Issued 16 February 2021

RIMU Hydrology Situation Report

Research and Evaluation Unit | RIMU | Auckland Council

Te Kaunihera o Tāmaki Makaurau

Rainfall | Soils | Rivers | Aquifers

Regional summary for 9-16 February 2021

The rain event on 15 February delivered approximately 20 to 80mm of rain, generally increasing from south to north. Weekly totals exceeded 60mm for much of the region. Soil moisture increased region-wide and all sites are in the normal or high range. River flows increased and all sites are above the mean annual low flow (MALF). Groundwater levels remain at similar levels to previous reports. Groundwater level increases were recorded in shallow aquifers which respond quickly to rainfall. Low groundwater levels persist in deep aquifers and those aquifers which respond slowly to rainfall.

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 (13 February 2021), which is within the third NZDI category of Extremely Dry (1.25-1.50). A chart of the NZDI for the Auckland region is shown in Figure 1. The most up-to-date NZDI does not account for the recent rains on 15/16 February.

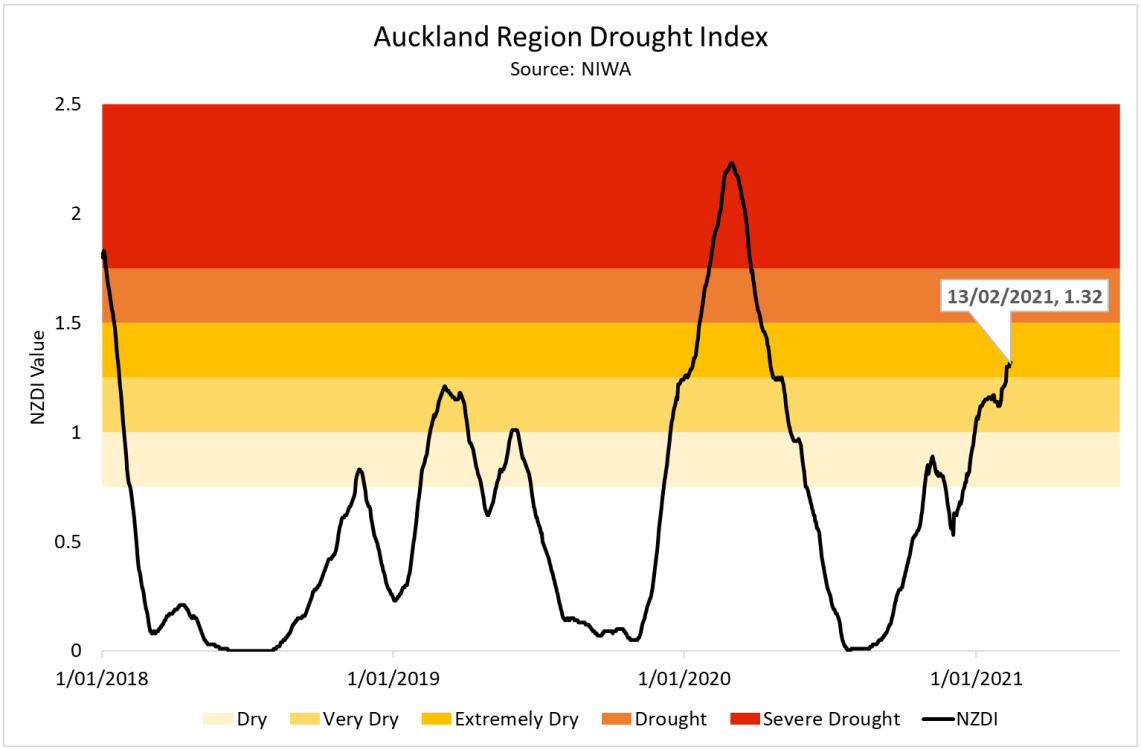

Figure 1: Auckland Region Drought Index 2018-2021 (data source: NIWA).

Rainfall

Moderate to heavy rainfall was recorded across the region from 15 and 16 February, with most sites recording more than 60mm in the last week (Figure 2).

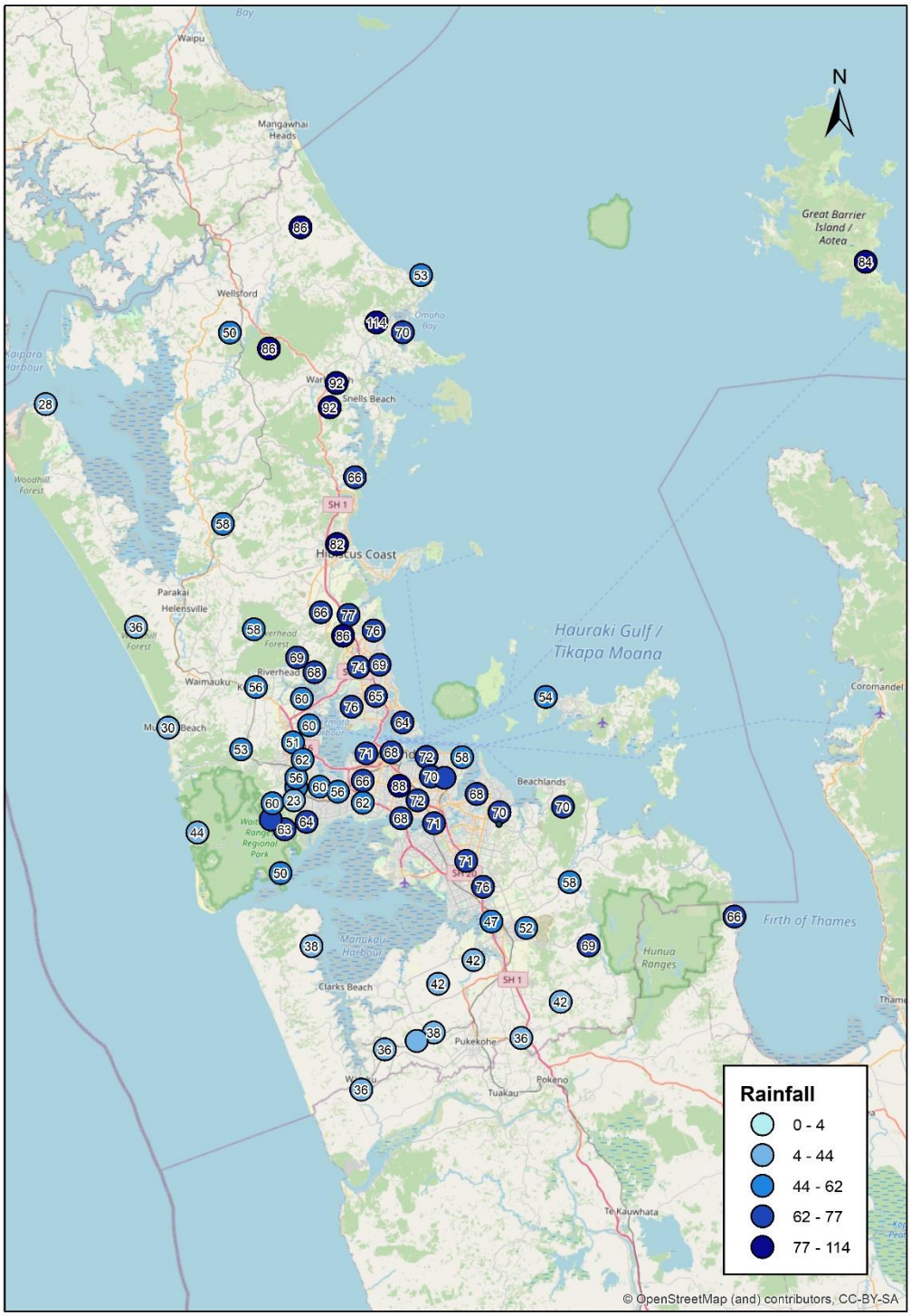

Figure 2: Total rainfall (mm) for the week of 9-16 February 2021.

Soil moisture

Soil moisture increased at all sites, with soil moisture levels in the normal to high range (Figure 3).

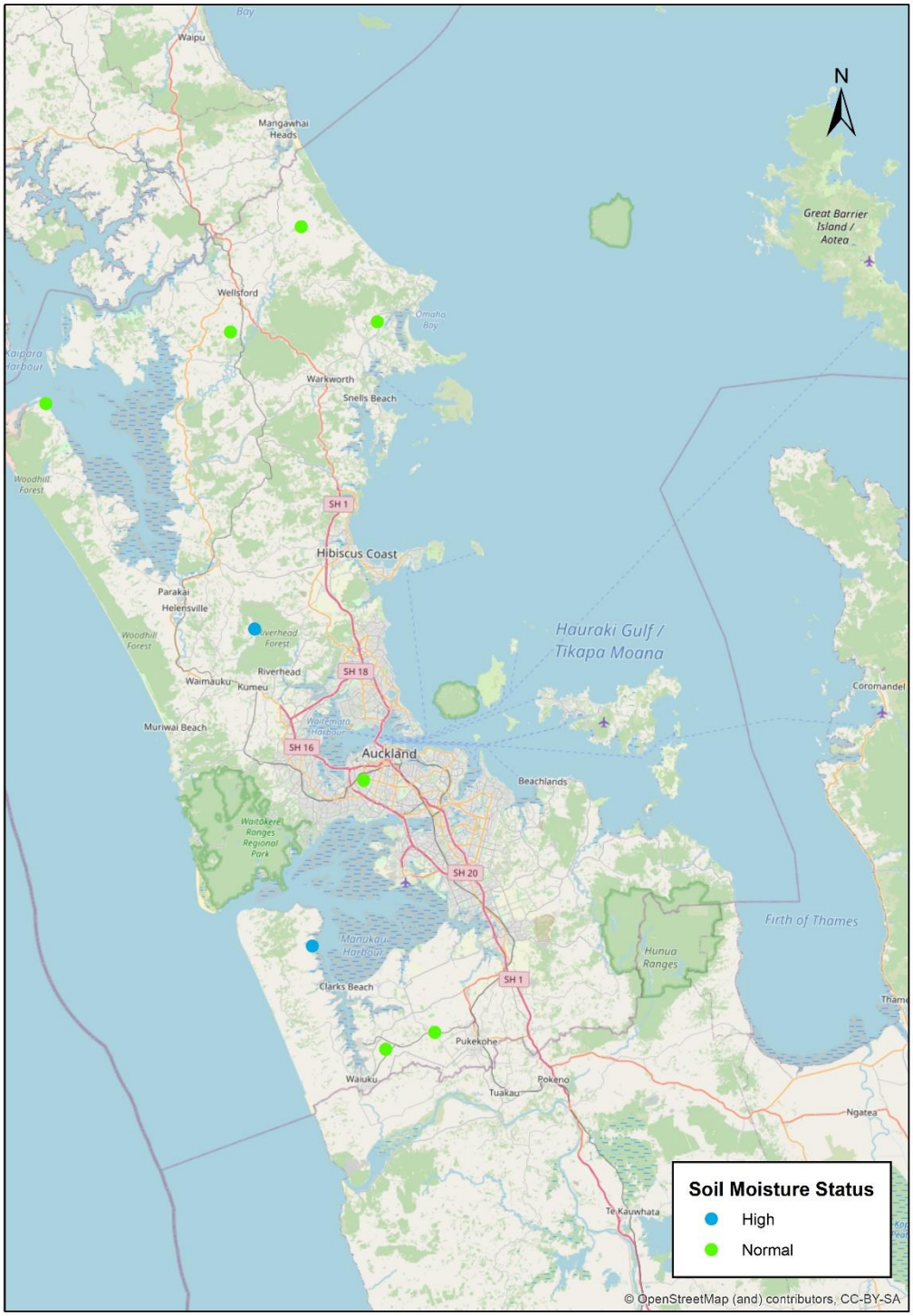

Figure 3: Current soil moisture category relative to long-term statistics for 16 February 2021.

River flows

River flows increased in response to the recent rainfall. All sites are above the mean annual low flow (MALF). The locations of sites and the flow relative to MALF are shown in Figure 4.

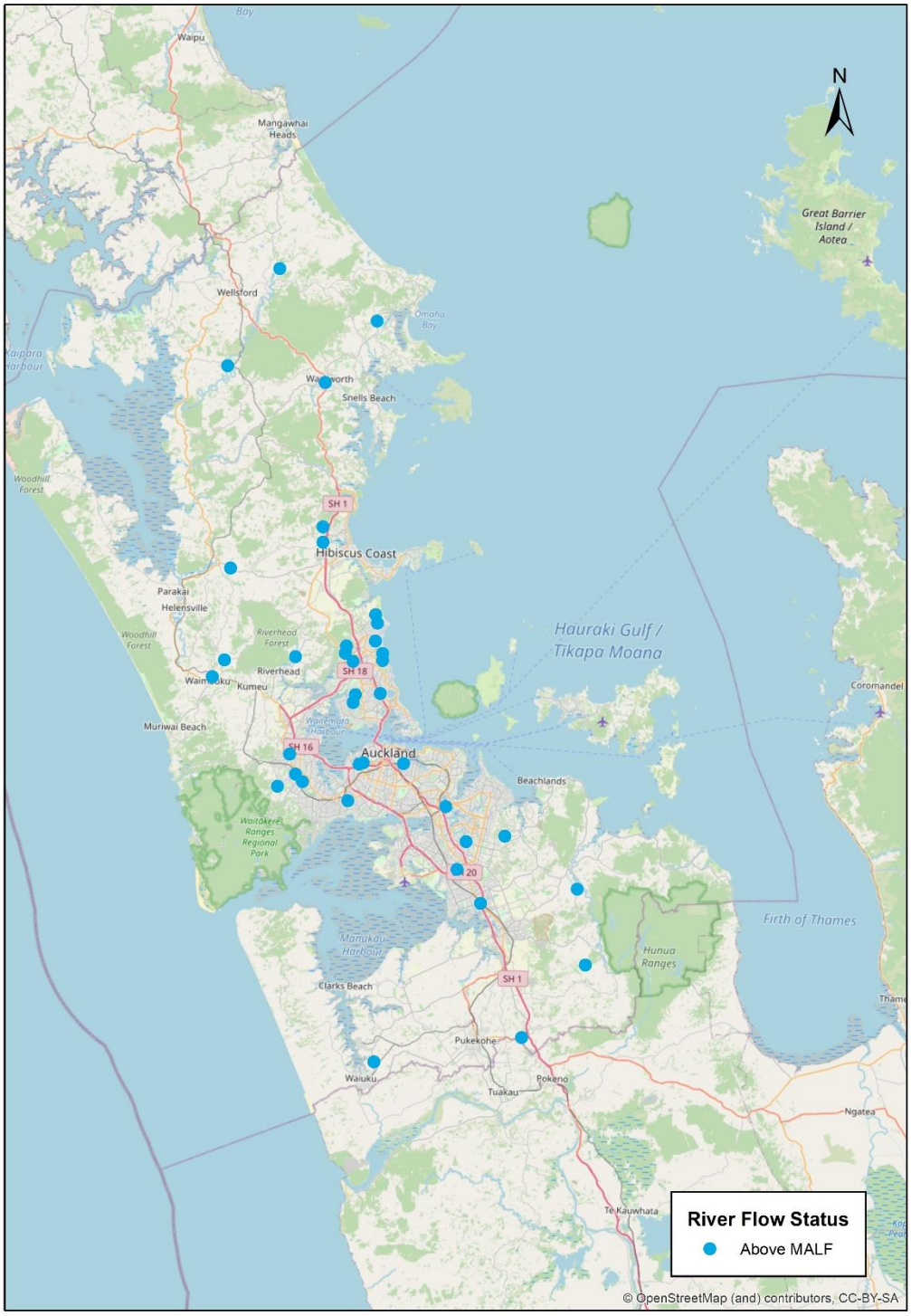

Figure 4: River flow on 16 February 2021 relative to the mean annual low flow (MALF).

Aquifer water levels

Groundwater levels are similar to the last report; however, some increases occurred in shallow volcanic aquifers. Deep aquifers in Waitematā Group and Kaawa Formation rocks remain at low levels. Groundwater monitoring sites and groundwater level category are shown in Figure 5.

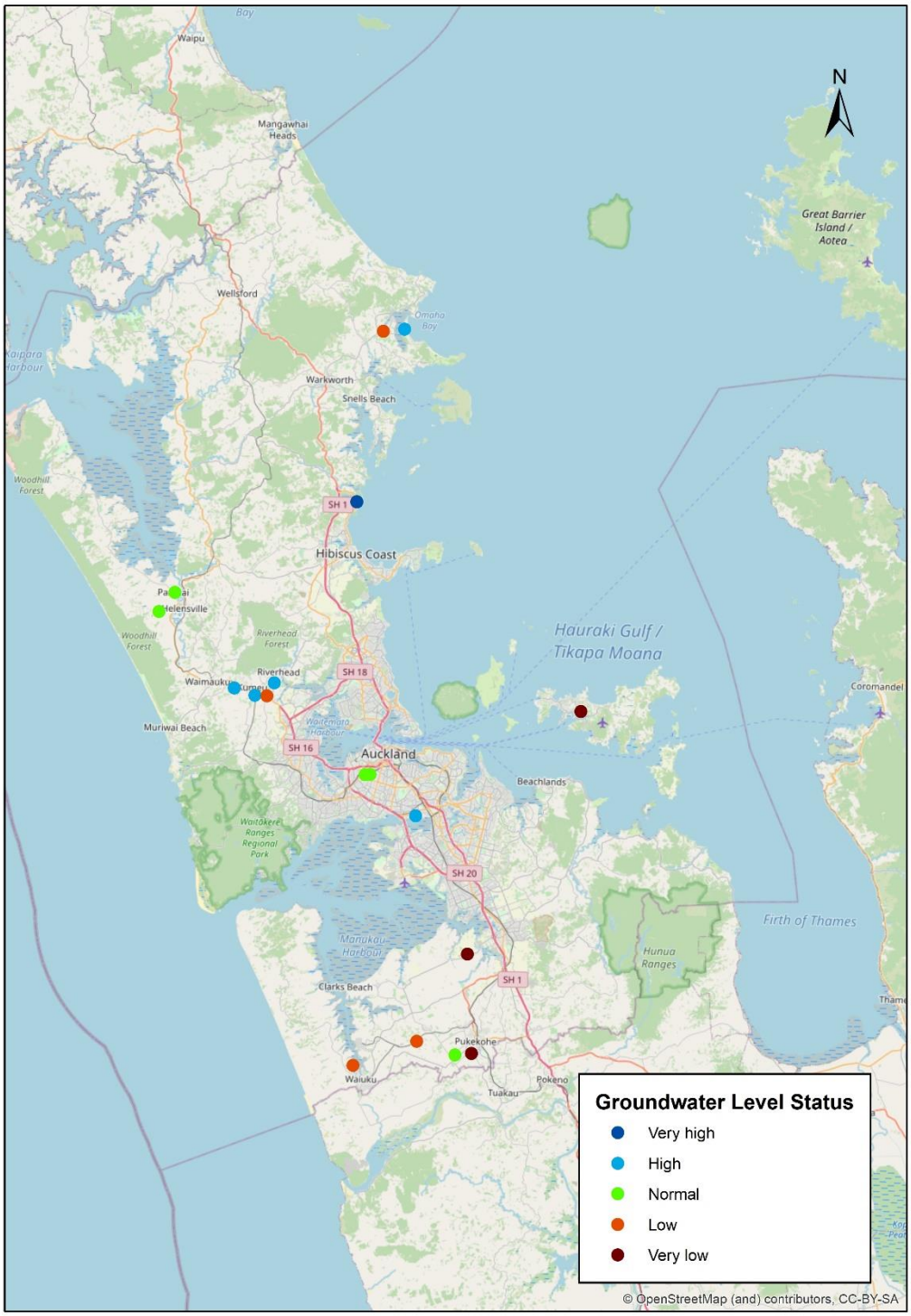

Figure 5: Groundwater levels relative to long-term statistics for 16 February 2021.

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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