



World Meteorological Organization

Weather • Climate • Water

Role of CBS in Supporting Humanitarian Agencies

2015 Meeting of the Disaster Risk Reduction Focal Points of WMO Regional Associations, Technical Commissions and Programmes (DRR FP RA-TC-TP)
3-5 November 2015, Geneva

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Meteorological Service of Canada

Outline

- What is CBS ?
- Current actions to support Humanitarian Agencies (HA)
- Seamless prediction and multi hazards multi scale early warning and information systems
- Evolution of the global architecture



What is CBS ?

- The main activities of the Commission for Basic Systems (CBS) are related to the development, implementation and operation of integrated systems for observing, data processing, data communication and data management, and to the provision of public weather services, in response to requirements of all WMO Programmes and opportunities provided by technological developments.
- CBS is the lead Technical Commission for the overall World Weather Watch Programme (WWW), the WMO Space Programme and the Public Weather Services Programme.

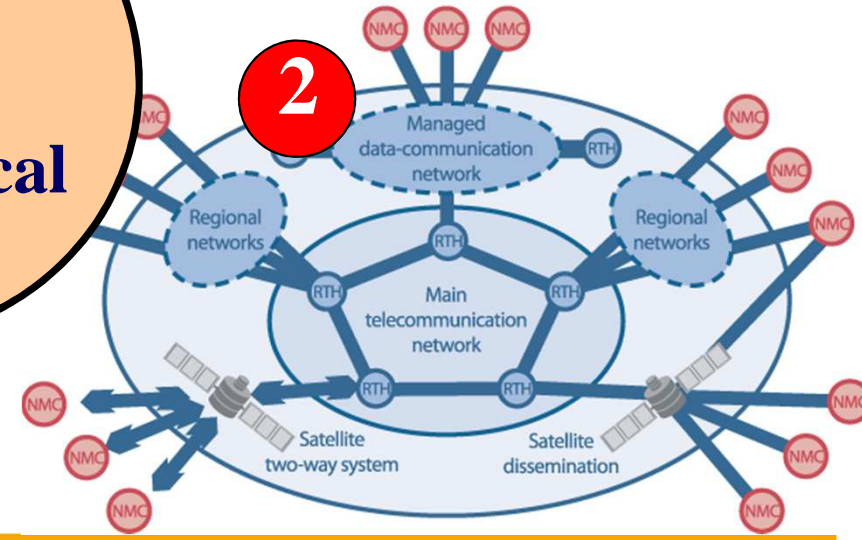


WMO Coordinates a Global Network for Monitoring, Detection and Forecasting of Hazards Operated by National Meteorological Services

1 Global Observing System



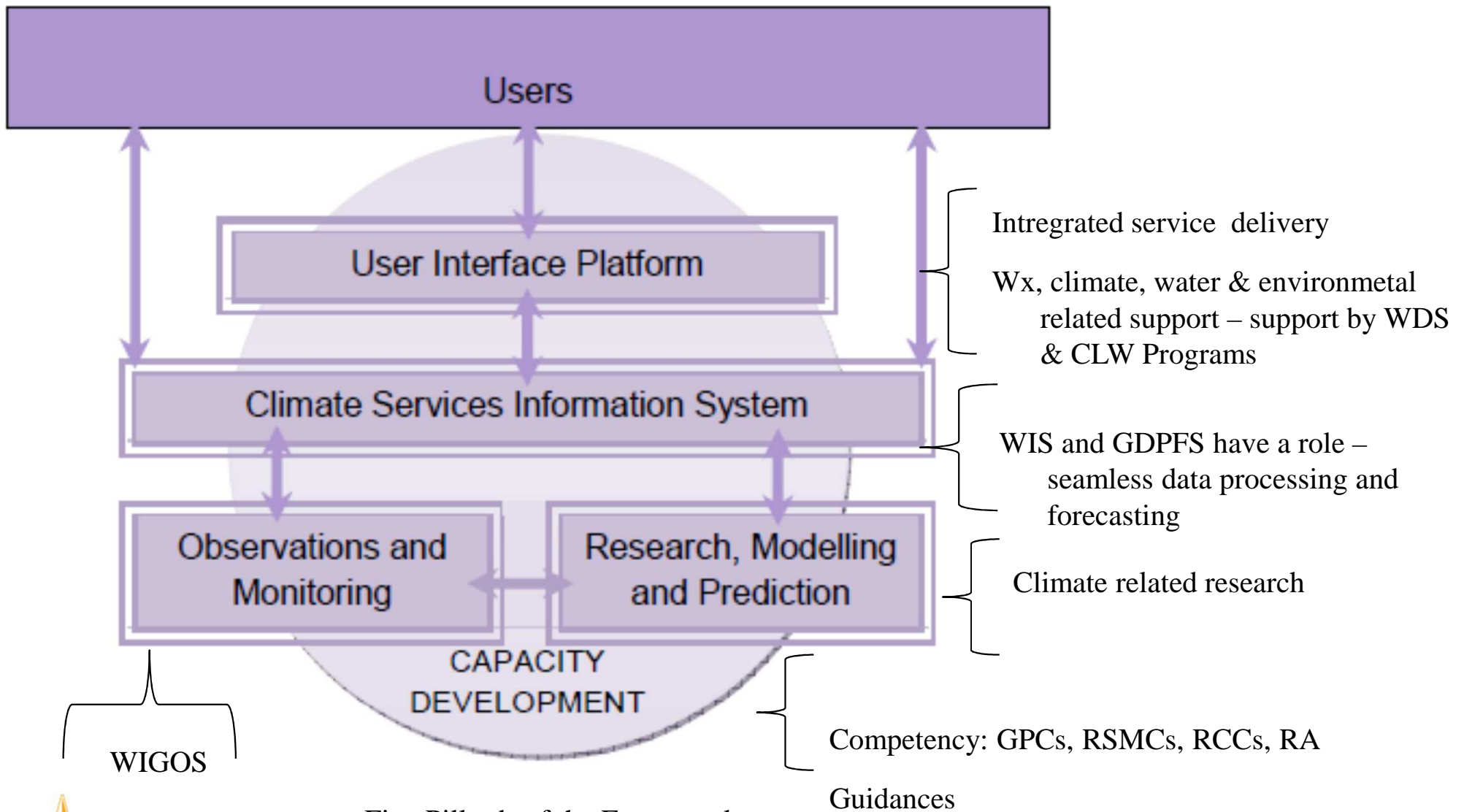
**National
Meteorological
&
Hydrological
Services**



Global Data Processing and Forecasting

Global Telecommunication System

Links to CBS

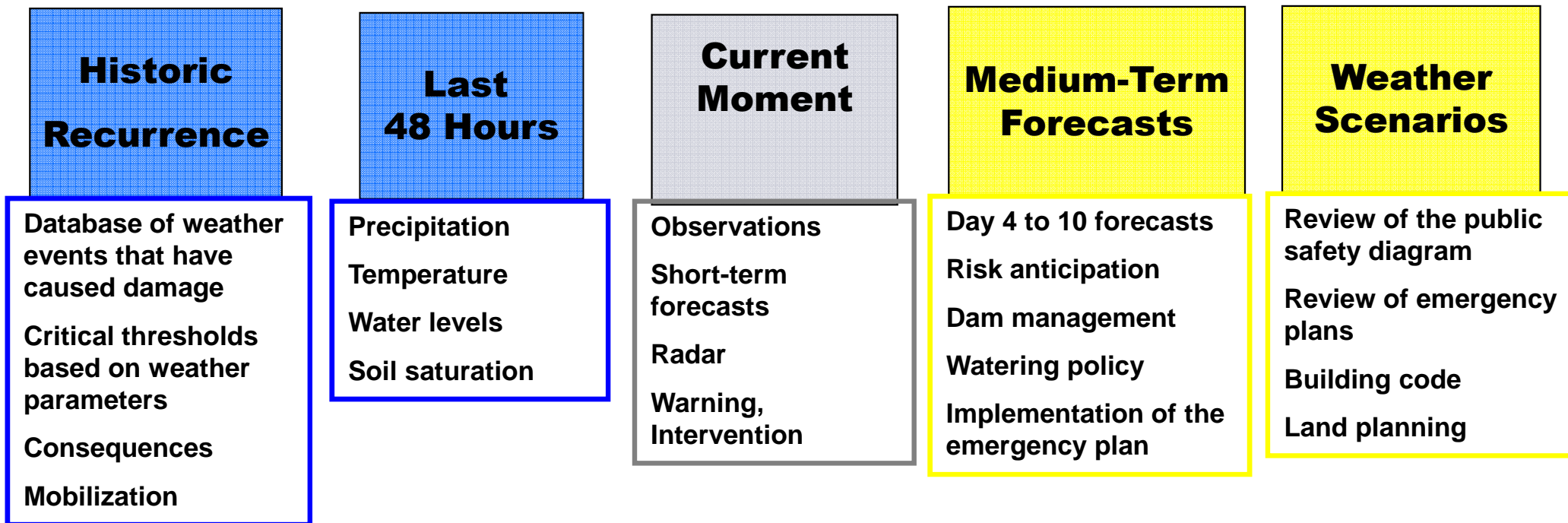


Five Pillards of the Framework



Seamless early warning and early information concepts

- A system that integrates more context



Past **Present** **Future**



What CBS is doing... Background

- CBS-15 established a **CBS Task Team on the Provision of Operational Meteorological Assistance to Humanitarian Agencies** under the joint leadership/responsibility of the OPAGs on DPFS and PWS, and in liaison with other relevant technical commissions and programmes
- Under its Terms of Reference (TORs), this Task Team broadly addresses: **the requirements for products and services by Humanitarian Agencies, the development of “Global, Regional and National Arrangements”, and dissemination aspects**



Requirements for products and Services by Humanitarian Agencies (HAs)

- HAs have a need for meteorological and hydrological information on **all** spatial **scales** from global to local, and all time scales from minutes to decades, as well as historical information
- HAs would welcome an active and **sustained engagement** with the WMO community
- HAs need this information to be provided from one contact point (at global, regional and national levels) available 24/7 presented in a consistent, easily-understandable manner, using narrative text and visuals, **tailored** to their specific needs
- HAs need this provision of information to be augmented by consultation and **interpretation**



Requirements for products and Services by Humanitarian Agencies (HAs) (cont.)

- HAs would like a mechanism to be established to facilitate **two-way communication**
- HAs would like information (data, warnings) to be readily available, ideally with appropriate metadata and **geo-referenced**
- **Training** on meteorological/hydrological concepts is needed, which includes engagement with exercises, workshops and discussion fora
- HAs would welcome evaluation and verification of meteorological products and services as elements in the **validation** of authoritative advice



Why WMO finds it difficult to meet these requirements

- There is **no clear agreement** in the WMO community **on protocols** for the provision of global and regional scale guidance directly to users outside the WMO community
- The development of a **user-engagement culture is in progression** within WMO **but more needs to be done**
- **Lack of capacity and capability** within NMHSs, make it difficult to provide tailored, consistent services to the Humanitarian community
- The WMO community has historically been **product-centric**



Why WMO finds it difficult to meet these requirements (cont.)

- There is a need to establish a **mechanism for operational communication** between WMO and Has
- WMO community typically uses **meteorologically-specific formats to exchange information** rather than standard geo-referenced formats
- WMO community has not historically seen the **training of users** as part of its remit
- Many NMHSs lack a **legal mandate for their role as authoritative providers of warnings of high impact weather**



What are the consequences of WMO not responding to HAs' requirements

- HAs will continue to **use non-authoritative sources** of meteorological and hydrological information
- **Reputational damage to WMO**, its GDPFS centres, including NMHSs
- **Reputational damage to the HAs** through incorrect and inappropriate use and interpretation of meteorological information
- **Non-authoritative information sources will proliferate**, leading to inefficiencies and duplication of effort
- **Diversion of resources from NMHSs to agencies** that are closer to the user



What WMO needs to do in the short term to support HAs

- Recognize and promote to HAs the **strengths of the WMO community**
- Design, create and test a **mechanism for the delivery of services** with the Humanitarian Agency community
- **Strengthen the engagement of the WMO community with the Inter-Agency Standing Committee (IASC)** to assist with the preparation of the Early Warning / Early Action (EW/EA) report
- Improve **access to and use of authoritative information sources on GDACS** and to improve the **attribution** of those information sources
- Organize **a joint HA/WMO workshop** in Geneva to **develop a mechanism/arrangements between WMO and HAs**





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United Nations and other International Humanitarian Agencies
(UNOCHA, WFP, IFRC, etc)

User requirements

1

?

3

Value-add Products Disseminated
via **GDACS**

Technical Agencies Supporting Humanitarian Agencies for
Development Value-add Products
(UNOSAT/UNITAR, JRC-EC, etc)

Core Meteorological
& Climate Products

2

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Exchange via
GTS/WIS

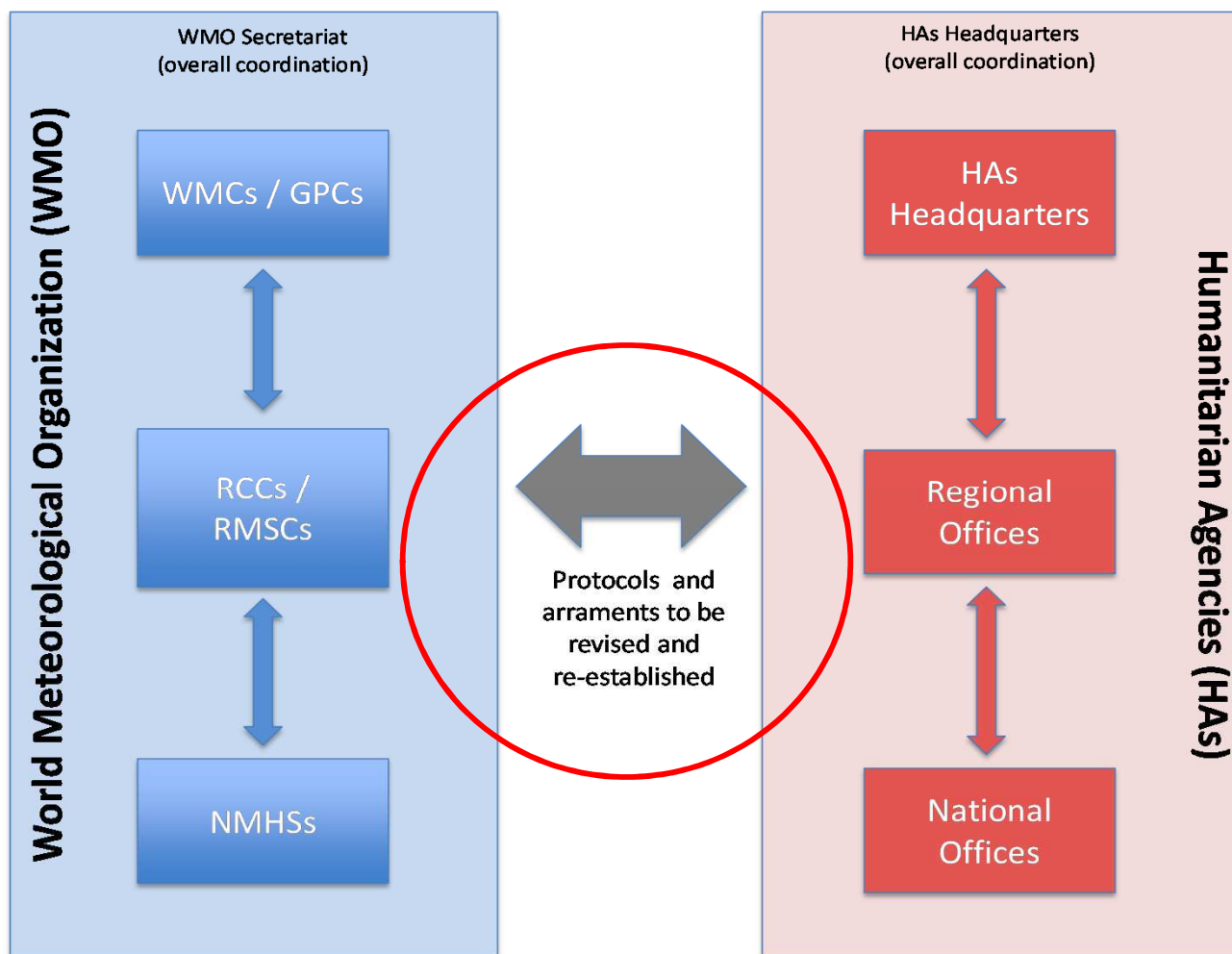
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4

Dissemination of
Value-add Products
back on WMO
Network

WMO Core Products
(Source: GPCs, RSMCs, RCCs, NMHSs)

What WMO needs to do in the short term to support HAs (cont.)



- Review and revise current arrangements exist for providing information to Humanitarian Agencies
- Demonstrate the arrangements in a SWFDP region



What WMO needs to do in the medium-to-long term to support HAs

- Following **continued validation and testing** of the prototype, implement the **mechanisms for the operational delivery of services**
- WMO needs to keep in sight that **meteorological conditions may impact significantly on non-meteorological crises**
- Develop and improve the supply of **geo-referenced information**
- Define **metadata** needs of the Humanitarian Agency community
- Provide **guidance and assistance to Members in developing a legal framework** that would strengthen and support the role of NMHSs as authoritative providers of warnings of high impact weather



One of the flagships: SWFDP

- The Severe Weather Forecasting Demonstration Project (SWFDP) has successfully improved severe weather forecasting through improved access to, and more effective use of outputs of numerical weather prediction systems for weather forecasters, who in turn have improved the delivery of warning services in many developing countries. This is achieved by helping developing countries in particular to have available and implement the best possible use of existing NWP products through a 'Cascading Forecasting Process', from Global Centres to Regional Centres to National Centres, for improving warnings of hazardous weather conditions and weather-related hazards. Global-scale products, as well as data and information provided by other regional centres, are integrated and synthesized by a designated Regional Specialized Meteorological Centre (RSMC) or an agreed Regional Forecast Support Centre (RFSC), which, in turn, provides daily guidance for short-range (days 1 and 2) and medium-range (out to day-5) on specified hazardous phenomena (e.g. heavy rain, damaging waves, etc) to the National Meteorological Centres of participating countries in the region. The SWFDP Goals are to improve the ability of NMCs to forecast severe weather events; to improve the lead time of alerting of these events; to improve interaction of NMCs with Disaster Management and Civil Protection Authorities (DMCPA) before and during events; to identify gaps and areas for improvements and; to improve the skill of products from GDPFS Centres through feedback from NMCs.



Mapping of WMO Technical Commissions and technical Programmes, WMO Departments as relevant to the engagement in the Multi-Hazard, Multi-Sector Demonstration Project proposed to be implemented in Southeast Asia

Hazards	Observations (equipment and networks)	short-term Forecasting (0-5 d)	Sub-seasonal and seasonal predictions	Policy, Institutional cooperation and user interface and requirements in DRR	Service Delivery
Tropical Cyclones	Tropical Cyclone Program (TCP), WDS CAS – WWRP - TCRP AREP/RES UNESCAP WMO Typhoon Committee RSMC Tokyo		CCL-CHY-CAGM – ECGFW CBS-CCL ET-OPSLTS JCOMM-ET00FS CBS-ETLRF WWRP-WCRP S2S Research Project	DRR UI EAG – Hazard Risk DRR UI-EAG- MHEWS DRR UI-EAG-DRF and Insurance DRR UI EAG – SWG IASG Preparedness WDS DRRP	CBS-OPAGE-PWS // EC WG SD with focus on DRR CAGM - ET WAMIS CAEM CHY JCOMM - SFSPA
Storms surge and coastal Inundation => Salination	JCOMM-ET-WCH, CIFDP, MMOP, WDS CAGM, AgMP CLW				
Severs Weather (Precipitation)	CBS- OPAG DPFS SWFDP DPFS WDS CCL- OPAGE II – TTDEWCE – WWCER CLW CAS – WWRP AREP/RES WCRP – S2S – ET CCDI RES				
Flash Flooding Riverine flooding	CHY – OPACHE – HFP HWRP CLW				
Other severe weather Tornados	CBS- OPAG DPFS SWFDP DPFS WDS				
Heat waves	CCL-OGAC III – TTGSCU CLW				



For Consideration of PTC 2014
Recommendations of 1st DRR FP TC-TP Meeting
(Doc 4.2(2), Annex II) (2/2)

(ii) The development and implementation of an integrated operational demonstration project in Risk Analysis and Multi-Hazard Multi-Sectoral Early Warning Systems engaging all relevant TCs and TPs and Regional Association II in Southeast Asia.

- Coordinated, integrated approach to development of meteorological, hydrological, climate services to support risk analysis and risk-based early warning systems with user-driven service-oriented approach considering, policy, institutional partnerships and operational aspects engaging DRM and economic sectors and UN and development partners.
- It would provide an example of integration across multiple disciplines and scales through the operational engagement of a number of relevant TC mechanisms programmes, technical assistance projects and activities such as TCP, CBS-SWFDP, JCOMM-CIFDP, CHy-FFG, CBS-ERA, CAS-TIGGIE and the CAS-WCRP legacy projects, CAgM – MILAC and operational network of WMO (WIGOS, WIS and GDPFS)



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Thank you for your attention

CBS Task Team on the Provision of Meteorological Assistance to
Humanitarian Agencies