

SEECOF Mechanism

Background and Strategy



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with info taken from

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(www.wmo.int)

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Background: WCASP

- ❖ **WCASP** - World Climate Applications and Services Programme - Applications of climate information and prediction services to support human activities and sustainable development: Economic efficiency; Human health and well being; Food production, food security; Water resources planning and management; Renewable/efficient energy; Sustainable tourism; Urban and built environment
- ❖ **WCASP Objectives:** Development of user-targeted climate services; Services for sustainable development at national, regional and global levels; Contribute to strategies for adapting to, and mitigating, the adverse impacts of climate and its variations; Increased user awareness and liaison; Partnership with national/international agencies dealing with application sectors; Development of practical methods and techniques including climate prediction products; Implemented through the **CLIPS** Project

Background: CLIPS



- ❖ **CLIPS** - Climate Information and Prediction Services
- ❖ “**Climate services**” = delivery of climate information and predictions from the providers (sources) to the end-users
- ❖ **NMHSs** have great potential to exploit its resources to provide “effective” climate services
- ❖ Predictions of climate variability over the next season or two (seasonal to interannual forecasts) are of immediate relevance
- ❖ **CLIPS Objectives:** demonstrate the value of climate information and prediction; provide an international framework to enhance and promote climate information and prediction; promote the development of operational climate prediction at regional and national levels; support capacity building and regional/global collaboration in operational user-targeted climate services; facilitate the definition, development and the strengthening of a global network of regional/national climate centres; Collaboration with other WMO Programme and Institutions.

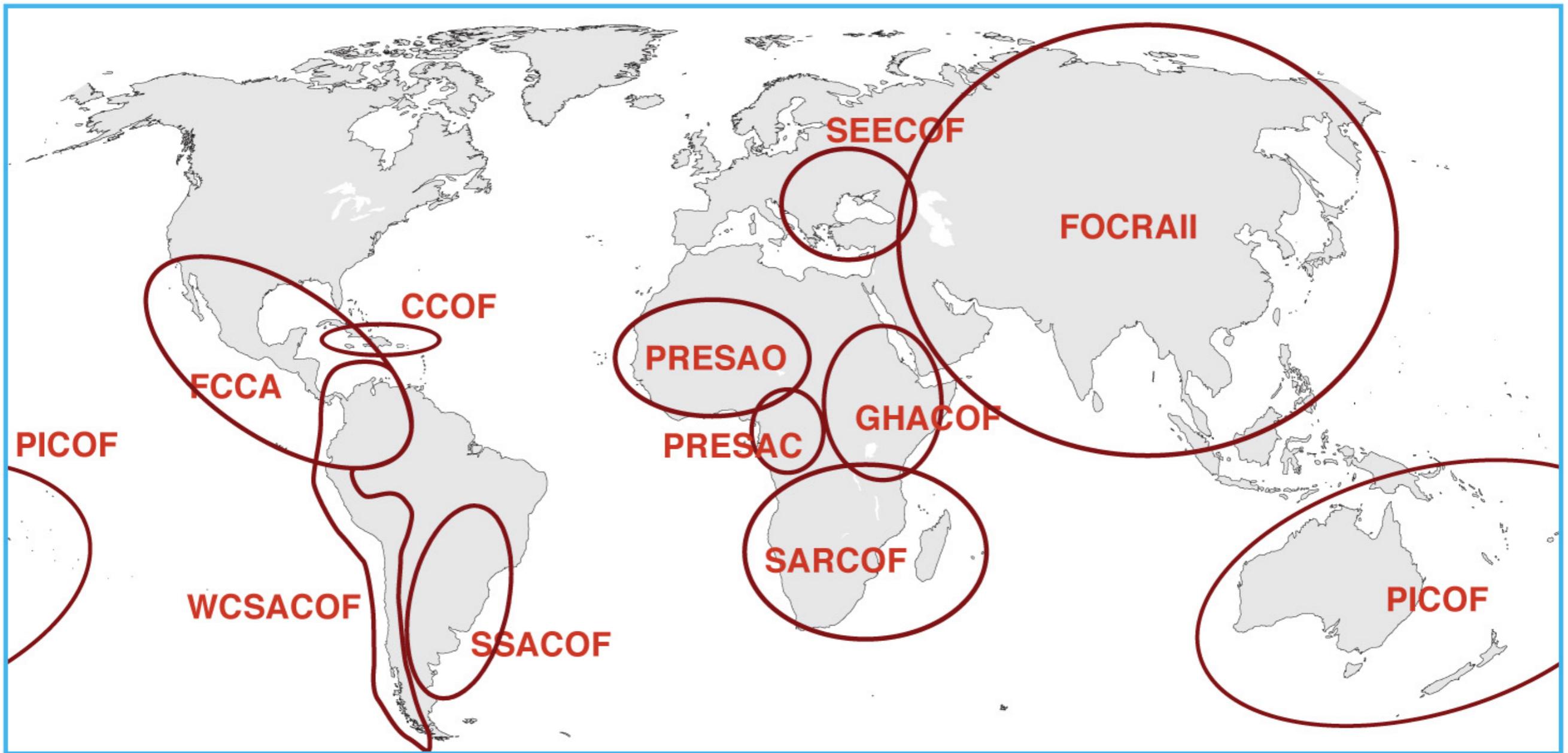
Background: CLIPS cnt'd

- ❖ **CLIPS Main Activities:** Enhance capacity of NMHSs in SIP and their applications and create ownership of user-targeted climate services at the local level; Development of guidelines and methodologies for SIP and applications in climate sensitive sectors and systems; Promote development of consensus-based regional/global climate outlooks; Provide users with new climate products based on state-of-art scientific understanding and establish links between providers of and users of SIPs; Promote joint international research with WCRP and other international climate programmes
- ❖ **CLIPS Capacity Building:** network of CLIPS Focal Points; Development of CLIPS Training Curriculum; Regional/sub-regional CLIPS Training Workshops; User-awareness development through workshops, projects and Climate Outlook Forums

RCOF mechanism

- ❖ RCOF is a component of CLIPS established in 1996: Meeting in Victoria Falls, Zimbabwe.
- ❖ RCOF is a Regional mechanism for the formulation and dissemination of climate forecasts and outlooks. It brings together providers of and users of SIPs.
- ❖ RCOFs stimulate the development of climate capacity in the NMHSs of the area, and do much to generate decisions and activities that mitigate adverse impacts of climate and help communities adapt to climate variability.
- ❖ **CLIPS/RCOF Consensus Forecast Process:** Determine the critical time for development of the climate forecast for the region in question; Assemble a group of experts:(large scale prediction specialists, regional and local climate applications and forecast specialists, stakeholders representative of climate-sensitive sectors); Review current large scale (global and regional) climate anomalies and the most recent forecasts for their evolution; Review current climate conditions and their impacts at local, national and regional levels, and national-scale forecasts;

Existing RCOFs worldwide



Southeastern Europe Climate Outlook Forum (SEECOF)

- ❖ In European region the RCOF process was launched in 2008.
- ❖ The South-East European Climate Outlook Forum (SEECOF) mechanism covers mainly countries of South East Europe and Caucasus.
- ❖ Three SEECOFs have been successfully conducted



Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Bulgaria, Croatia, Georgia, Greece, Hungary, Israel, The FYR of Macedonia, Moldova, Montenegro, Romania, Slovenia, Serbia, Turkey

SEECOF-1

- ❖ SEECOF-I took place in Zagreb/Croatia in June 2008
- ❖ Around 70 participants from 18 countries, WMO, UNDP, from user community
- ❖ Session I - on current climate and development of consensus based seasonal outlook
- ❖ Session II – Regional Climate change projections, downscaled projections for the region



SEECOF-2

- ❖ SEECOF-2 was held in Budapest, Hungary, November 2009
- ❖ 35 participants from 15 countries
- ❖ Capacity building: training session on seasonal climate predictions (CPT)
- ❖ Development of consensus-based user-relevant seasonal outlook



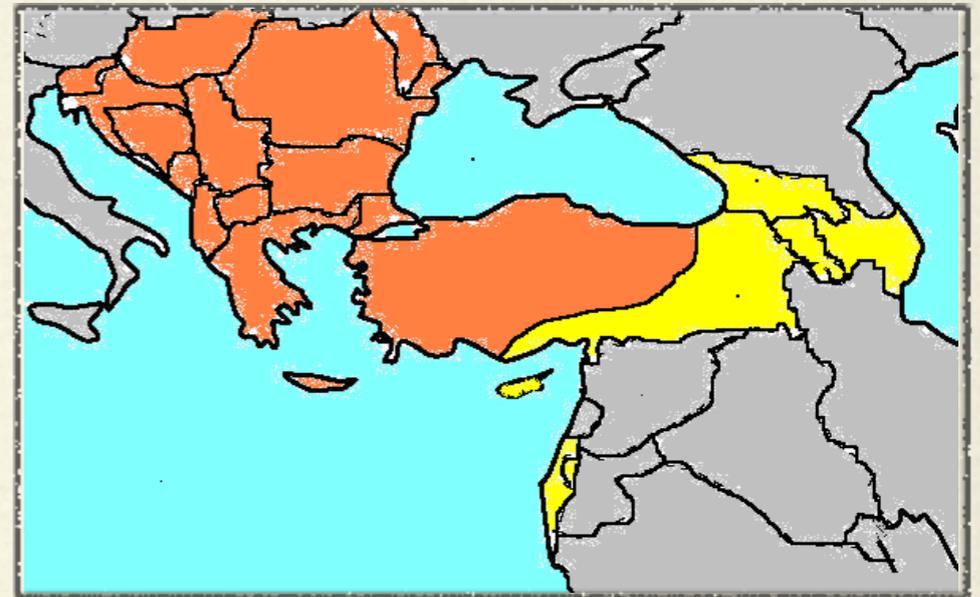
SEECOF-3: on-line/virtual forum

- ❖ SEEVCCC & WGCH facilitation and moderation through e-mail and BBS communication, online forum with active discussions
- ❖ **Step 1:** verification of the SEECOF-II Winter forecast
- ❖ **Step 2:** assessment of the current state of the climate including large-scale climate patterns worldwide and assessments of its likely evolution in the course of the next months
- ❖ **Step 3:** development of consensus based seasonal outlook

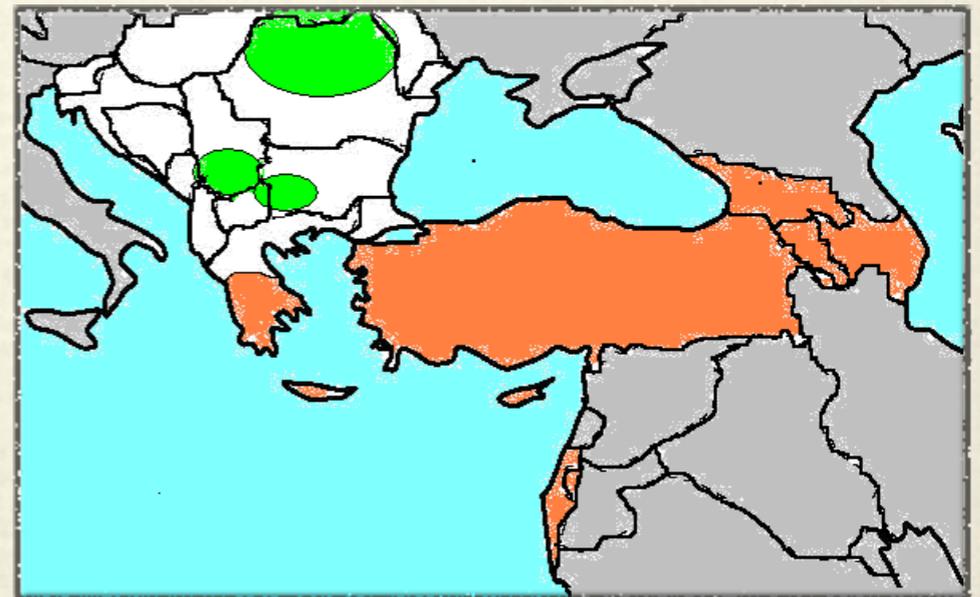
<http://www.wmo.int/pages/prog/dra/eur/SEECOF-3.php>

<http://www.seevccc.rs/SEECOF-III/>

2010 Summer Temperature Outlook



2010 Summer Precipitation Outlook



RCOF and climate change

- ❖ RCOFs worldwide have been set up so far with the main focus on seasonal prediction.
- ❖ However, the same RCOF mechanisms can be effectively expanded to cater to the needs of developing and disseminating regional climate change information products.
- ❖ Regional assessments of observed and projected climate change, including the development of downscaled climate change scenario products for impact assessments, can be successfully included in the product portfolio of RCOFs
- ❖ One of the issues which need to be tackled is the strengthening of a climate change section in the RCOF.

SEECOF and climate change

- ❖ During SEECOF-1 an attempt has been made to develop regional climate change scenarios for SEE, but there is considerable diversity in approaches.
- ❖ SEECOF processes can play a crucial role in promoting a collaborative and complementary approach, thereby facilitating consensus and consistency in generating climate change information in support of climate adaptation.
- ❖ SEECOF promotes regional ownership of climate knowledge base, and supports region-driven climate change actions.

SEECOF => further steps

- ❖ Online COF - proved to be very productive!
- ❖ Several lessons learnt:
 - ❖ standardized approach on assessment of previous outlook
 - ❖ assessment of current climate, reference climatology period
 - ❖ definition of criteria for high impact events
 - ❖ improve visibility, delivery of outlooks to wide user society
- ❖ To be addressed during the upcoming SEECOF
- ❖ SEECOF Focal Points network is being established
- ❖ It is planned in future to have two COFs per year – one physical meeting and one on-line COF

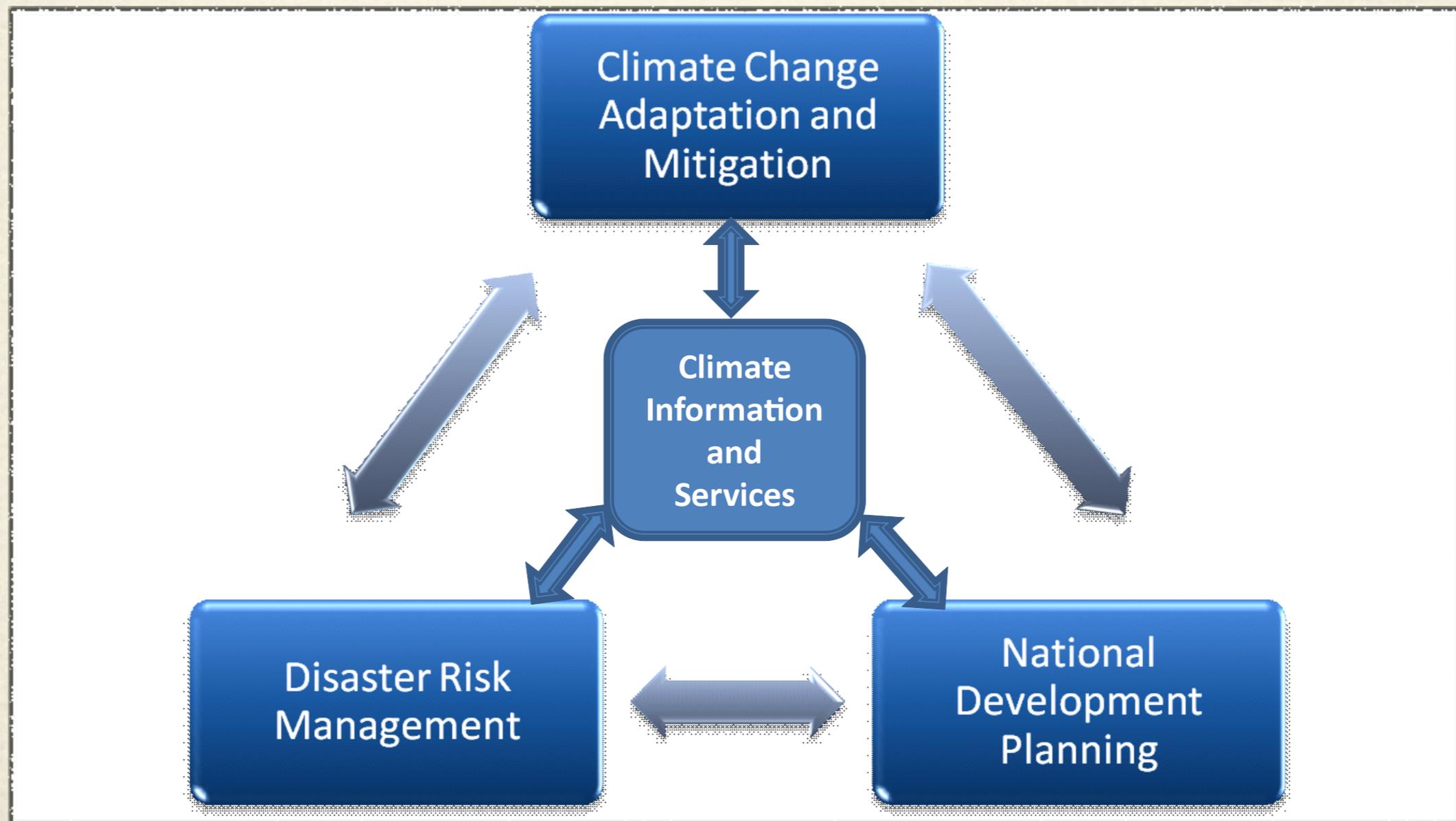
SEECOF - Way ahead

The RCOF mechanism in RA VI still needs substantial support in order to:

- ❖ strengthen the process
- ❖ to better involve the participating countries and users
- ❖ to expand the RCOFs involving other sub-regions (south-west Europe)
- ❖ to sharpen the communication of the consensus forecasts to build trust amongst the user communities
- ❖ to strengthen a climate change section in the RCOF
- ❖ and importantly to achieve sustainability
- ❖ !Efforts are under way to build a sustained RCOF capability in Europe -> linking with RCCs!

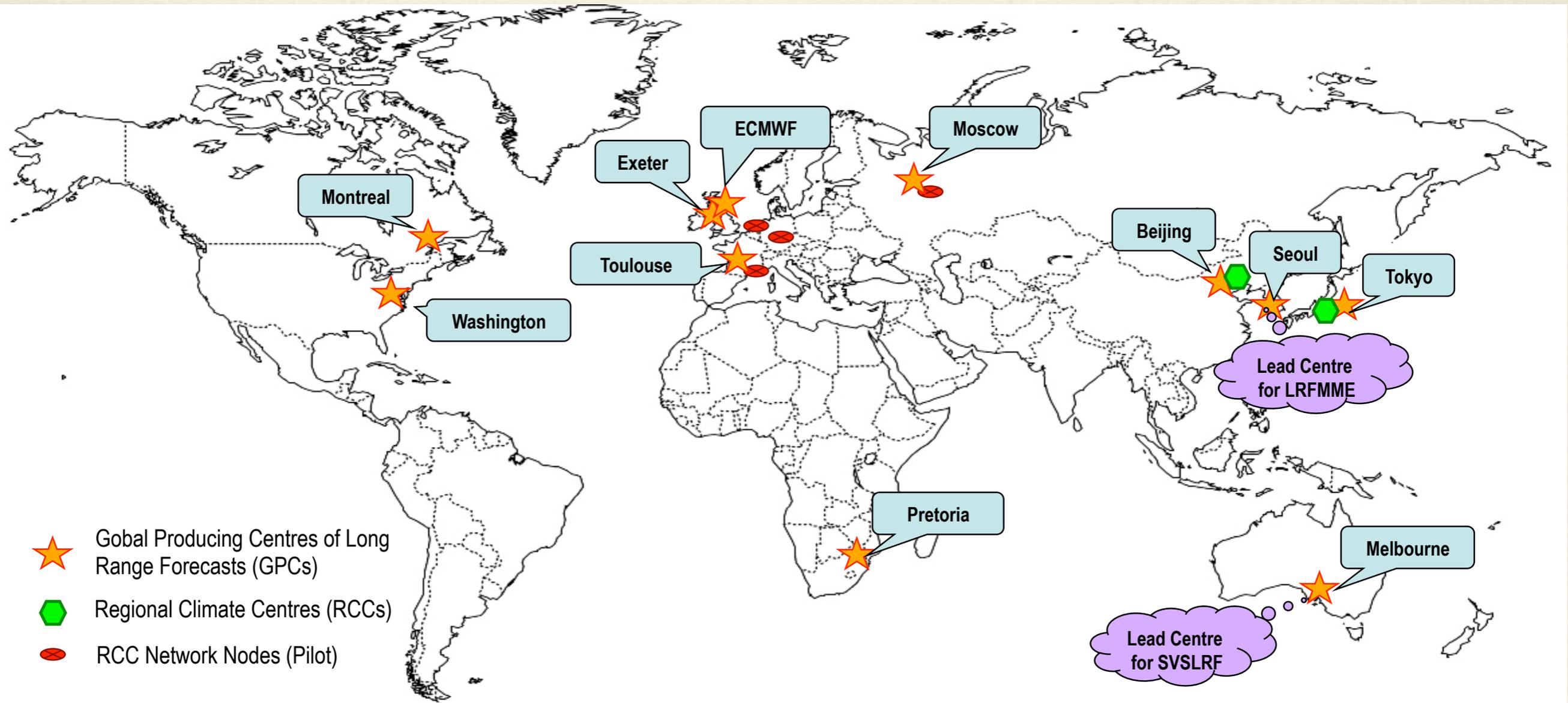
Role of RCOF in GFCS

Role of climate information for sustainable development



Global Network for Climate Information

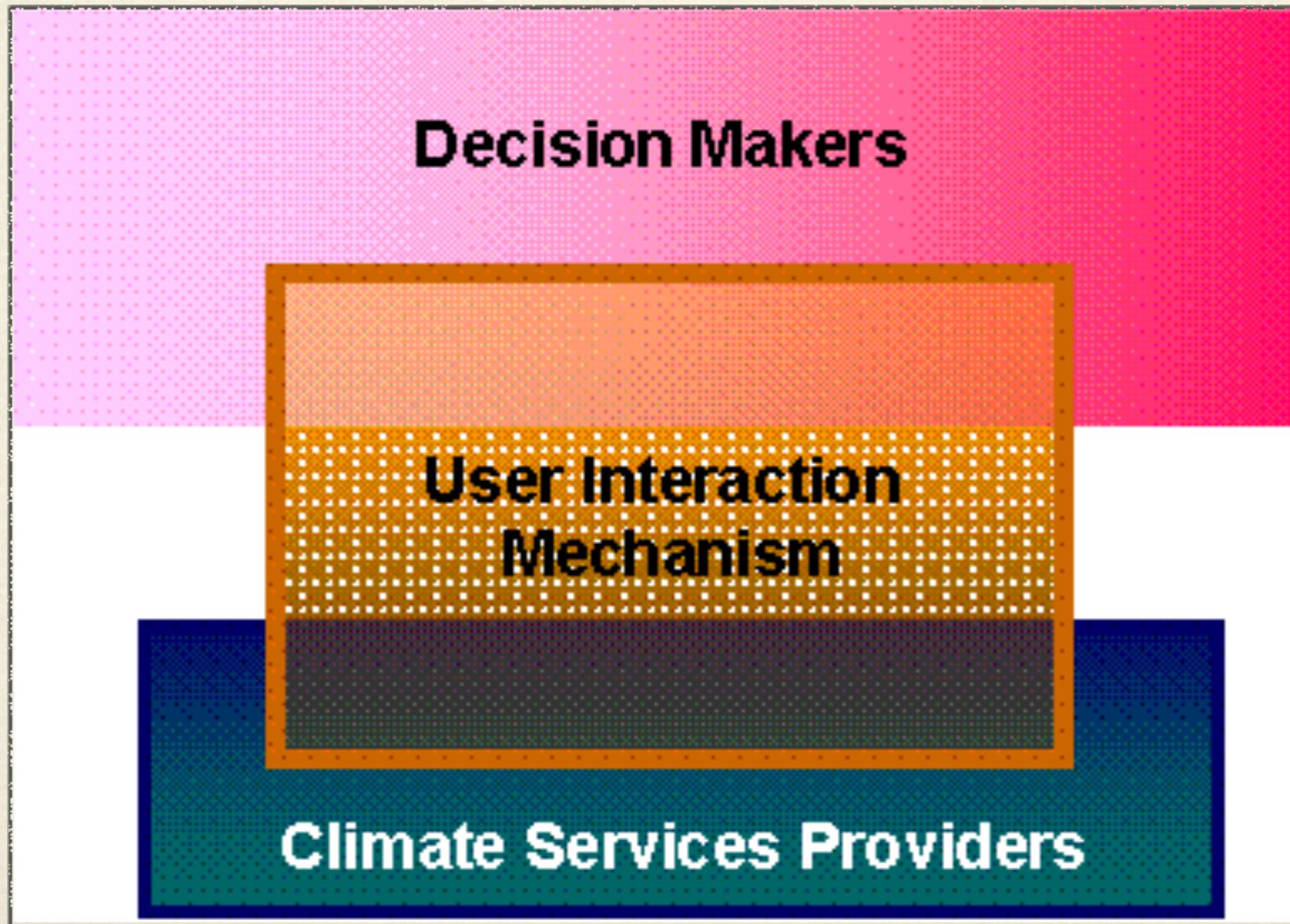
(WMO Designated Global and Regional Centres)



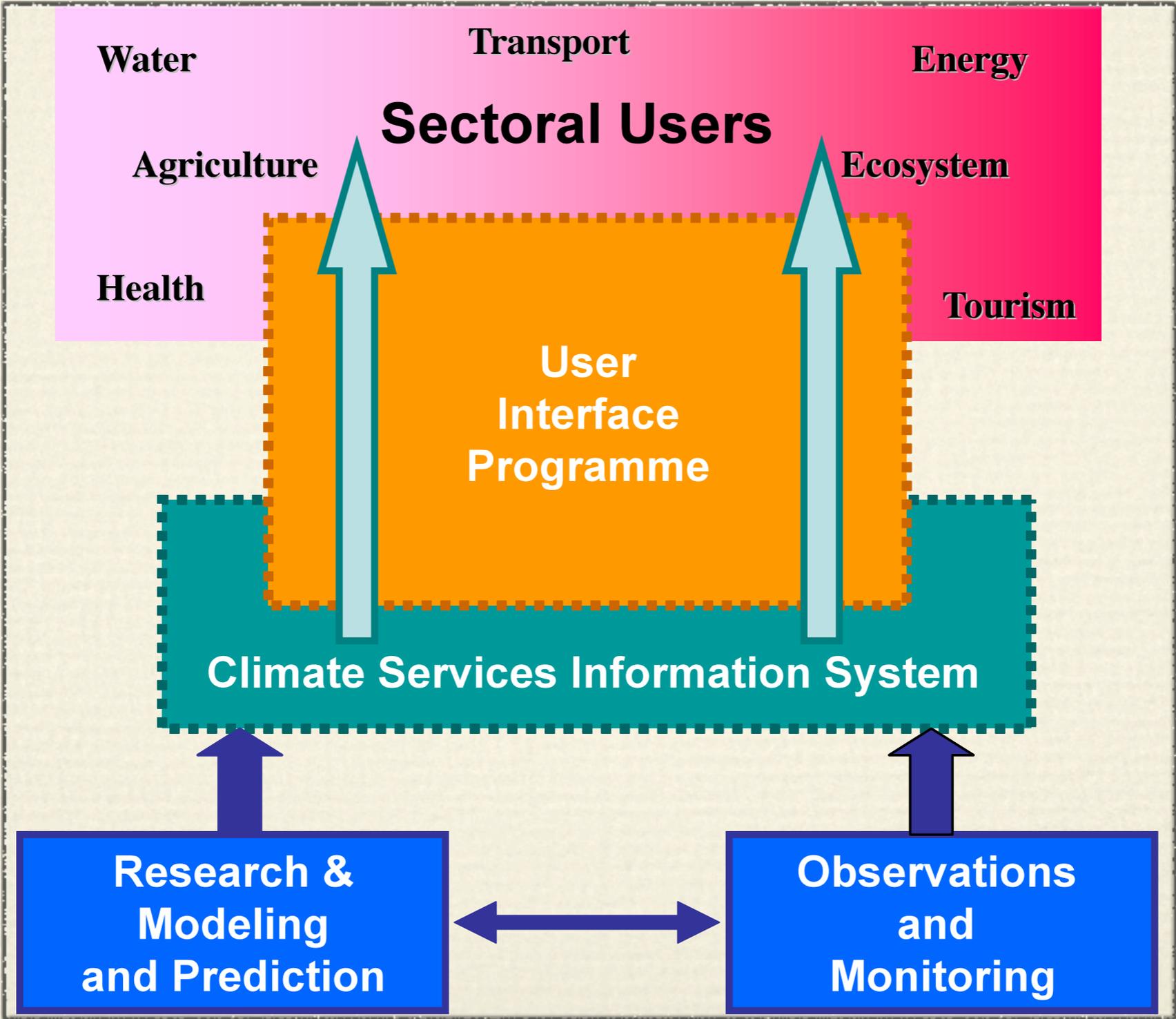
SVSLRF: Standardized Verification System for Long Range Forecasts
LRFMME: Long Range Forecast Multi-Model Ensemble

Role of RCOF in GFCS

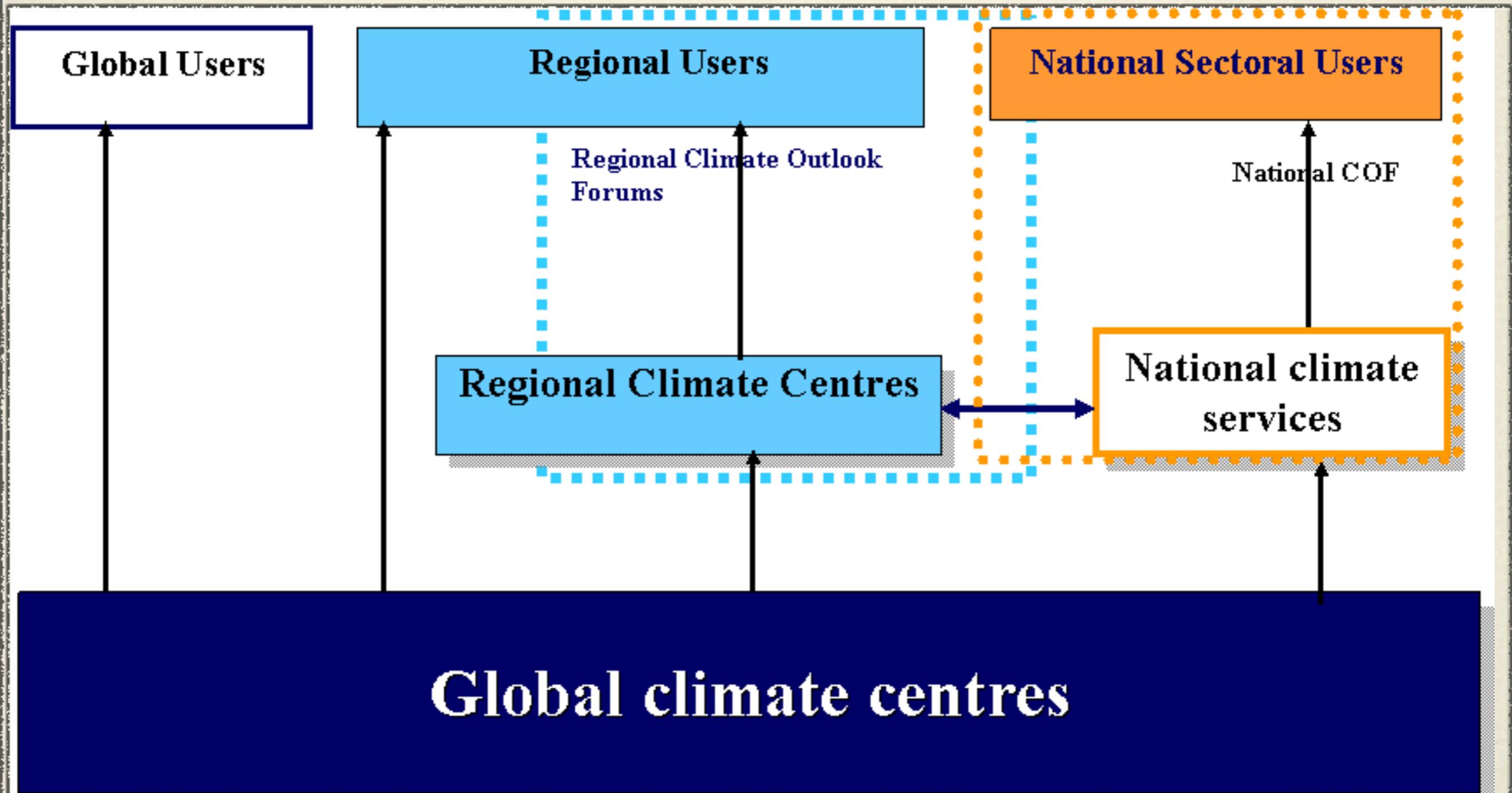
Bridging the gap between providers and users of climate information



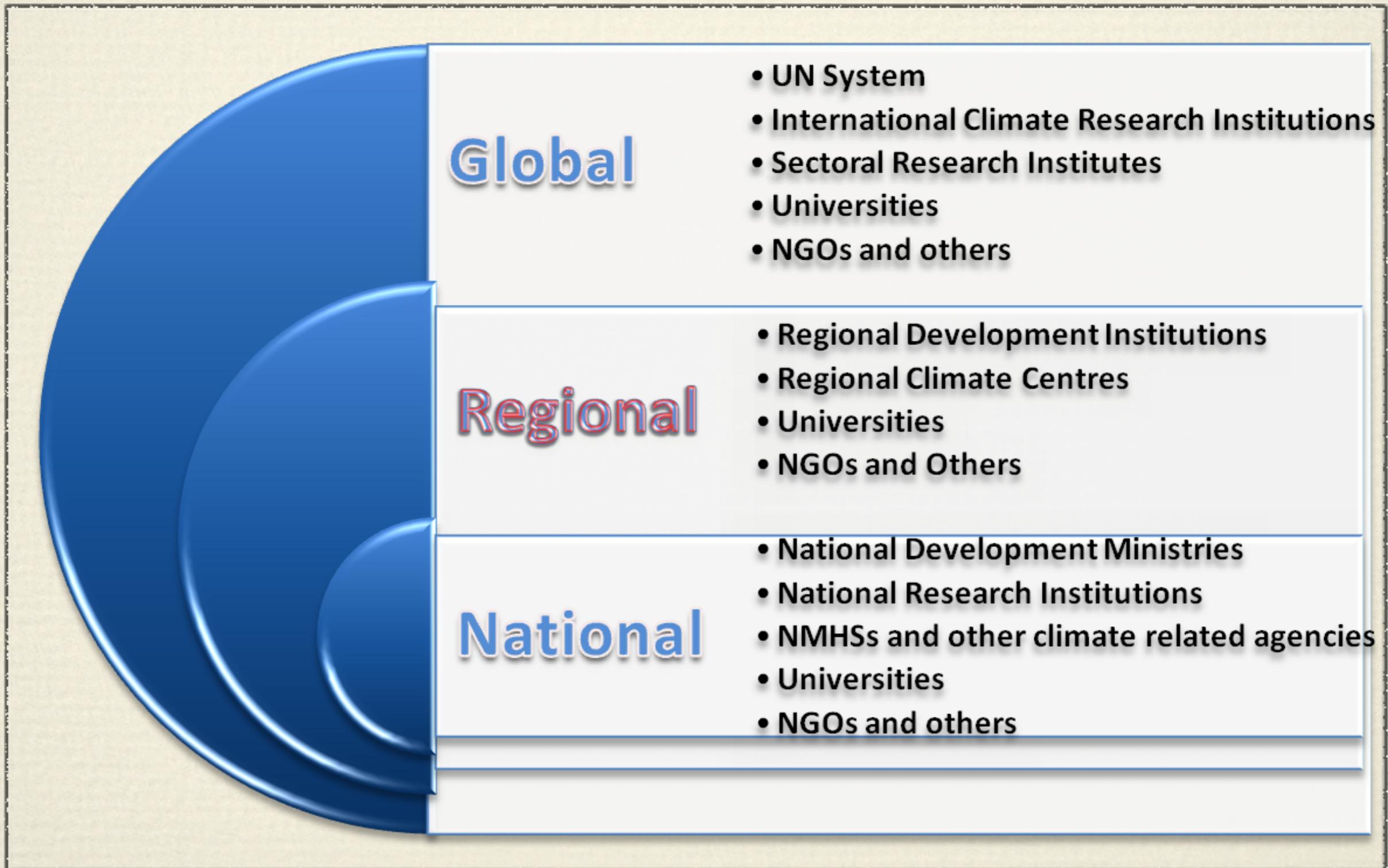
Global Framework for Climate Services



GFCS: Elements of Climate Services Information System



Players for user interaction at different levels



RCOF Review 2008

Integrating Research into RCOF

RCOF Review 2008 is structured around a few key issues central to the RCOF operations and further development, and around the development of position papers devoted to each of those issues. Topics for position papers include the following, with the lead coordinators indicated in parentheses:

- ❖ RCOF Operational Practices (J-P Ceron)
- ❖ User Liaison in RCOFs, including sector-specific outlook forums (R Martinez)
- ❖ Verification of RCOF Products (S Mason)
- ❖ Integration of Research into RCOFs : Approaches and Research Prioritization (F Semazzi)
- ❖ Capacity building in RCOFs (J Pahalad)
- ❖ Sustainability of RCOFs including resource mobilization, regional ownership and cost-effective practices (L Ogallo)

Integrating Research into RCOF

AN INTERNATIONAL EXPERT REVIEW MEETING
ON REGIONAL CLIMATE OUTLOOK FORUMS

Position Paper

Integration of Research into RCOF

Coordinating Author: Professor Fredrick H Semazzi

December, 2008

Position Paper TOC

1. Introduction
 2. Integrating research into RCOFs
 - 2.1 Verification of RCOF Prediction Products and Tools
 - 2.2 Predictability Research for RCOF
 - 2.3 Modeling Research for RCOF
 3. Approaches to integrate research into RCOFS
 - 3.1 RCOF Research Newsletter
 - 3.2 Research Infrastructure
 - 3.3 Research Networks
 - 3.4 Standards metrics website
 - 3.5 Computing infrastructure
 4. Recommendations
- References
- Appendix A: Contributing authors
- Appendix B: Acronyms

Position Paper TOC

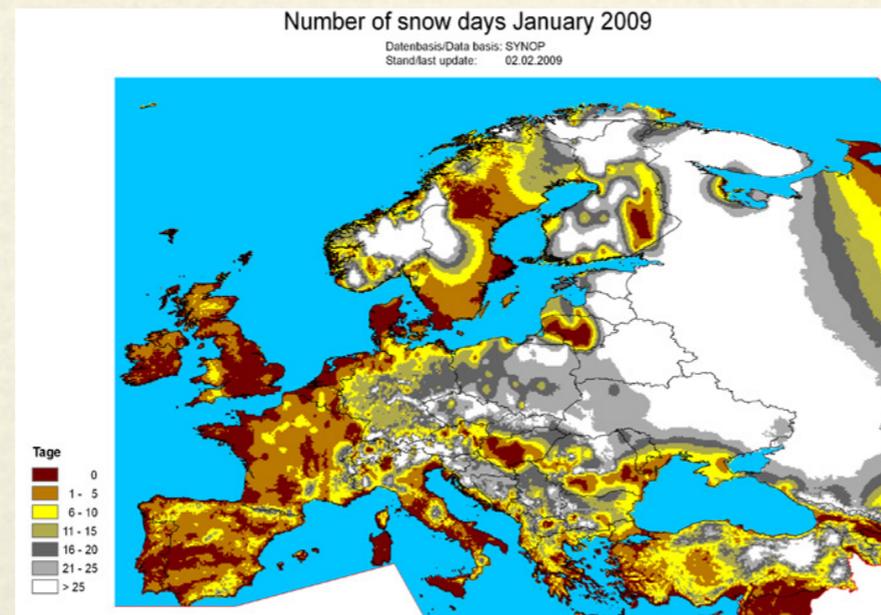
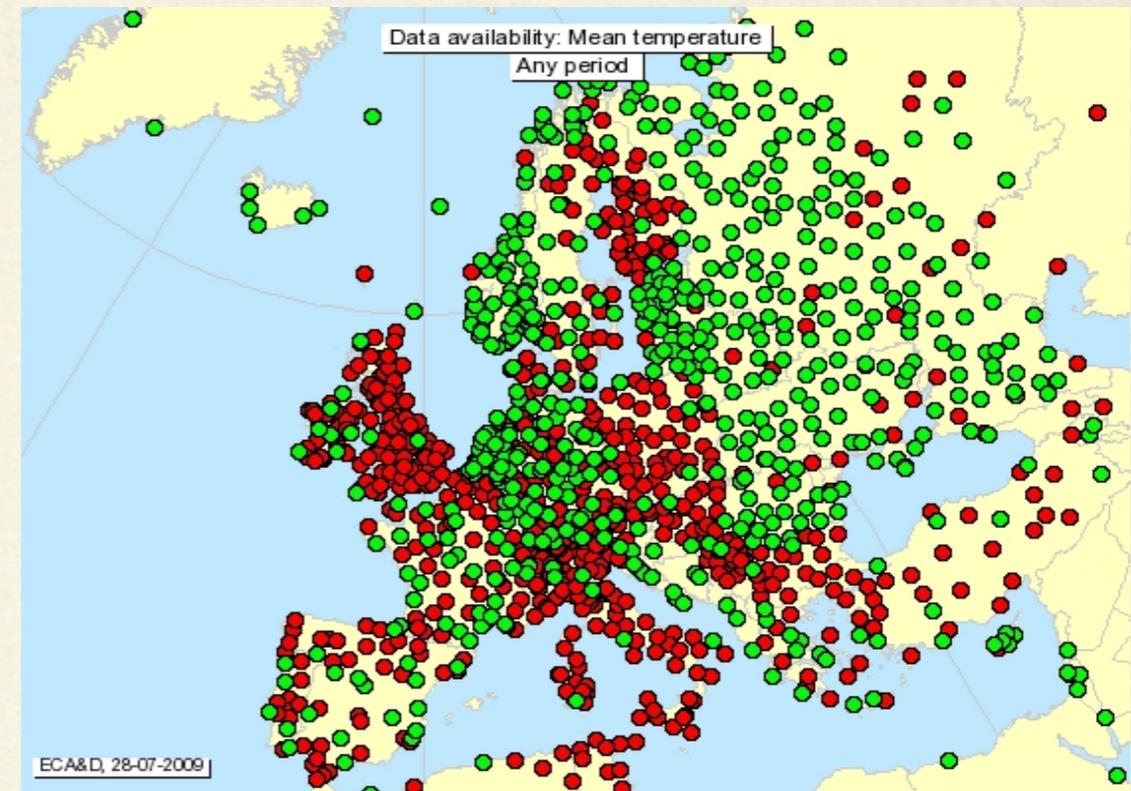
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Position Paper Recommendations

- Future research is needed to build on the important validation work started by Chidzambwa and Mason (2008)
- ... dynamical downscaling products fall short of the downscaling products based on the statistical methods ... evidence indicates that it may soon reach a saturation point and overtaken by dynamical downscaling which will continue to improve Dedicated research is required to support RCOFs in quantitatively determining the preferred method for different RCOFs and seasons.
- RCOF research is required to improve the coupling of RCMs with earth system modules to improve the representation of the regional climate. These earth system modules may include large lakes, major rivers, coastal Ocean basins, and other factors.
- A research newsletter for publication of important accomplishments is recommended. A dedicated RCOF newsletter would provide a 'one stop' comprehensive source about RCOF research.

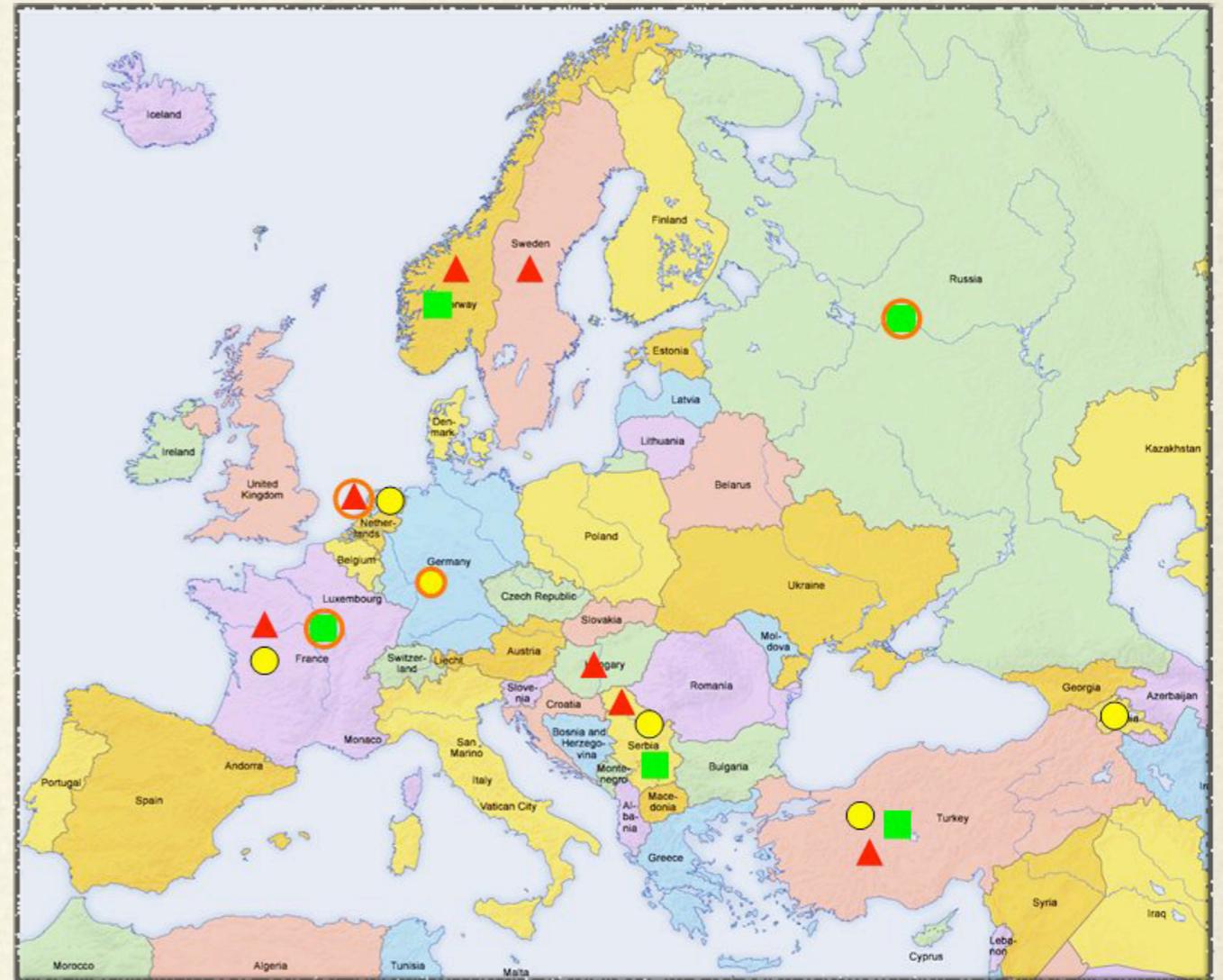
The WMO RA VI Pilot Regional Climate Centre (RCC) Network

- ❖ RCCs provide regional-scale tailored climate services on
- ❖ Climate Data
- ❖ Climate Monitoring
- ❖ Climate Outlook and projections



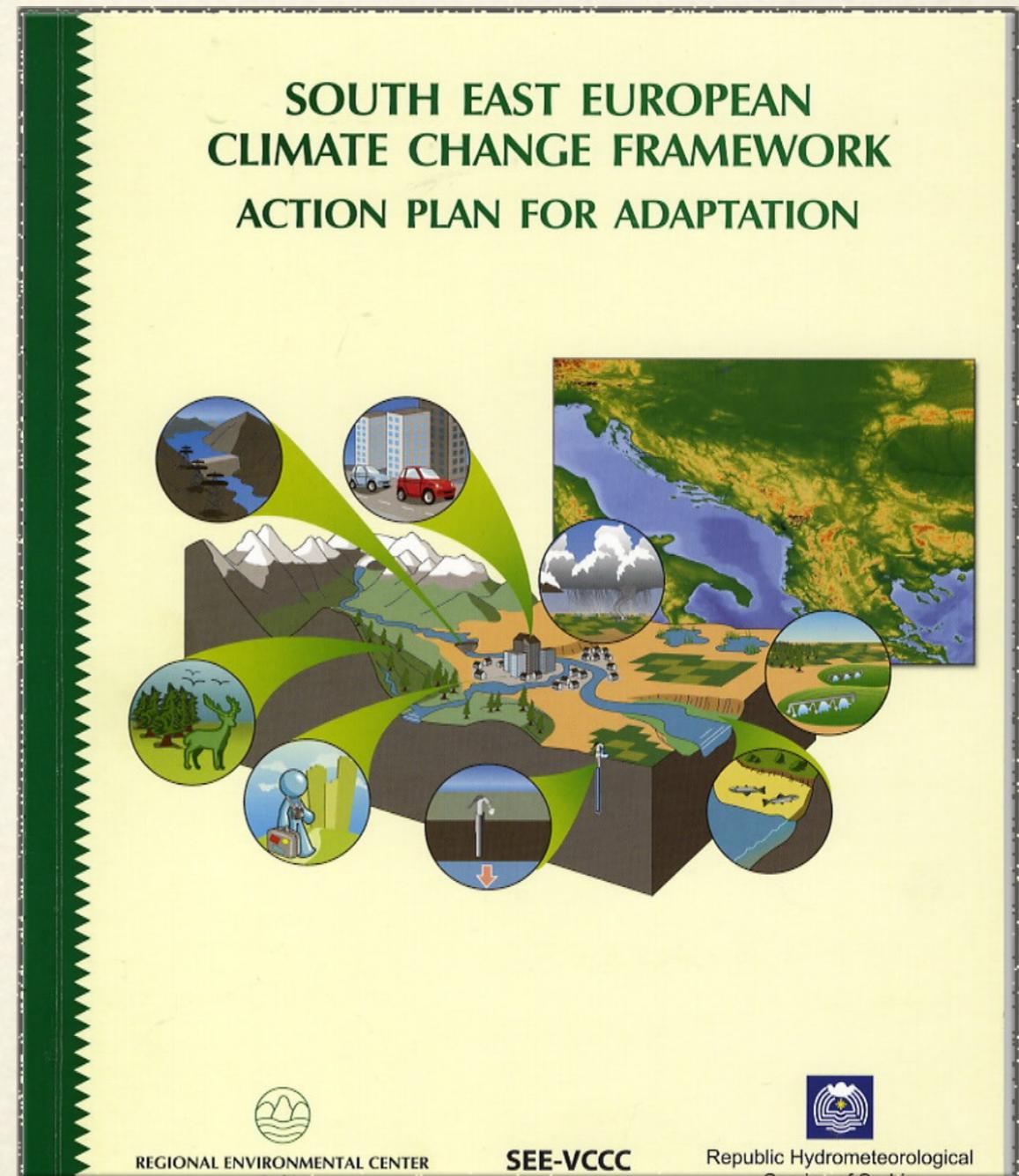
The WMO RA VI Pilot Regional Climate Centre (RCC) Network

- ❖ Using the collective Members' knowledge to improve meteorological services
- ❖ Pilot RA VI RCC-Network
- ❖ RCC on **Climate Data:**
France, Hungary, Norway, Serbia, Sweden, Turkey;
lead: The Netherlands
- ❖ RCC on **Climate Monitoring:**
Armenia, France, The Netherlands, Serbia, Turkey;
lead: Germany
- ❖ RCC on **Long-range Forecasting:**
Norway, Serbia, Turkey;
lead: France, Russian Federation
- ❖ <http://www.rccra6.org>



South East European Virtual Climate Change Centre SEEVCCC - roles and responsibilities within UNFCCC Frameworks -

- ❖ The basic mission of the Centre within the Belgrade initiative is the support to the SEE countries in meeting the needs for information on sub regional climate change projections, impact, vulnerability and adaptation options on a continuous basis, through its operational, research, coordination and educational functions and participation in development and implementation of the SEE/CCFAP-A;
- ❖ The CCFAP-A will run from 2009 to 2015 and is consistent with the UNFCCC/NWP, Bali Action Plan, the timeframes of the Millennium Declaration, the Johannesburg Plan of Implementation, the “Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters”, EU White Paper for Adaptation, and EU Water Initiative...
- ❖ The SEE/CCFAP-A sets out a framework for achieving key adaptation priorities that address the short term needs as well as long term objectives of the region in a cost effective manner.



Conclusions

- ❖ Climate-related risk management requires multi-disciplinary collaborations and exchange of information, which can be achieved through interfacing institutes and processes.
- ❖ In many regions, there is limited use of climate information for sustaining economic development. It is important to find ways for all countries to cope with climate variability through improved access to climate information and prediction products.
- ❖ RCOFs have fostered interactions and exchange of information between the climate scientists and users of climate information.
- ❖ A global framework is critical to ensure smooth flow of user-targeted climate information from global to local scales.

THANK YOU!