GFCS
GLOBAL FRAMEWORK FOR CLIMATE SERVICES

The Global Framework for Climate Services (GFCS)

Dr Laxman Rathore
Co-Vice Chair, IBCS

FWCC 1979 (Scientific Knowledge) 'Climate Variability and Change as an issue of concern worldwide '

➢**IPCC**

SWCC 1990

Political Awareness

'More momentum to address Climate Variability and Change'

➢**GCOS**

➢**UNFCCC**

Development policy

WCC-3 (31 Aug-4 Sept. 2009)

Societal services

'Climate prediction and information for decision-making

➢ **GFCS**

- **Observation & Monitoring**
- **Climate Research & Modeling**
- **Climate Services & Information System**
- **Climate Services Application Programme**

WCC · 3

Australian Government
Canada
PEOPLE'S REPUBLIC OF CHINA
EUROPEAN COMMUNITY
MINISTRY FOR FOREIGN AFFAIRS OF FINLAND
Liberté • Égalité • Fraternité
RÉPUBLIQUE FRANÇAISE
Die Bundesregierung
Japan
REPUBLIC OF KENYA
NORWEGIAN MINISTRY OF FOREIGN AFFAIRS
РОССИЙСКАЯ ФЕДЕРАЦИЯ
RUSSIAN FEDERATION
Saudi Arabia
GOBIERNO DE ESPAÑA
GOVERNMENT OF THE UNITED STATES OF AMERICA
Met Office
UN SYSTEM DELIVERING AS ONE ON CLIMATE KNOWLEDGE

A historic event (31 Aug – 4 Sept, 2009, Geneva)

The Global Framework for Climate Services (GFCS)—A New Partnership Process

31 AUGUST–4 SEPTEMBER 2009
WORLD CLIMATE CONFERENCE-3

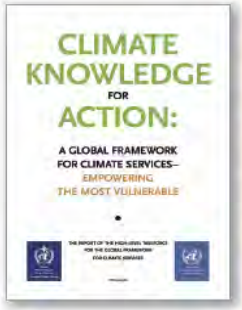
11–12 JANUARY 2010
INTERGOVERNMENTAL MEETING

16 MAY–3 JUNE 2011
SIXTEENTH WORLD METEOROLOGICAL CONGRESS

6–8 JUNE 2011
SIXTY-THIRD SESSION OF THE WMO EXECUTIVE COUNCIL

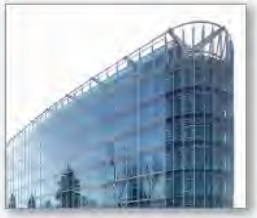
25 JUNE–3 JULY 2012
SIXTY-FOURTH SESSION OF THE WMO EXECUTIVE COUNCIL

2009 2010 2011 2012



2010
HIGH-LEVEL TASKFORCE

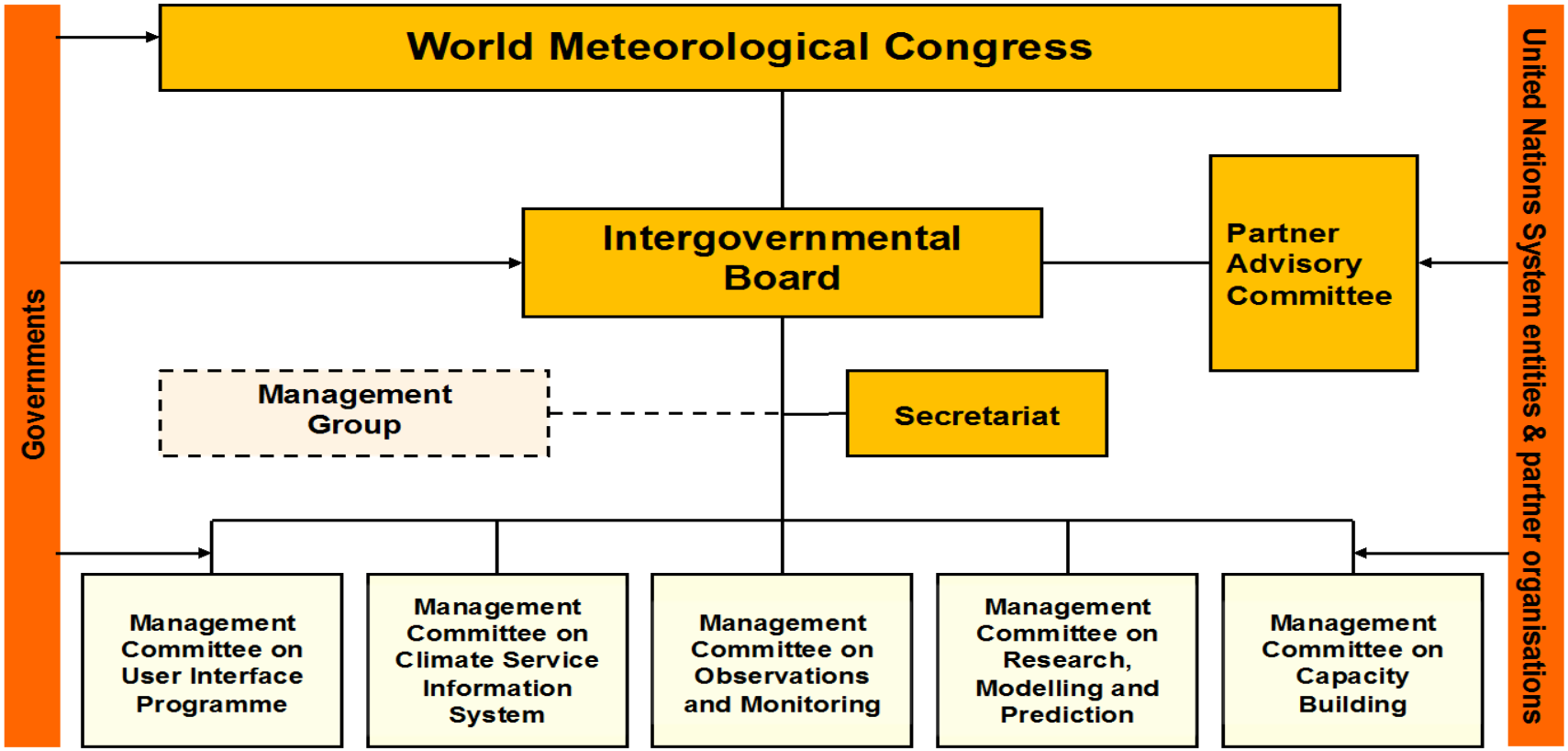
FEBRUARY 2011
CLIMATE KNOWLEDGE FOR ACTION: A GLOBAL FRAMEWORK FOR CLIMATE SERVICES – EMPOWERING THE MOST VULNERABLE



JUNE 2011
ESTABLISHMENT OF THE GLOBAL FRAMEWORK FOR CLIMATE SERVICES OFFICE IN THE WMO SECRETARIAT

26–31 OCTOBER 2012
WMO GFCS USER CONFERENCE AND EXTRAORDINARY CONGRESS

Governance Structure (29-31 October, 2012)



Governance Structure

- **IBCS**
- **Management Committee**
- **PAC**
- **Task Team**

Inter-Governmental Board for Climate Services

Chair:
Dr Jens Sunde (Norway

Co-Vice-Chairs:
Dr Linda Makuleni (South Africa), and
Dr Laxman Singh Rathore (India)

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Vision

Enable better management of the risks of climate variability and change and adaptation to climate change, through the development and incorporation of science-based climate information and prediction into planning, policy and practice on the global, regional and national scale

Agriculture and food security

Disaster risk reduction

Water

Health

Energy

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Concern...

Strong Wind

Coastal Marine Hazards

Tropical Cyclones

Heavy rainfall / Flood

Heatwaves

Intensity

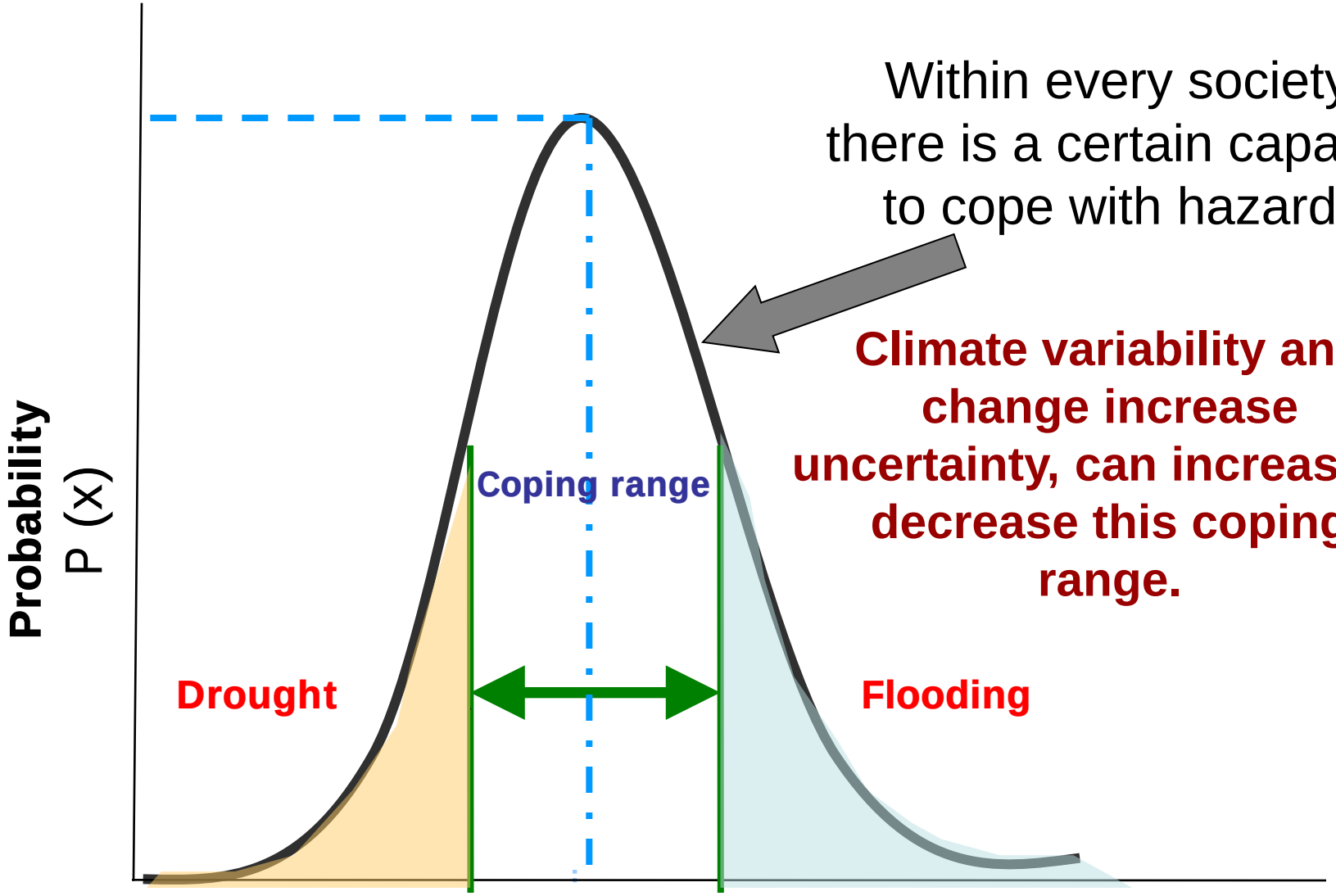
Frequency

Hazards' intensity and frequency are increasing

Vulnerability and exposure on the rise !

Need for > coping mechanisms

What it used to be...

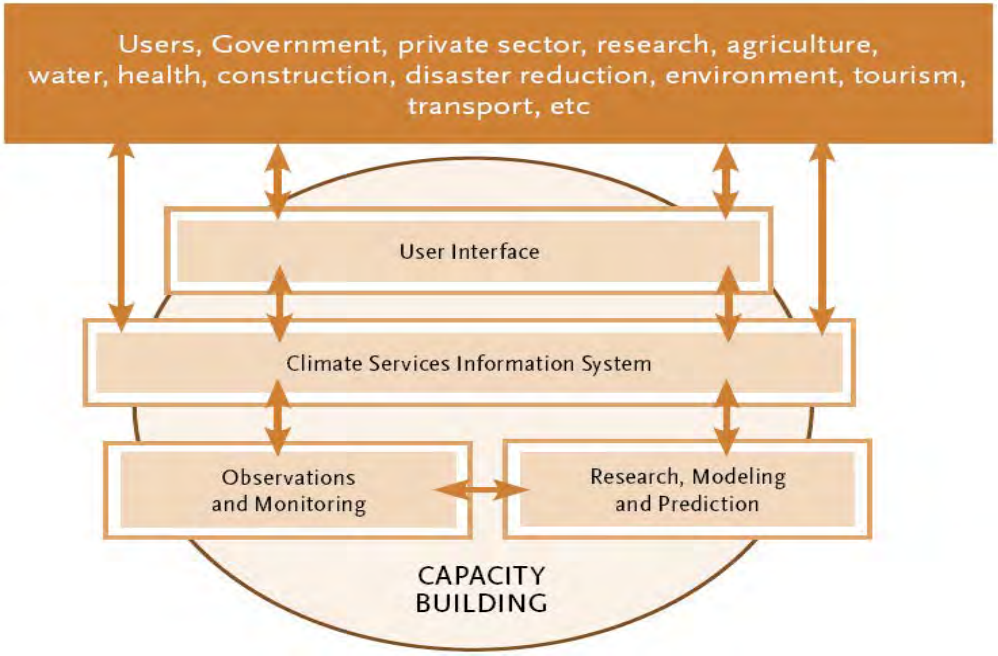


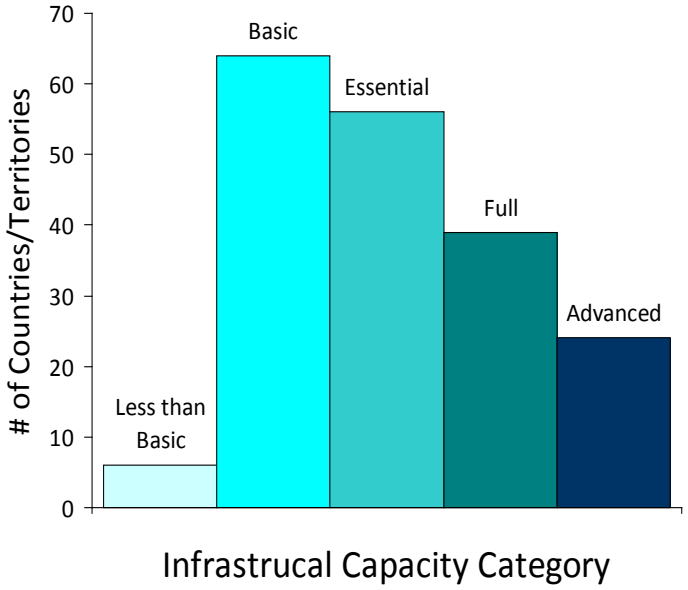
Within every society, there is a certain capacity to cope with hazards

Climate variability and change increase uncertainty, can increase or decrease this coping range.

Source: Wilhite 2006

GFCS Pillars





Many countries lack the infrastructural, technical, human and institutional capacities to provide high-quality climate services.

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PAC Membership

What are Climate Services?

- The accumulation of knowledge about the past, present and future of the climate system;
- The development and delivery of a range of "products" and advice based on this knowledge about the past, present and future climate and its impacts on natural and human systems
  - Historical climate data sets
  - Climate monitoring
  - Climate watches
  - Monthly/Seasonal/Decadal climate predictions
  - Climate change projections
- The use and the effective application of these products to help achieve the desired results.

A Climate service: Providing climate information in a way that assists decision making by individuals and organizations. A service requires appropriate engagement along with an effective access mechanism and must respond to user needs.

Photo Credits: NASA, Pedro Sanchez, Renzo Taddei

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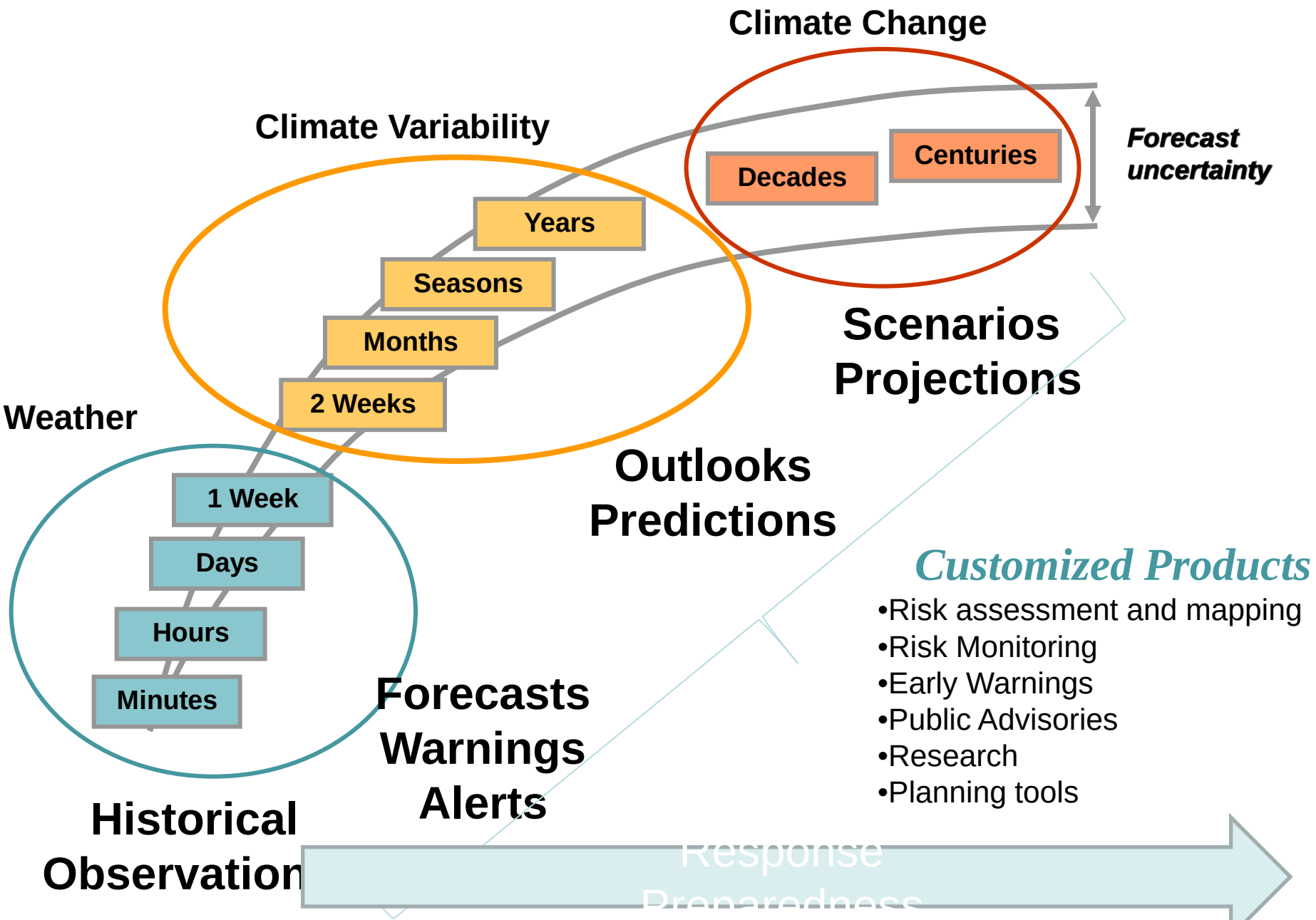
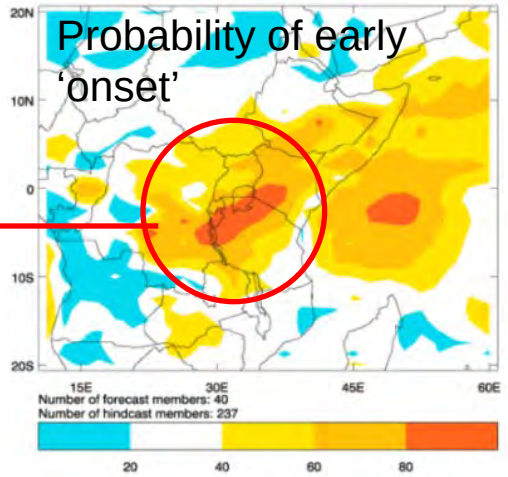
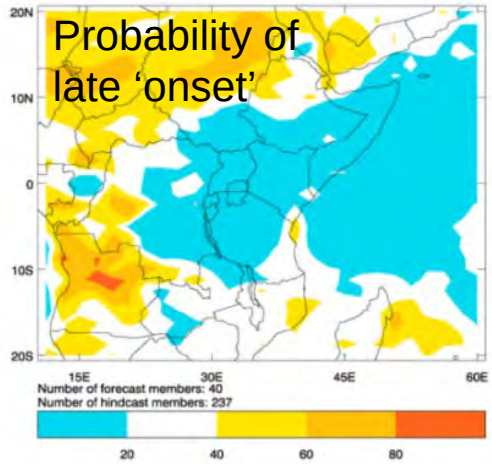
Seamless hydrometeorological and climate services



New trial user products: onset prediction and monitoring

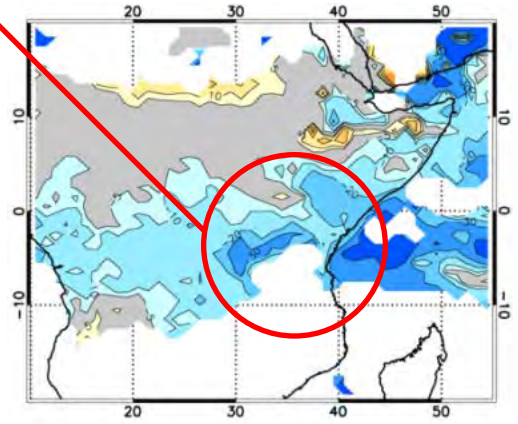
Early onset predicted most likely





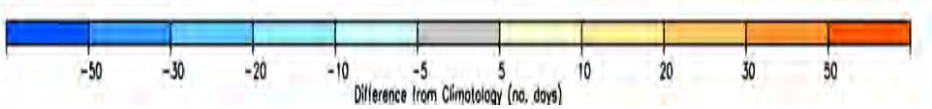
Prediction is based on local time of arrival of 20% of long-term seasonal average

Early onset occurred



Greater Horn of Africa, short-rains season 2011 – 1 month lead time prediction

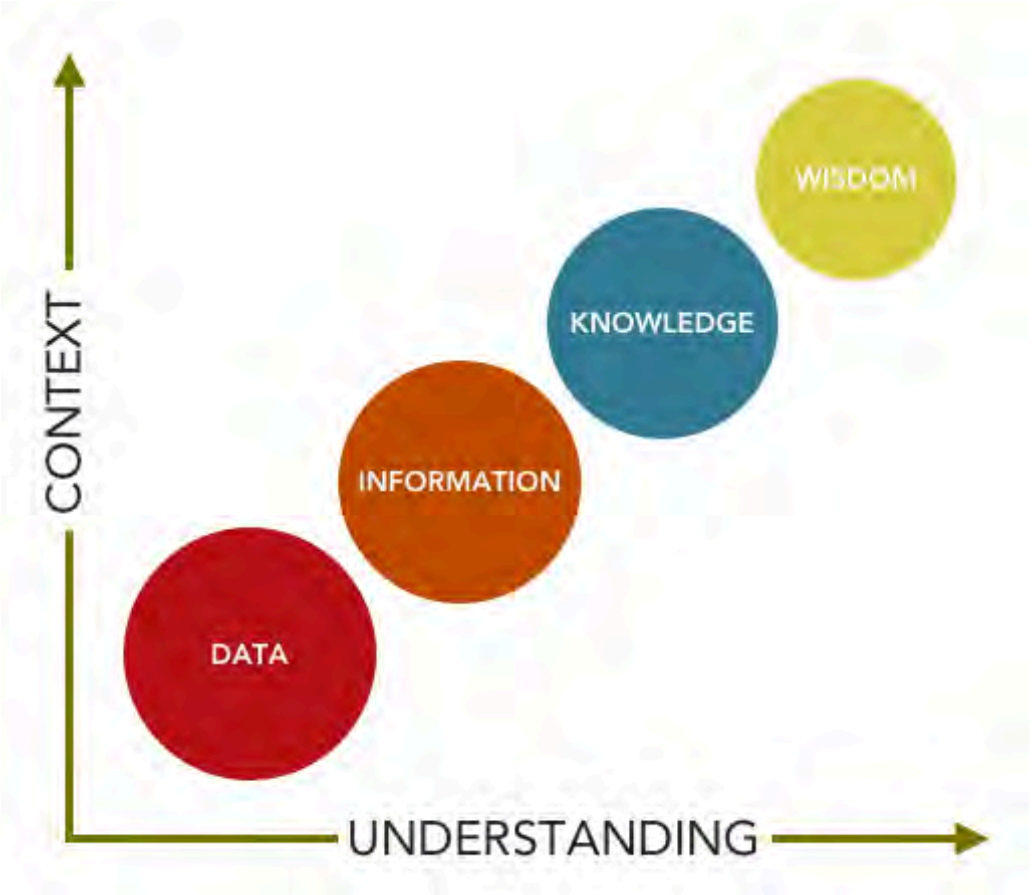
CSRP monitoring product: Observed time of 'onset' (in days difference from long-term average



Assessment over retrospective cases indicates forecast can discriminate early/late onset in ~70% of cases (Tanzania/Kenya)

Onset forecasts being trialled at regional centres in East, West and southern Africa

Data or information?



Decision-making across timescales

Begin planning and monitoring of forecasts

Update contingency plans

Sensitize communities

Enable early-warning systems

Continue monitoring

Adjust plans

Warn communities

Local preparation activities

Activate response

Instruction to communities to evacuate, if needed

Climate is what you expect, weather is what you get

Mark Twain

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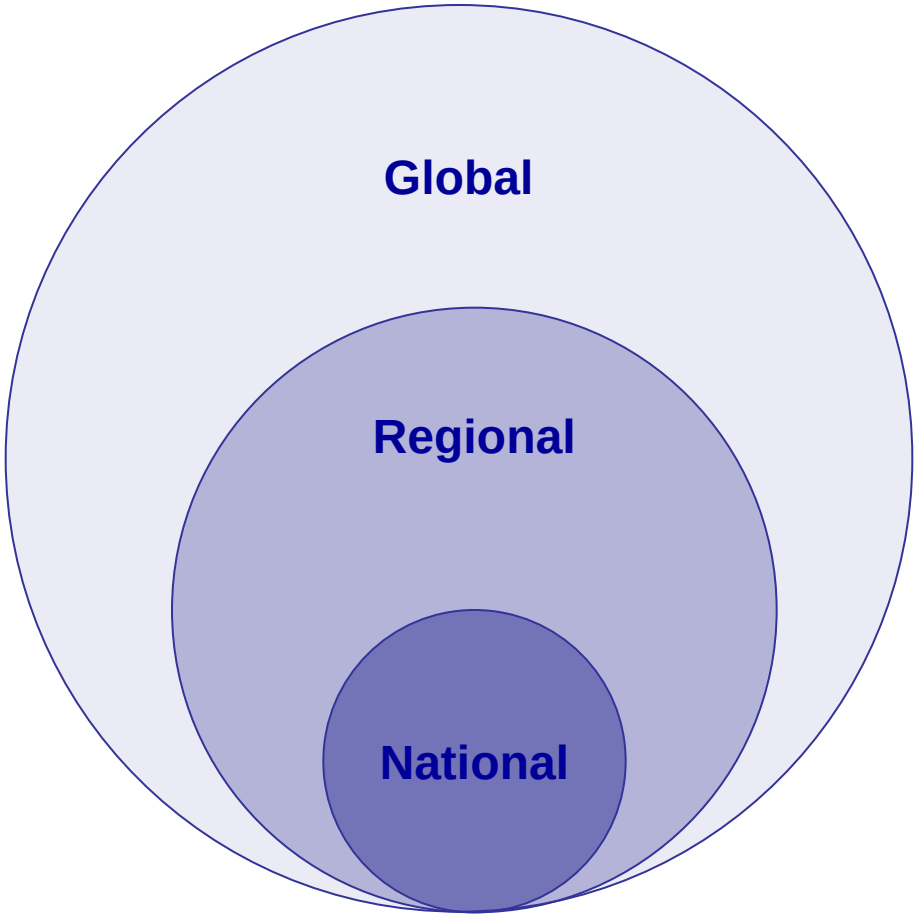
Domains of operation of GFCS



Domains of operation of GFCS

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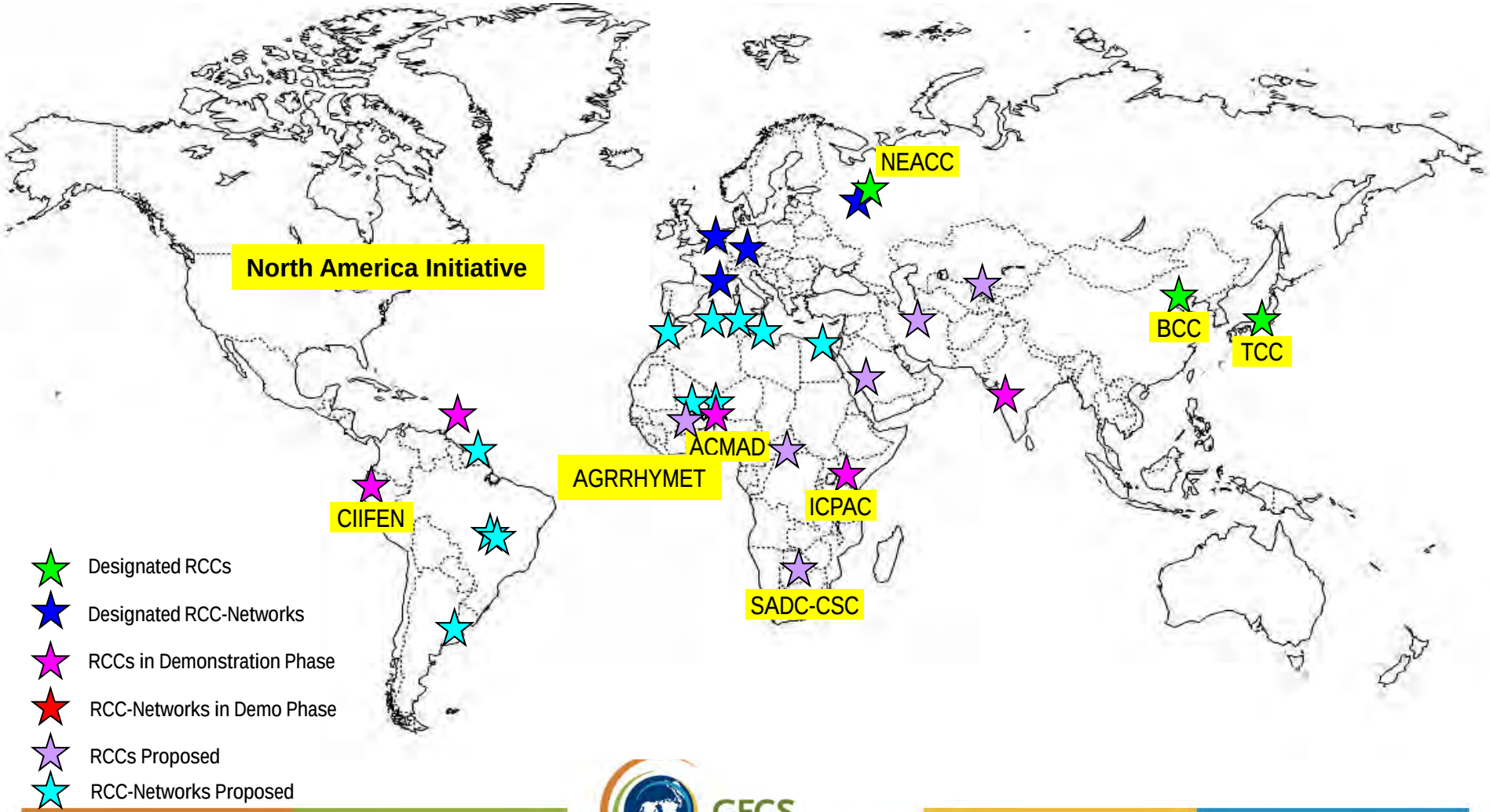
WMO RCC Status Worldwide



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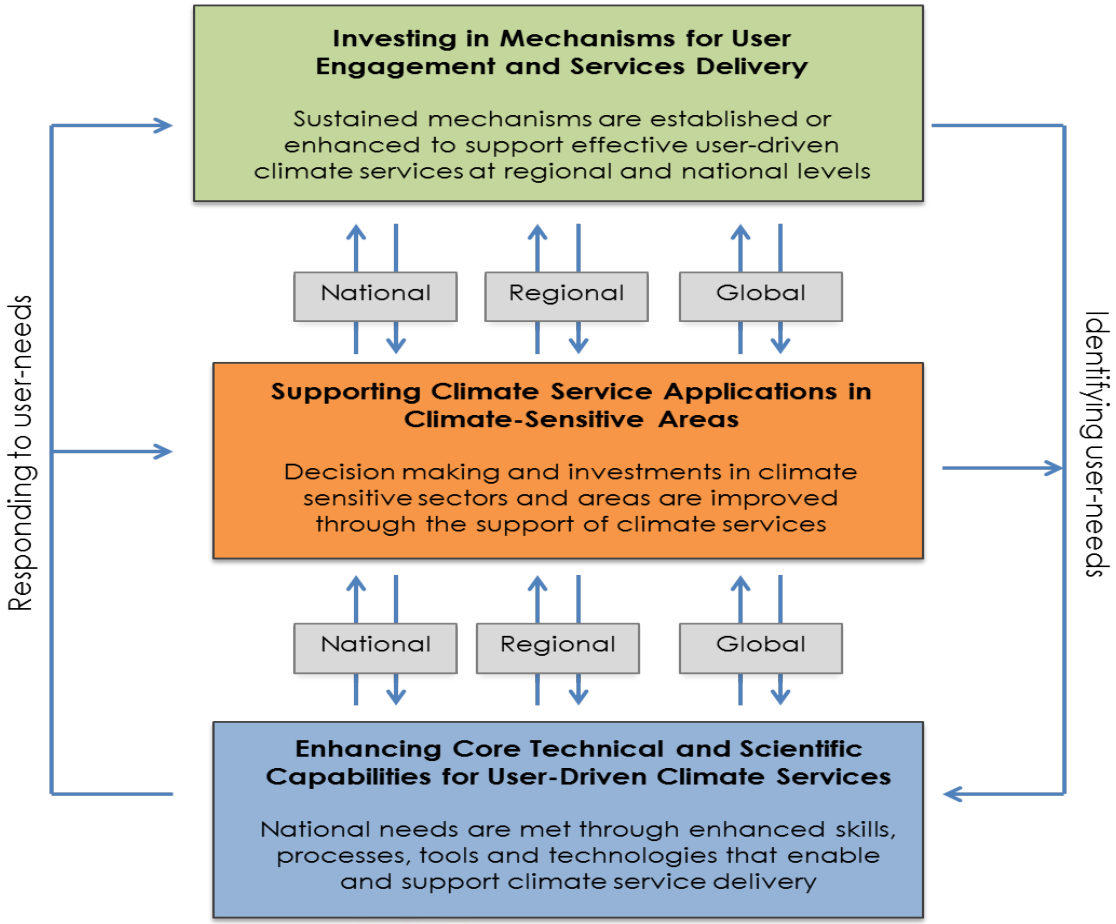
Strategic Objectives of the GFCS Operational and Resources Plan



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Implementation focus

- **The Framework is being implemented over 2-, 6-, and 10-year time frames to facilitate review at the World Meteorological Congress sessions.**

- **The first two years have been the start-up phase for establishing the Framework's infrastructure and for establishment of coordination mechanisms for implementation of multidiciplinary flagship projects and activities in the four priority areas**
  - **to develope a *"Proof of Concept"***

Implementation focus

- **Following the abitions of the Implementation Plan:**

- **After six years:**
  - **Implementation the *Proof of Concept;* flagship projects will be replicated in other parts of the world to ensure worldwide improvements in climate services for the priority areas**

- **After ten years:**
  - **There will be improved climate services throughout the world, across all climate-sensitive sectors and across global, regional and national spatial scales.**

Implementation focus: support through a systematic stepwise approach (1)

- **Step 1:** Conduct comprehensive national baseline capacity assessment for Climate Services;

- **Step 2**: Support NMHSs to engage in a national consultation process for climate services to identify gaps, need and priorities for the development of a national action plan for climate services;

- **Step 3**: establish a national framework for climate services as the coordination mechanism for addressing issues for the production and application of climate services, also serving as a platform for promoting effective collaboration and cooperation at national level;

Implementation focus: support through a systematic stepwise approach (2)

- **Step 4**: Organize a national action plan validation workshop to ensure that the Plan is endorsed and owned by key stakeholders including the government and key partners. The validation exercise is also aimed at attracting the attention of partners to supporting the action plan;

- **Step 5**: Begin Implementation of the national action plan activities, launch the national framework for climate services and ensure rigorous monitoring and evaluation.

Major needs

1. Tailored climate information products and advisory services (detailed and skilful forecasts + climate change projections + better prediction of extremes);
2. Capacity development of professionals and communities on production and effective application of climate services;
3. Improved, standardized, and quality controlled sector monitoring data that is compatible with environmental and climate information;
4. Monitoring and evaluation of the appropriate, effective, and cost-effective use of climate information for sector decisions;
5. Research and prediction of sector impacts associated with climate variability and climate change;
6. Development and deployment of early warning systems appropriate to the sector and user communities;
7. Sustainable financial and technical support;
8. Better collaboration with the climate community for interdisciplinary policy, practice and research.

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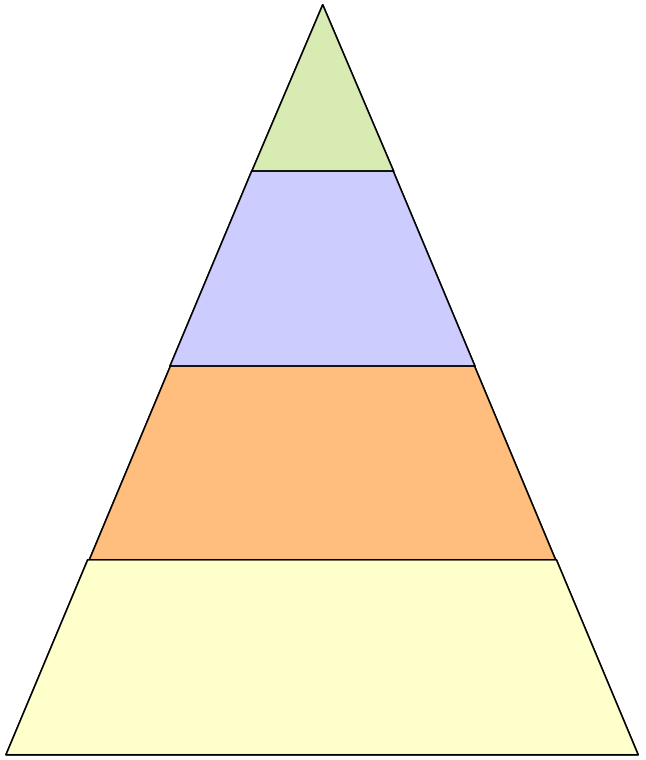
Pre-requisites for climate services

- **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.



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Thank you for your attention