



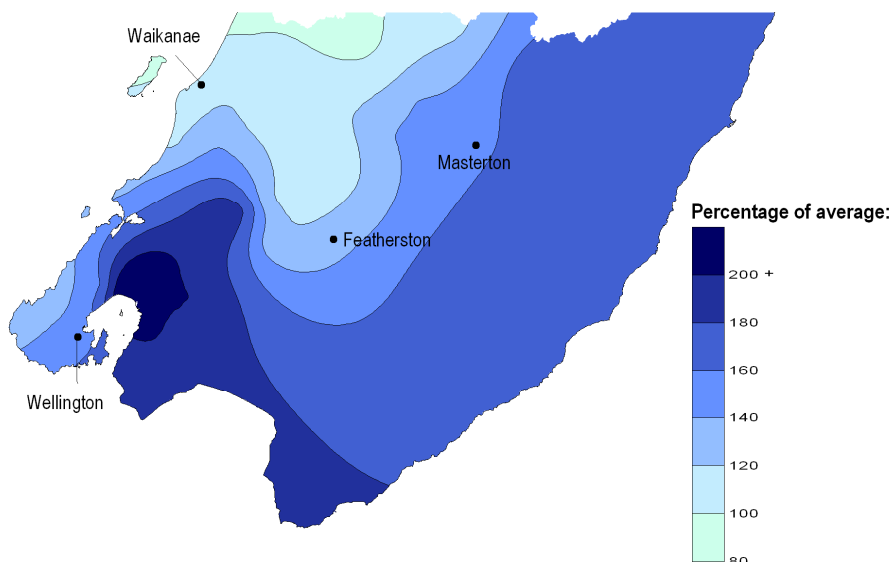
# May 2009 hydrological summary

Environmental Monitoring and Investigations Department

## Rainfall during May

May 2009 was generally wetter than average in the Wellington region, with the rain welcome in parts of Wairarapa where a drought had been declared following a very dry March and April.

Particularly high rainfall compared to average was recorded in Petone, Lower Hutt, Wainuiomata and southern Wairarapa. In these places rainfall was double the long-term average for the month. The Tararua Range and Kapiti Coast had about average rainfall for May.



**Rainfall during May as a percentage of the long-term average for the month**

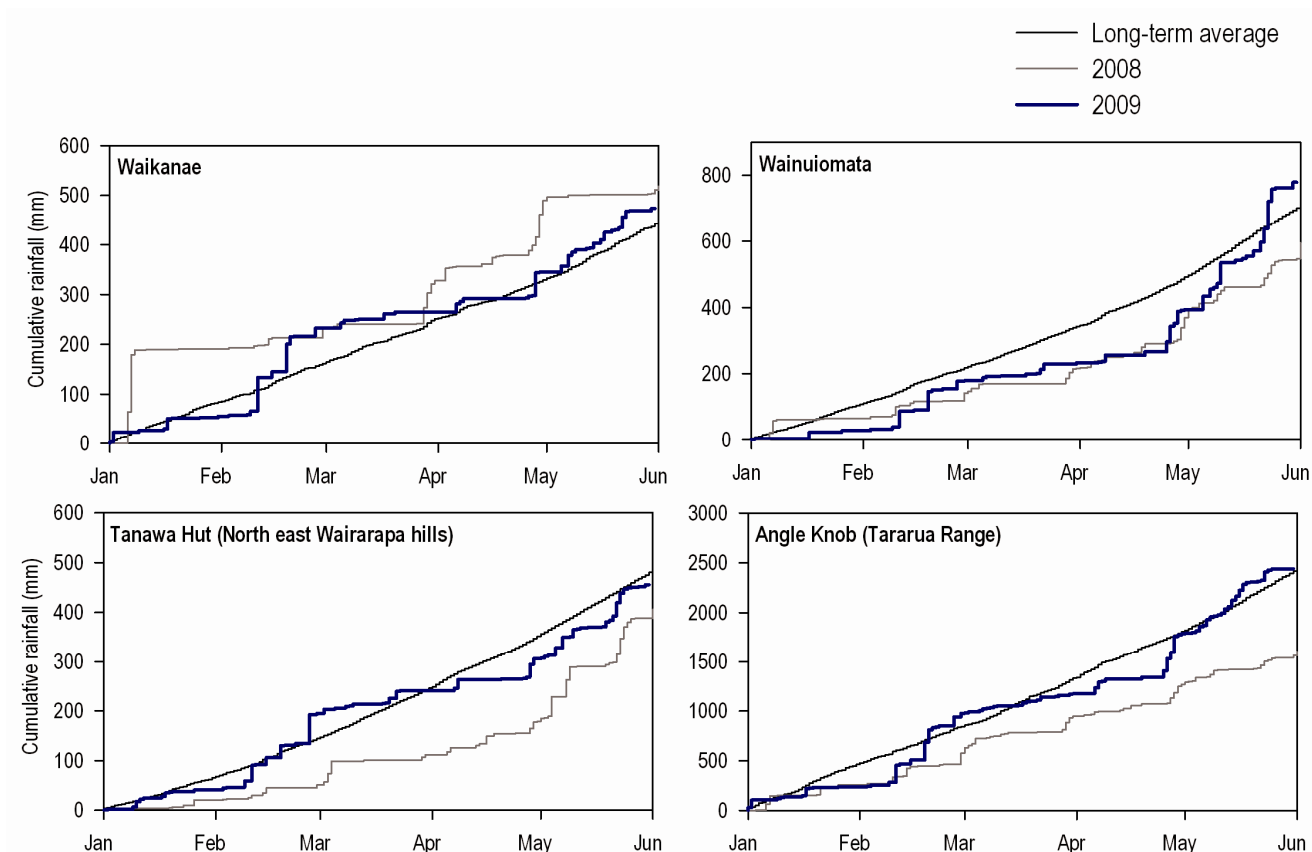
The rainfall pattern is a reflection of the dominance of southerly airflows during May, which brought regular rainfall and led to lower than normal temperatures. The most significant storm of the month was a prolonged southerly storm on 23-24 May, although no serious flooding resulted.

## Rainfall in the year to date

Overall, rainfall for the first five months of 2009 was about average in many parts of the Wellington region. However, some places, including the Kapiti Coast, Wellington City and Lower Hutt, had slightly above average rainfall for the year to the end of May. This was largely due to rainfall received during February and May.

### Year-to-date rainfall statistics for selected monitoring sites in the Wellington region

	Rainfall for May at monitoring site (mm)	Rainfall for 2009 to end of May (mm)	Percentage of long-term average for year to date
Waikanae	130	475	108%
Karori	183	538	117%
Kaitoke	266	781	96%
Wainuiomata	388	780	113%
Featherston ('Alloa')	130	408	105%
NE Wairarapa ('Tanawa Hut')	150 (est)	456	97%
Tararua Range ('Angle Knob')	665	2439	104%



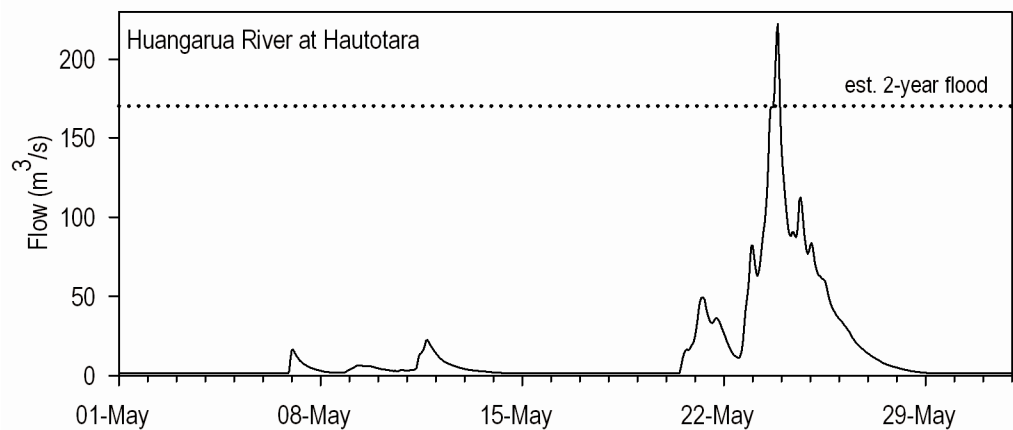
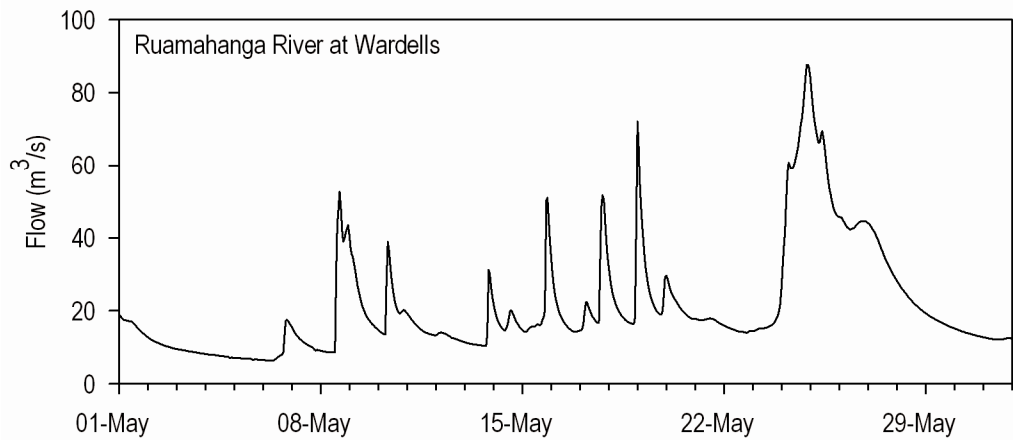
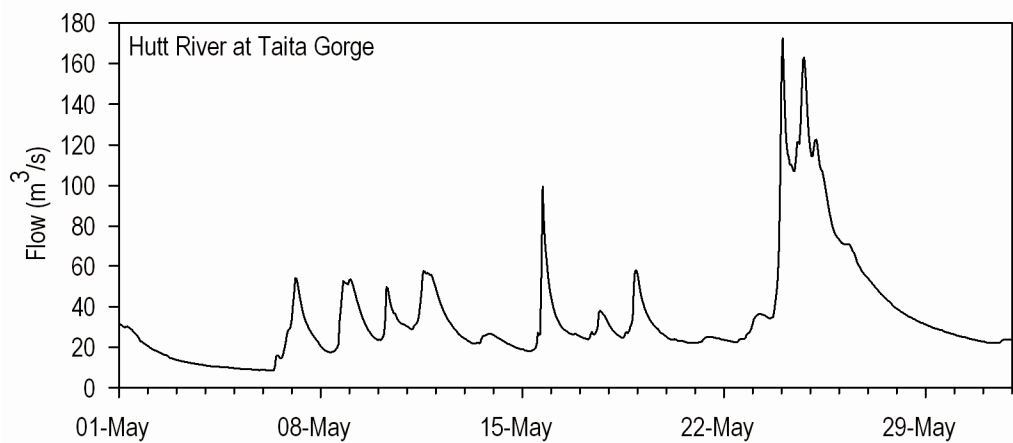
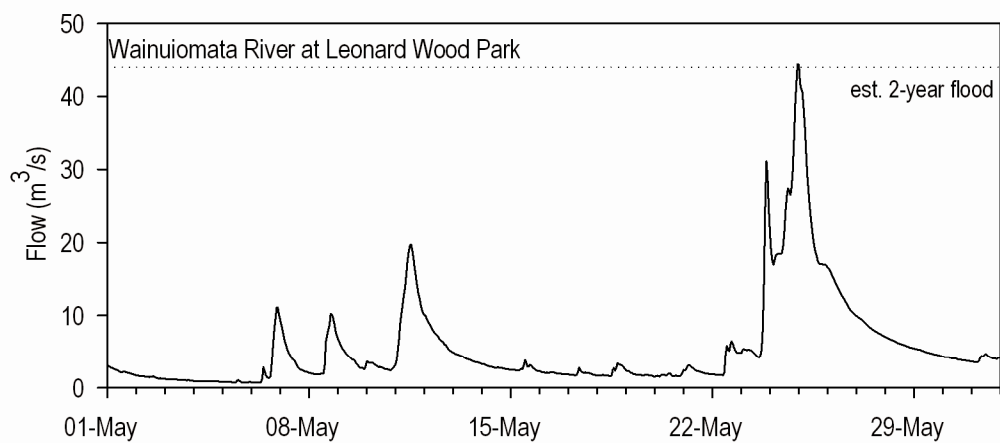
## Cumulative annual rainfall at selected sites in the Wellington region

### River flows during May

River flows were considerably higher in May than in April 2009, and experienced regular ‘freshes’ as a result of the frequent storms (see graphs overleaf). As shown by the table below, the average river flows for the month were above the long-term average for May, and were particularly high in rivers with catchments exposed to southerly rainfall (e.g., Wainuiomata River). The highest flows during the month tended to occur during the storm of 23-24 May. In general, the floods were not significant. The exceptions were the Huangarua River (east of Martinborough) and lower Wainuiomata River, which experienced floods of about a 2-year return period. It was the largest flood in the Huangarua River since July 2006.

### River flow statistics for May 2009 at some of Greater Wellington’s flow monitoring locations

	Average river flow for May 2009	Percentage of long-term average	Highest flow during May (raw data)
Waikanae River at Water Treatment Plant	6.0 m <sup>3</sup> /s	149%	31 m <sup>3</sup> /s on 23 May
Akatarawa River at Cemetery	7.5 m <sup>3</sup> /s	153%	51 m <sup>3</sup> /s on 24 May
Mangaroa River at Te Marua	6.2 m <sup>3</sup> /s	184%	42 m <sup>3</sup> /s on 23 May
Hutt River at Taita Gorge	34.7 m <sup>3</sup> /s	157%	176 m <sup>3</sup> /s on 24 May
Wainuiomata River at Manuka Track	5.5 m <sup>3</sup> /s	250%	21 m <sup>3</sup> /s on 23 May
Waingawa River at Kaituna	11.1 m <sup>3</sup> /s	113%	65 m <sup>3</sup> /s on 15 May
Waiohine River at Gorge	31.0 m <sup>3</sup> /s	130%	159 m <sup>3</sup> /s on 15 May
Ruamahanga River at Wardells	21.3 m <sup>3</sup> /s	100%	88 m <sup>3</sup> /s on 24 May
Ruamahanga River at Waihenga	85.4 m <sup>3</sup> /s	110%	338 m <sup>3</sup> /s on 25 May
Huangarua River at Hautotara	n/a	n/a	226 m <sup>3</sup> /s on 24 May



**River flows recorded during May 2009 at selected Greater Wellington monitoring locations**

## Groundwater levels

Groundwater levels during May 2009 tended to gradually increase, as a result of increased recharge from rainfall and river flows.

### Hutt

Groundwater levels in the artesian Waiwhetu aquifer remained around or above average for this time of year. Levels at the McEwan Park (R27/0122) monitoring site were above average for May, and continued to increase during the month. Levels at the Somes Island monitoring borehole approached the highest on record for the time of the year.

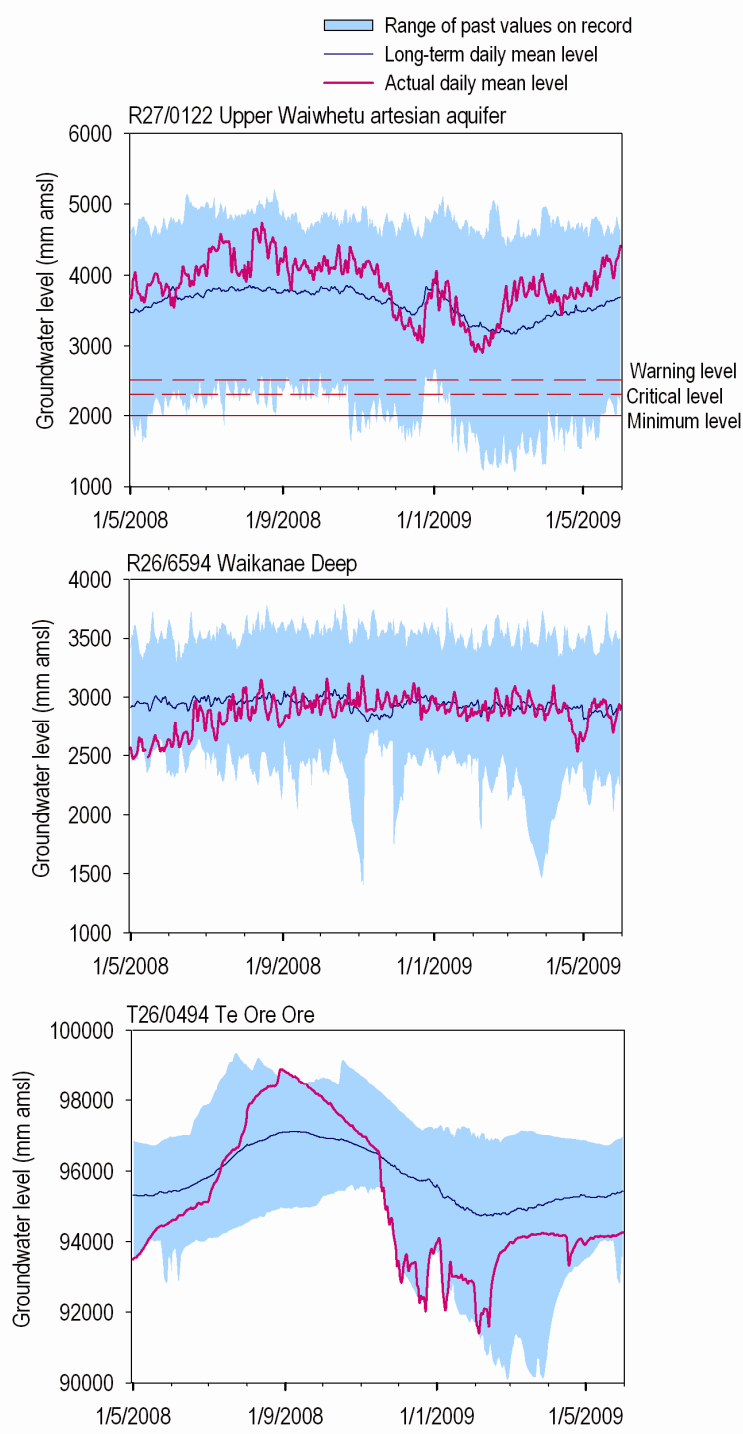
### Waikanae

Groundwater levels in Kapiti Coast aquifers remained average or above average during May.

The water level in the Waikanae aquifer recovered following short-duration use of the Waikanae borefield in late April. The borefield was used when flow in the Waikanae River was low, but it was turned off again following recovery in river flow. The borefield use is apparent in the small drop in water level in graph R26/6594 to the right.

### Wairarapa

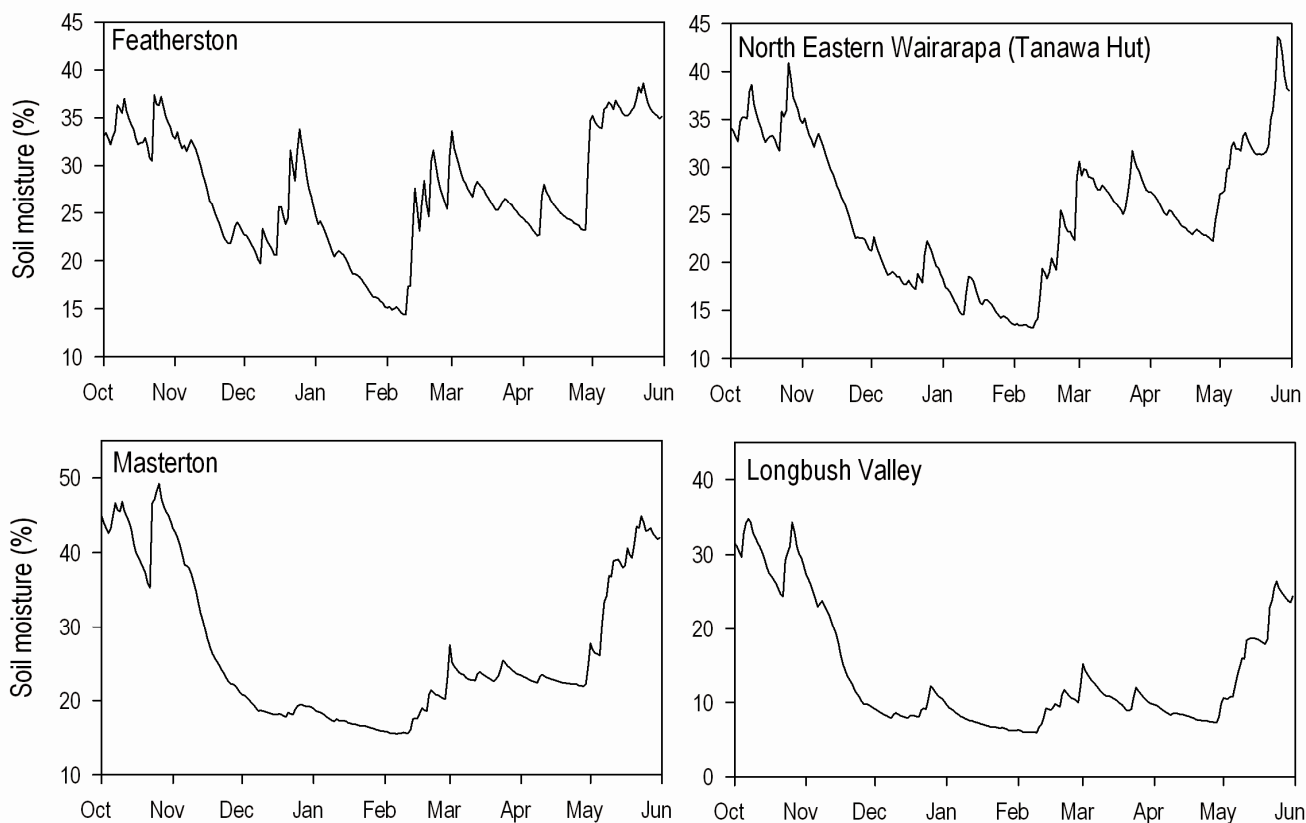
Some recovery in groundwater levels in the Wairarapa was observed during May. However, water levels remained below average for the time of the year at many of our monitoring sites.



**Groundwater levels over the last year recorded at selected Greater Wellington monitoring locations**

## Soil moisture

Soil moisture in the Wairarapa increased significantly during May, and by the end of the month had returned to its pre-summer level at most of our monitoring locations. The soil moisture deficit that persisted through April is now expected to have been eliminated.



## Soil moisture content at Greater Wellington monitoring locations since October 2008

### Climate outlook

NIWA's climate outlook through to July 2009 favours 'normal' rainfall throughout the Wellington region, normal stream flows in Wellington, and below normal stream flows and soil moisture in the Wairarapa. The La Nina has now faded, and neutral conditions prevail in the tropical Pacific. See NIWA's climate outlook at [www.niwa.co.nz/our-science/climate/publications/all/seasonal-climate-outlook](http://www.niwa.co.nz/our-science/climate/publications/all/seasonal-climate-outlook).

### More information

This summary is based on data from selected monitoring locations in the Wellington region. Greater Wellington monitors rainfall, river flows, groundwater levels and soil moisture at many locations that may not be mentioned in this summary report. Maps of site locations and up-to-date data can be found at [www.gw.govt.nz/monitoring](http://www.gw.govt.nz/monitoring).

**Disclaimer:** This report is based on data that have not yet been quality checked. In particular, flow data may be subject to change following adjustment of rating curves. Greater Wellington accepts no responsibility for any interpretation or use of the provisional data in this report.