

# Prime Meridian

(8) December 21, 2012



During the closing weeks of 2012 . . .

. . . as the traditional Christmas festivities approached, a spate of papers in the world's most respected science journals delivered a stark message about the state of the global environment (see coming issues of PM).

We find ourselves wishing our readers the very best for this season, whilst asking them to spare a thought for the year ahead. Perhaps, you would like to donate just a few hours of your time to helping the Earth Campaign respond to 2013's environmental challenges and their social justice dimension (find contact email below).

The 1997 Kyoto Protocol expired at the end of 2012 and the international climate conference in Doha, Qatar (Nov. 26 to Dec. 7) looked to develop a successor treaty by 2015. Doha, praised by some for laying foundations, has been criticised widely for achieving too little. CO<sub>2</sub> emissions have continued to soar. 2011 was the all-time record year (we await estimates for 2012). New research has confirmed the extent of melting in the Greenland and Antarctic ice sheets, and polar ecosystems showing signs of being badly hit by warming. At this time of austerity, it is not surprising that research essential to monitoring climate change and planning adequate responses is itself under threat.

Seasonal events building towards Christmas and New Year included three atmospheric candle-lit Advent services staged by King's College London, in the Strand (left). Held every December, these are free and open to the public by ticket. KCL's famous choir always attracts a packed attendance. On Dec. 21, we passed another milestone in the passage of the seasons, the N Hemisphere's winter solstice; shortest day of the year.

Top: Sun sinks through oak trees, Chiselhurst, UK, Nov. 20, 2012.

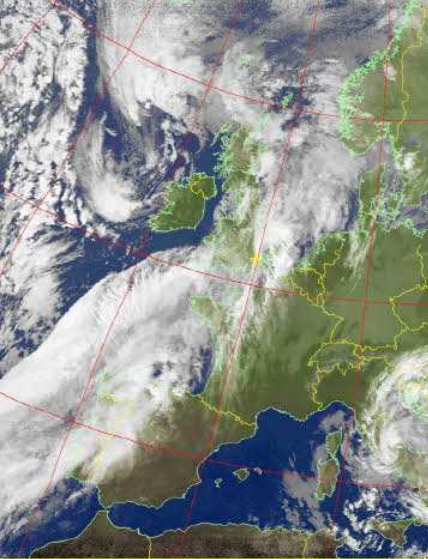




## Seasons in South East England November, 2012



Above: Yellowed hedgerow by the light of the sinking Sun. Near West Kingsdown, Kent, UK. Nov. 18, 2012.



Unsettled weather opened the month. A band of rain crossed S England on Nov. 4, followed by snow in Somerset, Berkshire, Oxfordshire and Wiltshire. November's UK min. temp. was  $-5.3^{\circ}\text{C}$  on the night of Nov. 4/5 at Shap in Cumbria. From Nov. 6 to 11, a N. Atlantic high pressure area brought sunny episodes, but widespread temperatures below freezing at night. Then, a warm front approached eastwards, bringing milder cloudy conditions. Nov. 13 saw the max. UK temp. ( $16.4^{\circ}\text{C}$  at Kew Gardens, London). Cloud cleared on Nov. 17 and 18, but low pressure systems arrived from the Atlantic from Nov. 19 to 27. Weather-wise, this month will most probably be remembered for its floods (according to the Met Office, a belt from Devon to Humberside saw twice the normal amount for November), largely concentrated in the week from Nov. 19 to 26. SE England, however, escaped the worst of the resulting flooding. From Nov. 28, it was colder and northerly winds brought showers to the E. At night, temperatures fell in many places to  $-3^{\circ}\text{C}$ . Braemar (Aberdeenshire) saw the min. UK temp. of  $-7.3^{\circ}\text{C}$ , early on Nov. 29. Nov. 30 closed the month with more cloud in the W of England, with rain and snow in the N.

For SE and central S England, mean max. temp.:  $10.4^{\circ}\text{C}$  ( $+0.1^{\circ}\text{C}$ ); mean min. temp.:  $3.8^{\circ}\text{C}$  ( $0.0^{\circ}\text{C}$ ). Hours of sunshine: 77.2 (106%). Rain: 101.5 mm (128%). Anomalies re. 1971-2000 norm in brackets. Respective figs. re. 1981-2010 norm are  $-0.3^{\circ}\text{C}$ ;  $-0.4^{\circ}\text{C}$ ; 108%; 116%.



Upper left. Weather systems over Britain on Nov. 20, 2012. (NOAA satellite; courtesy of Geoff Hamilton). Lower left: Traditional Nov. 5 fireworks (a clear, cold evening) New Ash Green, Kent, UK. Right: London Plane tree decorated for Remembrance Day, Nov. 11, under a clear blue sky.



Weather reviews are based on Met Office online summaries. Below: Fields near West Kingsdown, Kent.







The autumn in SE England lived up to predictions from horticulturalists that it would be colourful. Seen here (Nov. 11, 2012) are woodland and hedgerow trees around West Kingsdown, Kent. Top: Beech (*Fagus sylvatica*). Upper left: Margin of small woodland with a tangle of Old Man's Beard (*Clematis vitalba*). Below: Field maple (*Acer campestre*). November ended with a turn towards distinctly cold weather. With bitter temperatures overnight, car roofs in South London collected coatings of frost (left centre; early hours Nov. 30).

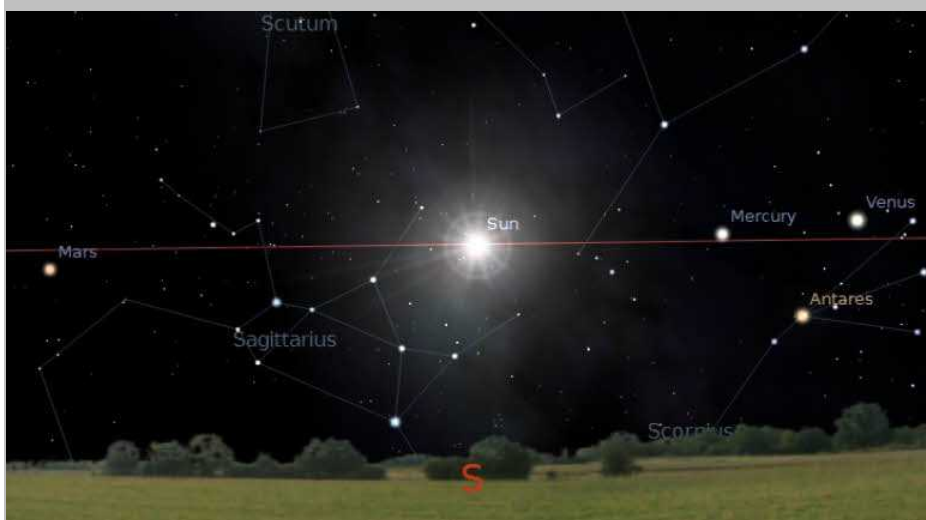
Sadly, some parts of England, saw flooding (with landslips). It affected over 1,000 properties and caused a number of fatalities. There was TV coverage of a breach of the Great Western Canal near Tiverton. According to the Met Office "Persistent, heavy rain affected many places and caused widespread flooding and landslips, with separate rainfall events on 20th/21st, 22nd, 24th, and 26th/27th. Parts of south-west England and the Midlands saw well over the whole-month average rainfall during this period. Winds were strong at times, notably on 21st/22nd and 24th/25th, when gales affected some areas, bringing down trees and causing structural damage." Lower left: River Swale in flood at Topcliffe, Nov. 26, 2012. Source: Gordon Hatton (Creative Commons Attribution Share Alike 2.0 UK: England & Wales license). All other images: M. J. Heath.



## Global climate; November 2012.

Globally November 2012 was  $0.67 \pm 0.07^\circ\text{C}$  warmer than the 20<sup>th</sup> Century mean of  $12.9^\circ\text{C}$ . It was the 5<sup>th</sup> warmest November on record (since 1880), with 2004 as the warmest on record. For the Northern Hemisphere the combined result for land and ocean was  $0.76 \pm 0.08^\circ\text{C}$  above the 20<sup>th</sup> Century mean, making it the 6<sup>th</sup> warmest November (warmest was 2010). In the Southern Hemisphere, the combined land and ocean temperature was  $0.58 \pm 0.06^\circ\text{C}$  above the mean, making it the 3<sup>rd</sup> warmest November (warmest was 2009). This was the 36<sup>th</sup> consecutive November and the 333<sup>rd</sup> consecutive month above the average, but some areas were cooler than the average. The November mean temperature for the UK as a whole (Met Office data) and also for England, was  $0.4^\circ\text{C}$  below the 1981-2010 average.

Preliminary data from *Monthly State of the Climate Global Analysis*. National Oceanic and Atmospheric Administration. USA and UK Met Office *Climate Summary*, both available online.



### Winter solstice - Dec. 21

Upper left: *Stellarium* image for noon GMT, Dec. 21, 2012 (atmosphere removed). The Sun, crossing the Milky Way in Sagittarius, was flanked to the W by Mercury and Venus, to the E by Mars. From West Dulwich, London, UK, the noon Sun appeared through grey cloud in brief bursts. View lower left looks roughly south as in *Stellarium* image. Note the skein of Canada geese on the wing. Below: At the South Pole, the NOAA web cam caught a cloudy sky at its Summer Solstice.



## Gardening under wintry skies.

Dec. 1, 2012: Volunteers directed by Amy Nelson (Community Outreach Officer Growing Rosendale Project; third from left below) prepare the ground and plant an edible hedge on the Rosendale Allotments, South London. Dec. 16: All ages enjoyed the Allotments Association Christmas party. The 7 ha (18 acre) Rosendale Allotments (South East London) were established in 1908. Amy's role is to "connect with schools and local community groups to develop and run food growing workshops both on the allotments and at other local sites." The project may be contacted at: [outreach.growingrosendale@btconnect.com](mailto:outreach.growingrosendale@btconnect.com)

