

CLIVAR looks to the future at conference marking 20th anniversary

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More than 600 scientists from 50 countries gathered in Qingdao, China, for the second CLIVAR Open Science Conference (OSC). The event was titled “Charting the course for climate and ocean research” and marked the 20th anniversary of CLIVAR. Over the course of five days, scientists showcased major advances in climate and ocean research. By design, more than one third of participants were early-career scientists, who presented their work through 234 posters and oral presentations, including plenary talks (Fig. 1).

Throughout the conference, the value of cross-disciplinary integration and international cooperation was emphasized. Critical issues addressed included the impacts of a warming ocean on future climate; regional variations in ocean and climate warming; the respective contributions of thermal expansion and melting ice to sea-level rise; the connections between the oceans and the global water and energy cycle; the changes taking place deep in the ocean; and the consequences of excess carbon on sea life. Different aspects concerning

climate or proxy modeling that could bring about closer interactions between PAGES and CLIVAR were highlighted during the PAGES Town Hall at the CLIVAR OSC, with specific focus on: regional and high resolution modeling for paleoclimate studies; proxy modeling and assimilation of paleo observations in climate models; study on monsoon and changes in ENSO-monsoon teleconnections at different timescales, etc. Both parties could benefit from common model simulations, data syntheses and methodologies in future cooperation.

Closing a successful week of high-level talks and discussions, and new or strengthened collaborations, the final day of the conference was devoted to climate information for sustainable development and the future of climate and ocean science. Presenters and panelists concluded that CLIVAR of the future needs to help build a society resilient to environmental changes by expanding the understanding of uncertainty in climate risk and providing regional climate information and seamless predictions across timescales. All participants argued for a continued

international CLIVAR coordination effort to improve our observational records (including paleo), models and process understanding, and our ability to communicate scientific discoveries translating knowledge into useful information. It was emphasized that further improvements in our understanding of climate processes are required, covering scales ranging from a centimeter to global and from hours to decades, and longer.

One of the important aims of the conference was to engage the future generation. Jointly with the OSC, CLIVAR successfully organized an Early Career Scientists Symposium (ECSS), hosted by China’s First Institute of Oceanography, State Oceanic Administration (FIO/SOA). More than 120 students and early-career scientists (some of them supported by PAGES) participated in the symposium. Participants enjoyed an informal atmosphere, while discussing in groups the key research challenges that the scientific climate community faces at the moment and highlighting the need for international science collaboration. They also discussed the best ways to engage potential stakeholders with their scientific information and suggested their vision for the future of CLIVAR.

The conference injected an amazing degree of enthusiasm about CLIVAR’s research and fortified the notion that CLIVAR is and will be critical to meet society’s needs for climate information. International cooperation of the type that CLIVAR fosters will continue to be indispensable to developing the human capacity and infrastructure that underpin all major scientific breakthroughs. The conference certainly helped in handing over the enthusiasm for CLIVAR and its science to the next generation, whose excitement is a promise for a very bright future.

The conference was hosted by the Qingdao National Laboratory for Marine Science and Technology - a new campus designed to be an open and innovative world-class marine research center. More details about the Open Science Conference can be found at www.clivar.org.

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Figure 1: Plenary session during the CLIVAR Open Science Conference.