

Ocean2k Working group – Call for participation

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OCEAN2K

Following a suggestion from the CLIVAR Scientific Steering Committee (SSC) and a meeting of the PAGES 2k network leadership in Bern, July 2011, the PAGES SSC endorsed the formation of a ninth 2k group focusing on the global oceans: Ocean2k. Motivating this project is an interest in placing observed historical marine conditions into the context of climatic variation over the past 2,000 years (Box 1). We plan to generate two outputs in time for consideration in the IPCC's Working Group I fifth assessment report, and contributing to the PAGES2K synthesis planned for 2014.

Box 1: Motivating questions

- What are the principal patterns of variation in ocean properties observed in both paleodata and paleomodeling simulations forced with realistic external forcings?
- What are the most likely underlying mechanisms?

The first goal is a metadata base (Box 2) of Ocean2k-relevant proxy records and model output from publicly-accessible and citable sources, to be completed in January 2012. The metadata base will comprise paleodata spanning the past 2000 years, as well as climate simulations from the fifth Coupled Model Intercomparison Project (CMIP5) and the third Paleoclimate Modeling Intercomparison Project (PMIP3). We hope that we can detect in the corresponding data and simulations the ocean imprint of large-scale variations in processes such as the Atlantic meridional overturning circulation, annular mode activity, monsoon circulations, and El Niño-Southern Oscillation (ENSO).

Box 2: Ocean2k metadata base components and criteria

- Paleoproxy database of marine origin: from the public NOAA/WDC-A (<http://www.ncdc.noaa.gov/paleo/>) and PANGAEA (<http://pangaea.de/>) data portals
 - Variable: local interpretation of the measured proxy data
 - Time interval: any portion of the past 2000 years
 - Minimum time resolution: decadal to centennial
 - Minimum chronology resolution: 1 date per 50-500 years, as applicable
 - Uncertainty: internal and/or external reproducibility; interpretation, or bulk uncertainty
 - Reference: a citation in the peer-reviewed literature is available
 - Data link: A URL to the data source in a publicly accessible data repository
- Climate model output database: from the public CMIP5 (http://cmip-pcmdi.llnl.gov/cmip5/data_portal.html?submenuheader=3) and PMIP3 (<http://pmip3.lscce.ipsl.fr/>) data portals
 - Variable, time interval, uncertainty, reference
 - Data link: A URL to the model output in a publicly-accessible data repository

The second goal is a synthesis paper, based on the metadata base, addressing the questions in Box 1, and submitted no later than July 2012. We will review the principal interpretable features in the data and simulations, discuss likely underlying mechanisms, identify leading uncertainties, and highlight areas for future research.

Given the short timeline, Ocean2k is currently not planning project meetings. Instead, we will divide up the work and use the internet for regular communications. We need your help to achieve the group's ambitious goals (Box 3).

Box 3: Call for collaboration

- Have you developed data or modeling results that are not yet archived in a publicly-accessible archive? Please consider contributing it to an appropriate data portal (Box 2). We can then include your work in the paleometadatabase.
- Can you or your colleagues volunteer some time in the next five weeks to help develop the paleometadatabase? Please register on the Ocean2k web-pages for contributor access, and contact Delia Oppo (doppo@whoi.edu) to see how you can contribute.
- Would you like to collaborate on the synthesis paper during the first half of 2012? Please contact Mike Evans (mnevans@geol.umd.edu). The Ocean2k team is especially looking for a few highly motivated early-career scientists with the time and energy to lead the synthesis paper.

Further information on project goals is regularly updated at the Ocean2k web-pages: <http://www.igbp-pages.org/workinggroups/ocean2k/>

We look forward to working with you.

