

## October 2012 Monthly Flow and Rainfall Report

### General

Generally cold and wet would sum up the weather in all of Otago in October 2012. Winds from the westerly quarter persisted throughout the month with a series of fronts, troughs and low pressure systems bringing rain to all of Otago from time to time and when the winds turned southwest at times, snow occasionally occurred on the hills. There were occasional winds from the easterly quarter as low pressure systems crossed the South Island and these ensured that good rainfalls occurred in North Otago as well.

The month was very unsettled with little dry settled anticyclonic weather throughout the month. The often persistent winds from the southwest ensured cooler than usual conditions and the month was generally very windy.

Before October, conditions had been good enough in much of Otago that growth was 2-3 weeks ahead of where it would normally be at the start of October but the persistent cold, wet and windy conditions in October has slowed growth considerably and now it is no longer ahead.

### North Otago

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

Waikoura	70.5mm (49mm)	44% above average
Oamaru Airport	72.4mm (39mm)	86% above average
Oamaru Town	N/A	
Kauru, the Dasher	74.5mm (63mm)	18% above average
Islay Downs	N/A	
Palmerston	64.4mm (49mm)	31% above average

Significant falls during the month include: on 1 October, the Dasher 13.8mm; on 8 October, Waikoura 12mm, the Dasher 32mm, Palmerston 12.9mm; on 13/14 October, Waikoura 20.5mm, Oamaru Airport 33mm, Palmerston 14.5mm; and on 21 October, Waikoura 17.5mm, Oamaru Airport 17mm, Palmerston 21.9mm.

Average monthly river flows were above their long term averages for the month. There were no large river rises but the ongoing rain from time to time resulted in above average flows. It is an indication that soil moisture is good at present.

Farmers report cold, wet and windy conditions at times. Growth has slowed. More sunshine and less wind and cold are needed in November to boost growth.

### Central Otago

Rainfall totals were generally close to or a little below average for October. Total falls at the indicator sites (average monthly totals in brackets) included:

Lindis Crossing	35mm (45.3mm)	23% below average
Cromwell	26.8mm (36.8mm)	27% below average
Alexandra	20.1mm (30.8mm)	35% below average
Hills Creek	44mm (48mm)	8% below average
Merino Ridges	27.5mm (39mm)	2% above average
Ranfurly	36mm (38.4mm)	6% below average
Tima	51mm (59.2mm)	14% below average

Significant falls during the month included on 12/13 October, Hills Creek 23mm, Merino Ridges 15mm, Ranfurly 17.2mm.

Average monthly river flows were generally above average for October. The ongoing rainfalls from time to time combined with snowmelt kept the rivers and streams at above average flows for the month. No major rises occurred during October.

Farmers report slow growth due to the cold wet windy conditions. Sunshine and less wind are required in November to boost growth.

### Lakes Wanaka, Wakatipu and Hawea and Surrounding Areas

For the second month in succession, this region recorded average or above average rainfalls. Total falls at the indicator sites (average monthly totals in brackets) included:

Makarora Station	318.1mm (241.8mm)	32% above average
Hunter Valley Station	107mm (102.3mm)	5% above average
Glenfinnan	303.7mm (208.2mm)	46% above average
Hawea Flat	70.6mm (62.5mm)	13% above average
Routeburn Station	336.9mm (245.9mm)	37% above average
Queenstown	77.4mm (81.9mm)	5% below average

Significant falls during the month included: on 5 October, Makarora 30mm, Glenfinnan 34.2mm, Routeburn 47mm; on 11-13 October, Makarora 82.3mm, Hunter Valley 36mm, Glenfinnan 83.7mm, Hawea Flat 26.5mm, Routeburn 88.8mm, Queenstown 20.3mm; on 20 October, Makarora 53mm, Glenfinnan 63.5mm, Routeburn 56.7mm; and on 23/25 October, Routeburn 69mm.

Average monthly river flows were above their long term averages for October and rises of more than 1m occurred in many of the rivers draining the main divide each time there was heavy rain. No major floods occurred.

Levels in Lakes Wanaka and Wakatipu began the month at 277.65m and 310.06m, 0.59m and 0.25m above their long term averages of 277.06m and 309.81m respectively. The regular belts of heavy rain kept flows higher than usual and the lake levels remained relatively steady although Wanaka did rise 0.2m in the middle of the month. By the end of October, the lake levels were 277.75m and 310.09m, 0.69m and 0.28m above average respectively.

With outflows being kept to minimum and good inflows due to the continuing rain, Lake Hawea rose 1.63m from 340.33m to 342m. Its long term average for October is 341.63m so while it began 1.26m below average, it ended the month 0.37m above average and 4m from its full level. Since 1 September, this lake has risen 3.5m.

Farmers report another cold, wet month with slow growth. Some are still feeding out to supplement the slow growth. Warmth, sunshine and less rain are needed in November to get growth up to its expected level at this time of the year.

### **Strath Taieri, Lower Taieri and Dunedin**

For areas less exposed to the easterly quarter rain, rainfall totals were below average but for others, it was above average. Total falls at the indicator sites (average monthly totals in brackets) included;

Middlemarch	37.8mm (47.8mm)	21% below average
Musselburgh Dunedin	56.6mm (64.6mm)	13% below average
Lee Flat	83.9mm (65mm)	29% above average
Dunedin Airport	45.2mm (61mm)	26% below average
Maungatua	N/A	
Pine Hill	102mm (69mm)	48% above average

The only significant falls occurred on 12 October (Pine Hill 15mm) and on 19 October Pine Hill 14.5mm, Lee Flat 14mm.

Rain was recorded on more than half the days during the month at most sites. The worst affected was Lee Flat with rain on 28 of the 31 days, Pine Hill 25 of 31 days, Dunedin Airport 25 of 31 days and Musselburgh 21 of 31 days.

Average monthly river flows were close to or above their long term averages for October. No major rises occurred but the ongoing rain kept flows higher than usual for this time of the year.

Farmers report cold, wet, windy conditions and warmth, less wind and sunshine are urgently needed to ensure good growth in November. While this region's growth was a few weeks ahead of normal at the end of September, the cold and wet of October means that it is back to normal now.

## **South and West Otago**

Rainfall totals in this region ranged from average to well above average for October. Total falls at the indicator sites (average monthly totals in brackets) included:

Tuapeka Mouth	68.3mm (60.1mm)	14% above average
Balclutha	N/A	
Waikoikoi	133.5mm (76mm)	128% above average
Slopedown	200.7mm (126.5mm)	59% above average
Moa Flat	78mm (82mm)	5% below average
Clarks Flat	70.5mm (65mm)	8% above average

Significant falls during the month included: on 3 October, Slopedown 16.8mm; on 12 October, Waikoikoi 19.5mm, Slopedown 31.4mm; on 18/19 October, Waikoikoi 22.6mm, Slopedown 30.9mm, Moa Flat 20mm; and on 22 October, Waikoikoi 17.6mm.

During the month, Slopedown had only 5 days when rain was not recorded, Clarks Flat 9 days, Moa Flat 10 days and Waikoikoi 11 days.

Average monthly river flows were above their long term averages for October in most rivers. The heavier rain in the catchments draining more southern areas caused these rivers to have quite high monthly flows but rivers like the Tuapeka were closer to average. The Clutha was above average due to both the above average outflows from Lakes Wanaka and Wakatipu and the above average flows from many of the tributaries in the lower Clutha area. Rises of up to 1m were recorded on a few occasions in the Pomahaka at Burkes Ford and the Waipahi River but no major flooding occurred.

Farmers report the cold, wet, windy, miserable conditions have slowed growth considerably and has reduced what was a most promising and good spring, back to an average spring now with slow growth. Sunshine, warmth and less wind are required in November to ensure good growth going into summer.

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