

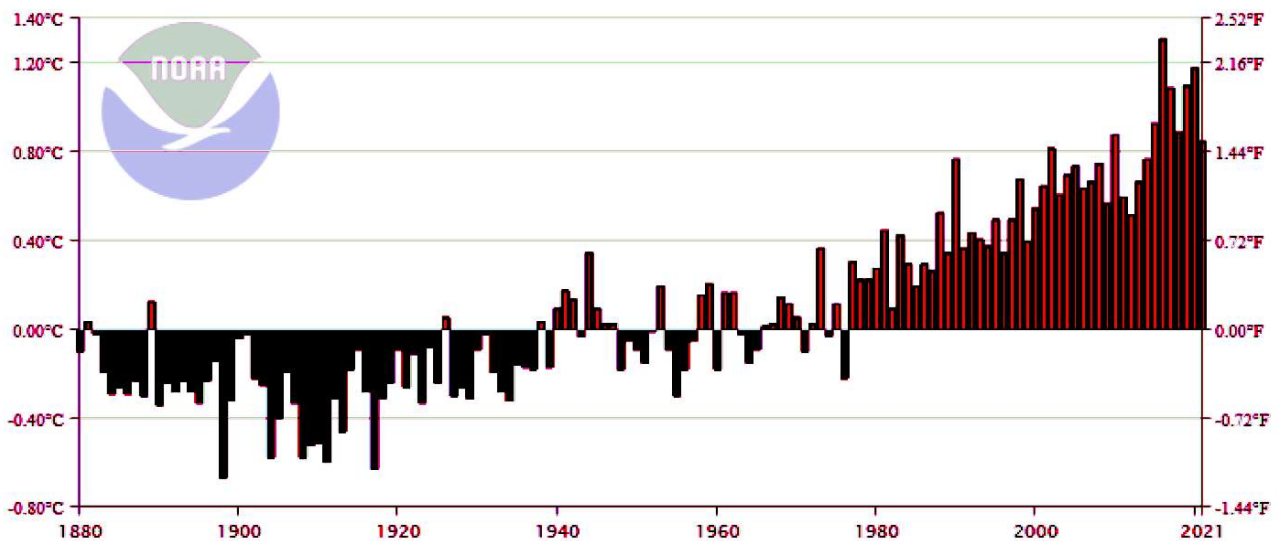
Prime Meridian

(139) April 30, 2021

The *long-term trend* for climate is upwards, but March, 2021 (8th warmest in a 142 year record), did not set global records.

The front page picture shows Britain and the North Sea on March 2, 2021. It was taken from the NOAA-NASA Aqua satellite using the Moderate Resolution Imaging Spectroradiometer (MODIS) unit. NASA Earth Observatory. Image of the day March 27, 2021. Ships Passing in the Night.

**Global Land and Ocean
March Temperature Anomalies**



Above: Global temperature anomalies from NOAA., during March, 2021. Details can be found in: <https://www.ncdc.noaa.gov/sotc/global/202013>

The ups and downs of climate change.

We should not expect every year, month by month, to be warmer than in the year before. Climate change isn't like walking up a set of steps, nor has that ever been suggested by climate scientists. Weather and climate are not different names for the same thing. Weather is about what the atmosphere is doing at a given time. Climate is the long-term average of weather. Despite statements that emerge from some who have a political axe to grind, episodes of hot weather do not prove climate change; episodes of cold weather do not disprove it. Climate scientists from the USA's NSIDC (National Snow and Ice Data Center), NOAA and NASA have reported that March 2021 was not a momentous series of records. You can pick up the data from:

<http://nsidc.org/arcticseaicenews/>

<https://earthobservatory.nasa.gov/images/148194/sea-ice-highs-and-lows>

NSIDC said for the Arctic: "This winter's annual ice maximum was less noteworthy. Ice formed throughout autumn and winter and reached its maximum on March 21, 2021. "The extent was measured at 14.77 million square kilometers . . . well below the 1981-2010 average of 15.64 million square kilometers. March 2021 was the seventh-lowest Arctic ice maximum in the 43-year satellite record" It separated for the Antarctic that:

"Antarctic sea ice extent climbed rapidly, passing the long-term average daily extent on March 1. The rate of growth was very rapid between February 25 and March 8, expanding by over one million square kilometers . . . in the 12-day period. This is the fastest expansion in the four-decade record of sea ice extent for this time of year, and was caused by a rapid refreezing of the western Amundsen Sea and eastern Ross Sea areas. Since early March, growth has slowed to a more typical, slightly below-average pace."



Global climate: The 8th warmest March in a record that began in 1880.

NOAA (USA's National Oceanic and Atmospheric Administration): "The global surface temperature departure of $+0.85^{\circ}\text{C}$. . . in March 2021 was the smallest March temperature departure since 2014 and was the eighth highest for March in the 142-year record. March 2021 also marked the 45th consecutive March and the 435th consecutive month with temperatures, at least nominally, above the 20th-century average."

Data is provisional. All the anomalies quoted are positive.

Check out NOAA data on: <https://www.ncdcnoaa.gov/sotc/global/202103>

Above: The Earth at the Northern Hemisphere's Spring Equinox. This picture was taken by the DSCOVR (Deep Space Climate Observatory) space craft (NASA/NOAA), using its EPIC (Earth Polychromatic Imaging Camera) system. March 20, 2021 at 11:34:10 UTC.



Above: A common spring wild flower, lesser celandine (*Ficaria verna*). March 30, 2021. Ash, Kent.

Seasons in South East England

March 2021

Warmer than average, normal hours of sunshine, but dry.

The UK Met Office reported: "The first week of March was cold but largely settled, followed by a disturbed spell of weather from 9th to 12th. Many areas were predominantly dry during the second half of the month, although western and northern areas saw persistent rain during 24th to 30th. The second half of the month was also much warmer, especially the last three days."

The provisional UK mean temperature was 6.4°C, which is 0.9°C above the 1981-2010 long-term average, 2010 long-term. England 7.0°C with 0.8°C above the norm. The warmest mean temperature was in our region (England SE & Central S) with 7.1°C (0.3°C above the norm) and East Anglia 7.1°C (0.5°C above the norm).

The UK's coldest day of March 6, fell to -8.5°C at Braemar (Aberdeenshire in Scotland). The warmest took place on March 30, in our region at Kew Gardens (Greater London). It reached 24.5°C.

Monthly means for SE and central S England. Max. temp.: 11.1°C (0.6°C); min. temp.: 3.1°C (0.1°C). Hours of sunshine: 118.8 (104%). Rain: 35.8 mm (62%). Anomalies re. 1981-2010 norm in brackets. Date obtained from Met Office on-line monthly reports.



During the month of March, our planet crosses an equinox. This is the Spring Equinox for the N. Hemisphere and Autumnal Equinox for the S. Hemisphere.

Here in S. E. England, we witnessed the traditional passage from the bare winter hedgerows and woods during the month of March.

Top to bottom left: The evening of the first day of March. Hartley Hill. Kent.

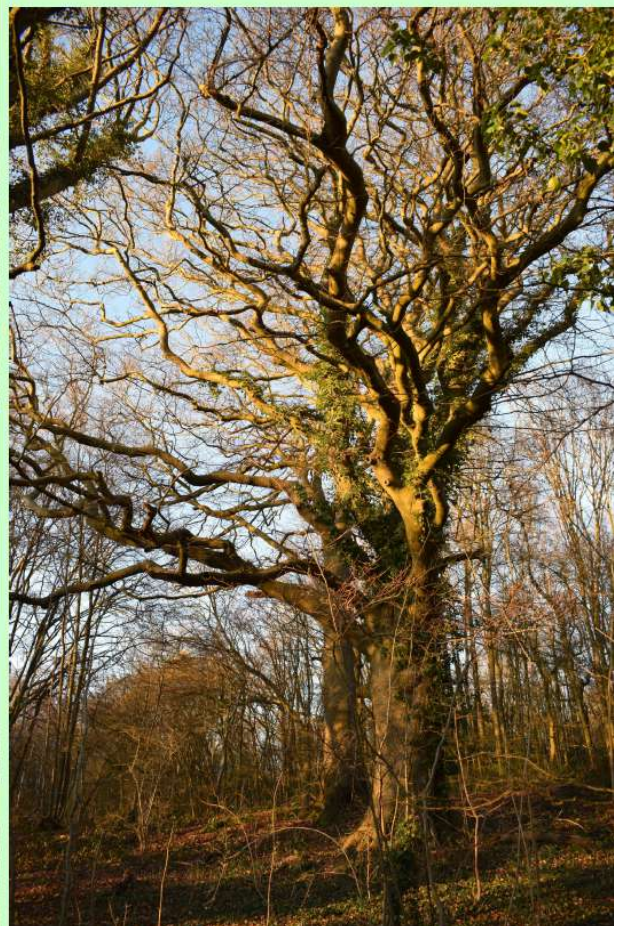


A belt of bare trees on the hill at Ash, Kent. The fields beside them were greening. March 9.

West Kingsdown, Kent. The white flowers of the blackthorn (*Prunus spinosa*). March 29.

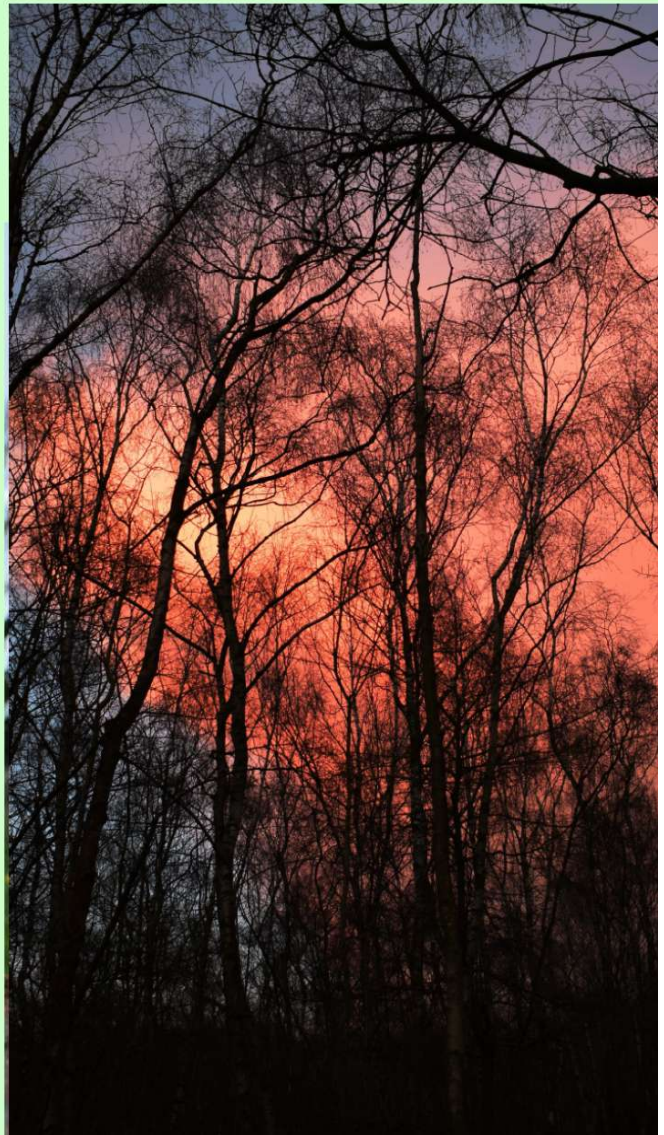
Hawthorn (*Crataegus monogyna*) had not yet developed leaves on the edge of the Beacon Wood, Bean, Kent. March 29, 2021.

Below right: A beech tree (*Fagus sylvatica*), as yet without its leaves. Wood at Ridley, Kent.





March 13, 2021. During the afternoon, distant snow descending from clouds seen from the hill at Hartley, Kent. The day comes to a close above the silver birch (*Betula pendula*) woodland at Beacon Wood, Bean, Kent.



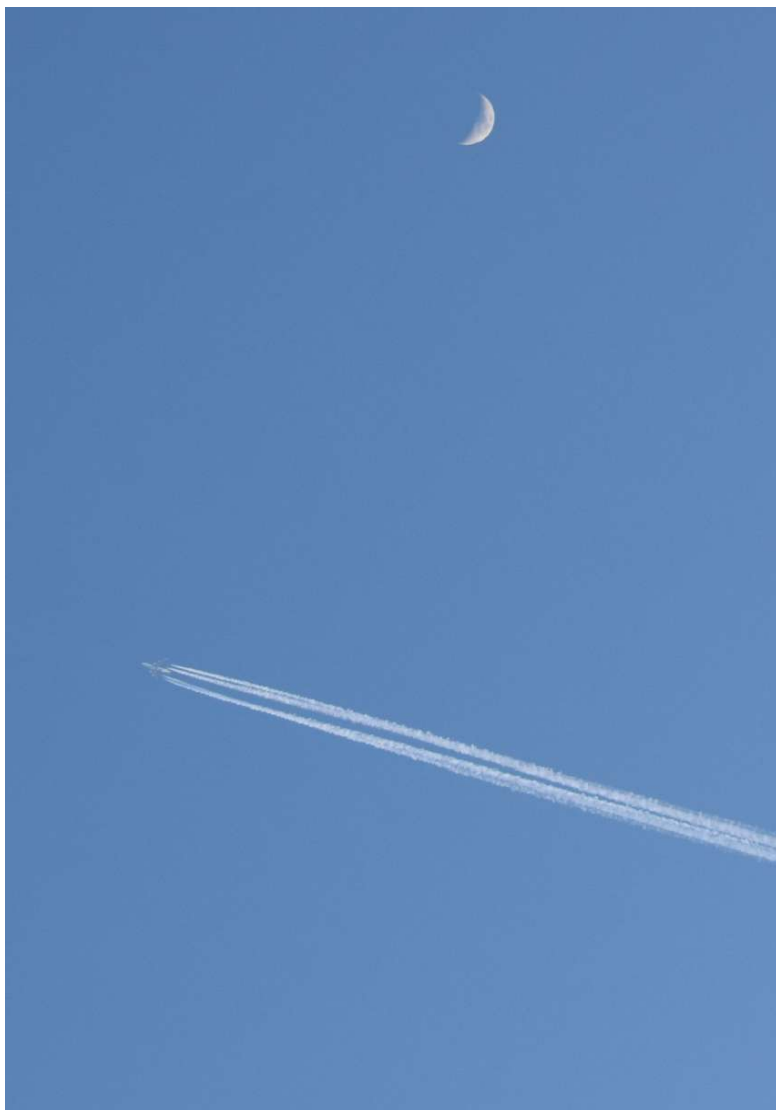


Above and centre: The early waxing Moon. March 16. Ash, Kent.



Below: Sunset on March 17, 2021. Highcross Road. Near Bean, Kent.





Above: The waxing Moon on March 19. The afternoon picture shows a trail from an aircraft high in the atmosphere - not such a common view during the pandemic. Sunlight has crossed half way across the Mare Serenitatis. View from Beacon Wood, Bean, Kent,

Below: The Sun rises on the day of the Spring Equinox, March 20, 2021. New Ash Green, Kent.





Above: Wood anemones (*Anemone nemorosa*). Woodland at Ridley, Kent, March 28 (left), and old coppice at Ash, Kent, March 30 (right). Below: Bluebells (*Hyacinthoides non-scripta*) were flowering at the edge of a wood at Ask, Kent, March 39, 2021.



Above: Common dog-violets (*Viola riviniana*). Beacon Wood, Bean, Kent. March 29.
Below: Primroses (*Primula vulgaris*). Beacon Wood, Bean, Kent. March 31, 2021.





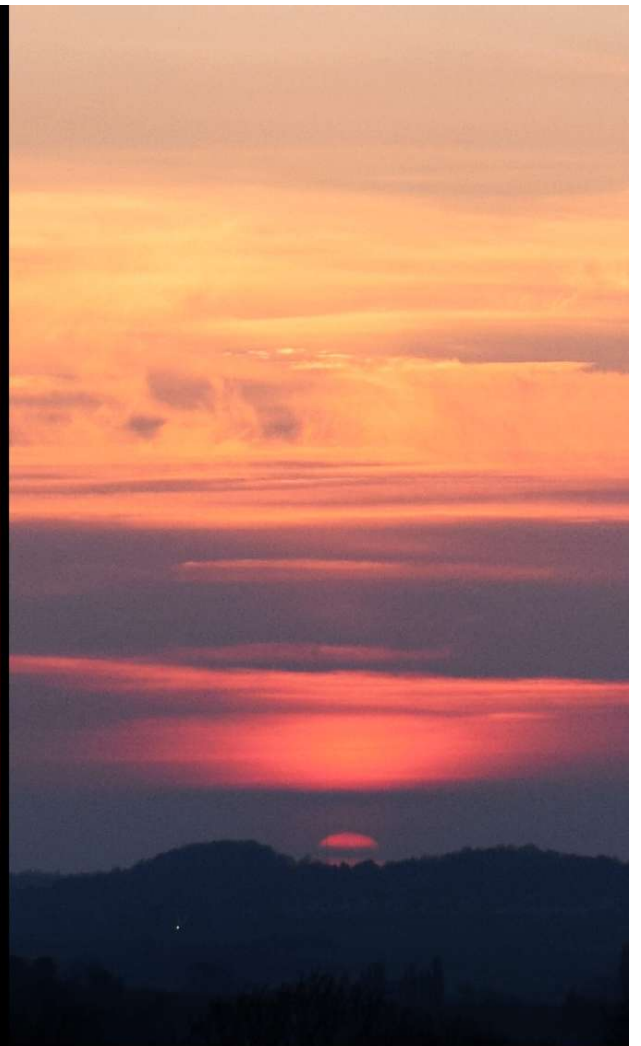
Above left: Ornamental cherries (*Prunus*) in Belair Park, South London. March 29.

Above right: Blackthorn (*Prunus spinosa*) in New Ash Green, Kent. March 30.

Centre left: Daffodils (*Narcissus sp.*) in the church yard at Ash, Kent. Daffodils are associated with St David's Day (March 1). The daffodils were out here on March 29.

Centre right: Hedgerow greening in Ash, Kent. March 30.

Below left: Palm Sunday, a Christian event approaching Easter. Because of the pandemic, the church at Ash, Kent, was unable this year to organise its usual activities. March 28, 2021.



After the Equinox - evening skies.

The Spring Equinox occurred on March 20. The days had become longer, but this was not yet obvious during March. There was, however, the traditional jump in the length of daylight after clocks were set forwards into British Summer Time (Sunday March 28, 2021).

Above: Two spectacular sunsets. This view is looking towards the area of Green Street Green, Kent. Left: shows a sun pillar, caused by ice crystal clouds. March 22.

The second picture shows the Sun shining through the clouds on March 23.

Right: The moment of Full Moon was at 18:48 UTC, on Sunday 28 March. The picture was from March 27, 2021 - through a cloudy sky.





Above: Sunset on March 13, 2021. Looking towards Green Street Green, from Highcross Road, near Bean, Kent.

Prime Meridian.

Prime Meridian is published by the Ecospheres Project, a research and media collaboration. It follows global environmental issues alongside the cycle of the seasons in South East England. It steps back to look at the Earth in its astronomical context and it pursues the search for other habitable worlds.

Editor: Dr Martin J. Heath.

Editorial assistance: Penelope Stanford and Dr Laurance R. Doyle.

Support and assistance: Palash Dave, Lienkie Diedericks, Laura Elworthy, Elizabeth Gornall, Veronica Mariquoe and Ashleigh Wise.

Email: prime-meridian01@hotmail.com

Website: www.ecospheresproject.org

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