

Aims

Since 1980, the WMO-, ICSU- and IOC of UNESCO-sponsored World Climate Research Programme is integrating new observations, research facilities and scientific breakthroughs essential to progress in the inherently global task of advancing the understanding of the processes that determine the Earth's climate system.

WCRP scientists and its activities contribute significantly to the collection and improvement of climate observations, model development and understanding of the climate system necessary for the detection and attribution of past climate change, and the provision of climate information, including projections of future change, assessed by the Intergovernmental Panel on Climate Change (IPCC). WCRP activities match the scientific priorities identified by the IPCC, provide the basis for responding to issues raised in the UN Framework Convention on Climate Change (UNFCCC), and underpin efforts to meet the research challenges posed in the Millennium Development Goals (MDGs).

Objectives

- To determine the predictability of climate; and
- To determine the effect of human activities on climate.

The WCRP Strategic Framework 2005 – 2015 capitalizes on past progress with the aim to facilitate analysis and prediction of Earth system variability and change for use in an increasing range of practical applications of direct relevance, benefit and value to society.



Photo: K. Agrebi

WCRP facilitates research on climate aspects too large to be addressed by any one nation or scientific discipline alone



Activities

WCRP studies cover the global atmosphere, land surface, oceans, biosphere and the Earth's frozen regions (the 'cryosphere'), which together form the physical climate system. The programme also deals with the behaviour of the climate system as a whole, i.e. treating all the components as an integrated and 'fully-coupled' system.

Core Projects:

- GEWEX (Global Energy and Water cycle Experiment)
- CLIVAR (CLimate VARIability and predictability)
- CliC (Climate and Cryosphere)
- SPARC (Stratospheric Processes And their Role in Climate)

Working Groups:

- WGNE (Working Group on Numerical Experimentation) jointly with WMO-CAS
- WGCM (Working Group on Coupled Modelling)
- WGSF (Working Group on Surface Fluxes)

Current Crosscutting Activities:

- Sea-Level Rise
- Monsoons
- Seasonal and Decadal Predictability
- Chemistry and Climate Interactions
- Anthropogenic Climate Change
- Extreme Events in Future Climate
- International Polar Year (IPY)

Co-sponsored Activities:

- SOLAS (Surface Ocean – Lower Atmosphere Study)
- START (SysTem for Analysis, Research and Training)

Earth System Science Partnership

The physical climate system is inextricably linked to the biogeochemical system and to human activities. To achieve fully our goals of understanding and predicting climate variability and change, and their effects on humankind, we must study the fully integrated 'Earth system'. The WCRP is collaborating with IGBP, IHDP and DIVERSITAS in the Earth System Science Partnership (ESSP) to provide the international framework for coordination and cooperation for Earth system science and global environmental change.

More: www.essp.org



28th Session of the Joint Scientific Committee for WCRP – Zanzibar (United Republic of Tanzania), March 2007



The WCRP Joint Planning Staff

Networking

One of the fundamental aims of WCRP is to bring together scientists with other key stakeholders such as NMHSs, policy makers, development agencies and private industry specialists in order to address specific problems or research questions. Whether you are a scientist, policy-maker, information end-user, or sponsor learn how you can be part of the WCRP network.

More: http://wcrp.wmo.int/AP_NetworkContacts.html

Capacity Building

The WCRP enables scientists from countries with less-developed scientific programmes to contribute to the global programme and to build up their research capability. The global change SysTem for Analysis, Research and Training (START) was established by the WCRP, the IGBP and IHDP to foster capacity building activities, and help developing countries to become partners in international global change research. Important partners for education and outreach are the WMO departments of the World Climate Programme (WCP) and Education and Training (ETR) as well as the Regional Offices of ICSU.

More: www.start.org; www.wmo.int/web/wcp/wcp-home.html



Photo: C. Scherer