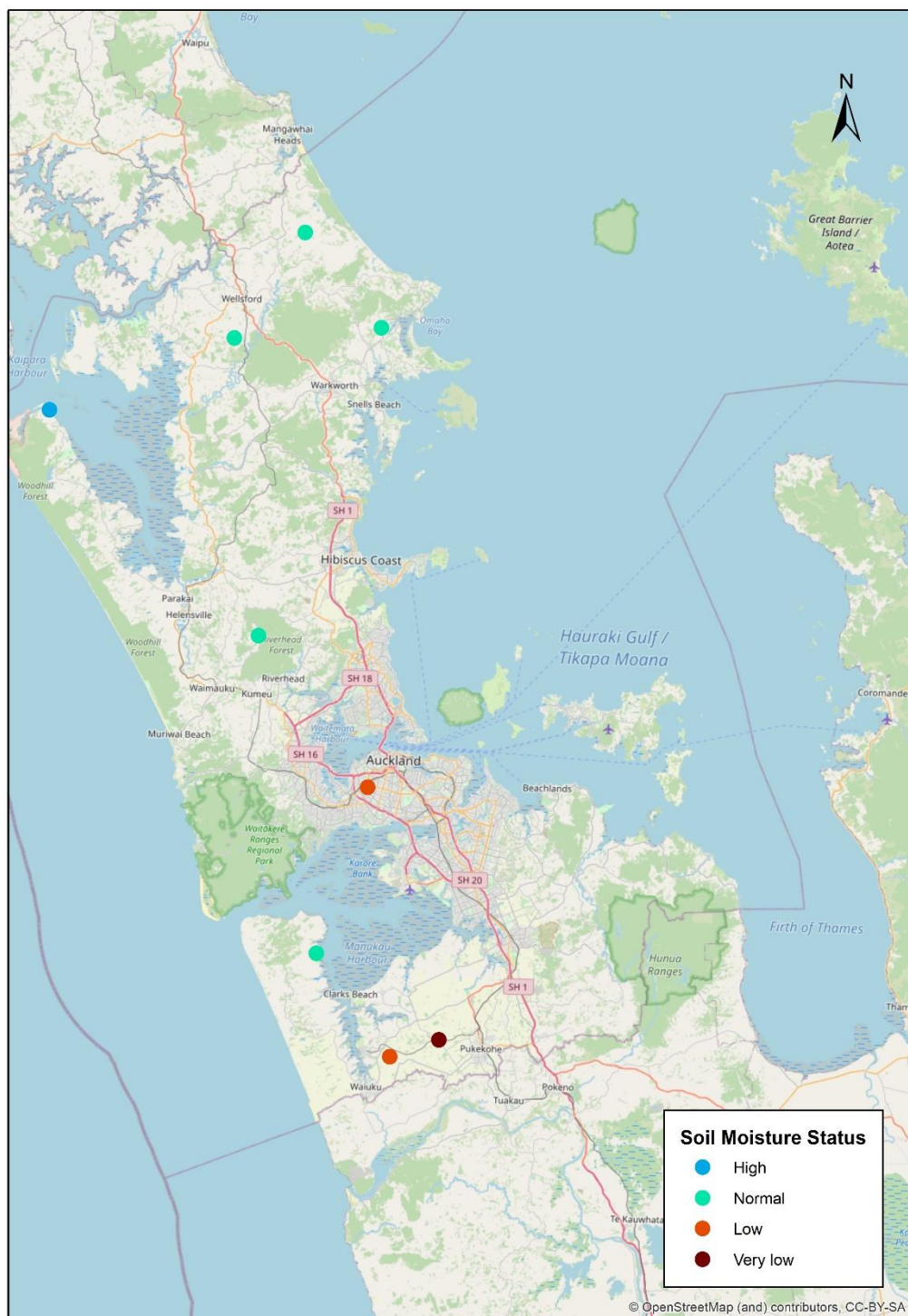


Figure 3: Current soil moisture category relative to long-term statistics for 22 March 2021.

## River flows

River flows are similar to last week. Smaller catchments draining to the east are generally at or above mean annual low flow (MALF) and larger rivers and those draining to the west coast are generally below MALF. Fifteen 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.

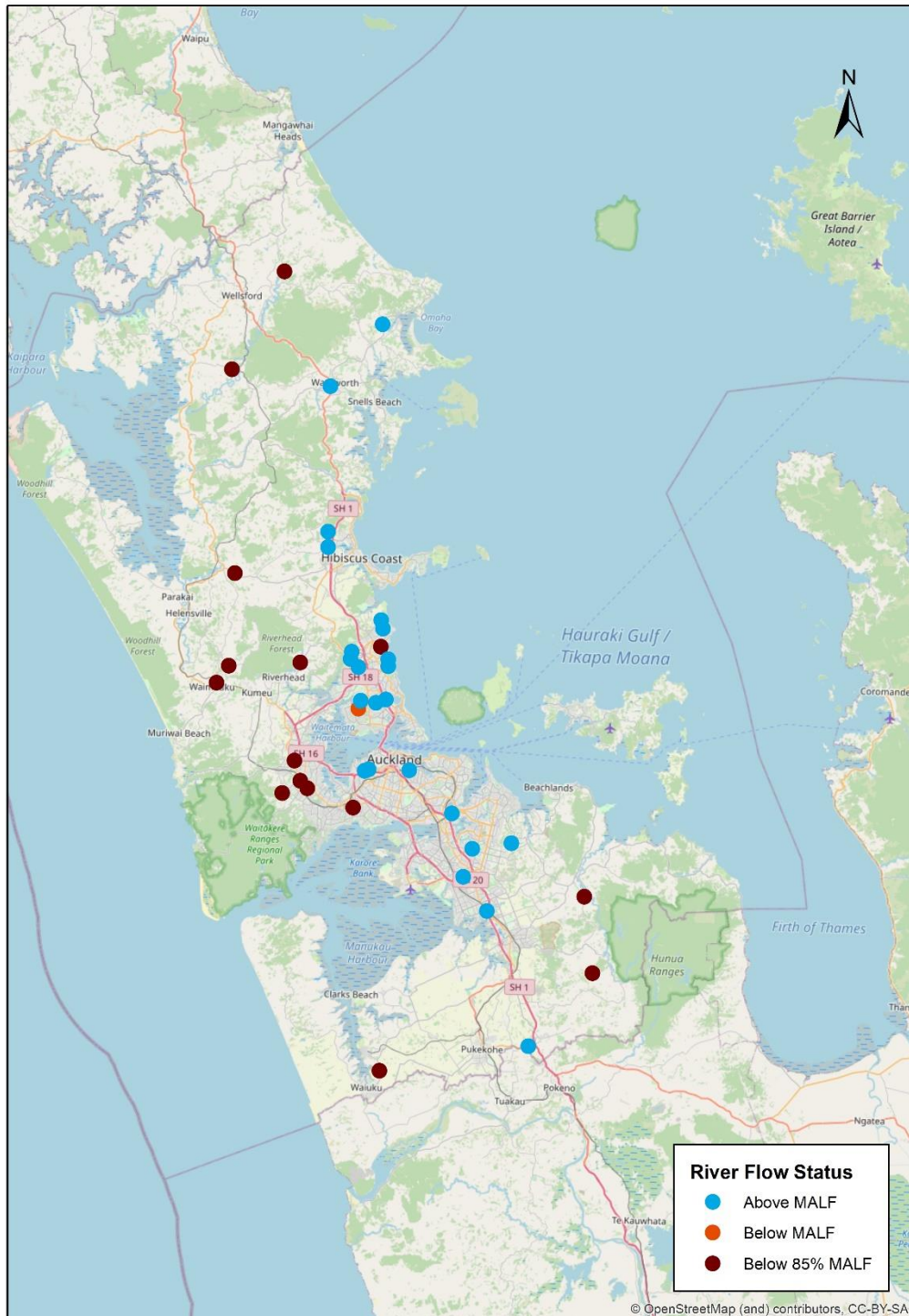


Figure 4: River flow on 22 March 2021 relative to the mean annual low flow (MALF).



## 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.

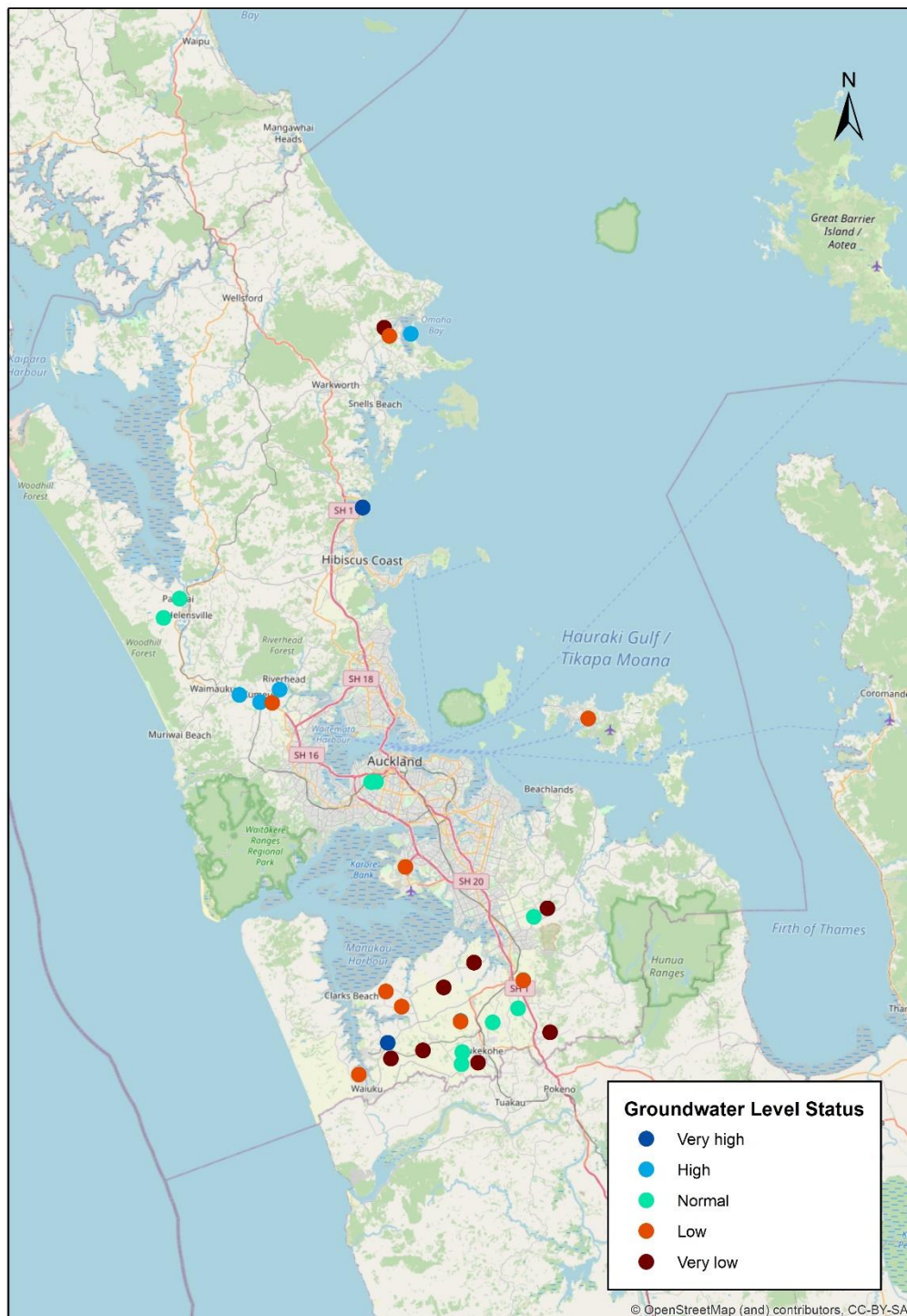


Figure 5: Groundwater levels relative to long-term statistics for 22 March 2021.

## 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](mailto:EnvironmentalData@aucklandcouncil.govt.nz).

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