



# APFM

# Associated Programme on Flood Management

## Advisory Committee Meeting

Geneva, 12 September 2016



World  
Meteorological  
Organization  
Weather • Climate • Water



Global Water  
Partnership

# APFM achievements during 2015-2016

Recommendations (as per checklist in Annex III)	Status		
	completed	ongoing	pending
General points for considerations	<b>1</b>	<b>2</b>	<b>4</b>
Publications and Tools, of which:	<b>9</b>	<b>5</b>	<b>11*</b>
- Low Priority	-	-	1
- Medium Priority	-	1	5
- High Priority	9	4	5
Capacity Building (training-related), of which:	<b>3</b>	<b>11</b>	<b>1</b>
- Undefined Priority	-	-	-
- Medium Priority	-	4	-
- High Priority	3	7	1
HelpDesk (project support)	<b>6</b>	<b>6</b>	-

*(continues)*



# APFM achievements during 2015-2016

(continued)

Recommendations (as per checklist in Annex III)	Status		
	completed	ongoing	pending
Outreach, of which:	<b>10</b>	<b>4</b>	<b>5</b>
- Undefined Priority	-	-	1
- Medium Priority	-	-	-
- High Priority	10	4	4
Other issues (reporting and evaluation)	<b>3</b>	-	-
<b>Total Recommendations: 76</b>	<b>32 (39%)</b>	<b>28 (34%)</b>	<b>21 (25%)</b>



# APFM achievements during 2015-2016

Activity (according to Activity Plan)	Score (achieved/planned *)
Policy Series (new editions, case studies)	<b>55 % (1.65/3)</b>
IFM Tools (new, revised or finalized)	<b>49 % (10.4/21)</b>
New IFM materials for training	<b>36 % (3.65/10)</b>
Training workshops	<b>68 % (3.4/5)</b>
Technical Support	<b>90 % (4.5/5)</b>
Institutional Support	<b>80 % (4/5)</b>
Funding Support	<b>25 % (0.5/2)</b>
Advocacy at international events	<b>74 % (5.2/7)</b>
Implementation of communication strategy	<b>61% (3.66/6)</b>
SBP service packages	<b>13% (0.4/3)</b>





# APFM

## Publications



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# Colour Coding



Low priority

Medium priority

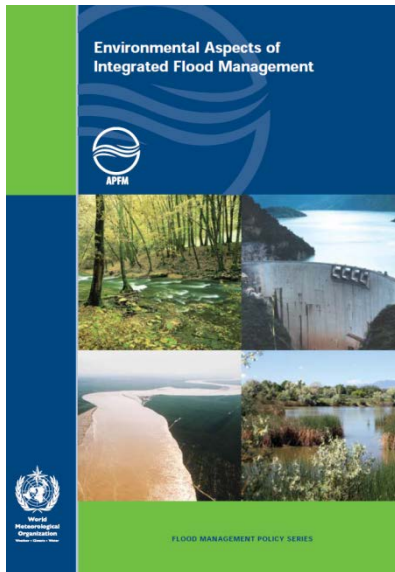
High priority



# IFM Policy Series

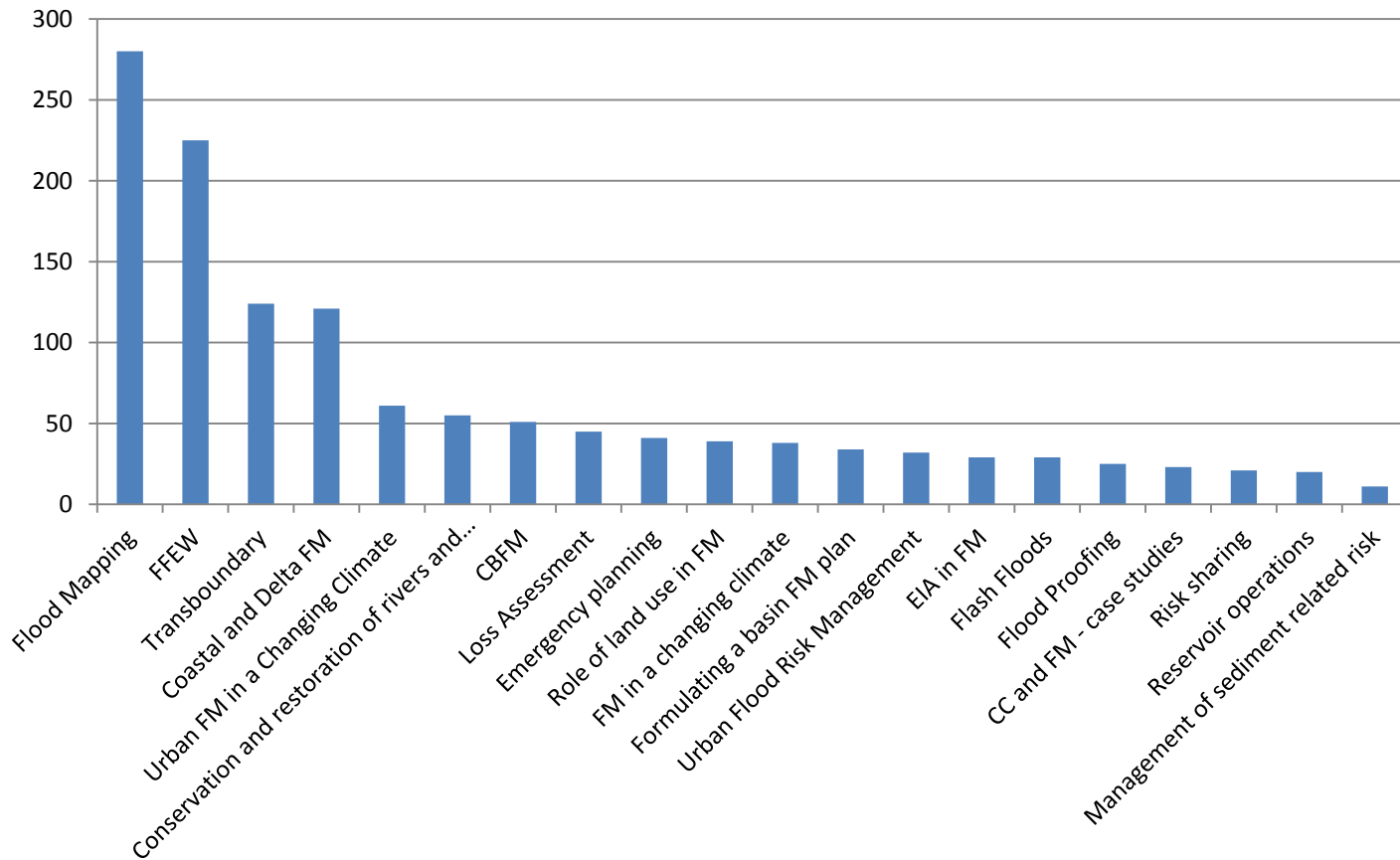
## Progress

- Primer – Under finalization
- Environmental Aspects of IFM Case Studies – Under finalization
- IFM Concept Paper 4th edition – No progress
- Economic Aspects of IFM (revision) – No progress



# IFM Tool Series

Number of downloads per Tool (August 2015 – July 2016)





# IFM Tool Series

## Good news! 6 Published tools

- The Role of the Media in IFM
- Public Perception of Flood Risk and Social Impact Assessment
- Effectiveness of Flood Management Measures
- Reservoir Operations and Managed Flows ver. 2.1
- Health and Sanitation Aspects of Flood Management
- Technical Assistance for the Preparation on an Advocacy Strategy (English and Spanish)



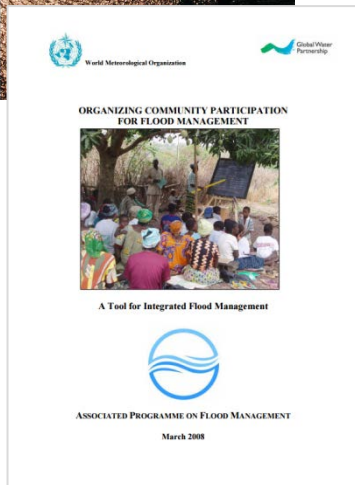
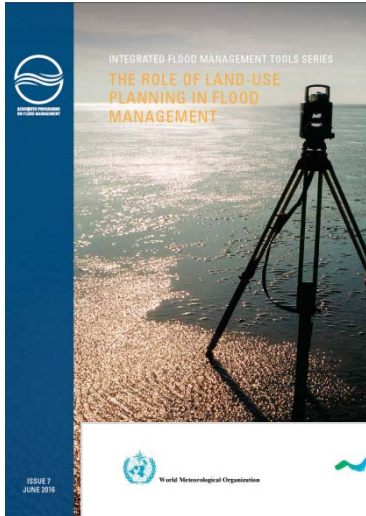
# IFM Tool Series

Another good news! Content finalized, in final design

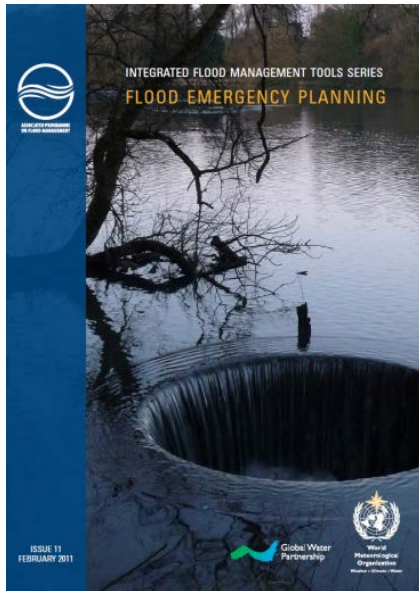
- The Role of Land-Use Planning in Flood Management

## Being Edited

- Organizing Community Participation for Flood Management ver. 2.0
- Crisis Mapping and Crowdsourcing in Flood Management



# IFM Tool Series



## Under revision

- Flood Emergency Planning 2<sup>nd</sup> Edition

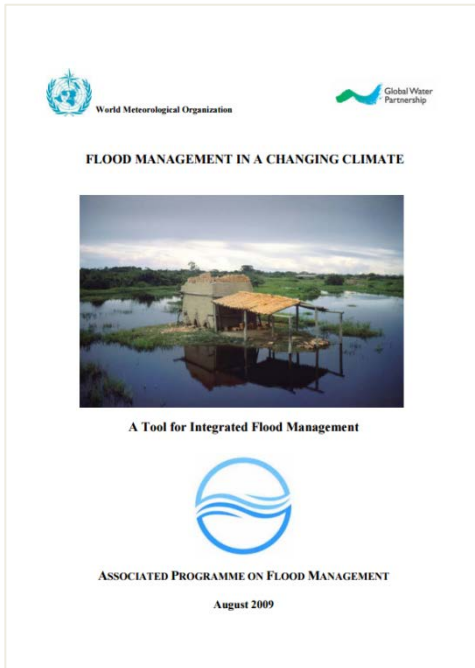
## Under development

- Loss Assessment Case Studies



# IFM Tool Series

## Dropped



- Regulations and Technical Standards for Flood Management (outdated)
- Flood Management in a Multi-hazard Environment (no input from SBPs)
- Flood Management in a Changing Climate
- Governance Issues in Flood Management



# IFM Tool Series

## No progress – reaffirm priority, volunteers?



- Project Cycle in Flood Management
- The Contribution of Geospatial Science to Flood Management – CIMA
- Rapid Legal Assessment 2nd edition – University of Dundee
- New Tool on green infrastructures for Flood Management, linking to the WWF/USAID Flood Green Guide – Deltares
- Historical Approaches and Coping Strategies for Flood Management
- Formulating a Transboundary Basin Flood Management Plan



# Activity Plan 2016-2017

- ④ Collect feedback from SBPs on the usefulness and impact of IFM Tools
- ④ Finalization of planned publications:
  - ④ Land-use
  - ④ Crowdsourcing
  - ④ CBFM 2<sup>nd</sup> ed.
  - ④ Environmental Aspects of IFM – Case Studies
  - ④ Loss Assessment Case Studies
- ④ Increase visibility of IFM Tools by developing specific infographics





ASSOCIATED PROGRAMME  
ON FLOOD MANAGEMENT



## WHAT ROLE CAN THE MEDIA PLAY IN INTEGRATED FLOOD MANAGEMENT?



TOWARDS  
DECISION-MAKERS



TOWARDS THE  
POPULATION

BEFORE  
A FLOOD

- ✓ Provide information on communities' vulnerabilities
- ✓ Advocate for institutional action for flood management

- ✓ Raise awareness
- ✓ Translate technical terms into easily understandable language
- ✓ Increase public interest and participation

DURING  
A FLOOD

- ✓ Provide timely information on conditions and needs of affected people

- ✓ Disseminate warnings and information on the situation
- ✓ Share actions undertaken by the authorities
- ✓ Suggest what to do/not to do
- ✓ Facilitate communication between those affected

AFTER  
A FLOOD

- ✓ Continue providing information on conditions, needs, requests and complaints of those affected
- ✓ Keep attention high

- ✓ Share the authorities' current and future strategies
- ✓ Help direct donations
- ✓ Improve preparedness
- ✓ Guide people's reactions



WORLD  
METEOROLOGICAL  
ORGANIZATION



Global Water  
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Tweeted on 31 August from the UN-Water account:

3,368 impressions, 14 re-tweets, 12 link clicks, 16 media engagement



# APFM

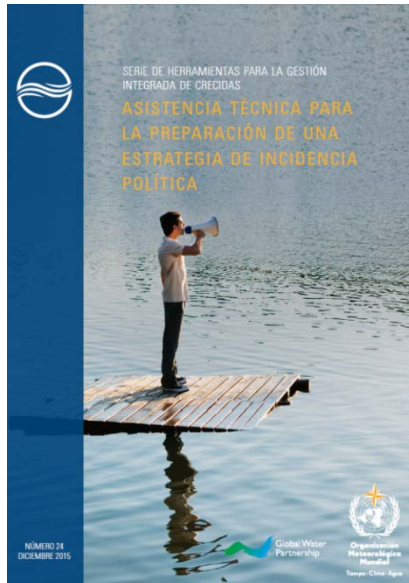
# Activity Plan 2016-2017 (continued)

☉ Possible development by SBPs (out of IFM Tools series):

- ☉ RLAT 2<sup>nd</sup> ed.
- ☉ Transboundary basin FM plans
- ☉ Geospatial in FM
- ☉ Project Cycle in FM
- ☉ Green infrastructures for FM

☉ And... New suggestions:

- ☉ Stop development of new IFM Tools
- ☉ Limit revision of existing publications to feedback received
- ☉ Bigger support for IFM implementation (e.g. e-learning courses, workshops & trainings, capacity building for project proposals)







# APFM

## HelpDesk



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# Colour Coding



Low priority

Medium priority

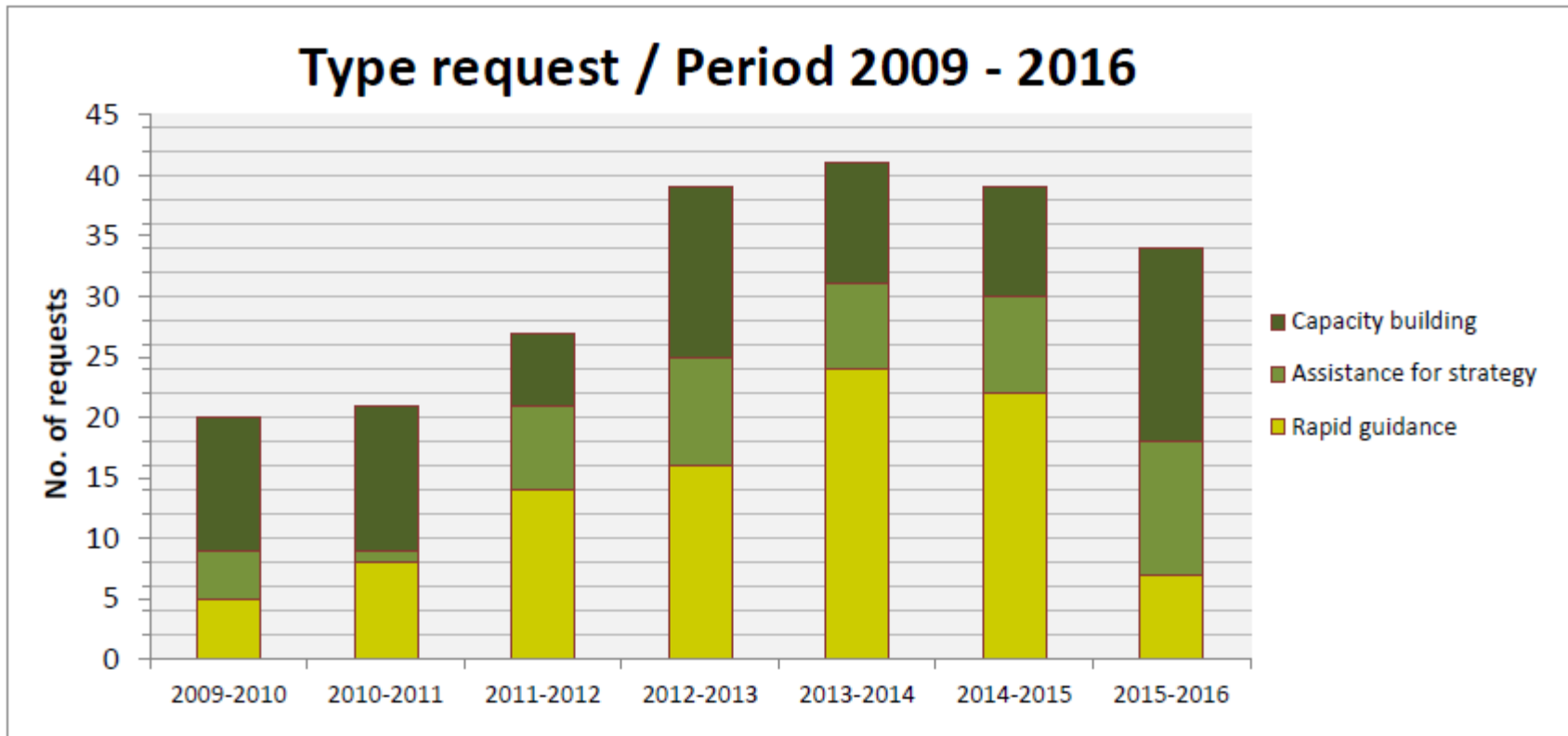
High priority



# Overview

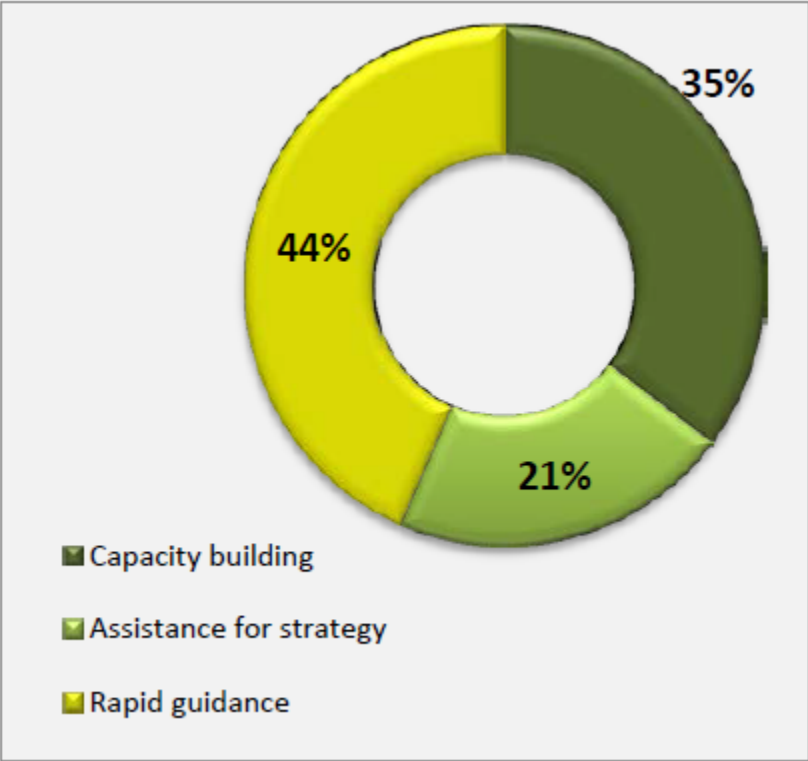
**34 requests received through the HelpDesk, of which:**

- 11 Assistance for Strategy (6 completed, 4 ongoing, 1 withdrawn)
- 16 Capacity Building (14 completed, 2 ongoing)
- 7 Rapid Guidance (all completed)

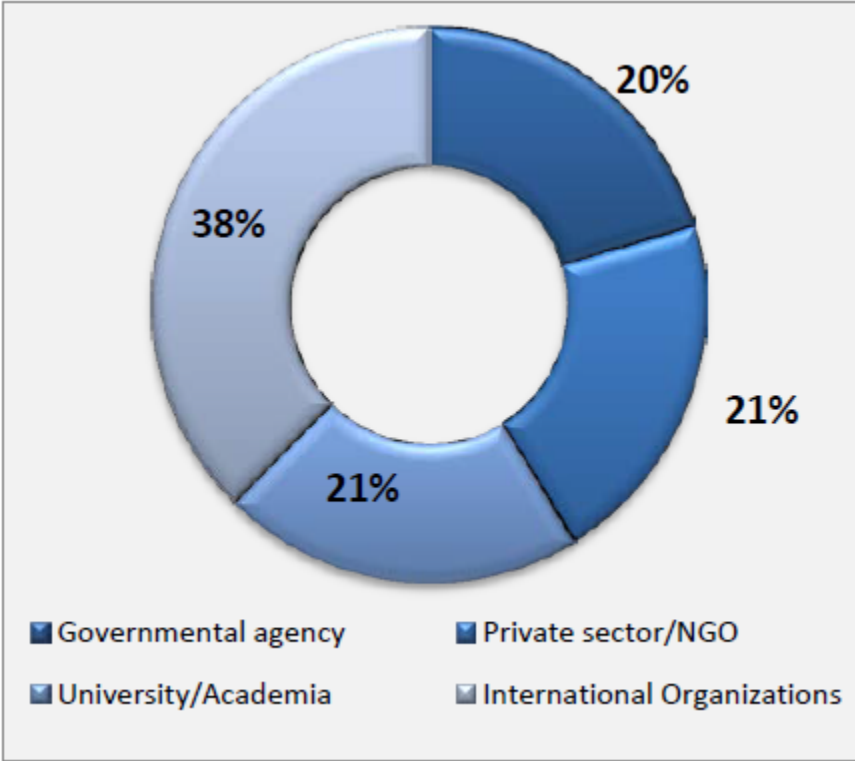


# Overview 2009-2016

### Requests by type



### Requests by institution



### Four new SBPs:

- 🌐 FICH - Argentina
- 🌐 RwB – Russia
- 🌐 PROHIMET
- 🌐 UNU-FLORES

### Three almost SBPs:

- 🌐 TU Dresden
- 🌐 Alterra – Wageningen Univ.
- 🌐 Polytechnic Milan



# Training Review

## Training materials

- Training manual with GWA on Gender issues of Flood Management – detailed concept developed
- World Bank e-learning on the role of Land Use Planning in Disaster Management – feedback and materials provided
- Training modules in Spanish for local Civil Protection authorities in Paraguay and Latin America – under development (with WMO Mexico)
- GWP/University of South Florida on Integrated Urban Flood Management (IUFM) – developed and tested
- 4 new presentations on IFM Tools developed (2 by external partners)
- IFM Training Manual – feedback on review collected from SBPs
- CBFM Training Manuals – Thailand case study under finalization; preliminary revision started of the BCAS



# Training Review

## Training materials *(continued)*

- BoM to contribute with modules on competency-based trainings on flood forecasters – identified as long term activity
- Develop action plan on E-learning with TUHH and TUD – teleconferences held, activity on hold
- University of Geneva proposed to add transboundary issues of FM modules to their training platform, in cooperation with University of Dundee
- 🌊 Materials on IFM and IDM provided to GWP Southern Africa for the Limpopo basin

## Training workshops held in:

- Montpellier, France – ICID 66<sup>th</sup> Executive council
- Zagreb, Croatia – ISRBC workshop on flood risk management
- Thun, Switzerland – Helvetas Face-to-Face event
- 🌊 Geneva, Switzerland – CERG-C University Specialization
- 🌊 Asunción, Paraguay – National Conference on Water Resources



# Training

## Proposed Activities

### Training materials – finalize:

- Training manual with GWA on Gender issues of Flood Management
- Training modules in Spanish for local Civil Protection authorities
- IFM Training Manual – feedback on review collected from SBPs
  
- Power Point presentations on remaining IFM Tool Series
- CBFM Training Materials
- Action plan on E-learning with TUHH, TUD, University of Geneva and Dundee
- Action plan of training materials for WWF Flood Green Guide



# Training

## Proposed Activities

**Training workshops** to be held in:

- West Africa – regional advocacy for the NMHSs and the Regional GWP network
- Montevideo, Uruguay – RALCEA course in cooperation with FICH
- Zurich, Switzerland – at ETH
- Antalya, Turkey – training on Basin flood management planning in the framework of IPA-FLOODS with CIMA
- Discuss needs in support to IGAD-HYCOS activities





# National and Regional Support

See sections  
2.3.2 and  
4.3

## Review and Proposed Activities

- Implementation of IFM strategies in West Africa
- PEARL – Preparing for Extreme And Rare events in coastal regions (with UNESCO-IHE, TUHH, Euroaque, DHI, ICHARM and others)
- Community Based Flood Management (CBFM) in Thailand and Lao (review)
- Instrument for Pre Accession (IPA) and Horizon 2020 support to consortia
- Mexico PRONACCH
- Linkages with GFCS, CIFDP, FFGS and SWFDP – **Flood Forecasting Initiative**
- **Seek synergies** with RA III and other WMO activities (e.g. Malawi/GFCS, DRR, GHFS, TCP, CIFDP/Bangladesh)
- Following developments on CBFM in Iowa State and FLODDSS
- **Seek funding opportunities** for Transboundary issues in the Dniester and other activities
- **Support GWP** Caribbean, South Asia, S-E Asia, Central Africa and Southern Africa
- WMO urban cross-cutting issues and IAEA Flood Hazard activity
- Support IFM in the Amur River Basin and in Siberia
- Support to China GWP in the adoption of IFM



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# APFM

## Outreach



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# 2015-2016 Outreach Review



2 Newsletters published  
1700 subscribers



15 international events  
6 presentations given



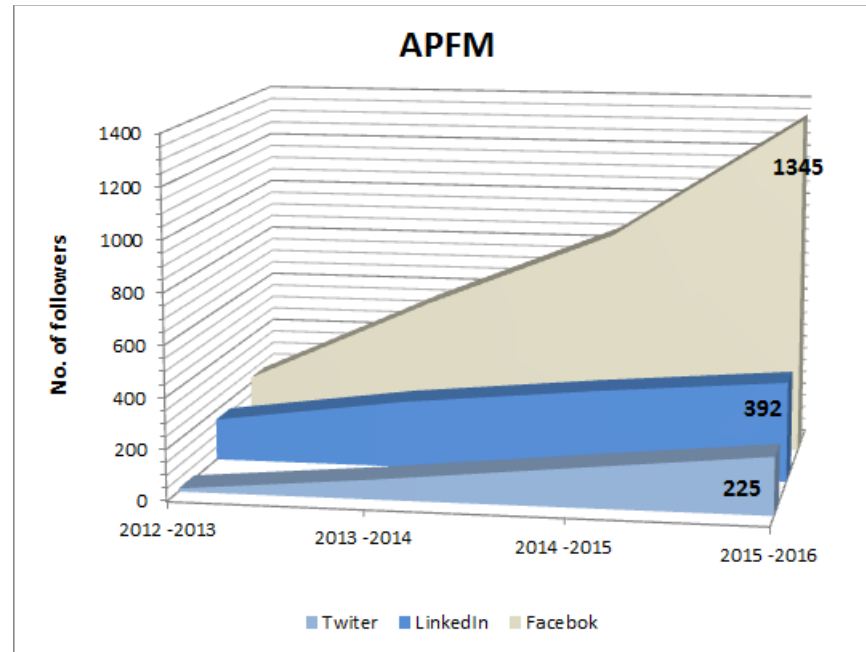
2 articles presented  
at conferences

See section 2.4.1-2-3



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# 2015-2016 Outreach Review



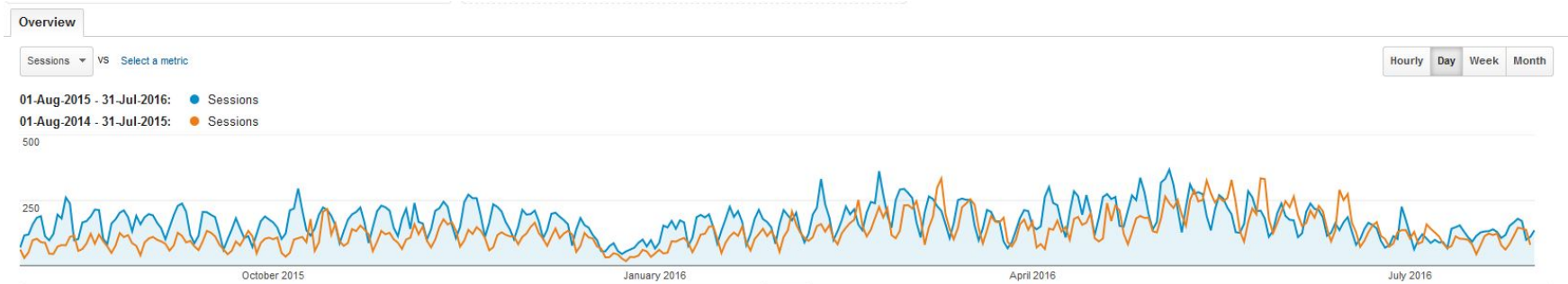
SOCIAL NETWORK	FOLLOWERS	TREND from 1 August 2014
Facebook	1345	+56% (+481)
Twitter	225	+48% (+73)
LinkedIn	392	+18% (+60)

See section 2.4.5



# APFM

# 2015-2016 Outreach Review



**32.6%**  
increase  
in sessions

**31.7%**  
increase  
in users

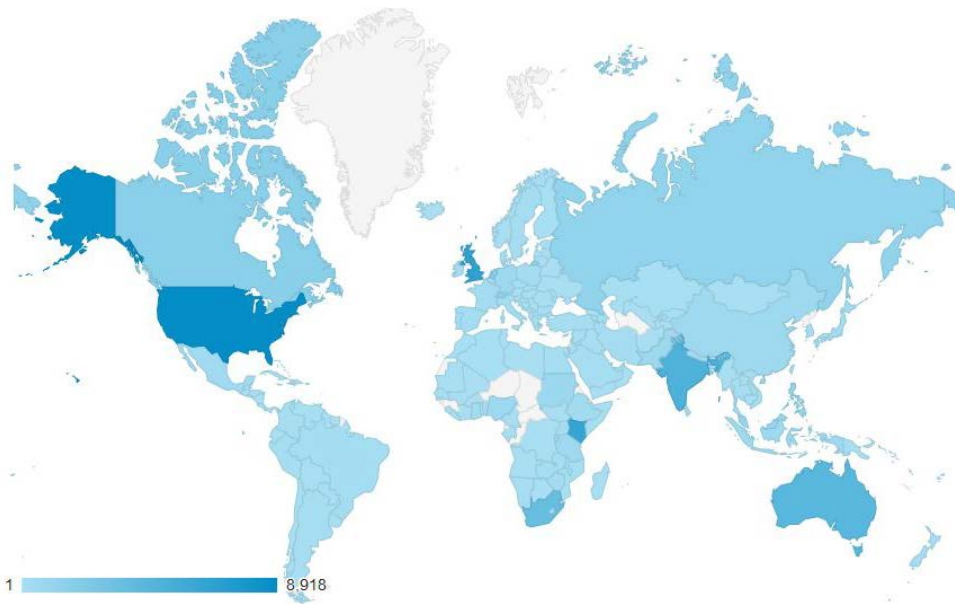
**2,258\***  
downloads  
of Tools

*See section 2.4.4*



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# 2015-2016 Outreach Review



Rank	Country	Number of sessions and % of the total
1	United States	8,918(14.33%)
2	United Kingdom	6,659(10.70%)
3	Kenya	6,283(10.09%)
4	India	4,889(7.85%)
5	Australia	4,312(6.93%)
6	South Africa	3,571(5.74%)
7	Netherlands	1,751(2.81%)
8	(not set)	1,729(2.78%)
9	Canada	1,670(2.68%)
10	Switzerland	1,625(2.61%)

*See section 2.4.4*



# APFM

# Proposed Outreach Activities



Active cross-  
promotion  
with SBPs



Draw  
attention to  
existing tools



Online  
catalogue of  
services



Engage Palais de  
Nations press  
corps

*See section 4.4*



**APFM**



# APFM

## End of day one

## Thank you!



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# APFM

## Associated Programme on Flood Management

### Advisory Committee Meeting – Day 2

Geneva, 13 September 2016



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# Flood Forecasting Initiative

The Flood Forecasting Initiative (FFI) is a framework to promote the enhancement of flood forecasting capabilities of National Meteorological and Hydrological Services (NMHSs).

**Task 1:** by ensuring that all major demo projects and components, including but not limited to CIFDP, SWFDP, FFGS, include the requirements/best practices for effective\* and sustainable flood forecasting in their design and implementation;

**Task 2:** by ensuring guidance material is available for NMHSs and for donors, NGOs, and other organizations working to strengthen flood forecasting capabilities in national services;

**Task 3:** by facilitating the development of an inventory of existing training programmes and related reference materials across the entire spectrum of training needs for E2E systems for flood forecasting, identifying weaknesses/gaps, and recommending development of additional materials to overcome weaknesses/fill gaps;

**Task 4:** by ensuring access to guidance material and training through the IFM HelpDesk.

*(from FFI Workplan 2016-2019)*



**APFM**



# Flood Forecasting and Early Warning Systems

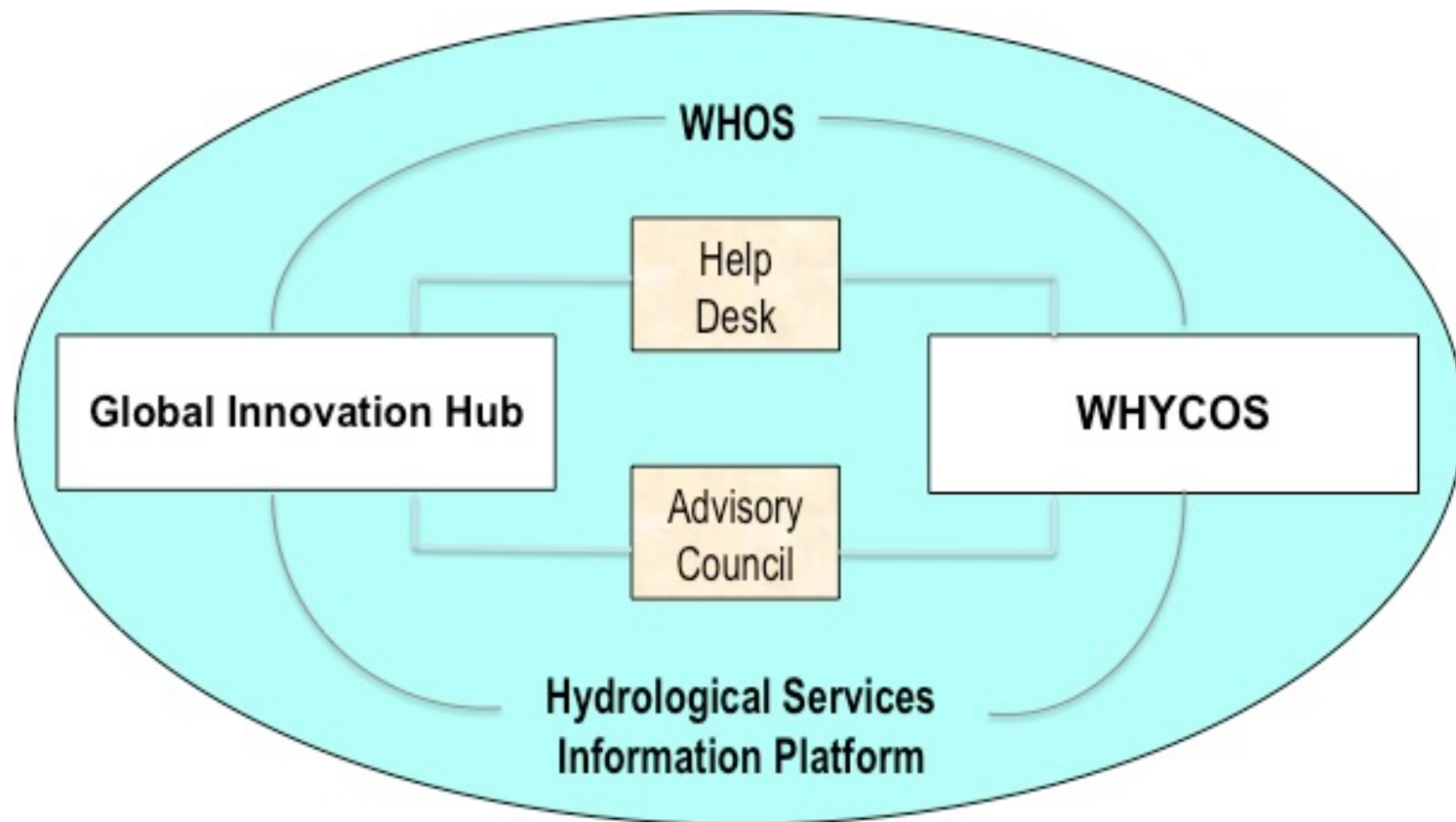
## (main components as per WMO No. 1072)

- a) **Collection of real-time data** for the prediction of flood severity, including time of onset and extent and magnitude of flooding;
- b) **Preparation of forecast information and warning messages**, giving clear statements on what is happening, forecasts of what may happen and expected impact;
- ➔ c) **Communication and dissemination** of such messages, which can also include what action should be taken;
- ➔ d) **Interpretation of the forecast and flood observations**, in order to provide situation updates to determine possible impacts on communities and infrastructure;
- ➔ e) **Response to the warnings** by the agencies and communities involved;
- f) **Review of the warning system** and improvements to the system after flood events.

**The above need additional institutional arrangements to ensure transboundary cooperation**



# WMO Global Hydrometry Support Facility (GHSF)



# Flash Flood Guidance System (FFGS)



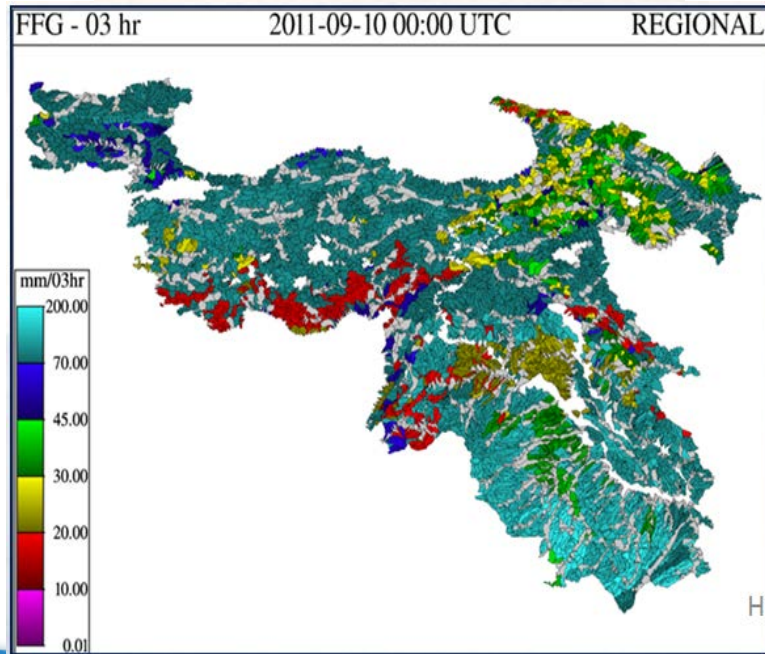
*The Flash Flood Guidance System with global coverage consists of eight regional FFGs in different stages of development and operational use. Four systems are operational, initial versions were implemented for four, and one is under development*



# Flash Flood Guidance Products

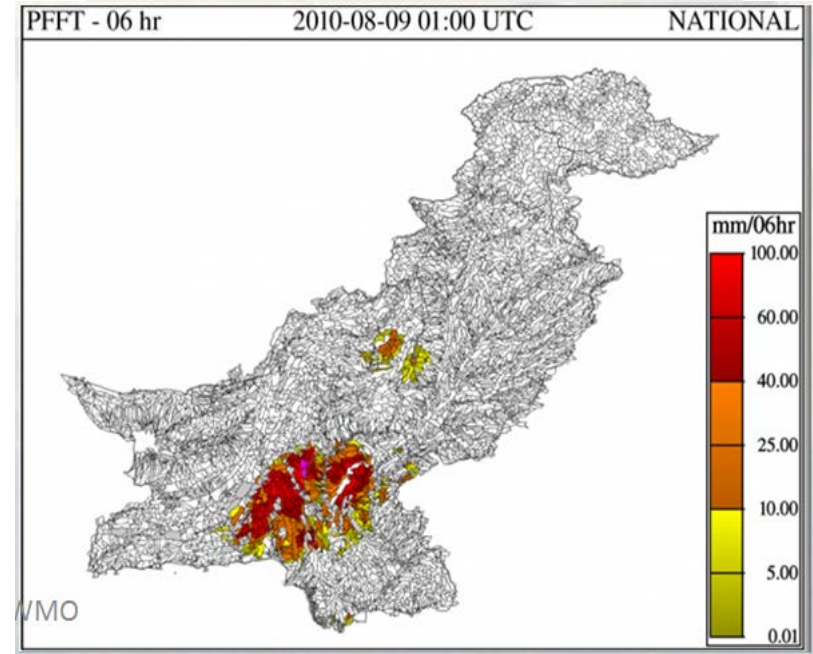
## DIAGNOSTIC

**Flash Flood Guidance** – volume of rainfall of a given duration (1-6 hours) over a given small catchment that is just enough to cause bankfull flow at the outlet



## PROGNOSTIC

**Flash Flood Threat** – rainfall of a given duration in excess of the corresponding Flash Flood Guidance value (existing/past or “forecast” rainfall)



# APFM

# DEWETRA Platform

- Combining real-time observations with different forecast scenarios
- Multi-hazard integrated platform covering floods, forest fires landslides



- Interconnects different databases (vulnerability, hazard, assets, etc.)
- Incorporates and customizable various forecasting models
- Possible coupling with the FFGS

- Made available to requesting countries through an open source license agreement between WMO and the Italian Civil Protection (signed on 24 March 2014)



# Flood Forecasting Initiative

CHy initiative Promoting the concept of End-to-end (E2E) Flood Forecasting and Early Warning



**Real-time  
data  
collection**

**Modelling  
and  
Forecasting**

**Early Warning  
disseminatio  
n**

**Decision  
Support**

**Response to  
warning**

Umbrella to coordinate synergies between WMO activities such as:

**- Global  
Hydrometry  
Service  
Facility  
(GHSF)  
- Project X**

**- Flash Flood Guidance System  
(FFGS)  
- Coastal Inundation  
Forecasting Demonstration  
Project (CIFDP)  
- Severe Weather Forecasting  
Demonstration Project  
(SWFDP)**

**- Associated Programme on  
Flood Management (APFM)  
- DEWETRA Platform  
- Preparing for Extreme And  
Rare events in coastaL regions  
(PEARL)**



# HelpDesk or HelpDesks?

IFM

IDM

GHSF

GFCS

IGFBB

IWCMAWHNITDBF  
CTINTBSTA

Already existing



Planned



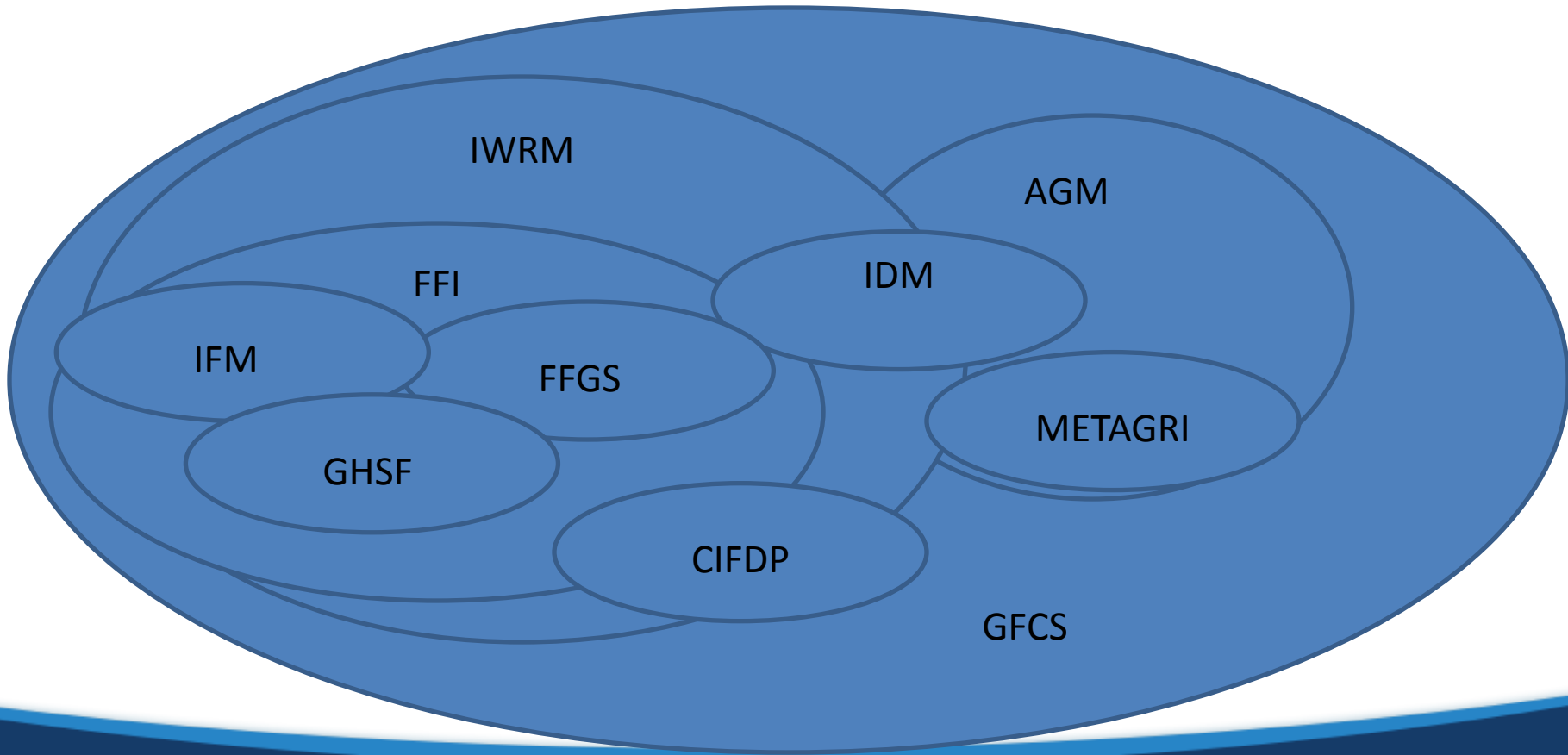
Hey, cool idea! We might want one too



# Proposal

Basic Concepts:

- Include as many HelpDesk into a single one
- Rename it accordingly to avoid issues of ownership



# Summary of AC Recommendations

- ⊕ To be prepared based on AC discussions and recommendations
- ⊕ For presentation to the MC for its consideration

**Thank you!**

