THE INTERNATIONAL OCEAN CARBON COORDINATION PROJECT (IOCCP)

A joint project of SCOR and IOC and an affiliate program of the Global Carbon Project.

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"Guide of Best Practices" Coming Soon / PICES WG 17 Meeting News

The North Pacific Marine Science Organization (PICES) held its 13th Annual Meeting in Honolulu, Hawaii, from October 14-24. As part of the Science Meeting, the IOCCP co-sponsored a 1-day session on "The impacts of climate change on the carbon cycle in the North Pacific", with invited talks by Dave Karl, Nicolas Gruber, and Keith Rogers. (See IOCCP News, August 2004).

The PICES Working Group 17, "Biogeochemical data integration and synthesis", held its annual meeting at PICES 13, where the agenda included discussions of follow-up activities from the NIES-IOCCP-PICES Ocean pCO2 Database and Data Integration Workshop held in Tsukuba in January of 2004. Andrew Dickson presented the draft of the "Guide of Best Practices for Oceanic CO2 Measurements and Data Reporting", which will update the widely used 1994 DOE Handbook. The manuscript will include sections on metadata and data formats developed at the Tsukuba workshop earlier this year. Dickson told the group that the final version will be ready for review and publication in December 2004. The group noted that it would be useful if the IOCCP report on metadata and data formats could be published in a referencable format, which is under investigation. The other outstanding issue from the Tsukuba meeting is the final publication of the CDIAC NDP report from the pCO2 system intercomparison experiment. Each participating group has contributed its report and the overall analysis had been completed. Final compilation and drafting should be completed by December, with review and publication for early 2005.

The PICES Governing Council has agreed to consider a proposal to develop a permanent section on ocean carbon within PICES to replace the fixed-term working groups. The proposal and terms of reference are being developed by PICES WG 17 members and should be delivered to the Governing Council by the end of December.

Further Reading: PICES 13th Annual Meeting Agenda / WG 17 Agenda; Results from the 2004 Tsukuba Meeting (metadata and data formats)

First CarboOcean Mesocosm CO2 Perturbation Study Announced

(contributed by Ulf Riebesell and Nicolas Dittert)

I would like to draw your attention to our first CarboOcean mesocosm CO2 perturbation study. The experiment will be conducted in the Large-Scale-Facilities of the University of Bergen and will last from *May 15 to **June 15, 2005*, with one week prior to this for setting up the mesocosms and adjusting pCO2 to target levels. The pCO2 scheme will differ from previous experiments of this kind in that we plan to have triplicates of 380, 750, and 1200 ppm pCO2. We will try to induce a bloom of the coccolithophorid /Emiliania huxleyi/ and will closely monitor the development and decline of the bloom. The main objective of this study will be to investigate the effects of CO2-enrichment on a diverse plankton community during spring bloom development and to assess their possible consequences for biogeochemical cycling.

To get an idea of previous CO2 enrichment experiments take a look at the PeECE (Pelagic Ecosystem CO2 Enrichment Study) website: (http://spectrum.ifm.uni-kiel.de/peece/index.htm)

Details about the Bergen University mesocosm facilities are provided at:
http://www.ifm.uib.no/lsf/inst2.html

To learn more about the Large-Scale-Facilities in Bergen please visit:http://www.ifm.uib.no/lsf/

The latest about our ocean in a high CO2 world can be found at:
http://ioc.unesco.org/iocweb/co2panel/HighOceanCO2.htm

If you are interested to participate in the first CarboOcean mesocosm study, please contact me as soon as possible. I am looking forward to an exciting start of our CarboOcean theme 4 joint activities.

Best wishes, Ulf
Further Reading:
Carbo-Oceans Home Page at Pangaea: http://www.pangaea.de/Projects/Carbo-Ocean/

UNFCCC Requests Special Report on Ocean Observations for Climate

A major conclusion of the Second Report on the Adequacy of the Global Observing Systems for Climate in Support of the UN Framework Convention on Climate Change (UNFCCC) was that despite significant progress, ocean networks are not yet adequate to meet the needs of the Parties for most variables and in most regions of the planet. The Adequacy Report was presented to the 9th Conference of the Parties to the UNFCCC (Milan, Italy, 1-12 December 2003). The Conference invited the Global Climate Observing System Secretariat, in conjunction with the GOOS Project Office, to provide information on progress in implementing the initial ocean climate observing system to its Subsidiary Body for Scientific and Technological Advice (SBSTA) at its 22nd session in May 2005.

At its 37th Session (June 2004), the IOC Executive Council (i) instructed the Secretariat to compile and provide this information, and to include the status of national contributions of the ocean networks collected from Member States in a systematic manner, and (ii) called on Member States to provide the requested information to the GOOS Project Office in recognition of the importance of developing comprehensive information on the ocean climate observing system for the planning and implementation of priority improvements.

GOOS is coordinated at the intergovernmental level, but relies entirely on national and regional contributions in order to function. It is an integrated system including global, regional, operational, research, in situ, and remotely-sensed data, and requires strong national and international mechanisms for coordination. The national reports provide a basis for GOOS tracking, planning, coordination and assessment, and therefore serve as valuable documents for the entire GOOS community.

The IOCCP, working with the GCOS-GOOS-WCRP Ocean Observations Panel for Climate, has been involved in the development of the Adequacy Report and Implementation Plan for the UNFCCC, and will continue to work with OOPC, GOOS, and GCOS to collect and compile national reports on ocean carbon activities that for part of the initial observing system for climate. Any ocean carbon scientists wishing to become directly involved in the development of these national reports should contact the IOCCP Project Coordinator.

Further Reading: IOCCP News, May 2004; GCOS 2nd Report on the Adequacy of the Global Observing Systems for Climate and the 10 Year Implementation Plan.

IGOS Partners Carbon Theme Developing Implementation Plan

The Integrated Global Carbon Observation Strategy authors held their first implementation team meeting from 3-5 November at the European Space Agency's European Space Research INstitute (ESRIN), based in Frascati, Italy. After approval of the IGCO strategy report earlier this year, the IGOS Partners requested the team to develop a 5 year implementation plan, outlining specific priorities, goals, actions, and responsible agencies or organizations for implementation of the integrated observing system. The draft will be completed by April of 2005, and will be presented to the IGOS Partners at their meeting in May. The final version will be submitted for approval in October 2005.

The IGCO implementation plan has carefully incorporated the carbon sections of the Global Climate Observing System implementation plan developed for the United Nations Framework Convention on Climate Change (see IOCCP News, May 2004). While the GCOS report targets the UN system and its Member States, the IGOS partnership works directly with national implementation and scientific agencies, who can make commitments for implementation based on national agency priorities and interests. This makes the careful coordination of these two plans crucial, but also a powerful combination for implementing a global cooperative network for carbon observations.

Further Reading: The Integrated Global Carbon Observation Theme: A strategy to realise a coordinated system of integrated global carbon cycle observations. (pdf 2.5 MB); IGOS Partners / IGCO Web Site

"The Ocean Carbon Cycle and Climate"- A NATO ASI Publication

We are pleased to announce the publication of the NATO-ASI book: "The Ocean Carbon Cycle and Climate", edited by Mick Follows and Temel Oguz.

This book was published as the outcome of the NATO-ASI summer school held August 5-16, 2002, at the Middle East Technical University (METU), Ankara, Turkey, sponsored in part by IOC and SCOR. This intensive summer school for students pursuing research towards a Ph.D. and young scientists at the postdoctoral level introduced participants to recent developments in understanding of the ocean carbon cycle and its connections to climate change, encompassing observational advances, interpretations of new data, and improved mechanistic understanding through modeling.

The book emerges from a series of lectures and workshops during the summer school, presented in 11 stand-alone chapters. They have been written as scientific review papers and accepted after international peer-review. The list of contributors includes: James Murray, David Kirchman, Tom Anderson and Ian Totterdell, Nicolas Gruber, Tommy Dickey, Gennady Korotaev, Mick Follows and Richard Williams, Irina Marinov and Jorge Sarmiento, Richard Matear, and Hezi Gildor.

For further information about the book or ASI summer school, please contact Mick Follows or Temel Oguz.

Further Reading:
NATO-ASI Ocean Carbon and Climate Change Summer School Web-Site; http://www.ims.metu.edu.tr/ASI/

For ordering information, see the Kluwer Academic Press / Springer Publishers at: http://www.springeronline.com/sgw/cda/frontpage/0,11855,4-10011-22-33616282-0,00.html