

July 2012 Monthly Flow and Rainfall Report

General

There were long fine periods in Otago in July, mostly due to persistent ridges of high pressure. The first occurred for the first 11 days of July and this brought cold frosty weather to the whole region.

From 12-15 July, a complex trough of low pressure spread rain to all of Otago with some heavy falls in the more western parts of the region.

That weather system then moved away and a ridge of high pressure associated with an anticyclone over the North Island brought mainly fine but milder weather to the region. A large complex depression developed over the North Island around 22 July and moved slowly southwards. The northerly windset over Otago during this time ensured temperatures were not as cold in this second period of dry weather as they were at the start of the month.

Late in the month, another deep depression developed in the Tasman Sea and as it moved towards New Zealand, its associated fronts brought rain from the easterly quarter with significant falls in many areas.

North Otago

Rainfall totals were generally above to well above average in this area in July. At most sites, at least 75% of the month's rain fell on the last two days of the month. Total falls at the indicator sites (average monthly totals in brackets) included:

Waikoura	87mm (45.6mm)	91% above average
Oamaru Airport	49mm (41.7mm)	18% above average
Oamaru Town	64.8mm (34.7mm)	87% above average
Kauru the Dasher	124mm (70.1mm)	77% above average
Islay Downs	95.5mm (50.5mm)	89% above average
Palmerston	77.7mm (56.7mm)	37% above average

Significant falls during the month included: on 13 July, Islay Downs 21.3mm, Palmerston 23.2mm; and on 30/31 July, Waikoura 73.7mm, Oamaru Airport 40.2mm, Oamaru Town 50mm, the Dasher 101.5mm, Islay Downs 65.5mm, Palmerston 45.4mm.

Average monthly river flows were below average for almost all of the month. For the Kakanui, the flood that occurred on the night of 31 July changed the average from well below average for the month to well above average. The Shag remained well below average for the month. The flood of 31 July saw the Kakanui River at Clifton Falls rise at least 2.5m. South of the Kakanui catchment, the flooding was not so great. No significant problems occurred due to the flooding apart from some road closures for a period of time.

Farmers report the month was good for farming due to the lack of rain during the month. The rain at the end of the month has now made it quite muddy.

Central Otago

Rainfall totals in this area were a mixture of well above and well below average falls. It tended to depend on whether the easterly quarter rainstorm at the end of the month produced significant rainfall at each site. Total falls at the indicator sites (average monthly totals in brackets) included:

Lindis Crossing	31mm (30mm)	3% above average
Cromwell	52.4mm (28.3mm)	85% above average
Alexandra	32.9mm (19mm)	73% above average
Hills Creek	42.5mm (35mm)	21% above average
Merino Ridges	41mm (24mm)	71% above average
Ranfurly	26.6mm (28.3mm)	6% below average
Tima	26.5mm (40.5mm)	35% below average

Significant falls included: on 13/14 July, Lindis Crossing 14mm, Cromwell 13.6mm, Alexandra 21.2mm, Merino Ridges 19mm, Ranfurly 15.4mm, Tima 18mm; and on 30 July, Lindis Crossing 12.5mm, Cromwell 35.2mm, Hills Creek 27mm, Merino Ridges 13.5mm.

Average monthly river flows were close to their long term averages for July. They fell steadily in the first 12 days of July but rainfall around 13-16 July saw them generally rise until around 22 July when they began to slowly fall again. No serious flooding occurred.

Farmers report a good month at first but everything is quite damp now. Frosts were a feature at the start of the month but not so significant in the second half of July.

Lakes Wanaka, Wakatipu and Hawea and Surrounding Areas

Rainfall totals were generally close to or below average throughout this area. Total falls at the indicator sites (average monthly totals in brackets) included:

Makarora Station	183.7mm (185.2mm)	1% below average
Hunter Valley Station	74.6mm (79.3mm)	6% below average
Glenfinnan	135mm (160mm)	16% below average
Hawea Flat	41.9mm (50.7mm)	17% below average
Routeburn Station	122.3mm (154.3mm)	21% below average
Queenstown	46.8mm (56.6mm)	17% below average

Significant falls during the month included: on 12-14 July, Makarora 140.3mm, Hunter Valley 56.6mm, Glenfinnan (Matukituki Valley) 97.5mm, Hawea Flat 26.3mm, Routeburn 100.2mm, Queenstown 28.4mm; and on 30 July Glenfinnan 21.1mm.

Average monthly river flows were above their long term averages for July. Rivers rose on 14/15 July due to the heavy rain at the time. The Dart at the Hillocks rose about 1.0m, the Shotover at Bowens Park and the Nevis at Wentworth Station about 0.5m.

Levels in Lakes Wanaka and Wakatipu began the month at 277.04m and 309.69m, 0.01m and 0.05m below their long term averages of 277.03m and 309.74m respectively. Levels in these lakes steadily fell until 13 July when the heavy rainfall began. Lake Wanaka rose to 277.31m, 0.28m above average and Wakatipu to 309.72m, 0.02m below average. The levels then generally fell to end the month at 276.92m and 309.59m, 0.11m and 0.15m below average respectively.

Lake Hawea began the month at 340.41m 3.75m below the long term average of 344.16m. This lake fell slowly throughout the month to end July at 339.78m, 1.22m above the minimum level for this lake of 338m.

Farmers report cold, foggy and frosty weather at the start of July but after the rain in the middle of the month, temperatures were milder. The ground is muddy now.

Strath Taieri, Lower Taieri and Dunedin

Rainfall totals in this area varied from 39% above average to 30% below average for the month. Total falls at the indicator sties (average monthly totals in brackets) included:

Middlemarch	40mm (31.6mm)	27% above average
Musselburgh Dunedin	47.4mm (62.5mm)	24% below average
Lee Flat	40.3mm (54mm)	25% below average
Maungatua	44.3mm (63.7mm)	30% below average
Dunedin Airport	43mm (48mm)	10% below average
Pine Hill	73.5mm (53mm)	39% above average

Significant falls during the month included: on 13 July, Middlemarch 19.6mm, Lee Flat 12.1mm, Maungatua 11.0mm, Pine Hill 11.5mm; and on 30/31 July, Middlemarch 13.2mm, Dunedin Airport 21.8mm, Musselburgh 27.8mm, Lee Flat 14.5mm, Maungatua 18mm, Pine Hill 43.5mm.

Average monthly river flows were close to or below their long term averages for July. Flows declined steadily at the beginning of the month until the heavier rain of 13 July. All rose by about 0.5m and during 14/15 July, but began to fall again after that. No flooding occurred.

Farmers report there were a lot of frosts at the beginning of the month but after the rain in the middle of July, conditions were milder with fewer frosts. Ground conditions were reasonably dry until the rain at the end of the month.

South and West Otago

Rainfall totals varied in this area from average to well below average. Total falls at the indicator sites (average monthly totals in brackets) included:

Tuapeka Mouth	32.4mm (44.5mm)	27% below average
Balclutha	43.5mm (51.3mm)	15% below average
Waikoikoi	42.6mm (67.2mm)	37% below average
Slopedown	24.9mm (117mm)	79% below average
Moa Flat	37.5mm (36mm)	4% above average
Clarks Flat	34mm (45mm)	24% below average

Significant falls during the month included: on 13/14 July, Balclutha 23.5mm, Waikoikoi 23.7mm, Moa Flat 16mm, Clarks Flat 13mm; and on 30 July, Balclutha 14mm, Clarks Flat 12.5mm.

Average monthly river flows were close to or below their long term averages for July. There were rises of more than 1m at some sites during the month with the Pomahaka at Burkes Ford rising about 1.6m on 31 July. No significant flooding occurred.

Farmers report a good month with frosts at the start of the month and then milder after that. The recent rain has caused the ground to become muddy now.

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* Data sources – Private individuals, Dunedin City Council, Otago Regional Council, NIWA