



## Marine Climate Change Impacts Partnership

Dear MCCIP news subscriber,

The MCCIP website has recently been updated with new marine climate change news and events. Below is a brief summary of the new items that have been added. For more details on all of the items listed below, simply go to [www.mccip.org.uk](http://www.mccip.org.uk) and go to the relevant links in the 'news and events' box on our homepage. Please note that the material presented in MCCIP news does not necessarily reflect the views of MCCIP.

- **[Response of seafloor ecosystems to abrupt global climate change](#)**  
Ocean sediments have been extensively studied using geochemical and microfaunal analyses; however, these traditional approaches produce limited interpretations. A new research demonstrates that ocean sediments containing metazoan fossils can be used to reconstruct the response of seafloor biodiversity to global-scale climate events. This study reveals that disturbances caused by climate change to seafloor ecosystems, commit them to millennia of ecological recovery.
- **[Arctic sea ice reaches lowest maximum extent on record](#)**  
On February 25, 2015, Arctic sea ice extent appeared to have reached its annual maximum extent, marking the beginning of the sea ice melt season. This year's maximum extent not only occurred early; it is also the lowest in the satellite record. However, a late season surge in ice growth is still possible. NSIDC will post a detailed analysis of the 2014 to 2015 winter sea ice conditions in early April.
- **[Global warming itself will likely accelerate warming](#)**  
The study, published in the journal Nature Climate Change, shows that in addition to the effect of greenhouse gases on the Earth's temperature, researchers can now confirm directly from ice-core data that the global temperature has a profound effect on atmospheric greenhouse gas concentrations. This means that as the Earth's temperature rises, the positive feedback in the system results in additional

warming. [Egbert et al. (2015) Causal feedbacks in climate change. Nature Climate Change, **doi: 10.1038/nclimate2568**].

- **[Marine algae reveal effects of climate change on the marine environment](#)**

The Earth's climate has not been stable since the end of the last ice age, with a slightly cooler climate during the last 4,000 years when the ocean currents in the North Atlantic have been weaker. Research shows that climate is more receptive to the impact of the Sun during cold periods. Furthermore, by examining marine algae - diatoms - found in North Atlantic sediments, it is possible to use the distribution of these organisms to reconstruct fluctuations in sea surface temperatures much further back in time, and at fine scales. This study may help understand how human-induced climate change can affect and be affected in this interaction. [Jiang et al. (2015) Solar forcing of Holocene summer sea-surface temperatures in the northern North Atlantic. Geology, **doi: 10.1130/G36377**]

- **[Climate change implicated in sea lion die-off](#)**

Since 2015, hundreds of California sea lions have been rescued and taken to rehabilitation centres across the state. Experts are of the belief that the dramatic increase in the number of sea lions, pups specifically, washing ashore may be attributed to large areas of warming waters in the Pacific affecting their food sources. More and more pups are weaning away from their mothers sooner, causing them to be thin and sickly as they wash up along the coast.

- **[Climate UK and Adaptation Scotland join MCCIP](#)**

At the MCCIP Steering Group meeting in March 2015, **Climate UK** and **Adaptation Scotland** officially became new members of the Marine Climate Change Impacts Partnership. Strengthening MCCIP's Climate Smart work programme, Climate UK and Adaptation Scotland specialise in supporting local organisations to manage their climate risks; and, provide advice and support to help ensure that Scotland is prepared for, and resilient to, the impacts of climate change; respectively.

**News stories:** If there are any relevant news items or events that you would like to highlight on the MCCIP website please contact Susana Lincoln at [office@mccip.org.uk](mailto:office@mccip.org.uk). New items will be added to the website next month.

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