



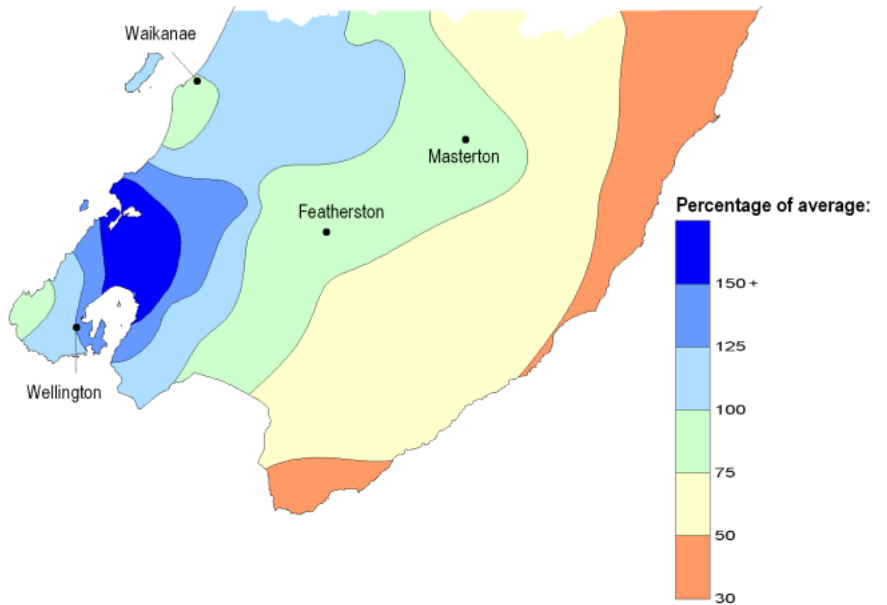
April 2009 hydrological summary

Environmental Monitoring and Investigations Department

Rainfall during April

April 2009 had more rainfall than normal around Wellington City, Lower Hutt and Porirua, but was extremely dry in the east of the Wellington region. Rainfall in the Tararua Range and on the Kapiti Coast was about average for April.

Despite the western parts of the region having average or above average rainfall totals, the weather during April was generally very settled and dry, with most of the rain falling in the last few days of the month. From 27th to 29th April a strong northwesterly flow brought several fronts to the region resulting in heavy rainfall in the Tararua Range, Wellington City and the Hutt Valley.



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

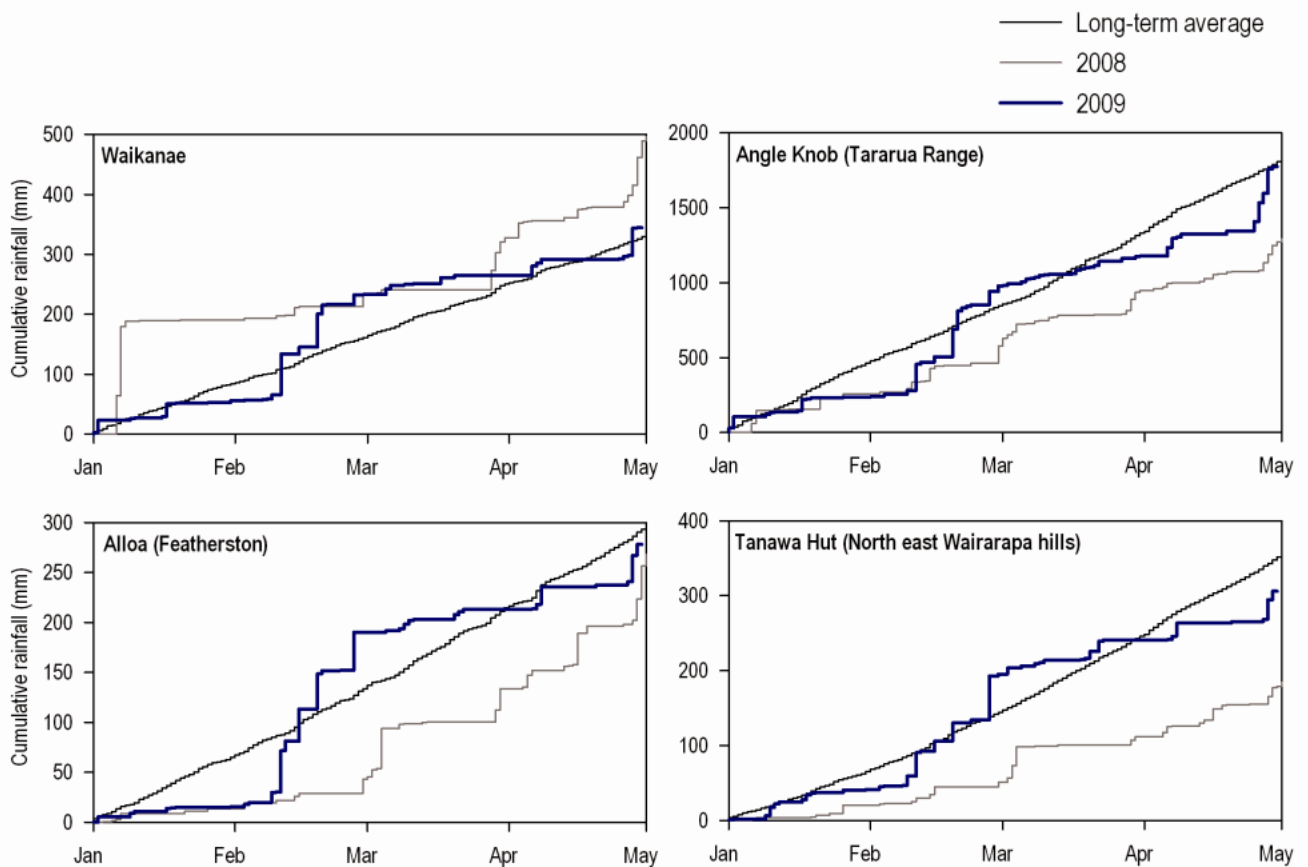
In the Wairarapa, April's rainfall was well below average, particularly in the east where rainfall was as low as one-third of the monthly average. This followed on from a dry March. Some 'spillover' rainfall occurred during the event of 27th-29th April, although this did not reach eastern Wairarapa. A southerly airflow on the last two days of April brought some much-needed light rain to the Wairarapa plains and eastern hill country.

Rainfall in the year to date

Rainfall for the first four months of 2009 was about average in the Tararua Range, Kapiti Coast and Wellington City, and slightly below average in the eastern parts of the Wellington region. March and April were particularly dry in the Wairarapa, but this fact is masked in the year-to-date totals by the relatively high rainfall received during February. In eastern Wairarapa, the rainfall total for 2009 to the end of April was considerably higher than at the same time in 2008 (as shown by the 'Tanawa Hut' graph on the next page).

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

	Rainfall for April at monitoring site (mm)	Rainfall for 2009 to end of April (mm)	Percentage of long-term average for year to date
Waikanae	79.5	345	105%
Karori	110 (estimate)	355	105%
Kaitoke	155	515	86%
Wainuiomata	161.5	392	81%
Featherston ('Alloa')	65	278	95%
NE Wairarapa ('Tanawa Hut')	27	306	88%
Tararua Range ('Angle Knob')	601	1774	99%



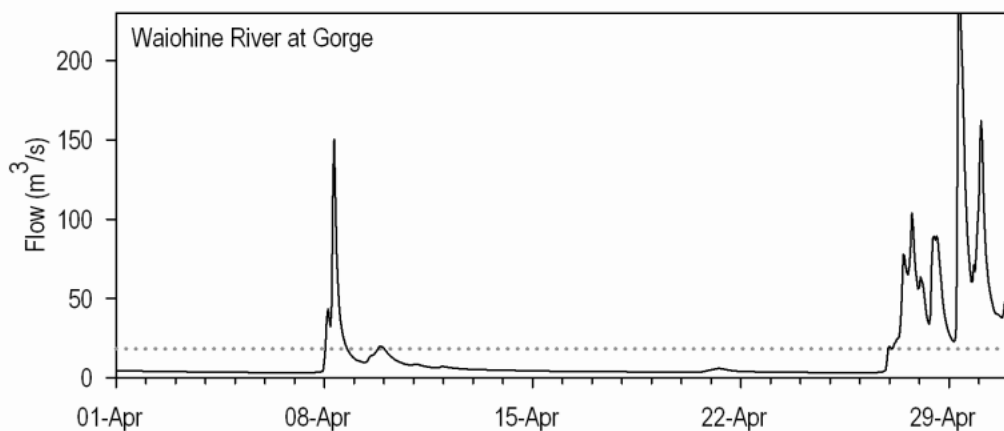
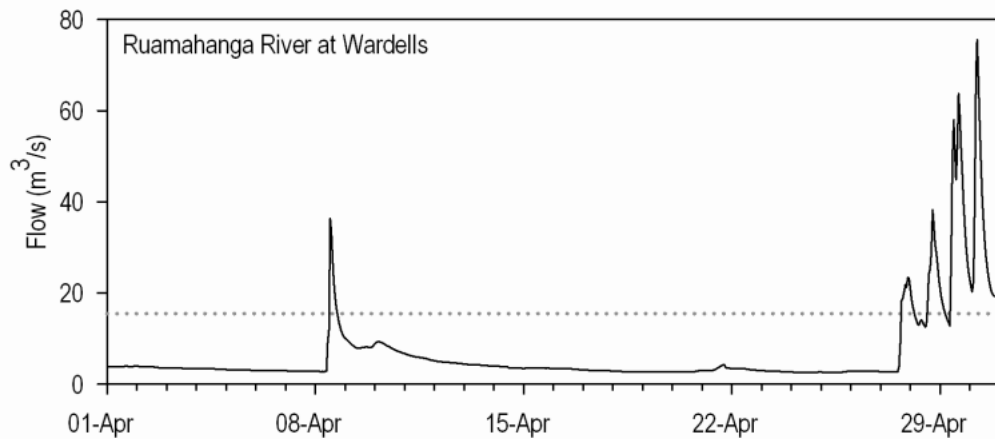
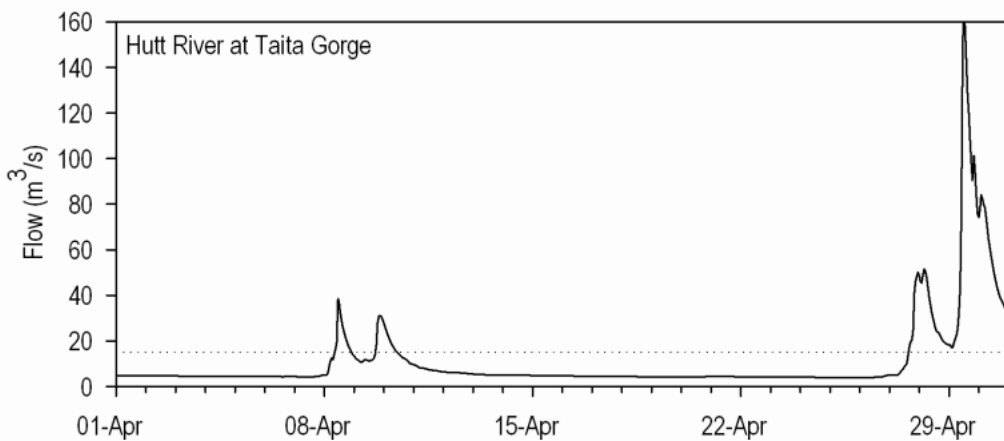
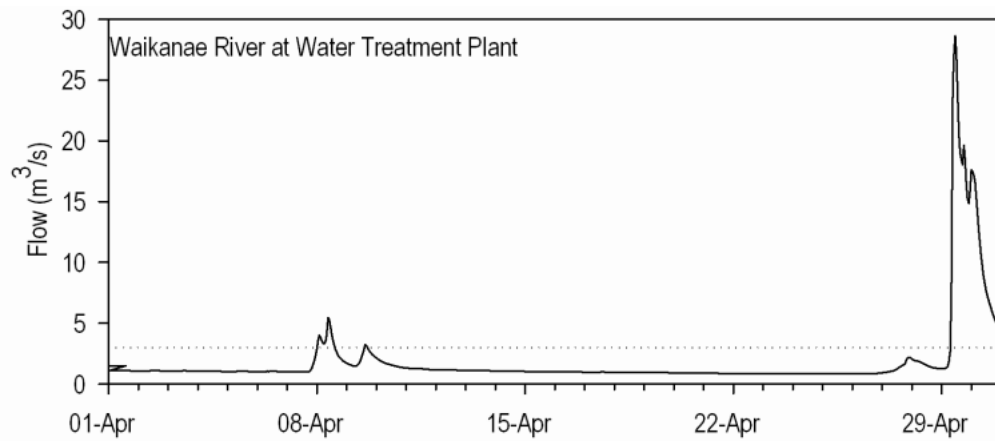
Cumulative annual rainfall at selected sites in the Wellington region

River flows during April

In general, river flows were below average during April, due to low rainfall for the first few weeks of the month. As this followed on from dry conditions during March, by mid-April some of the rivers were experiencing their lowest flows of the year to date. On 22 April, Kapiti Coast District Council turned off the public water supply take from the Waikanae River due to the low flows, for the first time this year. Heavy rainfall at the end of the month in the western part of the region boosted river flows, although there were no significant floods.

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

	Average river flow for April 2009	Percentage of long-term average	Highest flow during April (rawdata)	Lowest flow during April (rawdata)
Waikanae River at Water Treatment Plant	1.9 m ³ /s	63%	29 m ³ /s on 29 Apr	0.86 m ³ /s on 23 Apr
Akatarawa River at Cemetery	2.6 m ³ /s	75%	49 m ³ /s on 29 Apr	1.07 m ³ /s on 24 Apr
Mangaroa River at Te Marua	1.1 m ³ /s	50%	19 m ³ /s on 29 Apr	0.33 m ³ /s on 24 Apr
Hutt River at Taita Gorge	11.3 m ³ /s	75%	163 m ³ /s on 29 Apr	4.0 m ³ /s on 25 Apr
Wainuiomata River at Manuka Track	0.55 m ³ /s	115%	12 m ³ /s on 29 Apr	0.17 m ³ /s on 23 Apr
Waingawa River at Kaituna	5.0 m ³ /s	64%	65 m ³ /s on 30 Apr	1.07 m ³ /s on 26 Apr
Waiohine River at Gorge	14.7 m ³ /s	80%	288 m ³ /s on 29 Apr	3.2 m ³ /s on 7 Apr
Ruamahanga River at Wardells	6.7 m ³ /s	43%	78 m ³ /s on 30 Apr	2.57 m ³ /s on 24 Apr
Ruamahanga River at Waihenga	26.1 m ³ /s	45%	252 m ³ /s on 29 Apr	8.85 m ³ /s on 26 Apr



River flows recorded during April 2009 at selected Greater Wellington monitoring locations. The dotted lines indicate long-term mean flow for the month.

Groundwater levels

Groundwater levels during April generally reflected the climatic conditions. Relatively low levels were recorded for the time of the year in some Wairarapa aquifers while groundwater levels in the Hutt Valley and Kapiti Coast remained at or above average.

The Waikanae borefield was used for the first time this year due to low flow in the Waikanae River.

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 April. Levels at the Somes Island monitoring borehole approached the highest on record for the time of the year.

Waikanae

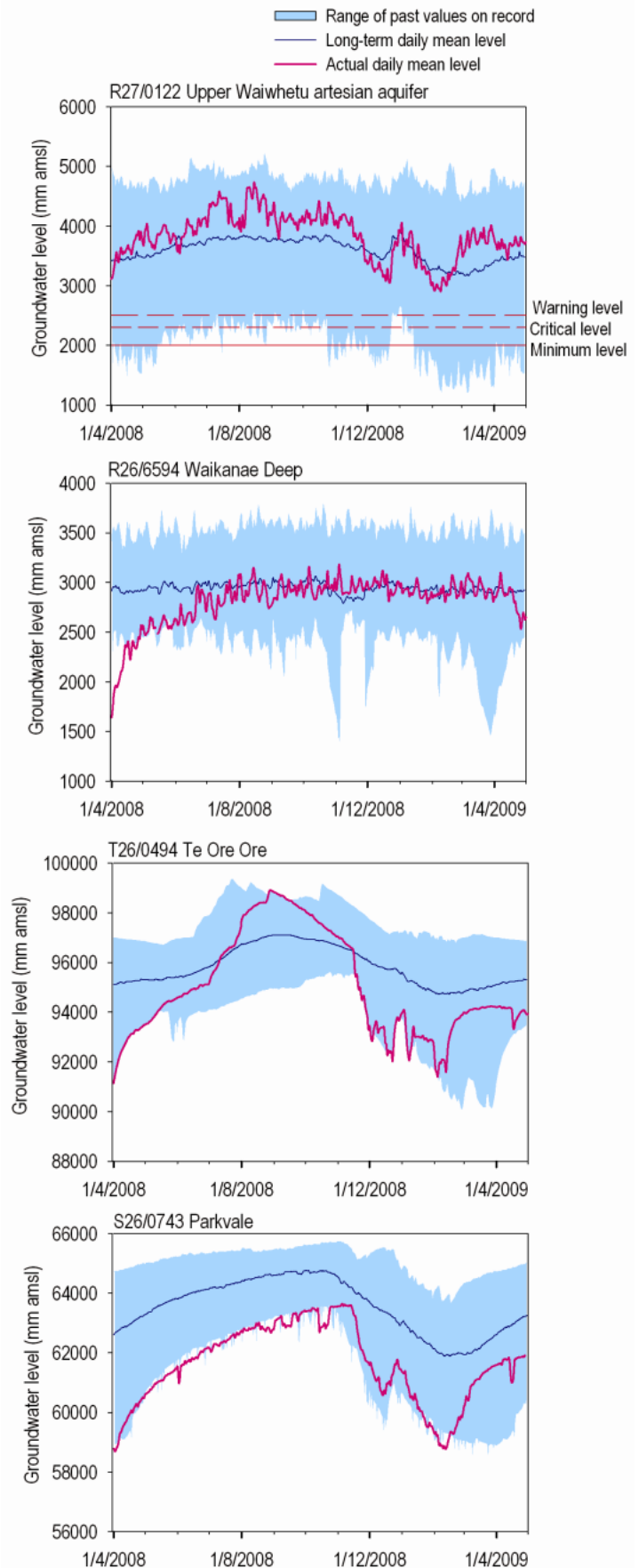
Groundwater levels in Kapiti Coast aquifers remained average or above average during April, although a small number of sites recorded below average levels.

Low groundwater levels were recorded in Waikanae following use of the bore field. These low levels are expected during bore field usage.

Wairarapa

At some groundwater monitoring sites in the Wairarapa the water levels were above average, and at other sites there were low levels for April. River-recharged aquifers in the Greytown, Masterton and Te Ore Ore areas showed low levels during the month. This is probably due to reduced recharge from the Waiohine, Waingawa and Ruamahanga rivers, which is a result of below-average flows in these rivers for the time of the year (see previous section). However, in general groundwater levels were higher than at the same time in 2008.

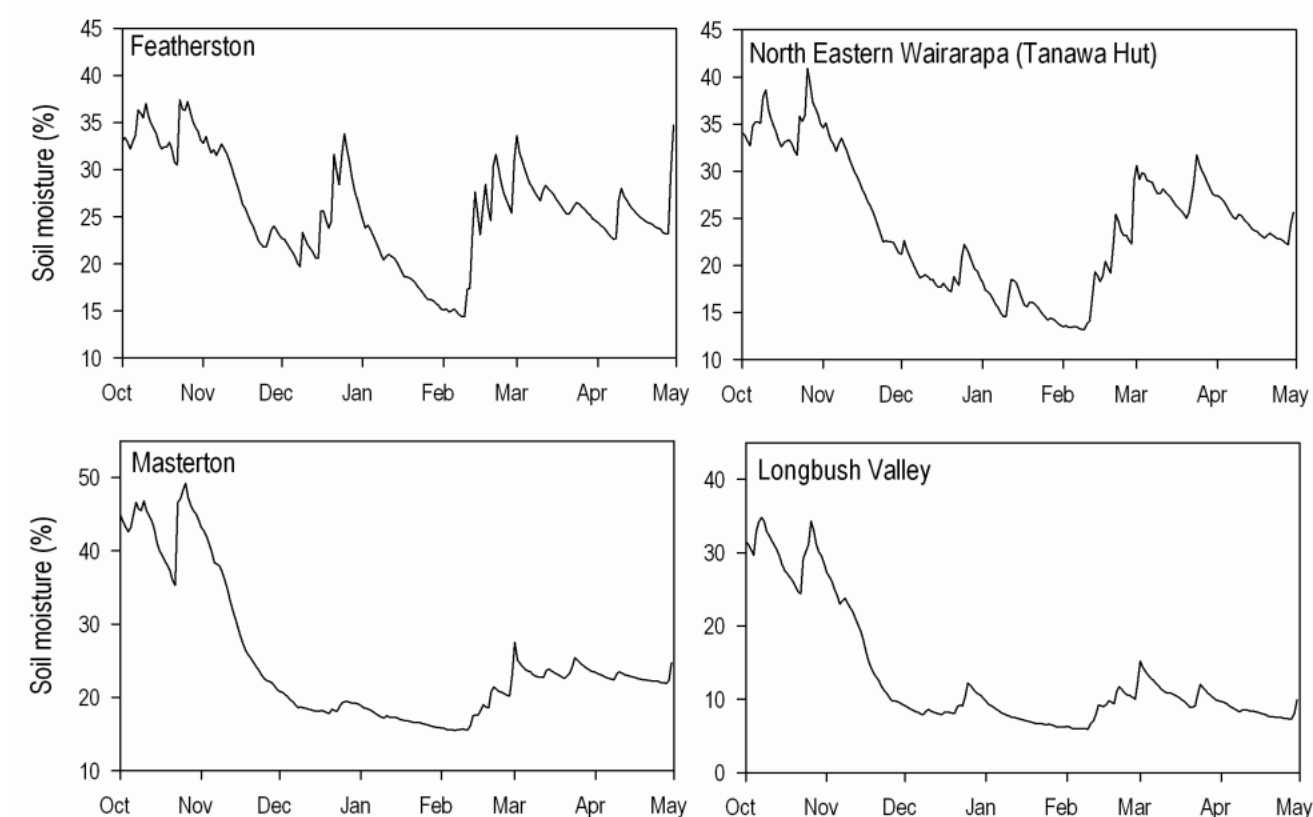
Water levels in the confined Parkvale aquifer were well above the long term minima for the first time in several years.



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

Soil moisture

Soil moisture in the Wairarapa tended to decline during April, but was boosted by the rainfall at the end of the month. Despite this, at the end of April soil moisture remained well below average for the time of the year, particularly in eastern Wairarapa.



Soil moisture content at Greater Wellington monitoring locations over the last year

Climate outlook

NIWA's climate outlook for May 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

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.