

WORLD METEOROLOGICAL ORGANIZATION



Developers Meeting on the GFCS-Relevant Climate Data, Products, and Tools

Geneva, Switzerland, December 6-8, 2016

CONCEPT NOTE

Background

WMO Commission for Climatology (CCI) supports the implementation of Global Framework for Climate Services (GFCS) with a particular focus on the Climate Services Information System¹ (CSIS), which is the core operational component of GFCS at the global, regional and national levels and constitutes a key contribution of WMO to the GFCS as articulated in Resolution 17 of the World Meteorological Congress at its sixteenth session (2011). For this purpose, CCI at its Sixteenth Session in 2014 has established a dedicated Implementation Coordination Team on CSIS (ICT-CSIS). CSIS is designed for producing and operationally delivering authoritative climate information data and products through appropriate operational mechanisms, data exchange, technical standards, authentication, communication and product delivery. Its functions include climate analysis and monitoring, assessment and attribution, prediction (monthly, seasonal, decadal) and projection (centennial scale) as well as tailoring the associated products to meet user requirements. Part of the CSIS is in place, but new infrastructure is needed to be further developed.

Towards this end, the World Meteorological Congress at its Seventeenth Session in 2015, through Resolution 60 (Cg-17), decided that the GFCS relevant data and products from the WMO World Data Centers (WDCs), Global Producing Centers of Long Range Forecasts (GPCLRFs), Regional Climate Centers (RCCs), Regional Climate Outlook Forums (RCOFs) and International Council of Scientific Unions World Data System (ICSU WDS), as well as from the framework of the Global Climate Observing System (GCOS) Essential Climate Variables (ECVs) (Atmospheric, Oceanic and Terrestrial), will constitute an essential contribution to the Framework and therefore should be made accessible among Members, in particular through the CSIS, on a free and unrestricted basis. In a further clarification of the scope of Resolution 60 (Cg-17), the WMO Executive Council at its Sixty-Eighth session in 2016 (EC-68) endorsed a recommendation, by the EC Task Team on Data Policy and Emerging Issues, that implementation of Resolution 60 initially focus on the GCOS ECVs, with initial data requirements to be specified in the forthcoming GCOS Implementation Plan, to be further supplemented through an on-going review by the Intergovernmental Board on Climate Services (IBCS) Expert Team on Specific Data Requirements (ET-SDR).

A related decision by EC-68, on data and products exchange for the implementation of the CSIS:

¹ Annex to the implementation plan of the Global Framework For Climate Services - Climate Services Information System Component (http://www.gfcs-climate.org/sites/default/files/Components/Climate%20Services%20Information%20System//GFCS-ANNEXES-CSIS-FINAL-14204_en.pdf)

- Requests the WDCs, GPCLRFs, RCCs, NMHSs and other associated entities within the CSIS to increase and harmonize the exchange between WMO members and partners of historical, current and forecast-related climate data and products called for by Resolution 60 (Cg-17), in support of CSIS implementation;
- Urges Members hosting the CSIS entities to actively facilitate sustained and ongoing exchange of data and products required for their respective operational functions; and
- Requests CCI, in close coordination with CBS and other relevant technical commissions, GCOS and the World Climate Research Programme (WCRP), to lead a review of the GFCS relevant data and products to be provided by the Global and Regional Climate Centers, with a view to increasing their access and availability, and present the results of the review along with recommendations to the sixty-ninth session of the Executive Council.

A key task, therefore, is to evaluate existing activities related to inventories of ECVs, currently led by the Joint CEOS_CGMS Working Group on Climate, and related monitoring, prediction and projection products, which should also take into account the above-mentioned centers and NMHSs. Based on this evaluation, it is recommended to design and implement a systems architecture dedicated for making available GFCS relevant data and products more easily accessible to WMO Members. In parallel, arrangements will be made for RCCs and NMHSs which have advanced in developing such products to support less advanced NMHSs and RCCs so that when the available GFCS relevant data and products are made more accessible through the CSIS there will be assistance available to help NMHSs wishing such assistance to access, interpret and add value to such data and products for country-level stakeholders, with an overall target of reaching 70 countries.

Additionally, this effort should include a compilation of tools for generating tailored data and products for decision-making, with a special focus on national requirements in developing countries. In this context, a Climate Services Toolkit (CST), conceived as a suite of guidance, data, software tools, training resources, and examples for enabling climate services at global, regional, and national levels, is considered to be a major enabling factor for CSIS implementation, particularly at the national levels.

Meeting Purpose, Objectives, and Outcomes

A Developers Meeting on the GFCS-Relevant Climate Data, Products, and Tools, under the auspices of the CCI ICT-CSIS, will be held during December 6-8, 2016, at WMO Headquarters in Geneva, Switzerland. The meeting will use any available initial guidance provided by the IBCS ET-SDR on additional potential requirements from country-level GFCS implementation and from a review of data requirements in the GFCS priority areas. The meeting will review the GFCS-relevant data and products currently available from WMO global and regional centres, and from the ECV inventory. Drawing on this background, the meeting will focus on identification, compilation and integration of specific data sets, products, and tools relevant to GFCS development such as climate data management and mining, diagnostics, monitoring, predictions, projections, and tailoring of specific information including through the CST, with the Regional Climate Centers (RCCs), Regional Climate Outlook Forums (RCOFs) and National Meteorological and Hydrological Services (NMHSs) as the target users. The outputs of the meeting will be an action plan to seek contributions and commitments to populate a suitably consolidated CSIS data and products portal and CST, and a prototype CST for demonstration at the forthcoming International Workshop on the CSIS². The latter will be made available for deployment around the world, closely aligned to the needs and capacities of the target users including stakeholders of the GFCS priority areas. The meeting will discuss how to achieve the most effective access and improve usability of GFCS-relevant climate data available in the ECV inventory, GPCLRFs, RCCs, and WDCs for meteorology and climatology. The findings will guide the implementation planning of the International Workshop on the CSIS. In addition, the meeting will recommend documents from available WMO resources for accelerated climate

² Tentatively scheduled to be held in March 2017. This meeting will draw on the December Developers Meeting to engage the stakeholders whose input and cooperation is needed to initiate systematic sharing and access to GFCS-relevant data and products as decided in Resolutions 60 (Cg-17) and 7 (EC-67), and Decision 5.3/1(EC-68).

services implementation at the national, regional and global levels. Finally, the meeting will identify capacity development needs including those for successful launch of the toolkit using already available and to be developed materials and events.

The meeting will be by invitation only and plans to gather input and seek commitments from selected Subject Matter Experts (SMEs) and developers of climate data, products, and tools that will constitute initial CSIS data and products portal and CST core capabilities to be incorporated into a prototype for demonstration and use by selected countries. The meeting will develop a strategy to build and sustain collaborative relationships among SMEs/developers, WMO Technical Commissions, Intergovernmental Board on Climate Services (IBCS), WMO Secretariat, GFCS Office, RCCs, and other stakeholders representing - end-users from GFCS priority areas and countries. The collaborative relationship will have the overarching goal to accelerate timely and consistent integration of available data and tools into CST in coordination with stakeholders and users.

The meeting will:

1. Review currently available GFCS-relevant data and products from global and regional centres as well as research and operational organizations, existing ECV inventories and their operational availability and access;
2. Review and refine the CST contents and architecture as well as discuss the strategy to populate and maintain the CST and its elements through the WIS (registering products and tools in the WIS using WIS Metadata standards for search, discovery and retrieval);
3. Develop an action plan for populating the CST with datasets and tools required for climate services, based on the minimum functions defined for the CSIS, including criteria for their selection;
4. Address and provide recommendations on the CST governance issues: Define process for facilitating coherent and coordinated actions of the CST contributors of data, products, tools, and training resources;
5. Explore the software solutions and IT infrastructure required for the deployment of CST, including through relevant examples³;
6. Develop an outline for guidance on CST core capabilities, including through consolidation of the existing WMO guidance material;
7. Recommend training materials that will support capacity building and use of CST resources;
8. Identify metric for CST performance evaluation and develop criteria for quality assurance of the data and products;
9. Recommend strategy for deployment of CST core capabilities in close alignment with the needs and capacities of the concerned CSIS entities, including the elements of a User Forum for customer support and troubleshooting.

Expected meeting outputs:

- A CST prototype with demonstrated core capabilities using web portal for data and tools as well as stand-alone tool-set comprising software and data;
- Recommended actions for sustainable long-term development, maintenance and updating of the CST through institutional collaborations, expert engagement, infrastructural requirements for deployment of GFCS-relevant CST components;
- An active network of climate data and tool experts for CST demonstration for GFCS partners and priority countries;
- Action Plan for accelerated CST deployment in GFCS priority countries;
- Design of an International Workshop on CSIS, which will focus on establishing the institutional architecture and cooperative relationships needed to make available GFCS-relevant data and products systematically available through the CSIS.

³ A potential example is the approach taken by the Copernicus Climate Change Service (C3S).

Tentative Agenda

Day 1: Defining CSIS Requirements and CST Core Capabilities

AM:

- Purpose of the Meeting
 - Guidance from WMO/GFCS constituent bodies
 - CSIS Implementation Priorities
- Overview of selected resources
 - GFCS requirements for data sets, products, and tools as pertained by sectoral applications, with a particular focus on the ECVs
 - GFCS-relevant data and product availability and access with examples (e.g., C3S, IRI, GPCLRFs, RCCs, ECV inventory, etc.)
 - CST concept and structure

PM:

- Potential CST Resources
 - Presentations on highlights of individual CST resources covering Data Management and Data Rescue; Climate Analysis and Monitoring;

Day 2: Defining CST Development Process

AM:

- Potential CST Resources (contd.)
 - Presentations on highlights of individual CST resources covering Climate Predictions; Climate Projections; Tailoring information to users
- Break-out sessions on categories of data, products and tools identified in the preceding session

PM:

- Break-out sessions (contd.) and reporting

Day 3: Identifying Steps for CST Deployment, CSIS implementation and Way Forward

AM:

- Defining the path for CST implementation
- Global infrastructure required for CSIS implementation

PM:

- Global infrastructure required for CSIS implementation (contd.)
- Planning for International CSIS Workshop (March 2017)
- Meeting Summary and Recommendations

Recommended list of the meeting participants

	Name	Organization, Country	Subject of Expertise	E-mail
CCI ICT-CSIS				
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6.	Marina Timofeyeva	NOAA, USA	CSIS, LCAT, CRT, CPC Climate Monitoring Tool	Marina.Timofeyeva@noaa.gov
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Data Sets, Data management and Data portals				
10.	Atsushi Goto (Mr)	TCC, Japan	ClimatView - monthly climate data portal	tcc@met.kishou.go.jp
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Climate Monitoring, Predictions, and Projection Products and Tools				
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16.	Wassila Thiaw	NOAA, USA	Climate Monitoring Tool, GPCLRF, US RCC	wassila.thiaw@noaa.gov
17.	Yun-Young Lee or Hyunrok Lee	APCC, South Korea	The Climate Information ToolKit version 1.0 (CLIK1.0) Climate Predictions and Climate Informatics and Application	yyalee@apcc21.org tank@apcc21.org
18.	TBD	ECMWF, UK	Copernicus Climate Change Service (C3S)	
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			Platform (CRISP)	
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