World Meteorological Organization

Working together in weather, climate and water

WMO

UNECE Workshop - Water and Climate Change:
How to develop an Adaptation Strategy in Transboundary Basins

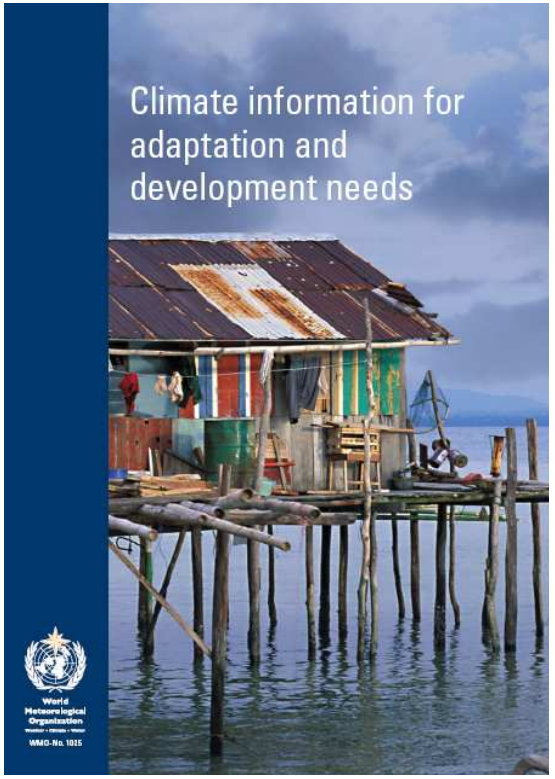
Activities of WMO to support climate change adaptation in the water sector

Geneva, 11 May 2010

www.wmo.int

The Need for Climate Services

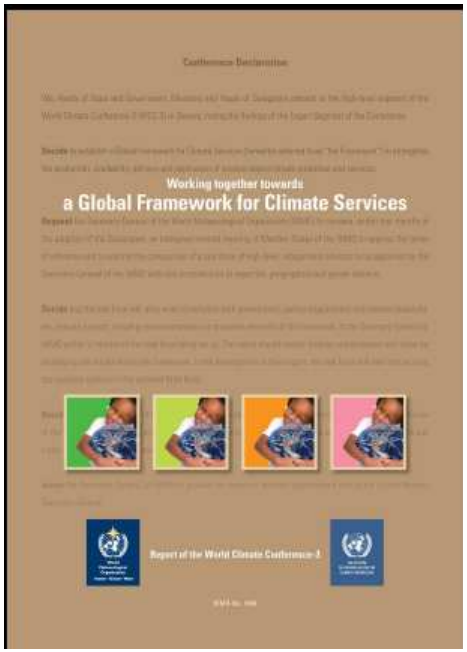
- Decision making in climate adaptation and risk management will be enhanced by the availability of actionable and scale-relevant climate information
- Improvement of global cooperation in the development of accurate and timely climate information
- Climate information exchange between the providers and users of climate services
- Ensuring that relevant climate information is integrated into planning, policy and practice at various levels



→ Specific need for an information flow from global to local scales

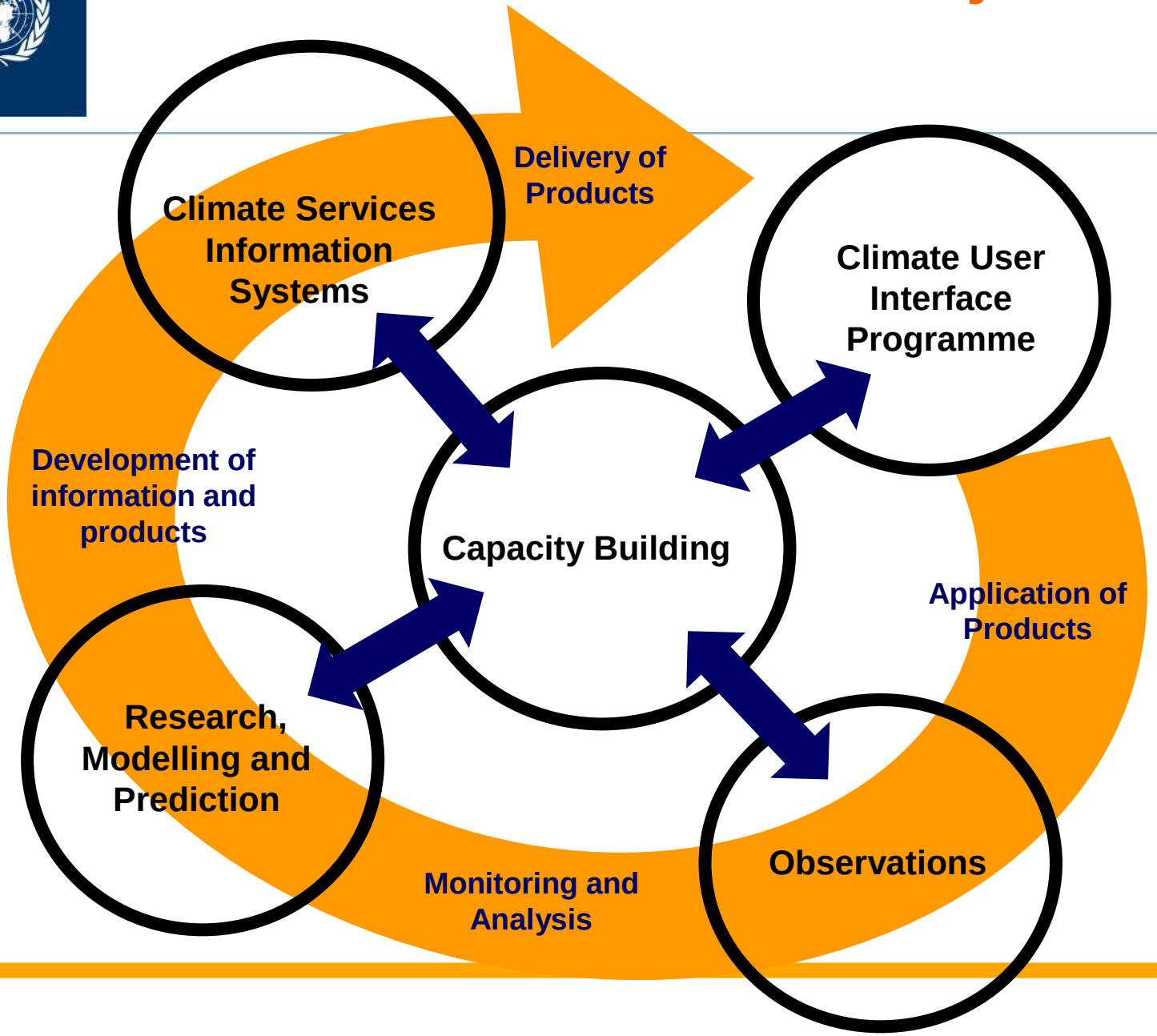
Global Framework for Climate Services

- **Provide a cooperative framework** in which all Nations, International Organizations, scientists and sectors will work together to meet the users needs;
- **Enable users to benefit** from improved 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.

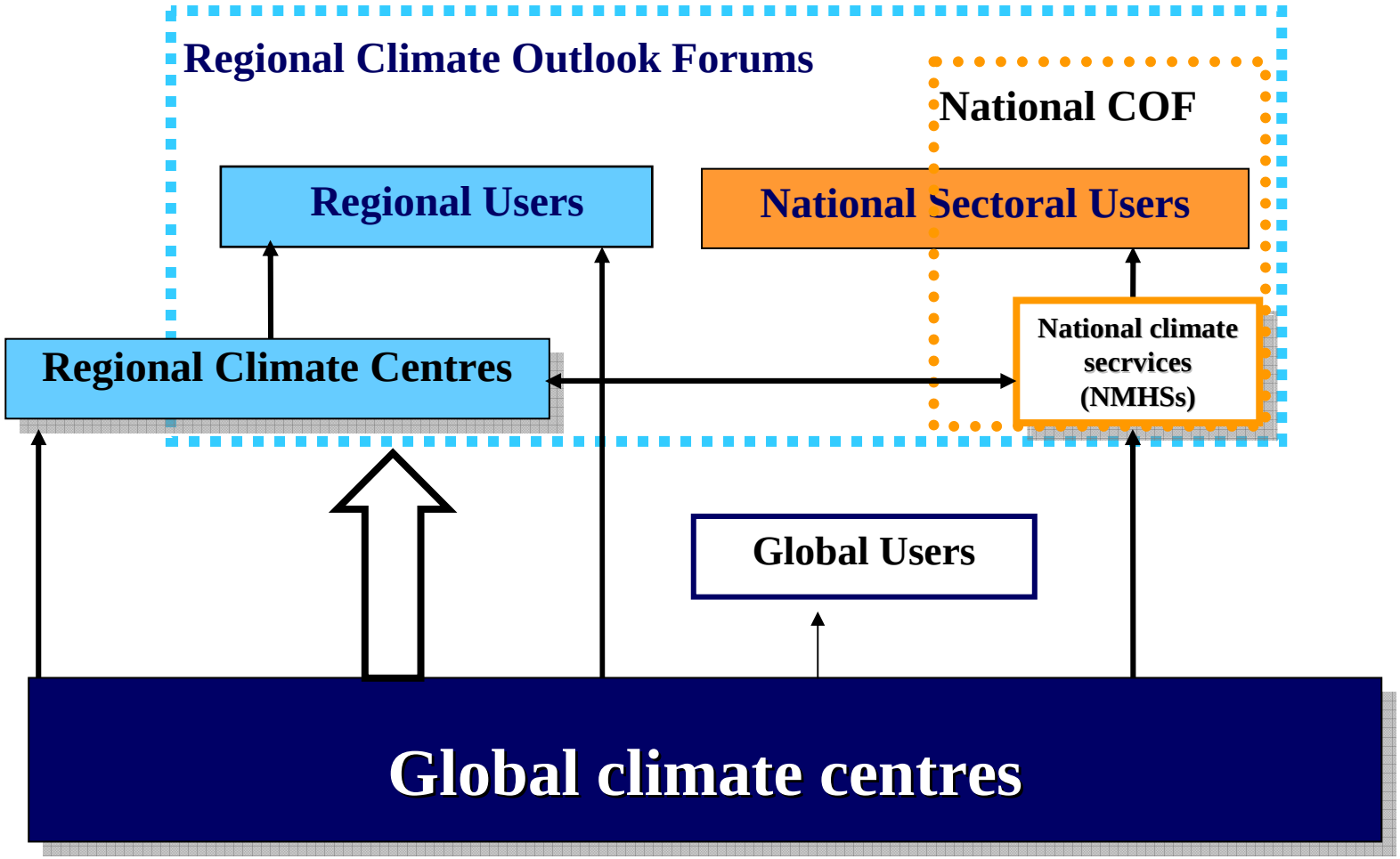


http://www.wmo.int/pages/gfcs/index_en.html

Climate Services Cycle



Climate services information system



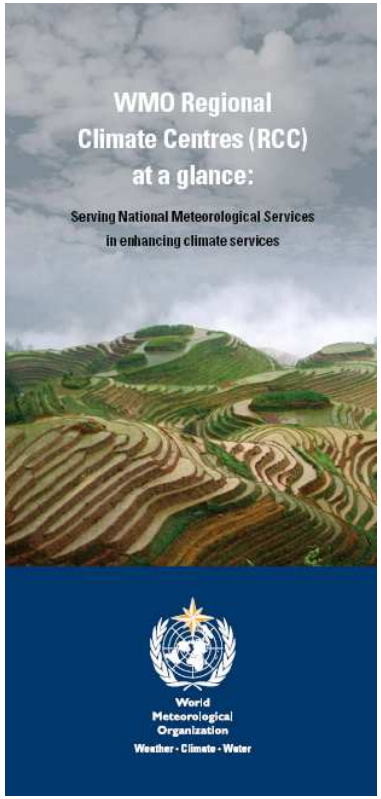
Global Producing Centres of Long Range Forecasts (GPCs)

- Predictions for averages, accumulations or frequencies over 1-month periods or longer
- Lead time: between 0 and 4 months
- Issue frequency: monthly or at least quarterly
- Delivery: graphical images on GPC website and/or digital data download
- Variables: temperature, precipitation
- Long-term forecast skill assessments

http://www.wmo.int/pages/prog/wcp/wcasp/clips/producers_forecasts.html

Regional Climate Centres (RCCs)

Centres of Excellence performing regional-scale climate functions, designated by CBS and CCI



- Mandatory Functions:
  - Operational Activities for 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
- Highly Recommended Functions:
  - Climate prediction and projection;
  - Non-operational data services;
  - Coordination functions;
  - Training and capacity building;
  - Research and development

http://www.wmo.int/pages/prog/wcp/wcasp/RCCs.html

Regional Climate Outlook Forums (RCOF)

- RCOF are forums/platforms that bring together national, regional and international climate experts, on an operational basis, to produce regional climate outlooks based on input from NMHSs, RCCs and global producers of climate predictions
- RCOF assess the likely implications of the future climate on the most pertinent socio-economic sectors in the given region
- By bringing together countries having common climatological characteristics, the forums ensure consistency in the access to and interpretation of climate information
- The core concept of all the RCOF remains the same: delivering consensus based user-relevant climate outlook products in real-time through regional cooperation and partnership

Southeastern Europe Climate Outlook Forum (SEECOF)
http://www.wmo.int/pages/prog/dra/eur/SEECOF-3.php

Way Forward

- Global Producing Centres:11 for seasonal forecast
- Regional Climate Centres: 2
- Regional Climate Outlook Forums
- Development of National Climate Services and Centres

Establishment of a global extensive GPC – RCC – RCOF – NCC mechanism

CHy-XIII activities (RHOF)

Theme Area 4: Water, Climate and Risk Management
List of activities

Regional Hydrological Outlook Forums

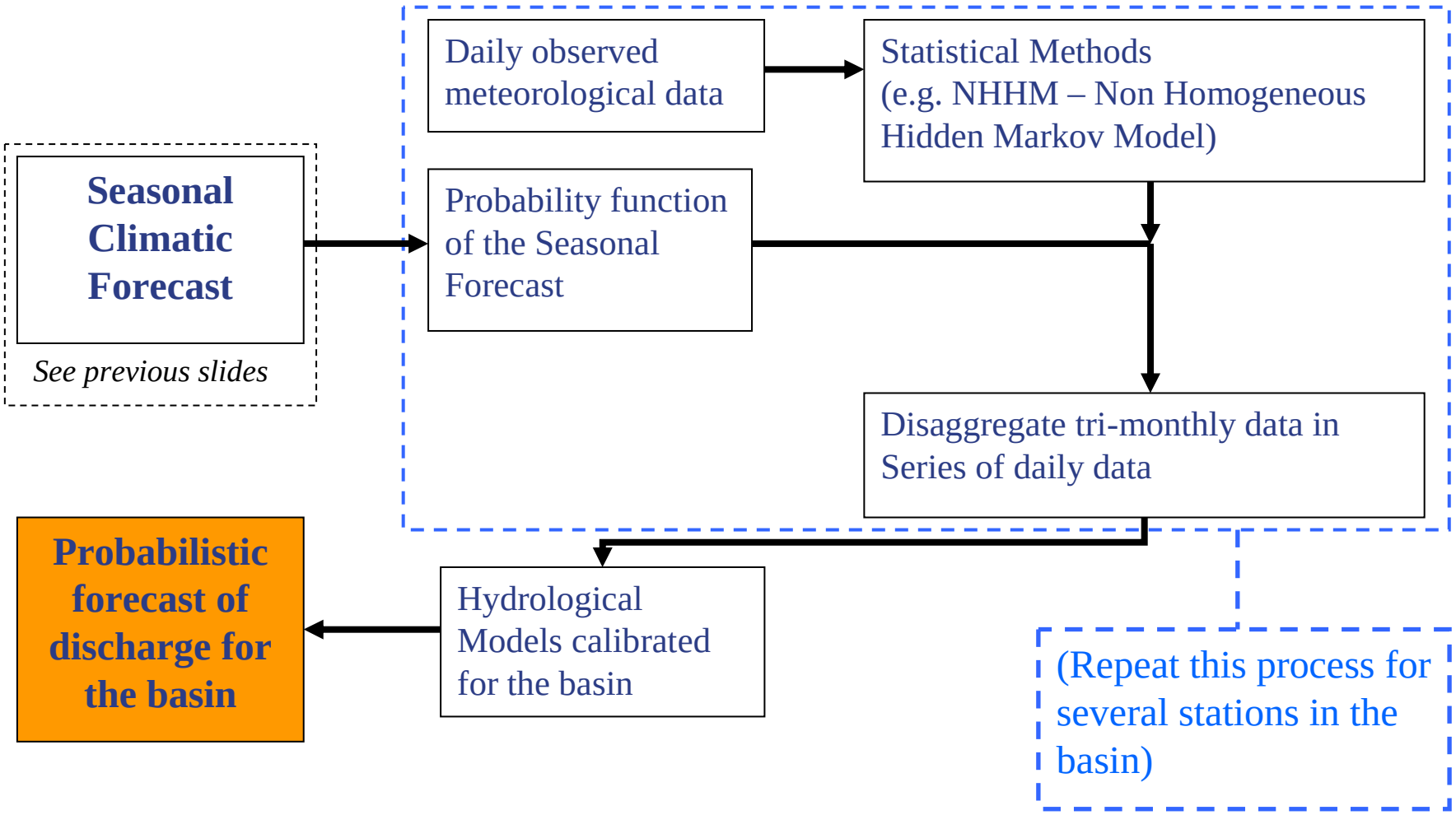
d) Contribute to the guidance material on seasonal flow forecasting (liaise with hydrological forecasting and prediction theme) – including quantifying uncertainties;

e) Prepare guidance material on the climate information requirements of water resources managers for operations, long-term planning and design;

f) Prepare guidance material on drought forecasting and indices – including quantifying uncertainties;

g) Prepare guidance material for factoring transient climates, non-stationary nature of data sets and uncertainty analysis in the estimation of design floods.

Process proposed at the Guayaquil workshop for development of RHOF



GTN-H, GCOS and RHOFs

Objective:

Demonstrate the value of GTN-H-related datasets to enhance hydrological outlooks provided to developing countries

Expected outcomes:

- Improve the local awareness of the value of observed hydrological datasets (with GTN-H datasets as a subset), through their analysis/use in an assessment of the current status of hydrological regime in a region
- Stimulate capacity with regional/national forecasters, scientists, users (technical agencies, ministries)
- Improve the local (and global) availability of such datasets
- Proposed at 4th GTN-H Panel Meeting New York – July 2009;
- Activities should start in Sep.2010. Need for buy-in by interested partners
- More info: WGrabs@wmo.int ; SBojinski@wmo.int

http://www.wmo.int/pages/prog/gcos/index.php?name=RegionalWorkshopProgramme

WHYCOS

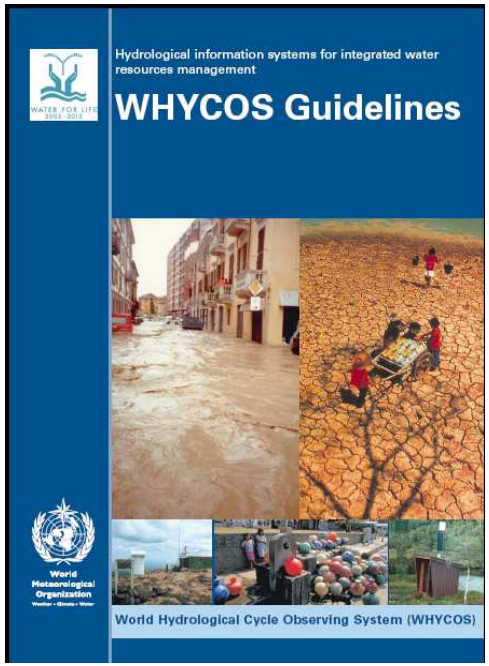
WORLD HYDROLOGICAL CYCLE OBSERVING SYSTEM

Objectives:

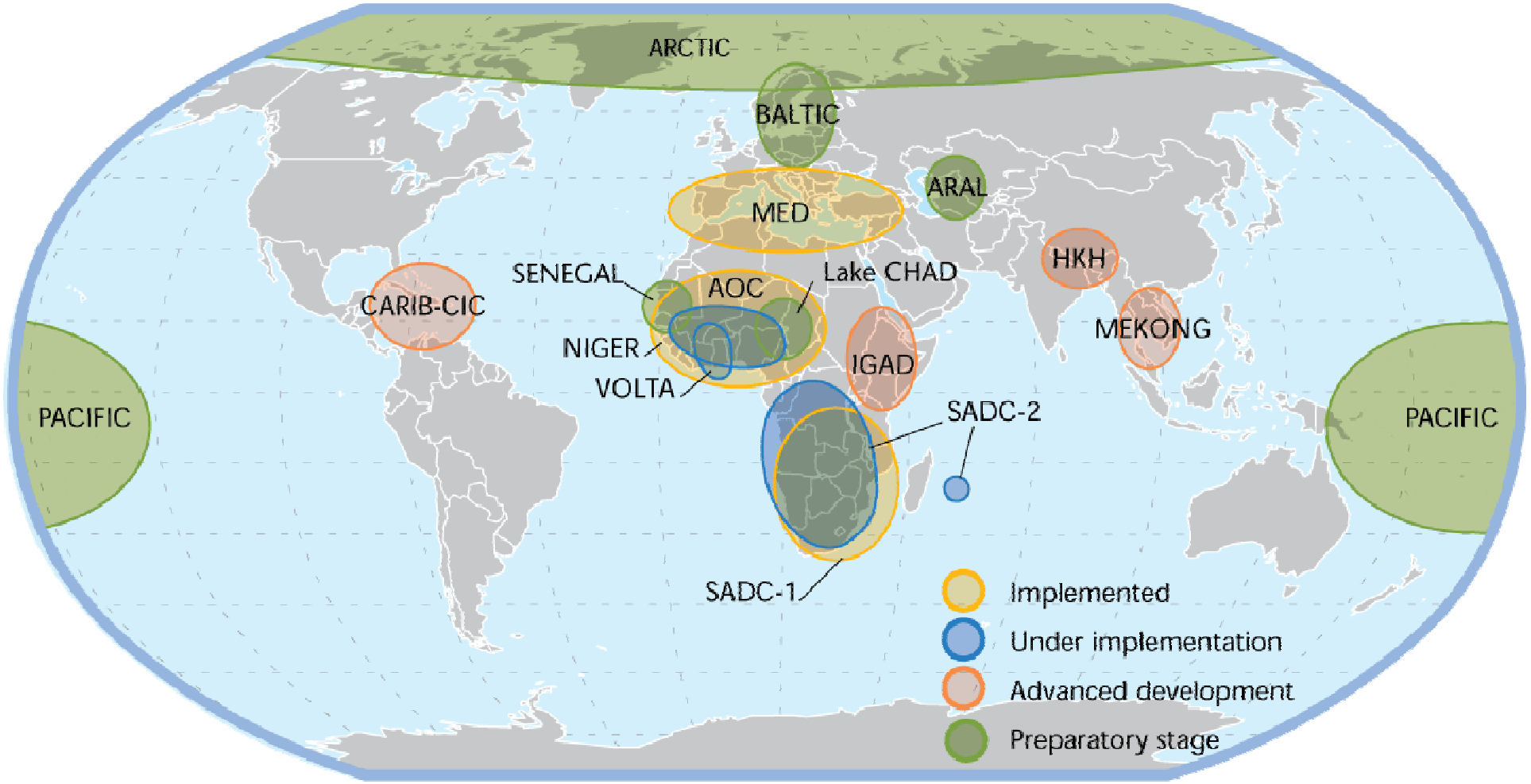
- Improving the basic observation activities and data management
- Establishing a network of key national stations
- Strengthening technical and institutional capabilities of Hydrological Services
- Promoting and facilitating dissemination and use of water-related information
- Strengthening international cooperation and data exchange

In response to:

- Scarcity or absence of data and information on freshwater resources
- Obsolescence of observing networks
- Insufficient data management capabilities
- Institutional weakness of National Hydrological Services

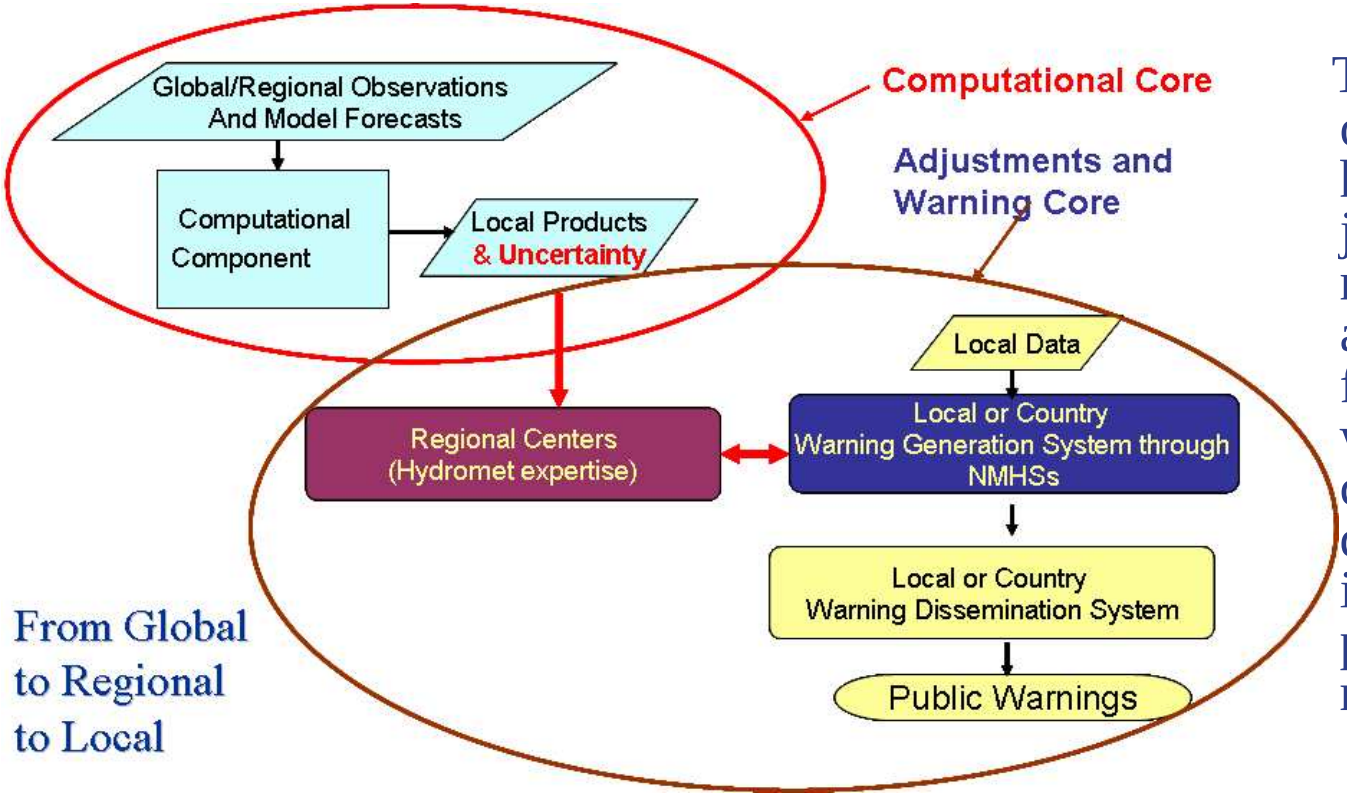


WHYCOS Components



WORLD METEOROLOGICAL ORGANIZATION

FLOOD FORECASTING INITIATIVE



Objective:

To improve the capacity of meteorological and hydrological services to jointly deliver timely and more accurate products and services required in flood forecasting and warning and in collaborating with disaster managers, active in flood emergency preparedness and response

APFM

Associated Programme on Flood Management

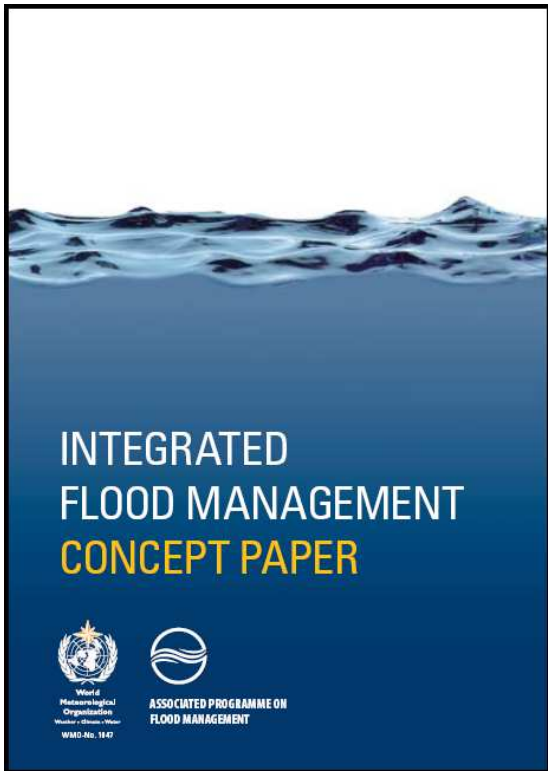
Mission: to support countries in the integrated management of floods within the overall framework of IWRM, aiming at maximizing the net benefits from floodplains and minimizing losses of life

New challenges:

- Increasing Flood Risks due to development
- Climate change uncertainity
- Growing environmental concerns

Objectives:

To provide support for the adoption of an integrated approach to flood management and Field Demonstration Projects, Advocacy and Capacity Building for Integrated Flood Management (Tools, Trainings, Presentation Material)



Absolute safety against flooding is a myth!

IFM HelpDesk is “a facility that will provide guidance on flood-related issues to countries that want to adopt the IFM concept”

HelpDesk

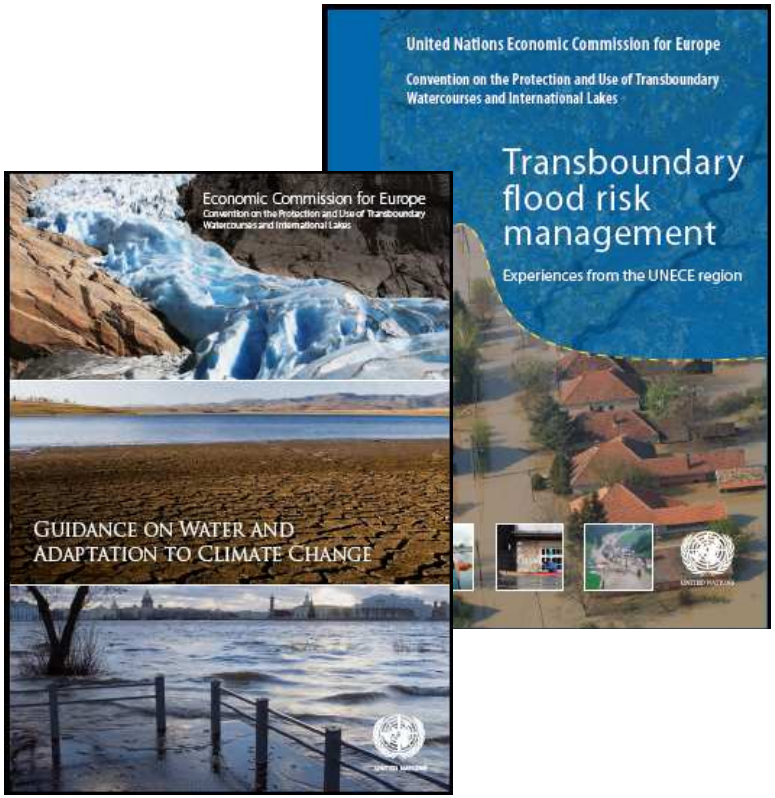
- Provide quick access to relevant flood management information;
- Provide guidance and momentum for reform activities towards IFM in the countries or river basins;
- Provide a continuous and sustainable capacity development mechanism in support of IFM implementation.
- Serve as a link between flood management practitioners or decision makers and required experts in various fields;
- Serve as link between various technical and financial partners.

No Disaster Assistance or Flood Emergency Response Functions !!!

www.floodmanagement.info

WMO Role in UNECE activities

- Cooperation in developing guidelines
- Support and comment in project proposals and development
- Technical and Scientific Backstopping in pilot projects
- Enhancement of Linkages with National hydrological partners (NHSs, Academia, etc.)



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WMO

Thank you!

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