

Delft-FEWS International User Days

Hydrological forecasting at WMO

Presented by :

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WMO OMM

World Meteorological Organization

Organisation météorologique mondiale

What will be presented

	Brief Introduction-WMO
	Hydrological Forecasting Activities
	APFM and IFM HelpDesk
	Community of Practice

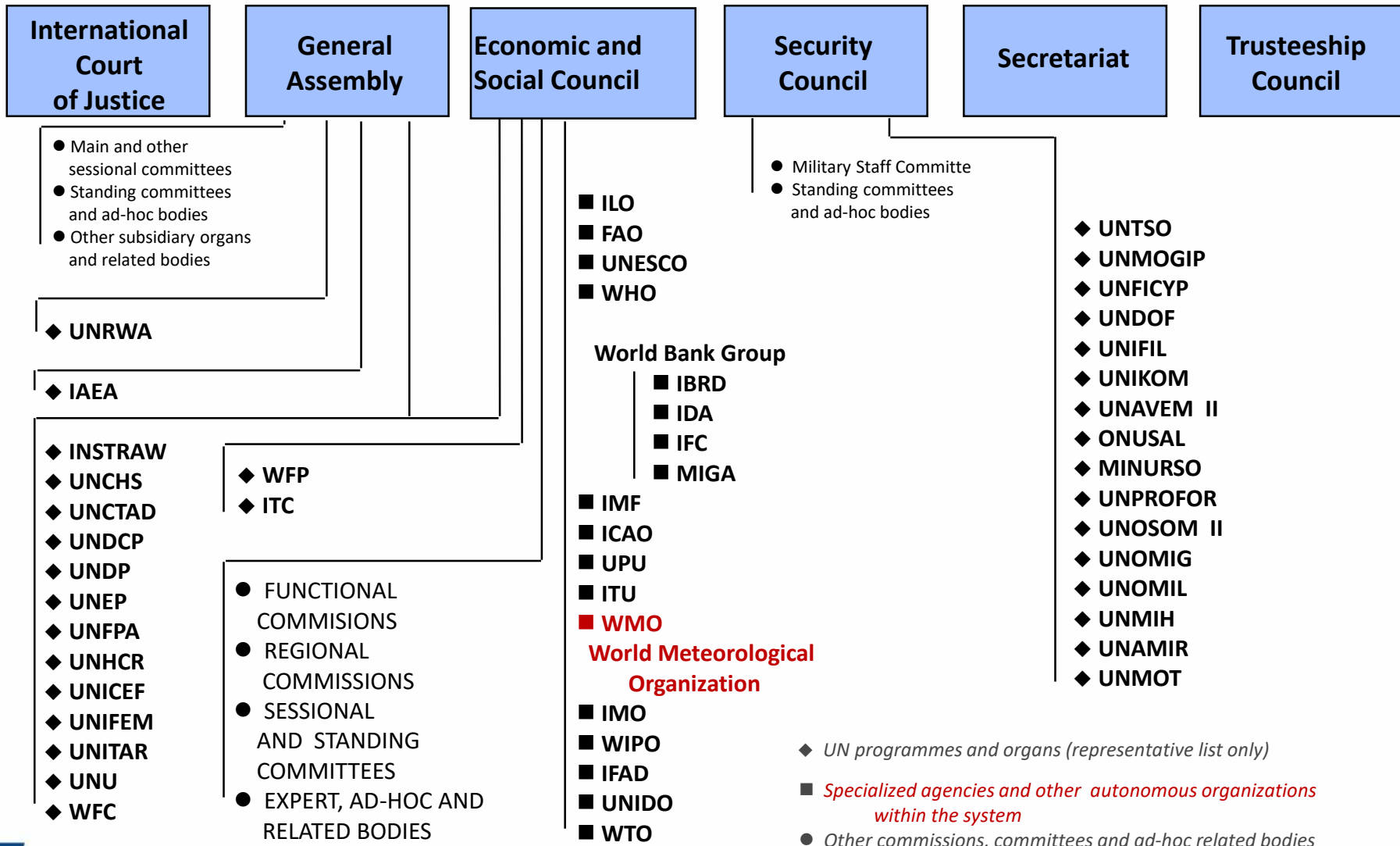
World Meteorological Organization (WMO)

- Set up on 23 March 1950
- Successor to International Meteorological Organization (IMO, created in 1873)
- Specialized agency of the United Nations for meteorology (weather and climate), **operational hydrology** and related geophysical sciences.
- UN system's authoritative voice on the state and behavior of the Earth's atmosphere, its interaction with the oceans, the climate it produces and the resulting distribution of water resources.
- **Technical Support and Services to 193 Member States**



*WMO HQ in
Geneva,
Switzerland*

The United Nations System



What is the purpose of WMO?

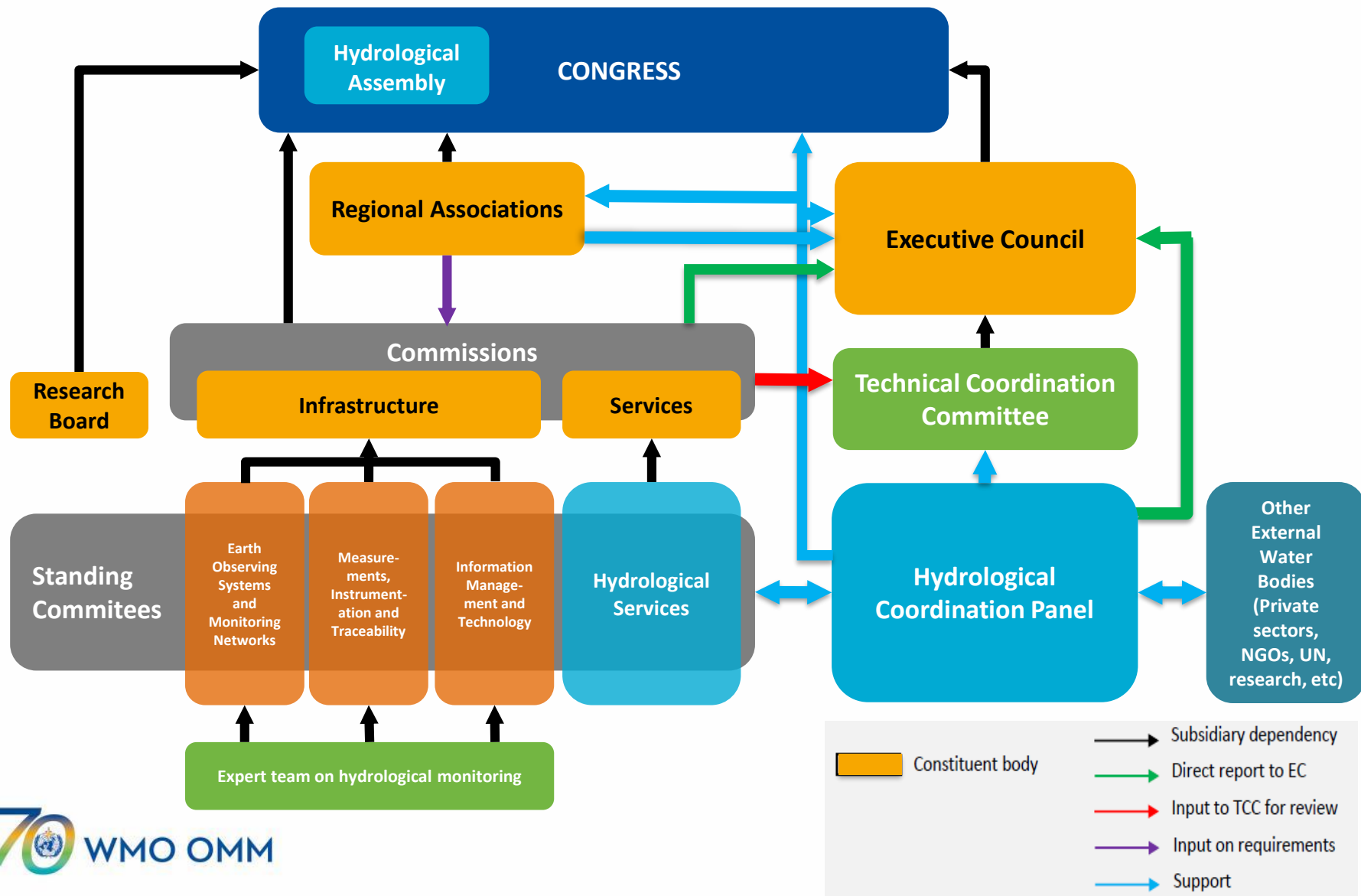
WMO is the authoritative voice of the United Nations on weather, climate and water. WMO mandate includes:

- **Facilitate worldwide cooperation** in the field of meteorology and hydrology and their application to the benefit of all;
- Promote the establishment and maintenance of systems and networks for the **rapid exchange of data information** in meteorology, climatology and hydrology;
- Promote **standardization** of observations and ensure the uniform publication of observations and statistics;
- Further the application of meteorology, climatology and **operational hydrology to development issues** (water management, agriculture, policy formulation, etc.) and **disaster prevention and mitigation**;
- Encourage **research and training**, and assist in coordinating their international aspects.



Introduction:

Hydrology within WMO Structure



Highlights:

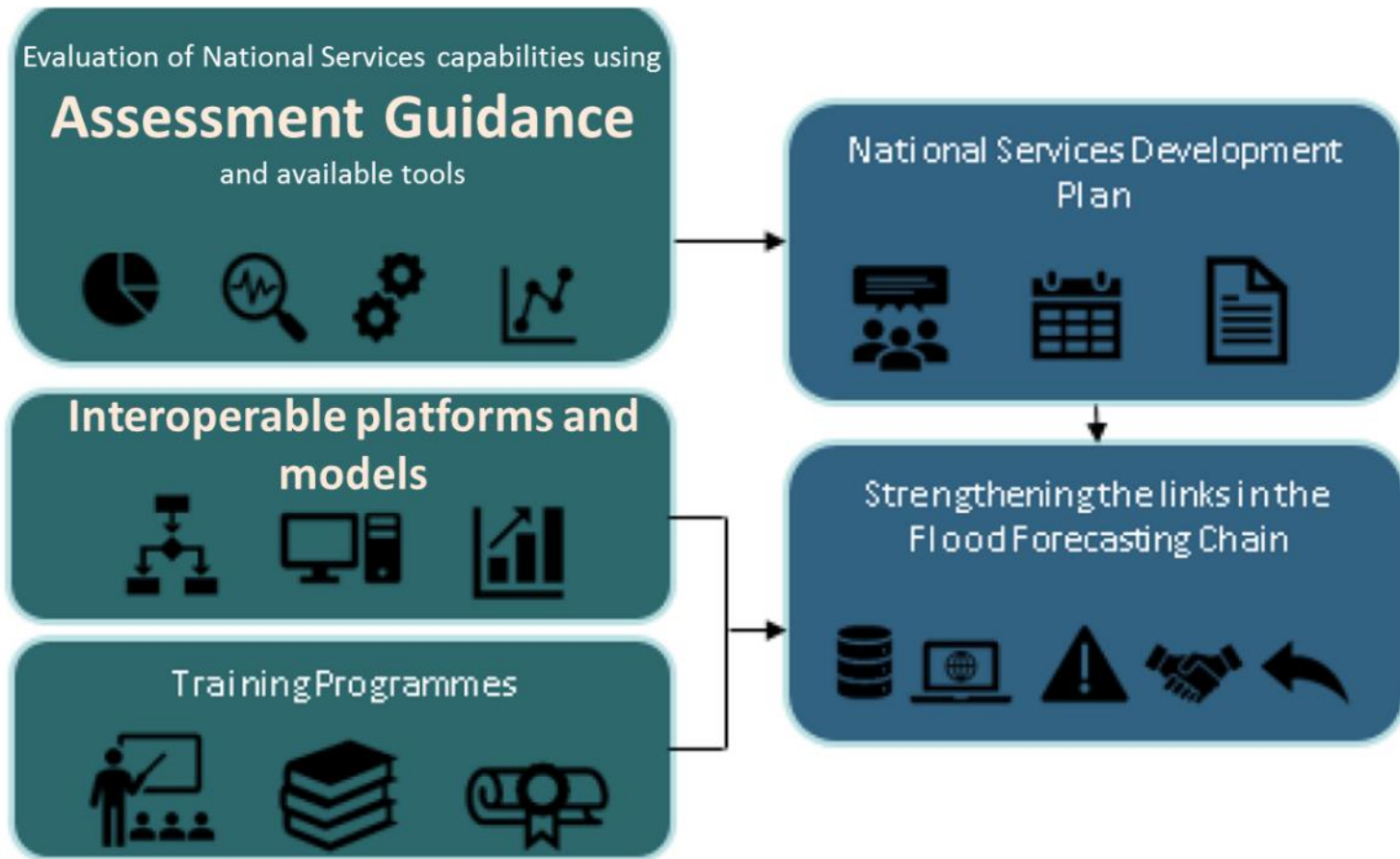
Cg-18 Resolution 25

Resolution 25 (Cg-18) «Major Hydrological Initiatives»: following ongoing hydrological activities and systems, in view of their relevance to the fulfilment of the long-term ambitions for the operational hydrological community, are fundamental pillars that support the WMO Strategic Plan and its further development:

- 1) Quality Management Framework**
- 2) Assessment of the performance of flow measurement
- 3) The Global Hydrometry Support Facility (HydroHub)
- 4) Hydrological data operations and management
- 5) The WMO Flood Forecasting Initiative and hydrological contributions to disaster risk management**
- 6) WMO Global Hydrological Status and Outlook System (HydroSOS)**
- 7) Capacity building in hydrology and water resources management**
- 8) The World Water Data Initiative

HWR Activity Brief:

WMO Flood Forecasting Initiative



HWR Activity Brief:

WMO Flood Forecasting Initiative

Inventory of interoperable models and platforms

Interoperable Technology promoted by this initiative...

must be:

- operationally used
- be freely available
- have low hardware requirements
- be available in one of the official UN languages
- have available training material
- be sustainable (longevity aspect) and
- be institutionally supported.

should be:

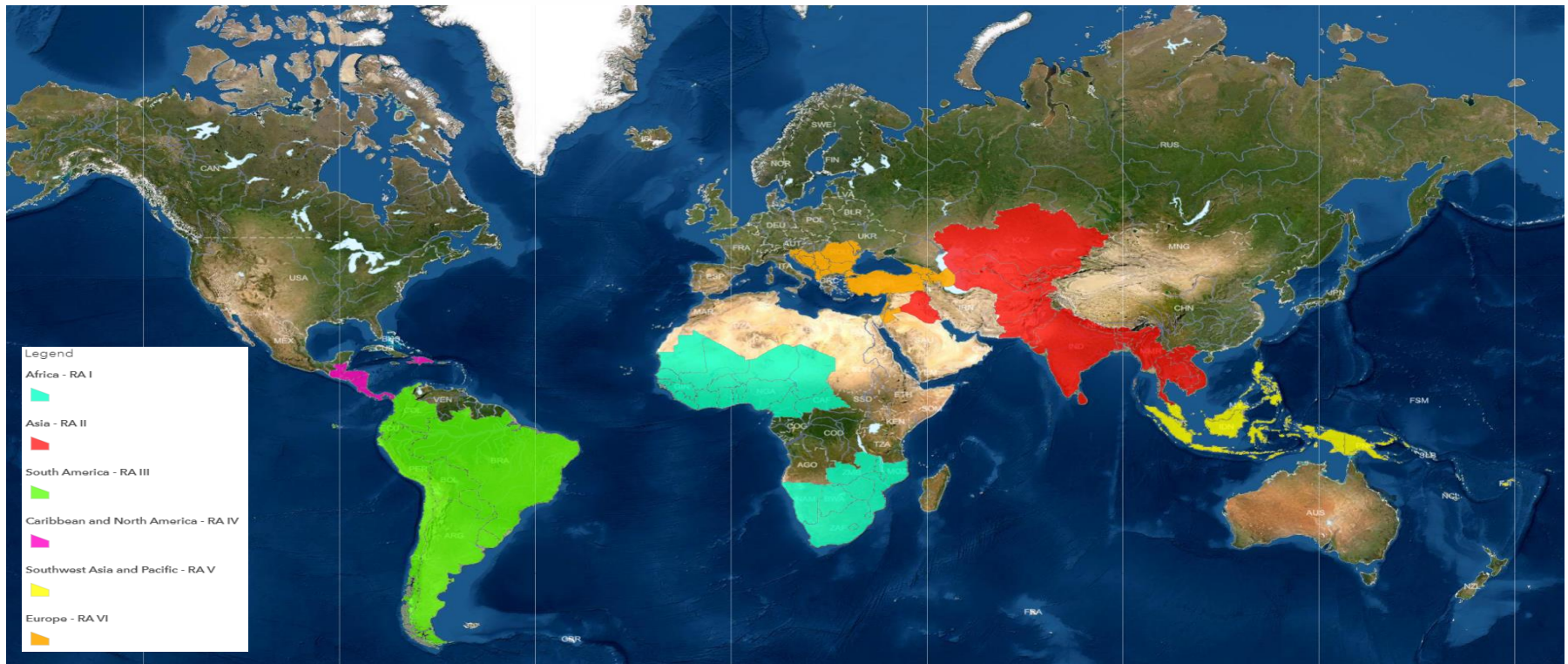
- open source (if possible) and
- be easy to use (simplicity)

Definition of Interoperability:

The ability of modelling systems or software to automatically exchange and make use of information from one to another. In the context of the flood forecasting domain, this can also mean interoperability between models made by different individuals or groups, such that they can easily interface with a platform...

Activity Brief: on going projects

Beneficiary Countries



WMO's Strategic Objectives 1.3 and 4.2.17

- Further develop services in support of sustainable water management
- More HWR Projects will be implemented for Members

RA I (Africa) : 28

RA II (Asia) : 18

RA III (South America): 9

RA VI (North, Central and
Caribbean) : 9

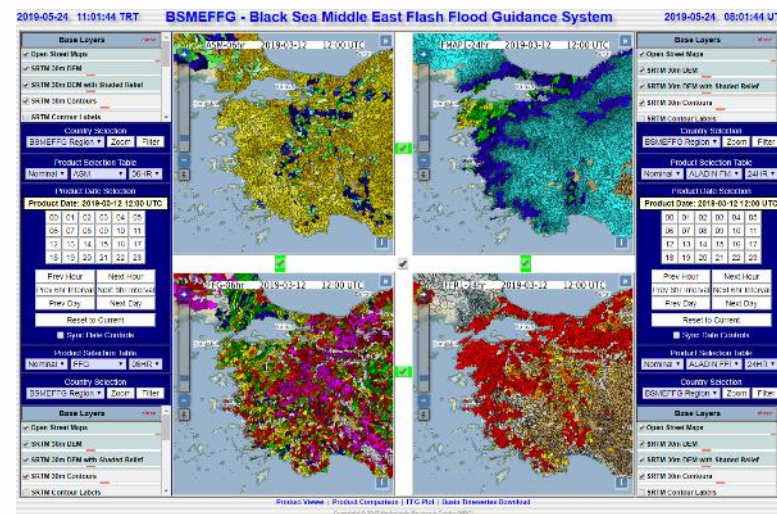
RA V (South-West Pacific): 8

RA VI (Europe) : 18

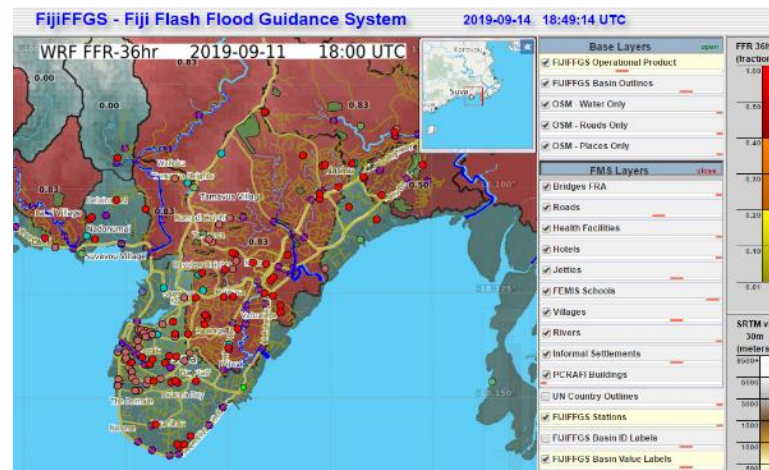
Total: 90 Members

Activity Brief: Flash Flood Guidance System (FFGS)

- Implementation of [FFGS](#) with the National, Regional and Global coverage



provides users with real-time guidance products pertaining to the threat of potential flash floods



Evacuation facilities and other information incorporated into the MapServer Interface to expand flash flood warning messages to include possible impact

FFGS serves more than

3 billion people

around the world saving lives and decreasing economic losses.

67

Countries covered



More than
500
Trained
forecasters

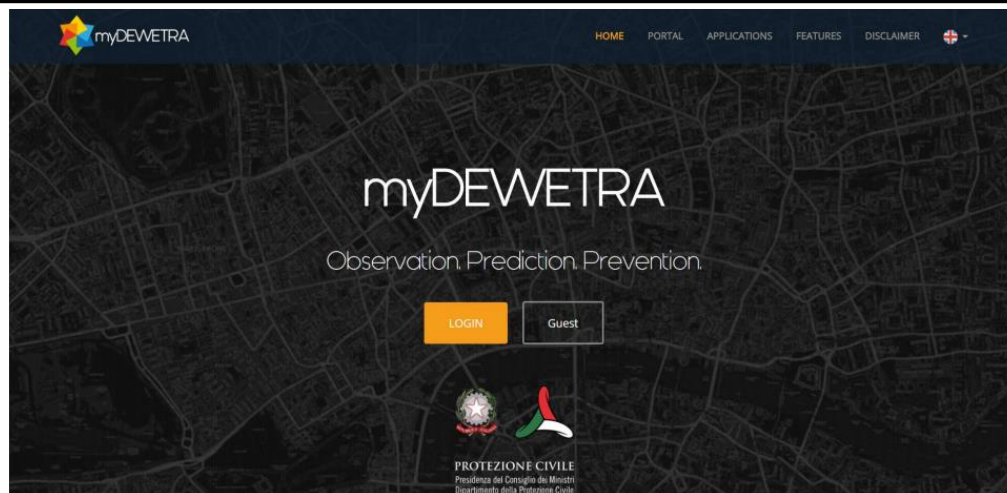


Activity Brief: MyDewetra

WMO and Italian Civil Protection have signed a 'MoU' –to make available MyDewetra visualization platform to the Members who request it

MyDewetra is implemented in more than 10 countries

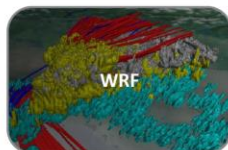
Including
[Volta Flood and Drought Management \(VFDM\)](#)



myDEWETRA is an integrated system for real-time monitoring, prediction and prevention of natural disasters worldwide.



OUR MODELS



WRF



RAIN FARM



RISICO



CONTINUUM



FLOOD PROOFS



PROPAGATOR

RISK
ASSESSMENT
MODELS

In-built Meteorological and Hydrological Models

Activity Brief:

APFM and Integrated Flood Management Helpdesk

Associated Programme on Flood Management(APFM) is a joint initiative of the World Meteorological Organization (WMO) and the Global Water Partnership (GWP).

It promotes the concept of Integrated Flood Management(IFM)



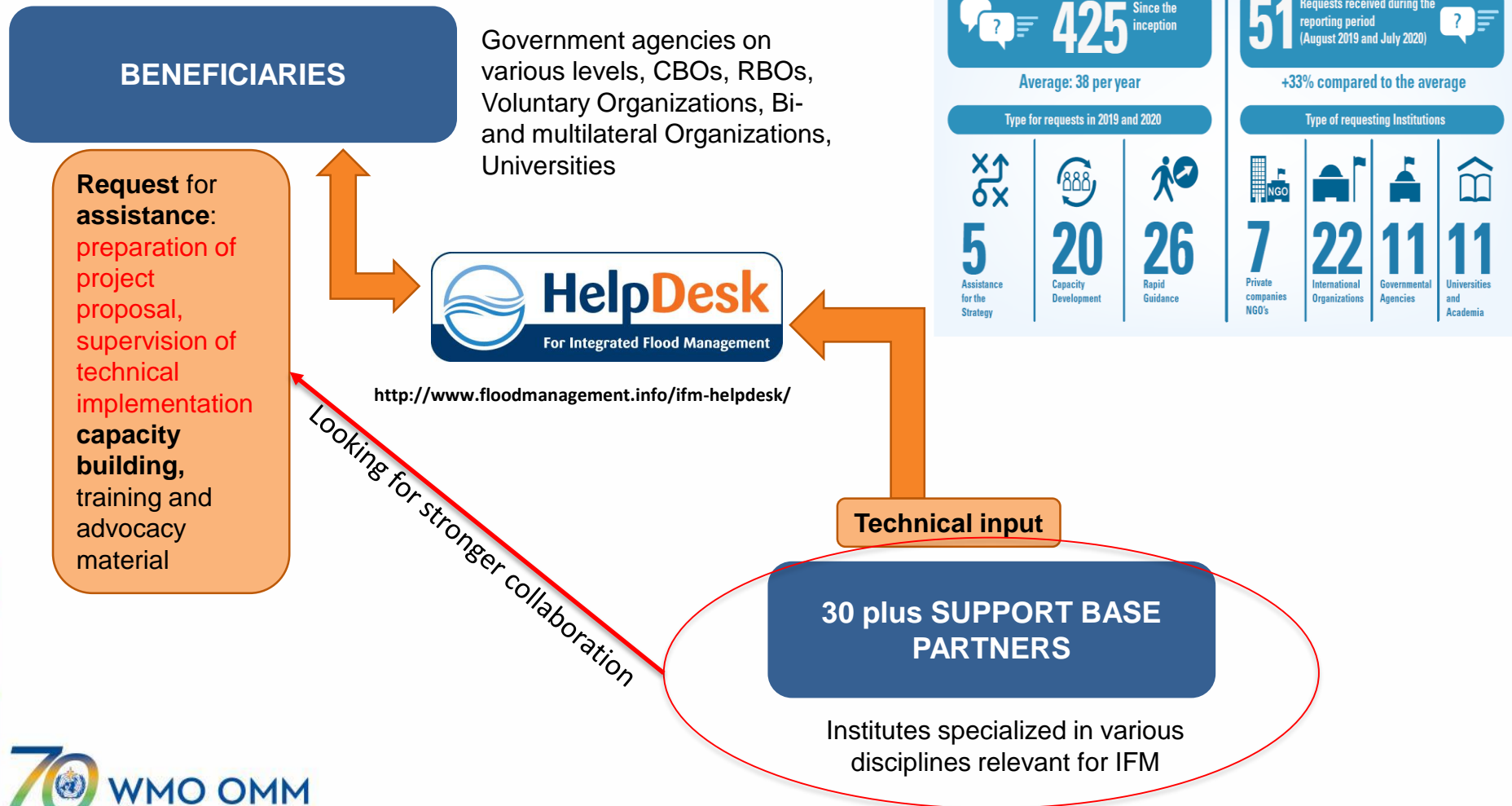
IFM integrates **land use** and **water resources** in a river basin, in accordance with Integrated Water Resources Management, with the objective of **maximizing net benefits** derived from the use of floodplains and **minimizing loss of life** due to flooding.

IFM keeps in consideration environmental preservation, balancing development needs with **flood risk** towards **sustainable development**.

<http://www.floodmanagement.info>

Integrated Flood Management HelpDesk

A facility to provide guidance on flood-related issues to countries that seek to adopt the IFM concept.



30 Support Base Partners (SBPs)

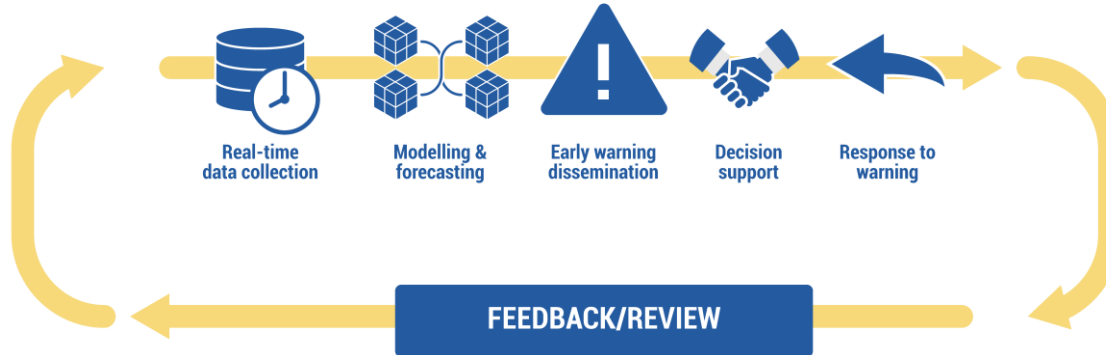
Specialized institutes in various disciplines relevant for IFM



New SBPs

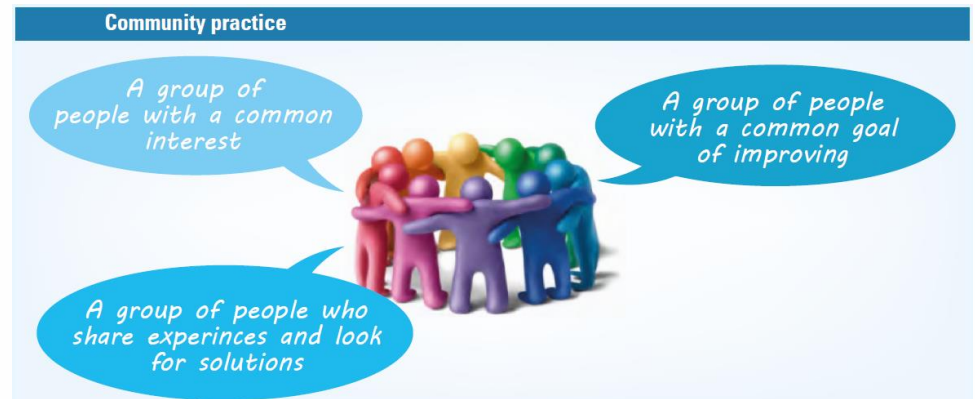
Activity Brief:

Work with APFM on the development of the Community of Practice(CoP) on E2E EWS for Flood Forecasting



CoP website - Discussion Forum
*publicly **available around July 2021***

CoP website will also have:
Assessment Guidelines
Inventory of models and platforms



<http://www.floodmanagement.info>

Thank you
Merci

For more information on WMO
Visit: <https://www.public.wmo.int>



WMO OMM

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Organisation météorologique mondiale