

Issued
4 October
2021

Auckland Hydrology Situation Report

Research and
Evaluation Unit

RIMU



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Regional summary

The New Zealand Drought Index for the Auckland Region continues to decline well below the first category of Dry. Regional monthly rainfall was approximately 38% above the long-term average for September. Soil moisture varied considerably across the region, with low soil moisture still recorded at southern sites. All rivers are above the mean annual low flow (MALF). Groundwater levels are variable, but low levels persist in deep aquifers and those 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 0.07 (1 September 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.

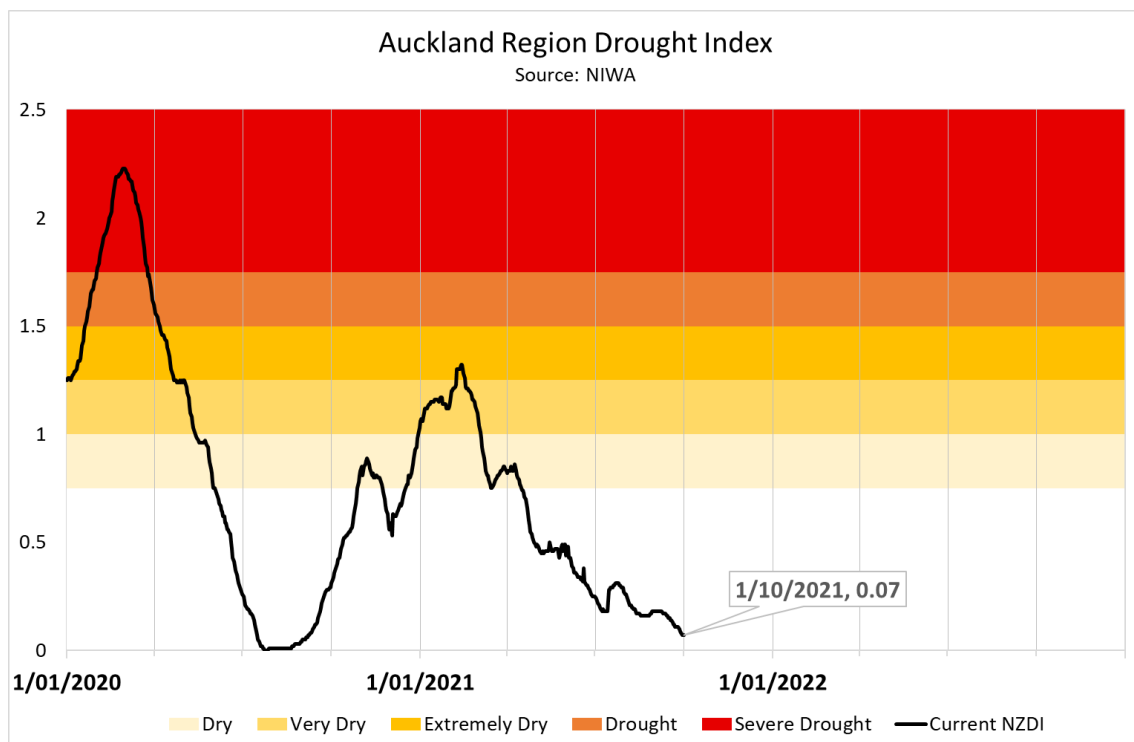


Figure 1: Auckland Region Drought Index 2020-2022 (data source: NIWA).

Rainfall

Rainfall for September ranged from 102 to 267mm with a regional average of 162mm, approximately 38% above the long-term average (Figure 2).

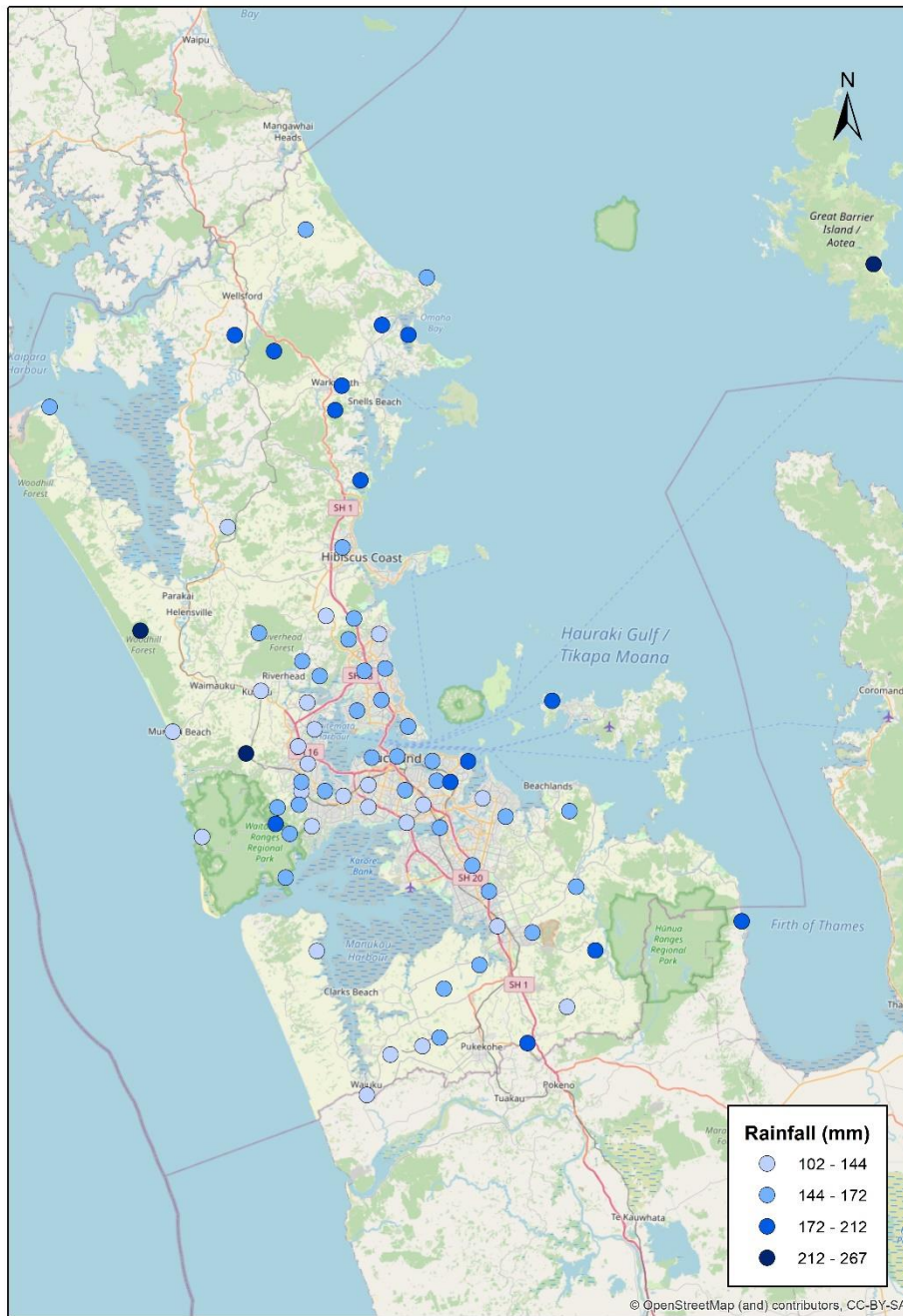


Figure 2: Total rainfall (mm) for September 2021.

Soil moisture

All sites had the same soil moisture status as the previous report issued 2 September 2021. Soil moisture was highly variable, ranging from very low for this time of year in the south to very high for this time of year in some northern sites. All sites are shown in Figure 3.

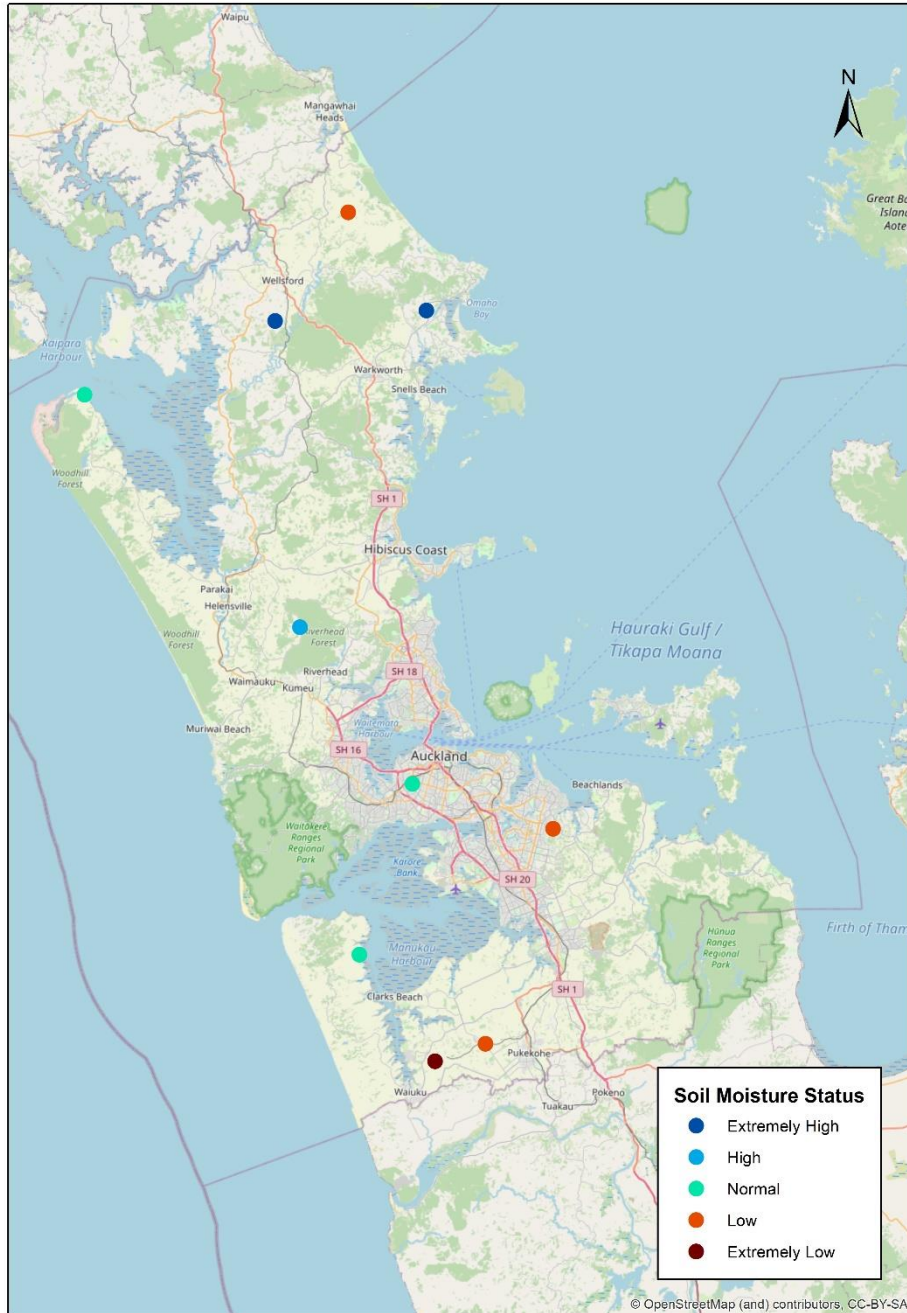


Figure 3: Soil moisture category relative to long-term statistics on 1 October 2021.

River flows

All river flow sites are above the mean annual low flow (MALF). The locations of sites and the flow relative to MALF are shown in Figure 4.

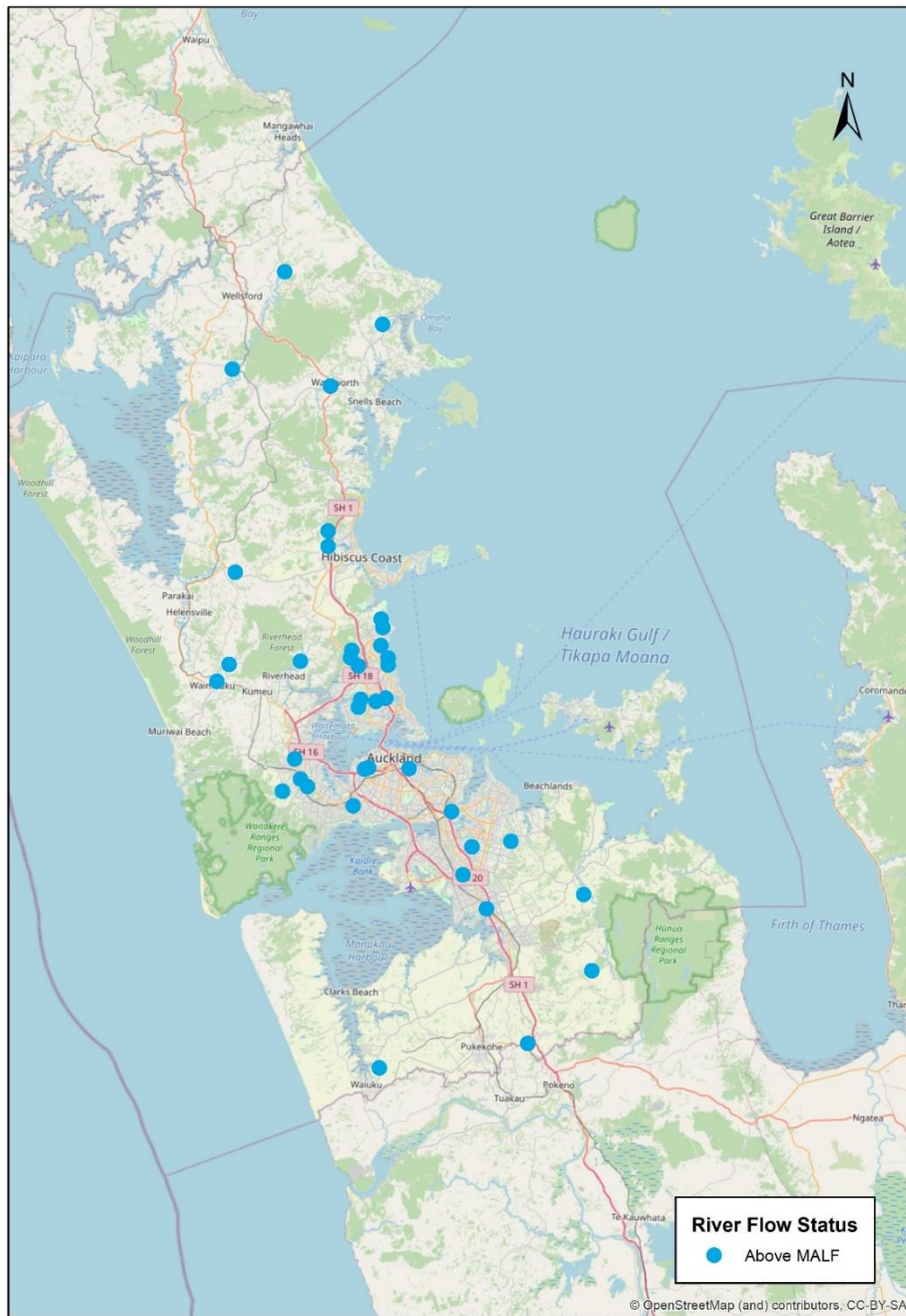


Figure 4: River flow on 1 October 2021 relative to the mean annual low flow (MALF).

Aquifer water levels

Groundwater levels across the region are at the same category as the previous report. Most aquifer water levels in north Auckland are in the high or very high range for this time of year. Deep aquifers in the Waitematā Group, Waiheke greywacke, and Kaawa Formation rocks remain at low to very low levels. Waiheke Island greywacke aquifers have increased in water level throughout the winter but are at very low levels relative to the long-term average for this time of year. This is to be expected following severe drought conditions in 2020 and continued below-average rainfall for much of 2021. Groundwater monitoring sites and groundwater level category are shown in Figure 5.

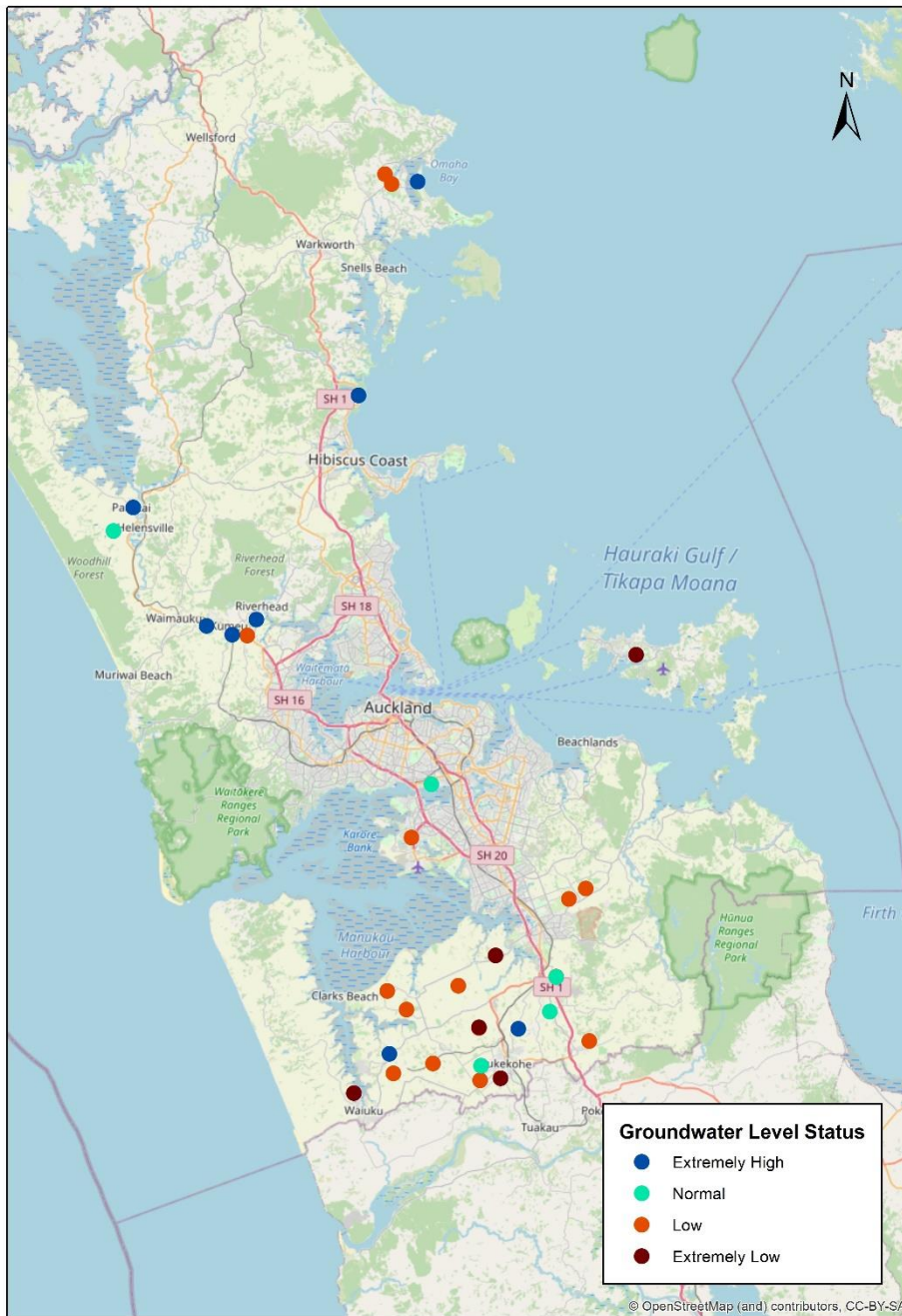


Figure 5: Groundwater levels relative to long-term statistics for 1 October 2021.

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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