



The role of RCCs in increasing the efficient use of climate forecast information

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What are Regional Climate Centres (RCCs)?

- RCCs are centres of excellence in support of member countries
 - In assisting **National** Meteorological and Hydrological Services (NMHSs)
 - In fulfilling their **national** duties with regard to climate-related issues
 - And to deliver better climate services and products including **regional long-range forecasts**,
 - To strengthen their capacity to meet **national** climate information needs
 - Shall not duplicate or replace existing activities
- Based on agreed functions laid down in an **implementation plan**
- Functions operated/ contributed by **National** Meteorological and Hydrological Services (NMHSs) on a voluntary basis – non-NMS candidate for RCC designation must be nominated by the Permanent Representative of the concerned Member country

What are RCCs? (2)

- Mandated by WMO (i.e. by governments)
- Regional element of the Climate Service Information System (CSIS) component of the Global Framework for Climate Services (GFCS)
- Users:
 - NMHSs,
 - RCOFs and
 - other RCCs
- End users are customers of the NHMSs
- Guidance for RCC development and designation
 - WMO Commission for Climatology (CCI) OPCE III Expert Team on RCC
 - With WMO Commission for Basic Systems (CBS)

The RA VI RCC Network consortium



1. **Coordinator**: Deutscher Wetterdienst, Germany

	--	<u>CM</u>	--
2.ARMSTAT, Armenia	--	CM	--
3.Météo France, France	CD	CM	<u>LRF</u>
4.OMSZ, Hungary	CD	--	--
5.KNMI, Netherlands	<u>CD</u>	CM	--
6.met:no, Norway	CD	--	--
7.ROSHYDROMET, Russian Fed.	--	--	<u>LRF</u>
8.RHMS, Serbia	CD	CM	LRF
9.SMHI, Sweden	CD	--	--
10.TSMS, Turkey	CD	CM	LRF

Functions of a Regional Climate Centre

- Reference: How to establish and run a WMO Regional Climate Centre (RCC). WCASP - No. 80 / WMO/TD - No. 1534 (2011)
- Mandatory and highly recommended functions
- Mandatory functions include
 - Operational activities for long-range forecasting
 - Operational activities for climate monitoring including climate watch
 - Operational data services, to support operational LRF and climate monitoring
 - Training in the use of operational RCC products and services
- Climate forecasting is presently not included → limited to LRF time scale

Operational activities for long-range forecasting

- Interpret and assess relevant LRF products from Global Producing Centres (GPCs), distribute relevant information to RCC users, and provide feedback to GPCs
- Generate regional and sub-regional tailored products, relevant to RCC user needs, incl. seasonal outlooks etc.
- Generate consensus statement on regional or sub-regional forecasts
- Perform verification of RCC quantitative LRF products, including the exchange of basic forecast and hindcast data
- Provide on-line access to RCC products/ services to RCC users
- Assess use of RCC products and services through **feedback** from RCC users

Operational activities for long-range forecasting (2)

- **Interpret and assess relevant LRF products from Global Producing Centres (GPCs),**
 - RA VI RCC Network: Yes:
 - E.g. via the “GLOBAL CLIMATE BULLETIN” of RCC-LRF @ MF (latest version to come: n°173 - NOVEMBER 2013)
 - And by “Seasonal outlook” offered by RCC-LRF @ NEACC
 - To do: include more regional products
- **distribute relevant information to RCC users,**
 - RA VI RCC Network: Yes, via Internet and WIS/ GISC
- **and provide feedback to GPCs**
 - RA VI RCC Network Toulouse and Moscow node on LRF are both GPCs
 - Depending on **feedback** from end users. i.e. NMHSs, RCOFs, ...

Operational activities for long-range forecasting (3)

- **Generate regional and sub-regional tailored products, relevant to RCC user needs, incl. seasonal outlooks etc.**
 - RA VI RCC Network: Yes, i.e.
 - Regional forecast products based on GPC data for National Meteorological Services of the region;
 - Graphs and maps of the performance of GPCs' models;
 - Monthly and quarterly bulletins analyzing and interpreting GPC products as well as;
 - Regional and sub-regional seasonal outlooks;
 - Forecast consistency statements;
 - Verification datasets.

Operational activities for long-range forecasting (4)

- **Generate consensus statement on regional or sub-regional forecasts**
 - For RA VI still to be developed,
 - Some overlap with RCOF functions
- **Perform verification of RCC quantitative LRF products, including the exchange of basic forecast and hindcast data**
 - For RA VI: fulfilled
- **Provide on-line access to RCC products/ services to RCC users**
 - For RA VI via www.rccra6.org on the Internet
- **Assess use of RCC products and services through feedback from RCC users**
 - For RA VI: only possible if **feedback** is provided

How to find the information?

www.rccra6.org

RCC

- ▶ Overview
- ▶ Documents
- ▶ Meetings
- ▶ Contact
- ▶ RCC-CD
- ▶ RCC-CM
- ▶ **RCC-LRF**
- ▶ Partner

Overview



World Meteorological Organization

Working together in weather, climate and water

WMO RA VI Regional Climate Centres Network (WMO RA VI RCC Network)

Climate relevant processes have strong inter-scale linkages going beyond borders of individual countries. In order to meet WMO Members' needs, a worldwide 3-level-infrastructure has been defined by WMO for Long-range Forecasts (GPCs), Regional Climate Centres (RCCs) and National Meteorological Services (NMHSs).

WMO Regional Association VI, spanning from arctic climate conditions in its Northern parts to desert and South-Eastern member countries, includes many different ecosystems and countries in different regions. Global-scale climate information provided by GPCs has to be transformed to higher spatial resolution to meet the many different needs at national levels. Thus the RCC Network in WMO RA VI will work to bridge global and national levels.

RCCs are Centres of Excellence that assist WMO Members in a given region to deliver better climate services.

How to find the information? (2)

RCC [Close]

- ▶ Overview
- ▶ Documents
- ▶ Meetings
- ▶ Contact
- ▶ RCC-CD
- ▶ RCC-CM
- ▶ **RCC-LRF**
- ▶ Partner

The Regional Climate Centre Node on Long-range Forecast (RCC-LRF)

The RCC Node on Long-range Forecasting (RCC-LRF) provides operational services related to seasonal to inter-annual forecasts by interpretation of products from Global Producing Centres, generating relevant regional and sub-regional products, and consensus statements on regional and sub-regional forecasts.

Service overview:

- Graphs and maps of GPC (Global Producing Centres) model performances
- Monthly and quarterly bulletins analyzing and interpreting GPC products as well as
- Regional seasonal outlooks for the Region, Southeast Europe, Eastern Mediterranean and Northwest Europe
- Forecast consistency statements
- Verification datasets
- Annual reports of user feedback

The following national meteorological and hydrological services contribute to the RCC-LRF consortium:

- Météo France, France, (Co-Lead),
- North EurAsia Climate Centre (NEACC) of the ROSHYDROMET Russian Federation (Co-lead)
- Norwegian Meteorological Institute (Met.No), Norway,
- Republic Hydrometeorological Service of Serbia (RHMS)
- Turkish State Meteorological Service (TSMS), Turkey

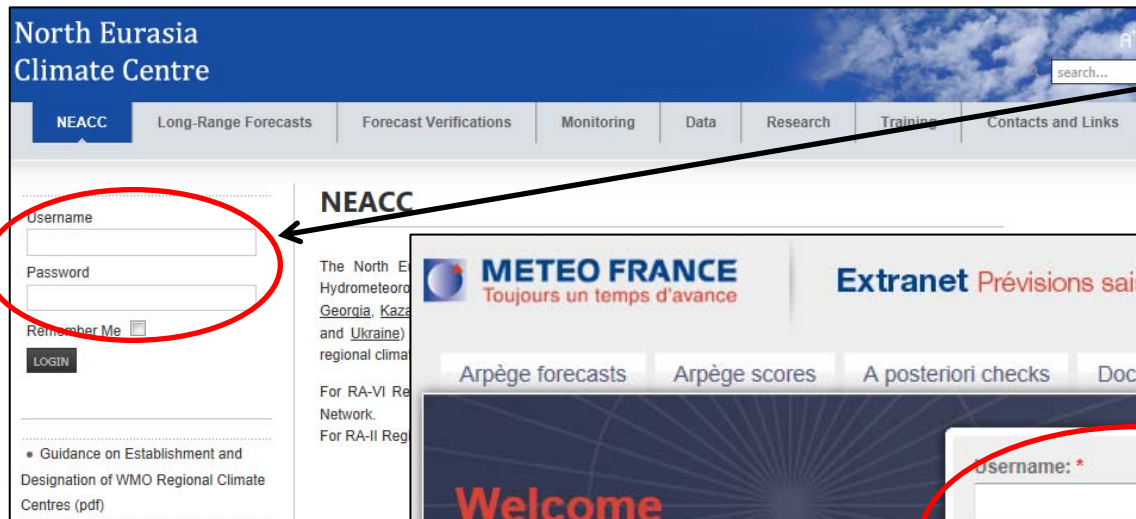
Links:

- [RCC-LRF at NEACC / product catalogue](#)
- [RCC-LRF at Météo France / product catalogue](#)

2 options
RCC-LRF @ NEACC
RCC-LRF @ Météo France

2 product catalogues
for an overview

How to find the information? (3)



North Eurasia Climate Centre

NEACC

Long-Range Forecasts | Forecast Verifications | Monitoring | Data | Research | Training | Contacts and Links

Username

Password

Remember Me

LOGIN

The North E...
Hydrometeor...
Georgia, Kaz...
and Ukraine...
regional clima...

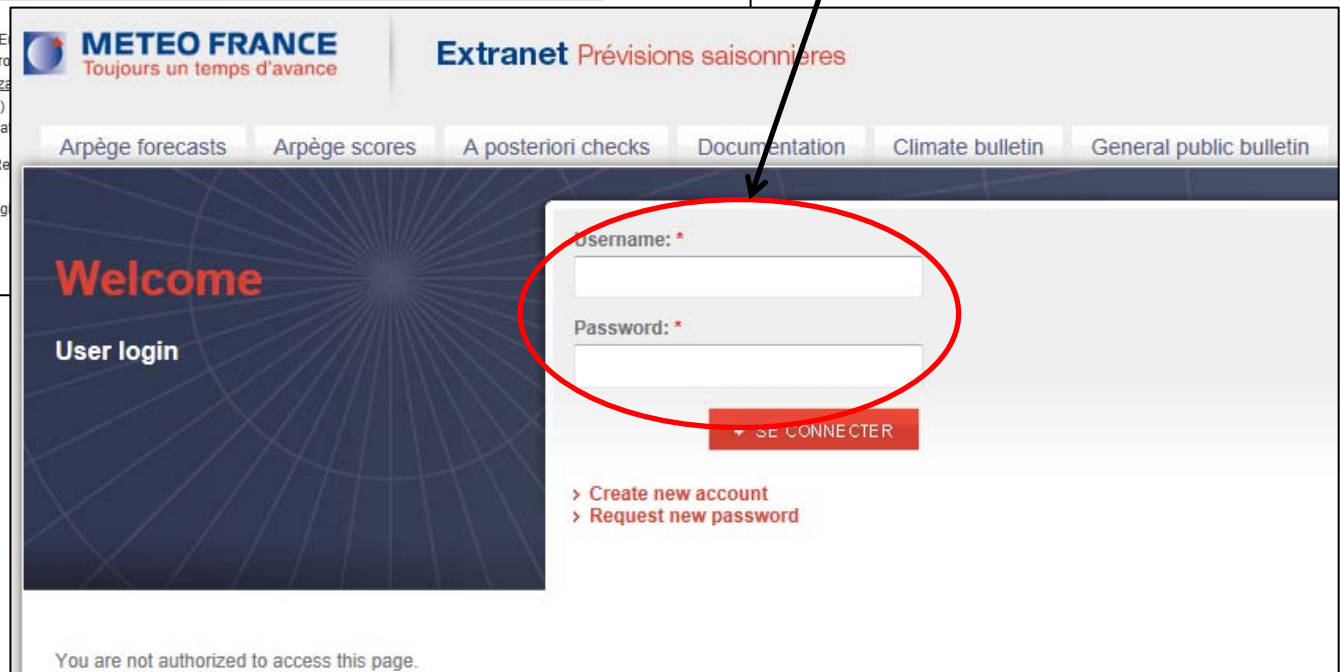
For RA-VI Re...
Network.

For RA-II Reg...

Guidance on Establishment and Designation of WMO Regional Climate Centres (pdf)

User & password needed

Can be obtained from
RCC-LRF nodes via NMHS



METEO FRANCE
Toujours un temps d'avance

Extranet Prévisions saisonnières

Arpège forecasts | Arpège scores | A posteriori checks | Documentation | Climate bulletin | General public bulletin

Welcome

User login

Username: *

Password: *

SE CONNECTER

> Create new account
> Request new password

You are not authorized to access this page.


Outlook

- **Communication including feedback**
 - Among RA VI RCC consortium members – improvement needed
 - Monthly video conferences?
 - Exchange of views between RA VI RCC nodes and users (i.e. NMHSs)
 - Informal via email, telephone, during meetings, including RCOFs
 - Formal at regional meetings
- Reviewing the RA VI RCC Network **Implementation Plan** (as of 2009)
 - Review and update existing requirements → closely related to development of GFCS at national levels
 - Process to be established
 - Informal consultations with users
 - Eventually formal agreed by RA VI session
- **Activities within RCC Network based on voluntary contributions – no funding!**

Summary

- RCCs are serving you, the members!
- RCCs need to be informed about your needs!

We need feedback from you!



Thank you for your attention !

Contact: rcc.cm@dwd.de