

WCRP statement supporting the WCRP's corresponding poster presentation to the Ninth Meeting of the Research Dialogue (RD 9) of UNFCCC SBSTA-46, Bonn, Germany, 10 May 2017

Theme 2: Science to take stock and assess progress on mitigation

WCRP activities on decadal climate prediction

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Decadal (or: near-term) climate prediction is concerned with forecasting the changes in climate that occur over time ranges of a few years up to around a decade. The evolution of climate over these timescales is a combination of natural climate variability and human-forced climate change. Together, they determine the shift in the mean climate over the period of interest, and affect the risk of extremes or unprecedented events, which impact human activity and well-being.

Modeling and predictions at decadal time ranges require (i) taking into account current and projected anthropogenic forcing (as in centennial projections) as well as (ii) starting from the present, observed state of the coupled system. Such initialized climate predictions were, for example, produced as an outgrowth of the 5th phase of the WCRP Working Group on Coupled Modelling's (WGCM) Coupled Model Intercomparison Project, CMIP5. They are being continued through, among others, a range of dedicated, systematic WCRP activities on decadal climate prediction, including under CMIP6.

WCRP activities on decadal climate prediction are, among others, carried out by the WCRP Decadal Climate Prediction Project (DCPP) as well as the WCRP Grand Challenge on Near-Term Climate Prediction (GC-NTCP) and aim to:

- Advance scientific understanding of all aspects of decadal predictability and prediction
- Carry out, support, and contribute to the ongoing production of decadal climate predictions (experimental and quasi-operational) in support of societal needs
- Provide and inform operational standards, methods and guidance for routine decadal predictions, in close collaboration with activities on operational decadal prediction by the World Meteorological Organization (WMO)
- Initiate and issue a real-time "Global Annual to Decadal Climate Update" each year (2017 onwards, with 2 years of initial dry runs)

Advances on all of the above themes are required to enable fully seamless climate information, as recommended by the Global Framework for Climate Services (GFCS).

World Climate Research Programme

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The WCRP decadal prediction science community is currently coordinating its suggestions for the input it can provide to the IPCC Special Report on Global Warming of 1.5 °C as well as to the Global Stocktake activities under the Paris Agreement.