

KlimaCampus Kolloquium

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Future Directions for the World Climate Research Programme: Grand Challenges for the Decade Ahead

21.11.2013, 15:15 Uhr; ZMAW Raum 22/23, Bundesstraße 53

Abstract

The World Climate Research Programme was established in 1980 under the joint sponsorship of the World Meteorological Organization (WMO) and the International Council for Science (ICSU) and, since 1993, the Intergovernmental Oceanographic Commission (IOC) of UNESCO. The main objectives, for the WCRP since its inception have been to determine the predictability of climate and to determine the effect of human activities on climate. These objectives are just as valid today as they were 30 years ago. In addition, since 2005 as part of WCRP's strategic planning at the time, there has been an additional overlay to the program focusing on an increasing range of practical applications of climate research of direct relevance, benefit and value to society.

Over the past several years the sponsors of the WCRP have started several strategic initiatives. In 2009 in Geneva the WMO sponsored the World Climate Conference 3. The outcomes of which was the decision to establish a Global Framework for Climate Services to strengthen production, availability, delivery and application of science-based climate prediction and services. Three weeks after the World Climate Conference, under the auspices of the IOC, the oceanographic community convened in Venice for Ocean Obs 09 to strengthen and enhance the international framework for sustained world ocean observing and information systems supporting the needs of society about ocean weather, climate, ecosystems, carbon and chemistry. Looking to the future, ICSU initiated an Earth System visioning process, together with the

scientific community and the international funding organizations. In parallel the International Group of Funding Agencies (IGFA) developed the Belmont Challenge that identified the need to deliver knowledge needed for action to mitigate and adapt to detrimental environmental change and extreme hazardous events. The outcomes of both the ICSU visioning and the Belmont Challenge have led to the proposal of a new 10 year initiative in Earth System Science for Global Sustainability known as Future Earth.

In response to these activities of its sponsors, over the past several years the WCRP leadership and its network of affiliate researchers have focused their efforts on: (a) coordinating international climate research, modelling and prediction in support of the priorities identified by WCRP sponsors and stakeholders; (b) developing a future research strategy and priorities in response to the rapidly emerging needs for science-based climate information for decision-making, in close consultation with the international science community; and (c) establishing a vigorous capacity-development initiative to train the next generation of scientists and research networks at the global and regional levels. As result of these efforts, this presentation will focus on the Grand Challenges in research of the physical climate system as identified by the WCRP for the decade ahead.