



World Meteorological Organization

Working together in weather, climate and water

Meteorological, Hydrological and Climate Services in Disaster Risk Reduction and Adaptation and WMO Activities

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www.wmo.int



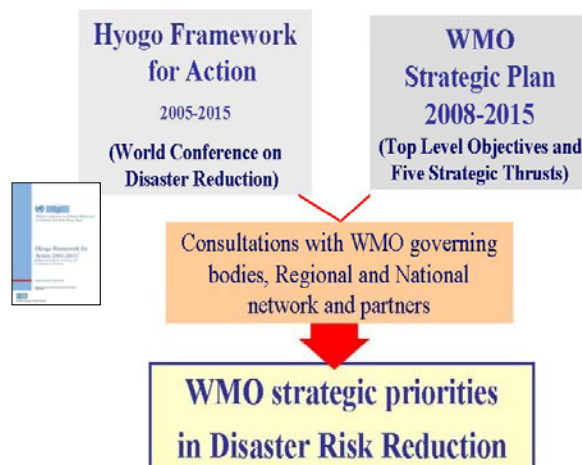
OUTLINE



- Disaster Risk Reduction Programme Strategy and Implementation Framework
- WMO's Global Framework for Climate Services (GFCS)



WMO DRR Strategic Priorities



Structure of The WMO Strategic Plan 2012–2015 (16th WMC)

- Three global societal needs
 - **Improved protection of life and property (related to the impacts of hazardous weather, climate, water and other environmental events, and increased safety of transport on land, at sea, and in the air)**
 - Poverty alleviation, sustained livelihoods and economic growth (in connection with the Millennium Development Goals), including improved health and social well-being of citizens (related to weather, climate, water and environmental events and influence)
 - Sustainable use of natural resources and improved environmental quality
- Five Organization-wide strategic thrusts and
- Eight expected results



Structure of The WMO Strategic Plan 2012–2015.....

Strategic Thrusts

- ST 1: Improving service quality and service delivery**
- ST 2: Advancing scientific research and application, as well as development and implementation of technology**
- ST 3: Strengthening capacity-building**
- ST 4: Building and enhancing partnerships and cooperation**
- ST 5: Strengthening good governance**



Five strategic priority areas to achieve expected results

- Global Framework for Climate Services;
 - Aviation meteorological services;
 - Capacity-building for the developing and least developed countries;
 - Implementation of the WMO Integrated Global Observing System (WIGOS) and WMO Information System (WIS);
 - **DISASTER RISK REDUCTION.**
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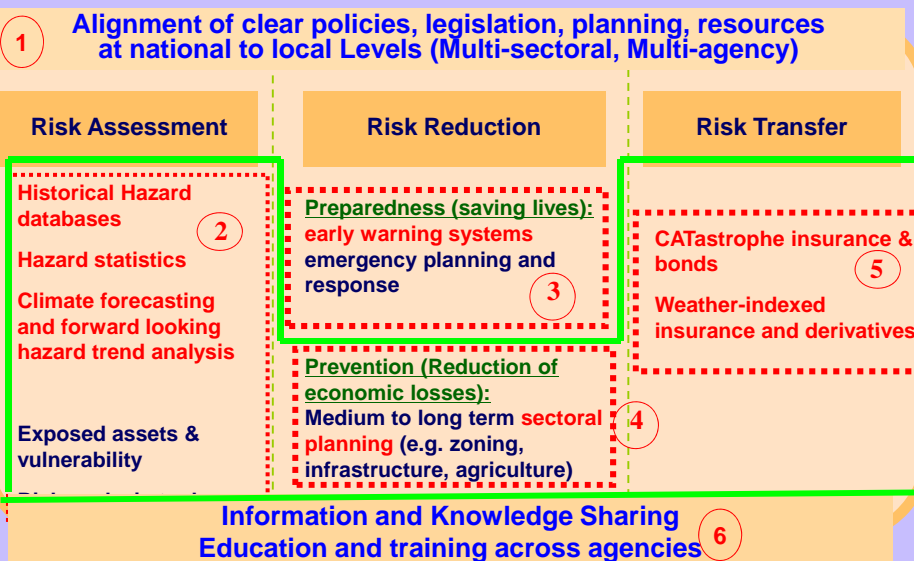
WMO Strategic Priorities and Action Plan for Disaster Risk Reduction

To implement WMO DRR priorities through **regional and national projects**, with following end results:

1. **Modernized** NMHSs and observing networks.
2. Strengthened national operational **multi-hazard early warning systems**.
3. Strengthened **hazard analysis** and hydro-meteorological risk assessment capacities to support risk reduction and risk transfer.
4. Strengthened NMHSs **cooperation and partnerships** with civil protection and other disaster risk management stakeholders.
5. **Trained management and staff** of NMHS
6. **Enhanced** ministerial and public **awareness**

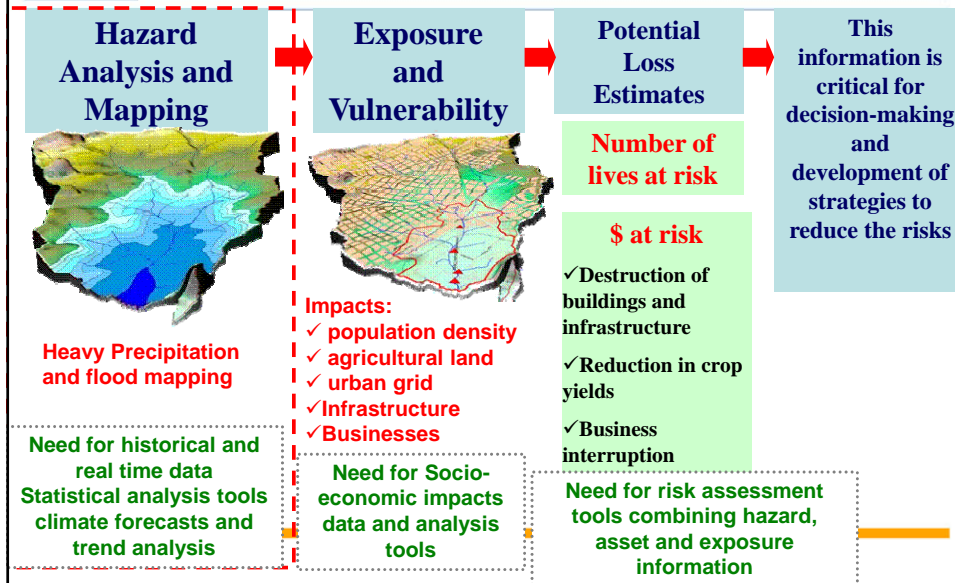


New Paradigm in Disaster Risk Management with focus on Prevention and Preparedness





Understanding the Risks Provides the Foundation for Preventing Disaster Risks!



Early Warning Systems Require Coordination Across Many Levels and Agencies

National to local disaster risk reduction plans, legislation and coordination mechanisms





Documentation of Good Practices and Guidelines on Institutional Partnerships in Early Warning Systems

Guidelines on Institutional Aspects EWS with Multi-Hazard Approach
Planning, legislative, financing, Institutional Coordination and Roles of NMHS

Synthesis of First set of 7 Good Practices (4 more in the pipeline)
Role of National Metrological and Hydrological Services

Japan
Multi-Hazard
Early
Warning
System

Bangladesh
Cyclone
Preparedness
Programme

Cuba
Tropical
Cyclone
Early
Warning
System

France
"Vigilance
System"

Shanghai
Multi-Hazard
Emergency
Preparedness
Programme

USA
Multi-Hazard
Early Warning
System

Germany
The Warning
Management
of the
Deutscher
Wetterdienst

1st EWS Publication: "Guidelines on institutional partnership and cooperation in MHEWS"

Next Phase: Concept of Operations



Climate forecasting and trend analysis tools provide unprecedented opportunities

.... to support sectoral risk assessment and management!

- Infrastructure and Urban planning
- Land zoning
- Insurance / Finance
- Agricultural productivity and food security
- Tourism
- Health epidemics
- Water resource management



Implementation Priorities in Global Framework of Climate Services (GFCS)

- Capacity building in developing countries
 - Linking climate service users and providers.
 - Building national capacity in developing countries.
 - Strengthening regional climate capabilities.
 - Building capacity to implement the User Interface Platform in the developing world
 - Improving climate observations in data sparse areas
 - Building the capacity of the climate research sector in developing countries
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Proposed Timelines

- **By end 2013.** Complete an organisation building phase, including establishment of a secretariat to support the Framework and necessary executive and management (technical) committee structures.
 - **By end 2017.** Facilitate access to improved climate services globally in four priority sectors (agriculture, disaster risk reduction, health and water).
 - Complete a mid-term review of the implementation of the Framework
 - **By end 2021.** Facilitated access to improved climate services globally across all climate-sensitive sectors. Involve at least eight United Nations entities and participate in at least USD 250 M of climate-related development projects
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Role of NMHSs

- NMHSs already provide climate services based on the historical data collected for weather services
- The NMHSs own and operate most of the infrastructure that is needed for providing the weather, climate, water and related environmental services
- Most NMHSs are mandated to undertake their responsibility under certain legal instruments
- NMHSs are structured and trained to provide 24/7 services
- NMHSs through collaborative mechanism have established standard practices across the globe for weather services that can be easily extended for delivering climate services
- Most NMHS constitute a large pool of technical experts dealing with weather and climate



Climate Services are Critical for (Re)Insurance Markets and other Risk Transfer Mechanisms

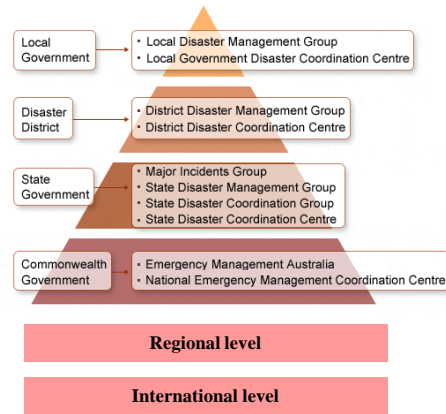
Which Risks?	What type of Financial tools?	Who Could Benefit?	Requirements for Hydro-Met Services?
Financial risks 	CAT insurance & bonds Weather-indexed insurance and derivatives Regional Catastrophe Insurance Facilities Other emerging products	Government Companies Individuals Other	Historical and real-time data (Fundamental for development of these markets!) Seasonal to inter-annual climate forecasts Decadal climate trend analysis Long term trend analysis (long-term market strategy)

WMO Workshop: http://www.wmo.int/pages/prog/drr/events/cat-insurance-wrm-markets-2007/index_en.html

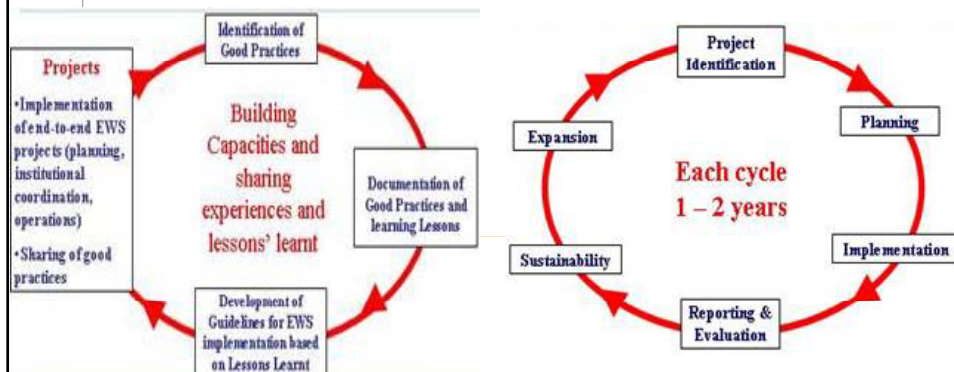


The approach

- Assess the capacity of NMHSs, identify gaps to be addressed
- Identification of disaster risk management stakeholders
- Establishment of partnerships between NMHSs and disaster risk management stakeholders

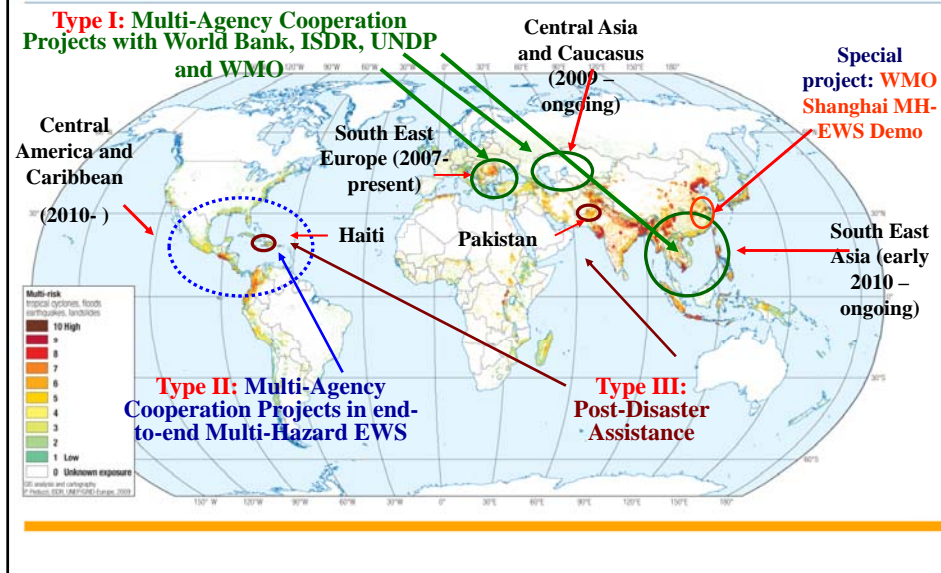


Long-term Capacity Development with phased project implementation approach underway in different regions





WMO DRR partnerships and Capacity Development Projects



WMO Capacity Development Initiative in DRR and Adaptation in S East Asia

National Component: to strengthen institutional capacities for delivery of Meteorological, Hydrological and Climate Services for EWS and socio-economic disaster risk reduction

Direct Beneficiaries: Lao PDR, Vietnam, Cambodia, Thailand, Indonesia and Philippines

Regional Component: to strengthen regional cooperation for development and sustainability of meteorological, hydrological and climate services to support DRR and adaptation in Southeast Asia

Targeted sectors: disaster risk management, water resources management, food security including agriculture and fisheries, energy, and finance and planning

Leveraging Operational network of WMO, and partners, building on national, regional and International Partnerships



Thank You

