

# Hydrology information for the situation report – 14 February 2020

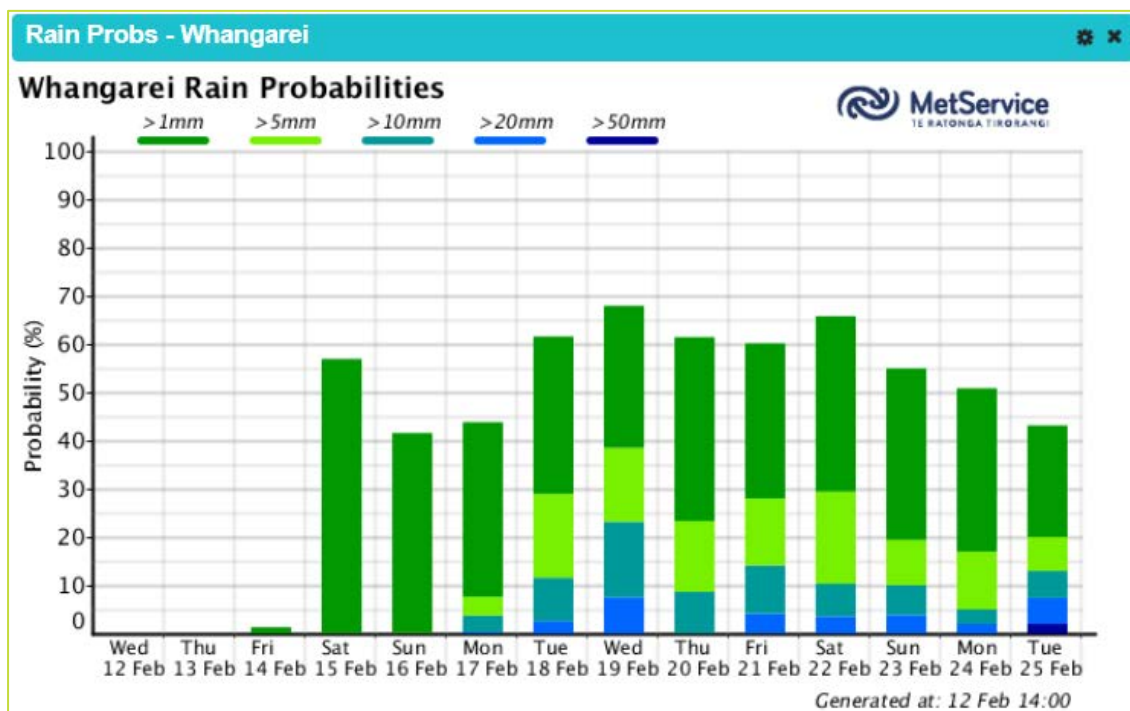
## Current weather situation

The dry weather continued to persist with light winds, maximum daily temperatures of 25-27 degrees and zero rain for most of the region over the last week.

## MetService outlook

- *Persistent southwest winds over Northland (don't produce good rain)*
- *Bottom line: No significant rain relief forecast for Northland over the next 5 days, as the ridge holds firm here.*
- *The door to the Tropics remains open –and there is a reasonable chance of some subtropical rain for the North Island. However, confidence is low and rainfall forecasts are likely to be 'unreliable' (hit and miss as to where, and how much).*

### Whangārei rain probabilities



## River flows

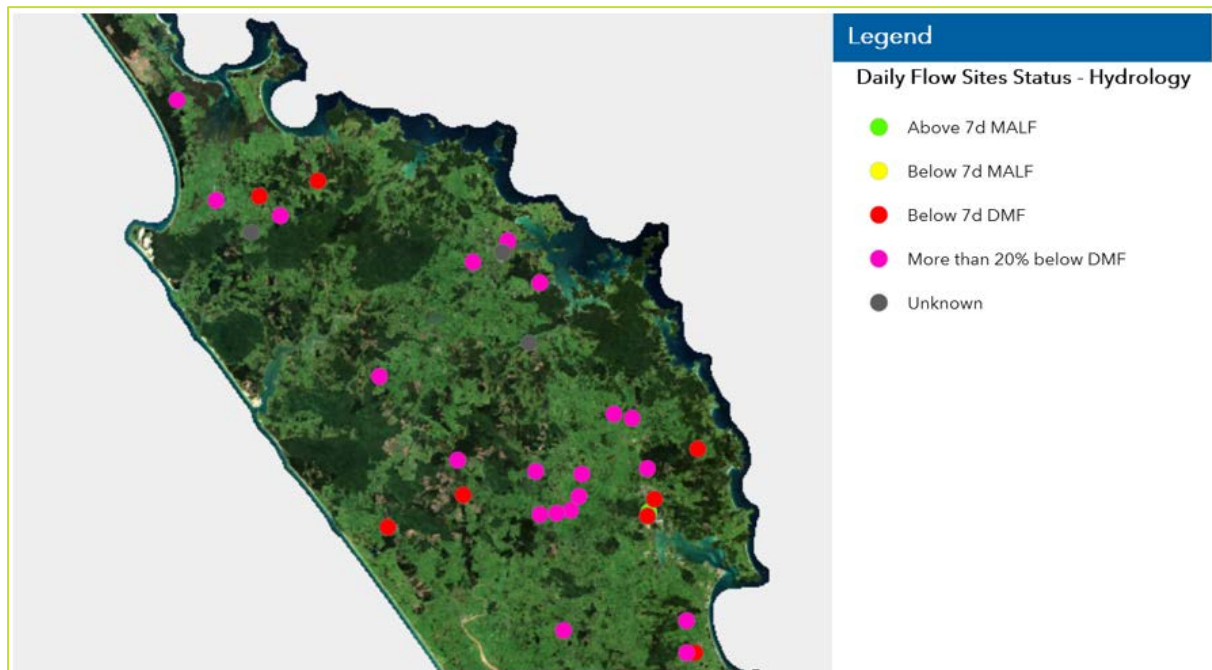
All rivers flows across the region are continuing to decline with 65% of river stations running below drought flows (DDF: designed drought flow).

Some rivers are now 30-40% below drought flows, these catchments are listed below and shown as pink dots on the map.

- Awanui river
- Maungaparerua river
- Mangahahuru river
- Lower Mangakahia river
- North river
- Ahuroa river
- Wairua

The remaining pink dots on the map below are based on provisional data that will be checked and validated prior to SIT Rep 6.

### Drought flow map:



## Rainfall

From 05 February to 13 February 2020:

- 1.0 -1.5mm recorded at the Oruru & Kaeo & Waitangi rain gauges
- 0mm recorded for the remainder of the region

The table below gives an indication of how dry the coming months can get. Below are the lowest historic rainfall totals for Feb/ Mar/ Apr recorded at long term stations across Northland:

Gauge	lowest rainfall totals Feb/ Mar/ Apr	Rainfall	Record begins 05/02/2020
Kaitāia	2005	117	1893
Kaikohe	1926	110	1922
Dargaville	1926	102	1922
Puhipuhi	1926	111	1905
Whangārei	1926	80	1909
Warkworth	2010	68	1921

## Groundwater levels

Saltwater intrusion is a risk in the coming months for the small coastal aquifers. Most systems are all receding alot quicker than normal. The number of shallow bores & springs drying up will start to increase over the coming months. Typically, groundwater levels bottom out around April/ May. Most systems are already tracking below their normal April/ May low levels.

## Soil moisture deficits

Soil moisture deficits continue to decline, Kerikeri holding up the with the least amount of deficit at 140mm, the remaining sites will be over 150mm deficit within the next 7x days.

### NIWA Climate Stations:

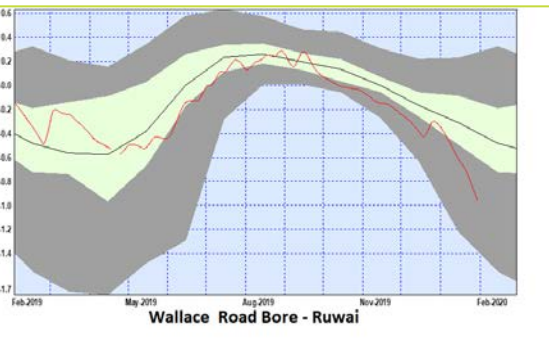
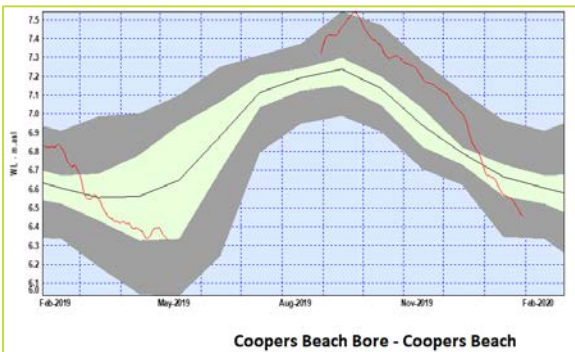
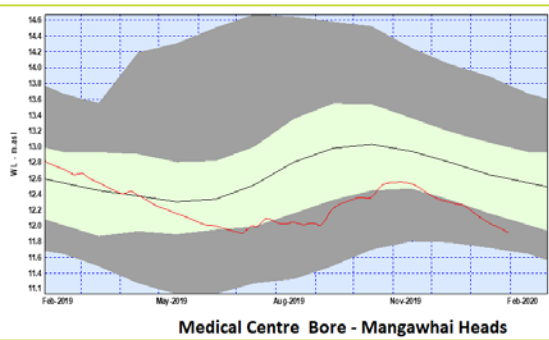
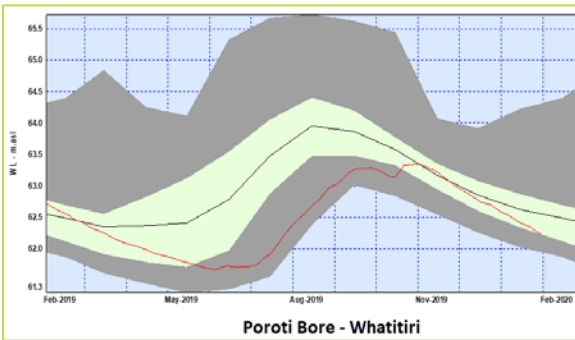
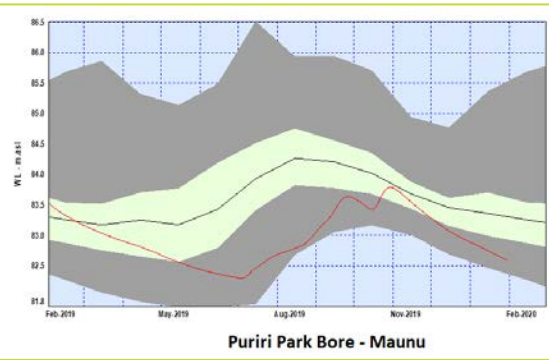
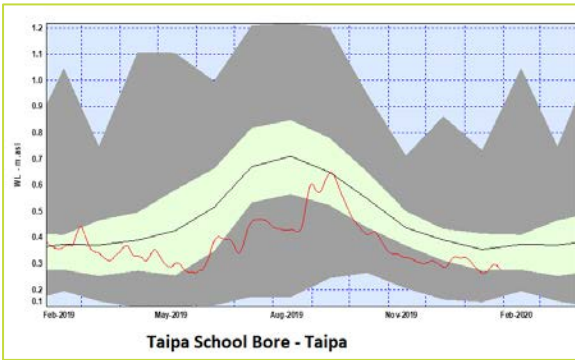
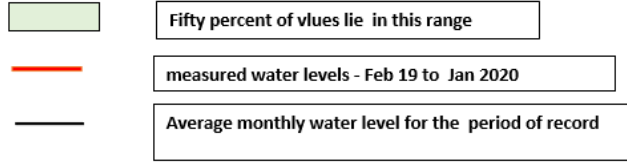
NIWA CLIMATE STATION	Soil moisture deficit (mm) as of 05/02/2020
Kaitāia	-145
Kaikohe	-140
Kerikeri	-137
Dargaville	-147
Whangārei	-147
Warkworth	-148

# Appendix

## Ground water plots

Monthly Groundwater level data - Jan 2020

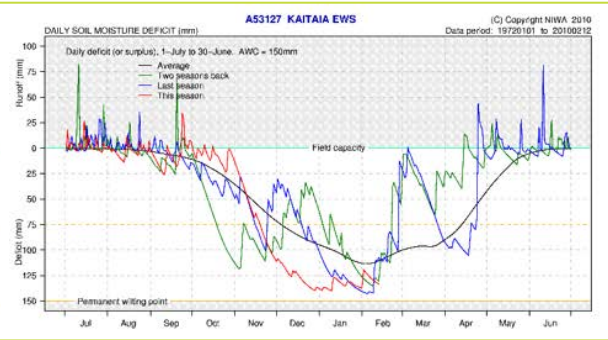
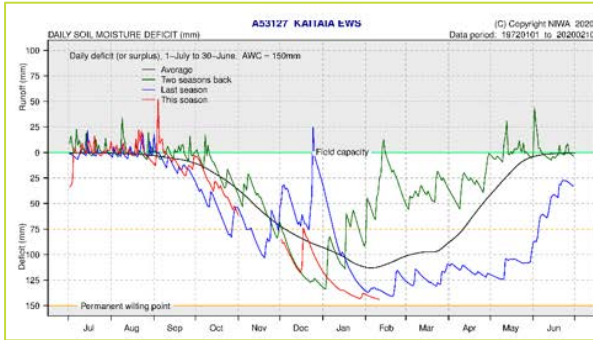
Graphs and actual groundwater levels are included



# NIWA Climate Station

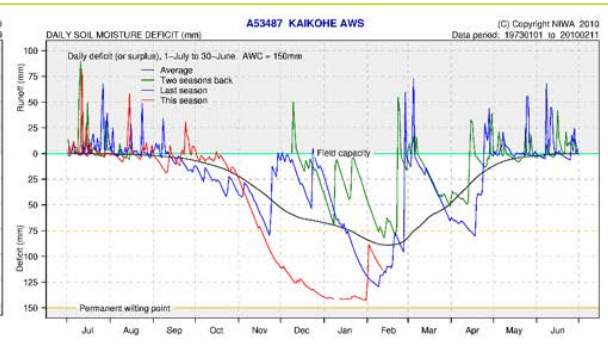
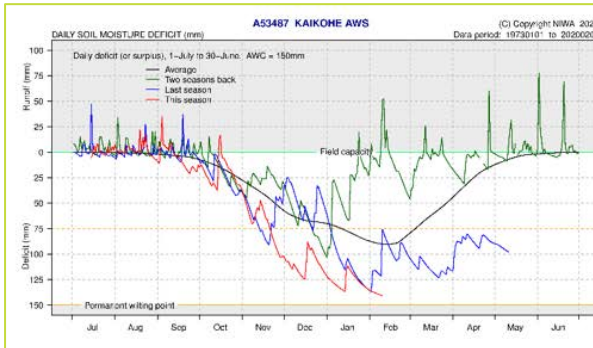
February 2020

February 2010

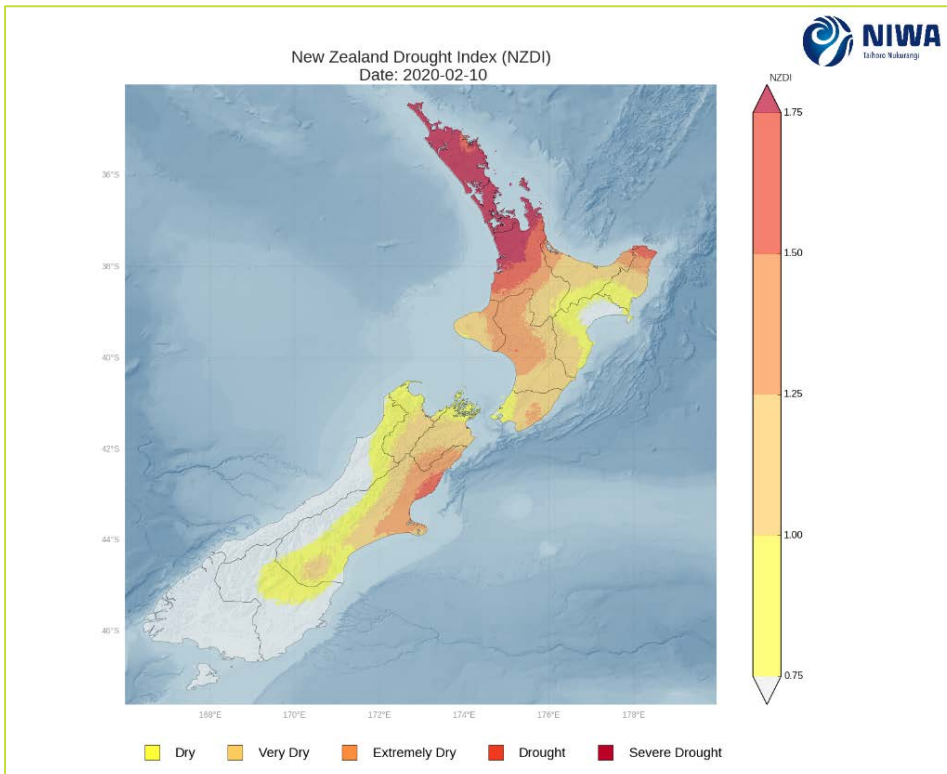


February 2020

February 2010



# NIWA Drought Map



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