



KAPITI

GREATER WELLINGTON
REGIONAL COUNCIL
ENVIRONMENT REPORT CARDS
2016/17



RAINFALL AND WATER LEVELS



greater WELLINGTON
REGIONAL COUNCIL
Te Pane Matua Taiao



Why do we monitor rainfall and water levels?

Gathering information on rainfall and water levels in the region's rivers, lakes and aquifers is essential so that we can:

- Develop sound water management policies, including determining how much water can safely be taken from a water body
- Detect changes and trends, and whether these can be related to such things as climate change
- Provide information during Civil Defence emergencies such as floods or periods of drought.

What did the 2016/17 data show?

Like the rest of the region, conditions throughout the year were wetter than normal. Many months saw high rainfall totals particularly September 2016, November 2016 and April 2017. The exception was the month of June 2017, which was markedly dry at all sites. MacKay's Crossing recorded just 7mm of rain over the month, which is only 5 percent of the normal amount of rainfall.

The Waikanae River experienced four major floods over spring/summer, something that hasn't been seen since 1977. Dates and magnitudes of the flooding events were:

- 17 September 2016, four-year return period
- 10 November 2016, four-year return period
- 15 November 2016, six-year return period
- 2 February 2017, 14-year return period

What is a return period anyway? Oddly, it doesn't mean that an event of this magnitude will happen once every so many years. A return period represents the **probability** of an event occurring – regardless of when the last similar event occurred. Using our 14-year return period as an example, the probability that an event of this size will occur is 1/14 (or 7%) in any given year.

Unsurprisingly, river levels were also above average for much of the year, with significant highs recorded in September, November, January, February and April.



Did you know April 2017 in Otaki was the wettest on record since 1892?

A total of 213mm of rain was recorded which is nearly three times the normal amount!

In Kapiti we monitor:



Rainfall
at 9 sites



River levels
at 4 sites

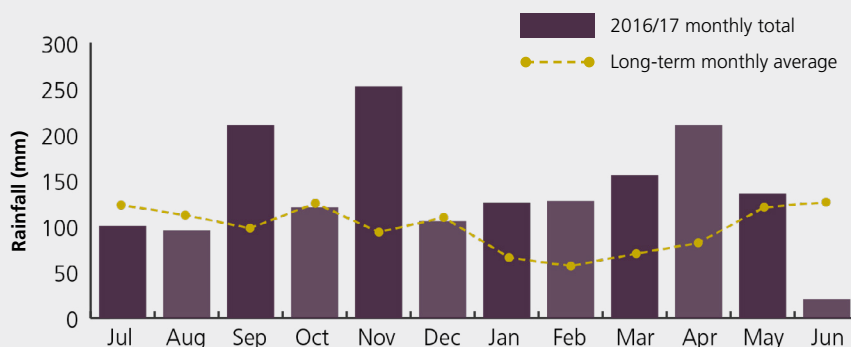


Groundwater levels
at 15 sites

Highlights from the 2016/17 data

Location	2016/17 total rainfall (mm)	Percentage of normal
Oriwa (Taranua)	6640	130
Taungata (Taranua)	2940	140
Otaki	1496	148
Te Hapua	935	127
Waikanae	1292	141
McKay's Crossing	1223	110

Rainfall at Waikanae



How many times were flood warnings activated?



Otaki River

Flood warnings were activated **8 times**.



Waikanae River

Flood warnings were activated **6 times**.

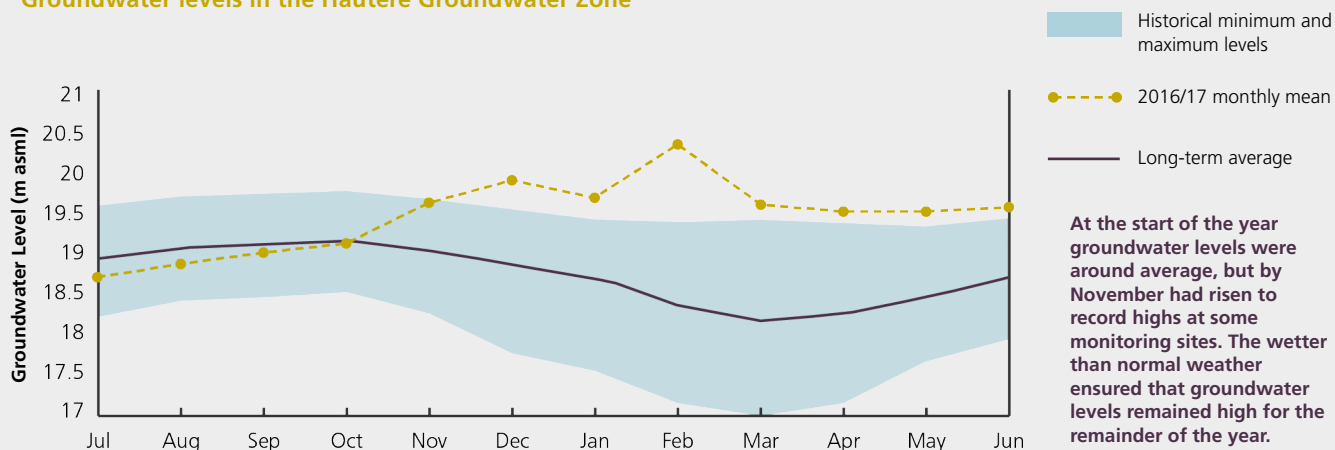


Mangaone Stream

Flood warnings were activated **only once**.

The 2016/17 year was much wetter than normal, particularly in the months of September, November and April.

Groundwater levels in the Hautere Groundwater Zone



Frequent flooding over spring/summer turned the Kebbles Bend Trail beside the Waikanae River into a boulder field.

For further information:

Full details of the 2016/17 monitoring results can be found in our Hydrology Annual Data Report published online at www.gw.govt.nz/Annual-monitoring-reports

To view or download environmental monitoring data go to <http://graphs.gw.govt.nz>