Press Release: First WMO Workshop on Operational Climate Prediction

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Photographs during the first WMO Workshop on Operational Climate Prediction:

a) Group Photograph,
b) Dr M. Rajeevan, Director, IITM, c) Dr Rupa Kumar Kolli, Chief of World Climate Applications and Services Division, WMO, d) Dr Sulochana Gadgil, Chief Guest during delivering inaugural address

IITM Pune; 9th October 2015: The first WMO Workshop on "**OPERATIONAL CLIMATE PREDICTION"** is being organized by World Meteorological Organization (WMO), Geneva, Switzerland and hosted by ESSO-IITM (Earth System Science Organization (ESSO) - Indian Institute of Tropical Meteorology(IITM)), Pune, Maharashtra, India during 9th – 11th November

2015. About 42 participants from Japan, UK, Russia, Korea, USA, Argentina, Philippines, South Africa, Spain, Singapore, Chad, Costa Rica, Serbia, Jamaica, Canada, Niger, Barbados, Myanmar, India and Switzerland etc. are attending the workshop.

During the opening session of this Workshop, Dr M. Rajeevan, Director, IITM thanked WMO for choosing IITM, India for holding this specialized workshop which is aiming to strengthen the operational climate prediction system around the world. He emphasized the need for more interaction among the climate researchers, operational scientists and end users, and development of sustainable application of climate prediction products for decision making.

In his opening remarks, Dr Rupa Kumar Kolli, Chief of World Climate Applications and Services Division at WMO, mentioned that this is for the first time WMO has organized such Workshop which is motivated by a widely felt need for a regular platform for networking of all the stakeholders involved in operational climate prediction focusing on the use of the best of science at all levels and improving accuracy in climate prediction on different time and space scales. He also emphasized on constantly improving the global, regional and national level operational climate prediction systems and their mutual interaction. The outcome of this workshop will help the scientific community in creating awareness towards the climate prediction and focus more work for development of applications/ products for end users, significantly contributing to the implementation of the Global Framework for Climate Services (GFCS).

Dr. B. Mukhopadhyay, DDGM-Climatology, India Meteorological Department (IMD appreciated the initiative of WMO and IITM for organizing the workshop. He will look forward for the outcome of this ongoing Workshop with keen interest. He mentioned that the workshop will be dealing with "Operational climate prediction" as an emerging area and a useful tool for agriculture productivity, health concerns, disaster warning (including information about heat / cold waves etc) and related impacts of climate variability in day to day life.

Prof. Sulochana Gadgil, Chief Guest of the Workshop and an eminent scientist and ex-professor from IISc, Bengaluru, mentioned about her concerns for the reliability of seasonal to inter annual prediction. She mentioned that the prediction skill of El Niño has steadily improved, but challenges remain as exemplified by the inability of models to predict the lack of progress in El Niño development in 2014. She however appreciated the prediction strong El Niño conditions in 2015 with considerable lead time. She highlighted the need for some reliable indices other than El Niño for monsoon prediction and proposed that the role of Equatorial Indian Ocean Oscillation (EQUINOO), should be further studied by the researchers to explore its potential use in operational prediction.

There will be several presentations describing the background and current operational practices in climate prediction on global, regional and national scales, and also some focused breakout group sessions during three-day workshop. Consensus about the ways to improve operational climate prediction around the world is the overarching expected outcome of the workshop.

For further details, Dr Rupa Kumar Kolli (r.kolli@wmo.int) and Dr Suryachandra Rao (surya@tropmet.res.in) may be contacted.

Background information about the workshop is available at :
http://www.tropmet.res.in/monsoon/wmo/index.php

First WMO Workshop on Operational Climate Prediction
9-11 November 2015, Pune, India

Concept Note

Purpose

The goal of the workshop is to facilitate increased interaction between and among the various operational climate prediction centres and the associated research communities, leading to better collective capability to meet the climate information needs of decision-makers. The operational prediction centres and research communities include Global Producing Centres of Long-Range Forecasts (GPCLRFs), Regional Climate Centres (RCCs), Regional Climate Outlook Forums (RCOFs), National Meteorological and Hydrological Services (NMHSs), the World Climate Research Programme (WCRP) Working Group on Seasonal to Interannual Prediction (WGSIP), the World Weather Research Programme as well as other institutions engaged in real-time climate prediction. The workshop is also envisaged to be the first in a series of periodic workshops to ensure sustained and regular interactions between the concerned communities.

The mandatory functions of GPCLRFs and associated Lead Centres involve provision of long-range forecast information with global coverage and associated verification information. The mandatory functions of RCCs cover long-range forecasting, climate monitoring, data services and training for the region of responsibility. The research community strives to maximize prediction capabilities by conducting experimentation into climate variability and predictability, paying special attention to assessing and improving prediction skills.The workshop will identify gaps and priorities to further strengthen cooperation and to enhance exchange of forecast data from GPCLRFs, methods, tools and scientific knowledge between GPCLRFs, RCCs, RCOFs and WGSIP, and to develop a plan of action to realize improved operational practice, including in support of NMHSs. The workshop will cover operational prediction on sub-seasonal to longer time-scales in the context of contributing to the Climate Services Information System (CSIS) pillar of the Global Framework for Climate Services (GFCS). The workshop will also help consolidate the contributions from the WMO Technical Commissions, particularly the Commission for Basic Systems (CBS), Commission for Climatology (CCl) and the Commission for Atmospheric Sciences (CAS).

Objectives

The objectives of the workshop are to (a) communicate developmental efforts in operational climate prediction with a major focus on sub-seasonal and seasonal forecasting, (b) identify research needs, (c) share operational status, potential impediments and best practices in the uptake of data produced by GPCLRFs by RCCs, RCOFs, NMHSs and by the research community, and d) develop a framework for best-practice guidance document for generating regional climate outlooks from the diverse sources of prediction information available.

In addition to the above, the workshop will address incorporation of recent research advances when developing new operational forecast products. The workshop also intends to consider the emerging possibilities for decadal prediction and the associated operational requirements.

Benefits

It is expected that the workshop will facilitate improved implementation and functioning of the CSIS pillar of the GFCS through improved long-range forecasting services to WMO Members, in support of the five GFCS priority sectors: agriculture, health, water, energy and disaster risk reduction (DRR). This will follow through enhancing the relevance and strengthening the delivery of long-range forecast information cascading from GPCLRFs and by guiding research towards operational priorities, allowing RCCs to make more effective use of global-scale information in preparation of guidance for the region, including for use at RCOFs and by NMHSs. Benefits will also include strengthening of feedback

mechanisms to GPCs, RCCs and WCRP/WGSIP to support continual service improvement. The initial steps to be taken by the workshop to examine sub-seasonal and decadal aspects are expected to lay a more comprehensive roadmap to operational climate prediction.

Background

In the recent years, WMO CBS and CCl have significantly strengthened their cooperation in the establishment of designated centres with responsibility for generating and delivering long-range forecasts and other climate information. The infrastructure forms part of the Global Data-Processing and Forecast System (GDPFS). It also forms the operational core of the GFCS in terms of the CSIS pillar. The designated centres and their roles and responsibilities are defined in the Manual on the GDPFS (WMO-No. 485). One of the fundamental principles of GFCS implementation is to have a three-tier operational structure; global, regional and national. From the viewpoint of long-range forecasting, this structure would include the following entities:

Global domain:

- 12 GPCLRFs, responsible for producing and disseminating long-range forecasts and associated verification with global coverage;
- A Lead Centre (LC) for Long-Range Forecast Multi-Model Ensembles (LC-LRFMME), responsible for collecting GPCLRF products, displaying the forecast information in standard formats, and generating multi-model products;
- A Lead Centre for Standardised Verification of Long-Range Forecasts (LC-SVSLRF), responsible for collecting verification information from the GPCs and displaying it in standardised formats.

Regional domain:

- RCCs and RCC Networks covering a majority of the WMO Regional Associations (RAs) are either fully designated or in demonstration stage, with more under active development.
- RCOFs are active in 18 sub-regions around the world, several of them coordinated by RCCs, producing consensus-based seasonal outlooks with inputs from GPCLRFs, RCCs and NMHSs.

National domain:

- NMHSs play the central role in producing and disseminating operational long-range forecasts as well as user engagement at the national level, including through coordination of National Climate Outlook Forums (NCOFs).

On the research side, WCRP has established the WGSIP to investigate pressing questions to advance seasonal to interannual predictions. The research knowledge produced by WGSIP, along with the work done in collaboration with the WWRP (i.e., the Sub-Seasonal to Seasonal Prediction Project), is therefore of great relevance for improving the current operational climate model predictive capabilities at GPCLRFs and consequently helps advance the operational climate prediction capabilities of RCCs, RCOFs and NMHSs.

Workshop Themes

The Workshop will cover sub-seasonal to decadal scales of climate prediction, though the dominant focus will be on sub-seasonal and seasonal. The following are the suggested workshop themes:

- Recent research advances in Sub-seasonal to Decadal Prediction and their potential for improving operational capabilities;
- Research needs of the operational community;

- Progress on addressing impediments to the usage of GPCLRF data that were identified by the Brasilia 2013 workshop;
- Global Seasonal Climate Update – a synthesis of GPCLRF products to assist RCCs, RCOFs and NMHSs
- Current status and component tools of the Climate Services Toolkit under development within the CSIS;
- Operational practices currently used for generating seasonal forecasts and a framework for developing a guidance document for recommended long-range prediction procedures.

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