

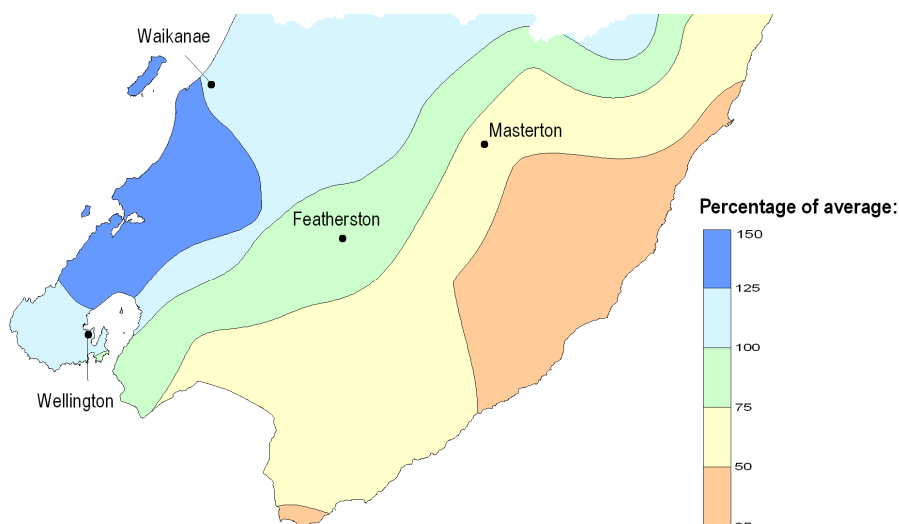


# August 2009 hydrological summary

Environmental Monitoring and Investigations Department

## Rainfall during August

Rainfall during August 2009 was average to above average in the west of the region and below average in the east. Eastern Wairarapa had particularly low rainfall for the time of the year – Castlepoint, Ngawihi and parts of the eastern hill country received less than half of the average rainfall for August. This followed on from a very dry July. In fact, in contrast to average, the Wellington region generally had more rainfall in August than in July.



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

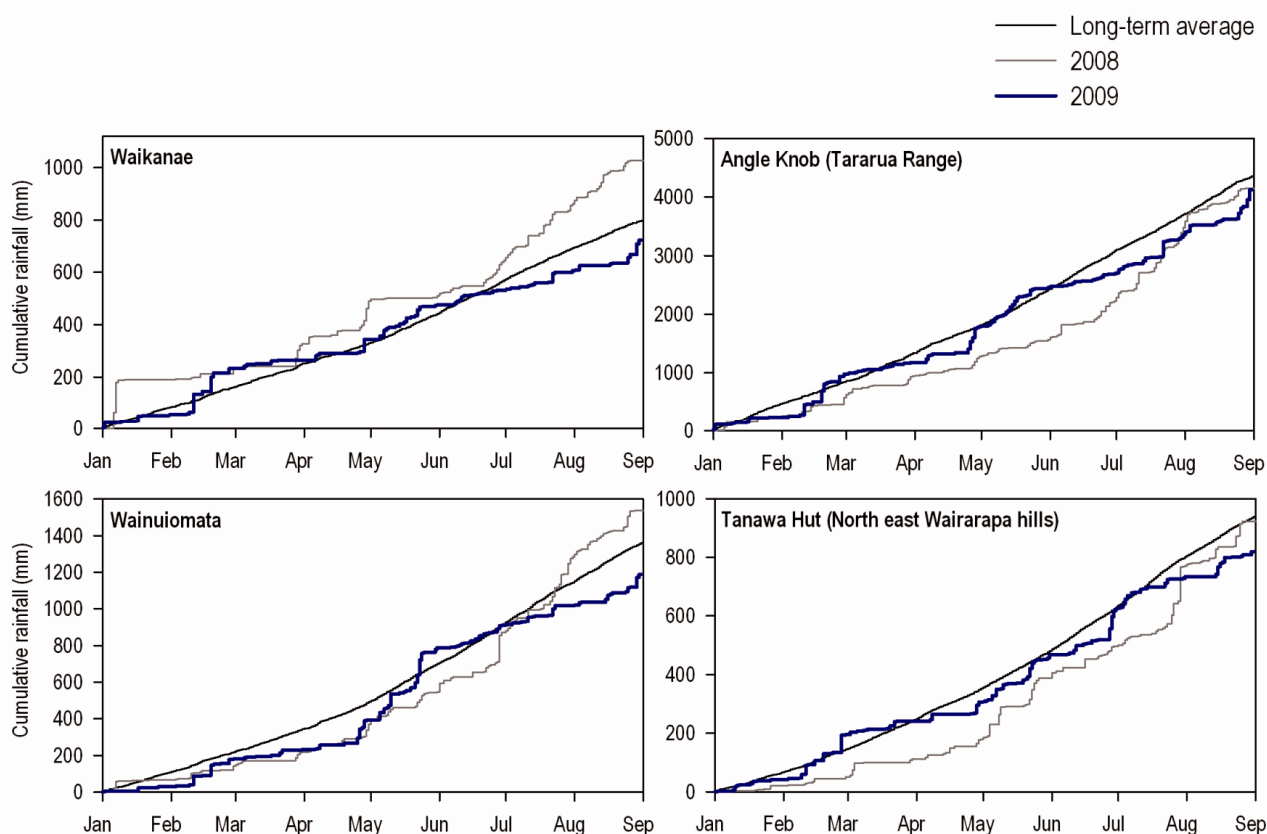
During much of August the weather was remarkably settled and warm for the time of the year. The settled spells of weather were punctuated by a few north or northwesterly storm events that mainly affected the west of the region. The most significant storm of the month occurred on 30-31 August. A strong northwesterly flow brought very strong winds to the region, as well as heavy rainfall that particularly affected the Tararua Range, Hutt Valley, Porirua and Wellington City. In some parts of the region, up to half of the month’s rainfall was received during this event. The resulting high river flows are discussed in the River Flows section of this report.

## Rainfall in the year to date

Overall, rainfall for the year through to August was slightly below average throughout the Wellington region, with rainfall totals generally about 90-95% of average. March, June, July and the first half of August were particularly dry, and masked the effect of the wetter than average February and May. In most parts of the region, rainfall for 2009 to the end of August was lower than rainfall for the same period in 2008.

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

	Rainfall during August at monitoring site (mm)	Rainfall for 2009 to end of August (mm)	Percentage of long-term average for year to date
Waikanae	124	724	90%
Karori	120	800	94%
Kaitoke	257	1365	90%
Wainuiomata	170	1189	88%
Featherston ('Alloa')	98	659	92%
NE Wairarapa ('Tanawa Hut')	92	820	88%
Tararua Range ('Angle Knob')	809	4125	95%



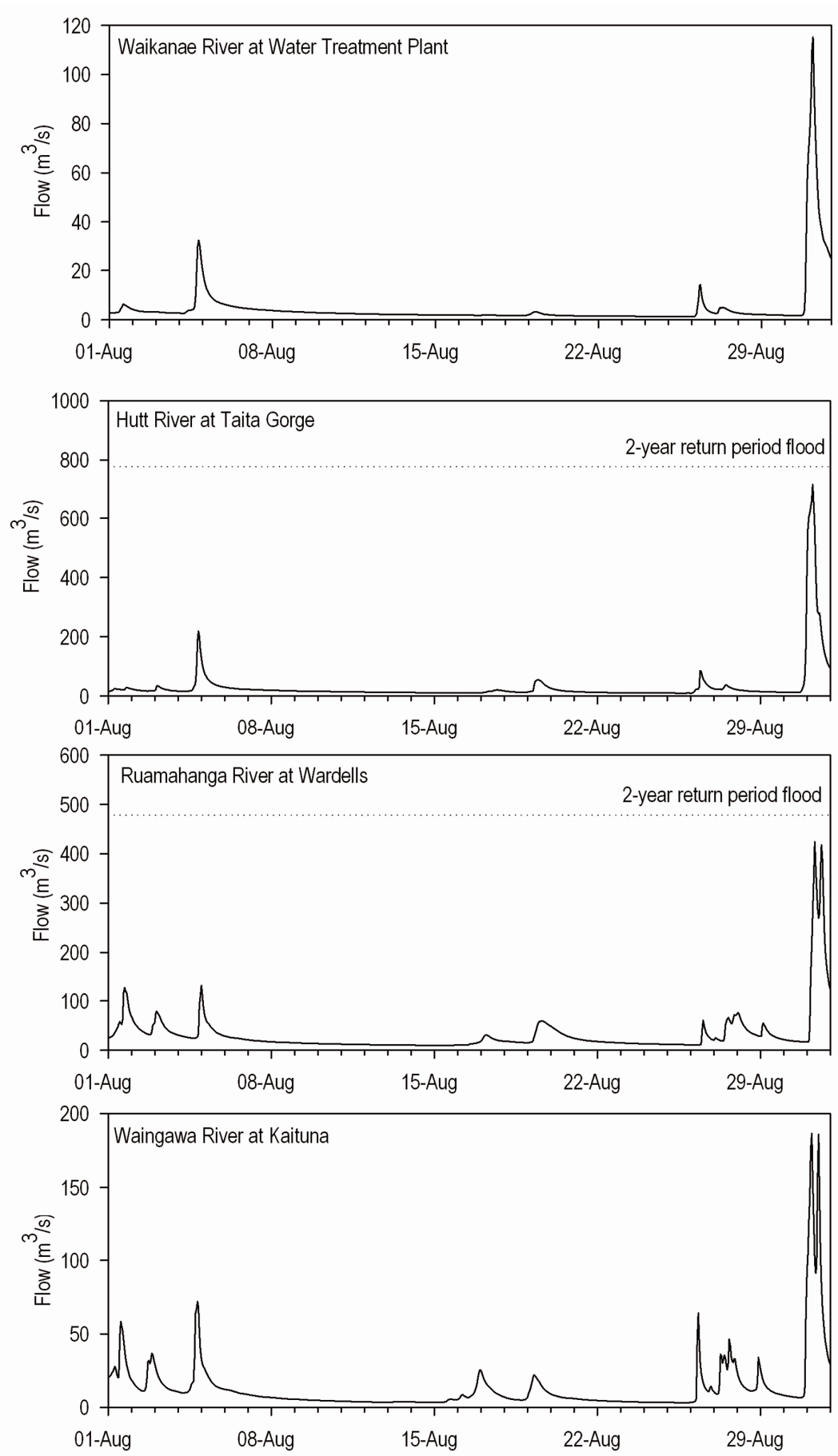
## Cumulative annual rainfall at selected sites in the Wellington region

### River flows during August

Overall, river flows were below average in the western part of the region during August, as a result of the settled weather that occurred for much of the month. The most significant flood of August occurred during the storm of the last two days of the month. Heavy rainfall in the Tararua Range and Hutt Valley resulted in floodwarning alarms being triggered for the Otaki River, Waikanae River, Hutt River, Waiwhetu Stream, Porirua Stream, and Wairarapa rivers fed from the Tararua Range. However, in the monitored rivers the floods were less than or equal to a 2-year return period, and generally did not reach levels as high as during the storm of 23 July.

### River flow statistics for August 2009 at some of Greater Wellington's flow monitoring locations

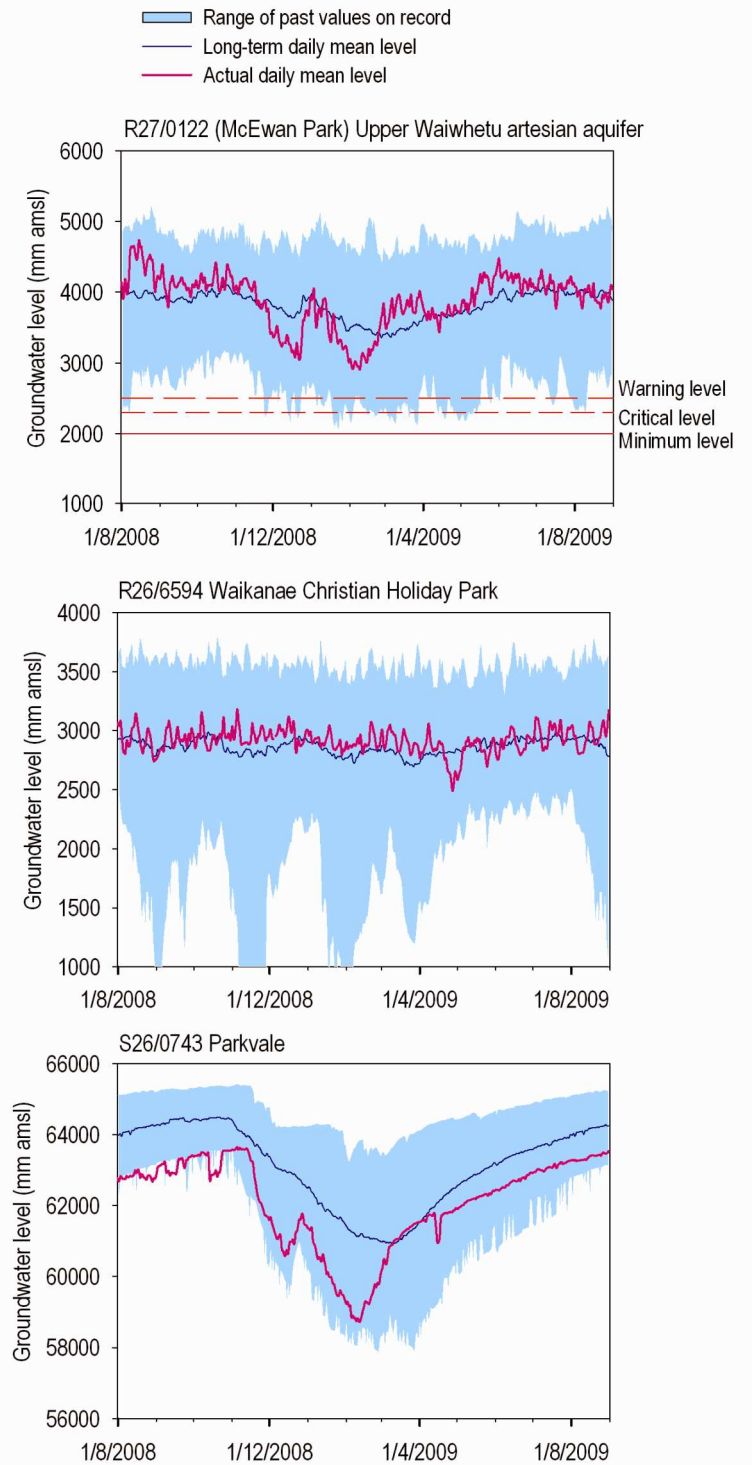
	Average river flow for August 2009	Percentage of long-term average	Highest flow during August (raw data)
Waikanae River at Water Treatment Plant	4.9 m <sup>3</sup> /s	82%	119 m <sup>3</sup> /s on 31 Aug
Akatarawa River at Cemetery	6.9 m <sup>3</sup> /s	98%	187 m <sup>3</sup> /s on 31 Aug
Mangaroa River at Te Marua	4.0 m <sup>3</sup> /s	80%	102 m <sup>3</sup> /s on 31 Aug
Hutt River at Taita Gorge	30.7 m <sup>3</sup> /s	93%	717 m <sup>3</sup> /s on 31 Aug
Wainuiomata River at Manuka Track	0.92 m <sup>3</sup> /s	72%	18 m <sup>3</sup> /s on 31 Aug
Waingawa River at Kaituna	13.5 m <sup>3</sup> /s	104%	198 m <sup>3</sup> /s on 31 Aug
Waiohine River at Gorge	28.6 m <sup>3</sup> /s	98%	489 m <sup>3</sup> /s on 31 Aug
Ruamahanga River at Wardells	31.8 m <sup>3</sup> /s	88%	424 m <sup>3</sup> /s on 31 Aug
Ruamahanga River at Waihenga	85.9 m <sup>3</sup> /s	66%	840 m <sup>3</sup> /s on 31 Aug



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

## Groundwater levels

Groundwater levels were around the long term average during August. In some aquifers, water levels gradually declined during the month, as a result of the low rainfall during July and the first half of August. However, the groundwater level response to the rainfall and high river flows that occurred at the end of the month is likely to be observed during September.



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

## **Climate outlook**

NIWA's climate outlook for September to November favours average or below average rainfall, river flows and soil moisture in Wellington and Wairarapa. An El Nino is now present in the equatorial Pacific, and is expected to result in more frequent south-westerly winds over New Zealand in the coming spring season. 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.