WORLD METEOROLOGICAL ORGANIZATION
Climate and Water Department

Global Seasonal Climate Updates (GSCU)

Consensus Statements on the Status of Global Seasonal Climate and Outlook

Concept Note

Preamble

The Executive Council, at its Sixty first session (June 2009, Geneva), urged Members to avail themselves of the products of the network of Global Producing Centres of Long-Range Forecasts (GPCs) and Lead Centres, and urged the CCl and CBS to promote and guide the uptake of GPC products within Regional Climate Centres (RCCs), Regional Climate Outlook Forums (RCOFs) and National Meteorological and Hydrological Services (NMHSs) for operational climate prediction (EC-LXI Report, Paragraph 3.2.3.7).

The Fifteenth Session of the Congress (May 2007, Geneva), while appreciating the WMO publication of global consensus-driven El Niño and La Niña Updates, recommended that other large-scale indices having regional impacts be considered for future Updates (Cg-XV Report, Paragraph 3.2.5.12). CCl and CBS are actively cooperating in the development and communication of climate monitoring and prediction products. The need to strengthen the production, availability, delivery and application of science-based climate prediction and services was emphasised by the World Climate Conference-3. In this context, GPCs, RCCs, RCOFs and NMHSs have been recognized to be an effective conduit to facilitate the essential flow of climate information from global to local scales.

1. Vision

A Global Seasonal Climate Update is issued jointly by experts of the GPCs, related Lead Centres and monitoring centres acting on the global scale, with input from the Regions (RCCs, NMHSs etc.), a few days ahead of each of the standard seasons (DJF/MAM/JJA/SON).

The Update summarises the current status (monitoring) and the expected future behaviour (prediction) of major general circulation features and large-scale oceanic anomalies around the globe (e.g., ENSO, North Atlantic Oscillation, Indian Ocean Dipole, etc.) and discusses briefly its likely impacts on continental-scale temperature and precipitation patterns. The Update is designed,

and thereby standardised, in a way that allows for comparing qualitatively the climate monitoring results of the current Update with the respective climate outlook issued in the previous Update.

Such an Update is used primarily by RCCs, RCOFs and NMHSs in order to elaborate regional and national climate Updates, and also by global user communities such as the Inter Agency Standing Committee (IASC), etc. as well as the general public.

The Global Seasonal Climate Updates, to be delivered routinely through WIS mechanisms (once available), provide the world community with an expert assessment and global consensus on the status of the climate for the current and the upcoming season along with information on robustness and uncertainty of the available signals, thereby contributing to an effective application of science-based climate information in climate risk management. The Global Seasonal Climate Updates feed into the *Annual Statements on the Status of the Global Climate* already being issued by WMO, incorporating both climate monitoring aspects and an assessment of the climate outlooks.

2. Motivation and justification

- Global organizations operating in climate sensitive sectors have expressed the need for a global statement on the coming season's climate;

- The envisaged service builds on existing WMO mechanisms and capabilities, demonstrates and strengthens WMO's service delivery component and, thereby, has the potential to contribute to the goals of the GFCS concept;

- WMO regularly provides global scale climate monitoring information in close co-operation with climate monitoring centres operating on global scales such as the Met Office Hadley Centre, the University of East Anglia/UK, the NCDC/NOAA, JMA, CMA, IMD, BOM and others;

- WMO is actively establishing regional components of a global infrastructure serving climate information and services improvements: RCCs and RCOFs. These regional mechanisms depend on global-scale products and assessments as indispensable input;

- WMO has established a global system for Long-range Forecasting as an integral part of its Global Data Processing and Forecasting System (GDPFS) and put in place a formal designation process. As of June 2010, it consists of 12 GPCs and two Lead Centres for Long-range Forecasting Multi Model Ensembles (LRFMME) and Standard Verification System of Long-range Forecasts (SVSLRF);

- WMO successfully established a consensus mechanism for the well-known El Niño/La Niña Update, which has been well-received worldwide and which has been instrumental in improving consistency, terminology and uptake;

- The success of the El Niño/La Niña Updates can be extended to other aspects of Long-Range Forecasts to enhance the visibility of the GPCs and the associated Lead Centres, the 'climate component' of the GDPFS as well as of WMO as a whole. Other centres operating on global scales for Long-Range Forecasting as well as climate monitoring can be involved in the consensus development process.

3. Endorsement of GSCU Concept

The GSCU concept was presented at the WMO Technical Conference on Changing Climate and Demands for Climate Services for Sustainable Development, which took place from 16 to 18 February 2010, immediately preceding CCl-XV at Antalya, Turkey. The concept was widely

supported by the conference participants, and was included as part of the conference recommendations to CCl-XV for strengthening the development and use of climate-related WMO infrastructure and mechanisms. CCl-XV appreciated the initiatives for the development of GSCU, providing regular global consensus statements on the seasonal climate, through expert assessments of global climate monitoring and outlook products. CCl agreed that the focus of such Updates would be to assist the NMHSs in the interpretation, tailoring and assessments of the reliability of seasonal predictions. CCl urged all GPCs, RCCs/RCC-Networks, RCOFs, NMHSs and other relevant institutions to provide the required inputs and actively support the development of this important product. In pursuance of this decision, GSCU has been included as part of the work plan for the fifteenth intersessional period of CCl (2010-2014). CCl-XV Management Group established a Task Team on GSCU with specific Terms of Reference including:

1. Develop, including through a scoping workshop, a mechanism to generate regular global consensus statements on the seasonal climate, termed Global Seasonal Climate Update (GSCU), through expert assessments of global climate monitoring products of the current season and the outlooks for the ensuing season in terms of the broad patterns of precipitation and temperature, along with the indication of the situation and expected evolution of the major general circulation features of both atmosphere and ocean;

2. Develop practical approaches to facilitate enhanced use of GPC and related Lead Centres' long-range forecast products by RCCs and other regional entities, RCOFs, and NMHSs, including through the GSCU concept;

3. Develop an outline for a consensus statement with a comprehensive assessment of current and coming seasonal global climate anomalies, including the uncertainty aspects, to assist in risk management, adaptation policies and decision making by global partners;

4. Develop an implementation plan to engage potential contributors to develop the GSCU on a trial basis in near-real-time and for limited circulation and peer review;

5. Liaise with the CCl-XV OPACE-2 expert/task teams on aspects of climate monitoring and assessment;

6. Identify lead coordinators for operational production of the GSCU.

CCl-XV Task Team on GSCU has Dr Won-Tae Yun (Korea) as the Lead and Dr Richard Graham (UK) as the Co-Lead.

WMO Executive Council, at its Sixty-second Session (EC-LXII, June, 2010), recognized the widely felt need for consensus-based products like WMO El Niño/La Niña Updates more generally on the seasonal climate prediction, and welcomed the concept of expanding these Updates to other planetary-scale oscillations and their interactions including large-scale climatic impacts. It noted that while challenges to WMO El Niño/La Niña Updates still remain, it encouraged, and urged CCl to work, in collaboration with CBS, to explore the possibility of expanding the Update to become the GSCU. EC-LXII agreed that GSCU should be started on a trial basis, allowing a sufficient period to gain experience and making it reliable and effective. In this context, the Council noted that a number of Members are engaged in sector oriented seasonal predictions (e.g. hydrological and agricultural applications) based on the seasonal climate outlooks and that there is need for bringing consistency in approach to the provision of such climate outlook products.

4. Proposal to convene an international expert meeting on scoping Global Seasonal Climate Updates

In order to facilitate the development of Global Seasonal Climate Updates, it is proposed to organise an international expert meeting, under the auspices of both CCl and CBS, on scoping Global Seasonal Climate Updates, tentatively planned for 12-15 October 2010 at WMO Headquarters, Geneva, Switzerland.

4.1 Objectives

The scoping meeting will consider the development, and outline the mechanism, of regular global consensus statements on the seasonal climate, through expert assessments of global climate monitoring products of the current season and the outlooks for the ensuing season in terms of the broad patterns of precipitation and temperature, along with the indication of the situation and expected evolution of the major general circulation features of both atmosphere and ocean.

4.2 Expected outcome

The scoping meeting will develop:

- a practical approach to facilitate the use of GPC and related Lead Centres' products by RCCs and other regional entities, RCOFs, and NMHSs, including a Global Seasonal Climate Update;

- an outline for a consensus statement with a comprehensive assessment of current and coming seasonal global climate anomalies to assist in risk management, adaptation policies and decision making by global partners;

- an implementation plan to engage potential contributors to develop the Global Seasonal Climate Update on a trial basis in near-real-time and for limited circulation and peer review; and

- identify lead coordinators for operational production of the Global Seasonal Climate Update.

4.3 Proposed agenda outline

Day 1: Setting the frame

- Status of operations of current GPCs and related Lead Centres and other centres providing global-scale Long-Range Forecasts (presentations by experts from GPCs, Lead Centres and other global centres as well as WDS/DPFS)
- Status of global-scale monitoring activities (presentations by climate monitoring centres' experts)
- Skills of monitoring and prediction methods/models (presentation on research perspectives)
    - Discussion based on experts' experiences and Lead Centres' verification activities results
- Formatting/communication of monitoring and prediction "outlook" products, incl. aspects of uncertainty, probability and confidence
    - Discussion based on experts' experiences; presentation of an RCOF expert
- The WMO El Niño/La Niña Update : current status and prospects

Day 2: Discussion of the concept elements

- User requirements for global-scale monitoring and prediction products (presentations by globally active users like the IFRC, IASC, WHO)
- The role of regional and national institutions and mechanisms: user requirements for global-scale monitoring and prediction products and potential contributions to the Update generation (presentations by RCOF-, RCC- and/or NMHS experts)
- Content and structure of the Global Seasonal Climate Update (brainstorming discussion)
- Linking climate monitoring and climate prediction services: The Climate Watch Concept (expert presentation)
- Consensus development process (expert presentation)
- Working arrangements and responsibilities for the Global Seasonal Climate Update, flow of information (brainstorming discussion)

Day 3: Concept development

- Review of the discussion outcomes of days 1 and 2
- Elaboration and presentation of the concept for the Global Seasonal Climate Update
- Implementation plan for a pilot phase of the production of Global Seasonal Climate Updates including the identification of lead coordinators

Note:

1. **In order to optimally utilize the available time and to ensure a certain degree of comparability of the information presented, it is proposed to provide a presentation template/format for describing activities of prediction/monitoring centres.**
2. **Discussion format to be developed in order to derive the information needed for the following days.**

4.4 Potential participants

It is expected that experts from the following institutions or organisations will participate in the scoping workshop:

a) Global users

- Experts from e.g. IASC, IFRC, WHO etc. (preferably Geneva based)

b) Regional providers and users

- Selected experts from RCCs and/or similar institutions, preferably with RCOF experiences (e.g. ACMAD, BCC, CIIFEN, TCC etc.)

c) Global providers

- Selected experts from GPCs and Lead Centres
- Selected experts from international centres active in climate prediction (e.g. IRI, APCC)
- Selected climate monitoring experts (e.g. NCDC, UK MetOffice Hadley Centre, JMA, CMA, IMD, BoMA)

d) Selected experts from CCl and CBS (climate predictions, climate monitoring, Climate Watches, consensus development, user liaison, communication)

e) WCRP scientific expert on seasonal prediction

f) WMO Secretariat: CLW (HWR, WCAS, AgM); OBS (WIS, DMA); WDS (DPFS, DRR, PWS); WCRP

5. Further evolution

It is envisaged to operate the seasonal climate Update mechanism **for one year or more on a pilot basis in *near-real-time*, pre-operational mode with a limited, informal circulation**. During the pilot phase, the consensus statement will be subject to peer review among climate experts, communicators as well as user representatives, and appropriate corrections will be made to the process. Once skills, usefulness and operational capabilities are stabilized at acceptable levels, the Update will be provided to the public (press release(s) / Websites) and released officially to RCOFs/RCCs/NMHSs and global users.
