DECEMBER DATA

Unfortunately, the change of month did not herald any change in the weather that we had been suffering over the previous four weeks. Conditions continued very unsettled with a deep low pressure system off the north coast of Scotland at the beginning of the month bringing with it further rain and wind, though it was warm. With winds now settled in a more westerly direction, the zonal flow from the Atlantic brought a return to weather more typical of early, rather than mid, autumn. The 1st was relatively mild, temperatures peaking at 11.5°C/52.7°F with winds from the SW and spells of light rain. As the first week progressed, the long-term synoptic situation began to indicate signs of a change to more easterlies blowing bringing in cold Siberian air with prospects of frost and even snow in the mid-term prognosis.

Over the first week temperatures ranged from a maximum of 11.5°C/52.7°F on the 1st to a low of 2.5°C/36.5°F on the 6th, the grass falling as low as –1.9°C/28.6°F on the same day. Black bulb radiation temperatures peaked at 33.7°C/92.7°F on the 2nd, the first time since February 22nd that these have fallen below the 100°F mark. The week saw just 16.6 hours of sunshine, rain over the same period totalling 10mm/0.39in. Just two days were totally sunless and rain fell on all but one day of the week, the 5th.

Days were cloudy and dull, with mist on several occasions at some time or another. By far the best day was the 2nd: cloudless all day with sunshine from sunrise to sunset, a day that raised the spirits, if not the temperatures. Ground frost occurred on two occasions with an air frost on one. The peak radiation level of 0.296 kilowatt per square metre was attained on the first, a figure well below the highs of 1.24 kilowatts per square metre being reached in June, which are roughly four times the current values.

By the 8th, the beginning of the second week, conditions had changed markedly with winds in a northeasterly direction. These brought in much colder Continental air that had originated in Siberia so temperatures fell back to within a degree or two of 0°C. This, coupled with brisk winds, set up an appreciable wind-chill that made conditions unpleasant to say the least. By the 10th winds were gusting to 29 knots/33 mph bringing wind chill values down to –13.3°C/8.1°F, extreme to say the least. Over the entire week air temperatures were to rise no higher than 5.7°C/42.3°F on the 14th falling back to –0.8°C/30.6°F on the 11th giving the worst conditions so far this year. Over grass temperatures fell as low as –2.4°C/27.7°F on the 10th, by when it was cold enough to bring snow and sleet to the area, though this did not settle.

Solar maxima reached no higher than 30.6°C/87.1°F in full sun on the 9th and fell back to a low of 6.7°C/44.1°F on the 10th. Days were dull and misty, with fog on two occasions giving visibilities as low as 100m/109yds on the 14th. In all 4 days were entirely sunless and the cloud cover at 09 hr was 100% on 4 days. It was extremely dull with precipitation falling over a period of 51.46 hours during the week producing a total fall of 12.0mm/0.47in of which 7.3mm/0.29in fell on the 14th alone. Winds were predominantly easterly and brisk though no gale force gusts were recorded. Global radiation levels were very depressed, barely into three figures on many days and as low as 0.025 kilowatt per square metre on both the 8th and 13th. The highest registered value over the week was on the 11th during a short burst of bright sunshine, but then only reaching 0.191 kilowatt per square metre. Conditions were certainly very wintry.

The third full week of the month saw a continuation of these conditions over the area with persistent daytime ground frost and fog once the wet spell that began on the 11th had cleared. It remained dull with no sun at all on the 15th and 16th and only 12 minutes on the 17th, not indicative of very pleasant conditions! Grass temperatures fell as low as –

6.4°C/20.5°F on December 18th, though the air did not fall below –2.9°C/26.8°F on the same day. After a spell of easterlies, a northerly component was introduced into the winds that brought in cold, Continental, air from Scandinavia, which, after it's passage over the North Sea picked up sufficient moisture to give heavy stratus cloud and depressed daylight. In fact, the 15th was so dull that it produced just 4hrs and 21 minutes of daylight, by far the worst of the year, the severity of which can be judged when one considers that the "best day", June 23rd saw 17hrs 17 minutes, or roughly four times the length of daylight! Black bulb radiation temperatures were very low on the 15th [8.5°C/47.3°F] and 16th [7.8°C/46.0°F] with the global radiation values following closely at 0.013 kilowatt per square metre and 0.037 kilowatt per square metre respectively, the former being the lowest figure seen this year.

By the 19th signs began to appear in the long-range forecasts of a change to a more westerly, zonal, flow that would introduce much milder, but wet, weather for the Christmas holiday. This air appeared on the 21st, heralded by widespread fog with visibilities in the region of 200m/219yards accompanied by continuous rain. During the 14 hours when this was falling totals accumulated to 23.8mm/0.94in, the heaviest fall of the month. During the week temperatures in the air ranged from a maximum of 10.5°C/50.9°F on the 21st to a low of –2.8°C/26.8°F on the 18th/19th, the former the highest temperature since December 1st.

Sunshine was very sparse totalling a mere 7.5 hours of which 5.8 hours were recorded on the 18th, a day which raised black bulb radiation temperatures to 28.6°C/83.5°F though the peak radiation level of 0.186 kwatt/sqm did not occur until the next day. Winds were easterly on 4 days peaking at 22knots/25mph on the 15th, cloud cover reaching 100% on 5 days with one day only clear at 09 hours.

The final full week of the month began with the highest temperatures for three weeks under a south westerly air flow as a low pressure system swung across the country into the Continent, taking heavy rain with it. The maximum temperature on the 24th was 12.0°C/53.6°F making this the second equal warmest Christmas Eve since records began in 1956. The previous high was 12.2°C/54.0°C registered in both 1997 and 1989. The Christmas period was characterised by warm, wet and very dull days, quite atypical of what is seen as the "traditional" Christmas weather immortalised on cards: frosty, snow covered and sunny days. The run of wet days continued with substantial falls on Boxing Day. Indeed, rain fell every day of the fourth week totalling 33.6mm/1.32ins with the heaviest fall of 10.4mm/0.41in occurring on Christmas Day itself. Over the same period sunshine totalled a mere 2.5 hours, the highest daily total of just 1.1 hours being seen on the 27th, really quite a miserable spell of weather.

The final few days of the month were to follow the same pattern of dull, wet and generally sunless days, though it remained relatively mild for the season. The final three days all saw rain with no sun recorded and with maximum temperatures no higher than 11.7°C/53.1°F on the 29th. The long-term outlook showed little prospect of any change to more seasonable weather.

DECEMBER SUMMARY.

December was wet and dull but an average month in terms of temperature. Rainfall occurred on 24 days and totalled 98.7mm/3.89ins, 27% above the December average. Precipitation in some form occurred over a time-span of 217.1 hours, though it fell at a "normal" rate of 0.1mm/hour for 123.4 hours during the month. The wettest day, December 21st, produced 23.8mm/0.94in and 7 days were classed as "wetter" [above 5mm/0.2in] with 3 "exceptionally wet" [above 10mm/0.39in]. To add to the gloom the month was cloudy with a

daily cover at 9 a.m. of 85% plus fog on 3 days, the 13th, 14th, and 21st. Also the air was very humid, averaging 91.2% saturation at 9 a.m. over the month.

Despite this it was not a cold month. In fact, all mean air temperatures were above the 30-year averages, by as much as 1.6°C for the mean minimum that ended at 3.6°C/38.5°F, the highest figure since 1988. Air frost was noted on 5 nights with ground frost on 9, both only about half of the average, the former being the lowest since 1988 with that in the air the lowest since 1989. The warmest night, December 24th with 9.9°C/49.8°F was the highest since 1991 whilst the coldest day, which registered a maximum of 0.8°C/33.4°F, was nothing exceptional for December, there having been 5 colder since 1990. Christmas Eve with an air maximum of 12°C/53.6°F was the second warmest on record since 1956.

Solar radiation temperatures peaked at 33.7°C/92.7°F on the 2nd giving the highest figures since December 10th 1964 and the second highest on record. However, the minimum of 5.6°C/42.1°F on the 8th was exceeded no longer ago than 1998. All soil and earth temperatures are well above average, by as much as 3.3°C for the soil surface, all due to the lack of frost and snow. In fact, soil temperatures have been below that needed for plant growth on just 19 days of the month at root level.

December was also a dull month with a deficit of 12.3 hours in sunshine with just half of the month [15 days] being completely sunless, the worst data since 1995, though well above the worst on record of 21 sunless days in 1989. The sunniest day, the 5th, could manage no more than 6 hours of sunshine, the lowest December total since 1997. Sleet occurred once, the same as in 2000, with no snowflakes noted at all. Again the month saw no lying snow, a pattern that is becoming all too familiar of late.

Winds were mainly easterly and light at 6.7knots/7.7mph, gusting to 29knots/33mph on the 10th resulting in no gale force gusts being recorded throughout the month. There was no incidence of hail or thunder and air pressure was exactly as expected.