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The exceptional weather of April2021

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The exceptional weather of April 2021

Q1 Q2
Q3

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April 2021 was an extraordinary month across Great Britain and Ireland. It was notably dry with precipitation well below the normal in most places, only parts of northern Scotland seeing rainfall near the long-term mean (Met Éireann, 2021; Met Office, 2021; Figure 1). Less than 5mm of precipitation fell in some places (Climatological Observers Link, 2021). It was also unusually cold. In particular, mean minimum temperatures were well below the normal for 1981–2010 (Figure 2). Matching the dry weather, it was exceptionally sunny with almost all lowland places enjoying more than 200 hours of bright sunshine (Figure 3)¹. National, regional and Crown Dependency means and anomalies are given in Table 1.

Q4

Sunshine

All parts of Great Britain and Ireland had more sunshine than the 1981–2010 normal with as much as 236 hours at Valentia Observatory (Co. Kerry) and 285.4 hours at Guernsey Airport, where it was the sunniest April on record (since 1955 at this site and since records began in the island in 1894). Away from higher ground, only some southwestern parts of the Irish Province of Ulster saw less than 200 hours of bright sunshine.

With 316.9 hours of sunshine, St Helier (Jersey) was the sunniest place in the British Isles, the total almost 100 hours more than the average for 1991–2020. However, it was only the second sunniest April in the town in records going back to 1925, April 2010 having been sunnier².

Many parts of the United Kingdom (UK) had their sunniest April in records going back to 1919, values slightly exceeding the record set in 2020 (Figure 3).

At Carlton-in-Cleveland (North Yorkshire), the mean cloud amount of 4.2 oktas at 0900 UTC was the lowest in any month since

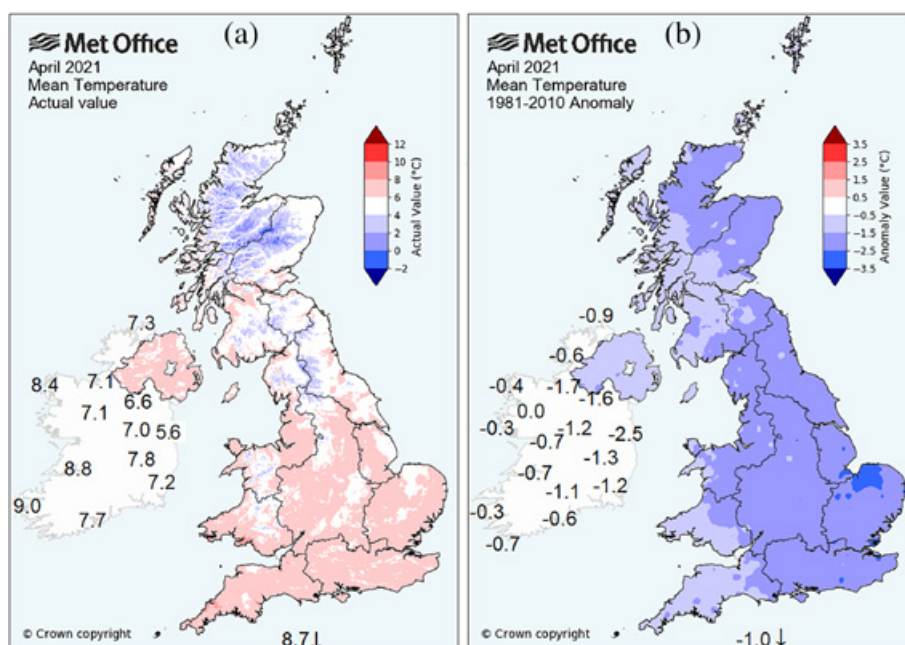


Figure 1. (a) The mean temperature of April 2021; (b) mean temperature anomalies from the averages of 1981–2010. Values for the Republic of Ireland and the Channel Islands are shown numerically. (Courtesy Met Office National Climate Information Centre; Met Éireann; Jersey Met.)

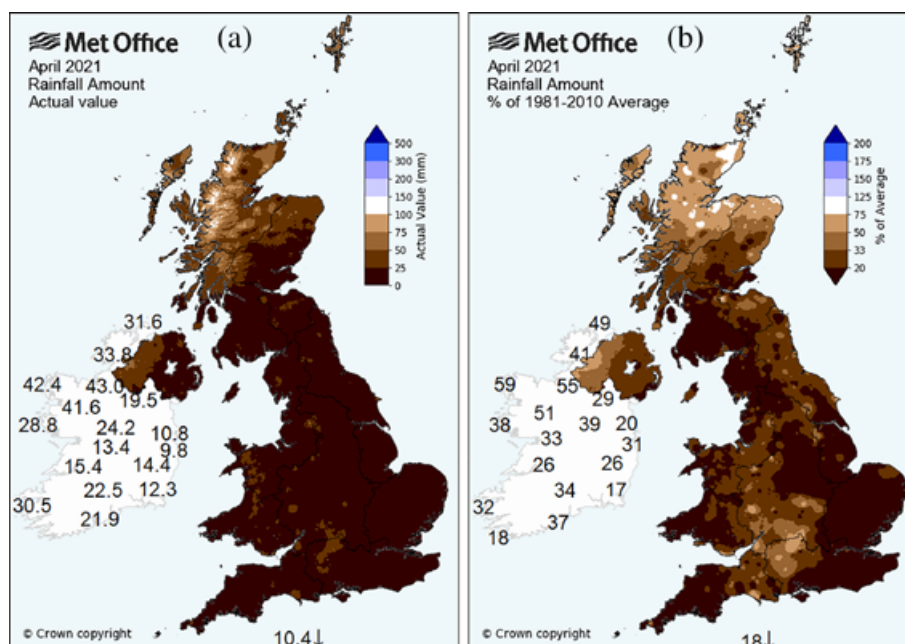


Figure 2. (a) Total rainfall in April 2021; (b) mean rainfall anomalies from the averages of 1981–2010. Values for the Republic of Ireland and the Channel Islands are shown numerically. (Courtesy Met Office National Climate Information Centre; Met Éireann; Jersey Met.)

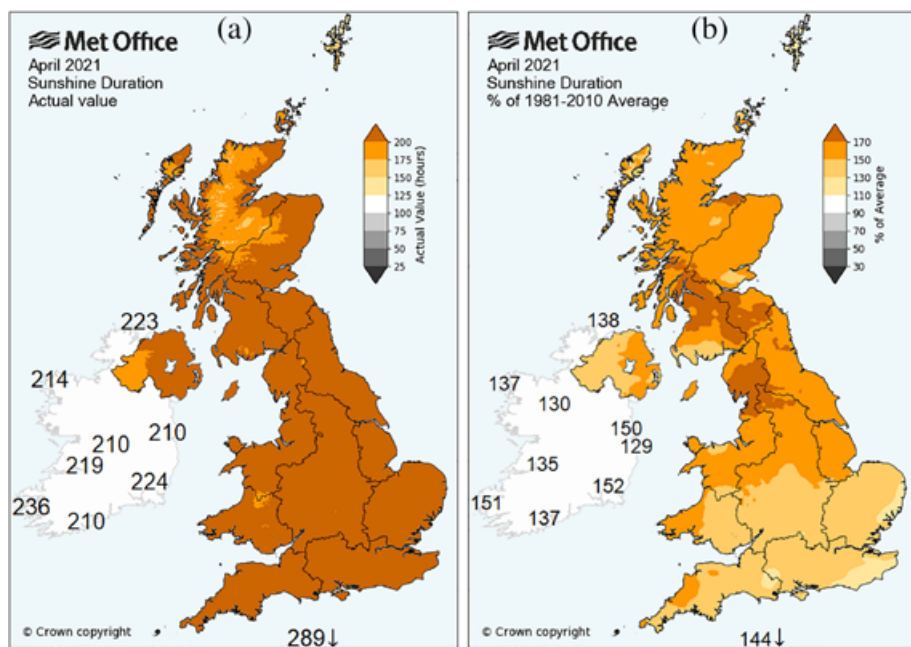


Figure 3. (a) Total sunshine in April 2021; (b) sunshine anomalies from the means of 1981–2010. Values for the Republic of Ireland and the Channel Islands are shown numerically. (Courtesy Met Office National Climate Information Centre; Met Éireann; Jersey Met.)

December 1983, less than the 4.5 oktas in March 2012 and the lowest in any previous April: 4.9 oktas in both 2020 and 2003. Over the three weeks from the 4th, the average cloud cover at 0900 UTC was only 3.0 oktas.

Stratfield Mortimer (Berkshire) also saw exceptional sunshine, especially between the 17th and 26th, when there was a daily average of 11.8 hours of sunshine and 13.53 hours on the 24th, the sunniest day. On 6 days, the sunshine total was 90% of the possible maximum.

However, the frequent sunny weather had some local variability. Easterly winds often bring low cloud to east-facing coasts in spring and this was sometimes the case in April 2021 when the air was sufficiently moist. However, this did not occur on as many days as might have been expected, given the frequency of easterly or northeasterly winds, typically about five mornings of the month experiencing this low cloud (Figure 4). In these areas, sunshine amounts were reduced by between 10% and 15%, compared with nearby inland locations (Climatological Observers Link, 2021). Perhaps less affected by low cloud than is often the case were the coasts of north-east England and southeast Scotland. Low cloud was also present on several mornings on the South Devon coast when there were easterly winds, in some cases when it was absent elsewhere, perhaps reflecting a longer sea track.

As in most of Britain and Ireland, sunshine totals were above 200 hours on the Isle of Man; the total 254 hours at Ronaldsway Airport. There were 6 days at Ronaldsway on which more than 12 hours of sunshine was recorded.

Across the UK as a whole, the recorded sunshine in April was more than 53% of the theoretical maximum, and in Ireland, the average made up about 49% of the theoretical maximum³. However, in the Channel Islands, the percentage was between 70% and 78% of the theoretical maximum, whilst in the Isle of Man, totals were more than 62% of the theoretical maximum.

Temperature

April 2021 was a particularly cold month with mean temperatures below those of March 2021 in many places. Over the UK, it ranked 18th coldest in the series from 1884.

The mean minimum temperature was particularly low (Figure 5). In all upland areas of Scotland, Wales and northern England, as well as some sandy-soiled areas of lowland England, the mean minimum was below freezing and anomalies ranged between -2 and -3 degC in the UK, -1 and -2 degC in Jersey and Guernsey and around -1 degC in Ireland (Table 1).

The Isle of Man was also exceptionally cold. The mean temperature was 7.0 degC at Ronaldsway Airport, where there was an unusually high total of 17 ground frosts, bringing a mean grass-minimum temperature of -0.6 degC.

In much of southern England, the low night-time minima were accompanied by an unusually high number of grass frosts, typically between 10 and 20 with some northern areas having a ground frost on every night. The unusual change of this weather is illustrated by the 10 grass frosts at Guernsey Airport, equalling the number observed in the whole of 2020.

The lowest mean minimum temperature measured in lowland Britain was -1.0 degC at South Newington (Oxfordshire). This village has a relatively continental location when compared with most parts of the UK, and this was exaggerated in April 2021 by its position in southern central England given the predominantly north- to northeasterly winds of the month.

The mean minimum temperature of 5.6 degC at Dublin Airport (Co. Dublin) was 2.6 degC below the long-term mean, and it was the lowest recorded in April at that station, the record beginning in 1944⁴. Dublin Airport also recorded 18 nights of air frost (Met Éireann, 2021).

Another peculiarity was the presence of an air frost somewhere in Britain or Ireland on every night of April. The lowest minimum away from high ground and upland valleys was -5.2 degC at Great Gaddesden (Hertfordshire) on the 7th. Quite widely in southern England, the 7th was the date of the lowest minimum temperature of the month, although the 17th was the date of the absolute minimum in a large minority of places. Elsewhere in the British Isles, the date of the lowest minimum was more variable, typically between the 10th and the 15th, which was a spell dominated by clear skies.

On the 12th, Carlisle Airport (Cumbria) recorded a minimum temperature of -5.1 degC, the lowest recorded for the month in the station's 59-year record and beating the previous record of -4.4 degC on 11 April 1978.

Unusually, although relatively common in most Aprils, a monthly maximum temperature of 20 degC or more was observed in only a few places and the absolute maximum was just 22.2 degC, recorded at Maison St Louis Observatory (Jersey), closely followed by 22.0 degC at Jersey Airport. The maximum of 21.4 degC at Howard Davis Farm (Jersey) matched the UK maximum at Treknaw (Cornwall). The highest maximum temperature of 21.3 degC recorded at Valentia Observatory (Co. Kerry) was the highest April temperature at the station since 2011 (Met Éireann, 2021). Anomalously and perhaps surprisingly, all these maxima occurred on the 1st and nowhere did temperatures even approach this level until the period between the 20th and 27th. The 23rd and 24th saw secondary maxima between 17 degC and 21 degC in many lowland areas (Climatological Observers Link, 2021).

With a minimum-temperature anomaly of greater negative magnitude than that of maximum temperatures, the UK-average temperature range of 10.3 degC was exceptionally large; the largest in more than 80 years (interestingly just 0.1 degC greater than the 10.2 degC range of the warm April of 2020). Almost everywhere, the mean daily temperature range exceeded 9 degC and it exceeded 11 degC in most inland parts of the UK, compared with a typical range of

Table 1

Climatic data compared with 1981–2010 averages (Act: Actual; Anom: Anomaly)

Region	Maximum temperature		Minimum temperature		Mean temperature		Sunshine		Rainfall		Wet days (≥1mm)		Days of air frost	
	Act (°C)	Anom (°C)	Act (°C)	Anom (°C)	Act (°C)	Anom (°C)	Act (hours)	Anom (%)	Act (mm)	Anom (%)	Act (days)	Anom (days)	Act (days)	Anom (days)
Channel Is	12.0	-0.9	5.6	-1.2	8.8	-1.1	294.3	141	10.4	20	2.5	-	0	0
Isle of Man	10.5	-0.6	3.6	-1.8	7.0	-1.2	253.9	148	13.2	24	5.0	-	0	0
Irish Rep.	11.5	-0.7	3.6	-2.0	7.4	-0.9	216.4	135	24.6	34	7.6	-	-	-
UK	10.9	-0.6	0.6	-2.8	5.7	-1.7	225.1	152	20.1	28	5.1	-6.6	13.8	9.1
England	11.5	-0.9	0.9	-3.0	6.2	-1.9	229.8	148	11.0	19	2.9	-7.5	12.8	9.2
Wales	11.3	-0.3	1.1	-2.6	6.2	-1.5	231.8	150	16.8	19	5.0	-7.6	11.6	7.5
Scotland	9.6	-0.3	-0.4	-2.8	4.6	-1.5	216.6	160	35.4	39	8.4	-5.1	16.8	10.1
Northern Ireland	11.3	-0.3	1.8	-1.8	6.5	-1.1	217.0	147	24.8	33	8.0	-5.1	8.6	5.1
England and Wales	11.5	-0.9	0.9	-2.9	6.2	-1.9	230.1	148	11.8	19	3.2	-7.5	12.6	9.0
England N	10.8	-0.7	0.3	-3.1	5.6	-1.8	235.6	165	12.7	20	3.8	-7.2	15.0	10.7
England S	11.9	-1.1	1.2	-2.9	6.5	-2.0	226.7	140	10.2	18	2.4	-7.6	11.6	8.4
Scotland N	8.9	-0.5	-0.4	-2.7	4.2	-1.6	199.3	156	54.5	55	12.0	-2.9	16.9	9.7
Scotland E	9.7	-0.3	-1.0	-3.1	4.4	-1.6	223.7	163	23.0	32	6.5	-5.0	18.8	11.2
Scotland W	10.4	0.0	0.3	-2.7	5.3	-1.3	232.7	164	22.6	23	5.5	-8.2	14.7	9.4
England E and NE	10.7	-0.9	0.2	-3.2	5.5	-2.0	235.1	163	11.8	21	3.8	-6.4	16.1	11.6
England NW and Wales N	11.0	-0.4	0.7	-2.9	5.8	-1.7	237.6	163	14.9	19	4.3	-8.0	12.9	9.0
Midlands	11.6	-0.9	0.7	-3.0	6.1	-1.9	221.0	150	13.3	23	3.2	-7.3	13.6	9.7
East Anglia	11.3	-1.8	1.2	-2.9	6.3	-2.4	221.9	138	4.3	10	1.4	-7.8	12.1	9.1
England SW and Wales S	12.0	-0.2	1.7	-2.5	6.8	-1.3	241.2	144	13.6	17	3.9	-7.8	9.3	6.1
England SE	12.0	-1.2	1.2	-3.1	6.6	-2.1	225.0	132	10.1	19	1.9	-7.8	11.9	8.7

In the case of the Channel Islands, these data include both official and unofficial climatological stations in Guernsey, Sark and Jersey, of which the majority (4) are in Jersey. The mean and anomaly data for the Isle of Man use only data from Ronaldsway Airport.

Some of the data analysis in this table used 30-year means published in Burt and Brugge (2011).

7–9 degC. The highest mean diurnal ranges were 13.2 degC at Haselbury Plucknett (Somerset), 12.9 degC at Bournemouth/Hurn Airport, 12.8 degC at Great Gaddesden (Hertfordshire) and 12.7 degC at Eskdalemuir Observatory (Dumfries and Galloway). The large temperature range is related to the typically small amounts of cloud and the low relative humidity of continental or arctic air.

However, cold spells (and large diurnal temperature ranges) are not particularly rare in spring (Bowker, 2014). April 2012 (mean 6.2°C in the UK) was colder than March 2012 (mean 7.8°C in the UK) in much of Britain and Ireland. However, the synoptic situation was different in April 2012, which was a very wet month with winds often from the west or northwest, rather than from the north or northeast.

Precipitation

In the Channel Islands, there were only 3–5 'rain' days (≥0.2mm) and a total of only 8.4mm fell at Guernsey Airport¹, which is only 15% of the 1991–2020 mean and

nowhere in the Channel Islands saw falls amounting to more than 14.0mm.

In the Isle of Man, rain fell on only 8 days at Ronaldsway Airport, with the monthly total just 13.5mm (24% of the normal). Anomalies were particularly notable (<20%) in the northeast of the island.

In the Republic of Ireland, no more than 45.6mm was collected anywhere. This monthly total from Newport (Co. Mayo), as well as from other parts of the west coast of the Province of Connacht and the west of the Province of Ulster, were the only parts of Ireland that had rain up to about 50% of normal for April. With 33% of its normal fall, April 2021 ranks second to the 29% of normal collected in April 2017.

Elsewhere across the Irish Republic, four stations had their driest April on record. These were Oak Park (Co. Carlow) with 14.4mm (26% of its mean since 2006), Sherkin Island (Co. Cork) with 13.5mm (18% of its mean since 1973), Gurteen (Co. Tipperary) with 13.4mm (22% of its mean since 2008) and Johnstown Castle (Co. Wexford) with 12.3mm (17% of its mean since 1941).

The driest places in the whole of Ireland were Aldergrove Airport (Co. Antrim) and Dublin Airport (Co. Dublin), both of which had total falls of only 11.0mm.

On the opposite side of the Irish Sea, the monthly total of only 11.0mm at Aberporth (Ceredigion) was the lowest total in Wales. This is unusual for a western coastal site and reflects well the anomalous conditions during April 2021.

In Scotland, only the far north had precipitation that reached 50% or more of the 1981–2010 average and nearly all of this fell as snow or soft hail (graupel) during the second week of the month; elsewhere in the UK, only a few southern areas reached a similar percentage (Climatological Observers Link, 2021).

Some lowland parts of the UK had total falls of less than 4mm, notably 0.9mm at both Earls Colne (Essex) and Braintree (Essex), 3.0mm at Leuchars (Fife) and 3.4mm at Swanpool, Falmouth (Cornwall). In South Devon, Teignmouth had a total of only 3.7mm. Only four Aprils have been drier in that town since 1856 (Veal, 2021)⁵.

The greatest fall of the month was the 27th, when 28.8mm was recorded at St Athan

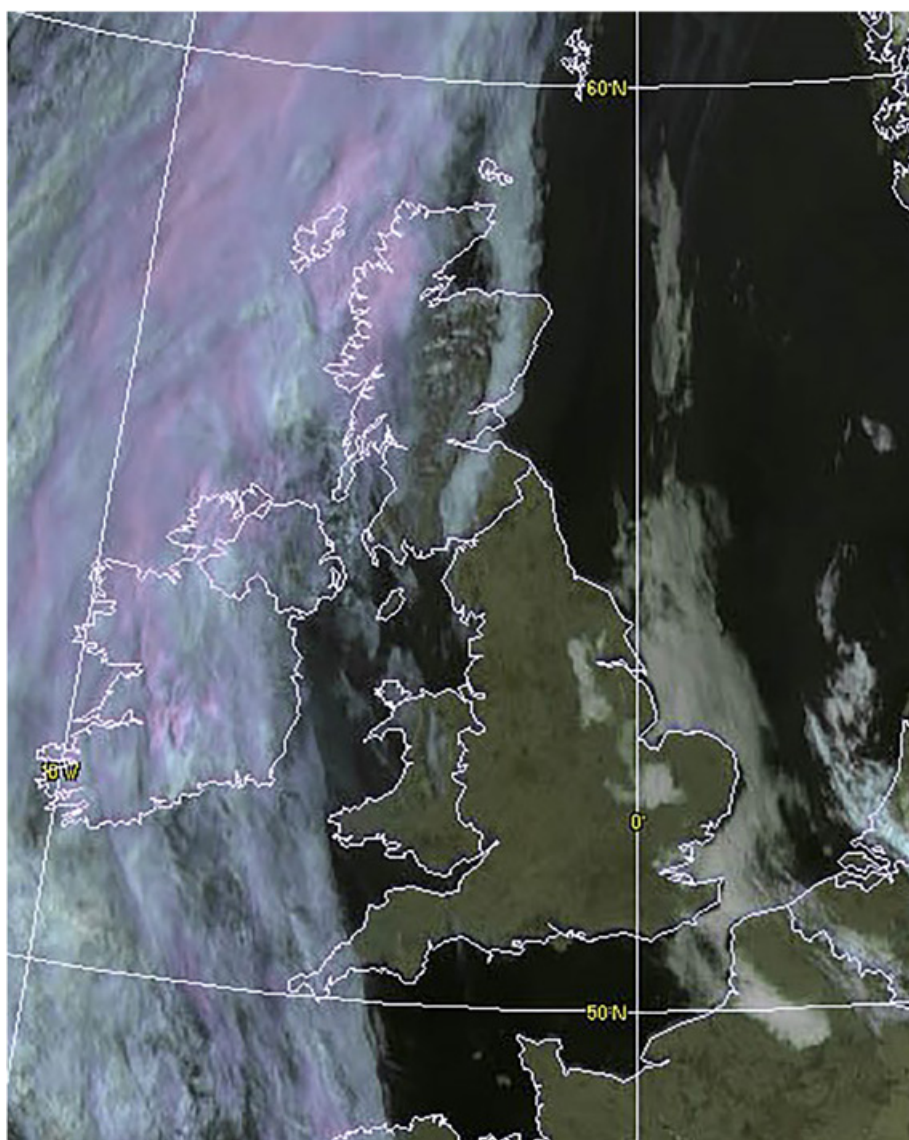


Figure 4. False-colour image from Meteosat Second Generation, showing low cloud on many eastern coasts of England at 0900 UTC on 19 April 2021 (as well as areas of fog inland). (© EUMETSAT. Courtesy Bernard Burton.)

(South Glamorgan). In most of Britain and Ireland, the wettest day was between the 26th and 30th (Climatological Observers' Link, 2021), initially as a depression made its way southwards across Scotland and England, then as showers developed over land in its wake. The wettest day in Ireland was the 29th, when 9.3mm fell at Roches Point (Co. Cork). However, the wettest day in much of southeast England and the Channel Islands was between the 9th and 11th, associated with a slow-moving cold front.

Over the UK as a whole, it was the fourth driest April in a series going back to 1862, with only the Aprils of 1938, 1974 and 1980 having been drier. By the end of the month, the dry conditions were very evident (Figure 6).

At Guernsey Airport, it was the fifth driest April since records began in 1947 and it was the eighth driest April in 128 years at Maison St Louis Observatory (Jersey).

Snowfall

Sleet or snow was observed quite widely on 7 days in many lowland areas of Britain (5th–7th and 9th–12th), as reported in the *COL Bulletin* (Climatological Observers' Link, 2021). In recent years, this number of snowfall days has been rare in April in lowland areas.

In an extreme northerly blast with measured thicknesses down to 505dam at Lerwick, snow cover was unusually persistent across northern Scotland during the second week, with blowing snow, drifting and sub-zero temperatures even on exposed coasts at sea level (unusually so for April, and in conditions not generally seen since December 2010). Stornoway town reported six out of seven consecutive mornings with lying snow during the second week, noted by Edward Graham (pers. comm.) as probably the snowiest April week in the town since 1917.

Drought conditions

In this paper, we refer to drought as follows: partial drought is defined as a period of at least 30 days in which the mean daily rainfall is less than 0.2mm and a meteorological drought is defined as a period of at least 15 days in which no measurable rain (i.e. <0.2mm) falls. Of course, this is only one way to define drought, a more common practice being the consideration of antecedent rainfall over longer periods, as well as local catchment flows (e.g. Turner *et al.*, 2021) and the effect of evapotranspiration. Considering the British Isles as a whole, we consider a purely meteorological definition the most appropriate.

Following a dry March, a partial drought developed during the month in many places, including Johnstown Castle (Co. Wexford) in the Republic of Ireland (Met Éireann, 2021). An absolute drought (15 days with <0.2mm of rain) developed in much of South Devon (between the 13th and 27th or 29th) and the Channel Islands (from the 11th or the 13th). This drought lasted in the Channel Islands until 2 May – a period of up to 22 days without measurable rain.

Other places that experienced a meteorological drought include Beddington (Surrey), Beccles (Suffolk), Bablake (Warwickshire), Desford (Leicestershire), Guildford (Surrey), Luton/Bramingham (Bedfordshire), Charlbury (Oxfordshire), Towcester (Nottinghamshire), Hinkley (Leicestershire), Sheffield/Burncross (S Yorkshire), Pateley Bridge (N Yorkshire), Totterdown (Bristol) and Newton Abbot (Devon), as noted in Climatological Observers' Link (2021). Many other places had a period of 14 days without measurable rain.

The effects of drought

Interestingly, groundwater resources were affected comparatively little by this drought (CEH, 2021) following near-normal rainfall since at least October 2020 in many areas. However, soil moisture deficits were high in April 2021, even in areas where rainfall and groundwater resources kept river flows above the normal (e.g. parts of eastern England). The effects of the drought appear to have been greatest, in terms of river flows, in North West England, Northern Ireland, Wales and South West England. (No data for river-flow anomalies are available for Scotland, the Isle of Man nor the Channel Islands.)

Humidity

As may be expected with an airflow from the north or (continental) northeast, there were periods of dry air (relative humidity <60%) on several days. At Carlton-in-Cleveland (N Yorkshire), the mean relative humidity at 0900 UTC was only 65%, which is 11% below the April normal and the lowest in

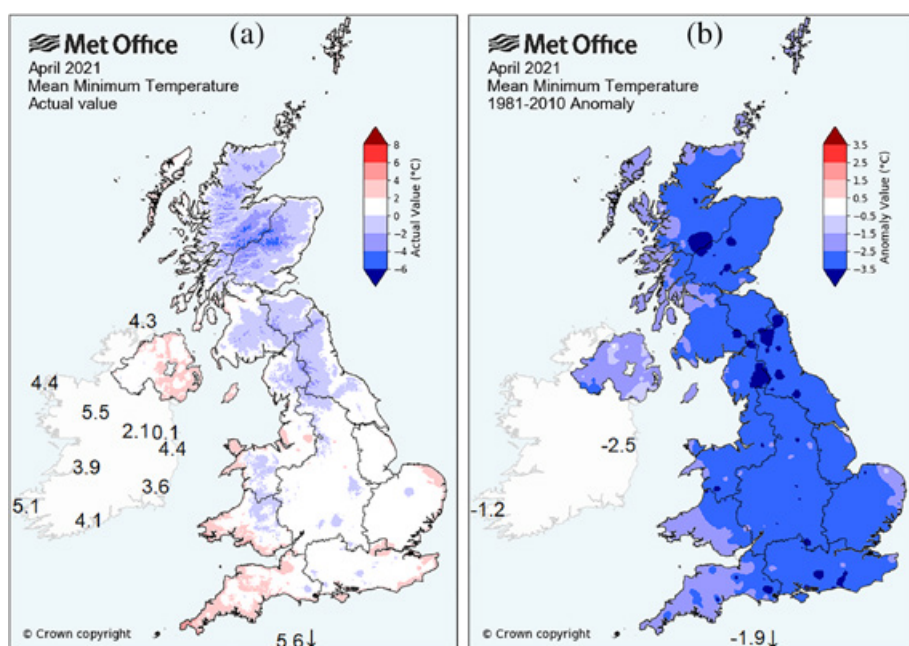


Figure 5. (a) Mean minimum temperature in April 2021; (b) minimum-temperature anomalies from the means of 1981–2010. (Courtesy Met Office National Climate Information Centre; Met Éireann; Jersey Met.)



Figure 6. Parched land on the northern slopes of Dartmoor, near Okehampton (Devon) on 25 April 2021. (© David Naylor.)

any April from the station, which opened in December 1983. Until the 29th, the highest relative humidity had been only 77%, but it reached 93% on that day (Cinderey, 2021).

With this low humidity, winds tended to dry soils out, evaporating the moisture retained in the near-surface layer. In addition, it gave a chilling feel to the wind, with moderate breezes making even the meagre maximum temperatures of much of the month feel more than 5 degC colder

than the thermometric reading (Dixon and Prior, 1987).

Synoptic factors

The main reason for the unusually dry, sunny and cold weather was an anomalously northerly or northeasterly airflow around exceptionally high mean surface pressure centred to the west or northwest of Ireland, the mean at sea level between

1021 and 1025hPa (Figure 7). This brought a predominance of anticyclonic northerly air streams, which are characteristically cold and dry, restricting cloud development (Lamb, 1950, 1972).

The flow in the upper troposphere was ‘blocked’ for most of the month. There was a trough in the 300hPa flow with an axis typically over central, eastern or northern Europe, the last linked to relatively high rainfall during the month in northern Scotland (but still only 50–80% of the normal). The right exit of the jet stream was often near or just east of the British Isles, keeping pressure high for much of the month, continuing a pattern established during the last few days of March. The relatively weak jet stream waxed and waned through the month, although there were only slow transitory changes in the trough-ridge pattern.

It is likely that the dry airflow brought an even greater excess of sunshine to places south and west of high ground than elsewhere. This was especially notable in low-ground areas of western Ireland, southern Scotland and northwest England, which are normally exposed to moist Atlantic weather systems more frequently than eastern Ireland and southeastern Britain (Figure 3b).

The effects on crops and cropping in the UK

The exceptional April weather caused issues for farmers and growers across the British Isles. Low temperatures slow down the growth of established crops and this was particularly acute for spring-harvested crops such as asparagus and spring onion, which virtually halted their development during April and delayed the crops’ availability by several weeks (Sandercock, 2021a). There were harvest shortages and this undermined confidence in British growers’ ability to supply in the minds of many retailers.

For spring-sown crops such as spring barley, the relatively dry preceding month (March 2021) meant that growers were able to get onto the land to cultivate and sow crops early, but the ongoing dry topsoil wreaked havoc with germination and caused a drought stress in the shallow-rooted establishing crops, which led to severely stunted crops. Together, the dry soils and the frost caused a severe stress reaction in many spring barley crops, which accelerated the development of an early flowering situation reducing or eliminating the tillering and stem extension stages (Figure 8) (Silvery Tweed Cereals, 2021). There were many reports of very sparse spring barley crops, which were flowering at 30cm, or less, tall when normally they would be expected to be well over 100cm. The consequences of the short, patchy and uneven growth was a disastrously poor yield for

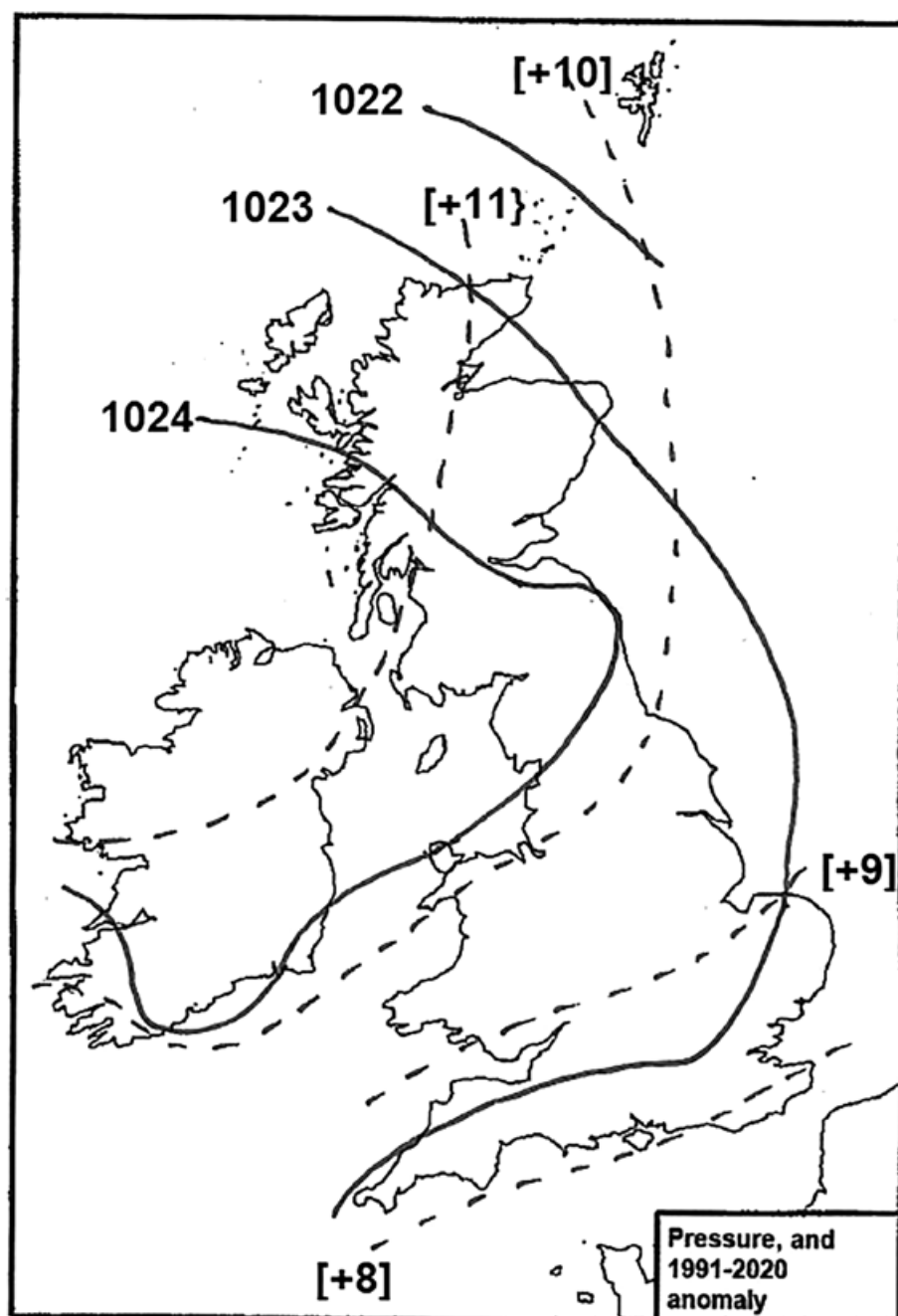


Figure 7. Mean sea-level pressure at 0900 UTC in April 2021 in Ireland and Britain. Pressure anomalies as high as +12hPa – and nowhere in Britain and Ireland less than +7hPa – are extremely rare. (Courtesy Climatological Observers' Link.)

these crops. Virtually all spring-sown crops including potatoes, sugar beet and many vegetable and salad crops were delayed in their establishment (Baruth *et al.*, 2021; Sandercock, 2021b). This delay had a knock-on effect to their potential yields.

The established overwintered field crops (winter wheat, winter barley and winter oilseed rape) were less affected by the lack of April rainfall as they had developed deep roots, although they were still arrested in their spring development by the cold and this delayed spring fertiliser application. However, the low temperatures also arrested the development of foliar diseases, which meant there was less need for early

fungicide applications (De la Pasture, 2021). Winter oilseed rape flowered in a rather patchy and uneven manner across Britain. The consequence of the delayed development of these crops was a late harvest with many crops being combined 3 or 4 weeks later than normal. The harvest of some wheat crops was pushed well into September, having a knock-on effect on the sowing dates of the following season's crops.

Livestock farmers who rely heavily on spring grass growth for an early turn out of cattle into fields and paddocks were also affected and they were forced into prolonged feeding of silage and hay for

much longer, leading to increased costs (James, 2021). There was also a knock-on effect onto first silage cuts, which were delayed and of lower yields than normal. This has a consequent threat to the following winter feed supplies and made many farmers look towards growing a greater acreage of maize for silage to compensate for reduced yields of grass silage.

All in all, the exceptionally dry and cold weather brought a poor start to the year for many farmers and led to higher costs, lower yields and, overall, a lower income for some, although compensatory growth later in the year meant that the April 2021 effects were not disastrous across the board (Agriculture and Horticulture Development Board, 2021).

Conclusions

April 2021 was an exceptional month: the sunniest on record in many places, but cold and very dry. Similar anomalies were seen in all parts of Ireland, Britain, the Isle of Man, Guernsey and Jersey as a result of the anomalous north to northeast winds and high pressure. However, mean temperature and rainfall anomalies were somewhat less marked in many western areas than was the case in the east. Sunshine was particularly notable in southern Scotland, northwest England and parts of western Ireland.

The exceptional weather also had consequences for agriculture, affecting many crops and reducing yields of some, spring-maturing vegetable crops were badly affected limiting supply in the UK and poor early grass growth proved a real challenge for many livestock farmers.

1. Only reports from stations with well-exposed instruments have been included in this assessment, although some of these are not official climatological stations.
2. Interestingly, at Carrefour au Clercq (Jersey), this was the sunniest April since records began in 1997, whereas Sark had sunnier weather in April 2010, matching much of Jersey.
3. In practice, not all sunshine can be recorded, a certain insolation being required either to exceed the level counting as sunshine in a solarimeter, or to burn a sunshine card. When the sun is low, atmospheric absorption and solar elevation reduce insolation. Distant cloud may also block direct solar radiation when the sun is low in the sky. The percentages calculated here use the number of hours between the times at which half of the sun is above the horizon (~3min after sunrise and ~3min before sunset) for each region considered.
4. This station moved from outside the increasingly busy airport terminal in



Figure 8. Uneven growth in a barley crop at Stover, Newton Abbot (Devon), seen on 29 June 2021, following the drought of April 2021. (© Jim Galvin.)

1992, to a much quieter, grassy field site near the western runway, so data from Dublin Airport may have been affected by this move.

5. It is noted that the rain gauge has moved location several times within the town since 1856.

Addendum: May 2021

Q5

Ultimately, the dry weather that had dominated April ended with a very wet May. However, despite the high rainfall totals in May, making up 167% of the 1981–2010 average, it remained cold with temperatures averaging 1.3 degC below the 1981–2010 mean for May in the UK.

Overall, despite the very dry April (and comparatively dry March), spring had near-normal rainfall overall with a mean of 94% of the long-term average. Spring temperature was, perhaps, more significant: overall, spring temperatures were 0.7 degC below average, due to a combination of the cold weather in April and May with the cloudy skies in March.

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Graphical abstract

The April of 2021 brought exceptional weather to the British Isles. It was characterised by sunny and unusually dry conditions with minimum temperatures much lower than normal. There was drought in many southern areas and late snows were a feature, especially in the north. This paper summarises the climate of April in Ireland, Great Britain and the Crown Dependencies of Guernsey, Jersey and the Isle of Man using data from both official (state-run or state-maintained) stations, supplemented by data from amateur sites. Notably those of Climatological Observers' Link. The weather in early spring 2021 affected the growth of many crops and this is also briefly discussed.

