

Editorial

I am pleased indeed to have Stephen Griffies Helene Banks and Anna Pirani (ICPO) as co-editors of this issue of Exchanges on "Furthering the science of ocean climate modelling". In part, this edition is a follow-on from Exchanges 42 which focused on Ocean Model Development and Assessment. The edition also provides an article on the activities of CLIVAR's Working Group on Ocean Model Development (WGOMD) following their Workshop and meeting in Bergen last August (see pages 30-32). I would particularly like to welcome Helene Banks as a new Co-Chair of WGOMD alongside the existing Chair, Stephen Griffies. Both they and Anna provide a short introduction to the ocean science aspects of this edition below.

Extreme events is one of the WCRP cross cutting topics which CLIVAR, with GEWEX, has been asked to manage by the Joint Scientific Committee (JSC) for WCRP. Long term multi-year droughts form one aspect of these. The severe drought event that occurred over the Canadian Prairies from 1999-2004/05 is one focus of the GEWEX Worldwide Integrated Study of Extremes (see the link from <http://www.meteo.mcgill.ca/wise> to the "WEBS follow-on for extremes"). On pages 33-34 of this edition of Exchanges, David Legler, David Gutzler and Sieg Schubert outline current US CLIVAR efforts on drought predictability research, with a request to the international community for participation.

Another important CLIVAR-sponsored activity is the International Climate of the 20th Century Project. The article by Jim Kinter and Chris Folland on pages 34-36 provides both an update on progress and an indication of future directions for the project. The latter are aimed at helping to better understand mechanistic questions relating to seasonal and decadal predictability and forecasting. These outputs will hopefully

help in interpretation of the outcomes of both the WCRP/CLIVAR Climate System Historical Forecast Project (www.clivar.org/organization/wgsip/chfp/chfp.php), announced at the WCRP/CLIVAR Seasonal Prediction Workshop in Barcelona in June 2007, and decadal predictability activities which are spinning up under the JSC's decadal predictability cross cut. In terms of decadal prediction, the joint JSC/CLIVAR Working Group on Coupled Modelling and the CLIVAR Working Group on Seasonal to Interannual Prediction are developing plans for coordinated experiments to study multi-decadal prediction and near-term climate change which will draw in other CLIVAR groups also. For example the expertise of CLIVAR's Global Synthesis and Observations Panel in the usefulness of ocean syntheses will be needed for setting initial ocean conditions for such experiments. In addition, the involvement of the wider international community in contributing to these experiments and in proposing diagnostic sub-projects for their analysis will be vital to success overall.

Finally, we also include a short account of the outcomes of the CLIVAR Scientific Steering Group meeting in Geneva last September and the first "GO-SHIP" meeting in November and an update on the WOCE Pacific Ocean Atlas.

One additional happy event at the ICPO has been the birth of a baby boy, Alessandro, to Anna Pirani and her husband Riccardo. Many congratulations to them. Alessandro was 7 lbs 15 oz and 21 inches at birth and is now doing fine, growing and getting used to life at home.

Howard Cattle

Editorial: Furthering the Science of Ocean Climate Modelling

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Ocean models are tools for use in understanding and predicting the ocean. Indeed, models are an essential element for rationally addressing a wide suite of scientific problems. CLIVAR foci requiring sophisticated ocean models include global climate projections, seasonal to decadal prediction, and ocean reanalysis. These areas are key to three of the four CLIVAR objectives. Such high-end applications require a cutting-edge level of science and engineering knowledge, understanding, and creativity to be applied to ocean models to establish the integrity and reliability of the simulations. This work includes developing the algorithms and parameterizations forming the fundamentals of the ocean model; designing model configurations and experiments for addressing scientific questions; efficiently running the numerical experiments on a huge array of computer platforms; and analyzing the computed output in light of an increasing array of observational datasets.

Articles in this edition of CLIVAR Exchanges touch on issues which live in the realm of developing the science of ocean models and of developing experiments to enable scientific questions to be addressed. In particular, some of the articles provide an outline of certain methodologies used in ocean modelling practice. Such information is crucial for the use of the models, though it is often omitted from peer-reviewed papers. Hence, we hope that these articles assist in furthering

the science of ocean modelling. This goal follows from our charge as members of the CLIVAR Working Group for Ocean Model Development (WGOMD), in which we aim to facilitate the scientifically rational and robust development and use of ocean models.

More information on the work of WGOMD can be found in this issue's article summarising the meeting held in August 2007, and in the detailed report that will be available on the WGOMD web page (<http://www.clivar.org/organization/wgomd/wgomd.php>). In particular, as well as holding a workshop on Numerical Methods in Ocean Models, WGOMD discussed the progress of Coordinated Ocean Reference Experiments (CORE), evaluation of ocean models and the future direction of WGOMD.

This edition of CLIVAR Exchanges follows on the heels of the July 2007 edition, which focused on "Ocean Model Development and Assessment," with Peter Killworth as guest editor. Indeed, many of the articles in this edition could readily fit into the July 2007 edition. As such this reflects the healthy state of ocean modelling, in which a huge array of models and applications continue to be considered with an impressive level of realism and integrity.