WMO OMM
World Meteorological Organization
Organisation météorologique mondiale
Organización Meteorológica Mundial
Всемирная метеорологическая организация
المنظمة العالمية للأرصاد الجوية
世界气象组织

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Annexes: 3

Ref.: 11332/2020-L1 S/CMP

Subject: Regional training workshop on data collection, management, exchange and quality monitoring in West and Central Africa, Online Sessions, 23-24 June and 30 June - 2 July 2020

Action required: Nomination of two staff before **19 June 2020** to participate in the workshop

Dear Permanent Representative,

I wish to inform you that currently, a wide variety of climate monitoring products are produced around the world and there are many inconsistencies between the methods used by different countries. The inconsistencies make comparisons difficult, or impossible. Even simple differences such as the choice of the base period for calculating anomalies, or the length of available records can make it difficult to interpret differences from one country to the next.

In addition, meteorological, hydrological and climate data exchange is limited owing to a combination of financial, technical, and policy issues. While most countries are complying with the minimal data exchange recommendations with regards to synoptic stations and climate timescales, a large share of the data collected is not available globally, resulting in suboptimal predictions from global models over West and Central Africa regions. This in return reduces the quality of products available to Regional Specialized Meteorological Centers (RSMCs), Regional Climate Centers (RCCs), and National Meteorological and Hydrological Services (NMHSs), and their users, for use in providing weather, climate and hydrological services.

Given the constraints posed by the COVID-19 situation, the World Meteorological Organization (WMO) is proposing a 5-day online training workshop on data collection, management, exchange and quality monitoring, to be held on 23-24 June and 30 June- 2 July 2020 from 8 a.m. to 10 30 a.m. UTC. In the context of the reformed WMO, the workshop would address data availability in a holistic manner. The training will contribute to resolve the technical issues in a regionally coordinated manner, and identify remaining financial and policy issues. The workshop will be also structured in a way that the critical steps in the value chain including observations, data management and exchange, forecasting, climate prediction are considered, to the extent possible, in a seamless approach across the weather-climate timescales. The provisional agenda and expected deliverables are described in Annex 1.

To: Permanent Representatives (or Directors of Meteorological or Hydrometeorological Services) of Members of WMO (limited distribution)

I should be grateful if you consider nominating between two and four participants, in line with the technical profile in Annex 2, to attend this online training workshop. This training workshop will bring together participants from all PRESASS, PRESAGG and PRESAC Member States, as well as the Democratic Republic of the Congo, with additional experts and lecturers from the African Centre of Meteorological Applications for Development (ACMAD), AGRHYMET and other WMO partners. It will be delivered in both French and English, with interpretation and/or translation. The technical profile of participants and equipment needed to participate are listed in Annex 2, and a form is available as Annex 3 for registration.

For further details, please contact Mr Omar Baddour, Head, Climate Monitoring and Policy Services division (obaddour@wmo.int) and Mr Luis Filipe Nunes (lfnunes@wmo.int) as WMO Focal Points for this training with copy to Mr Jean-Baptiste Migraine (jbmigraine@wmo.int) and Ms Gülay Kahraman (gkahraman@wmo.int).

I would like to thank you for your continuous support to WMO's projects and activities and I appreciate your efforts in supporting this training activity.

Yours faithfully,

Dr Elena Manaenkova
for the Secretary-General

CONCEPT NOTE
Regional training workshop on data collection, management, exchange and quality monitoring

Online, 23-24 June and 30 June - 2nd July 2020

Proposed Dates: 23-24 June (WIGOS, WIS) and 30 June-2 July 2020 (CMP)
5 sessions of 2h30 in the mornings

Countries involved: ECOWAS, PRESAGG, PRESASS and PRESAC Member States (24 countries: Benin, Burkina Faso, Burundi, Cameroon, Central African Republic, Cap Verde, Chad, Congo, Côte d'Ivoire, Democratic Republic of Congo, Equatorial Guinea, the Gambia, Ghana, Guinea Bissau, Guinea Conakry, Liberia, Mali, Mauritania, Niger, Nigeria, Sao Tome and Principe, Senegal, Sierra Leone and Togo)

Venue: Online (tbd BlueJeans)

Rationale: Currently, a wide variety of climate monitoring products are produced around the world and there are many inconsistencies between the methods used by different countries. The inconsistencies make comparisons difficult, or impossible. Even simple differences such as the choice of the base period for calculating anomalies, or the length of available records can make it difficult to interpret differences from one country to the next. In addition, meteorological, hydrological and climate data exchange in West Africa is limited in relation with specific financial, technical, and political issues. While most countries are complying with the minimal data exchange recommendations with regards to synoptic stations and climate timescales (see Percentage of received CLIMAT-Reports), a large share of the data collected by the countries is not available in order to optimally assimilate in global prediction models (see WIGOS Data Quality Monitoring System). This in return pre-empts access from regional specialized meteorological centres (e.g. ANACIM) and National Meteorological and Hydrological Services (NMHSs) for suitable weather prediction outputs from global producing centres.

Furthermore, with the new and evolving data requirements for climate assessment and monitoring as well as for underpinning consistent and robust climate services at regional levels, there is a need for improved data management and for making available standard datasets and products on time. These include Climatological Standard Normals, World Weather Records and National Climate Monitoring Products.

A number of uncoordinated initiatives have contributed to address specific technical aspects of the issue, such as (i) the WMO training on data rescue and digitization of climate records (WCDMP79, 2016), (ii) the WMO training on OSCAR/Surface (Dakar, 2019) and (iii) the WMO training on numerical weather prediction interpretation (Lomé, 2018). Since 2018, some countries (Côte d'Ivoire, Mali, Burkina Faso, etc.) have embarked on large-scale hydromet modernization investments with the World Bank and AFD (about US$ 30 million per country), which will contribute to address the financial dimension of the issue on a country-by-country approach. Through this workshop, WMO, with CREWS resources, is proposing to address Data availability in a holistic manner with a full value chain of data aspects, including observational coordination, data management and data sharing, all underpinning the generation and provision of operational products delivered through weather and climate forecasting systems. This would contribute to resolving the technical issues in a regionally coordinated manner. The workshop will be also structured in a way that the critical steps in the value chain including observations, data management and exchange, forecasting, climate prediction are considered, to the extent possible, in a seamless approach across the weather-climate timescales.

Draft Agenda
Part-1: Data sharing and quality monitoring

Tuesday, 23 June 2020

Time	Title	Lecturers/Speakers
8 a.m. UTC (10 a.m. GVA)	Cooperation in West and Central Africa to support political and technical aspects in data sharing and quality monitoring	ANACIM (RSMC) ACMAD (Africa RCC and interim Central & West Africa RCC) AGRHYMET (RTC and future WA RCC) Maroc Météo (GISC + future R-WIGOS)
9.10 a.m. UTC	Break	
9.20 a.m. UTC	Immediate enhancements to Numerical Weather Prediction (NWP) and Flash Flood Guidance System (FFGS) outputs from enhanced data quality, homogeneity and sharing	(TBD)
10 a.m. UTC	Global Basic Observing Network (GBON) and Regional Basic Observing Networks (RBON) as low hanging fruit for data sharing	Lars Peter Riishojgaard, Etienne Charpentier (WMO)
10.30 a.m. UTC	Closure	

Wednesday, 24 June 2020

Time	Title	Lecturers/Speakers
8 a.m. UTC (10 a.m. GVA)	WIS Data Collection and Producing Centers (DCPC) and Global Information System Centers (GISC) as enabling mechanisms	Peiliang Shi (TBC)
8.30 a.m. UTC	WIGOS data quality monitoring system (WDQMS)	Luis Nunes (WMO), Tanja Kleinert (TBC)
8.50 a.m. UTC	Break	
9 a.m. UTC	What should be sent through WMO Information Systems (weather and climate WIS / hydrological WHOS)	Enrico Fucile, Dominique Bérod (WMO)
9.20 a.m. UTC	Opportunities for enhanced hydrological data management	Dominique Bérod (WMO) (TBC)
9.40 a.m. UTC	OSCAR/Surface and WIGOS Station Identifiers	(TBD)
10 a.m. UTC	Technical discussion on scope and functions of Regional WIGOS Centres (RWC) in West Africa (PRESASS & PRESAGG Members)	Luis Nunes (WMO)
10.30 a.m. UTC	Closure	

Part-2: Computing climatological standard products and related subjects

Tuesday, 30 June 2020

Time	Title	Lecturers/Speakers
8 a.m. UTC (10 a.m. GVA)	Introduction to methods and tools for the generation of climate datasets: CDMS specifications and data rescue guidelines and portal, climatological standard normals, National Climate Monitoring Products	Omar Baddour (WMO)
8.30 a.m. UTC	Concept of and introduction to computing World Weather Records for the period 2011-2020 (synoptic stations)	Peer Hechler (WMO)
9.20 a.m. UTC	Break	
9.30 a.m. UTC	Concept of and introduction to computing climatological standard normals for 1981-2010 and 1991-2020 (synoptic stations)	Peer Hechler (WMO)
10.30 a.m. UTC	Closure	

Wednesday, 1 July 2020

Time	Title	Lecturers/Speakers
8 a.m. UTC (10 a.m. GVA)	Global and African WMO statements on the status of the climate and the concept of NCMPs (National Climate Monitoring Products)	Peer Hechler, Omar Baddour (WMO)
9.00 a.m. UTC	Break	
9.15 a.m. UTC	Overview on assessing data quality and homogeneity	Enric Aguilar (URV)
10.15 a.m. UTC	Data requirements for an Objective Seasonal Forecast and the role of GPC-LRF and LC-LRFMME	Wilfran Moufouma Okia (WMO)
10.30 a.m. UTC	Closure	

Part-3: Sub-regional climate datasets

Thursday, 2 July 2020

Time	Title	Lecturers/ Speakers
8 a.m. UTC (10 a.m. GVA)	The open source International Climate Assessment & Dataset (ICA&D), experience in other sub-regions (SE-Asia) and potential applications in West and Central Africa (WA-CA&D, CEAC-CA&D)	Gé Verver Gerard vd Schrier, Else vd Besselaar (KNMI)
9.10 a.m. UTC	Break	
9.20 a.m. UTC	Data base on extreme events (see draft Guidelines on the Definition and Monitoring of Extreme Weather and Climate Events)	Stefan Rösner, Robert Osinski, Maya Körber (DWD)
10.30 a.m. UTC	Closure	

Expected Deliverables

(1) Training materials

- Concept note of the workshop (present document)
- For each session
  - 1-pager summary in English and French, with information about the subject of discussion and about the speakers
  - 1 presentation
- For each participant
  - completed registration form with expectations (see draft invitation)
  - picture and bio
  - training assessment

(2) Complete datasets generated according to the WMO guidelines in each participating country

(3) Workshop proceedings with clear action plan for follow-up including:

- Updating of OSCAR-Surface (meteo, climate, hydro)
- Proposed RBON requirements
- Technical proposal for the of RWC

Participants

(1) NMHSs staff responsible for:

- Network operation and WIS
- Climate, weather and hydrological data management
- Weather monitoring and forecasting (including SWFP)

- Hydrological monitoring and forecasting (including FFGS)

(2) Regional centres

- AGRHYMET (candidate RCC + RTC)
- ANACIM (RSMC Severe Weather)
- ACMAD (Africa RCC + interim RCC for PRESASS, PRESAGG & PRESAC
- IHFR (RTC)
- EAMAC (RTC)
- Casablanca (GISC)

(3) Lecturers

- Lecturer from ECMWF for WDQMS & enhancements expected to NWP with enhanced data inputs
- Lecturer from Casablanca GISC for WIS and RWC
- Enric Aguilar, University of Rovira i Virgili, Tarragona, Spain
- Gé Verver, KNMI
- Stefan Rösner, DWD.

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TECHNICAL PROFILE OF PARTICIPANTS
Regional training workshop on data collection, management, exchange, quality monitoring to enhance numerical weather prediction outputs

Online, 23-24 June and 30 June-2nd July 2020

In order to maximize the benefits of this training, WMO requires participants to have:

(1) Scientific and technical background:

- Participant for data collection and exchange (preferably the National focal point for GOS / WIGOS / WIS)
  - WMO Integrated Global Observing System (WIGOS) https://public.wmo.int/en/about-us/vision-and-mission/wmo-integrated-global-observing-system
  - OSCAR/Surface official repository of WIGOS metadata for surface-based observing stations https://oscar.wmo.int/surface
- Participant for data management and quality monitoring (CMP)
  - WMO Climatological Normals http://www.wmo.int/pages/prog/wcp/wcdmp/GCDS_1.php
  - World Weather Records Procedures http://www.wmo.int/pages/prog/wcp/wcdmp/GCDS_2.php
  - Climate Data Management System Specifications https://library.wmo.int/index.php?lvl=notice_display&id=16300#.Xr3BKEQzbtR
  - National Climate Monitoring Products https://library.wmo.int/index.php?lvl=notice_display&id=20166#.Xr3BI0QzbtQ

(2) Equipment:

- Laptop with camera and microphone (handset is preferable)
- Internet access for total of 10 hours of Bluejeans (about 450 MB per hour)
- Bluejeans software: https://www.bluejeans.com/downloads

(3) Datasets:

- Minimum 2 stations; use one file per station, with metadata: WIGOS station identifier, date established, coordinates, altitude, station type, and for each sensor: brand, type, installation date
- Use one row per day (6 a.m. – 6 a.m.); dates must be sorted chronologically; data of interest include daily values for Maximum Temperature, Minimum Temperature, Mean Temperature, Precipitation, station pressure, sea level pressure; format is xx.x (example: 32.7)
- When data is missing, report -99.9 or leave cell blank
- Columns should be: year (yyyy, e.g. 1969), month (e.g., 08) day (dd, e.g. 27) and values in degree Celsius, mm and and one decimal position (e.g., 20.1, 0.0)
- Files can be either in excel format or saved as flat text.

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