Prime Meridian

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Above: Field margin at Ash, Kent. July 29, 2012.

Arctic sea ice – a very sobering summer.

Martin Heath, Editor.

As the summer wore on and drew to its close in South East England, the Arctic cap of floating sea ice melted back more extensively than at any other time since 1979, when satellite observations began. Not only was this consistent with predictions of warming caused by human release of greenhouse gases into the atmosphere, but melting was more extreme than climatologists had expected.

Ice loss in August was remarkably fast. The only part of the Arctic in which the edge of the ice remained around its normal position was in the East Greenland Sea. Ice loss occurred at 91,700 km^2 per day for August 2012, compared with the August norm of 55,100 km^2 per day. The USA's National Snow and Ice Data Center reported that "*This rapid pace of ice loss in 2012 was dominated by large losses in the East Siberian and the Chukchi seas, likely caused in part by the strong cyclone that entered the region earlier in the month and helped to break up the ice. However, even after the cyclone had dissipated, ice loss continued at a rate of 77,800 square kilometers (30,000 square miles) per day.*" In August 2007, the year that saw the previous record low for sea ice (September 18, 2007), ice retreated at only 66,000 km^2 per day. The fastest loss of sea ice in any August during the satellite record was in 2008, and that was 80,600 km^2 per day.

If this trend for summer ice loss continues, issues of the territorial rights of circum-Arctic nations, the exploitation of resources and ecological implications will intensify.

Left: Ice floes photographed from the bridge of *USCGC Healy*. August 20, 2012. NW of Barrow, Alaska. U.S. Coast Guard.

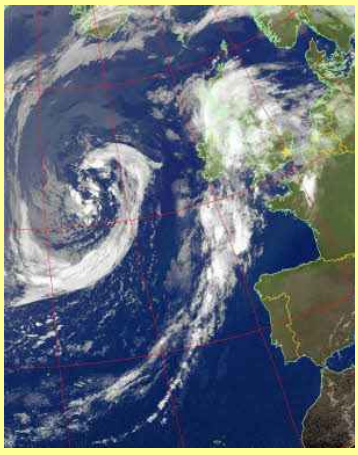
Weather in August, 2012

Above: Field after harvest, West Kingsdown, Kent. Aug. 5, 2012.

Low pressure to the west of the UK was associated with cool conditions with showers from Aug. 1 to 6. A high pressure area was established over the UK from Aug. 9. Sunny weather saw temperatures of over 25ºC widespread in the SE on Aug. 9 (27.8ºC at London's St James's Park) and Aug. 11. From Aug. 12 to 17 fine, warm weather persisted in the SE. The SE and East Anglia tended to avoid cloud and showers that affected the UK, with temperatures of around 30ºC being common in a southerly air flow. Cavendish (Suffolk) saw the UK's highest temperature of 32.4ºC on Aug. 18. It was, however, cooler from Aug. 20 to 25. The UK's lowest August temperature of -2.5 °C was at Cromdale (Highland) early on Aug. 31.

For SE and central S England, the mean max. temp. was 21.7ºC (-0.1ºC); the mean min. temp. 12.9ºC (+1.1ºC). There were 188.1 hours of sunshine (92%) and 55.1 mm of rain (98%). Figures in brackets are anomalies re. 1971-2000 norm. Respective figures for the 1981-2010 norm are -0.2ºC; +0.8ºC; 92%; 96%).

Left: Hedgerow environments around Ash, Kent. Upper: Beside harvested field on Aug. 27. Centre: brambles (*Rubus fruticosus*) and Old Man's Beard (*Clematis vitalba*) on Aug. 27. Lower: Lords-and-Ladies (*Arum maculatum*) Aug. 14, 2012.



Right: Weather systems on Aug. 17, 2012 (NOAA satellite; courtesy of Geoff Hamilton). Weather reviews are based on Met Office summaries published online.

Into autumn.

Autumnal tints are beginning to creep into hedgerows (above, near New Ash Green, Kent, Sept. 15, 2012) and London's street trees (left, Sept. 16, 2012). Colin Crosbie (Royal Horticultural Society Garden Curator at Wisley) has predicted a colour explosion. A wet summer saw trees produce a good crop of leaves and retain them, whilst recent warm sunny days have enabled trees to raise their sugar levels. Cold nights and warm days have encouraged leaves to begin to turn colour.

The weather has certainly begun to feel autumnal. Around the autumnal equinox, South Londoners have seen both good weather and showers from overcast grey skies. The leaves of horse chestnut (*Aesculum hippocastanum*) trees, in streets and parks, have already turned yellow and brown, thanks to a widespread infestation by leaf miners, reinforcing the sense of autumn. This, of course, is also the time of year for large male house spiders of the genus *Tegenaria* to be seen as they search for a mate. They are often discovered in baths into which they have slipped and become trapped because the sides are too smooth for them to climb. Many people dislike spiders, and In Britain, there is a widespread belief that conkers, the familiar fruits of the horse chestnut, exude chemicals that drive spiders away. In the Midwestern USA, fruits of the Osage-orange tree (*Maclura pomifera*) are credited with this effect. Experts remain unconvinced, and the reader may like to consult the informative web site "*Myths, Misconceptions, and Superstitions About Spiders*," maintained by Rod Crawford, Curator of Arachnids at the Burke Museum, University of Washington, USA.

Prime Meridian Editorial: c/o prime-meridian01@hotmail.com

Images (unless otherwise stated): M. J. Heath.

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