

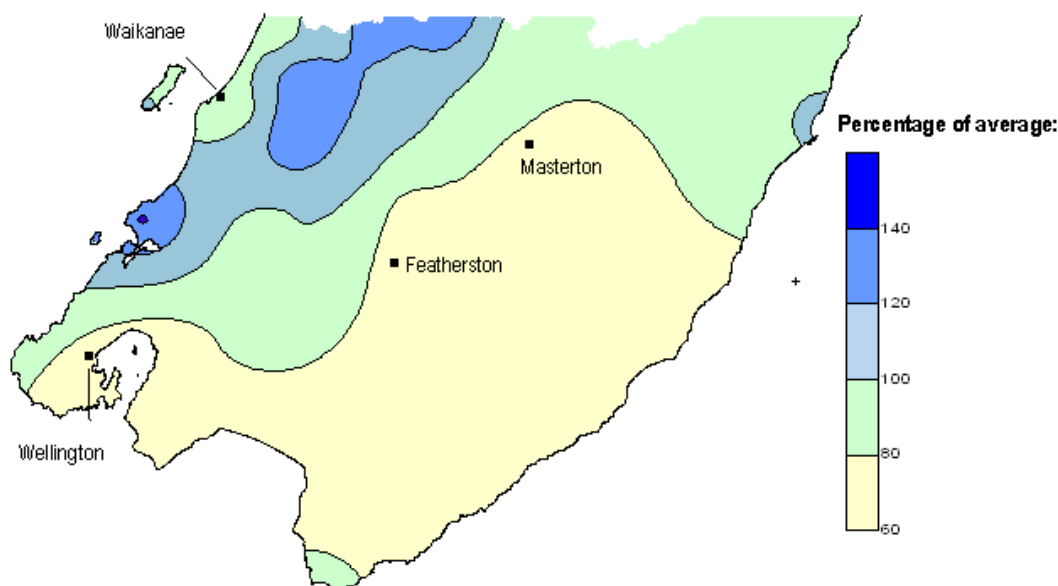


February 2010 hydrological summary

Environmental Monitoring and Investigations Department

Rainfall in February (and the year to date)

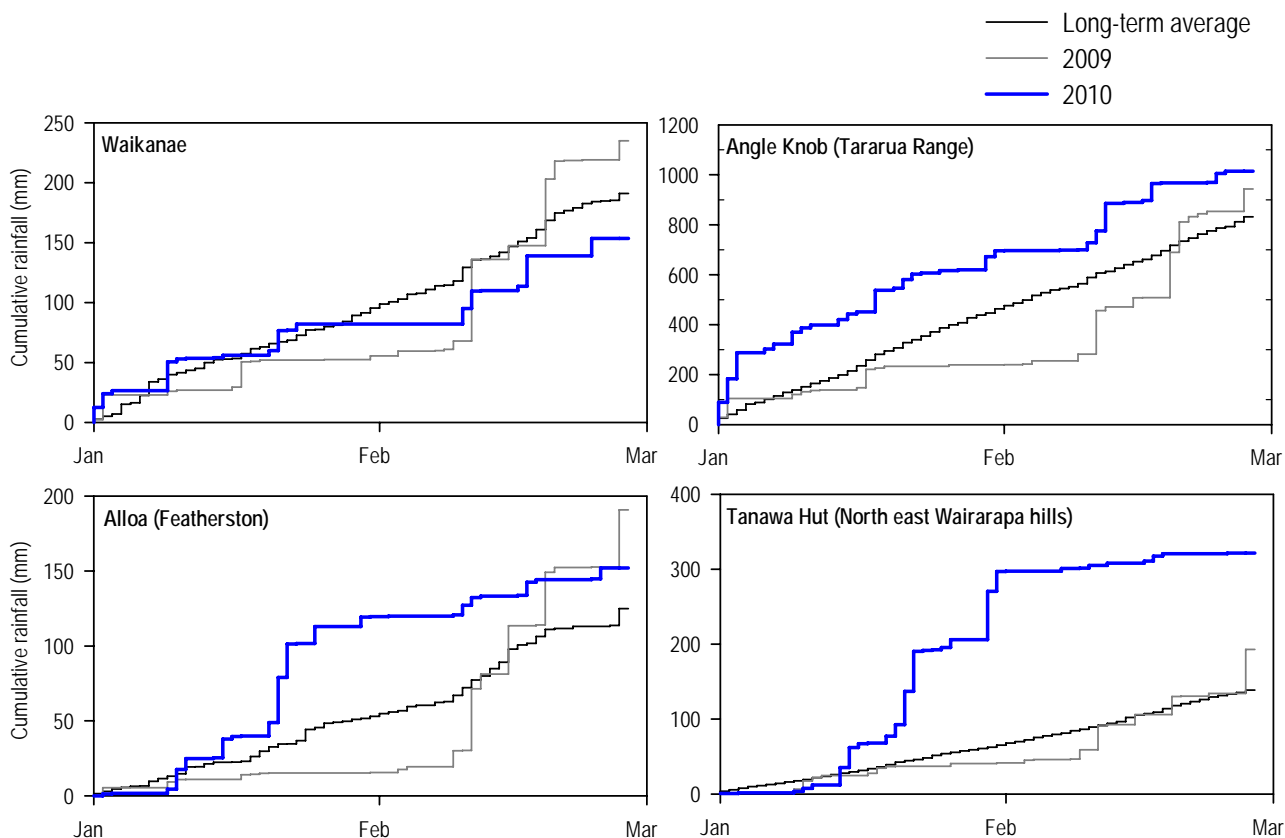
Rainfall in February 2010 was below average in most parts of the Wellington region, particularly on the Wairarapa plains (see map below). Nationwide, February 2010 was a very settled month, with more frequent anticyclones ('highs') affecting New Zealand than usual for this time of year.



In contrast, January was an unusually wet month in the Wellington region, especially in the Wairarapa. This has led to higher than average rainfall for the first two months of the year combined for most parts of the region (see table and graphs below). Of particular note, the northeastern Wairarapa hill country experienced about five times the long term average rainfall in January.

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

	Rainfall for February at monitoring site (mm)	Rainfall for 2010 to end of February (mm)	Percentage of long-term average for year to date
Waikanae	69.0	153.5	79%
Karori	29.4	199.8	127%
Kaitoke	97.0	295.0	108%
Wainuiomata	34.5	225.0	105%
Featherston ('Alloa')	32.8	152.0	117%
NE Wairarapa ('Tanawa Hut')	51.0	321.5	231%
Tararua Range ('Angle Knob')	342.5	1014.5	121%



Cumulative rainfall for 2010 to date at selected sites in the Wellington region

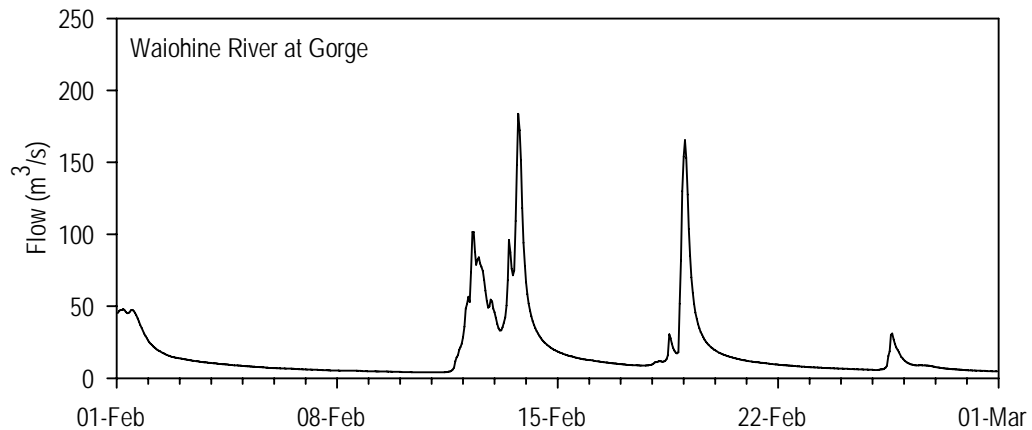
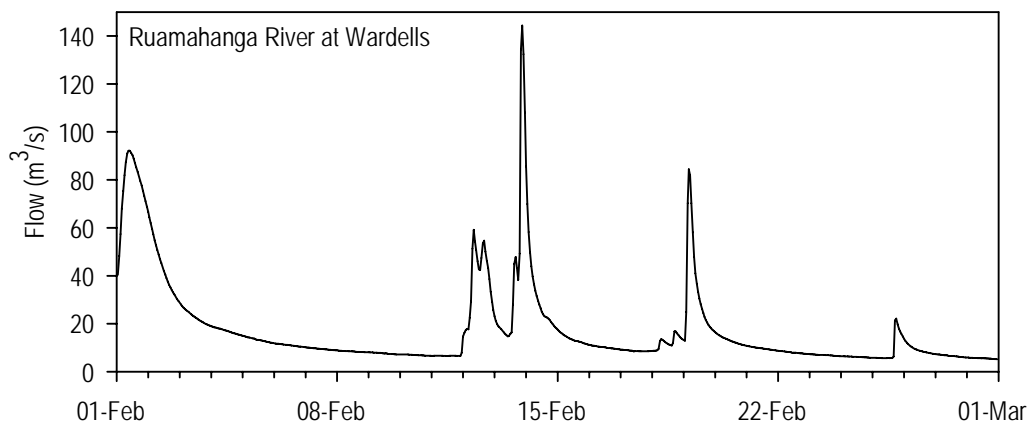
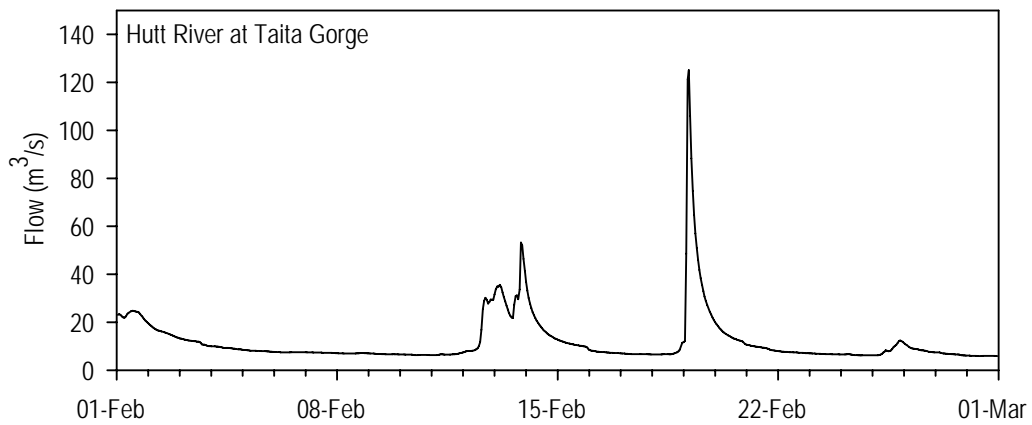
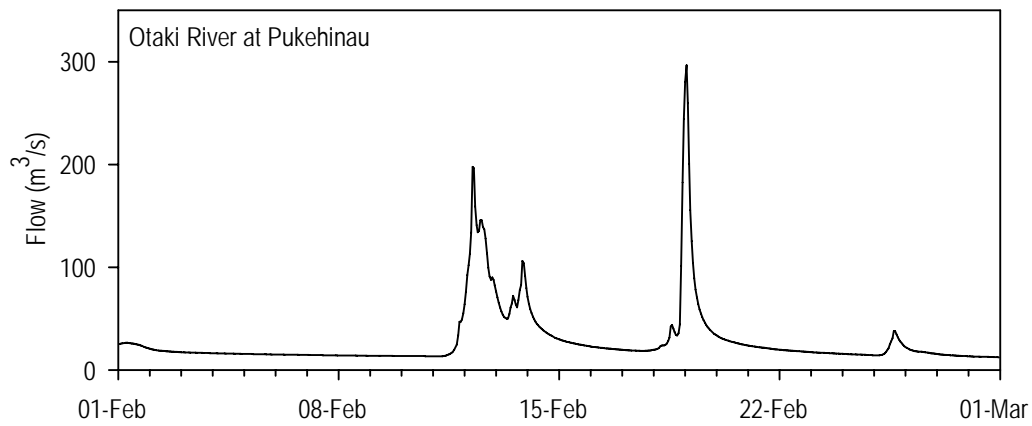
River flows during February

In general, river flows were above average in the Wairarapa in February and below average around the Hutt Valley and on the Kapiti Coast (see table below). While there were no notable storms, rainfall events were fairly evenly spread through February, preventing river flows from receding to the point at which water abstraction restrictions were required.

The highest river flows of the month occurred as a result of rainfall events on 13-14 and 19-20 February. However, these flows were well below those required to cause significant flooding.

River flow statistics for February 2010 at some of Greater Wellington's flow monitoring locations

	Average river flow for February 2010	Percentage of long-term average	Highest flow during February (raw data)
Waikanae River at Water Treatment Plant	3.0 m ³ /s	88%	40.5 m ³ /s on 19 Feb
Akatarawa River at Cemetery	2.9 m ³ /s	82%	45.5 m ³ /s on 19 Feb
Hutt River at Taita Gorge	11.9 m ³ /s	73%	131.1 m ³ /s on 19 Feb
Wainuiomata River at Manuka Track	0.39 m ³ /s	71%	1.32 m ³ /s on 18 Feb
Waingawa River at Kaituna	7.4 m ³ /s	108%	89.8 m ³ /s on 13 Feb
Waiohine River at Gorge	17.9 m ³ /s	107%	193.7 m ³ /s on 13 Feb
Ruamahanga River at Wardells	17.5 m ³ /s	154%	155.3 m ³ /s on 13 Feb
Ruamahanga River at Waihenga	51.8 m ³ /s	117%	287 m ³ /s on 14 Feb



River flows recorded during February 2010 at selected Greater Wellington monitoring locations

Groundwater levels

Above average or slightly below average groundwater levels were recorded at monitoring sites across the region for the period December 2009 to March 2010. This is a continuation of high levels recorded throughout the region during spring 2009. Levels have been highest, relative to long term averages, on the Kapiti Coast, followed by the Hutt Valley and lowest in the Wairarapa. However, positive recoveries in groundwater levels compared to previous years have still been recorded in aquifers in the Wairarapa.

Kapiti Coast

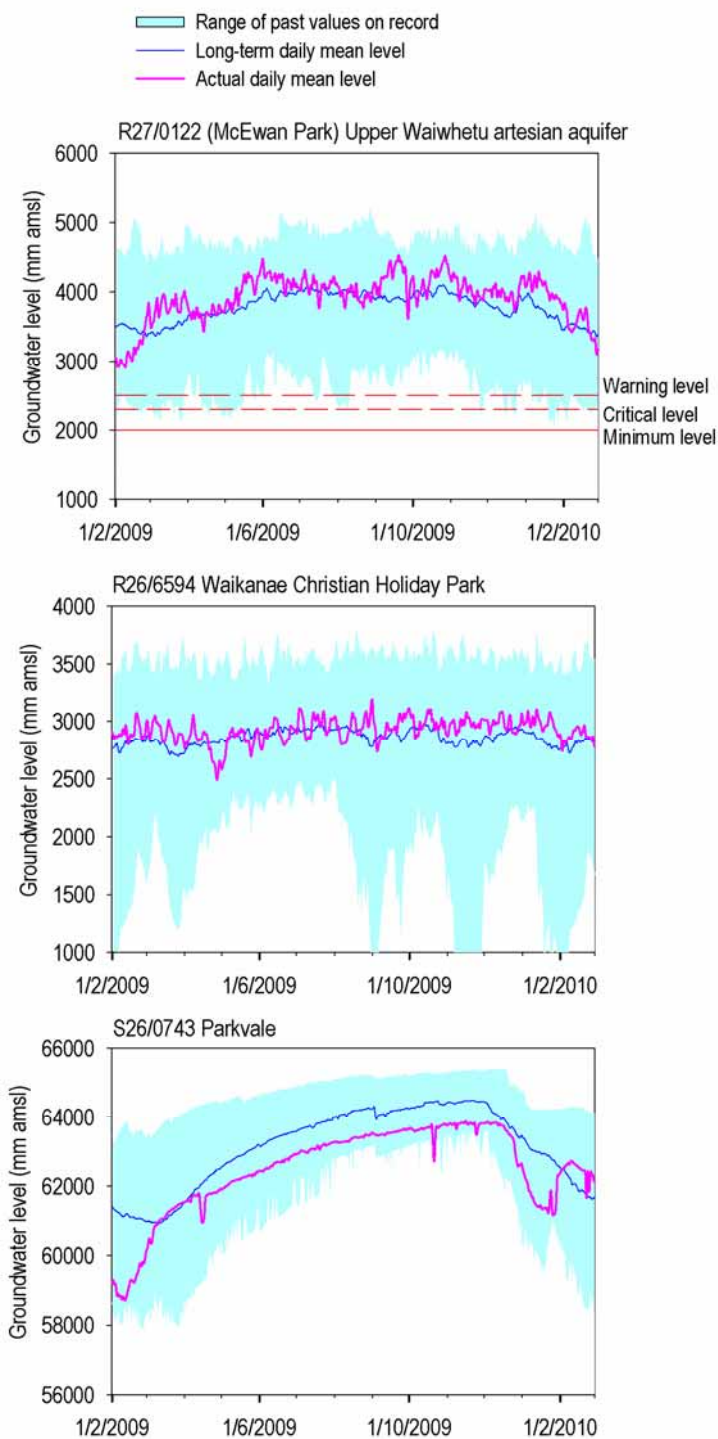
Groundwater levels remained high throughout the summer of 2009/10 across the Kapiti Coast. Levels were particularly high in December 2009 with several record maxima reached in most aquifer systems. Levels remained above average in nearly all sites throughout January and February 2010. Some below average levels were recorded south of the Waikanae River during late February 2010.

Hutt Valley

Groundwater levels were above average at most sites within the Waiwhetu aquifer in Lower Hutt during December 2009 and January 2010. Levels reduced slightly, and were below average, at most monitoring sites during February.

Wairarapa

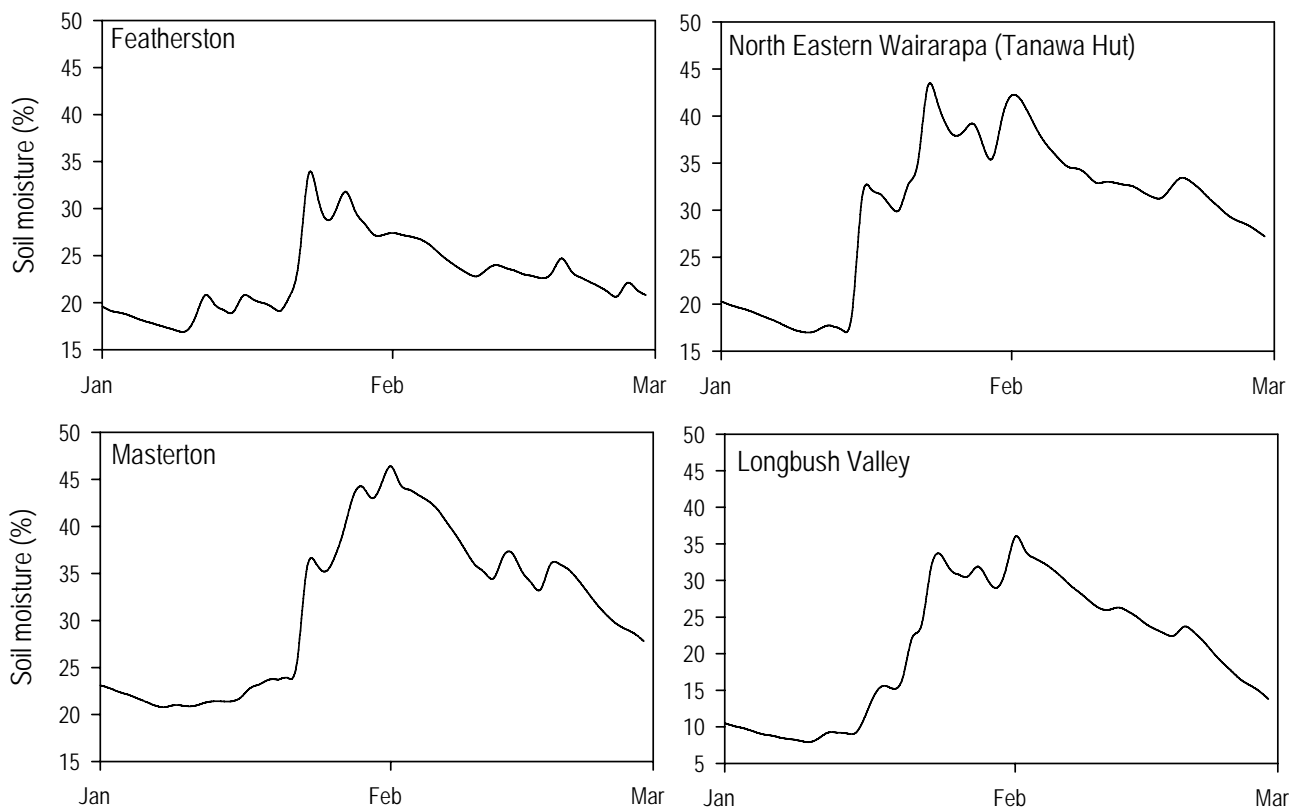
Groundwater levels across the Wairarapa were generally below average during December and above average during January 2010. Aquifers across the Wairarapa have recorded significant recoveries when compared to the same summer period from recent years. Very few record minima were recorded in the period December 2009 to February 2010. Levels within aquifers in the Upper and Middle Valleys remained above average during February and tended to drop back to below average in the Lower Valley during this period. Monitoring sites in the stressed Te Ore Ore Basin and Parkvale aquifers have shown positive recoveries compared to previous years.



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

Soil moisture

Soil moisture in the Wairarapa at the beginning of February was unusually high as a result of high rainfall in January. While moisture content decreased steadily during February across the region, by the end of the month it was still just above the February average for recent years. The relatively high soil moisture content so far in 2010 explains the unusually “green” landscape observed in parts of Wairarapa, especially the northeastern hill country.



Soil moisture content recorded at monitoring sites in the Wairarapa over January and February 2010

Climate outlook

NIWA’s climate outlook for March to May 2010 favours normal rainfall and temperatures in Wellington and Wairarapa and slightly below normal stream flows and soil moisture. The current significant El Niño continues in the equatorial Pacific, but is likely to weaken towards neutral conditions by the end of autumn (see http://www.niwa.co.nz/ncc/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.

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.