WMO REGIONAL CLIMATE CENTRES: CONCEPT AND EXPERIENCES

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AIM OF TALK

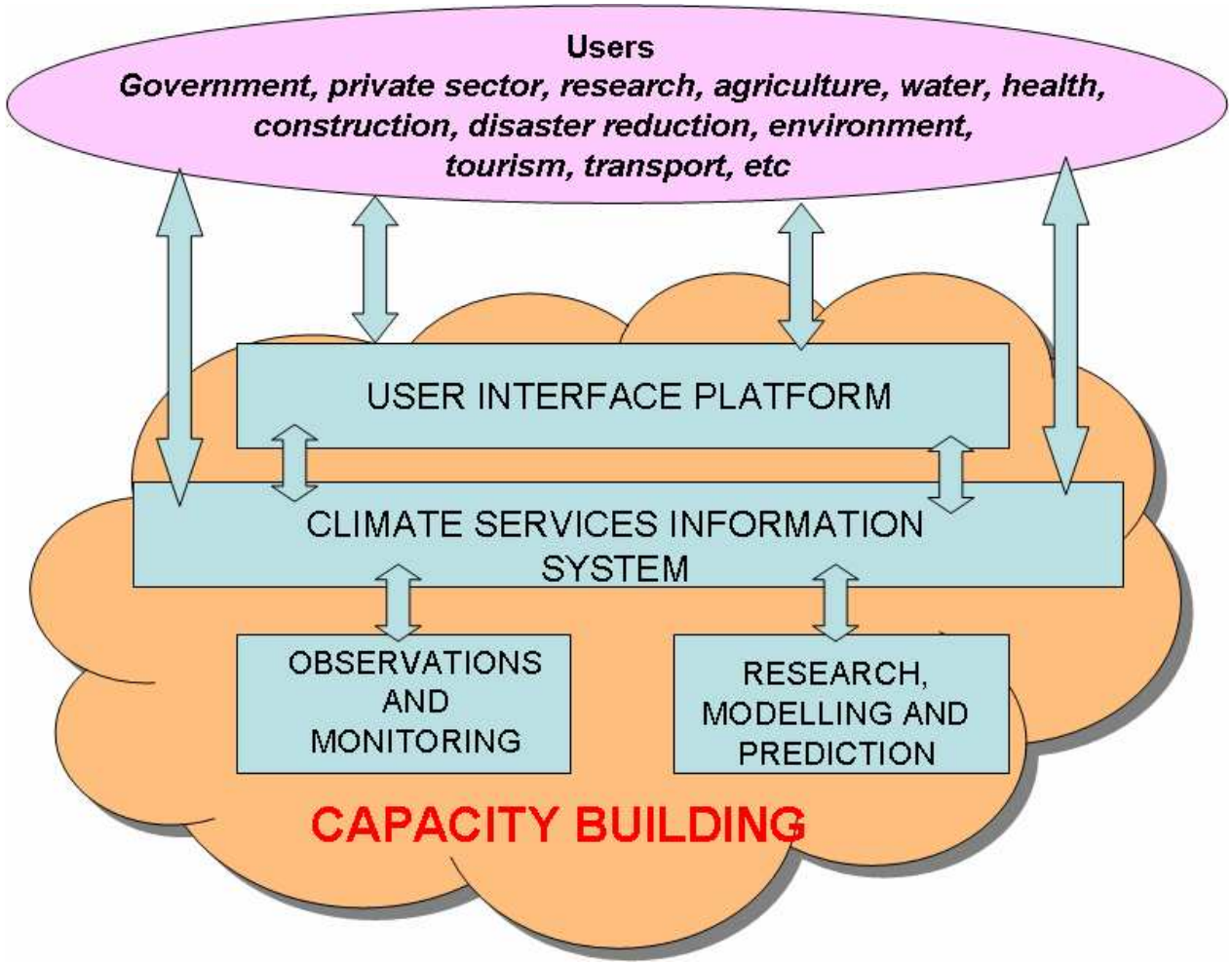
To provide relevant background information on WMO Regional Climate Centres as an element of the Global Framework for Climate Services

Key topics:

GFCS, WMO RCC concept, product examples, benefits of WMO RCCs, designation of WMO RCCs, implementation status worldwide, experiences with WMO RCCs so far

GLOBAL FRAMEWORK FOR CLIMATE SERVICES (1/1)

The HLT for GFCS considered the implementation regional GFCS elements -such as WMO Regional Climate Centres- a priority to ensure effective national access to global climate information by the largest number of countries.



WMO RCCs: CONCEPT (1/4)

WMO RCCs are Centres of Excellence that create regional climate products including long-range forecasts in support of regional and national climate activities and thereby strengthen capacity of WMO Members in a given region to deliver better climate services to national users

WMO RCCs: CONCEPT (2/4)

A WMO RCC serves primarily the NMHSs in the region

WMO RCC responsibilities shall be regional in nature and shall not duplicate or replace national responsibilities

In addition, RCOFs as well as WMO RCCs and NMHSs from neighbouring regions will be amongst the users of a WMO RCC

Regional and international organisations might be served by WMO RCCs if the Regional Association agrees

WMO RCCs: CONCEPT (3/4)

WMO-RCC

A multifunctional centre that fulfils all the required functions of an RCC for the entire region, or for a sub region to be defined by the Regional Association

WMO RCC-Network

A group of centres performing climate-related activities that collectively fulfil all the required functions of an RCC

WMO RCC-Network Node

- a centre in a designated WMO RCC-Network
- a node will perform, for the Region or sub-region defined by the Regional Association, one or several of the mandatory RCC activities

WMO RCCs: CONCEPT (4/4)

- WMO RCCs perform mandatory operational regional-scale climate functions in the domains of ***long-range forecasting***, ***climate monitoring***, ***data services*** and ***training***

- WMO RCCs are strongly encouraged to perform highly recommended functions comprising extended services in the above mentioned domains as well as functions in the domains of ***climate projections***, ***co-ordination***, ***capacity building*** and ***R&D***

Mandatory product list (examples):

Assessment of LRF products from GPCs

Regional/sub-regional seasonal outlooks

Consensus outlook statements (e.g. RCOFs)

Verification datasets

Climate diagnostic bulletins

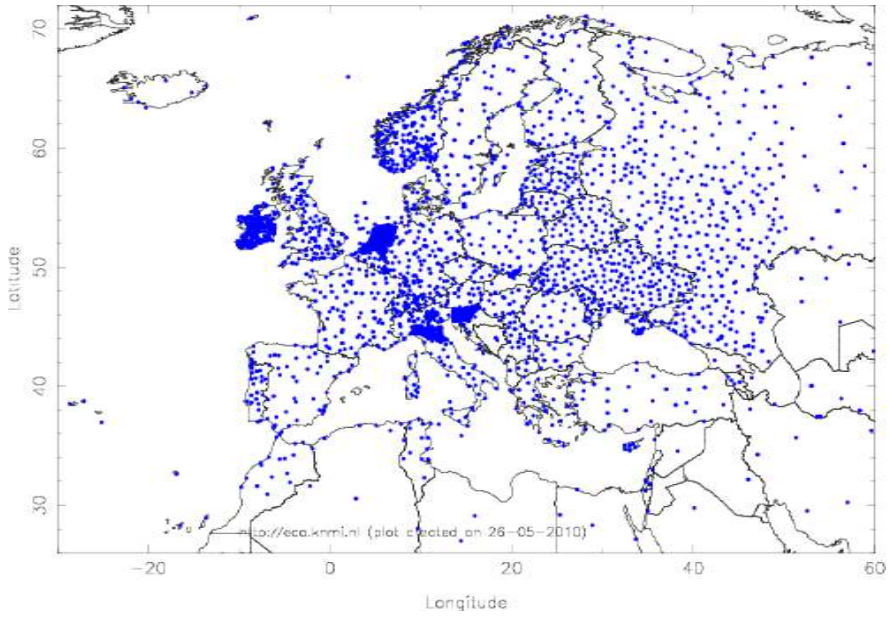
Reference climatologies

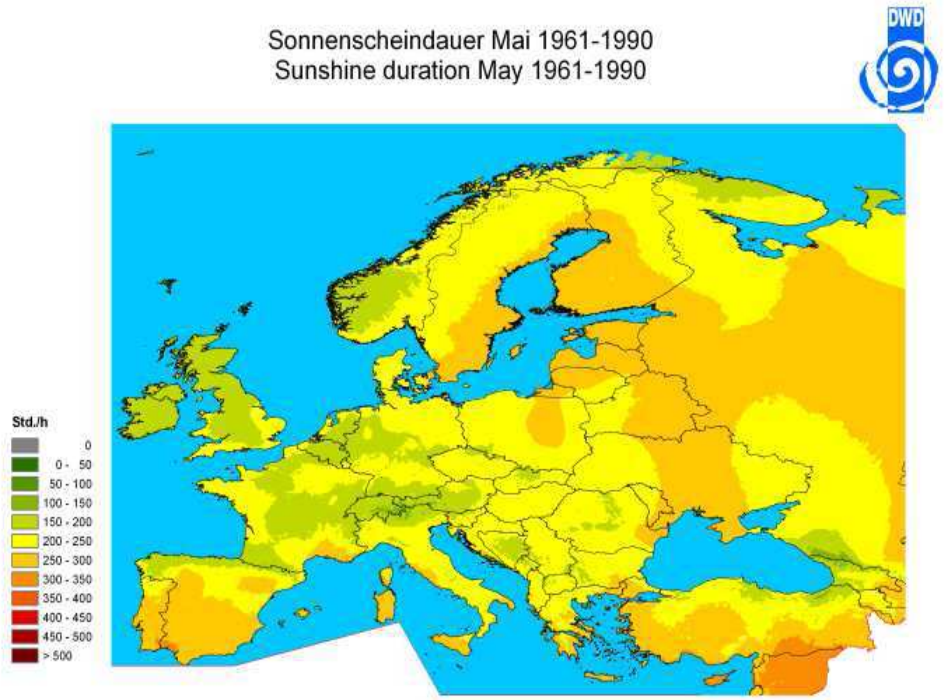
Implementation of Climate Watches

Regional climate datasets

Training, feedback mechanisms, information portals

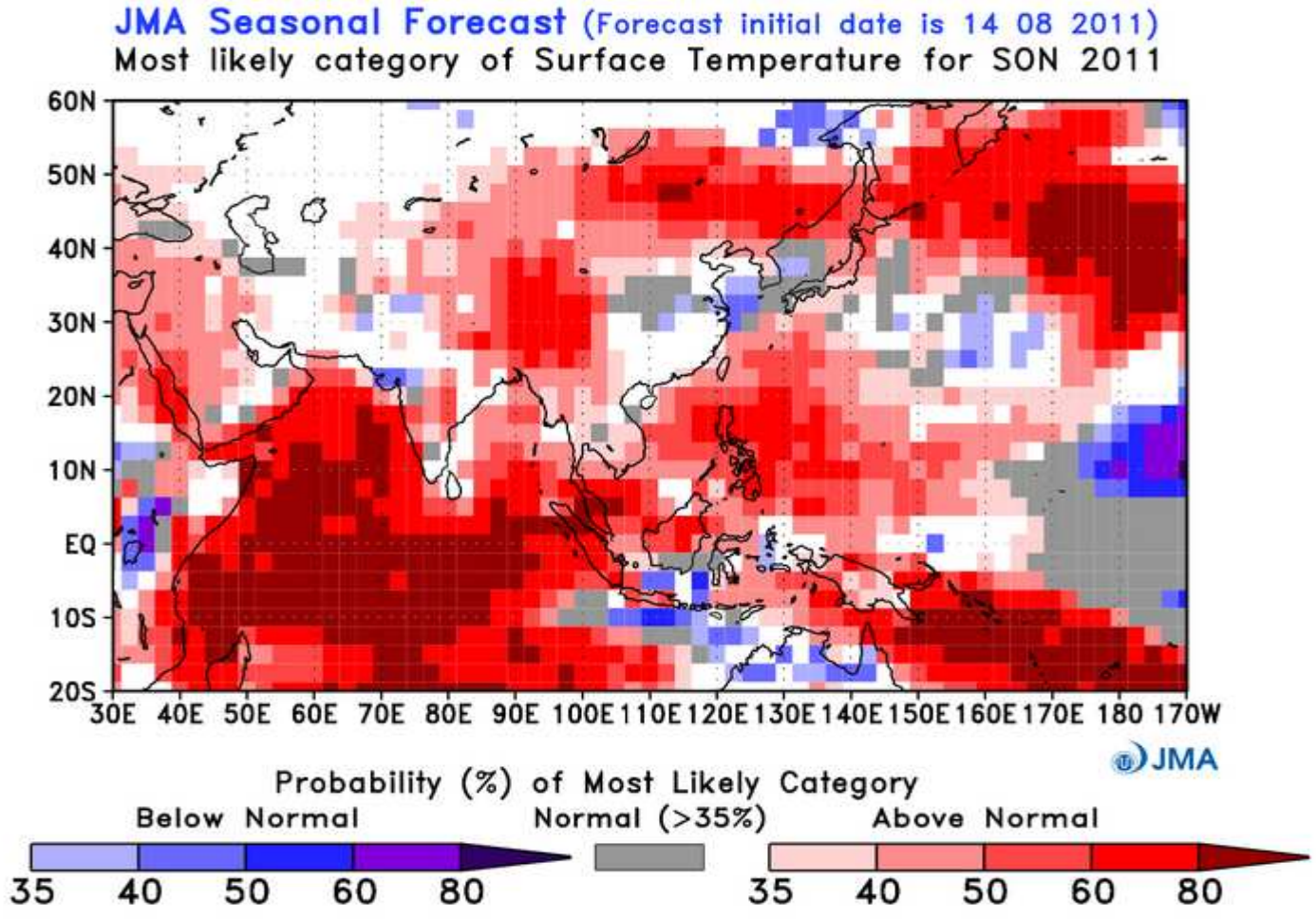
WMO RCCs: PRODUCT EXAMPLES (1/5)





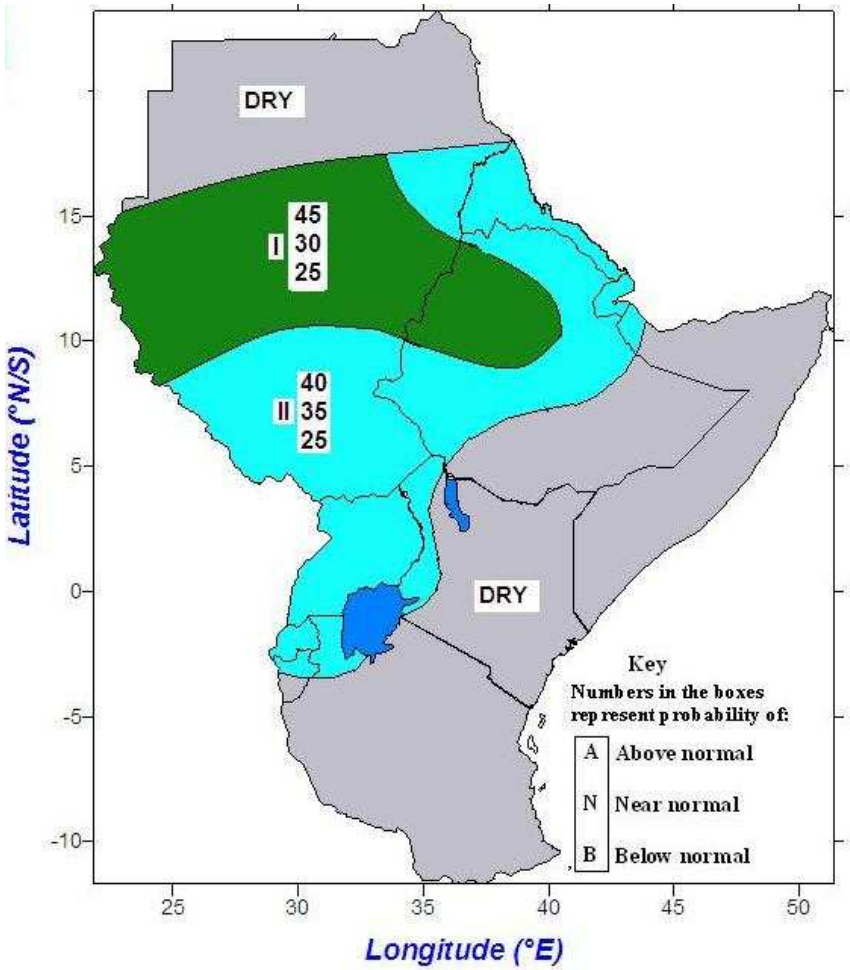
RA VI Pilot RCC-Network: Station density of regional climate dataset (left) and reference climatology (May, 1961-90) for sunshine duration (right)

WMO RCCs: PRODUCT EXAMPLES (2/5)



RCC Tokyo: Seasonal forecast product (also covering north-western parts of RA V)

WMO RCCs: PRODUCT EXAMPLES (3/5)



IGAD Pilot RCC: Greater Horn of Africa Consensus Climate Outlook for July to September 2011

July to September constitutes a major rainfall season over much of the northern sector as well as the western parts of the equatorial sector of the GHA .

Zone I: Increased likelihood of above normal rainfall over Central Sudan and western Ethiopia.

Zone II: Increased likelihood of above to near normal rainfall over Eritrea; Djibouti: Uganda; Rwanda; northern Burundi; north-western Tanzania; Western Kenya; extreme north-western Somalia; south-western, central and north-eastern Ethiopia as well as southern and parts of north-eastern Sudan.

The rest of the GHA region is likely to remain generally dry.

WMO RCCs: PRODUCT EXAMPLES (4/5)

IGAD CLIMATE PREDICTION AND APPLICATIONS CENTRE (ICPAC)

CLIMATE WATCH FOR THE PERIOD MARCH-MAY 2011 (including outlook for MAY-AUGUST 2011)
(REF: ICPAC/CW/NO.24, MAY 2011**)**

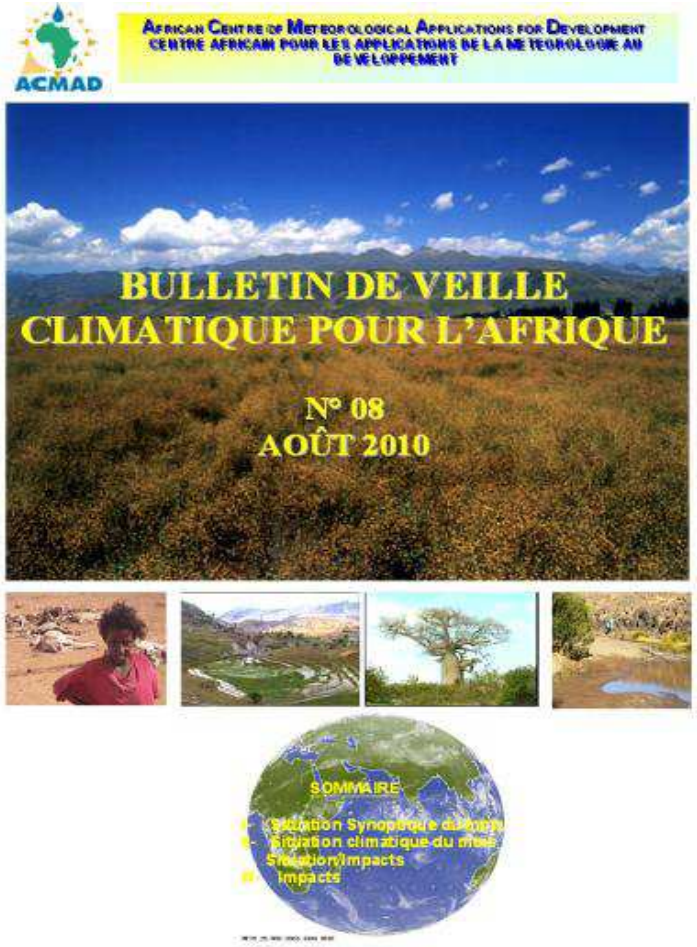
SUMMARY

This climate watch provides a review of the observed climate conditions during March to May 2011 period and the associated impacts over the Greater Horn of Africa. It further gives the climate outlook for the month of June 2011. Severe drought has persisted over most parts of the eastern sector of equatorial GHA since the last quarter of 2010 with far reaching socio-economic implications that include lack of water, pasture, energy and food; famine; loss of livestock, life and property; mass migration and environmental refugees, among others. The persistence of drought over some of these areas has been associated with La Niña conditions.

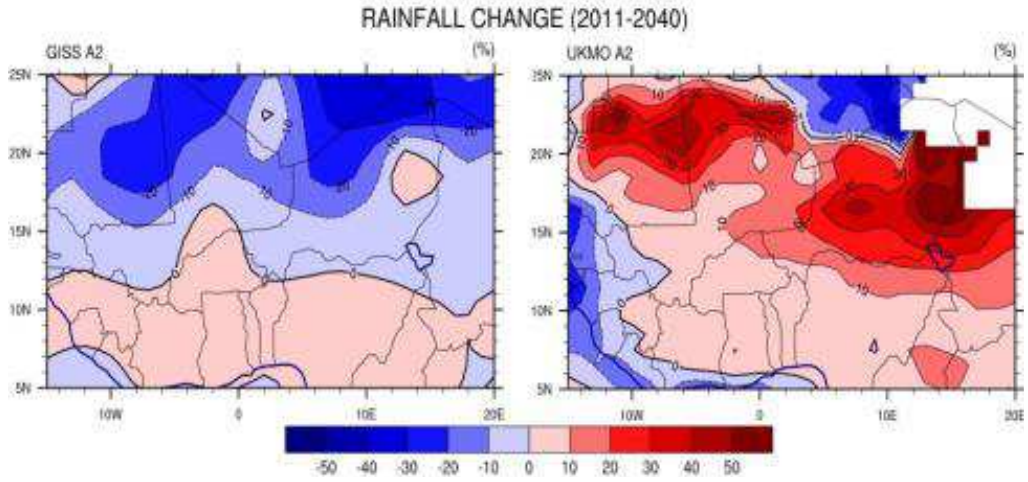
…

IGAD Pilot RCC: Climate Watch

WMO RCCs: PRODUCT EXAMPLES (5/5)



African Pilot RCC: Monthly climate bulletin (left) and climate change scenario (below)



WMO RCCs: SERVING NMHSs (1/8)

How can NMHSs benefit from WMO RCC products (mandatory products) – Long-range Forecasts:

-> Access to information on the reliability and outcomes of long-range forecasts from global centres for the region of interest

-> Access to regionally generated long-range forecasts including consensus outlooks

-> (Participation in co-ordinated Regional Climate Outlook Forums)

-> Access to verification datasets

WMO RCCs: SERVING NMHSs (2/8)

How can NMHSs benefit from WMO RCC products (mandatory products) – Climate monitoring:

-> Access to regional climate analyses of climate variability and extremes as well as monthly monitoring products

-> Access to regional reference climatologies

-> Access to guidance products for national climate watches* and participation in the implementation and running of a regional climate watch system

* ***enable delivery of national climate advisories on occurring and expected climate anomalies (with potential negative impact on society) to users as a climate service***

WMO RCCs: SERVING NMHSs (3/8)

How can NMHSs benefit from WMO RCC products (mandatory products) – Operational data services:

-> Access to quality-controlled regional climate datasets, gridded where applicable

-> Opportunity to request provision of national climate database and archiving services

WMO RCCs: SERVING NMHSs (4/8)

How can NMHSs benefit from WMO RCC products (mandatory products) – Training and use of RCC products:

-> Participation in training in interpreting and using RCC products

-> Access to methodology information, product specifications and guidance on RCC product use

WMO RCCs: SERVING NMHSs (5/8)

How can NMHSs benefit from WMO RCC products (mandatory products) – General:

-> Online access to RCC products and services

-> Opportunity to (i) **directly use RCC products at national level** and/or (ii) **to convert RCC products into tailored national climate services**

-> Access to knowledge and expertise

-> Opportunities for user feedback and access to user feedback analyses

WMO RCCs: SERVING NMHSs (6/8)

How can NMHSs benefit from WMO RCC products – highly-recommended functions (examples):

-> Access to downscaled climate change scenarios

-> Access to information on the use of climate change scenarios in climate adaptation strategies

-> Assistance in data rescue, WIS issues, quality control and homogenisation of data sets etc.

-> Assistance in user liaison

-> Participation in the development of a R&D agenda

WMO RCCs: SERVING NMHSs (7/8)

WMO RCC services – What is required from NMHSs:

-> Active collaboration

-> Provision of data equivalent to RCC product quality requested

-> Sharing of knowledge and expertise

-> Provision of feedback

WMO RCCs: SERVING NMHSs (8/8)

Why to implement WMO RCCs services - two main reasons:

-> WMO RCCs are **operational** entities ensuring **sustainability** of service provision at regional level as part of WMO's worldwide infrastructure

-> WMO RCC designation and operation follow **WMO standards** enabling (i) an **easy exchange of information** amongst WMO RCCs worldwide as well as (ii) standardised interfaces to **efficiently interact with global and national level entities**, such as WMO GPCs or NMHSs

WMO RCCs: DESIGNATION PROCEDURE (1/2)

The GDPFS is organised as a three-level system of
World Meteorological Centres (WMCs),
Regional Specialised Meteorological Centres (RSMCs) and
National Meteorological Centres (NMCs)
which carry out GDPFS functions at global, regional and national levels, respectively.

WMO Regional Climate Centres are RSMCs by definition and, therefore, part of the GDPFS and, hence, shall follow respective *standard* practices and procedures

WMO RCCs: DESIGNATION PROCEDURE (2/2)

How to establish and run a WMO Regional Climate Centre [principle overview; for details see WCASP-80 (WMO/TD-1534)]

Identification of target region	… usually done by WMO Regional Association
Requirements survey	… usually done by regional WMO Working Group
Expression of intent	… by candidate; usually done in regional agreement
Demonstration phase	… pre-operational production of all mandatory products and services as well as of as many highly-recommended functions as possible
Formal designation	… through defined WMO process
Operations	… including performance assessments, requirement reviews and further product and service development.

WMO RCCs: IMPLEMENTATION STATUS (1/3)

RA I Africa initiated RCC implementation by identifying six RCCs (North African RCC-Network, ECOWAS RCC, IGAD RCC, CEMAC RCC, SADC RCC, African RCC); Demonstration phase formally initiated by ICPAC and ACMAD in Spring 2011

RA II Beijing and Tokyo designated as WMO RCCs in June 2009; North Eurasian Climate Centre (Russia) commenced RCC pilot phase in December 2010; India preparing for the pilot phase; Iran and Saudi Arabia expressed interest to host RCCs

RA III South America decided to establish 3 RCCs (CIIFEN to host Western SA RCC, Brazil+French Guayana to host Northern SA RCC, Argentina+Brazil to host Southern SA RCC);

RA III WGCS is developing the implementation plan

WMO RCCs: IMPLEMENTATION STATUS (2/3)

RA IV Discussions underway; CIMH expressed interest

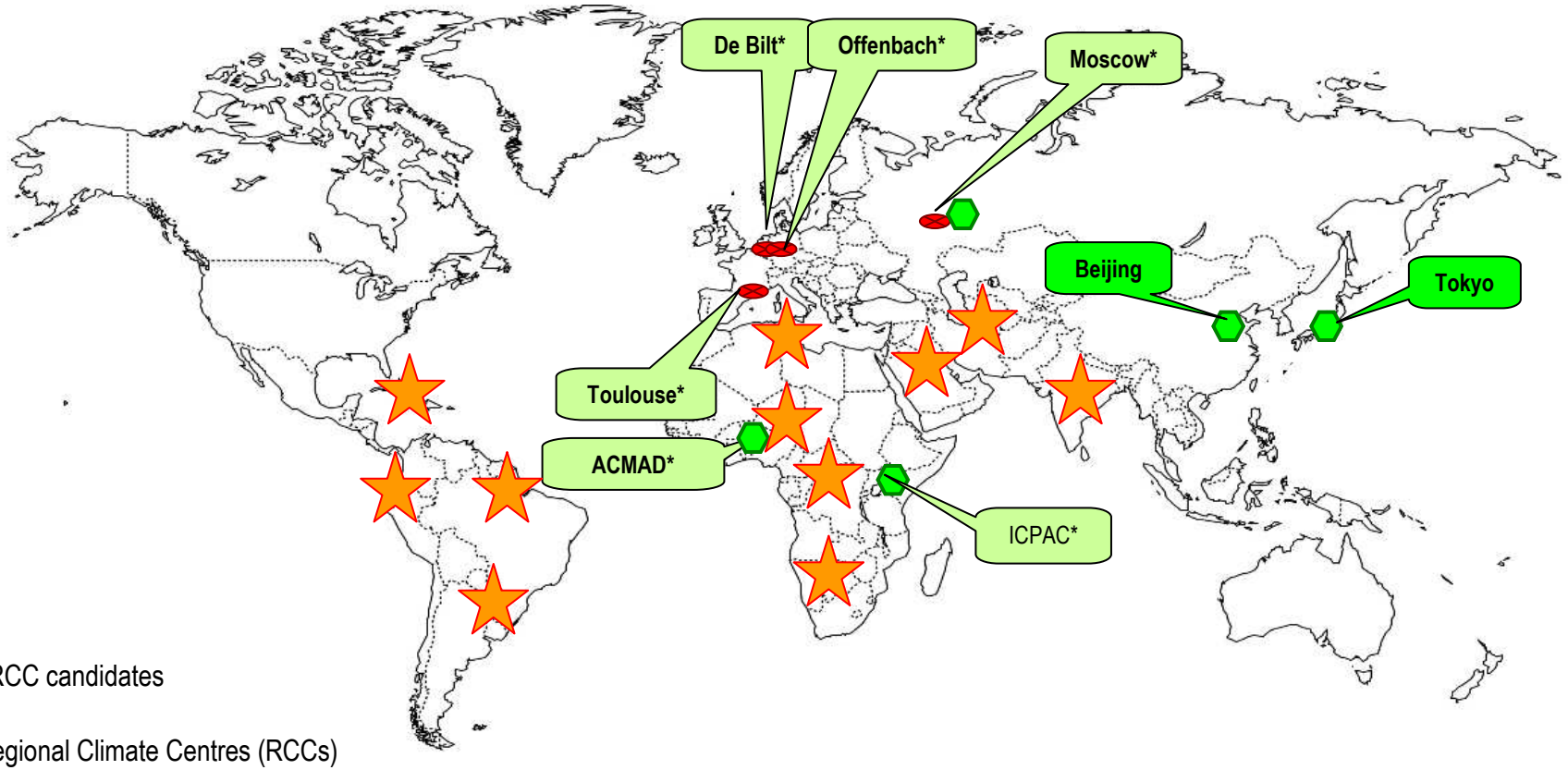
RA V Discussions underway (RA V WG-CLS likely to discuss on 4th Nov 2011)

RA VI Pilot phase of RA VI RCC-Network successfully concluded in summer 2011, Network ready for designation.

Polar RCCs under consideration

Overview of WMO RCCs implementation worldwide

(as of August 2011)



RCC candidates

Regional Climate Centres (RCCs)
(* Pilot phase)

RCC Network Nodes (Pilot)

WMO RCCs: EXPERIENCES (1/3)

Existing WMO RCC arrangements

RA VI RCC-Network (pilot)	*RCC-Network being implemented as a **collaborative effort of WMO Members (NMHSs)***
RCC Beijing, RCC Tokyo; RCC Moscow at NEACC (pilot)	*RCCs (being) implemented by a **WMO Member** (and hosted by the NMHS)*
African RCC at ACMAD (pilot)	*RCC being implemented at an **international institution***
IGAD RCC at ICPAC (pilot)	*RCC being implemented at an **institution of a regional organisation***

WMO RCCs: EXPERIENCES (2/3)

RA VI RCC-Network approach: Using the Members‘ knowledge to improve climate services

RA VI RCC Pilot Network

Co-ordinator: Germany

RA VI RCC Node on Climate Data:
France, Hungary, Norway, Serbia, Sweden, Turkey;
Lead: The Netherlands

RA VI RCC Node on Climate Monitoring:
Armenia, France, The Netherlands, Serbia, Turkey;
Lead: Germany

RA VI RCC Node on Long-range Forecasting:
Norway, Serbia, Turkey;
Lead: France, Russian Federation

WMO RCCs: EXPERIENCES (3/3)

ISSUES:

Co-ordination of a Network, but co-ordination is also required amongst multifunctional WMO RCC within the same Region

WMO RCC portals need to be developed to easily identify and access RCC products and services

Encourage WMO RCCs to provide as many highly-recommended functions as possible

Encourage a lively communication between WMO RCCs and NMHSs

WMO RCCs in RA V (1/1)

-> Cf. Resolution 2 (XV-RA V) 'Establishment of Regional Climate Centres'

Implementation to be initiated by the Region

WMO is ready to act as partner of relevant initiatives and offers assistance in co-ordination and resource mobilisation activities


Thank you
Merci
Спасибо
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