

**DECEMBER STATISTICS RECORDED
AT LERWICK OBSERVATORY**

| | December 2009 | Averages 1971-2000 |
|------------------------------|--------------------------|-------------------------------|
| Mean maximum temperature | 5.4°C | 6.2°C |
| Mean minimum temperature | 2.4°C | 2.0°C |
| Daily mean temperature | 3.9°C | 4.1°C |
| Mean sea-level pressure | 1005.2 hPa (mb) | 1006.2 hPa (mb) |
| Total rainfall | 100.2 mm | 150.0 mm |
| Wet days => 1 mm | 22 days | 22.2 days |
| Sunshine (electronic sensor) | 28.3 hours | 14.9 hours |
| Air frosts | 12 days | 6.8 days |
| Ground frosts | 20 days | 14.3 days |
| Snow/sleet | 15 days | 11.3 days |
| Days with gale | 2 days | 7.4 days |
| Maximum daily mean temp. | 7.8°C on 9th | |
| Minimum daily mean temp. | -0.1°C on 20th | |
| Highest maximum | 9.4°C on 9th | |
| Lowest day maximum | -0.4°C on 19th | |
| Highest night minimum | 7.2°C on 14th | |
| Lowest minimum | -4.6°C on 20th | |
| Lowest grass minimum | -7.3°C on 18th | |
| Wettest day | 9.2 mm on 6th | |
| Sunniest day | 4.1 hours on 27th | |
| Highest mean hourly wind | 37 knots on 2nd | Direction S'yly |
| Highest gust | 52 knots on 1st | Direction S'yly |

COLD, DRY AND SUNNY

December was rather changeable. The first 10 days were mild with mainly SW'yly winds, as a number of Atlantic depressions tracked in a roughly north-easterly direction. It then turned colder, with the next ten days seeing generally N'yly winds, brought about by either high pressure in the Greenland/Iceland area, low pressure over Scandinavia, or a combination of the two. The final third of the month continued cold, with winds mostly from an E or NE'yly quarter in the Northern Isles, as low pressure became slow-moving over the UK. As this low pressure drifted away into Scandinavia - and with pressure still high to the northwest - the last few days saw a return of cold N'yly winds. Snow lay across many parts of Shetland for most of the second half of the month.

Across the UK as a whole it was a very cold month, with mean temperatures as much as 2.0° Celsius below the 1971-2000 normal. Provisionally, it was the coldest December over the UK since 1995. In Scotland, with mean temperatures typically 2.5° to 3.5° Celsius below normal, it was the coldest December since 1981 and the third coldest in a series from 1914. The number of days with air frost was the highest for December since 1981.

Rainfall in Scotland was generally well below average, particularly across western and northern areas, where less than 50% of normal was recorded. Provisionally, it was the driest December since 2002. Sunshine totals varied, from well above normal across northern areas to somewhat below in parts of the east.

Lerwick had its coldest December since 1999, with the greatest number of air frosts since 1996. It was the driest since 1997 and the sunniest since 2001.

In Shetland the month began with a frosty start to the 1st but then turned mild, as a ridge declined east and SE'yly winds freshened, ahead of a front pushed northeast over Scotland by a deep Atlantic depression. Winds strengthened gale or severe gale-force by the end of the day, with gusts to 60mph on Fair Isle overnight. The front, bringing outbreaks of mainly light rain and continuing strong to gale-force winds, remained slow-moving near Shetland during the 2nd. Associated strong SE'yly winds finally eased and patchy rain turned showery on the 3rd as a shallow trough cleared Shetland.

Further showers followed on the 4th, with SE'yly winds increasing again later as pressure began to fall over the Northeast Atlantic. Showery rain - accompanied by strong SE'yly winds - moved across the area on the 5th, as a deep low swung in towards western Scotland. Overnight rain turned showery on the 6th, as the depression drifted slowly past Shetland towards Iceland. As this low filled on the 7th – a bright day with scattered showers

and moderate S'ly winds - another even deeper low was already tracking northeast across the Atlantic. With pressure building from the east, this one stayed well to the west. However, after remaining mainly dry on the 8th, the Northern Isles did see some rain later, accompanied by strong to gale SE'ly winds. A mainly dry day with a light, mild S'ly wind followed on the 9th, as the low spiralled away towards southern Greenland.

Building pressure developed into an anticyclone centred over the eastern UK and southern Norwegian Sea by the 10th. This persisted close to northern Scotland for the next few days, bringing mostly dry conditions with light winds. Days were on the whole mild but, under mostly clear skies, temperatures fell quickly after dark and nights were frosty. Fog and mist also developed, and parts of Shetland had the quite rare experience of patchy freezing fog. As the high drifted away westwards on the 14th, cooler showery weather followed as fresh N'ly winds developed. These conditions were maintained during the next couple of days and N'ly winds veered more E to NE'ly, as low pressure - developing in the Norwegian Sea - slipped south into the North Sea.

Cold E'ly winds strengthened on the 17th, as high pressure in the Iceland/Greenland area linked with an anticyclone developing over Scandinavia. Showers turned progressively more wintry as temperatures fell to near-freezing, leaving some areas with a thin patchy snow cover. With clear skies and light winds a hard frost followed overnight, with -7.3° Celsius in Lerwick just above the thin snow cover.

A depression over the northern Norwegian Sea extended a trough south on the 18th, with the low itself moving south and bringing strong NW to N'ly winds on the following day. This resulted in even colder conditions, with temperatures struggling to rise above freezing by day and down to well-below freezing overnight. Frequent snow showers – some heavy – brought very wintry conditions, so that by the end of the 19th most places had several centimetres of lying snow, with Lerwick reporting a fall of 8 centimetres overnight. Further wintry showers – with local thunder – continued into the 20th.

The low moved south close to Shetland on the 20th, with a large area of low pressure then developing across the British Isles, where it remained slow-moving until the 27th, when it edged away into southern Scandinavia. During this period mainly E'ly winds carried showery troughs west over the Northern Isles. Though some sleet fell, most of the showers were of rain, so by Christmas the snow cover was down to just a centimetre or two, and for many places rather patchy. However, for Lerwick at least, the snow cover did survive through to the end of the month.

From the 28th until the 31st, with pressure again building to the northwest while remaining low over Scandinavia, N'ly winds brought a succession of showery troughs south across northern Scotland. As temperatures again fell, the showers were mainly of snow, with places seeing a struggling snow cover topped up with a further 4 or 5 centimetres.

Dave Wheeler

Initial Statistical details for Scotland as a whole (1961-1990 average) for December 2009:

Mean Temperature: 0.3°C (2.7°C below average)

Rainfall: 92.1 mm (54% of average).

Sunshine: 33.1 hours (115% of average).

Data from the UK Met Office