



WMO Disaster Risk Reduction Programme

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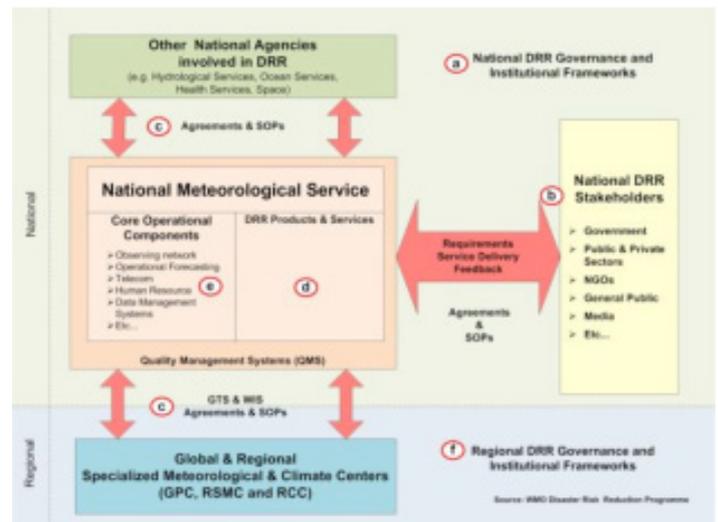
A core priority of the World Meteorological Organization (WMO) and the National Meteorological and Hydrological Services (NMHSs) of its 191 Members is to reduce impacts of disasters caused by weather-, climate- and water-related hazards. This is achieved through the detection, monitoring and provision of hazard data, mappings, predictions and early warnings to support risk analysis, risk reduction, risk financing and transfer. Leveraging its extensive international and regional coordination and collaboration networks, the WMO Disaster Risk Reduction (DRR) Programme addresses the information needs of the highly diverse disaster risk reduction community, which includes risk managers, socio-economic sectors and urban infrastructure planners, among others.

Vulnerability and exposure to disasters is increasing as more people settle in areas of high risk. Since 1970, the world's population has grown by 87 per cent. During the same time, the proportion of people living in flood-prone river basins increased by 114 per cent and on cyclone-exposed coastlines by 192 per cent. More than half of the world's large cities, with populations ranging from 2 to 15 million, are located in areas of high earthquake risk. Since 2000, deaths related to natural hazards have exceeded 1.1 million; over 2.7 billion people have been affected; and economic losses have totaled an estimated US\$ 1.3 trillion. Climate change is expected to aggravate the risks as it will affect the patterns, severity, and frequency of weather-, climate-, and water-related extremes.

In order to meet these challenges, the "Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters" (HFA) calls for a paradigm shift: from emergency response to a more proactive, holistic and systematic approach with strong focus on risk reduction. This requires meteorological, hydrological and climate services to support informed decision-making to build resilience.

The strategic priorities of the DRR Programme are underpinned by HFA and aligned to the cross-cutting needs of DRR stakeholders. The Programme is working to assist NMHSs to:

- (a) Engage effectively in the National governance and institutional planning and coordination frameworks in DRR;
- (b) Identify, prioritize and establish partnerships and service delivery agreements with the national DRR user community engaged in activities such as risk analysis, Multi-Hazard Early Warning Systems (MHEWS), sectoral risk management, disaster risk financing and transfer;
- (c) Establish partnership agreements with other national technical agencies (e.g., hydrological services, ocean services, etc.) and with global and regional specialized centers (e.g. Global Producing Centres (GPC), Regional Specialized Meteorological Centres (RSMCs), Regional Climate Centres (RCC), Tsunami Watch Centers, etc.), and agree with them on standard operating procedures;
- (d) Develop and deliver high-quality, specialized meteorological, hydrological and climate services such as data, forecasts, analysis and other value-added products to DRR stakeholders;
- (e) Modernize and strengthen monitoring, forecasting and telecommunication capacities and training to support product development and service delivery functions;
- (f) Develop risk information for large-scale and trans-boundary hazards, through strengthened regional and global cooperation.



The WMO DRR Programme Two-Tier Work Plan for 2012 – 2015 involves:

1. Development of guidelines, manuals and standards for weather-, climate- and water-related hazard definitions, monitoring, standardization of hazard databases, metadata, statistical and forecasting techniques, early warning systems with multi-hazard approach, and requirements for climate services for risk financing and insurance as well as for humanitarian planning.
2. Implementation of DRR and climate adaptation in national capacity development projects within regional cooperation frameworks, engaging a number of development and technical partners. Currently such projects are underway in South East Europe, South East Asia, Central America and the Caribbean, with plans for expansion to Africa and the Middle East.

Seamless meteorological and climate services for risk reduction applications

An increasing number of countries are taking steps at national and local levels to reduce the risks associated with natural hazards. An essential starting point is a quantitative assessment of the hazards and the exposure of the population or assets. This uses historical data and forward-looking modeling and forecasting of environmental conditions such as tropical cyclones, rainfall, soil moisture and hill slope stability, mountain weather patterns and river basin hydrology. It must be augmented with socio-economic data that quantifies exposure and vulnerability. Equipped with quantitative risk information, countries can develop risk reduction strategies using early warning systems; medium and long-term sectoral planning, and weather-indexed insurance and risk financing mechanisms. This must be underpinned by effective policies, legislation and legal frameworks, and institutional coordination mechanisms as well as information and knowledge sharing, education and training. The emergence of climate prediction provides new opportunities, which will be maximized by the WMO-spearheaded Global Framework for Climate Services.

