

FAIR ISLE WEATHER IN 2007

Overall it was another mild year with no great extremes of temperature. In a decade which has been consistently mild and, despite the mean temperature for the year being almost one degree above the long-term average, 2007 was the coolest year since 2001. As our maritime climate results in air temperatures closely mirroring sea temperatures, it is no surprise to find that sea temperatures around Fair Isle – though still above the long-term average by a similar amount – are also the lowest since 2001. The graphs could be interpreted as indicating the warming of the past decade may be in reverse.

After a run of six dry years - despite a reasonably dry spring, very dry start to the summer, dry autumn and early winter - 2007 was a wet year. Unfortunately the start of the year and also the late summer was very wet.

Sunshine totals for the year were close to normal.

Contrary to all predictions of increased storminess over the Atlantic resulting from global warming, annual wind speeds on Fair Isle – apart from a period during the early 1990s - have decreased. 2006 was the least windy year on Fair Isle since records began in 1974. This year - slightly windier - is the second 'calmest' year on record! The average wind speed for 2007 is down some 16% and the number of days with wind speeds in excess of 33kt ('gale days') is down by almost a third! The only explanation I can offer at the moment is – given 'increased storminess' – the depression tracks must be closer to the north of Scotland, with Fair Isle experiencing more time in the 'quieter' depression centres.

However, this may not last! Looking at the long-term data (not that 34 years is really long enough), I wonder if there might not be a 22-year cycle of lighter winds – the mid 1980s and about now - showing in the data? After several years of little solar activity - and few good aurora displays – we are now headed for a peak of solar activity in a few years' time.

DECEMBER 2006 (included because of the similarity to December 2007)

VERY MILD, WITH RAINFALL & SUNSHINE ABOVE NORMAL

Due either to the intense anticyclone that covered the UK for some ten days before and over the Christmas period, or the depressions tracking northeast between Scotland and Iceland at the beginning and end of the month, winds blew from a mild SW'ly direction on 9 days out of 10 resulting in the warmest December on Fair Isle since 1974.

While wetter than average it was also markedly sunnier than normal.

JANUARY

MILD, WITH RAINFALL & SUNSHINE ABOVE NORMAL

A very unsettled month with measurable precipitation falling on every day! Winter managed a brief appearance during the fourth week with a polar low bringing some snow.

FEBRUARY

WET AND MILD

Apart from the first few days of the month when high pressure was over or close to the UK - and briefly mid-month as a ridge drifted east - it was an unsettled, cyclonic month with frequent SE'ly winds.

MARCH

MILD AND SUNNY BUT WINDY WITH BELOW-AVERAGE RAINFALL

Cyclonic conditions dominated the first three weeks, bringing an unsettled SW to W'ly regime. Late in this period an intense low - moving east across Shetland - brought very disturbed weather, with a short-lived plunge of Arctic air as the low continued east. The last ten days of March were benign as a large anticyclone developed over the Northern Isles and southern Norwegian Sea.

APRIL

MILD AND DRY BUT LESS SUNNY

During the month Shetland, on the edge of a persistent UK anticyclone, experienced a variety of conditions: a brief Arctic outbreak; mild, moist and misty SW'lies or fine and clear anticyclonic conditions, marred only by low cloud and mist drifting off the North Sea. Like the rest of the UK it was warm month, with Lerwick just failing to beat its highest April mean maximum temperature. While Shetland enjoyed a drier than average month, across the UK rainfall was generally well below average. At a small number of sites in south-east England and east Anglia there was no rainfall at all during the month.

MAY

SHETLAND ONE OF THE DRIEST, SUNNIEST - AND CPP:EST - PLACES IN THE UK!

Mean monthly sea-level pressure for May was well below normal over Shetland. However this was due more to the lack of persistent high pressure - normally to be expected at this time of the year - rather than the proximity of any deep low centres. As a result rainfall was only slightly above normal, unlike most areas of the UK which had a very wet May, with new records established at several long-term stations.

JUNE

EXCEPTIONALLY DRY, SOMEWHAT DULL AND, WITH PERSISTENT NE'LY WINDS, NEAR-AVERAGE TEMPERATURES

Pressure remained relatively high to the north of Scotland throughout the month, resulting in an unprecedented run of NE'ly winds across Shetland. While the majority of the UK experienced well above-average rainfall, Shetland had its second driest June since 1914. Rainfall anomalies were over 300% across much of Yorkshire, with some areas – approaching 400% - having their wettest June on record. By contrast Lerwick had just 21%!

JULY

DULL & WET WITH NEAR-AVERAGE TEMPERATURES

During July depressions moved east close to Shetland almost without a break, bringing very unsettled conditions. For Shetland it was the coolest July since 2001, the wettest since 1988 – with more than twice the normal rainfall recorded on Fair Isle - and the dullest since 1984.

AUGUST

DULL AND WET WITH NEAR-AVERAGE TEMPERATURES

For much of the month continuing cyclonic conditions brought a rather disturbed westerly airflow across Shetland. However during the last ten days, with the Azores high moving closer to the British Isles, an anticyclonic NW'ly airflow prevailed. Unfortunately, with low pressure not far to the north, fronts continued to affect Shetland.

SEPTEMBER

DULL, WET AND COOL

The first half of the month saw a persistent anticyclone to the southwest of the UK, with depressions - tracking northeast through the Iceland region - trailing fronts across Shetland. A brief outbreak of Arctic air occurred shortly after midmonth, as low pressure moved into Scandinavia. The second half of the month was more changeable, with winds alternating between SW and NW in direction as depressions – separated by transient ridges - moved east closer to Shetland. The month ended with quieter anticyclonic conditions, as the high drifted across northern Scotland into Scandinavia.

OCTOBER

MILD, VERY DRY AND DULL

Persistent high pressure, centred over or just east of the British Isles, resulted in winds being from a mild SE to SW'ly direction for 70% of the time

NOVEMBER

SUNNY WITH NEAR-AVERAGE TEMPERATURES AND RAINFALL

Though high pressure continued as the dominant synoptic feature across the British Isles, this was too far south to benefit Shetland and here conditions were mainly cyclonic. Only for a short period between the 13th and 17th did the anticyclone expand to include the Northern Isles. A vigorous low brought storm-force winds on the 8th as it tracked across Shetland. A short wintry spell followed as the low moved away. Another wintry spell occurred between the 22nd to 25th as low pressure moved northeast over the UK into Scandinavia.

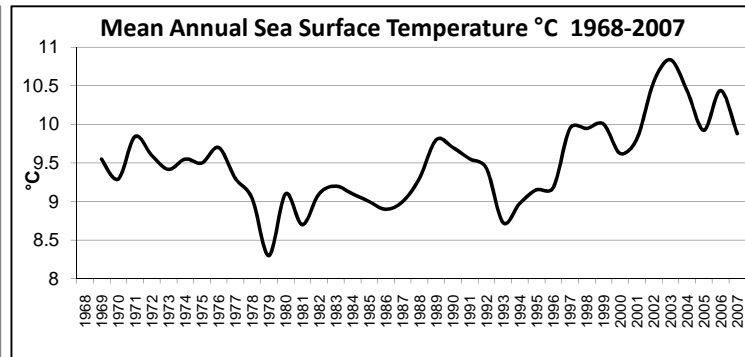
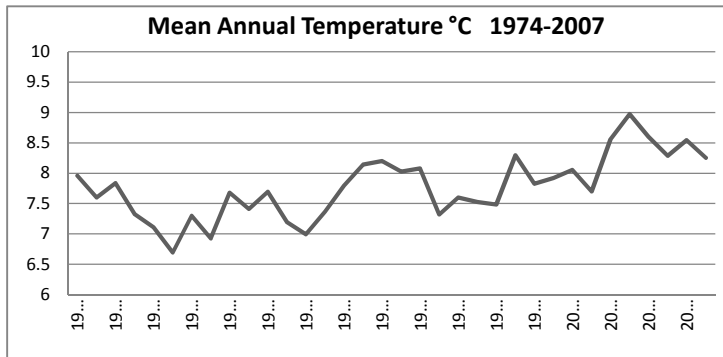
DECEMBER

VERY SUNNY, DRY AND RELATIVELY MILD

The month began and ended cyclonic, with an intense blocking high - slow-moving to the east – dominating the situation for nearly ten days mid-month. As a result, winds blowing across Shetland had a S'ly component on almost half of all occasions. Across parts of northern Scotland it was the sunniest December since 1929. Fair Isle - where the sunshine total normally averages just 17.5 hours - received 43.1 hours (246.2%), making this the sunniest December there since 1976. Overall December 2007 had an uncanny resemblance to December 2006.

Meteorological data, Fair Isle 2007

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | YEAR | Mean 1974-2000 | Highest 1974-2000 | Lowest Year 1974-2000 | Year |
|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------|----------------------|--------------------------|------------|
| Temperature (°C) | | | | | | | | | | | | | | | | | |
| Mean | 5.7 | 5.4 | 6.1 | 7.7 | 8.0 | 10.3 | 11.6 | 11.5 | 10.1 | 9.8 | 6.7 | 6.1 | 8.2 | 7.6 | | | |
| Mean temp anom. | 1.2 | 1.1 | 1.5 | 2.1 | 0.4 | 0.6 | 0.2 | -0.4 | -0.5 | 1.0 | -0.1 | 0.9 | 0.7 | | | | |
| Mean maximum (day) | 7.6 | 6.8 | 8.0 | 9.8 | 10.3 | 12.2 | 13.4 | 13.3 | 12.0 | 11.4 | 8.2 | 7.8 | | | 20.2 | | |
| Highest maximum (day/night) | 10.2 | 10.0 | 9.9 | 13.5 | 12.0 | 15.7 | 16.0 | 16.1 | 14.1 | 13.5 | 12.6 | 11.8 | 16.1 | | | | |
| Lowest maximum (day) | 3.3 | 4.4 | 3.7 | 4.7 | 8.3 | 10.1 | 11.5 | 11.2 | 9.0 | 8.0 | 2.4 | 5.3 | 2.4 | | | | |
| Mean minimum (night) | 3.8 | 3.9 | 4.5 | 5.7 | 5.8 | 8.6 | 10.0 | 10.0 | 8.5 | 8.4 | 4.9 | 4.9 | | | | | |
| Highest minimum (night) | 7.1 | 7.5 | 8.5 | 9.0 | 9.0 | 10.3 | 11.9 | 12.6 | 12.1 | 10.9 | 8.5 | 9.3 | 12.6 | | | | |
| Lowest minimum (day/night) | -0.9 | -0.7 | -1.5 | 1.2 | 2.3 | 5.3 | 7.3 | 6.7 | 3.3 | 3.1 | -0.1 | 0.9 | -1.5 | | | -5.6 | |
| Mean sea | 8.7 | 8.1 | 7.7 | 8.2 | 9.2 | 10.9 | 12.3 | 12.2 | 11.5 | 10.8 | 9.9 | 9.0 | 9.9 | 9.2 | | | |
| Mean sea temp anom. | 1.4 | 1.5 | 0.8 | 0.8 | 0.5 | 0.7 | 1.1 | 0.2 | -0.3 | -0.1 | 0.5 | 0.7 | 0.6 | | | | |
| Pressure (hPa/mb) | | | | | | | | | | | | | | | | | |
| Mean daily | 999.2 | 1004.3 | 1009.5 | 1019.9 | 1006.8 | 1014.7 | 1006.6 | 1011.3 | 1013.9 | 1017.5 | 1012.7 | 1010.0 | 1010.5 | 1010.3 | | | |
| Mean pressure anomaly | -6.4 | -5.1 | 1.9 | 6.6 | -8.9 | 0.3 | -6.8 | -1.6 | 3.9 | 9.6 | 5.4 | 4.1 | 0.2 | | | | |
| Maximum | 1026.0 | 1031.6 | 1035.6 | 1038.6 | 1024.0 | 1031.5 | 1023.5 | 1025.8 | 1030.5 | 1032.3 | 1028.8 | 1040.2 | 1040.2 | | | | |
| Minimum | 972.4 | 966.0 | 974.7 | 1005.6 | 988.7 | 998.6 | 993.1 | 987.5 | 990.8 | 996.9 | 988.3 | 979.3 | 966.0 | | | | |
| Rainfall (mm) | | | | | | | | | | | | | | | | | |
| Total | 143.1 | 122.5 | 80.3 | 45.5 | 51.2 | 15.2 | 105.1 | 68.5 | 127.8 | 51.6 | 115.8 | 103.8 | 1030.4 | 924.4 | 1167.9 | 1990 | 725.6 1974 |
| Rainfall anomaly | 43.8 | 51.6 | -4.3 | -4.5 | 9.8 | -29.9 | 53.9 | 7.4 | 39.1 | -57.2 | -1.1 | -2.8 | 106.0 | | | | |
| Rainfall % | 144.2 | 172.7 | 95.0 | 91.1 | 123.6 | 33.7 | 205.2 | 112.2 | 144.1 | 47.4 | 99.0 | 97.3 | 111.5 | | | | |
| Maximum in 24h | 31.3 | 28.5 | 18.7 | 10.3 | 6.1 | 6.4 | 34.2 | 15.6 | 35.7 | 13.7 | 26.7 | 31.8 | 35.7 | | 46.2 | | |
| Rain days, >0.1mm | 29 | 24 | 18 | 18 | 21 | 11 | 19 | 19 | 20 | 14 | 26 | 16 | 235 | 241.6 | | | |
| Wet days, >0.9mm | 24 | 17 | 15 | 14 | 16 | 3 | 12 | 14 | 13 | 12 | 20 | 11 | 171 | 175.8 | | | |
| Sunshine (hours) | | | | | | | | | | | | | | | | | |
| Total | 30.4 | 47.0 | 137.6 | 137.9 | 221.8 | 154.1 | 113.5 | 160.6 | 96.7 | 67.2 | 32.3 | 43.1 | 1242.2 | 1220.7 | 1518.9 | 1989 | 912.9 1974 |
| Maximum | 4.8 | 6.9 | 10.8 | 14.0 | 15.7 | 16.2 | 14.9 | 12.5 | 10.8 | 9.1 | 5.4 | 4.8 | 16.2 | | | | |
| Sunshine anomaly | 27.2 | 57.7 | 96.2 | 148.7 | 198.0 | 169.1 | 136.5 | 148.2 | 116.6 | 71.4 | 36.5 | 17.5 | 1220.7 | | | | |
| Sunshine % | 111.7 | 81.4 | 143.1 | 92.7 | 112.0 | 91.1 | 83.2 | 108.4 | 83.0 | 94.2 | 88.6 | 246.2 | 101.8 | | | | |



Meteorological data, Fair Isle 2007

| Number of days | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | YEAR | Mean | Highest | Lowest | | |
|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-----------|-----------|--------|-----------|------|
| | | | | | | | | | | | | | | 1974-2000 | 1974-2000 | Year | 1974-2000 | Year |
| Hail | 16 | 10 | 8 | 4 | 3 | 0 | 0 | 0 | 4 | 3 | 11 | 7 | 66 | 79.0 | 108 | 1995 | 34 | 1974 |
| Snow/sleet falling | 11 | 11 | 5 | 4 | 1 | 0 | 0 | 0 | 2 | 0 | 7 | 2 | 43 | 65.5 | 106 | 1995 | 20 | 1974 |
| Snow lying (50% cover @ 09 | 1 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 6 | 15.8 | 38 | 1981 | 0 | 1997 |
| Fog at 09h | 0 | 0 | 0 | 3 | 0 | 2 | 4 | 4 | 5 | 1 | 1 | 0 | 20 | 19.5 | 36 | 2006 | 9 | 1989 |
| Fog at any time during 24h | 0 | 3 | 2 | 12 | 2 | 11 | 16 | 13 | 9 | 4 | 4 | 0 | 76 | 78.1 | 109 | 1981 | 13 | 2001 |
| Ground frost | 6 | 6 | 7 | 3 | 5 | 0 | 0 | 1 | 1 | 1 | 7 | 3 | 40 | 59.9 | 93 | 1977 | 22 | 1974 |
| Air frost | 2 | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 10 | 18.0 | 41 | 1981 | 4 | 1992 |
| Aurora | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 1 | 7 | 28.1 | 62 | 1989 | 3 | 2004 |
| Thunder | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5.7 | 15 | 1993 | 1 | 1977 |
| Wind speed (knots) | | | | | | | | | | | | | | | | | | |
| Mean | 18.2 | 15.5 | 15.8 | 10.8 | 11.2 | 10.1 | 9.4 | 10.9 | 14.6 | 13.6 | 15.4 | 17.0 | 13.5 | 16.0 | 18.9 | 1978 | -5.6 | 2006 |
| Mean wind speed anomaly | -2.7 | -3.7 | -3.0 | -3.9 | -1.9 | -1.8 | -2.1 | -0.6 | -0.6 | -4.1 | -3.1 | -2.5 | -2.5 | | | | | |
| Maximum Gust | 63 | 54 | 79 | 41 | 52 | 36 | 38 | 42 | 53 | 48 | 81 | 56 | 81 | 109 | | | | |
| Gale (10 min ave. >33kt) | 10 | 2 | 8 | 0 | 1 | 0 | 0 | 0 | 1 | 2 | 9 | 8 | 41 | 56.5 | 112 | 1979 | 16 | 1985 |
| Gale day anomaly | -1.3 | -5.5 | 0.3 | -2.3 | 0.2 | -0.6 | -0.2 | -0.6 | -2.3 | -4.0 | 1.8 | -1.0 | -15.5 | | | | | |
| Wind (direction at 0900) | | | | | | | | | | | | | | | | | | |
| North | 4 | 1 | 6 | 1 | 1 | 7 | 5 | 3 | 4 | 0 | 4 | 1 | 37 | 42.3 | | | | |
| North East | 1 | 0 | 2 | 3 | 4 | 14 | 1 | 3 | 0 | 0 | 0 | 2 | 30 | 22.1 | | | | |
| East | 2 | 8 | 0 | 2 | 3 | 2 | 7 | 4 | 1 | 1 | 4 | 1 | 35 | 34.7 | | | | |
| South East | 0 | 8 | 5 | 3 | 2 | 3 | 2 | 1 | 2 | 4 | 0 | 2 | 32 | 50.0 | | | | |
| South | 3 | 2 | 6 | 5 | 6 | 1 | 0 | 5 | 3 | 13 | 3 | 14 | 61 | 60.0 | | | | |
| South West | 9 | 2 | 8 | 4 | 5 | 0 | 4 | 4 | 7 | 5 | 4 | 5 | 57 | 51.3 | | | | |
| West | 6 | 4 | 3 | 10 | 4 | 1 | 3 | 9 | 10 | 5 | 6 | 2 | 63 | 62.5 | | | | |
| North West | 5 | 3 | 1 | 2 | 6 | 2 | 8 | 2 | 3 | 3 | 9 | 4 | 48 | 37.1 | | | | |
| Calm | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 5.5 | | | | |

