

Current Status of Impact Based Forecast in Regional Associations II & V (Asia and the South-West Pacific)

2nd IBF Workshop

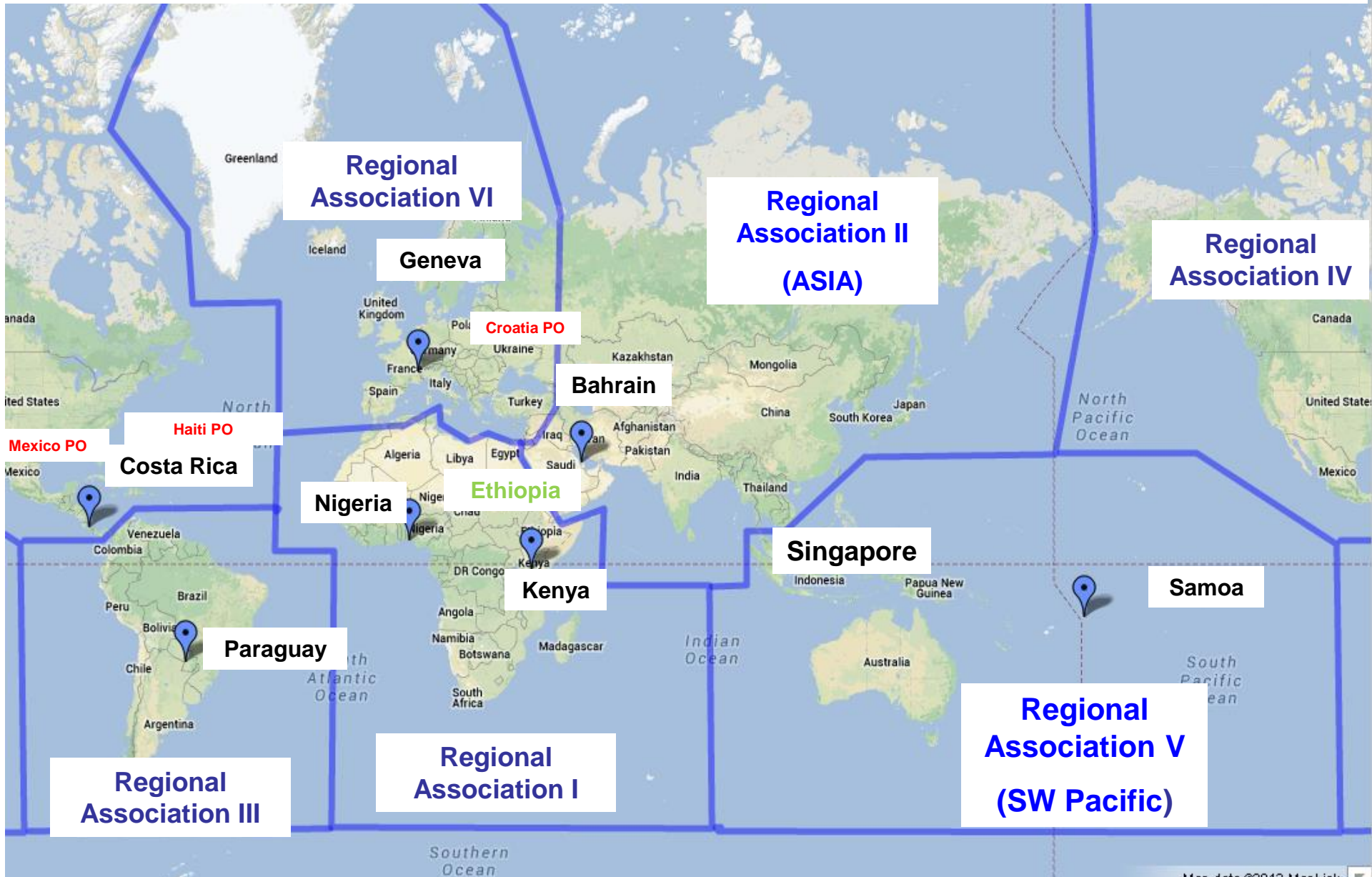
**19-21 November 2018
Seoul, Republic of Korea**

**Chung Kyu Park
D/RAP - Singapore**



WMO Regional Structure

Regional Offices / Representative Offices / Project Offices



Regional Office – Asia- S W Pacific (RAP)

RAP Office supports 58 members in RA II (35) & RA V (23). Asia-Pacific Region is characterized by:

Dense population with many mega cities and serious casualties and economic losses due to various natural disasters;

Diversity in climate, natural disasters, economics, technology, language and culture (with sub-regional issues and challenges);

Key players and implementation partners due to high-impact natural disasters and economic losses (opportunity and threat);

Active Regional Centres which provide supports to Members (RSMCs, RCCs, RTCs, RRC, RICs, GISCs, SDS-RNs/RCs, etc.)

Regional Office – Asia- S W Pacific (RAP)

Challenges

Gaps among Members for capacity development and implementation of projects in sub-regions;

Political sensitivity and conflicts with neighbouring countries in sub-regions (cross-boundary issues);

Decisions/Resolutions on Impact-based Forecast and Warning Services

- **Decision 30 (CBS-16): (NOV 2016)**

Decides

- **More rapid realization of impact-based forecast and warning services** through the development of a strategy for implementation of such services
- Implementation strategy should be **WMO-wide and applicable to all activities and programmes**, with inputs from relevant TCs and WMO programmes, as well as stakeholders and development partners

Impact-based Forecast and Warning Services (IBFWS)

- **Decision 3.2(2)/1 (EC-69): (MAY 2017)**

Decides:

- To further develop **training materials** on impact-based forecast and warning services in the curricula of **WMO RTCs**
- To develop a mechanism for the **collection and processing of impact-related data and information** for GDPFS centres
- To incorporate **methods to assess likelihood and risk using numerical weather ensembles** into the WMO Guidelines on multi-hazard impact-based forecast and warning services

Follow up to the RA II-16 (Abu Dhabi, UAE, FEB 2017)

Approved RA II Pilot Projects

Continued projects	Lead by
Pilot Project to Develop Support for NMHSs in Numerical Weather Prediction	Hong Kong, China Republic of Korea
Pilot Project to Develop Support for National Meteorological and Hydrological Services in the Collection and Application of Aircraft Meteorological Data Relay (AMDAR) data	China Hong Kong, China
Pilot Project to Sustain and Enhance the Capacity of NMHSs in the Provision of Official Weather Forecasts for the Medium Range	Hong Kong, China Republic of Korea

New projects	Lead by
Pilot Project on Impact-based Forecasting	Republic of Korea
Pilot Project to Enhance the Regional Capability in Meteorological Disaster Risk Reduction	China

Follow up to the RA V-17 (Nuku’Alofa, Tonga, OCT 2018)

Impact-based Forecast and Warning Services (IBFWS)

Climate Risk and Early Warning Systems (CREWS) project fund to organize a regional IBFWS Workshop as well as an in-country pilot project in the region
Participants from RA V to attend the RA II IBFWS Workshops in 2017 (Seoul, Republic of Korea)
Decision 12 (EC-70) to organize a Global symposium on IBFWS in late 2019
Decision 4 (EC-69) to develop Training materials on IBFWS and to apply guides prepared by RSMCs and PWS Programme
Decision 1: Task WG-WXS with the function of Enhancing capacities of Members to provide IBFWS
Decision 2: To support the organization of the Region V WMO IBFWS Workshop (Solomon Islands)
Decision 3: To participate at the planned WMO Global Symposium on IBFWS in 2019
Decision 4: To initiate efforts towards building capacities of the NMHSs to Assess and demonstrate their socio-economic benefits (SEBs)

Impact-based Forecast and Warning Services (IBFWS)

- Broad & evolving concept (Inputs from Members and users)
- Country-specific concept/priorities and customized strategic plan for capacity development under the global guidance (NSP)
- Reliable tools/models and capacity development (Technical/human capacity)
- Multi-disciplinary interface/network (Partnership at regional/national levels)
- Outreach programmes for end-users (Value-added)
- Communication channel with stakeholders and decision makers (Visibility)
- Secure resources for development and implementation (Funding)

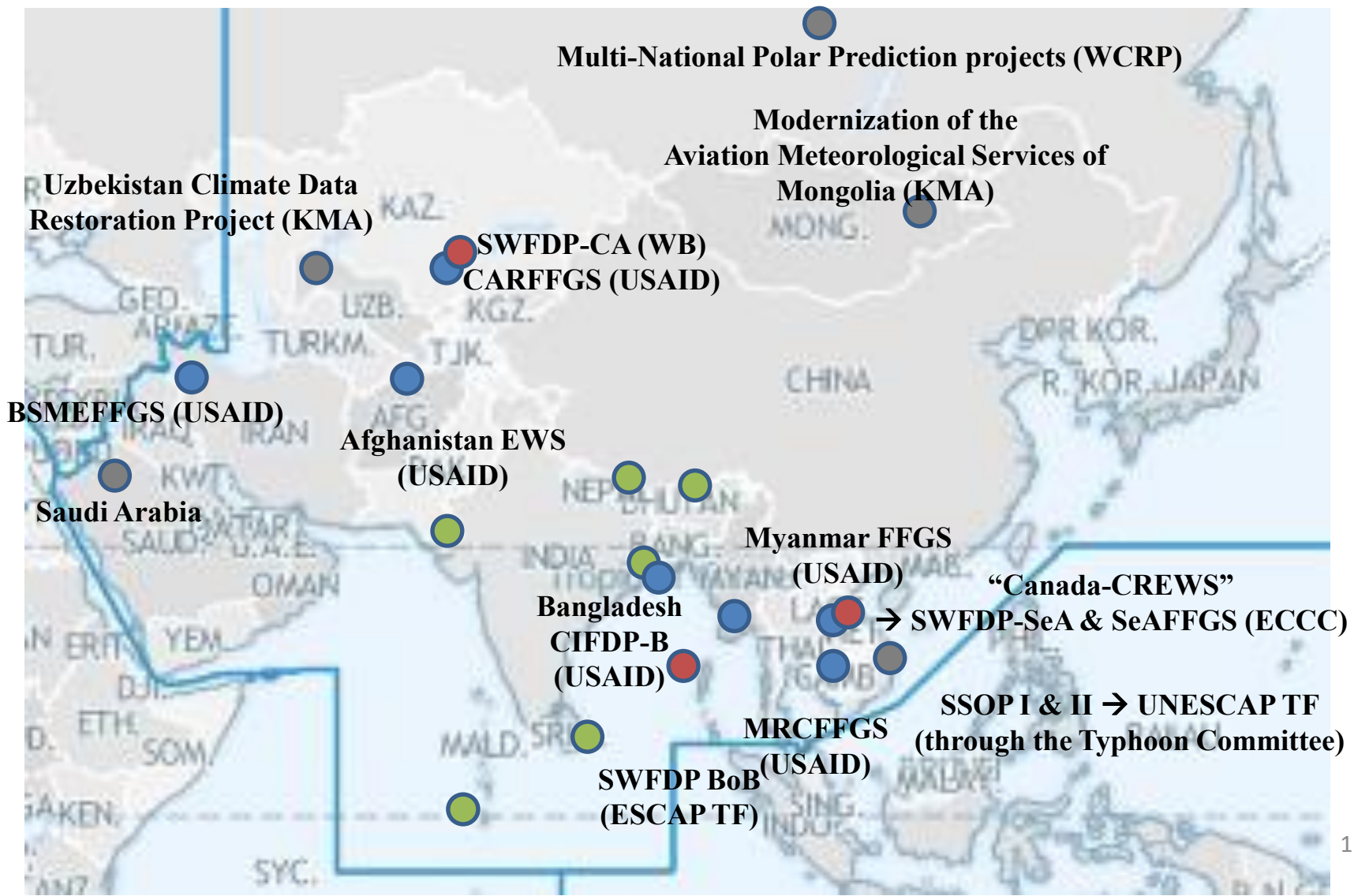
National and Sub-Regional Projects in the Asia-Pacific Region



WMO engagement in Asia

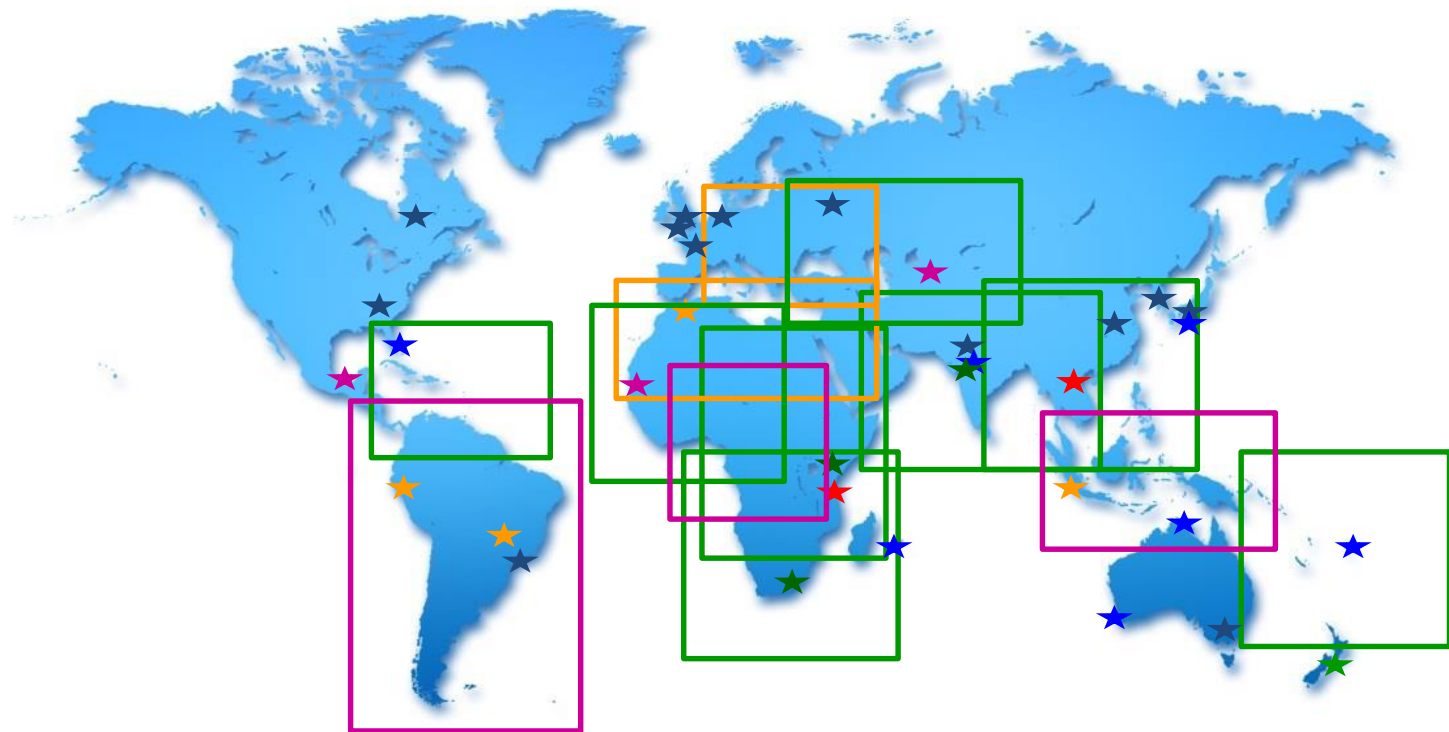
Ongoing projects by country & donor

(see <https://public.wmo.int/en/projects> & <https://www.wmo.int/cpdb/regions/asia>)



SWFDP – Ongoing regional subprojects and future directions

Currently, SWFDP involves over 75 countries including around 45 LDCs and SIDS in 8 sub-regions. Subject to availability of resources, number of benefitting countries may grow to over 100 in next 2-3 years.



Green color boxes - shows the existing on-going SWFDP regional subprojects.

Pink color boxes – the regional subprojects in discussion (next 1-2 years)

Orange color boxes – future SWFDP subprojects (next 3-5 years?)

SWFDP – The ‘Cascading Forecasting Process’

Global NWP centres to provide available NWP/EPS and sat-based products to Regional centre and NMCs;

Regional centres to analyses and interpret information received from global centres, prepare guidance products for NMCs, run NWP LAM, maintain RSMC Web site, liaise with the participating NMCs;

NMCs have access to all products, and responsible for national warnings and services; to issue alerts, advisories, warnings; to liaise with users, and to provide feedback for evaluation of the project.

Severe Weather Forecasting Demonstration Project (SWFDP)

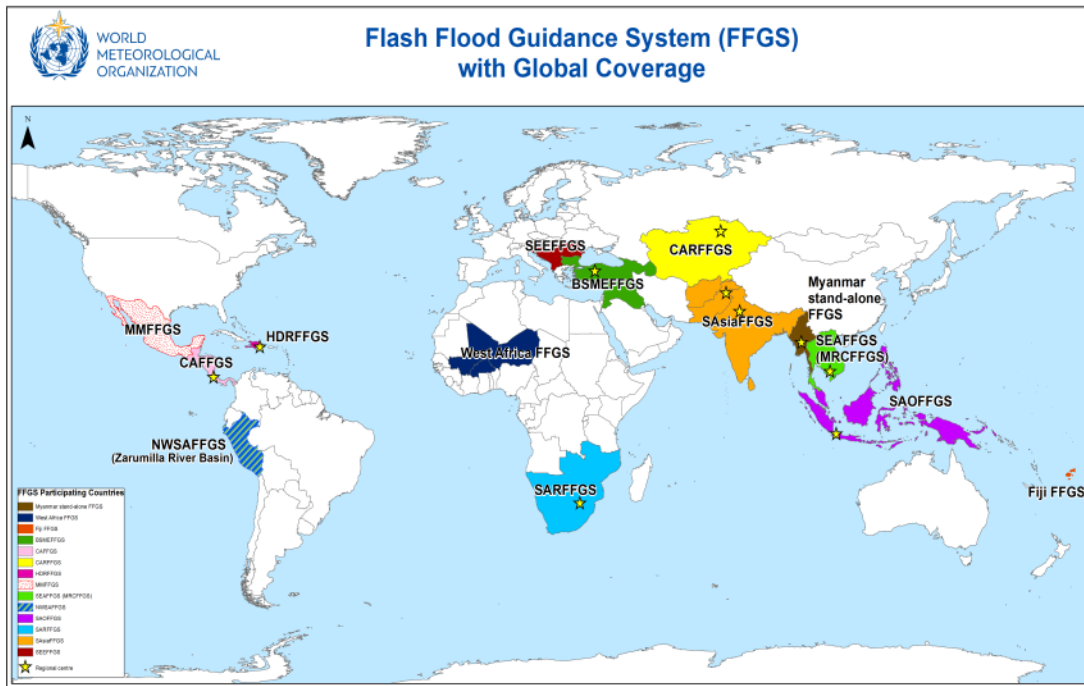
SWFDP is a cross-programmatic activity, led by the GDPFS

Collaborating Technical Commissions: **CBS, CAgM, CHy, JCOMM, and CAS**

Related WMO programmes with synergies:

- Public Weather Services Programme (**PWSP**)
- Tropical Cyclone Programme (**TCP**)
- WMO Space Programme (**WSP**) → Nowcasting
- Hydrology and Water Resources Programme (**HWRP**) → Flash Flood Guidance Systems (**FFGSs**)
- Marine Meteorology and Oceanography Programme (**MMOP**) → Coastal Inundation Forecast Demonstration Project (**CIFDP**)
- Disaster Risk Reduction Programme (**DRRP**)
- Agricultural Meteorology Programme (**AgMP**)
- World Weather Research Programme (**WWRP**)
- Capacity Development Programme (**CDP**), Regional Programme (**RP**), Education and Training Programme (**ETRP**), Voluntary Cooperation Programme (**VCP**)

Flash Flood Guidance System (FFGS)

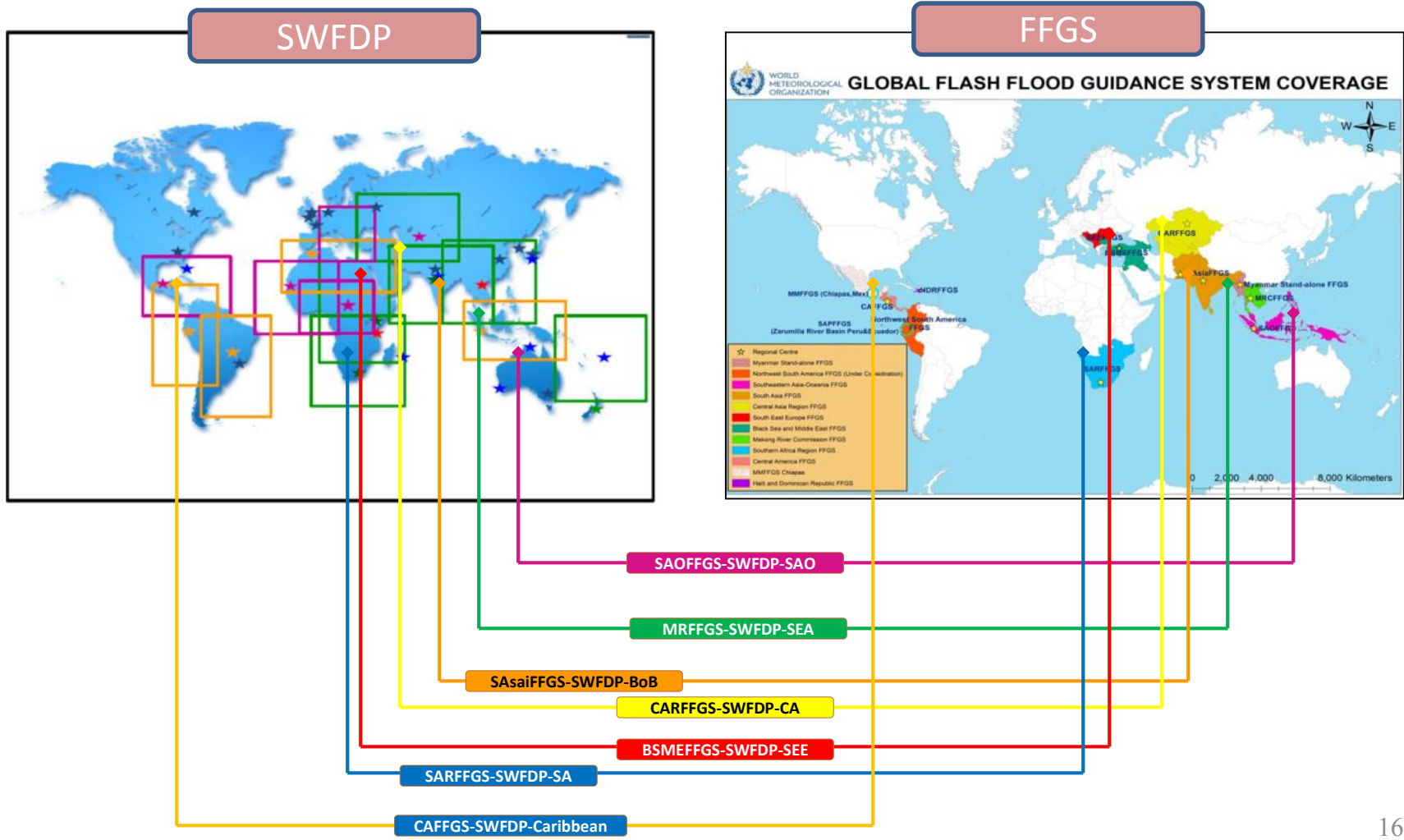


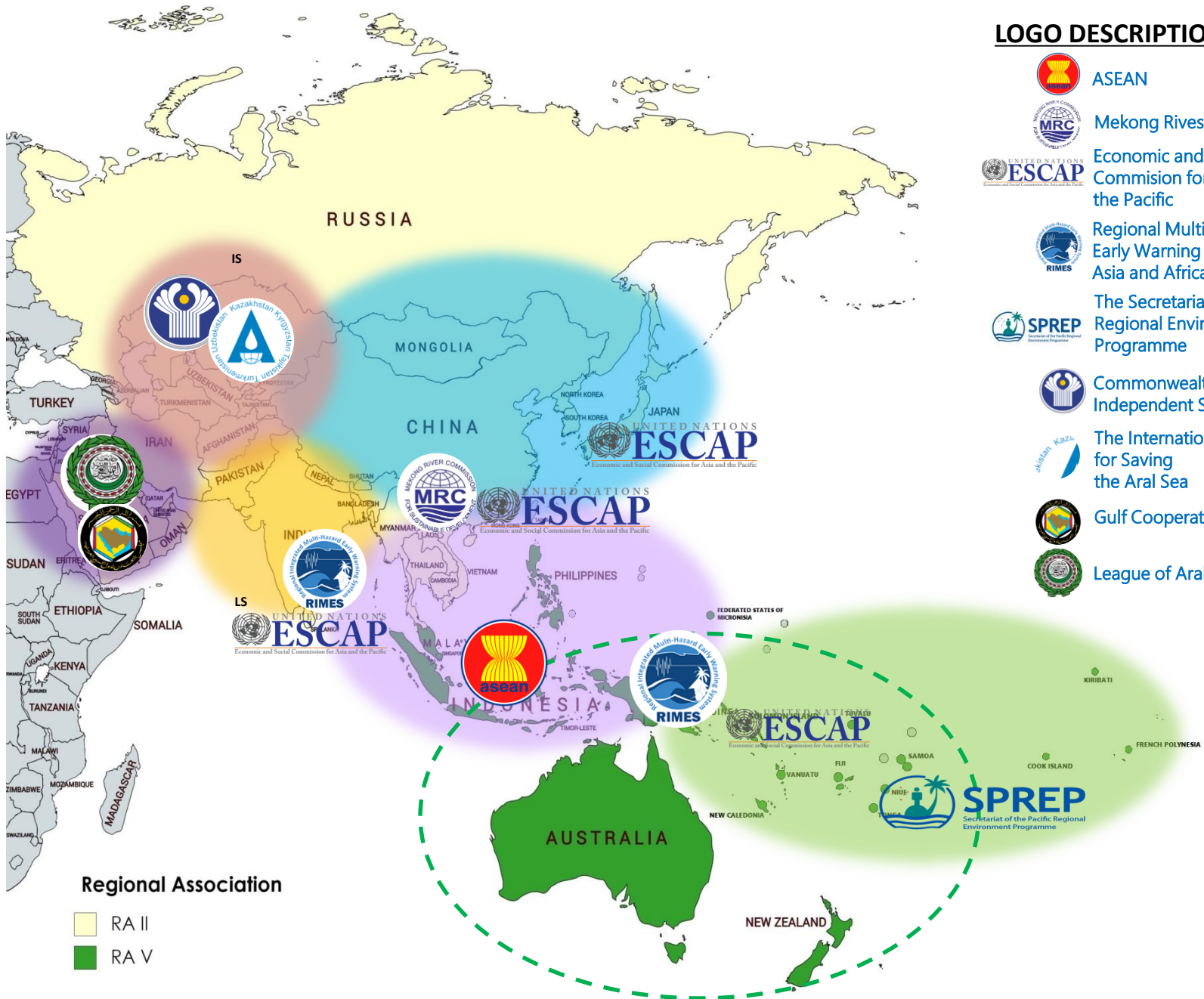
FFGSs with global coverage (Resolution 21, World Meteorological Congress-XV) enhances early warning capabilities of the NMHSs and currently **covers more than 60 (sixty) countries** and **more than 2 billion people** around the world saving lives and decreasing economic losses.

The WMO Commission for Hydrology (CHy) jointly with the WMO Commission for Basic Systems (CBS) and in collaboration with the **US National Weather Service, Hydrologic Research Center (HRC), and USAID/OFDA** have developed the concept of the FFGS with global coverage.

The concept has been endorsed by the Fifteenth WMO Congress and is being implemented through a series of regional projects with **funding from USAID & ECCC (Canada)**.

Linkages between Subregional SWFDP/FFGS and Impact-based Forecast and Warning Services (IBFWS)





LOGO DESCRIPTION:

-  ASEAN
-  Mekong Rives Commission
-  Economic and Social Commission for Asia and the Pacific
-  Regional Multi-Hazard Early Warning System for Asia and Africa
-  The Secretariat of the Pacific Regional Environment Programme
-  Commonwealth of Independent States
-  The International Fund for Saving the Aral Sea
-  Gulf Cooperation Council
-  League of Arab States

Regional Association

-  RA II
-  RA V

UN ESCAP support through joint RIMES-WMO project *for Impact-based Forecast and Warning Services (IBFWS)*

- 2018 – Review and updating of the Regional Subproject Implementation Plan (RSIP) by the first Meeting of Regional Subproject Management Team (RSMT) of SWFDP-Bay of Bengal to be held in Colombo, Sri Lanka from 28 November to 1 December 2018
- 2018 - **Regional Training Workshop on Severe Weather and Impact based Forecasting and Warning Services** to be held in Colombo, Sri Lanka during 3 – 8 December 2018 to introduce Impact Based Forecasting and Warning (IBFW) Services in the sub-region
- The workshop will train around 25 operational forecasters and public weather services (PWS) from 9 NMHSs in the sub-region.
- In addition, the workshop will be attended by several representatives of disaster management office and media from Sri Lanka for improved engagement of NMHS **with users to introduce IBFW Services**

Recommendations

- 1) **Building national infrastructure:** Enhance data-processing to cope with the requirements of this new area of service delivery
- 2) **Pilot projects and training** for implementation to progress towards impact-based forecasts
- 3) **National outreach programme:** Mutual understanding of the impacts of hazards in communication with related government authorities and user communities (visibility)
- 4) **Construct database for existing IBFW services and plan for improvement toward IBF forecasting and warnings:** RCOF/NCOF, media, mobile app (push), emergency hotlines with DRM agencies, call center, etc.
- 5) **Sustainable and long-term country assistance basis,** requiring expertise, resources, patience and persistence
- 6) **Shift mindset of NMHSs toward economic values:** Exploiting beneficial impacts of weather as well as avoiding the adverse impacts (proactive)



Thank you
Gracias
Merci

