



Prime Meridian (147) October 9, 2021

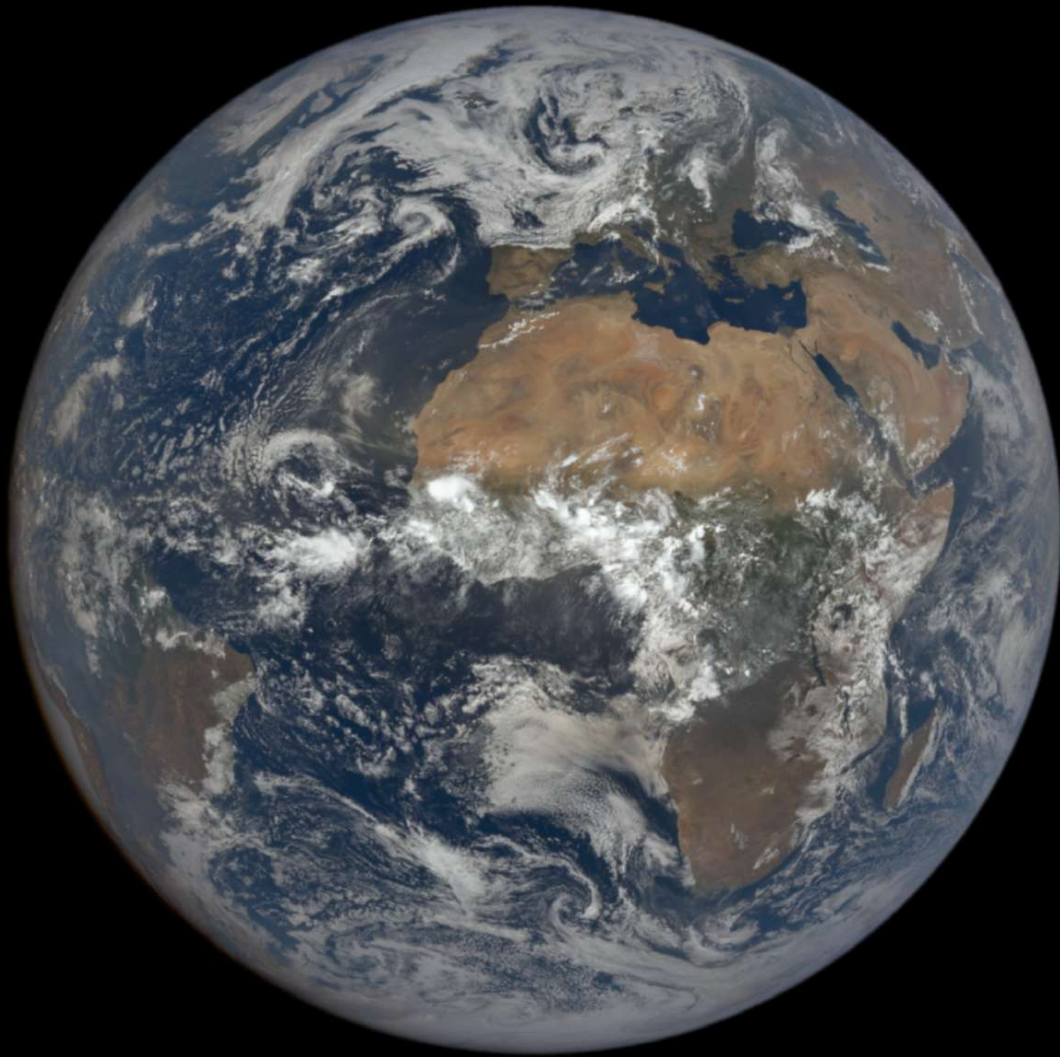
In South East England, we have entered the months of long nights.

On September 22 (above), the day of the Autumnal Equinox, we caught the moment when the Sun had just sunk behind the woods and fields of Kent.

Dark nights mean that there will be more opportunities for seeing the Moon, planets and stars. Not only can we enjoy sky gazing, but peering at distant suns, we are reminded of how our Earth fits into a bigger picture. As scientists who explore the possibilities for complex life on other worlds, we happen also to be acutely aware of the human duty to defend the world on our own doorstep - sometimes, very literally. Our life-long commitments to fighting for Planet Earth have involved us in both campaigning and direct practical action - from the megaphone to the spade. We find ourselves living on a planet that is in the throes of tumultuous changes. We are the species that is responsible, and we are the species that must set it to rights - although it has been easier to harm the living Earth than to undo our damage.

In the course of future issues, we shall continue to look at the ongoing Earth Crisis and the actions needed to tackle it, but shall look also at how the dramatic events unfolding around us on Earth might provide thought-provoking insights as scientists search for other living worlds.

In this issue, we look back at the month of August 2021. According to NOAA, this was the sixth warmest August, but the Northern Hemisphere saw its warmest August on record. Our region, however, was found by the UK Met Office to be dull and cool.



Above: August 16, 2021 - the middle of the month.

The days are getting shorter, but the Northern Hemisphere's summer continues.

This picture above was sent from the EPIC (Earth Polychromatic Imaging Camera) system aboard the DSCOVR (Deep Space Climate Observatory) space craft (NASA/NOAA) at 11:49:52 UTC.

Global climate: This was the 6th warmest August in the 142 year record.

Statement from NOAA (USA's National Oceanic and Atmospheric Administration): "The August 2021 global surface temperature was 0.90°C (1.62°F) above the 20th century average of 15.6°C (60.1°F). This was the sixth warmest August on record. Nine of the 10 warmest Augusts have occurred since 2009. August of 1998 still ranks among the 10 warmest on record. August 2021 was also the 45th consecutive August and the 440th consecutive month with temperatures, at least nominally, above the 20th century average."

Globally the land was the 2nd warmest on record (warmest was 2016).

Southern Hemisphere's oceans were 2nd warmest on record (warmest was 2016).

Northern Hemisphere's land surface was the warmest ever recorded.

Data provisional. NOAA data from: <https://www.ncdcnoaa.gov/sotc/global/202108>



Seasons in South East England

August 2021

The Northern Hemisphere had its warmest year on record, but our region was dull and cool.

The UK's mean temperature as a whole was 15.0°C, which was 0.1°C above the 1981-2010 long-term average. However, the mean for England at 15.8°C was 0.3°C below the mean. Our region, England SE & Central S, at 16.3°, was 0.7°C below its mean. It was the second warmest mean in the UK. The warmest was East Anglia, whose mean was 16.6°C.

Monthly means for SE and central S England. Max. temp.: 20.5°C (-1.4°C); min. temp.: 12.1°C (0.0°C); Hours of sunshine: 137.5 (68%). Rain: 51.6 mm (90%). Anomalies re. 1981-2010 norm in brackets.

Date obtained from: [Met Office website](#).

Top: A bean field on Hartley Hill, Kent. August 1, 2021.

Left: Rainbow at Kent on Aug. 7.



Left and right: In the early hours of the morning of August 4, a waning Moon with Earthshine was seen through clouds.

Below: A waxing Moon in the twilight evening of August 10. Just above the round tree to the left of the rugby goal, can be seen the planet Venus.

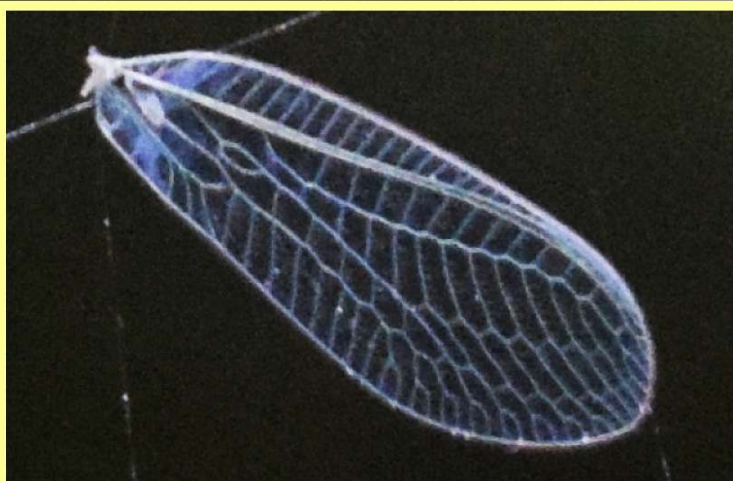
New Ash Green, Kent.





August 7, 2021. Looking out at the seasonal lake at Beacon Wood, Bean, Kent. Reeds are emerging from the water, and willows are growing from the damp ground.

The wing of a lacewing was held in the web of an orb spider (hidden here) between the wooden railing beside the lake.





The highest and lowest temperatures in the UK were experienced outside our region, up in Scotland. August 25 saw the maximum temperature of 27.2°C, at Tyndrum, Perthshire, while August 31 experienced the lowest temperature of 0.3°C, at Braemar, Aberdeenshire.

Above: We see a tractor drawing a trailer piled up with bales from nearby fields. August 4, 2021. Hook Green Road, Kent.

Left: Apples ripening in an orchard at Sole Street. August 26, 2021.

Pictures on the next page show some well-loved seasonal wildflowers.

At top left we see rosebay willowherb (*Chamerion angustifolium*), which grows in clumps on North Field, New Ash Green, Kent. August 3, 2021. The others were all found on August 12, in Belair Park, West Dulwich, London Borough of Southwark. The original wildlife area was created on the eastern side of the artificial lake, which reminds us of the former River Effra. With a sympathetic park manager, the PM editor was able to enjoy physical exercise and create an ecology zone, while writing his PhD. Since then, flood relief work has expanded the area.

From left to right, we see great willowherb (*Epilobium hirsutum*) and also purple-loosestrife (*Lythrum salicaria*). Below: The yellow flowers of fleabane (*Pulicaria dysenterica*).





Harvesting was underway on the gloomy afternoon of August 17, in a wheat field beside Highcross Road, and looking towards Green Street Green, Kent. The month saw only 68% of its normal sunshine, so this day was by no means unusual during August 2021.

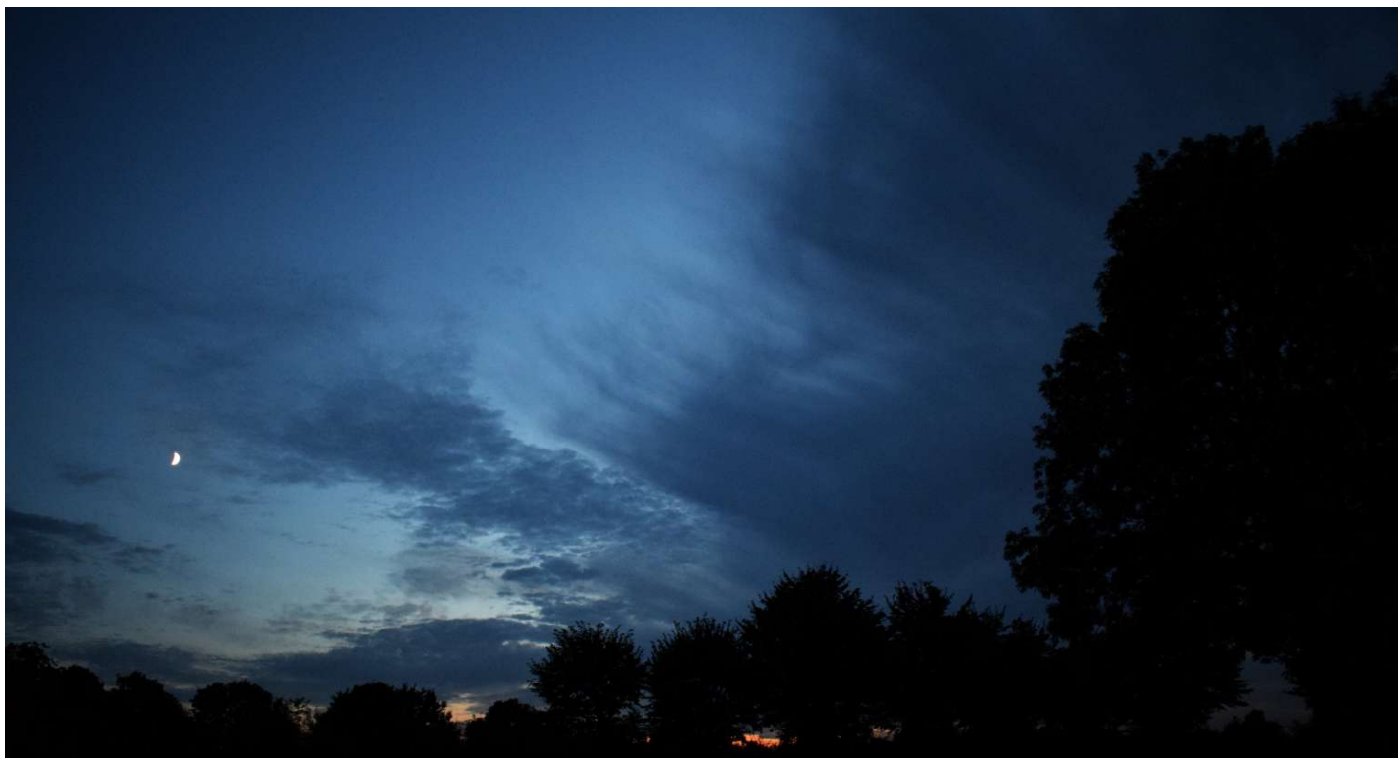




Above: The next day, August 18, saw another dull afternoon. The wheat field off Highcross Road, had now been replaced by bales full of straw.

Below: The final day of the month presented us with yet another gloomy afternoon. A traditional rural scene; cows had arrived for milking. Hilltop field near the church yard of St Peter's at Ridley, Kent.





Above: the waxing Moon of August 14, 2021. From the churchyard at Ash, Kent.



Centre: The Full Moon took place on August 22, at 12:02 UTC. The view at left was during the evening of August 21 and the view at right, was taken very early on the morning of August 23. Below: Views of the waning Moon on the nights of Aug. 24-25, 27-28, 28-29.





Above: On August 16, 2021, a waxing half Moon could be seen in the blue sky between the stems of plants that have gone to seed. The edge of a field at 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. It also pursues the search for other habitable worlds, an area of research that promises to open new vistas in our understand of how our living Earth belongs in the larger picture.

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Many thanks for support and assistance: Palash Dave, Lienkie Diedericks, Laura Elworthy, Elizabeth Gornall, Nadia Mahmud-Salvisberg, Kelly ben-Maimon, Veronica Mariqueo, Marolin Watson, Ashleigh Wise, and thanks also to an anonymous review.

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