



## Marine Climate Change Impacts Partnership

Dear MCCIP news subscriber,

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.

- **[The oceans' sensitive skin](#)**

Ocean acidification might alter climate-relevant functions of the oceans' uppermost layer, according to a study by a group of marine scientists published in the "Journal of Geophysical Research: Oceans". Researchers observed a close coupling between biological processes in the seawater and the chemistry of the sea surface microlayer. Also, they noted a growing number of specialised bacterial and algal cells in this microenvironment. These changes might influence interactions between the ocean and the atmosphere such as the air-sea gas exchange and the emission of sea-spray aerosols that can scatter solar radiation or contribute to the formation of clouds. [Galgani, L., Stolle, C., Endres, S., Schulz, K. G., Engel, A. (2014), Effects of ocean acidification on the biogenic composition of the seasurface microlayer: Results from a mesocosm study, J. Geophys. Res. Oceans, 119, [doi: 10.1002/2014JC010188](https://doi.org/10.1002/2014JC010188)]

- **[Climate change puts coastal crabs in survival mode](#)**

Intertidal zone crabs can adapt to a warming climate, but will not have energy for much else besides basic survival, researchers have learned. In the first study to look at the combined effects of varying temperatures and ocean acidity levels on porcelain crabs, researchers found that as temperature rises and pH drops, the crabs' thermal tolerance increases but their metabolism slows. The study is the first to explore intertidal zone organisms' response to combined variation in temperature and pH, which is expected to intensify in the future due to climate

change and ocean acidification. [A. W. Paganini, N. A. Miller, J. H. Stillman. Temperature and acidification variability reduce physiological performance in the intertidal zone porcelain crab *Petrolisthes cinctipes*. Journal of Experimental Biology, 2014; 217 (22): 3974 DOI: [10.1242/jeb.109801](https://doi.org/10.1242/jeb.109801)]

- **[Warmest oceans ever recorded](#)**

This summer has seen the highest global mean sea surface temperatures ever recorded since their systematic measuring started. Temperatures even exceed those of the record-breaking 1998 El Niño year. From 2000-2013, the global ocean surface temperature rise paused, in spite of increasing greenhouse gas concentrations. This period, referred to as the Global Warming Hiatus, raised a lot of public and scientific interest. However, as of April 2014, ocean warming has picked up speed again, according to Timmermann's analysis of ocean temperature datasets.

- **[Climate change increases risk of harsh Eurasian winters](#)**

Severe winters are more likely over the next few decades due to climate change melting Arctic ice and sending freezing air south, according to new research. The risk of severe winters in Europe and northern Asia has been doubled by global warming, according to new research. The counter-intuitive finding is the result of climate change melting the Arctic ice cap and causing new wind patterns that push freezing air and snow southwards.

[\[http://www.nature.com/ngeo/journal/vaop/ncurrent/full/ngeo2277.html\]](http://www.nature.com/ngeo/journal/vaop/ncurrent/full/ngeo2277.html)

- **[IPCC's urgent warning to tackle climate change](#)**

The UN panel of climate scientists says some consequences of global warming will become "severe, pervasive and irreversible" unless greenhouse gas emissions fall to zero by the end of the century. Without drastic cuts in greenhouse gas emissions, the report says, global average temperatures will probably increase by another 2°C by mid-century on their 1986-2005 levels. This implies temperatures nearly 4°C higher by 2100. These warnings come in the Summary for Policymakers of the [IPCC's Climate Change 2014 Synthesis Report](#), itself a distillation of the three distinct volumes of the Panel's Fifth Assessment Report (on climate science, impacts and mitigation) published since September 2013. This report forms the foundation for crucial climate negotiations due to take place at the UN Conference of Parties meeting in Paris in late 2015.

- **[Event “Flooding 2015: Risks and Resilience”, 27 Jan 2015, London](#)**

Govtoday and Securing the Future have announced the forthcoming conference: Flooding 2015: Risks and Resilience. The conference will be held on Tuesday 27th January 2015 at the Mermaid Conference Centre, London.

**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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