Conference

Influence of meso- and submesoscale ocean dynamics on the global carbon cycle and marine ecosytems

31 May to 2 June 2010

Centre de la Mer, Aber Wrac'h, Brittany, France

EUR-OCEANS/Europole Mer 2010

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List of invited speakers :
(as of 16th March 2010)

Allen John (SOC - UK)
Aristegui Javier (Las Palmas - ES)
Claustre Hervé (Villefrance sur Mer - FR)
Capet Xavier (LPO - FR)
D'Asaro Eric (Univ. of Washington - USA)
D'Ovidio Francesco (LOCEAN - FR)
Edwards Christopher (Santa Cruz - USA)
Ferrari Raffaele (MIT - USA)
Fox-Kemper Baylor (Univ of Colorado - USA)
Franks Peter (SIO - USA)
Fu Lee-Lueng (JPL - USA)
Gruber Nicolas (ETH - CH)
Lapeyre Guillaume (LMD - FR) et Klein Patrice (LPO - FR)
Leif Thomas (Stanford Univ. - USA)
Lévy Marina (LOCEAN - FR)
Mahadevan Amala (Boston - USA)
Pasquero Claudia (Univ. of California at Irvine - USA)
Rixen Michel (NURC - IT)
Rudnick Dan (SIO - USA)

This conference aims to bring together biological, ecological, chemical, and physical oceanographers to discuss the influence of meso- and submesoscale ocean dynamics on the global carbon cycle and marine ecosytem. The importance of resolving the processes occurring at the submesoscale in the ocean (scales smaller than the deformation radius of ~50km characterized by large Rossby numbers), when studying climate and climate change, was recently identified as part of 'The next big climate challenge' by an editorial in Nature. Recent computer simulations and theoretical work indicate that physical processes on these scales can have a major impact on the marine carbon cycle by driving major fluxes of nutrients upwards into surface waters, thereby controlling how carbon is taken up by phytoplankton. This newly-identified physical pathway for nutrients is potentially of great importance to support marine plankton, and consequently much of the food web. The ephemeral nature of flows at the submesoscale makes it extremely difficult to sample them accurately. Only a few field studies have recently focused on submesoscales, using the most advanced methods currently available, and all show the pervasive presence of submesoscale features associated with strong nutrient fluxes. The goal of this conference is to discuss whether the 'submesoscale carbon pump' is a key process in regulating the effects of climate change on the carbon cycle and on marine ecosystems.

This EUR-OCEANS/Europole Mer 2010 Conference takes a multi-disciplinary view of the problem. Oral sessions will consist of invited speakers, all very active leaders in their fields, and will mix scientists from different disciplines within the sessions. All other presentations will take place in poster sessions. **Participants are very much encouraged to present their work in the form of posters**. The structure of the conference will allow for formal discussion sessions in the mornings and afternoons and informal networking and discussions in the evenings. Number of participants is limited. Some grants will be available for PHD and post-doc participants.

Scientific themes of the conference :

- Initial evidence for the importance of the submesoscale carbon pump from computer simulations.
- Theoretical predictions for submesoscale dynamics and its implications for carbon uptake.
- New observational approaches to quantifying the contribution of the sub-mesoscale to global primary production.
- The broader perspective: the submesoscale contribution to the global climate system, today and tomorrow.
- Ecosystems trophic structuration at submesoscale.
- New technology and instrumentation.

Registration deadline : 15th April 2010

More information at :
www.europolemer.eu/en/conf_submesoscale
Organisation contact : contact@europolemer.eu