WMO Commission of Climatology (CCl) Climate Services Information System Implementation Co-ordination Team (ICT-CSIS) report from the 'WMO International Workshop on Climate Services Information System Operations and Coordination', Nanjing, China 21-24 March 2017 to WCRP JSC-38

This workshop brought together:

- Technical experts from NMHSs from six countries engaged in national implementation of the Global Framework for Climate Services (Bhutan, Burkina Faso, Moldova, Papua New Guinea, Peru, Tanzania)
- Experts representing GPCs, RCCs, RCOFs, SMEs, OPACEs and ICT-CSIS, including from the WCRP:
    - Francisco Doblas-Reyes (WGSIP), Clare Goodess (WGRC), Rodney Martinez (JSC), Fredolin Tangang (CORDEX)

These benefits include:

1) **strengthening of linkages between the research and operational (particularly RCC and NMHS) communities** and thus enhanced direct **societal relevance of WCRP activities**;
2) more effective and targeted **incorporation of regional and national expertise in specific WCRP research activities**;
3) **added authority of national climate information products**;
4) **enhanced capacity building at the regional and national level** through RCCs and NMHSs; and,
5) **efficient and open data and knowledge exchange.**

The following WCRP research areas were identified as the most pressing priorities by workshop participants:

1. Optimised approaches for the use of multi-model ensembles across all forecasting/prediction timescales, from subseasonal to decadal, and including climate projection timescales for which no standard methods currently exist.
2. Improved access to CMIP5/6 and CORDEX outputs and evaluation of these outputs at the regional and national level.
3. Improved methods for, and appropriate use of, downscaling and bias adjustment - across all forecasting/prediction/projection timescales.
4. Improved and advanced methods for the construction and analysis of national observational climatologies, including extreme events and the effective use of multiple data sources.
5. Enhanced understanding of the linkages between local/national weather and climate (including extreme events) and regional/large-scale climate dynamics and circulation – both to improve understanding of current trends and variability (which is important for climate resilience and adaptation decision making), and for improved forecasting/prediction/projection