World Meteorological Organization

Working together in weather, climate and water

Global Framework for Climate Services

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World Meteorological Organization

- Established in 1950 as a Specialized Agency of the United Nations.
- 189 Member states and territories.
- It is the UN System's Authoritative Voice on the state and behaviour of the Earth's atmosphere, its interaction with the oceans, the associated weather and climate and the resulting distribution of water resources.
- Climate-related initiatives: Major contributor to the establishment of the WCP, WCRP, IPCC, UNFCCC, GCOS, GEOSS/GEO

What are Climate Services ?

- Generating and providing information on past, present and future climate, and on its impacts on natural and human systems
  - Historical climate data sets
  - Climate monitoring
  - Climate watches
  - Monthly/Seasonal/Decadal climate predictions
  - Climate change projections
- Helping the user
  - access the right product for decision making, and
  - use it appropriately including aspects of uncertainty

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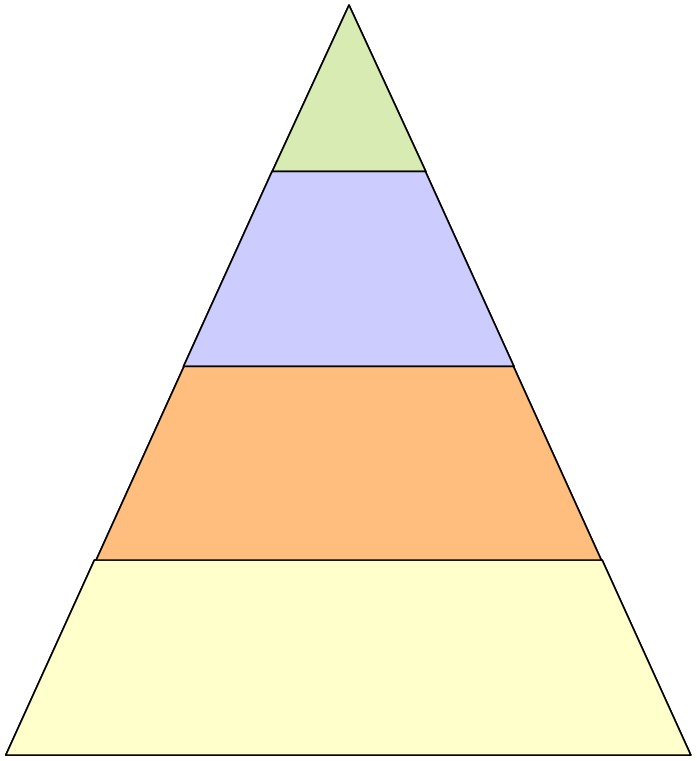
Pre-requisites for climate services

- **Available**: at time and space scales that the user needs,
- **Dependable**: delivered regularly and on time,
- **Usable**: presented in user specific formats so that the client can fully understand,
- **Credible**: for the user to confidently apply to decision-making
- **Authentic**: entitled to be accepted by stakeholders in the given decision contexts
- **Responsive and flexible**: to the evolving user needs, and
- **Sustainable**: affordable and consistent over time.



Why a Framework ?

- Present capabilities for providing climate services do not exploit all that we know about climate.
- Present capabilities fall far short of meeting current and future needs and delivering their full and potential benefits, especially in developing countries.
- A Framework for Climate Services will build on existing capacities and leverage these through coordination to address these shortcomings.
- Envisaged as a set of international arrangements to coordinate global activities and build on existing efforts to provide climate services focused on user needs, wider access and greater benefits of climate knowledge.
- NMHSs are the key building blocks for the Framework.

World Climate Conference-3

Better climate information for a better future

Geneva, Switzerland

31 August–4 September 2009

WCC · 3

WMO

UNESCO

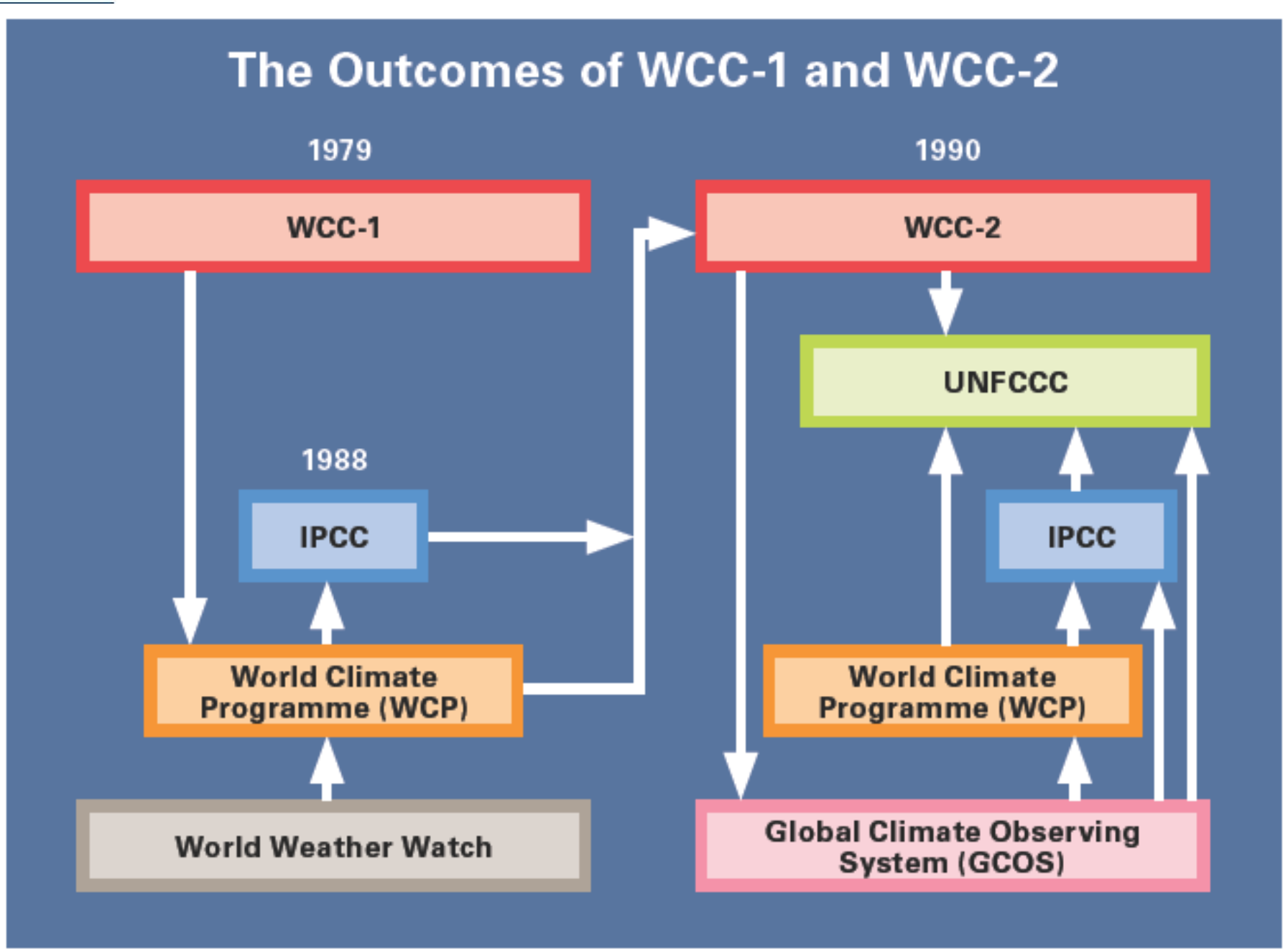
IOC

UNEP

FAO FIAT PANIS

ICSU International Council for Science

World Climate Conference-3 was an initiative of the World Meteorological Organization (WMO) in partnership with the United Nations Educational, Scientific and Cultural Organization (UNESCO) in support of the "UN System delivering as one on climate knowledge". It was co-sponsored by the UN System sponsors of the World Climate Programme, the International Council for Science (ICSU) and other governmental and non-governmental partner organizations.


The Outcomes of WCC-1 and WCC-2
1979
WCC-1
1988
IPCC
World Climate Programme (WCP)
World Weather Watch
1990
WCC-2
UNFCCC
IPCC
World Climate Programme (WCP)
Global Climate Observing System (GCOS)

Global Framework for Climate Services

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

WCC · 3

"Now is the time to invest in science, and to commit to rigorous and sustained climate observation, research, assessments and the provision of information. The establishment of the Global Framework for Climate Services will be an important step toward strengthening the application of climate knowledge in local, regional, national and international decision-making".

Ban Ki-moon,
Secretary-General of the United Nations

World Meteorological Organization
Weather • Climate • Water

WMO OMM

Conference Declaration

We, Heads of State and Government, Ministers and Heads of Delegation present at the High-level segment of the World Climate Conference-3 (WCC-3) in Geneva, noting the findings of the Expert Segment of the Conference:

Decide to establish a Global Framework for Climate Services (hereafter referred to as "the Framework") to strengthen the production, availability, delivery and application of science-based climate prediction and services;

Request the Secretary-General of the World Meteorological Organization (WMO) to convene, within four months of the adoption of the Declaration, an intergovernmental meeting of Member States of the WMO to approve the terms of reference and to endorse the composition of a task force of high-level, independent advisors to be appointed by the Secretary-General of the WMO with due consideration to expertise, geographical and gender balance;

Decide that the task force will, after wide consultation with governments, partner organizations and relevant stakeholders, prepare a report, including recommendations on proposed elements of the Framework, to the Secretary-General of WMO within 12 months of the task force being set up. The report should contain findings and proposed next steps for developing and implementing the Framework. In the development of their report, the task force will take into account the concepts outlined in the annexed Brief Note;

Decide further that the report of the task force shall be circulated by the Secretary-General of WMO to Member States of the WMO for consideration at the next WMO Congress in 2011, with a view to the adoption of the Framework and a plan for its implementation; and

Invite the Secretary-General of WMO to provide the report to relevant organizations and to the United Nations Secretary-General.

Adopted by acclamation by the
High-level Segment of the Conference
on 3 September 2009

High Level Taskforce on GFCS

Joaquim Chissano
(Mozambique)

Jan Egeland
(Norway)
Co-Chair

Angus Friday
(Grenada)

Eugenia Kalnay
(Argentina/USA)

Ricardo Escobar
(Chile)

Julia Marton-Lefèvre
(Hungary/France/USA)

Khotso Mokhele
(South Africa)

Chiaki Mukai
(Japan))

Cristina Ruiz
(Spain)

Rajendra Singh Paroda
(India)

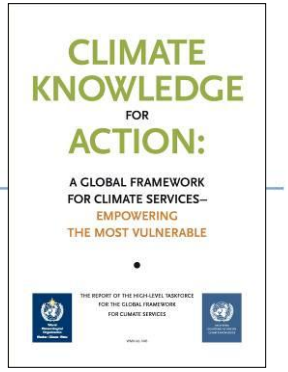
Qin Dahe
(China)

Emil Salim
(Indonesia)

Mahmoud Abu-Zeid
(Egypt))
Co-Chair

Fiame Naomi Mata'afa
(Samoa)

The Report of the Taskforce



- Based on information gathered through extensive consultations with governments, users and providers, scientists, and operational observing and information systems;
- Final report submitted, including, the key aspects of the GFCS and options for implementing it, how it might be governed and what would be the resource implications;
- Report available on WMO web site: http://www.wmo.int/hlt-gfcs/downloads/HLT_book_full.pdf.
- This report was considered by the 16th World Meteorological Congress in May-June 2011.

HLT Vision for GFCS

By 2015, the Framework will establish:

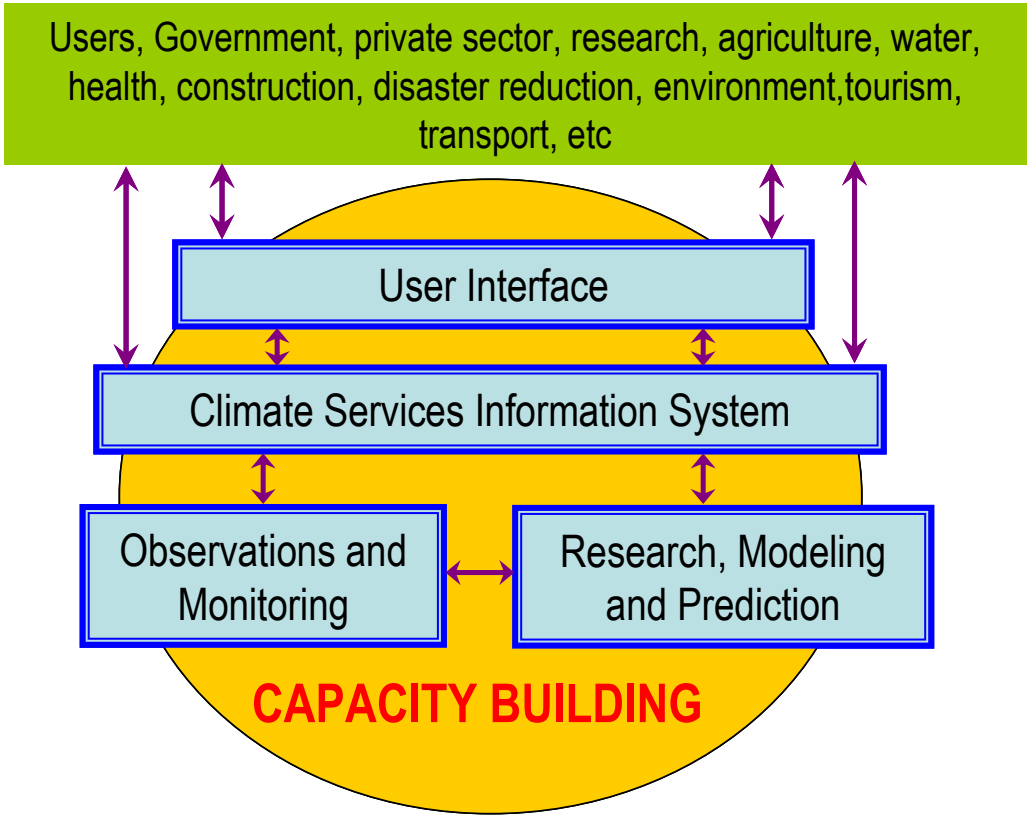
- A global system to routinely generate and electronically exchange an extensive set of defined climate data and data products
- An initiative in developing countries to upgrade the climate service capacities and strategies of all vulnerable and low-capacity countries to a baseline level
- An initial suite of new knowledge products – protocols, tools, products and services – developed through multiple initiatives on user interfacing and services development
- An ongoing governance mechanism that drives the Framework's development, particularly by engaging and mobilising stakeholders, user communities and new resources

Principles recommended in developing the implementation strategy

- Principle 1: All countries will benefit, but priority shall go to **building the capacity of climate-vulnerable developing countries**
- Principle 2: The primary goal of the Framework will be to **ensure greater availability of, access to, and use** of climate services for all countries
- Principle 3: Framework activities will address three geographic domains: **global, regional and national**
- Principle 4: **Operational climate services** will be the core element of the Framework
- Principle 5: Climate information is primarily an **international public good provided by governments**, which will have a central role in its management through the Framework
- Principle 6: The Framework will **promote the free and open exchange of climate-relevant observational data** while respecting national and international data policies
- Principle 7: The role of the Framework will be **to facilitate and strengthen, not to duplicate**
- Principle 8: The Framework will be **built through user – provider partnerships** that include all stakeholders

Components of the Framework

- **User Interface Platform** - to provide a means for users, user representatives, climate researchers and climate service providers to interact
- **Climate Services Information System** - to collect, process and distribute climate data and information according to the needs of users and according to the procedures agreed by governments and other data providers
- **Observations and Monitoring** - to ensure that the climate observations necessary to meet the needs of climate services are generated.
- **Research, Modelling and Prediction** - to assess and promote the needs of climate services within research agendas
- **Capacity Building** - to support systematic development of the necessary institutions, infrastructure and human resources to provide effective climate services.



Global, regional, national levels

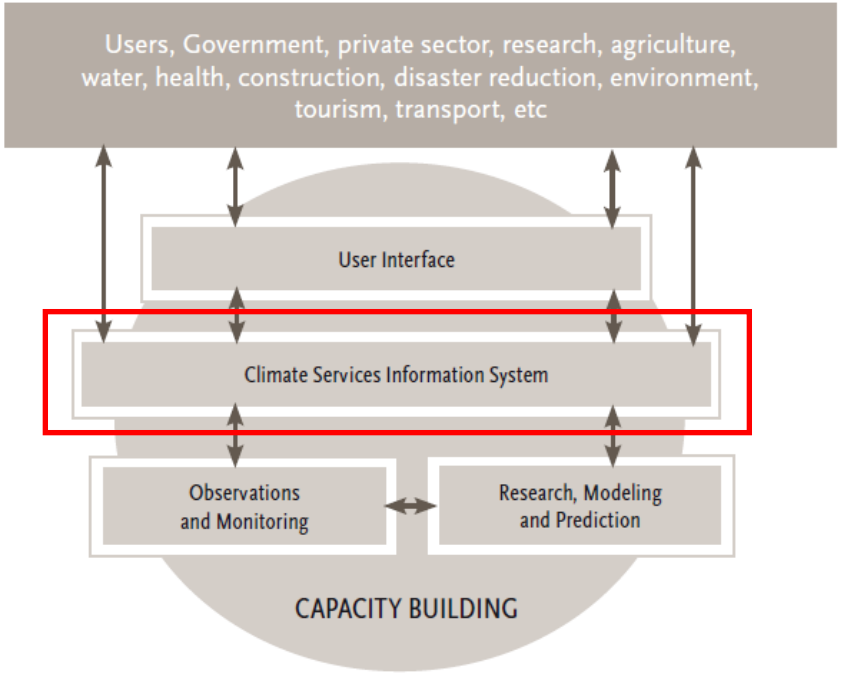
Scale	Data and product flows	Framework elements	Feedback and demand	Governance
Global	Global centres receive and process nationally generated data and produce and distribute data and products	• Observations • Research • Information system • User interfacing • Capacity development Products	Responds to globally expressed needs from stakeholders at all levels, both suppliers and users	Inter-governmental through United Nations mechanisms
Regional	Some regional data nodes and some within-regional collection and exchange of data and products.	• Observations • Research • Information system • User interfacing • Capacity development Products	Responds principally to stakeholders within the region, particularly national organisations	Regional inter-governmental organisations
National	Source of almost all data and products, for within-country use and for exchange to other countries	• Observations • Research • Information system • User interfacing • Capacity development Services	Primary focus on national needs, relationship with users and feedback on requirements.	Nationally determined

Climate Service Information System (CSIS)

- The CSIS is the component of the GFCS most concerned with the generation and dissemination (data flow) of climate information.
- It is the 'operational centre' of the GFCS. It will include climate monitoring, prediction (monthly, seasonal, decadal) and projection (centennial) activities.
- HLT report: 'The Climate Services Information System is the system needed to collect, process and distribute climate data and information according to the needs of users and according to the procedures agreed by governments and other data providers.'

Role of CSIS within the GFCS

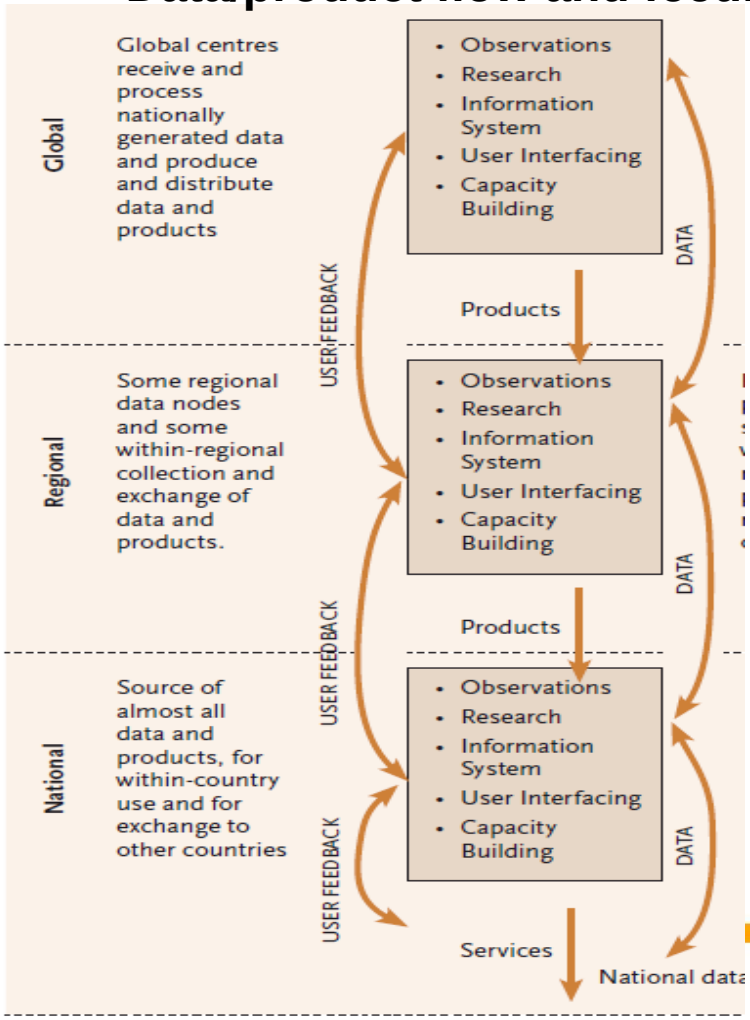
- The CSIS is the means of delivery of climate data and products.
- It comprises global, regional and national centres and entities that generate/process climate information (observations and predictions), and the exchange of data and products to agreed standards and protocols.
- It must be supported by observation and research programmes (e.g. GCOS, WCRP). With 'pull through' facilitated by strong links.
- Capacity building initiatives will increase 'conductivity' of data flow
- Part of the CSIS is in place, but new infrastructure is needed to fullfil the GFCS vision.



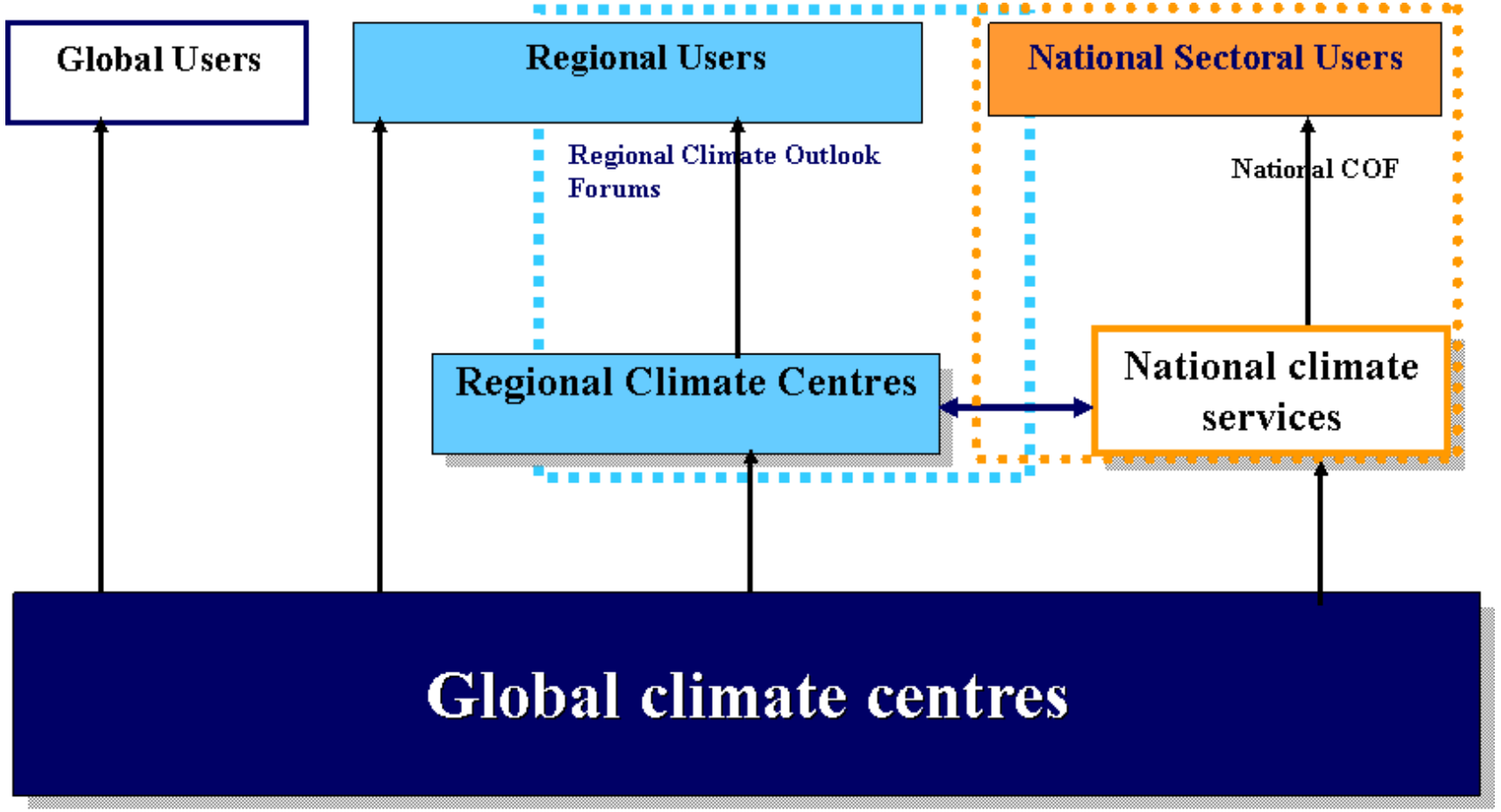
GFCS activities will address three geographic domains: global, regional and national

Domain	Nodes
Global	Global monitoring centres Global prediction centres
Regional	Regional Climate Centres Regional Climate Outlook Forums
National	National Meteorological Services National Climate Outlook Forums Other national entities

Data/product flow and feedback



Elements of Climate Services Information System



WMO Congress Key Decisions on GFCS

- Decided that the implementation of the GFCS would be a high priority area during the financial period 2012-2015;
- Endorsed the broad thrust of the High-level Taskforce's Report;
- Entrusted the WMO Executive Council with the responsibility of developing proposals, with the involvement of relevant stakeholders including other UN bodies, for consideration by an Extraordinary Session of the World Meteorological Congress in 2012 with the participation of all relevant stakeholders including other UN bodies. These proposals to address the:
  - Development of the draft implementation plan for the GFCS;
  - Establishment of the draft Terms of Reference and Rules of Procedure for the Intergovernmental Board and its substructures based on the draft implementation plan;
- Decided that the Intergovernmental Board of the Framework will be accountable to the WMO Congress and that the management committee structure and other sub-structures that may be accountable to the Intergovernmental Board will be decided upon completion of the implementation plan.
- Decided to establish the GFCS Secretariat within the WMO

WMO Executive Council on GFCS

- WMO Executive Council considered Congress decisions on the GFCS, and agreed on the follow-up action;
- Established a Task Team on GFCS to develop the draft implementation plan;
- The draft implementation plan will be considered by the Executive Council in June 2012 for presentation to the Extraordinary Session of the Congress.

WMO Role in taking GFCS forward

- Translate the report of the Taskforce into a sustainable and operational system;
- Develop partnerships across the UN system so that user groups can gain access to climate services;
- Focus observations, research and information systems to support GFCS;
- Promote and support capacity building that contributes to the GFCS;
- Give high priority and sufficient resources to implement those elements of the GFCS which the UN system agrees are the WMO's responsibility.

NMHSs: Underpinning the GFCS

- NMHSs already provide climate services based on the historical archives of observational data collected for weather services; several of them also provide operational climate prediction products, up to seasonal time scales
- NMHSs own and operate most of the infrastructure that is needed for providing the weather, climate, water and related environmental services, including observing systems, data management, prediction, communications and data exchange, etc.
- NMHSs are mandated by the WMO Convention to observing and understanding of weather and climate and in providing meteorological (including climatological), hydrological and related services in support of relevant national needs, ensuring authenticity to their products and services
- NMHSs are structured and trained to provide 24/7 services
- NMHSs through collaborative mechanism have established standard practices across the globe for weather services that can be easily extended for delivering climate services
- Users deal with weather and climate information in a seamless manner, and it greatly helps them to meet all their weather and climate information needs through a ‘single window’; NMHSs can effectively provide such a single window.
- NMHSs and their partners constitute a large pool of technical experts dealing with weather and climate

Concluding Remarks

- In many regions, there is limited use of climate information. It is important to find ways for all countries to cope with climate variability and change through improved access to climate information and prediction/projection products and the use of risk management techniques.
- Climate adaptation and Climate-related risk management require multi-disciplinary/international collaborations and cross-disciplinary/international exchange of information.
- WMO is looking forward to GFCS as a major step forward in systematically providing climate information for decision making at various levels of climate-sensitive sectors.

Thank You

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