

September 2012 Monthly Flow and Rainfall Report

General

The main rainbearing systems in Otago in September were from the west. Weather systems from the west to northwest dominated the first 16 days of the month and for 4 days later in the month also. These weather systems brought heavy rain in the west of the Otago region and at times into parts of Central Otago. Some rain also spread to other parts of the region from time to time.

In the middle of this 16 day period, a cold southerly outbreak brought snow to quite low levels throughout much of Otago but it was short-lived as the next northwesterly storm quickly cleared the low elevation snow.

An anticyclone brought a period of fine weather to the whole region for about 7 days from 17-24 September before the next northwesterly storm arrived. Another northwesterly storm was recorded on 30 September which was accompanied by widespread rain.

North Otago

Rainfall totals for September in this area were quite varied and ranged from 60% below average to almost 20% above average. Total falls at the indicator sites (average monthly totals in brackets) included:

Waikoura	35.6mm (36mm)	average
Oamaru Airport	35.4mm (30.1mm)	17% above average
Oamaru Town	33.8mm (32.3mm)	5% above average
Kauru, the Dasher	38.5mm (47.2mm)	18% below average
Islay Downs	44.7mm (44.9mm)	average
Palmerston	26.4mm (44.1mm)	40% below average

Significant falls occurred on 26 September (Waikoura 20mm, Oamaru Airport 22mm, Oamaru Town 19.6mm, the Dasher 13.5mm, Islay Downs 18.3mm) and on 30 September the Dasher 13.5mm.

Average monthly river flows were generally close to or above average for September. They began the month still in recession from August's heavy rain and the rain during September ensured that they remained at good flows for September. No high or low flows occurred during the month.

Farmers report good growth. Soil moisture levels were still good and the weather had improved from the very wet August.

Central Otago

Well above average rainfalls were recorded throughout Central Otago with the exception of the area downstream of Alexandra. Total falls at the indicator sites (average monthly totals in brackets) included:

Lindis Crossing	57mm (37.9mm)	50% above average
Cromwell	47.4mm (30mm)	58% above average
Alexandra	32.7mm (20.9mm)	56% above average
Hills Creek	63.0mm (28mm)	125% above average
Merino Ridges	38.5mm (24mm)	60% above average
Ranfurly	52.2mm (27.3mm)	91% above average
Tima	33.5mm (43.3mm)	23% below average

Significant falls during the month included: on 6-8 September, Lindis Crossing 44mm, Cromwell 26.8mm, Alexandra 19.9mm Hills Creek 24.5mm; on 25 September, Lindis Crossing 12mm, Hills Creek 25mm; and on 26 September, Ranfurly 24.4mm.

River flows remained about or above average for the month and rises of up to 1m occurred in some rivers following the rain of 6-8 September. No major floods occurred.

Lakes Wanaka, Wakatipu and Hawea and Surrounding Areas

Very heavy rain occurred at times in this area during September and at Makarora Station and Routeburn Station, almost half a metre of rain was recorded for the month. Total falls at the indicator sites (average monthly totals in brackets) included:

Makarora Station	488.3mm (237.8mm)	109% above average
Hunter Valley Station	202.6mm (114mm)	78% above average
Glenfinnan (Matukituki)	429.3mm (202,1mm)	112% above average
Hawea Flat	104.3mm (61.2mm)	70% above average
Routeburn Station	464mm (224.8mm)	106% above average
Queenstown	143.2mm (70.4mm)	103% above average

There were numerous heavy falls during the month. In the first 9 days of September, Makarora recorded 307.5mm, Hunter Valley 143.4mm, Glenfinnan 255.4mm, Hawea Flat 79mm, Routeburn 245.3mm, Queenstown 90.3mm; on 14 September, Makarora 48.3mm, Glenfinnan 45.9mm, Routeburn 88.3mm; on 25 September, Makarora 55.2mm, Glenfinnan 39.2mm, Routeburn 30.3mm; and on 30 September Makarora 42.2mm, Glenfinnan 38mm, Routeburn 64.8mm.

All rivers had rises of 2-3m resulting from the heavier bursts of rain and this happened about 3 times during the month. As a result, average monthly river flows were well above their long term averages.

Levels in Lakes Wanaka and Wakatipu rose significantly during the month. Wanaka began at 276.59m and Wakatipu at 309.40m, 0.08m and 0.23m below their long term averages of 276.67m and 309.63m respectively. The rain of the first 9 days of the month caused levels to rise and Wanaka reached a level on 9 September of 277.95m, 1.28m above average and Wakatipu 310.96m on 10 September, 1.33m above average. Both lakes then slowly declined during the month to end the month at 277.65m and 310.04m, 0.98m and 0.41m above average respectively.

Lake Hawea outflows were mostly at minimum during the month. The lake level began the month at 338.49m, 2.77m below the longterm average of 341.26m and it rose steadily to end the month at 340.32m, 0.94m below average.

Farmers in the headwaters report cold wet conditions at times with slow growth. Less rain and some warmth is now required to boost growth. Away from the headwaters, growth has been good but more warmth would be welcome.

Strath Taieri, Lower Taieri and Dunedin

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

Middlemarch	23.2mm (31.5mm)	26% below average
Musselburgh Dunedin	52.6mm (53.2mm)	3% above average
Lee Flat	55mm (50mm)	10% above average
Maungatua	66.2mm (54.5mm)	21% above average
Dunedin Airport	35.8mm (44.2mm)	19% below average
Pine Hill	56mm (52mm)	8% above average

Significant falls during the month included: on 10/11 September, Musselburgh 29.2mm, Lee Flat 17.6mm, Maungatua 19mm, Pine Hill 20mm; and on 30 September, Musselburgh 10mm, Maungatua 12mm, Pine Hill 11.5mm.

Average monthly river flows were generally close to their long term averages. There were no major rises in any of the rivers and streams.

Farmers report a good month for growth and soil moisture is good.

South and West Otago

Rainfall totals were generally above average for the month throughout this region. Total falls at the indicator sites (average monthly totals in brackets) included:

Tuapeka Mouth	71.8mm (49.5mm)	45% above average
Balclutha	66mm (56.2mm)	17% above average
Waikoikoi	75.3mm (65.6mm)	15% above average
Slopedown	162.6mm (112.4mm)	45% above average

Moa Flat	57.5mm (51mm)	13% above average
Clarks Flat	81mm (50mm)	62% above average

Significant falls during the month included: on 3/4 September, Tuapeka Mouth 18.3mm, Waikoikoi 16.7mm, Slopedown 58.7mm; on 10/11 September, Balclutha 19.5mm, Waikoikoi 23mm, Slopedown 36mm; on 14 September, Slopedown 19.3mm.

Clutha and Waipahi rivers average monthly river flows were above their long term averages, the Clutha because of the higher outflows from Lakes Wanaka and Wakatipu and the Waipahi because of the heavy rain at times in its headwaters. Other average monthly river flows were below their long term averages for September.

In all rivers there were no particularly high flows and so no flooding occurred.

Farmers report that growth has been good during September and in some areas pasture growth was up to 3 weeks ahead of what it would normally be at this time of the year.

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