

Meteorological Records

Marion Grassie

The main features of 2010 were the November / December snowfall and prolonged very low temperatures, breaking SCRI's previous records for December, set in 2009. Most significant were the 13 days from 24 November until 6 December, when 11 days of snow were recorded. The total precipitation for this period totalled 60 mm, the greatest amount falling during the 24 hour period from 0900 on 27 November, with 26.5 mm. Continuous low temperatures prevented melting and snow depth reached 25 cm on 2 December. Considerable national disruption occurred, including closure of SCRI.

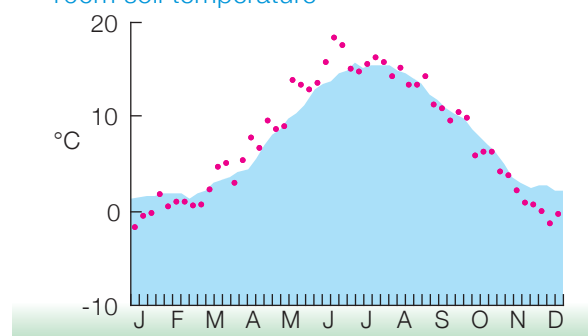
In contrast, higher than normal air and soil temperatures occurred for 8 months of the year, the warmest single day being 24 May, the sunniest month, with an air maximum of 26°C. Other features include greater than average sunshine and greater than average rainfall, with widespread flooding during July.

Temperature All months from March to October boasted mean maximum air temperatures higher than the Long Term Average (LTA), most significant being June with 19.3°C (LTA 16.8°C). Highest air temperatures recorded during months May to September were 26.0°C, 23.7°C, 22.4°C, 23.7°C and 21.4°C respectively. Average maximum figures for January, February, November and

December were all lower than expected, in particular December, at 1.7°C (LTA 6.7°C), the lowest on our records.

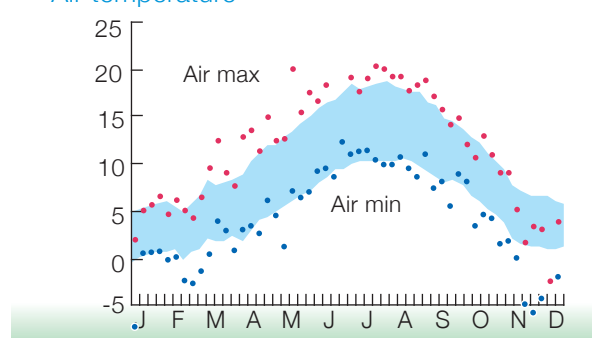
Mean minimum air temperatures were all lower than the LTA with the exceptions of June, July and October, which were all slightly higher, most noteworthy being December with -5.7°C, the lowest on our records, considerably lower than the LTA of 1.2°C, and beating the -3.4°C recorded in 2009.

10cm soil temperature

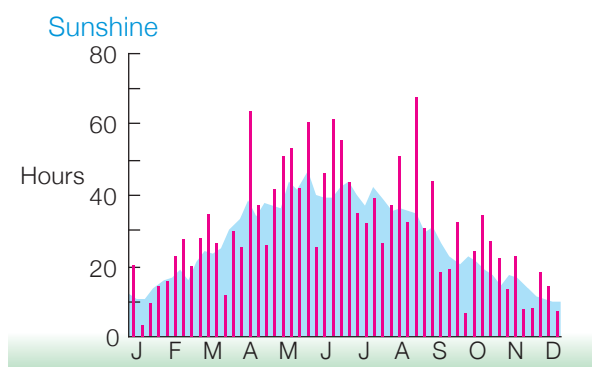


The lowest air temperatures recorded throughout the year were, with the exception of June and July, all lower than the LTA. In particular, January, February, March and December displayed temperatures down to -9.4°C, -7.5°C, -5.2°C and -13.8°C respectively (-5.5°C, -4.7°C, -2.8°C and -5.3°C LTA). December's figure is again the lowest on our records and January, the second lowest. The total number of days for 2010 with air temperature <0°C came to 90, double that of the LTA of 47. January to March, May, November and December all had higher figures than the LTA, particularly December, with 28 days against the expected 10, the highest number on our records, surpassing the record 25 days registered in 2009. All other months had equal to, and April less than, the LTA.

Air temperature



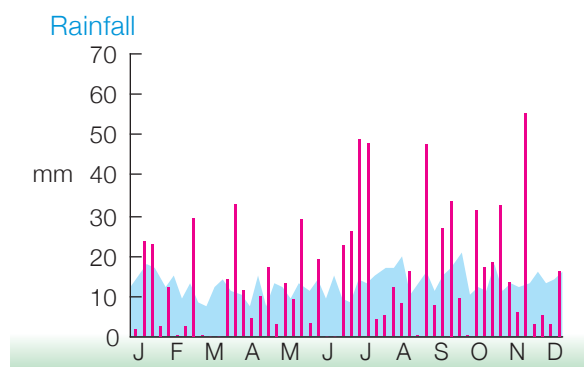
Blue areas on figures indicate long term average 1961–1990
Statistics are measured against the monthly Long Term Average (LTA) for 1971 to 2000.



Minimum grass temperatures showed mixed results with January, June, July and November all displaying higher than expected figures, particularly July with 6.1°C (LTA 1.2°C). The rest were equal to or lower than the LTA. Of particular note was December with -13.8°C against the LTA figure of -9.2°C. The total number of days with grass temperature <0°C (frost) was 140, 6 days more than the LTA of 134. Although only June, July and August escaped frost, most months had fewer nights of frost than expected, with the exceptions of February with 22 (LTA 20), May with 11 (LTA 7), November with 20 (LTA 18) and notably December, which had 31 nights of frost for the second year running – the only occasions on our records (LTA 21).

Mean soil temperatures for 10, 20 and 30 cm were at or close to the LTA for most months. However the general trend showed April to October to be above the LTA with January to March, November and December all slightly lower than normal.

Sunshine and solar radiation With the exception of March and July which were slightly lower than normal, sunshine figures were all higher than expected with a total of 1563.4 hours of bright sunshine, compared to the LTA of 1411.6 hours. In particular April, May, June and August had 177.3, 209.3, 206.7 and 183.4 sunshine hours respectively (143.3, 188.1, 170.6 and 164.9 hours LTA).



Solar radiation values were again higher than normal with the exception of August and October.

Rainfall For the seventh year in a row, rainfall levels were higher than the LTA, the annual total reaching 773.5 mm as compared to the expected 664.5 mm. May, July and September to November all had higher rainfall levels, significant months being July, with 144.3 mm – three times the LTA of 52.7, September, with 104.3 mm (LTA 64.4) and November, which produced 120.2 mm, more than double the LTA 52.1 mm. 2010 produced 49 days with >5.0 mm rain against the expected 37. Particular days of note are 14 and 20 July which had 41.1 mm and 37 mm rainfall respectively. Of the seven months with less than normal rainfall, most noteworthy is June, with 23.2 mm (LTA 51.7 mm) and December with 32.8 (LTA 66.4 mm), both with less than half the rainfall expected. No rainfall at all was recorded during the first three weeks of March, nor for two full weeks in June.

Thunder was reported four times during the year, during January, July, September and most notably on 28 November when it constituted a thunder snowstorm.

Snow or sleet was recorded on 28 days, notably January with 8 days of snow, November and December both with 7. Hail was recorded on 5 days.

Wind Generally, wind speeds were unremarkable with only 3 recorded days of gale (mean wind speeds of 34 knots+) compared with the 20 in 2008.

SCRI's weather data is available on our website. You can find a general overview, a data page and a current weather page that displays the present day's data from SCRI's Automatic Weather Station, updated in 15 minute intervals.

Every month, our weather data is featured in the Courier and Dundee Evening Telegraph.