

# March 2018

## The averaging period used for the following assessment was 1981-2010.

March began with an exceptionally cold easterly flow and widespread snow, and daytime temperatures remained below freezing in many parts of the country. It turned milder from the south during the first week, and until mid-month the weather was generally wet and cloudy for most with low pressure dominant, but north-western areas remained drier. A second cold easterly outbreak brought widespread snow on the 17th and 18th, though this was not as severe as at the beginning of the month. After a brief dry sunny spell, the milder unsettled regime returned for the rest of the month.

The provisional UK mean temperature was 3.8 °C, which is 1.6 °C below the 1981-2010 long-term average, but it was significantly less cold than March 2013. Mean maximum temperatures were between 1.5 and 2.0 °C below average in most areas, while mean minimum temperatures were mostly between 1.0 and 1.5 °C below, but nearer 2 °C below in Northern Ireland. Rainfall was 110% of average, and some places, notably Devon, the Midlands and some eastern coastal counties, had over twice the normal amount, but in contrast Cumbria and north-west Scotland were much drier than average. Sunshine was 83% of average, and it was dull over most of England and Wales and eastern Scotland, but most areas bordering the Irish Sea had near average sunshine and it was a sunny March in the Western Isles.

The UK monthly extremes were as follows: A maximum temperature of 16.6 °C was recorded at Colwyn Bay (Clwyd) on the 10th. A minimum temperature of -10.7 °C was recorded at Cawdor Castle (Nairnshire) on the 1st. In the 24 hours ending at 0900 GMT on the 15th, 70.6 mm of rain fell at Trassey Slievenaman (County Down). Wind gusts of 73 knots (84 mph) were recorded at Warcop (Cumbria) on the 2nd and 17th. A snow depth of 57 cm was recorded at Little Rissington (Gloucestershire) on the 4th.

# Weather impacts

On the 1st, there were numerous requests for military support in Devon and Cornwall, Avon and Somerset, Shropshire, and also Scotland. The A38 at Haldon Hill (Devon) was closed, as there were a number of accidents. Many pre-emptive actions were taken that morning: the A380 was closed so that the authorities could concentrate on keeping the coast road open, and shift times for responders were changed. In Scotland, over 300 people were stranded for 20 hours on snow-bound roads. Numerous roads were closed including the M73, M80, M876 and A92, and Glasgow and Edinburgh airports closed. National Rail reported mass disruption in the South East, Scotland, north-west England and the South West, with only two train operators in the whole of Great Britain not affected. Over 5000 schools were closed across England, and frozen pipes caused water supply issues in places. Many roads were blocked or impassable, and it was reported that there were 10 weather-related deaths, while some communities in northern England were cut off. Over 140 flights from Heathrow, Gatwick and London City airports were cancelled. Up to 400 vehicles were trapped on the A1 near Peterborough and in Lincolnshire; the RAF used their vehicles to transport health staff to hospitals and to vulnerable people. On the evening of the 1st, a South Western Railway train to Weymouth broke down and passengers were trapped for 11 hours, and the A303 came to a standstill with drivers stranded for 12 hours. Mountain rescue teams were brought in to help rescue stranded road users in north-east England, while in Scotland BBC Radio 1 DJ Greg James had to postpone the last leg of his Sport Relief Pedal to the Peaks challenge. Late on the 1st and on the 2nd, many roads across southern Britain become treacherous after freezing rain. Many schools remained closed across the UK, with widespread transport delays and cancellations. By the 3rd, Electricity North West had restored power to 22,600 homes since this winter weather had first hit, while a number of roads in north-east England were closed due to floodwater. Some

communities in east Cumbria were still cut off and Chinook helicopters had to be used to drop off supplies. In Scotland, some public transport routes were delayed or disrupted, schools remained closed and roads were still affected by snow.

Towards the middle of the month, low pressure to the west brought bands of rain across the country, with flooding in parts of the south-west, Wales, the West Midlands, and Northern Ireland.

Another very cold easterly outbreak brought disruption over the weekend of the 17th/18th. Over 120 flights to/from Heathrow, Gatwick and London City Airports were cancelled, and numerous road accidents caused delays. Trans-Pennine rail routes were affected with most roads over the Pennines suffering serious delays and disruption. The M1 was reduced to a single lane, and some outdoor events were cancelled. In the south-west, some roads were blocked by snow or were only passable with 4x4s, and several airports saw disruption. In Scotland, there were a large number of breakdowns, accidents and lane closures on the roads.

Two photos showing contrasting weather conditions in the Cairngorm mountains during March 2018 - first image: limited visibility on 2 March 2018 with an air temperature at Cairngorm summit of around -10 °C combined with a wind gusting at over 80 Kt (92 mph). Second image: looking west across the Northern Corries of the Cairngorms on 19 March 2018 - a bright sunny day. Images courtesy Mark Diggins, Scottish Avalanche Information Service 2.





The image below shows lying snow in Exeter during the afternoon of Sunday 18 March 2018. Image courtesy Mike Kendon, Met Office



# England diary of highlights

March began with an exceptionally cold easterly airstream, which brought widespread snow with daytime temperatures staying below freezing in many parts of the country. It then turned milder and generally wet until mid-month, then on the 17th/18th another exceptionally cold easterly brought further snow, especially for the north-east and south-west. After a few generally dry fine days, the unsettled pattern returned for the rest of the month, with low pressure dominating.

The mean temperature for March was provisionally 1.5 °C below the 1981-2010 long-term average, making it the coldest March since 2013. It was a dry month in Cumbria and north Lancashire but wet elsewhere, and with 160% of average rainfall it was the joint 7th wettest March in a series from 1910, and the wettest March since 1981. Some parts of the south and south-west, the Midlands and the north-east had well over twice the average monthly rainfall. Sunshine was close to average in Cumbria, north Lancashire and west Cornwall but below average elsewhere, with 75% of average overall.

## 1st to 4th

The 1st was bitterly cold, with a maximum of only -3.7 °C at Pennerley (Salop) and Little Rissington (Gloucestershire) and significant snow for most parts, with over 50 cm reported in Cumbria and Northumberland; Storm Emma brought disruptive snowfall and strong winds to the south-west from midafternoon, which turned to freezing rain in some southern coastal parts. Outbreaks of snow still affected the south and south-west on the 2nd, with light snow showers in the north-east, and very wet with rain, sleet and snow in the Midlands and East Anglia from mid-afternoon. It remained very cold with an overnight minimum temperature of -10.0 °C at Alston Springhouse Park (Cumbria), and windy too with gusts of 84 mph reported at Warcop (Cumbria). It turned milder on the 3rd with rain for the south-west, spreading along the south coast, and patchy rain, sleet and snow in the north. The 4th started with 57 cm of snow at Little Rissington (Gloucestershire) had showers and longer spells of rain over the West Midlands and south-west, with rain and sleet further north, and it was became wet across East Anglia and the south-east later.

### 5th to 15th

Starting dry and bright for most on the 5th, rain over the south-west gradually spreading east into the Midlands and East Anglia by dusk. Rain, sleet and snow in the north cleared away northwards on the 6th; elsewhere brighter, with isolated showers across the south. On the 7th rain across East Anglia and the south-

east cleared by mid-afternoon with showers across western areas, heavy over Cornwall and Devon with more persistent, heavy rain reaching the south-west later. Cloudy and wet on the 8th with rain and hill snow moving east, clearing the east coast by mid-afternoon, followed by isolated showers across western areas. Dry and sunny on the 9th until cloud and heavy rain moved in over Cornwall around mid-morning and spread north-eastwards across all areas. Bands of rain on the 10th, heavy at times, moved north-east across all areas; becoming drier and brighter towards evening. Very wet over East Anglia and the south-east initially on the 11th, but rain cleared away followed by scattered showers, before turning wet over the south-west during the afternoon. Wet for most on the 12th, turning drier from the south-west during the afternoon. The 13th was sunny over the south-west, generally cloudy elsewhere with scattered showers mainly over the north. The 14th was sunny in the east but wet in the west, and especially the south-west, with 38.8 mm at Dunkeswell (Devon). It was mild overnight into the 15th, with the temperature falling no lower than 9.2 °C at St Mary's (Scilly), and rain across central and northern areas moved steadily eastwards, reaching the east coast by midafternoon, with sunshine and showers following behind.

### 16th to 20th

Cloudy with persistent rain over the north on the 16th; sunshine and showers in the Midlands and south. The 17th started with rain over the south which increasingly turned to snow, while elsewhere there were frequent, locally heavy and blustery snow showers and the wind gusted to 84 mph at Warcop. Temperatures barely got above freezing on the 18th, with persistent snow over the north, and another area of significant snow moved west through the West Midlands and the south-west. The 19th was dull in the south-east with snow for a time over coastal counties, otherwise dry and sunny with a thaw, and a few showers developed over the north-east during the evening. Showers in the east slowly died out on the 20th, while elsewhere it was dry and sunny.

## 21st to 31st

After a widespread frost, the 21st was generally sunny, before rain moved into the north in the afternoon. Early rain on the 22nd cleared from the south-east, then bright in the east but cloudier elsewhere with rain reaching the far south-west by late afternoon. Rain over the north and east cleared away by midday on the 23rd, then it was dry almost everywhere before persistent rain reached the south-west from early afternoon. Rain in most places initially on the 24th, then drying up from the north with the rain increasingly confined to the east and south-west. It was cloudy across the south-east on the 25th, sunny elsewhere with a few isolated showers developing in the north during the afternoon, and Morecambe (Lancashire) recorded 11.4 hours of sunshine. The 26th started frosty in the north, milder in the south, and was mostly sunny before rain reached the southwest from mid-afternoon. Rain across the north and east cleared on the morning of the 27th, followed by showers across many parts, persistent in the north and south-east, and it was warmer with 15.9 °C recorded at Kew Gardens (London). Rain over the Midlands and south on the 28th cleared east by late afternoon, with widespread, locally heavy showers following, these wintry over higher ground. Rain over the south-west on the 29th spread east and north, reaching the Midlands by evening, with showers affecting other areas. Rain or showers across the north on the 30th, dry initially elsewhere before turning very wet across the south and east during the morning, and there was snow in parts of the south-west. Rain or showers for most places on the 31st persisted in the east, but the west became drier.

# Wales diary of highlights

March began with an exceptionally cold easterly bringing widespread snow and sub-zero maxima. It then turned milder and generally wet, then on the 17th/18th another notably cold easterly brought further widespread snow. A brief dry sunny spell followed, then the rest of the month was generally wet with low pressure in charge.

The mean temperature was provisionally 1.7 °C below the long-term average, making it the coldest March since 2013. Rainfall was 130% of average, and it was a very wet month in the east and south, but parts of the

north-west were slightly drier than average. Sunshine was 85% of average overall, but near or above average in some western parts whereas central and eastern parts had a rather dull month.

#### 1st to 4th

The 1st was bitterly cold with a minimum of -9.4 °C and maximum of -4.7 °C at Tredegar (Gwent), with snow turning heavy and persistent from the south in the afternoon; with strong winds and significant drifting, depths in excess of 50 cm were reported in central and southern parts. Wet and windy for most on the 2nd with a mixture of rain, sleet and snow, and Aberdaron and Valley (Gwynedd) had gusts to 66 mph. Slightly milder on the 3rd with showery rain, sleet and snow mainly across the south and around the west coast, and St Athan (S Glamorgan) recorded 55 cm of lying snow. It was milder on the 4th but generally cloudy with rain, or sleet on higher ground.

### 5th to 15th

Wet in the south and west initially on the 5th, becoming wet everywhere by dusk. It was cloudy on the 6th with some brighter intervals but a few coastal showers. The 7th started mainly dry and bright but showers developed through the day, heavy across southern areas. Northern areas started cloudy and wet on the 8th; rain and hill snow cleared by mid-morning, giving brighter skies but with scattered showers developing in the afternoon. Dry, cloudy start on the 9th before heavy rain reached the south coast around lunchtime, moving north-east across all of Wales, with 37.3 mm at Llanfynydd (Dyfed), and showers following across the south-west. The 10th was cloudy, wet and mild with a band of heavy rain moving north across all areas, clearing the north coast late afternoon, and the temperature reached 16.6 °C at Colwyn Bay (Clwyd.). Generally cloudy on the 11th with scattered showers, then turning very wet from the south towards evening. It was mild overnight into the 12th, the temperature falling no lower than 8.0 °C at Cardiff Bute Park (S Glamorgan), and the day started wet, turning drier and brighter from the west during the afternoon. Some scattered showers in the morning of the 13th died out leaving a sunny afternoon. Rain over the south-west on the 14th eventually spread to all parts by evening. Rain everywhere to start the 15th, clearing northwards by late morning, then brighter with showers.

## 16th to 20th

Morning rain across central and northern parts on the 16th cleared northwards by lunchtime, leaving a mixture of sunshine and scattered showers. It was cloudy with rain or showers on the 17th, which turned increasingly to sleet and snow from early afternoon. Bitterly cold on the 18th with widespread snow, which moved westwards but eventually cleared by mid-afternoon. The 19th was dry and sunny and less cold with a thaw. The 20th was mostly sunny, Aberdaron (Gwynedd) recording 11.5 hours of bright sunshine, but cloud increased in some places during the afternoon.

## 21st to 31st

There was a widespread frost early on the 21st followed by sunshine, but cloud increased during the afternoon with rain into the north by evening. Dry and cloudy on the 22nd, with rain reaching the far south-west by early evening. Generally cloudy on the 23rd with patchy light rain, turning wet in all parts by evening. It was cloudy with rain on the 24th, drying up from late morning. The 25th was a dry and mostly sunny day. The 26th started frosty away from coasts, and became sunny, but rain arrived in the south-west from mid-afternoon. Sunny along the west coast on the 27th, cloudier inland with patchy rain in places. Rain on the 28th cleared by midday then sunshine and widespread showers, wintry over higher ground. Bright in the north on the 29th, cloudy in the south with rain spreading northwards. Cloudy but dry initially on the 30th, then turning wet from the south during the afternoon. The 31st was wet in most places but became dry during the afternoon.

# Scotland diary of highlights

March began with an exceptionally cold easterly outbreak which brought widespread snow showers, especially over the central belt and in the east, and daytime temperatures remained below freezing in many places. There was another very cold easterly on the 17th/18th which brought widespread snow, but not as severe as at the beginning of the month. In between it was milder, and generally wet in eastern parts but often relatively dry for the north-west.

The mean temperature for March was provisionally 1.7 °C below the long-term average. Rainfall was 70% of average but with a very marked west-east split, with well above average rainfall in counties bordering the North Sea and below average rainfall in central and western parts of the country. Sunshine was 98% of average, and it was a cloudy month in central and eastern parts but sunny in the Western Isles.

### 1st to 5th

Bitterly cold on the 1st, with a minimum of -10.7 °C at Cawdor Castle (Nairnshire) and a maximum of -2.9 °C at Braemar (Aberdeenshire) and Dalwhinnie (Inverness-shire), with frequent, heavy snow showers in most parts, although drier and brighter in the west. Snow showers persisted over the east on the 2nd, with the west drier; Drumalbin (Lanarkshire) was heaviest hit with 49 cm of lying snow and there was also 46 cm at Bishopton near Glasgow. The 3rd was similar, with another area of mainly light snow affecting the south during the afternoon. Cold with rain, sleet and snow on the 4th, heaviest across the south and east. The 5th was less cold and it was wet from the central belt northwards, with rain, sleet and hill snow; drier in the south ahead of rain arriving in the evening.

### 6th to 15th

It was wet everywhere on the 6th with rain, sleet and hill snow, turning gradually drier from the south during the day, and 43.3 mm fell at Fettercairn (Kincardineshire). Rain, sleet and snow over the north-west on the 7th, with a few scattered showers for central and southern areas, then more heavy showers, wintry in places, across western areas moving north-east during the evening. Rather cloudy on the 8th with showers across western coastal areas, moving east throughout the day to reach the Grampians and central and southern areas, with snow on high ground. Mainly fine and sunny on the 9th with showers across the Grampians and through the central belt first thing, becoming fewer during the day. The 10th started dry in the north but heavy rain moved north across all areas through the day, albeit remaining dry across Shetland. Light rain over the far north on the 11th cleared in the afternoon, leaving everywhere dry and bright. Cloudy on the 12th, but dry apart from some light rain over the north-east in the afternoon. Generally cloudy with scattered light showers on the 13th. The 14th was windy, with gusts of 74 mph recorded at South Uist (Western Isles), and wet across the west and north but dry and bright in the east. Rain in the south-west on the 15th moved slowly into central parts by late afternoon, but did not reach the north and east.

## 16th to 20th

Dry over the north on the 16th, rain elsewhere, persisting over the east but turning drier across the south during the afternoon. It was mostly sunny across the north-west on the 17th, but with snow showers for the south and east throughout the day. The 18th had a bitterly cold east wind which brought snow showers or longer spells of snow to the east and south, with the north and west staying drier and brighter. Dry and sunny on the 19th, and much milder. A few isolated showers in the south early on the 20th, then generally dry and sunny.

## 21st to 31st

Rain over the north and west on the 21st spread to all parts by late morning, clearing the east during the afternoon but persisting over the west and south. The 22nd was bright in the east but cloudy in the west with rain for western and northern parts from mid-afternoon, and it was mild with overnight temperatures falling no lower than 7.2 °C at South Uist (Western Isles) and a maximum of 15.1 °C at Fyvie Castle (Aberdeenshire). Very wet for all parts initially on the 23rd, the rain clearing away northwards during the day with southern

areas turning brighter and showery. Bright in the south and east on the 24th, but showers over the north-west became more widespread during the afternoon. Sunshine and showers on the 25th, the showers heaviest and most frequent across the north. Widespread frost away from the north on the 26th, then generally sunny with just a few showers across the far north. Generally cloudy and wet on the 27th, wettest across the north and east. Early rain over the east on the 28th quickly cleared, then showers became widespread, and wintry over higher ground. Generally bright on the 29th, sunny in the north-west with 12.2 hours of bright sunshine at Stornoway (Western Isles), but there was patchy rain over the north-east, and showers developed in the south later in the day. Cloudy and wet on the 30th, although drier across the west. Wet again for the south and east on the 31st, brighter with showers further north.

# Northern Ireland diary of highlights

The month began with an exceptionally cold easterly flow and widespread snow showers, and daytime temperatures failed to reach freezing in some places. It then turned milder and generally changeable, then there was another very cold easterly outbreak on the 17th/18th. After a brief dry sunny interlude, the milder changeable weather returned for the rest of the month.

The mean temperature was provisionally 1.9 °C below the long-term average but it was not as cold as March 2013. Rainfall was 90% of average and sunshine was 92% of average, and the south-east had a wet month with near average sunshine while western parts were drier and cloudier.

## 1st to 5th

It was bitterly cold and very windy on the 1st, with an overnight minimum of -7.0 °C at Trassey Slievenaman (County Down), and a maximum of only -1.0 °C at Killylane (County Antrim); gusts reached 63mph at Orlock Head (County Down) with sunshine and frequent and occasionally heavy snow showers. Wet again on the 2nd with a mixture of rain, sleet and snow for most, drying up for a time ahead of more rain into the south by evening. Trassey Slievenaman recorded 30 cm of lying snow on the 3rd and 4th, but the 3rd turned a little milder with intermittent rain, and it was generally cloudy with patchy rain or sleet on the 4th, turning wetter towards evening. The 5th saw rain and sleet, with more significant rain moving northwards in the evening.

### 6th to 15th

It was cloudy with occasional showers on the 6th. The 7th started mainly dry and bright but showers developed through the day, heavy in places. A cloudy and dry start for the 8th, but scattered showers developed in the afternoon, dying out again by evening. The 9th was a mostly dry and sunny day but cloud and rain spread into southern counties towards evening and continued to move north. The 10th was cloudy and wet, with bands of heavy rain moving northwards, clearing the north coast by evening. Cloudy but with some bright spells on the 11th and a few isolated showers. The 12th was another day of bright intervals with a few isolated afternoon showers. Dry and sunny on the 13th, although clouding over during the afternoon. The 14th was wet for all, with 70.6 mm at Trassey Slievenaman. Further rain on the 15th, clearing in early afternoon, then turning brighter with a few showers.

## 16th to 20th

Mild overnight into the 16th, with 7.0 °C minima recorded at Thomastown and Derrylin (County Fermanagh); after early rain it became dry for a time before turning wet from the south in the afternoon. The 17th was brighter with a few showers, the showers becoming more frequent, heavier and wintry late in the afternoon. Bitterly cold on the 18th with snow showers or longer spells of snow in most places. The 19th was milder and dry and sunny with a thaw. The 20th was another sunny day and again a little warmer, with 10.9 hours of bright sunshine at Aldergrove (County Down).

### 21st to 31st

The 21st was cloudy, with an area of rain passing through between late morning and late afternoon. The morning of the 22nd was dry and cloudy, but all parts turned wet during the afternoon. The 23rd saw rain in the morning, but brightened up with showers from midday. After a sunny morning on the 24th, a few showers developed during the afternoon; milder, with Killowen (Down) reaching 13.9 °C. Sunshine and showers on the 25th after a frosty start. The 26th saw a widespread frost, and it started bright but rain spread to all parts during the afternoon. Generally cloudy with showers but also some bright intervals on the 27th. Sunshine and showers on the 28th. It was bright with showers over the east on the 29th, turning wet in the west during the afternoon. Cloudy overall on the 30th with patchy rain or showers, and the 31st was similar but milder.

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