

# CARBOCHANGE: Annual Meeting 7 March 2012 to present first results

07 March 2012 — 09 March 2012 National University of Galway (NUIG), Ireland

- **Location:** Galway, Ireland
- **Venue:** Aula Maxima, National University of Galway, Ireland

On 7-9 March, 80 scientists from Europe, North America and Africa will gather in Galway, Ireland, for the annual project meeting of CARBOCHANGE: “Changes in carbon uptake and emissions by oceans in a changing climate”. CARBOCHANGE is a large-scale Integrating Project from the EU Framework Programme 7. It is coordinated by the Geophysical Institute at the University of Bergen and the Bjerknes Centre for Climate Research in Bergen, Norway.

The goal of this key European research project is to quantify the oceanic uptake of human-produced carbon dioxide from the atmosphere.

Results from the first project year are: (a) Researchers from UiB and Bjerknes Centre explored the role of the Nordic Seas for the uptake of CO<sub>2</sub> from the atmosphere: The Nordic Seas presently provide 8% of the ocean carbon sink <sup>1,2</sup>. (b) CARBOCHANGE research results contributed to the latest Global Carbon Project budget: the world ocean takes up 26% of CO<sub>2</sub> emissions to the atmosphere in the year 2010 <sup>3</sup>. (c) Project partners from ETH Zurich, Switzerland, found out that turbulent water currents, so-called eddies, can reduce the biological carbon pump at nutrient-rich coasts: these eddies remove nutrients from coastal waters which plankton algae need to convert CO<sub>2</sub> into organic matter <sup>4,5</sup>.

CARBOCHANGE – “Changes in carbon uptake and emissions by oceans in a changing climate” – is a large-scale integrating collaborative research project of 7 million Euros funded by the EU’s 7<sup>th</sup> Framework Programme in the period 2011-2015. The CARBOCHANGE gathers a consortium of 28 research institutions from Europa, North America (USA and Canada) and Africa (Morocco and South Africa) with outstanding scientific expertise in the field of carbon cycle research.

Carbon dioxide from fossil fuel burning and land use changes is the main contributor to a human-induced climate change. Currently, the ocean takes up about 25% of the worldwide annually produced carbon dioxide but this rate is subject to continuous change. CARBOCHANGE investigates how large this uptake rate has been in the past, how it is changing at present, and how it will evolve in the future. Carbon dioxide in the surface ocean has to pass through the bottleneck of oceanic mixing on its way to the deep ocean. Climate change and biogeochemical processes further modify the oceanic absorption of carbon dioxide. CARBOCHANGE employs cutting edge measurement and modelling techniques to watch the ongoing carbon dioxide uptake by the oceans, to understand the underlying processes, and to predict changes in uptake to come.

It is essential to know for human societies how much carbon dioxide is absorbed and where the human-produced carbon dioxide in the ocean is going. Key issues are: (1) The amount of carbon dioxide remaining in the atmosphere determines the strength of climate change. (2) The carbon dioxide taken up by the oceans causes the progressing problem of ocean acidification with potentially severe consequences for marine life. CARBOCHANGE will provide science-based guardrails for political decisions on mitigation actions in order to hold the damage from carbon dioxide emissions and climate change at bay.

- **Posted on:** 02 March 2012

Information about CARBOCHANGE project:

[www.carbochange.eu](http://www.carbochange.eu)

Information about CARBOCHANGE annual meeting 2012:

<http://carbochange.b.uib.no/what/meetings/annual-meeting-2012/>

References:

<sup>1</sup> [http://carbochange.b.uib.no/files/2011/08/2012jeansson\\_highlight\\_in\\_nature\\_geo\\_20121.pdf](http://carbochange.b.uib.no/files/2011/08/2012jeansson_highlight_in_nature_geo_20121.pdf)

<sup>2</sup> <http://www.agu.org/pubs/crossref/2011/2010GB003961.shtml>

<sup>3</sup> <http://www.nature.com/nclimate/journal/v2/n1/full/nclimate1332.html#/access>

<sup>4</sup> [http://www.ethlife.ethz.ch/archive\\_articles/111012\\_bioproduktivitaet\\_su/index\\_EN](http://www.ethlife.ethz.ch/archive_articles/111012_bioproduktivitaet_su/index_EN)

<sup>5</sup> <http://www.nature.com/ngeo/journal/v4/n11/full/ngeo1273.html>

Contact person at UiB:

Prof Christoph Heinze, Project Coordinator, Tel +47 555 89844

Dr Friederike Hoffmann, Scientific Project Manager, Tel +47 555 82088