

Prime Meridian

(56) June 16, 2016



WILL *THIS* BE THE YEAR WE LOSE ARCTIC SEA ICE?

Seasonal melting of Arctic sea ice is well underway. Here are two views of the Beaufort Sea on May 21, 2016. Above right: DSCOVR image of North America and Arctic at 18:22:34 (NASA/NOAA). Below: Sea ice breaking up early in the southern Beaufort Sea. MODIS. Credit: Land Atmosphere Near-Real Time Capability for EOS (LANCE) System, NASA/GSFC.





The East Siberian Sea on June 4, 2016.

Top left: As the warmer weather arrives, ice cover on the East Siberian Sea is undergoing its seasonal thinning. Image from MODIS unit on NASA's Aqua satellite.

According to NASA: *"In this image, ice has pulled away from the coastline in the east. Open water can be seen in the west section of the image, and a very large crack has developed running parallel to the shore. Bright white ice takes on a blue appearance as it thins and become waterlogged, and this can be seen in several areas in the ice on the East Siberian Sea."*

Satellites carrying the MODIS unit orbit a little more than 700 km above the surface of our planet. However, the zone of bluish ice was visible also in the image (centre left) taken at 02:00:43 GMT by NASA/NOAA's DSCOVR satellite (located about 1.5 million km away, at what astronomers call the L1 position, caught between the gravity of the Earth and that of the Sun).

Below: The afternoon of June 4, 2016 in Southern England. Gloom and drizzle enshroud hills and woods around West Kingsdown, Kent.

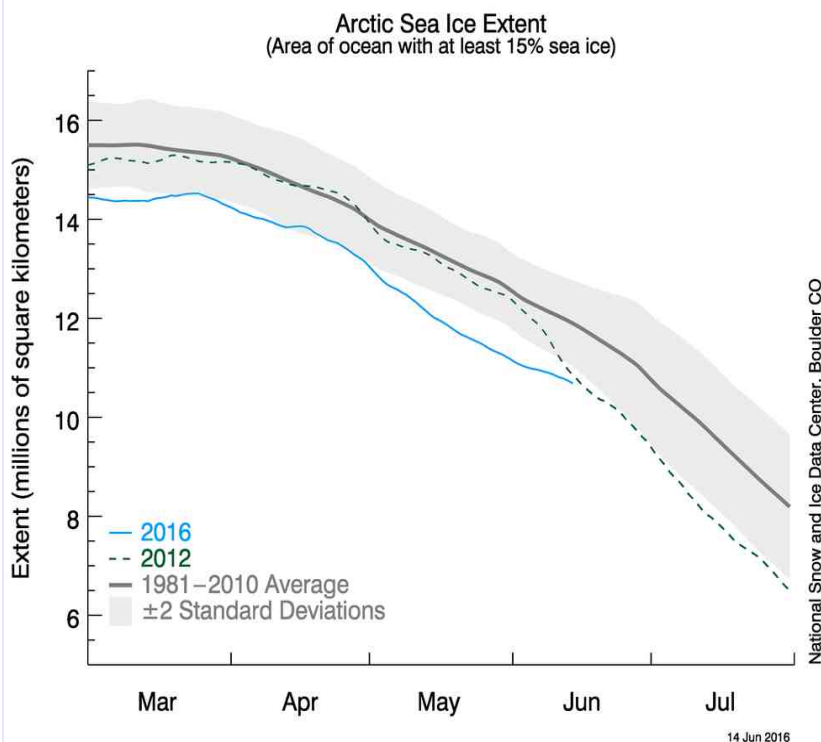


The first summer to see Arctic sea ice vanish?

The extent of Arctic sea ice is defined as the area over which floating ice covers at least 15% of the sea surface. When this area falls below one million square kilometres, sea ice will be taken as having *de facto* disappeared.

As we noted in PM 26 (May 31, 2014), Peter Wadhams of the University of Cambridge, UK and Wieslaw Maslowski of the Naval Postgraduate School, Monterey, California considered that sea ice could dwindle away any time around now.

The UK's Met Office, however, favoured summer 2025, and various other global climate models, 2030 to 2040.



The chart above, from the USA's National Snow and Ice Data Center (June 14, 2016), indicates that we *may* be on course for this (the annual sea ice minimum occurs in late September), but this is by no means a certainty.

The extent of Arctic sea ice has, so far this year, been consistently smaller than that in 2012, the year that saw the smallest minimum since the satellite record began (1979). In 2012, however, the curve dipped down steeply at the beginning of June. The curve for 2016 has not followed this pattern and, in mid-June, it appeared that for the first time this year, the loss of sea ice cover might well be less intense than in 2012.

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Prime Meridian discusses the living Earth in its astronomical context and how we can apply what we know about the Earth in the quest to discover other habitable worlds. It looks at global environmental issues and how we can protect the natural systems upon which our civilisation depends for its well-being, alongside the cycle of the seasons in Southern England.

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