Issued 5 May 2021

RIMU Hydrology Situation Report

Research and Evaluation Unit | RIMU | Auckland Council

Te Kaunihera o Tāmaki Makaurau

Rainfall | Soils | Rivers | Aquifers

Regional summary for April 2021

The New Zealand Drought Index for the Auckland Region dropped below the first category of Dry on 16 April and decreased throughout the month. The total rainfall for April was at or above the long-term average for most sites and the regional average total for April was 98mm. Soil moisture at all sites is within the normal range, except for one site in the north. Most rivers are above the mean annual low flow (MALF), except for the Hoteo River, Wairoa River, and some urban streams. 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 0.49 (2 May 2021), which is below the first NZDI category of Dry (0.75-1.00). A chart of the NZDI for the Auckland region is shown in Figure 1.

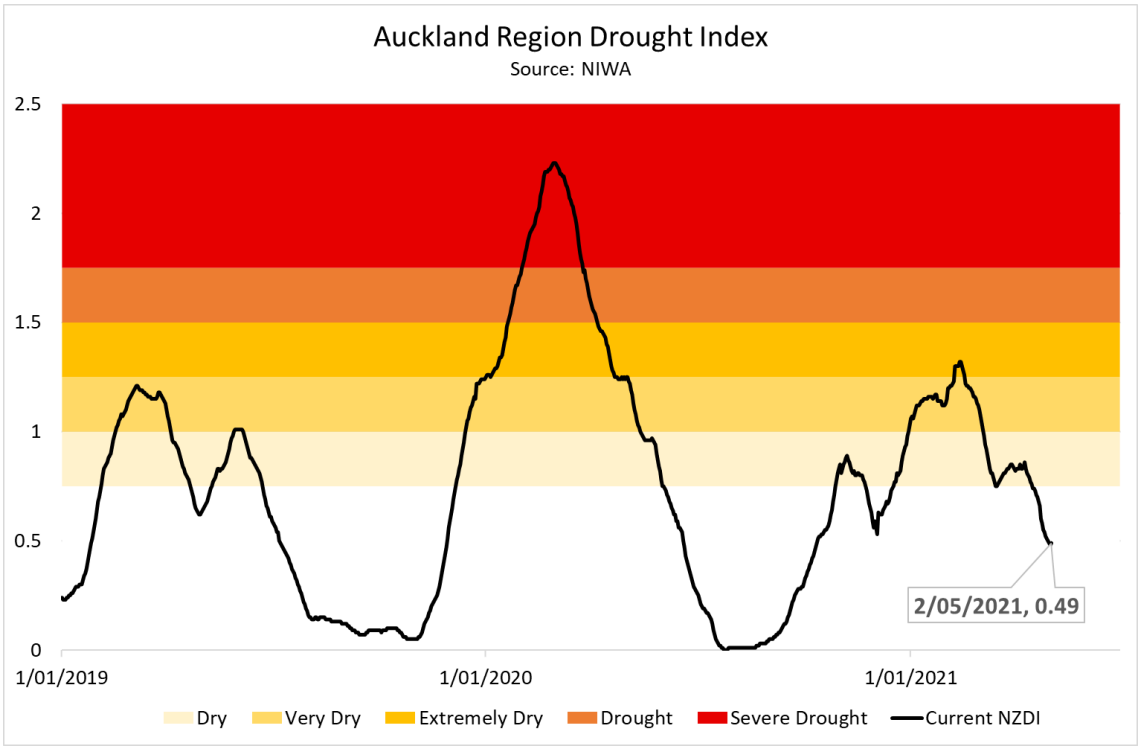

Figure 1: Auckland Region Drought Index 2019-2021 (data source: NIWA).

Rainfall

Rainfall for April ranged from 70 to 160mm with a regional average of 98mm. The highest monthly totals were in the north, west and south and the lowest monthly totals were in central Auckland (Figure 2).

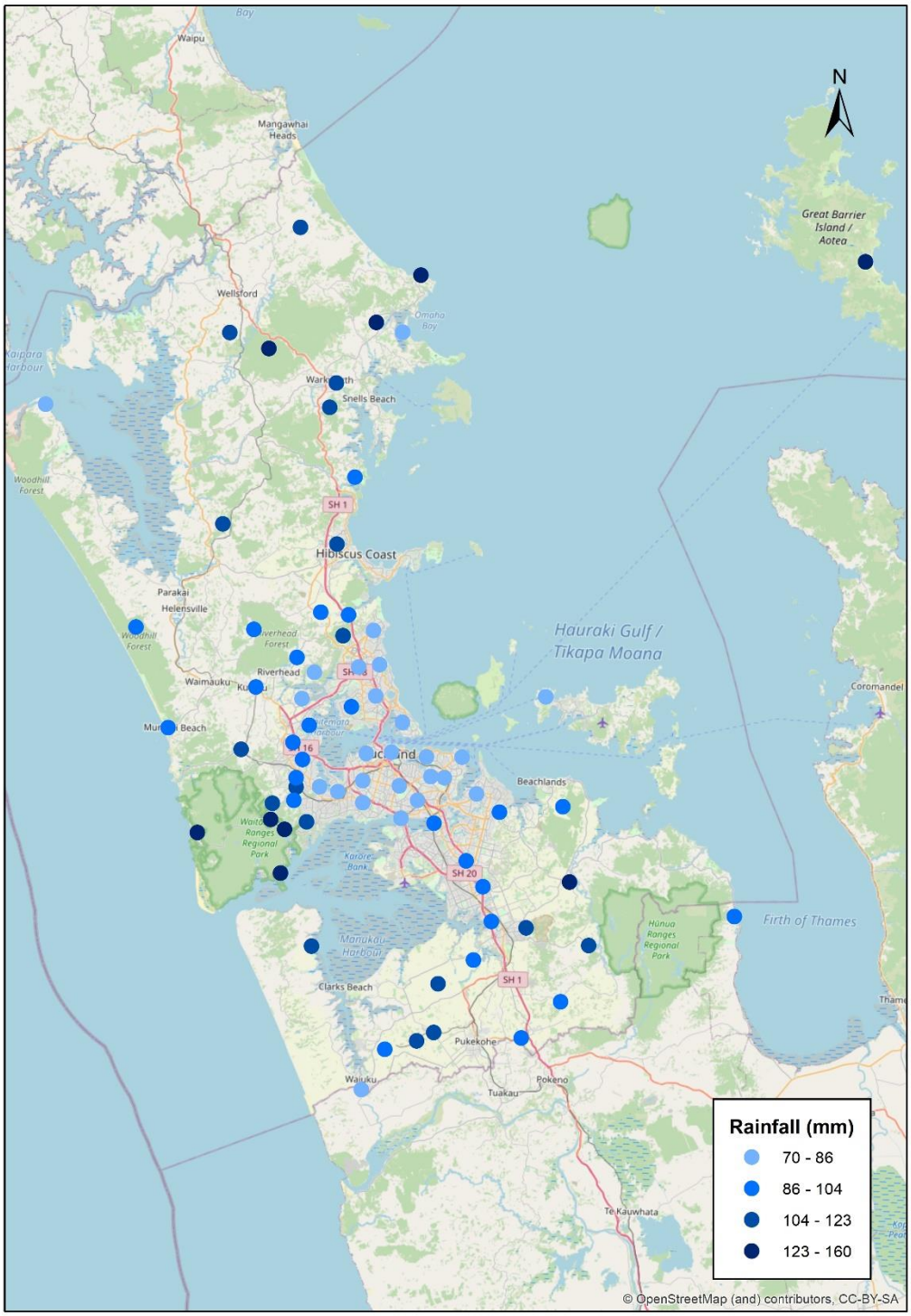

Figure 2: Total rainfall (mm) for April 2021.

Soil moisture

Soil moisture is in the normal range at all sites except near Tomarata in the north (Figure 3).

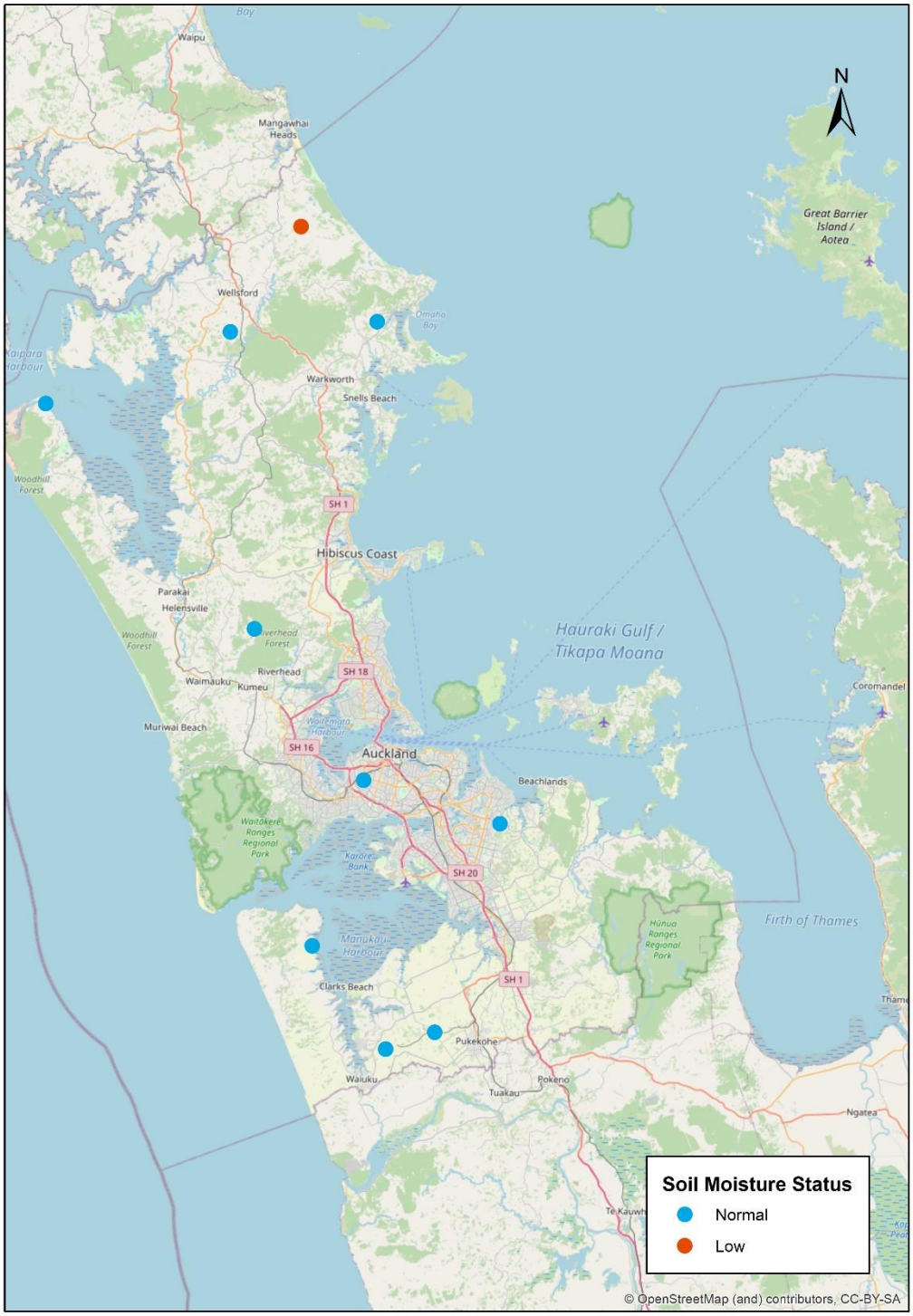

Figure 3: Current soil moisture category relative to long-term statistics for 5 May 2021.

River flows

Most sites are above the mean annual low flow (MALF), however some sites have dropped below the MALF, including the Hoteo River, some urban streams, and the Wairoa River. The locations of sites and the flow relative to MALF are shown in Figure 4.

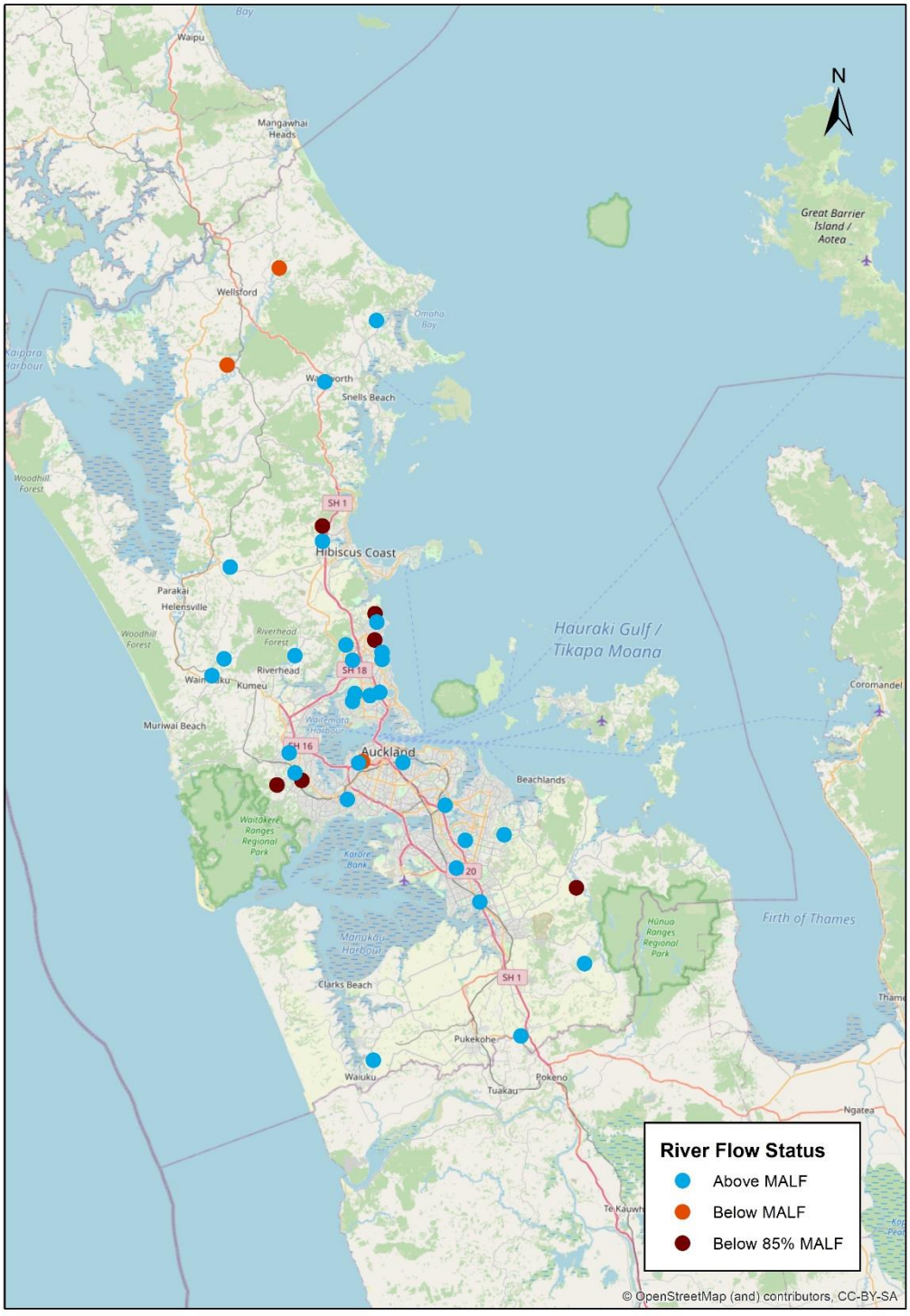

Figure 4: River flow on 5 May 2021 relative to the mean annual low flow (MALF).

Aquifer water levels

Deep aquifers in the Waitematā Group, Waiheke greywacke, and Kaawa Formation rocks remain at low levels. These aquifers are slow to recharge and low water levels are affected by drought conditions. 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.

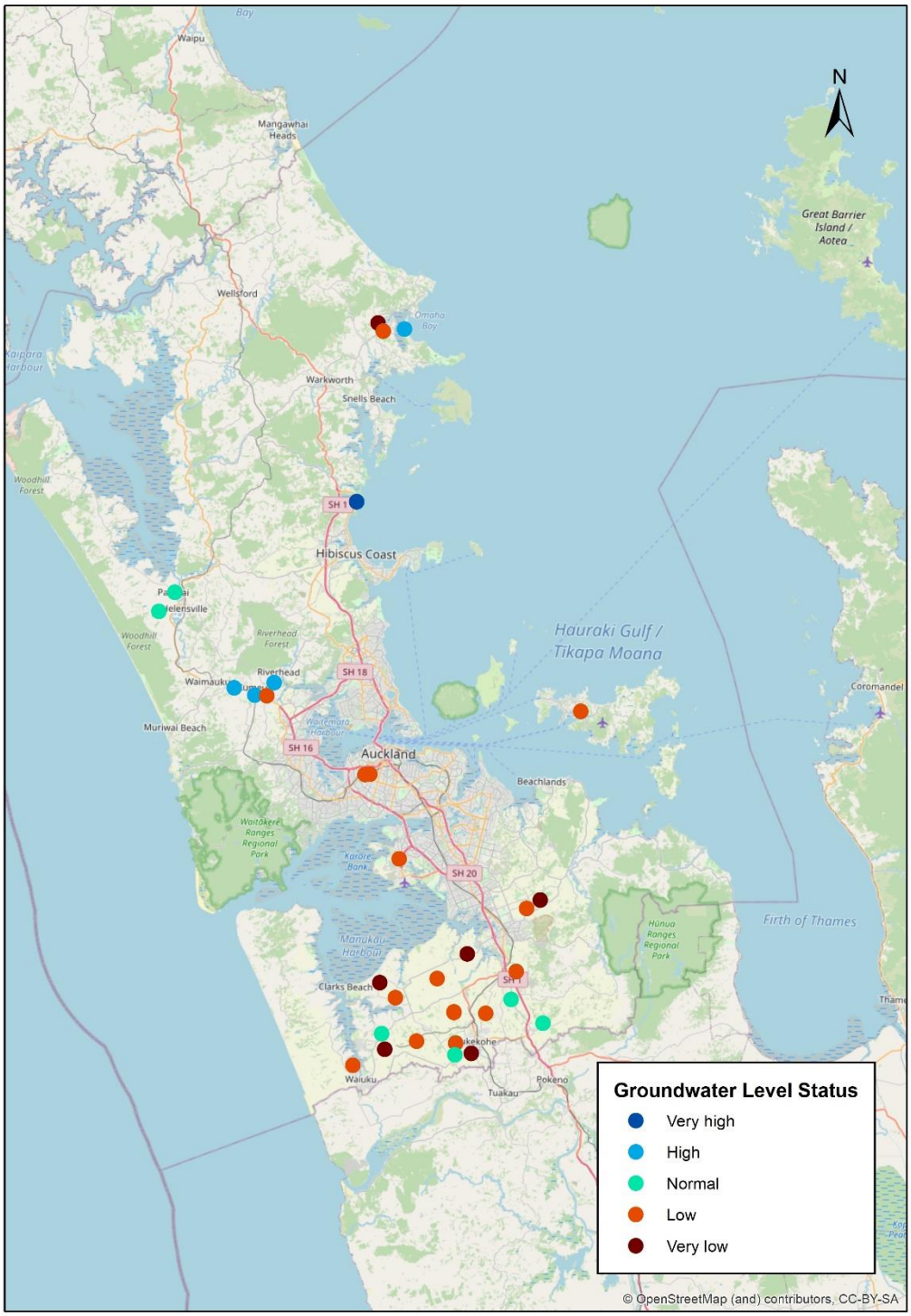

Figure 5: Groundwater levels relative to long-term statistics for 5 May 2021.

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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