



World Meteorological Organization
Working together in weather, climate and water

Global Framework for Climate Services

5 June 2010



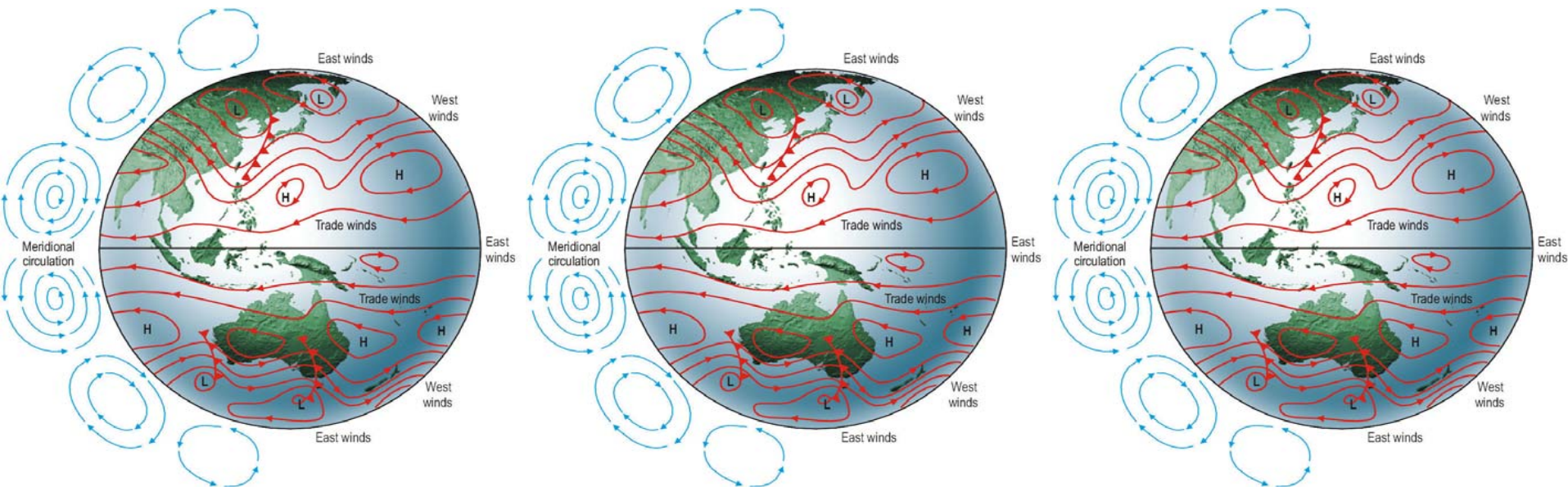
Outline

- **Update on Position Paper**
- **Role of NMSs in the GFCS**
- **Role of various WMO Programmes in GFCS**



GFCS Goal

Enable better management of the risks of climate variability and change at all levels, through development and incorporation of science-based climate information and prediction into planning, policy and practice.”



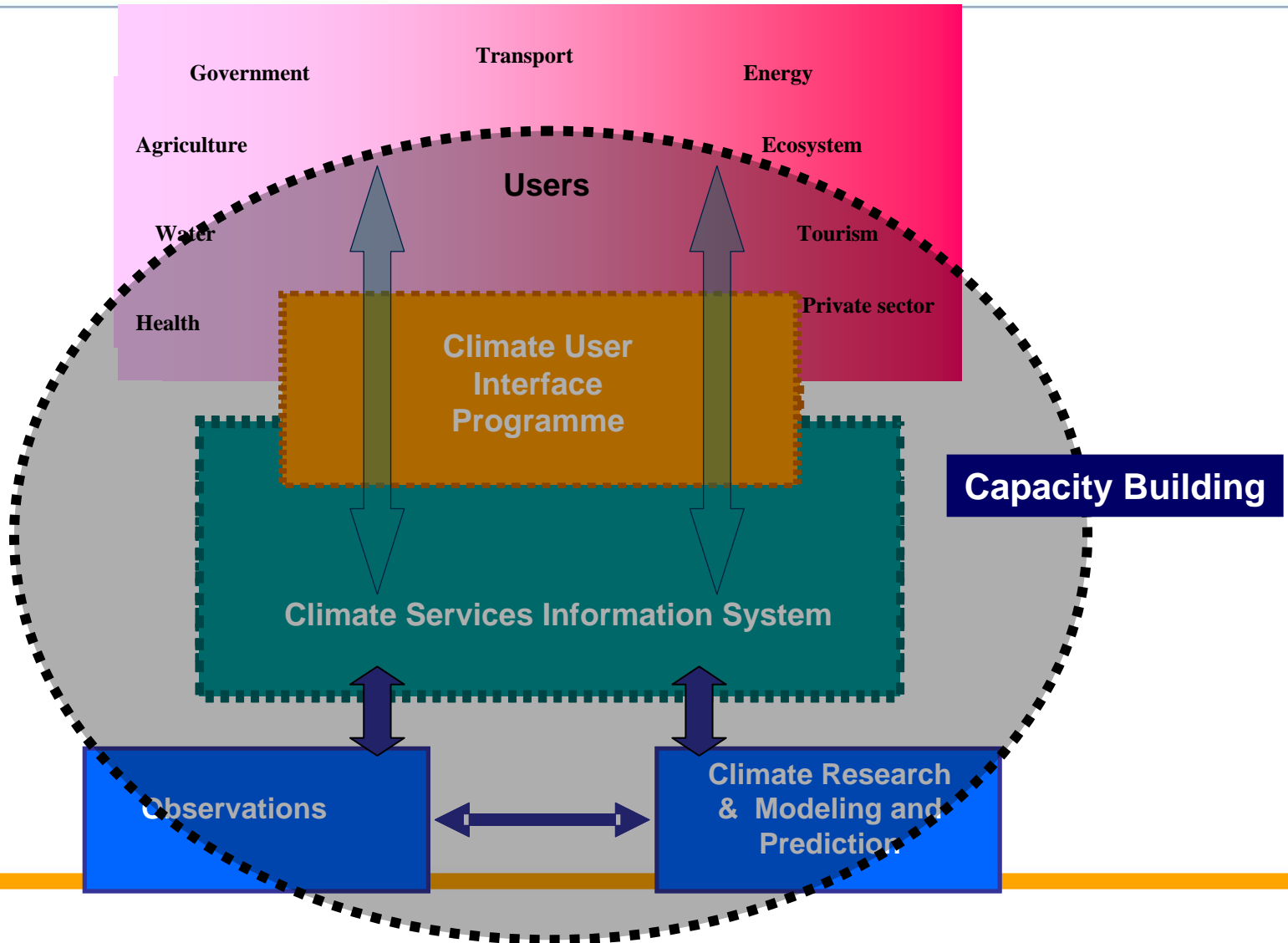


GFCS: Objectives

- **Provide a cooperative framework** in which all nations, International organizations, scientists and sectors will work together to operationally provide climate information to meet the needs of users;
 - **Enable users to benefit** from improved user driven climate information and prediction;
 - **Mobilize climate science globally** to advance the skills of seasonal-to-interannual and multi-decadal climate predictions to generate and provide future climate information on an operational basis;
 - **Cooperative global infrastructure** to foster sharing new advances in science and information.
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Components of Global Framework for Climate Services

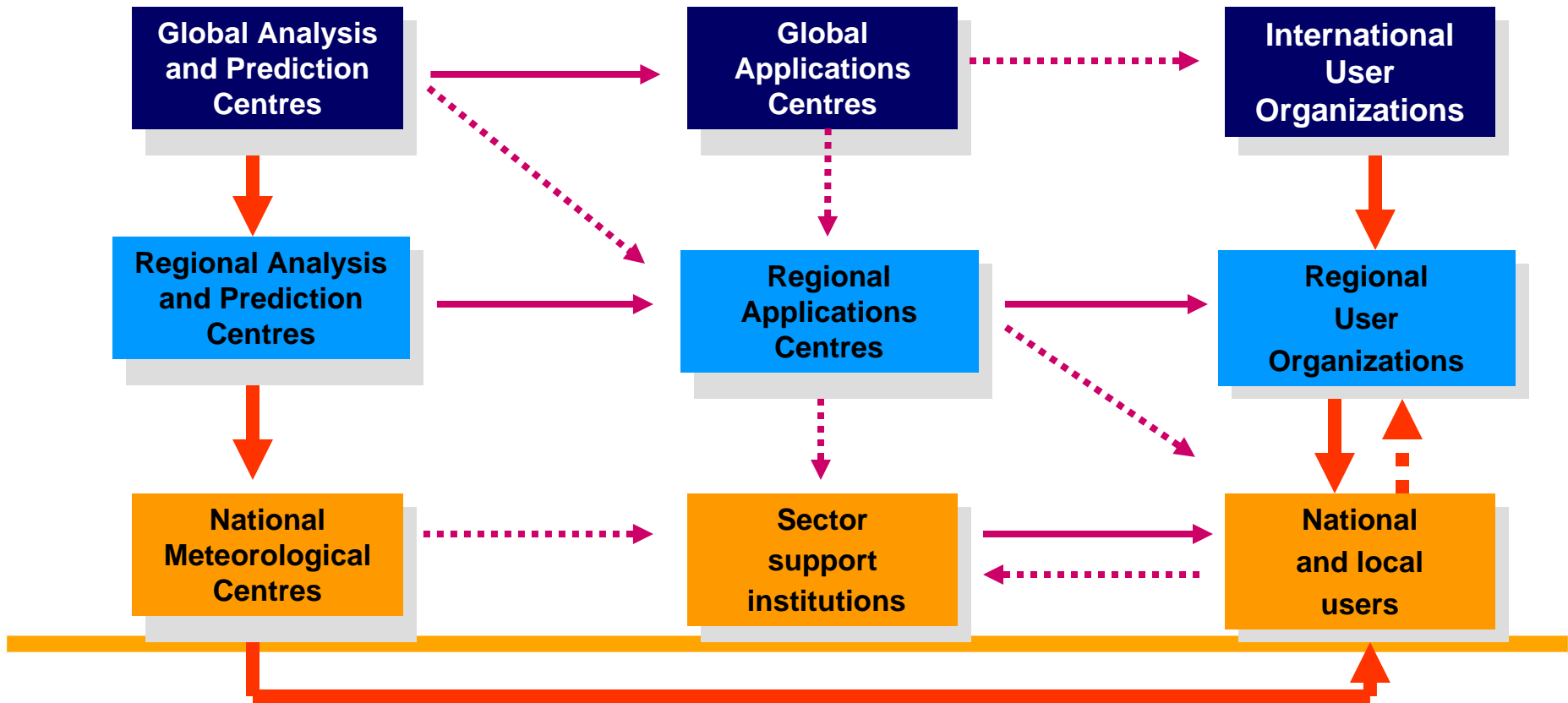




Information flow from producers to end-users

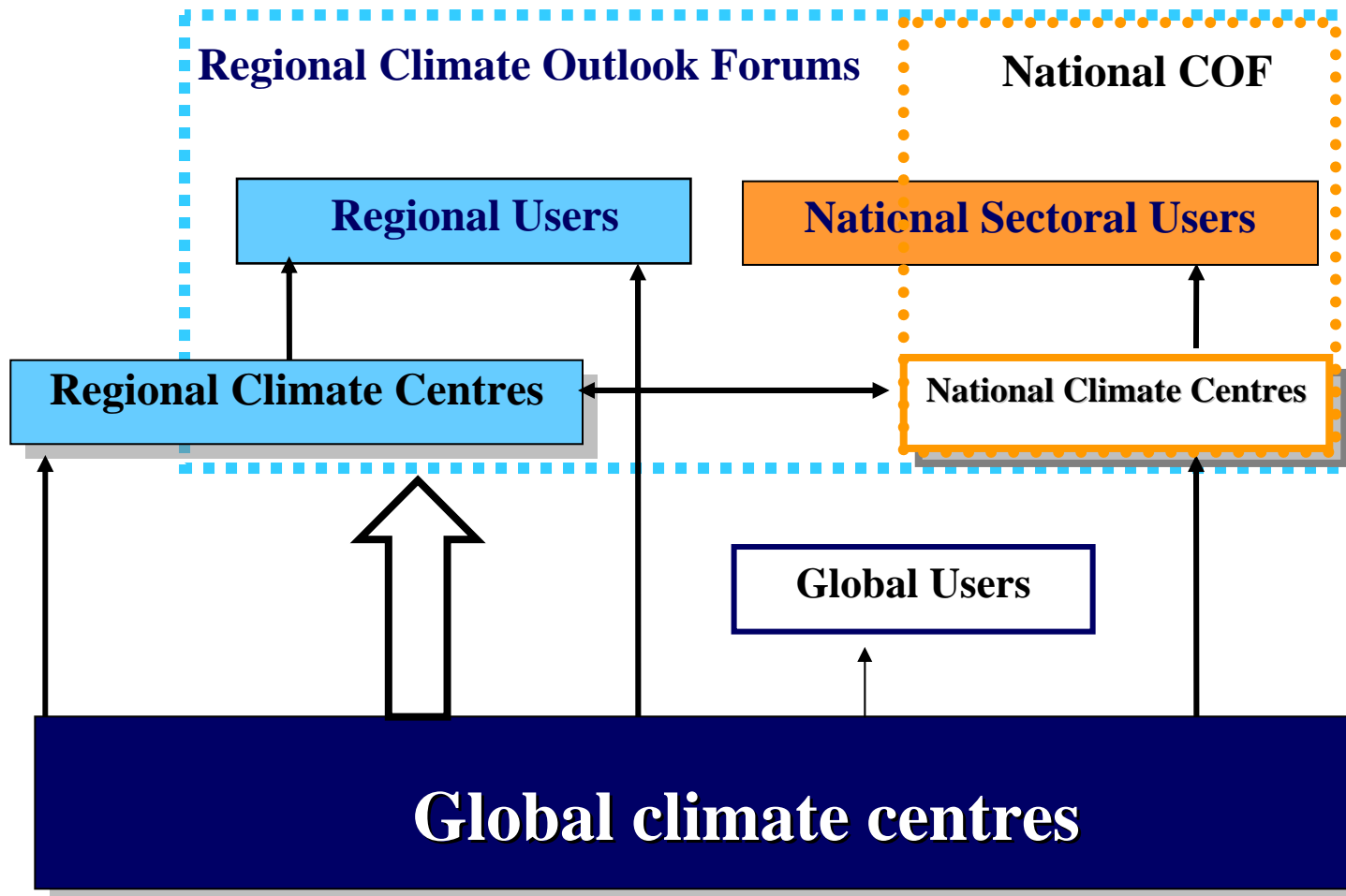
Scientific and technical
analysis and prediction

Social and
economic actions





Climate services information system





Global Producing Centres



LC-SVSLRF: Lead Centre for Standardized Verification System for Long Range Forecasts
LC-LRFMME: Lead Centre for Long Range Forecast Multi-Model Ensemble



WMO Regional Climate Centres

- **RCC Mandatory Functions**
 - **Operational activities related to LRF**
 - **Operational activities for climate monitoring**
 - **Operational data services to support operational LRF and Climate Monitoring**
 - **Training in the use of operational RCC products and services**

More details are provided in the Manual on DPFS



WMO Regional Climate Centres

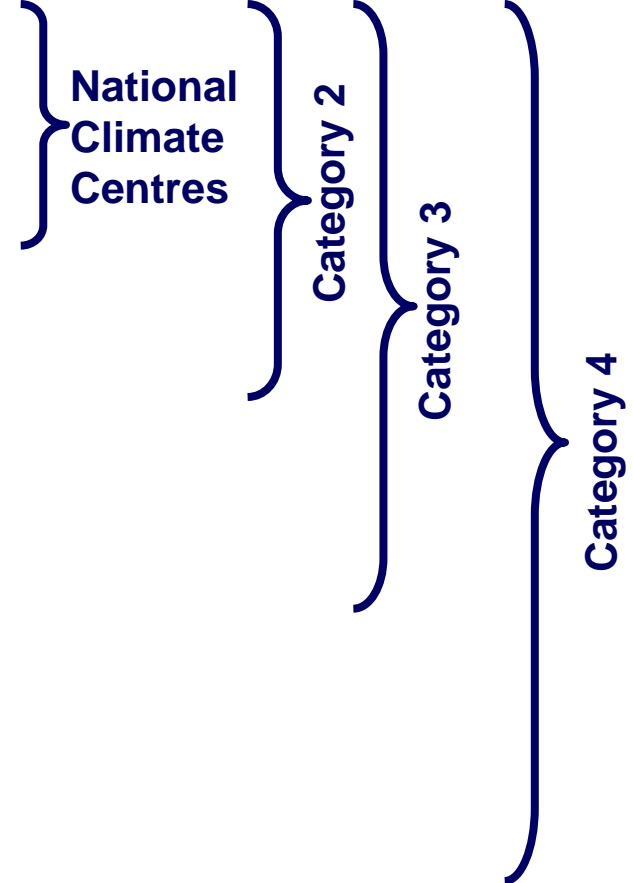
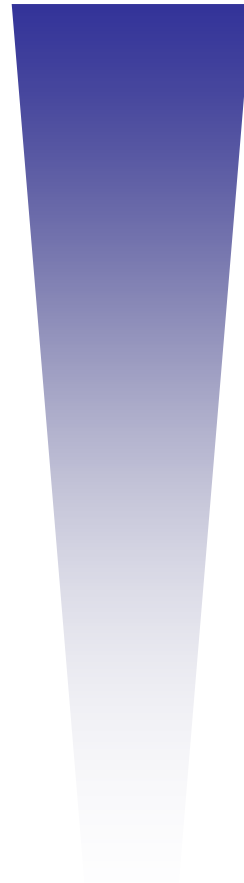
- **How to Implement an RCC**
 - **Survey on the regional needs and capacity to deliver leading to a statement of requirement of RA**
 - **Implementation plan for WMO RCC in the Region**
 - **Pilot phase (1-4 years) in order to implement, demonstrate and consolidate the RCC products and services**
 - **Initiation of official designation process**
 - **Designation process overseen by CCI and CBS**
 - **Official designation approved by EC/Congress**

More details are provided in the Manual on DPFS



...engagement of NMSs in climate risk management

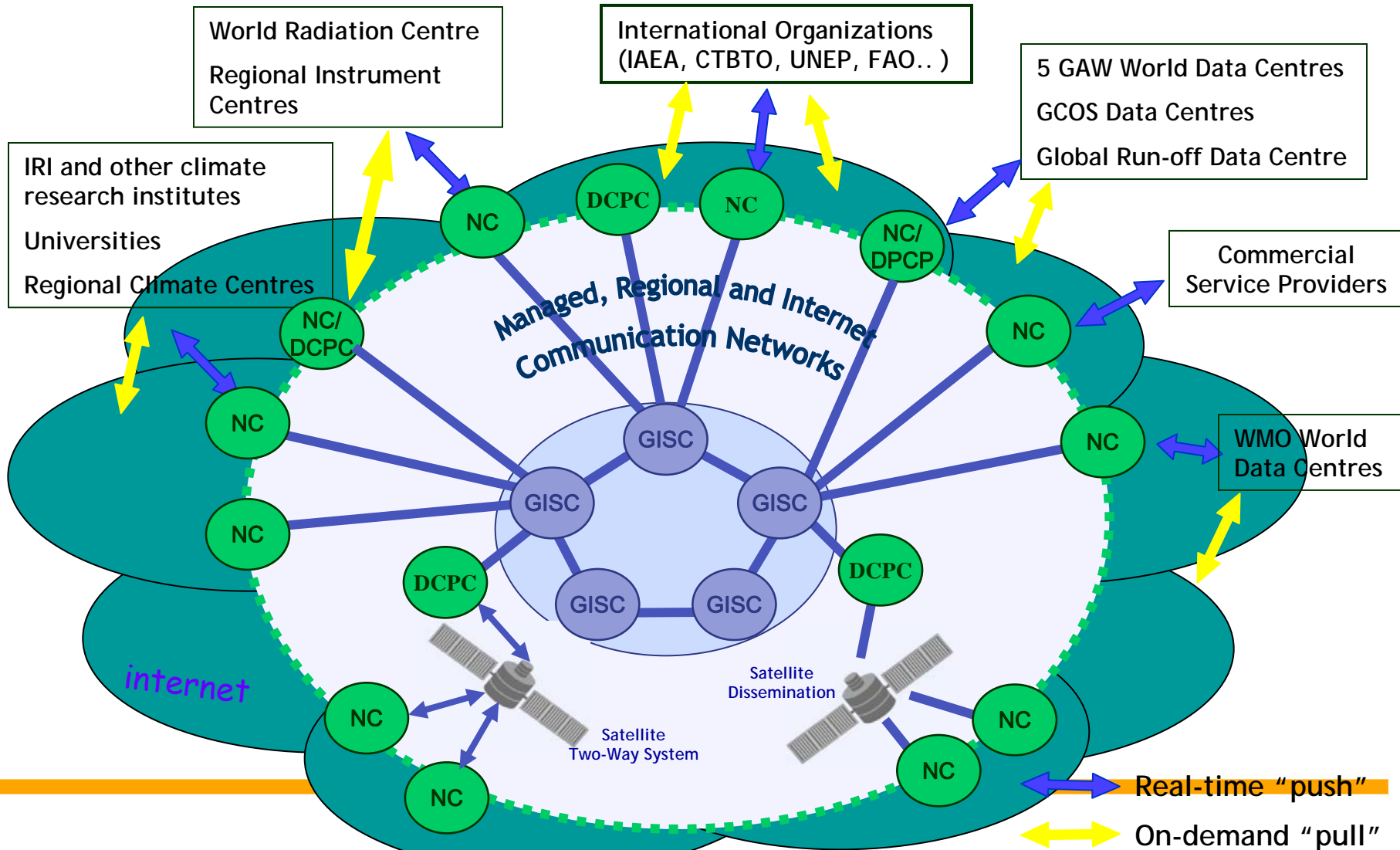
Climate Observations
Climate Data Management
Climate Monitoring
Seasonal Climate Outlooks
Interaction with users
Specialised climate products
Decadal Climate Prediction
Long-term Climate Projections
Customized climate products
Climate Application Tools



WIS

Information exchange – common procedures; real-time and non-real time

Information management – a few standard data formats; coordinated metadata and catalogues

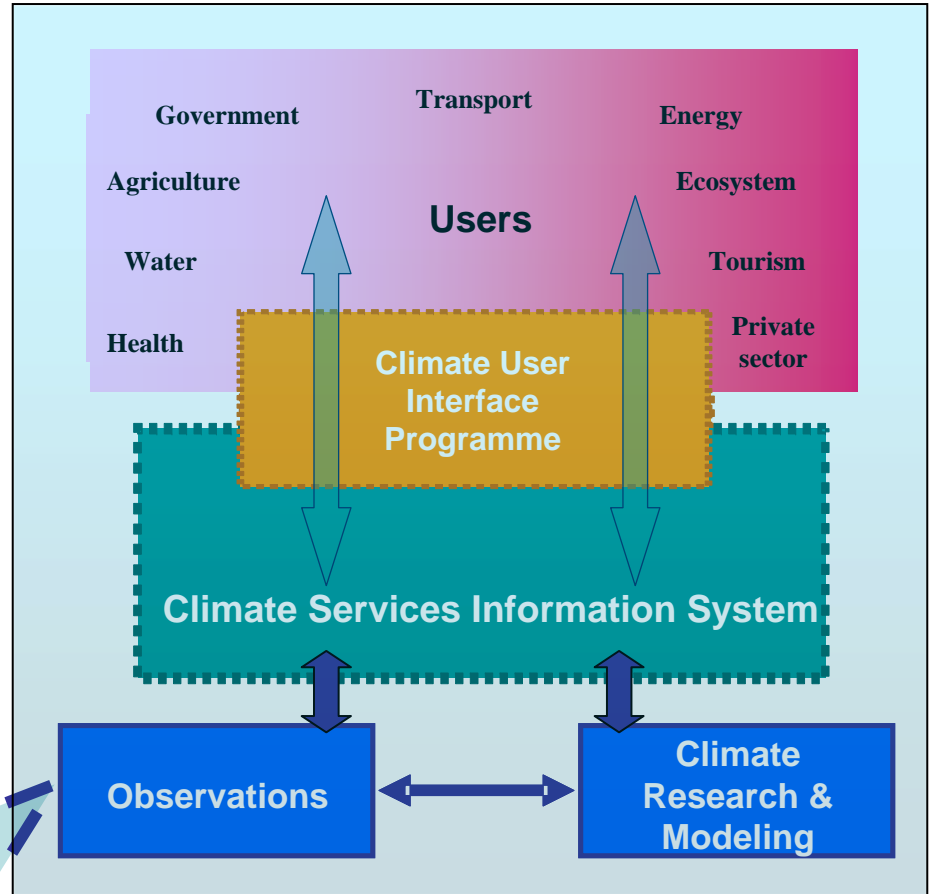




Programmes supporting Observations

Commission for Basic Systems
Commission for Instruments
And Methods.
Commission for Climatology
Commission for Hydrology
JCOMM

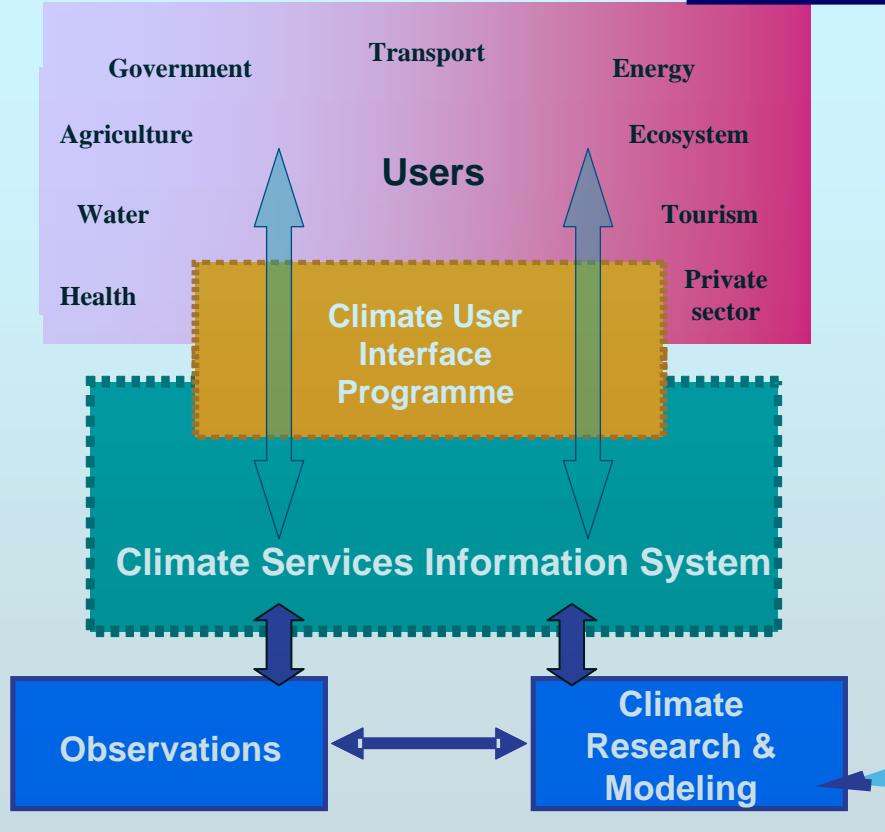
WWW Programme
WIGO System
Global Climate Obs System
WMO Space Programme
Global Atmospheric Watch
HWR Programme
Marine Met Programme





Programmes supporting Climate Research and Modelling

Commission for Atmospheric Science

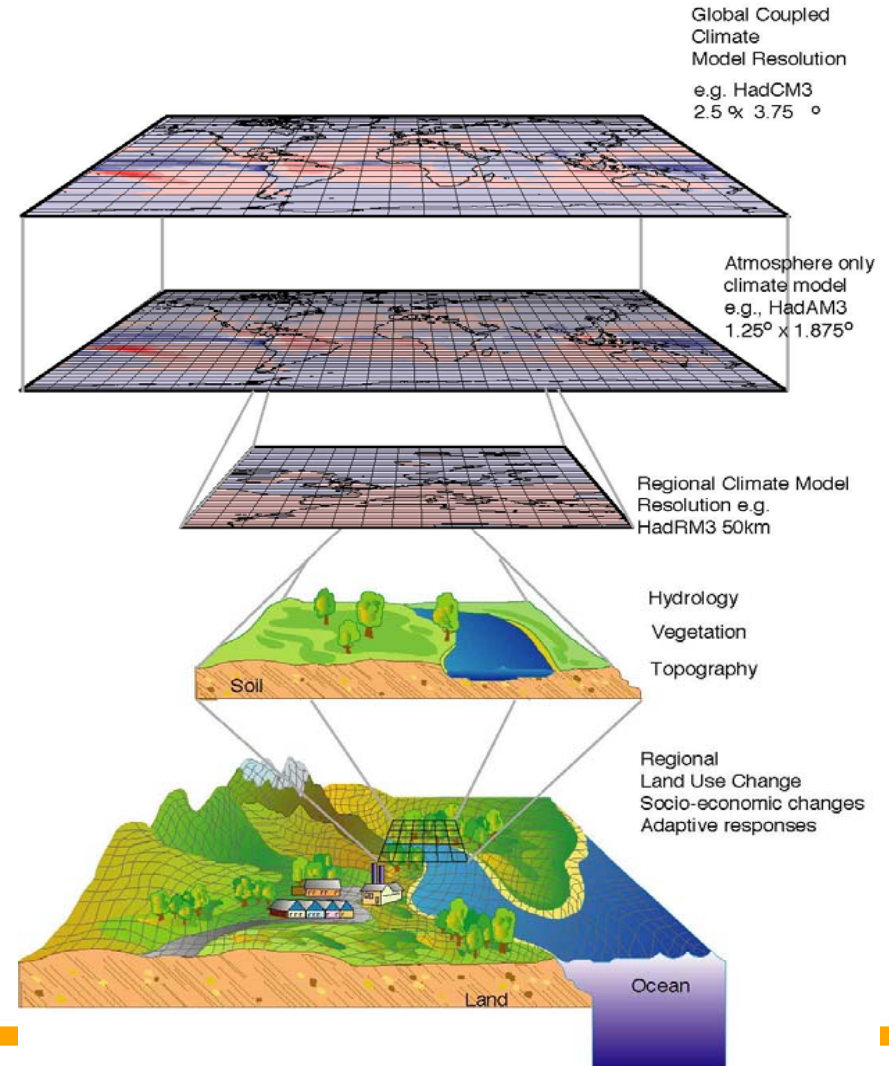


**World Climate
Research Programme**
**World Weather
Research Programme**
THORPEX



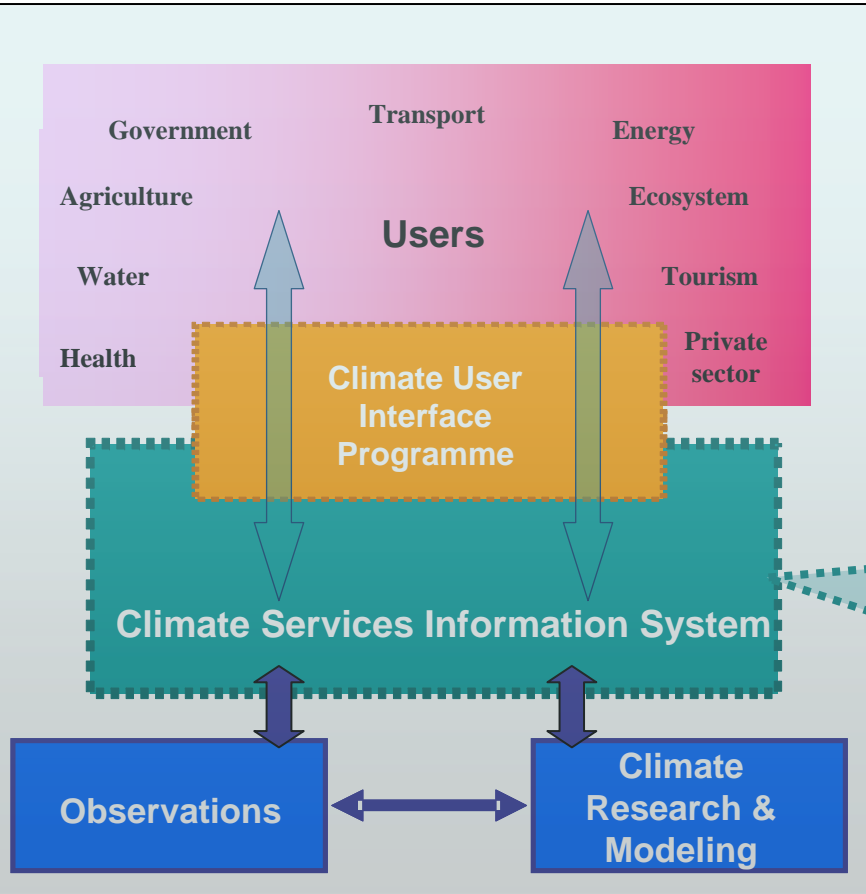


Climate research, modelling and predictions





Programme supporting Climate Service Information System



- Commission for Basic Systems
- Commission for Climatology
- Commission for Hydrology
- Commission for Ag Meteorology

- WWW Programme
- World Climate Programme
- World Climate Reserach Programme
- WMO Information System

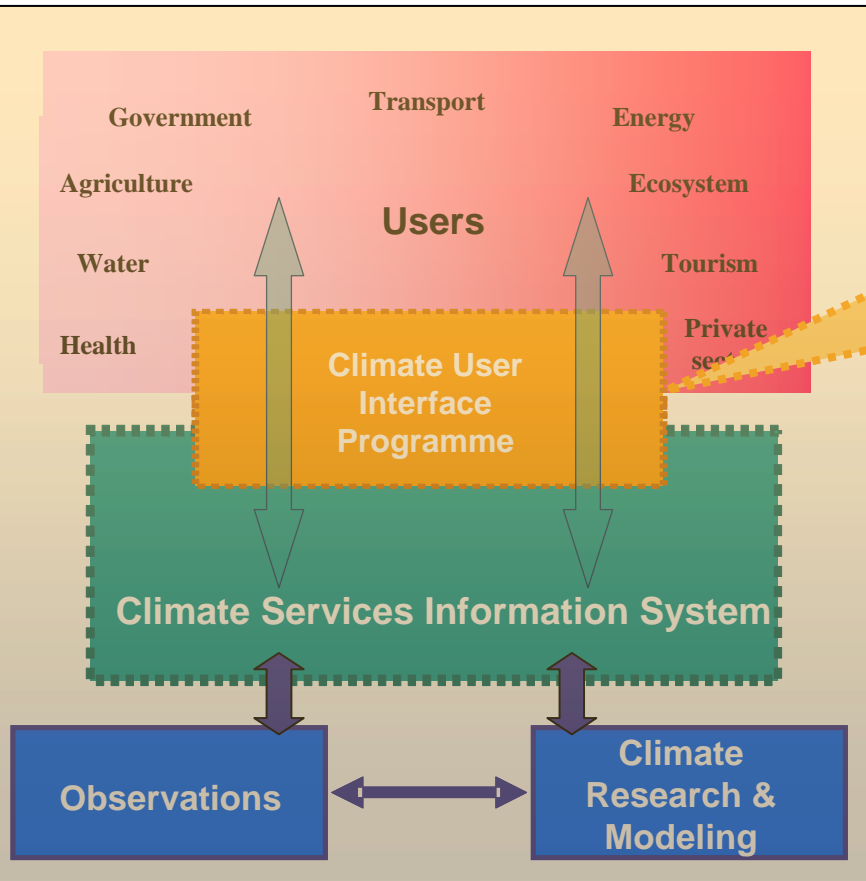


CBS CCI Collaborations

- **Exchange of climate data, information and products through WIS**
 - Develop climate metadata catalogues
 - Explore potential role of RCC's as DCPCs
 - **Climate database management systems**
 - Integrated conventional and space based data
 - **Oversee RCCs designation, implementation and operation process**
 - Setting up ET-RCC jointly with CBS
 - Oversight mechanism for implementation
 - **Proposal for National Climate Centres**
-



Programmes Supporting User Interface



HWR Programme
Agro Met Programme
DRR Programme
Marine Met Programme
World Climate Programme
PWS Programme

Commission for Basic Systems
Commission for Climatology
Commission for Hydrology
Commission for Ag Meteorology



Capacity Building

Institutional Arrangements

Strengthening of Infrastructure
for Observation, computing,
prediction and communication

Human resources skill building



Education and Training Programme
Regional Cooperation Programme
Voluntary Cooperation Programme
World Climate Programme

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WORKING TOGETHER
Towards a
Global Framework for Climate Services

Thank you!



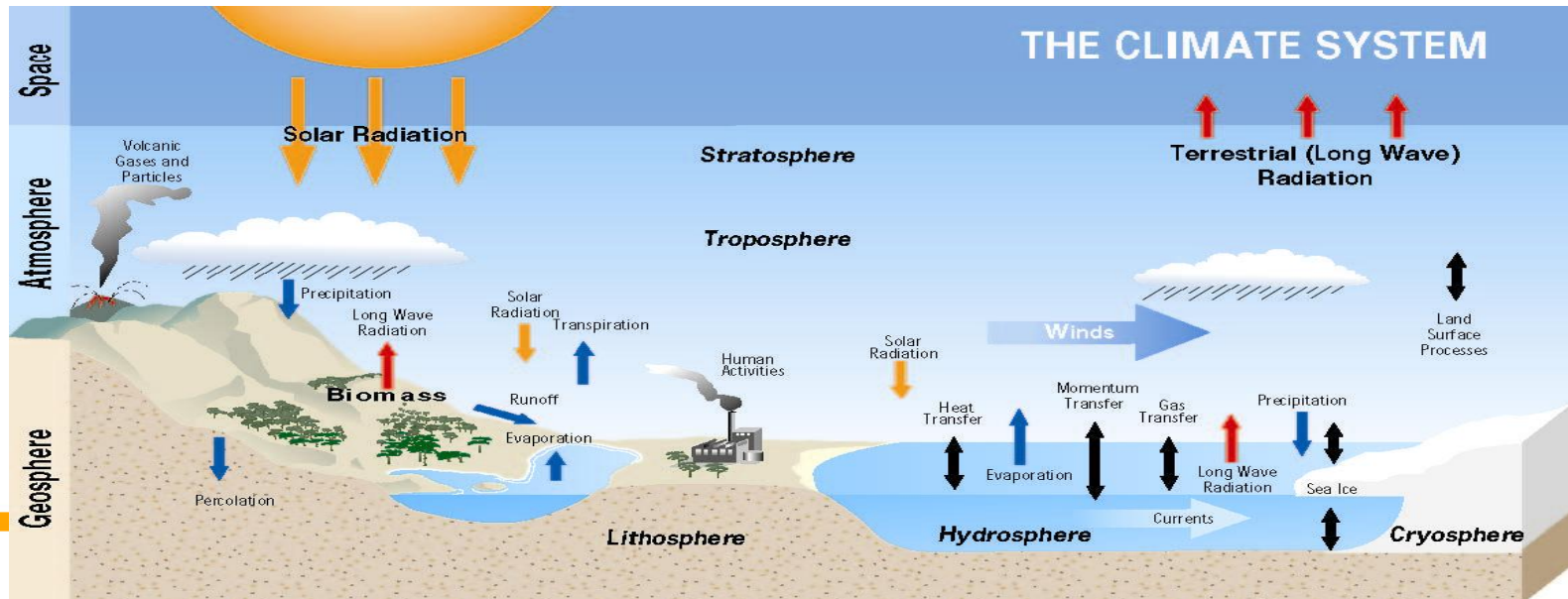
World
Meteorological
Organization

Weather • Climate • Water



Outcomes

- 2500 scientists participated in the “expert” sessions
- 12 “White Papers” addressing key climate service issues
- 57 Ministers or equivalent officials also addressed the HLS
- 14 Executive Heads of UN Agencies & Programmes present
- 13 messages by Heads of State/Governments
- **Decided to establish a GFCS**





Conference Declaration

- **WCC-3 Decided to establish a Global Framework for Climate Services**
 - **to strengthen production, availability, delivery**
 - **and application of science-based climate prediction and services**
-
- **Requested the SG of WMO to convene an Intergovernmental Meeting within four months**
 - **Decided that the High Level Taskforce of independent experts should prepare a report after wide consultation**
 - **Decided that the report of the Taskforce be circulated to Member States for consideration at the next WMO Congress (in 2011)**



Inter-governmental Meeting

- **11-12 January, 2010, Geneva Chaired by President of WMO Dr A.I.Bedritsky**
 - **Approved the TORs of the High-level Taskforce (HLT)**
 - **Endorsed the composition of the HLT**
 - **First meeting of HLT was organised in Geneva on 25-26 February 2010.**
 - **The governments and organizations were invited to submit their views on GFCS by 15th April 2010.**
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HLT Meeting Dates/Places

Reports on the web:

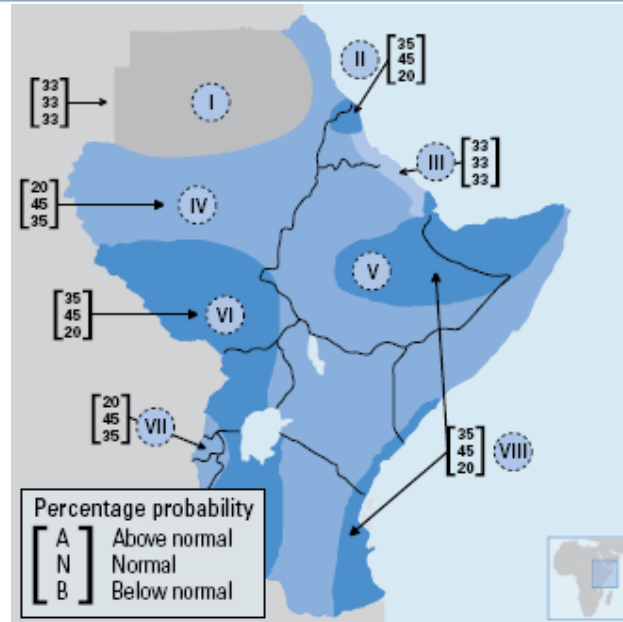
- HLT-1 25 and 26 February / Geneva
- HLT-2 24 and 25 May / Geneva

Meetings yet to be held:

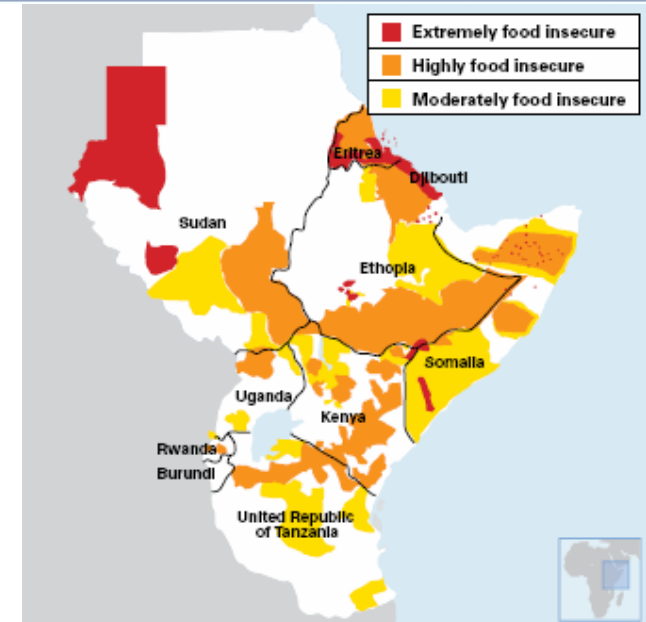
- HLT-3 2, 3 and 4 August / Beijing
- HLT-4 25, 26 and 27 October / Bonn
- HLT-5 13, 14 and 15 December / Geneva



Regional climate outlook forums



Climate Outlook



Food security outlook

- **Predictability lead time:** from weeks to seasons
- **Key factors:** Timing, Geographical area, Intensity, Duration
- **Key indicators:** Precipitation, groundwater and reservoir levels, soil moisture, satellite observations, ENSO



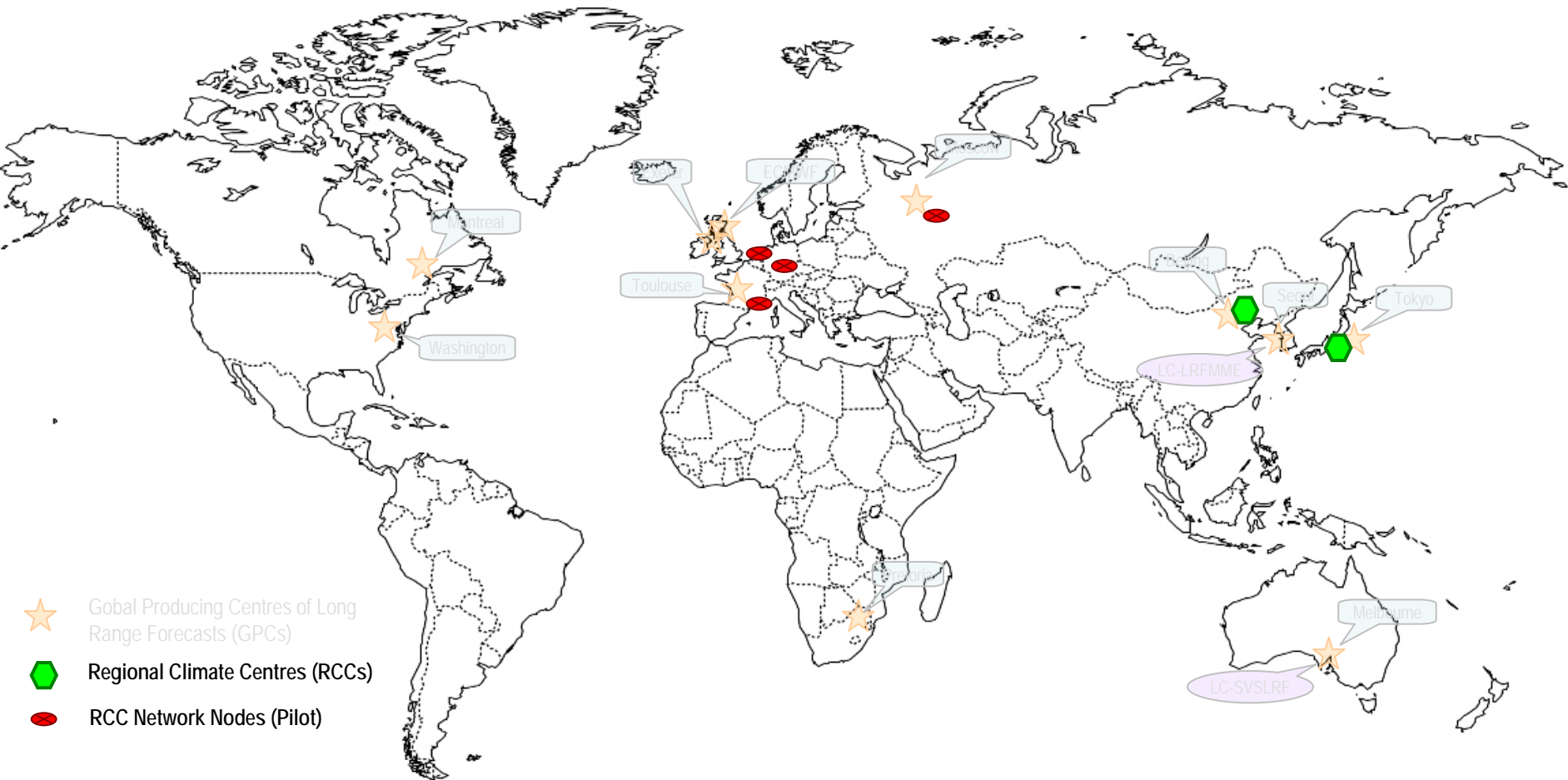
★ Global Producing Centres of Long Range Forecasts (GPCs)





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- ⬡ Regional Climate Centres (RCCs)

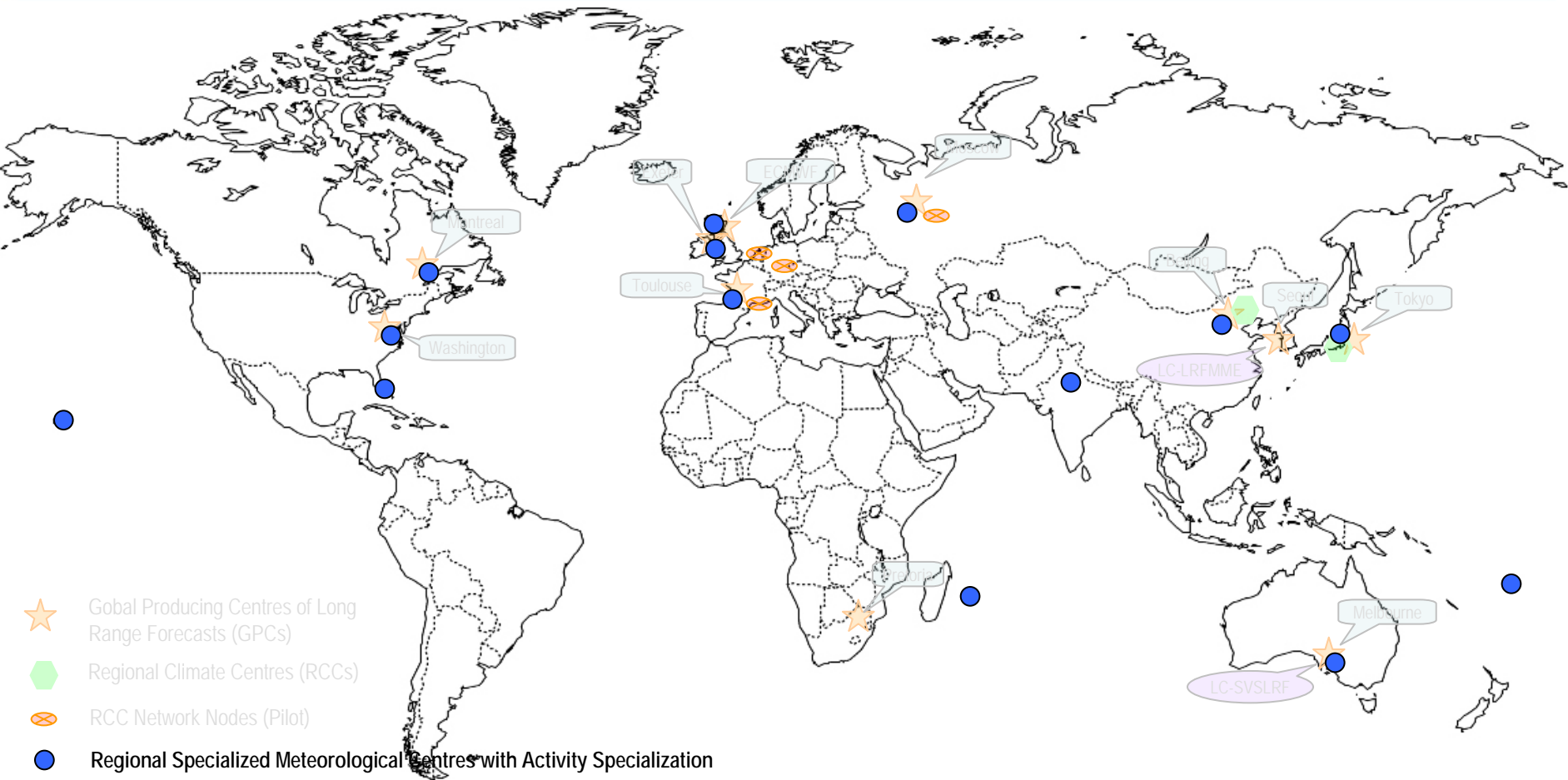
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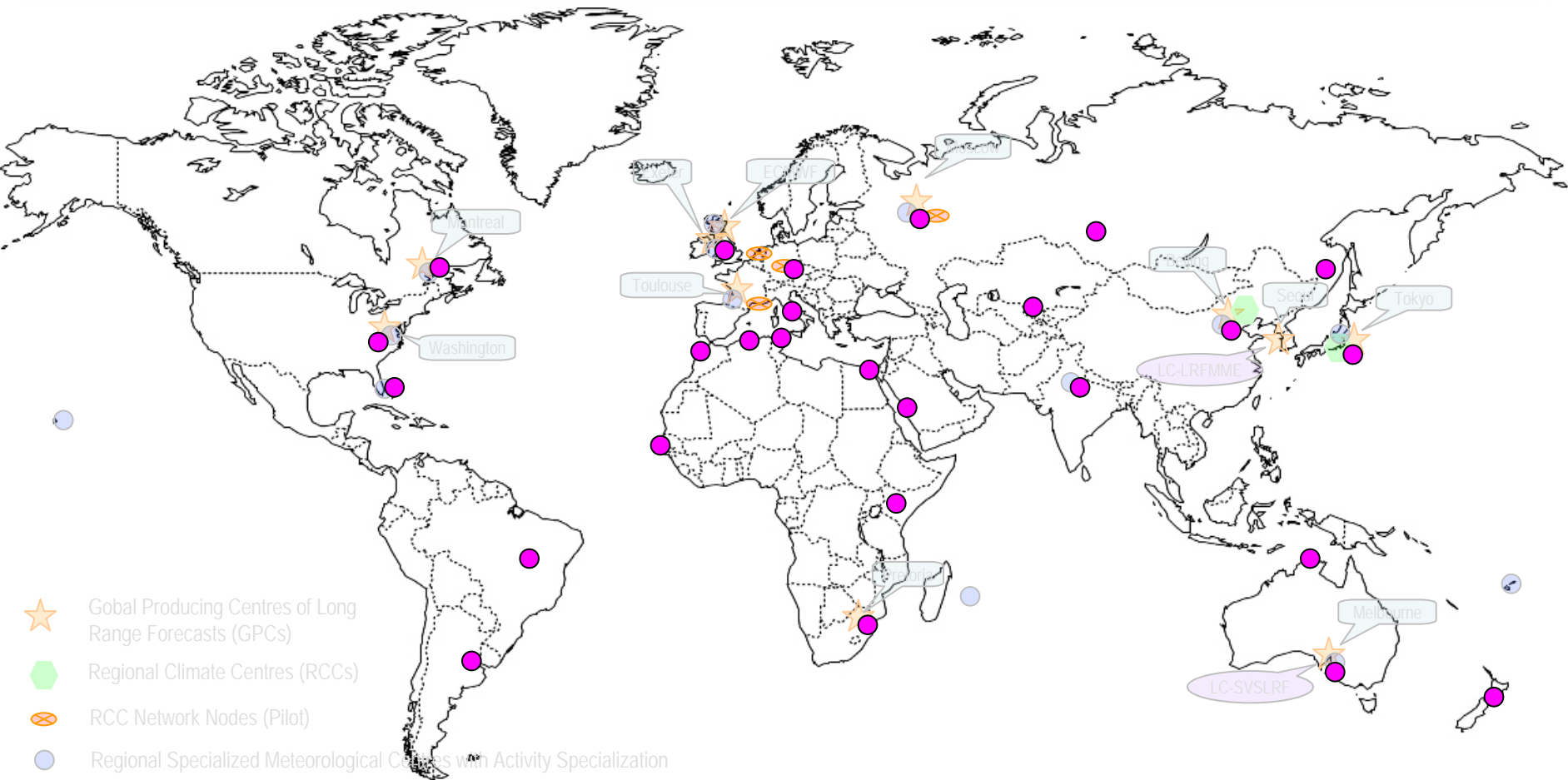
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- RCC Network Nodes (Pilot)

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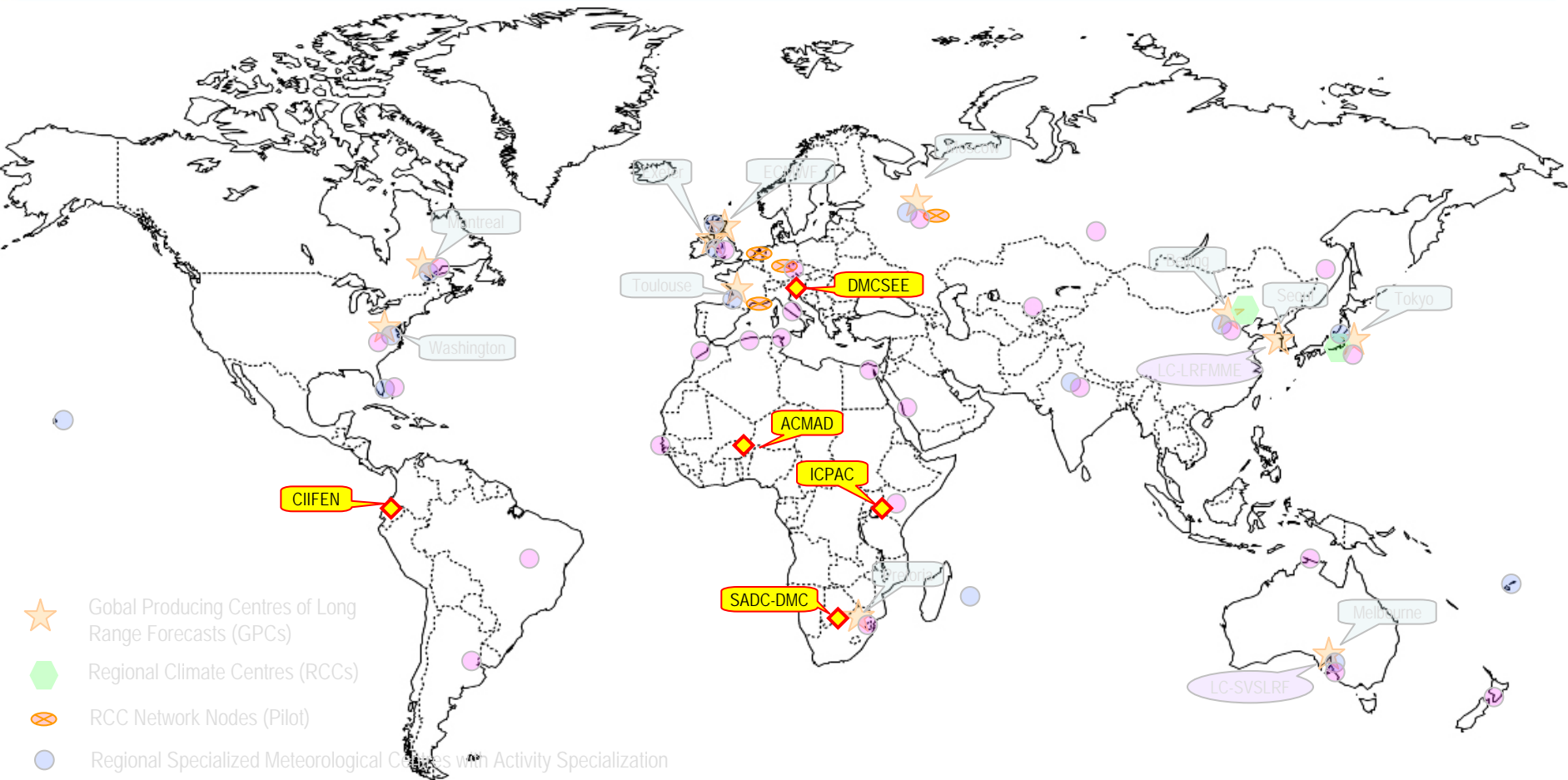
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- ⬡ Regional Climate Centres (RCCs)
- ⊗ RCC Network Nodes (Pilot)
- Regional Specialized Meteorological Centres with Activity Specialization
- Regional Specialized Meteorological Centres with Geographical Specialization

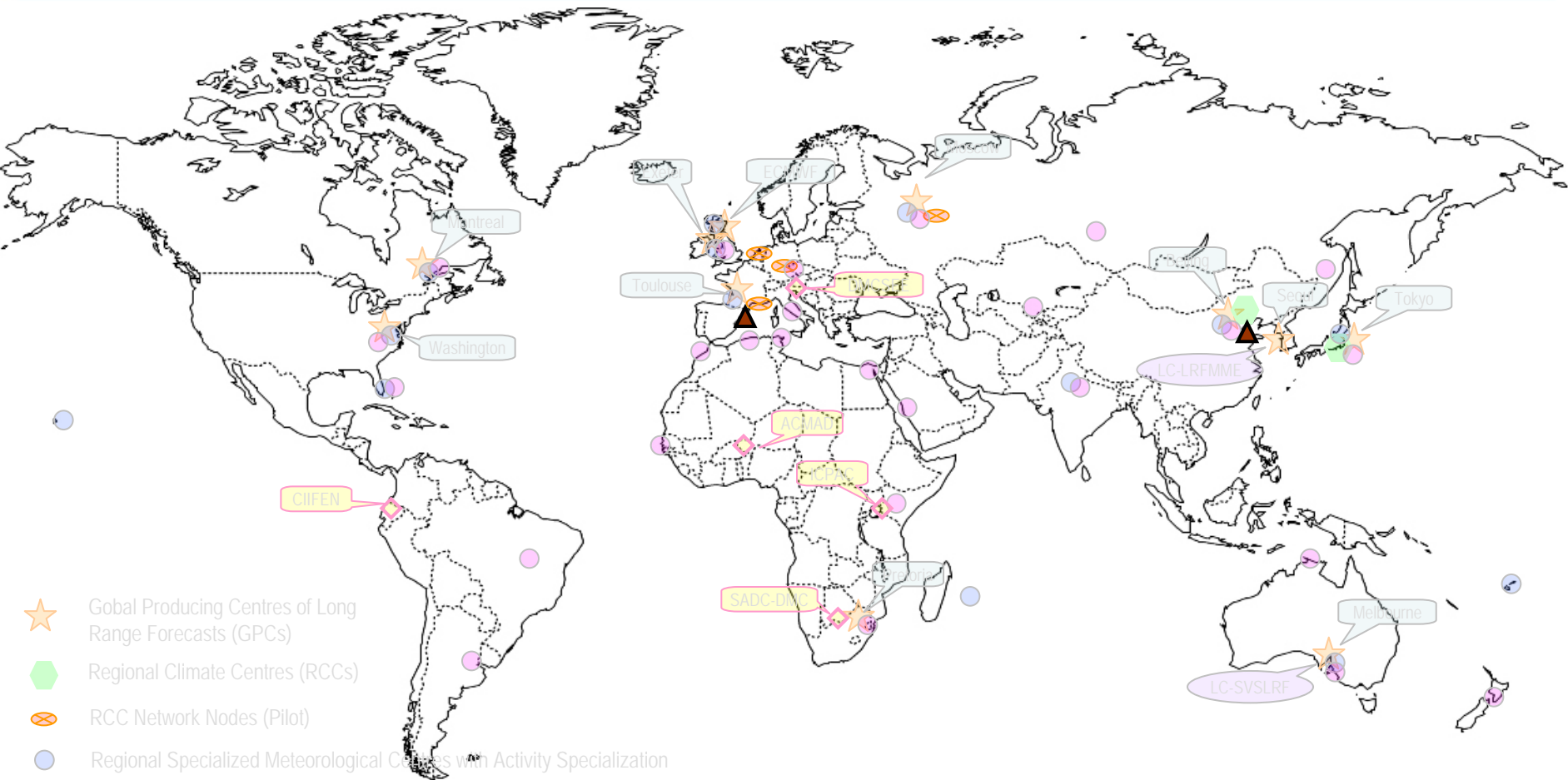
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- Regional Specialized Meteorological Centres with Geographical Specialization
- ◆ Regional climate institutions with strong WMO support

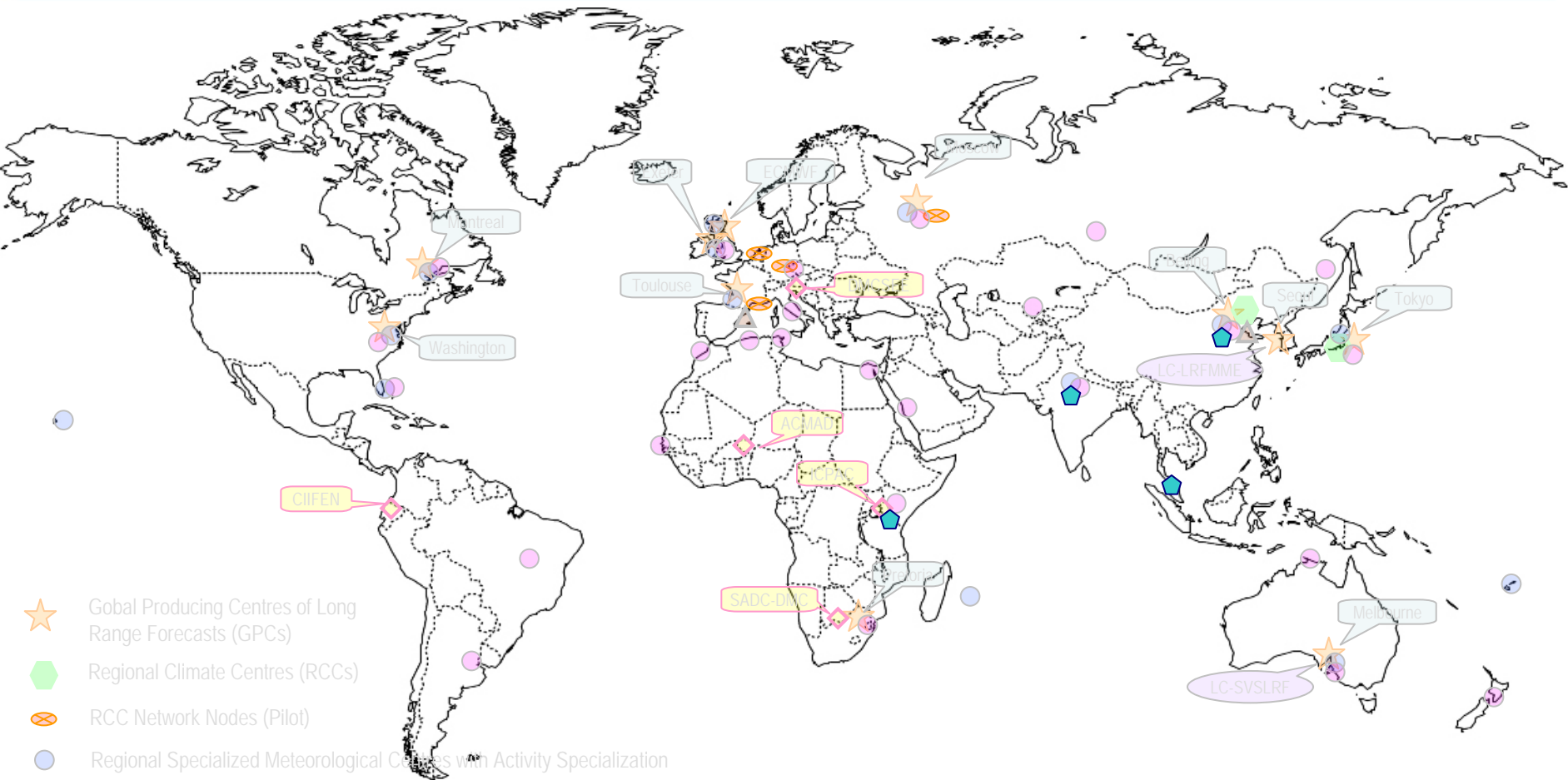
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-  Regional climate institutions with strong WMO support

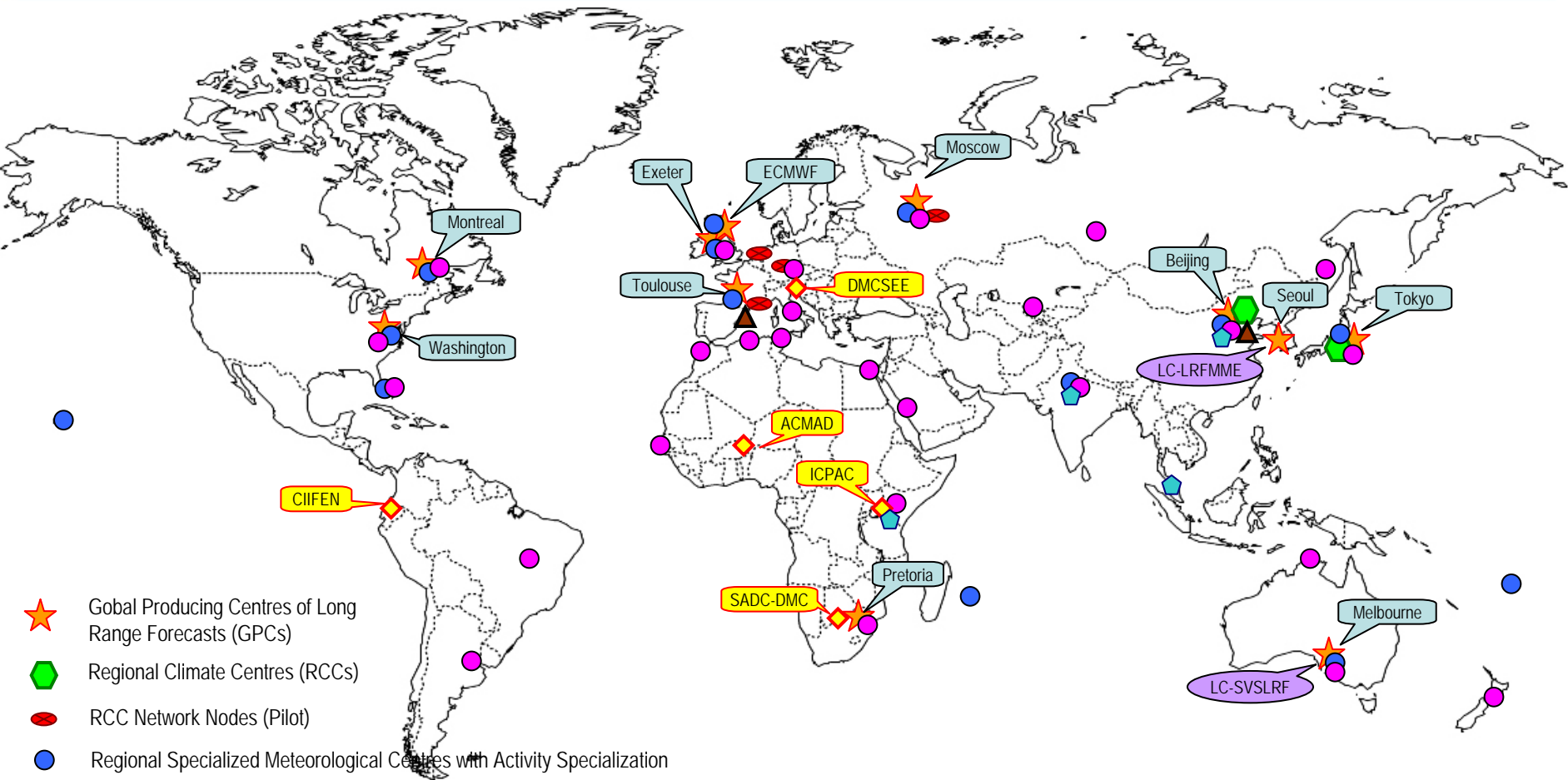
 Sand & Dust Storm Warning & Assessment System Centres









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-  Regional climate institutions with strong WMO support
-  Sand & Dust Storm Warning & Assessment System Centres
-  Monsoon Activity Centres

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WMO network of institutions

