



Strengthening Regional Cooperation to Support Forecasting with Multi-Hazard Approach in RA IV

(With focus on the gaps and needs identified through the Central American Pilot Projects and the Caribbean initiative for strengthening Multi-Hazard Early Warning Systems)

**Ritz Carlton – Grand Cayman
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Website: http://www.wmo.int/pages/prog/drr/events/CaymanIslands/index_en.html

Concept Note

Background

In the WMO Regional Association IV (RA IV) (Central and North America and the Caribbean region), between 1980 and 2007, nearly 91% of disasters, 70% of casualties and 91% of economic losses related to natural hazards were caused by recurring meteorological-, hydrological- and climate-related events such as tropical cyclones, heavy rain, flooding, flash flooding, gales, high sea / swell, storm surges, and extreme temperature, which bring tremendous impact to the region, including halting and even reversing the socio-economic development.

In 2010, one of the major outcomes and recommendations of Regional Association IV (RA IV) “Training Workshop on Institutional Coordination in Multi-Hazard Early Warning Systems-MHEWS,” (22-25 March, San Jose, Costa Rica) was the need for addressing capacity development in support of disaster risk management and multi-hazard early warning systems within sub-regional initiatives in Central America and the Caribbean, due to differing organizational mechanisms, capacities and challenges in these sub-regions related to disaster risk management.

Caribbean Initiative to Strengthen Risk Assessment and MHEWS

Caribbean Initiative for strengthening of risk analysis and MHEWS, with focus on meteorological, hydrological, marine and coastal and climate-related hazards emerged following the Costa Rica Workshop. The goal of this initiative is to strengthen regional cooperation engaging all components of WMO (Members, Regional Association, technical programmes and commission) and other national, regional and international agencies and partners for strengthening of capacities for meteorological, hydrological, marine /ocean and climate services to support multi-hazard risk assessment and early warning systems. Through a series of consultations, training and assessment workshops with multi-stakeholder engagement (See References), a reference “living” document has been produced, providing: (i) institutional mapping and a list of agencies at national and regional levels engaged in various aspects of disaster risk management, (ii) analysis of the relationships between the Meteorological, Hydrological Services and the Disaster Risk Management Agencies in the Caribbean countries and territories, as well as the regional organizations and centers serving this region, (iii) mapping of existing or completed assessments and projects carried out bi-laterally or through various agencies, relevant to this initiative; (iv) analysis of existing capacities, gaps, needs and priorities for the strengthening of MHEWS Capacities in the Caribbean, and (v) recommendations for areas requiring long-term capacity development and priority areas for Phase I proposal development. Specifically, the region highlighted the importance of long-term commitment to the development of:

- (1) Established legislation and institutional arrangements;

- (2) Risk assessments capacities developed and applied to various sectors for planning;
- (3) Quality Management Systems (QMS) and Standard Operating Procedures (SOP) developed between National Meteorological and Hydrological Services (NMHS), Disaster Risk Management (DRM) agencies and other Early Warning System (EWS) stakeholders (institutionalizations);
- (4) Strengthening core capacities (e.g., observations, telecommunications, forecasting, data management and exchange and service delivery) for operational meteorological, hydrological and climate services to support disaster risk management within a multi-sectoral approach; and,
- (5) Need for better integration of various projects and enhance coordination across multi-Hazards EWS in the region.

Within these areas, it was recommended by the regional and national stakeholders, that the development of phase-I project proposals should address:

- (1) National Policy dialogues in DRR and reflection of the role of NMHS in policy, legislative, multi-sectoral coordination, planning and budgetary aspects,
- (2) Capacity development for strengthening of forecasting capacities;
- (3) Capacity development for warning dissemination and communication and Common Alert protocol (CAP) particularly noting the need for website development for information dissemination, relation with media and CAP development;
- (4) Building on NMHS QMS and SOP development for aeronautical to extend to SOPs between NMHS and DRM agencies;
- (5) Data rescue, data management systems and hazard analysis training pilot.

Central America DRR Pilot Projects for Strengthening MHEWS

In Central America, three pilot projects have been initiated in Costa Rica, El Salvador and Mexico to demonstrate the benefits of end-to-end early warning systems, engaging the national and local DRM authorities, National Meteorological and Hydrological Services. These projects address heavy rain, riverine, flash and coastal flooding with the goal to strengthen forecasting and warning capacities and linkages with emergency preparedness and planning as part of strengthening or development of MHEWS.

Description and Scope of this Meeting

This meeting is an important step in the consultation process for strengthening of a regional cooperation in MHEWS in RA IV, and will focus on “hazards forecasting”. Specifically, the consultations concluded that there is need for strengthened regional cooperation and capacity development for hazard forecasting, particularly for severe weather, flash and riverine floods, storms surges, other marine and ocean related hazards and droughts¹. The outcomes of this meeting will be presented to the 33rd session of the Hurricane Committee meeting, and also be used as one of the inputs for the development of multi-component Phase-I project proposals for the Caribbean for strengthening of MHEWS and contributions to the Central American Pilots.

Scope

The scope of this meeting is to confirm the priority hazards of the region, and then determine the means for improving current methods, tools, data and diagnostics, and forecasting products, regional institutional arrangements and capacity development needs of NMHS for effective monitoring and forecasting of these hazards. The meeting will discuss issues relate to strengthening regional cooperation, building upon existing arrangements, such as hurricane forecasts and guidance provided by RSMC-Miami Hurricane Center, as well as other products and services available through other regional and global centers and other Members (e.g. CMO, CIMH, Met Office UK, Météo-France and CAFFG, Costa Rica). The meeting will provide the basis for developing a way forward to improve forecasting and warning capacities and services in the region.

¹ Droughts not addressed in this one-day meeting.

Target Audience

- National: Technical experts from the National Meteorological and Hydrological Services from RA IV (North and Central America and the Caribbean), and other WMO Members that support this initiative as well as experts in MHEWS.
- Regional/Global: Representatives from regional and global operational centres and institutions such as, RSMC Miami Hurricane Center, European Centre for Medium-Range Weather Forecasts (ECMWF), National Centers for Environmental Prediction (NCEP USA), Caribbean Meteorological Organization (CMO), the Caribbean Institute of Meteorology and its Caribbean Institute of Meteorology and Hydrology (CIMH), Caribbean Disaster Emergency Management Agency (CDEMA), CARIB-HYCOS, Hydrological Research Center (HRC), Intergovernmental Oceanographic Commission/Intergovernmental Coordination Group for the Tsunami and other Coastal Hazards Warning System for the Caribbean Sea and Adjacent Regions (IOC/ICG - CARIBE EWS).
- International agencies: United Nations and other international agencies such as WMO, UNDP, and the World Bank.

Objectives

The objectives of this Technical Meeting are to:

- i. Identify current operational capacities and practices, products and tools that the Meteorological and Hydrological Services for monitoring and forecasting priority hazards;
- ii. Identify the best available forecasting products and tools for priority hazards (severe weather floods including, flash floods and coastal flooding, tropical cyclones, storm surge, and other ocean and marine hazards);
- iii. Determine the products and services that could be made available to the Meteorological and Hydrological Services through the regional and global centers to improve monitoring and forecasting of the priority hazards;
- iv. Determine a way forward for creating a work plan for capacity development for forecasting priority hazards that could support the proposal development of Caribbean MHEWS initiative and pilot projects in Central America.

References

- Training Workshop on Multi-Hazard Early Warning Systems with focus on Institutional Partnership and Coordination, March 22-25, 2010, San José, Costa Rica. **Website:** http://www.wmo.int/pages/prog/drr/events/MHEWSCostaRica/index_en.html.
- Technical Cooperation Workshop for Development of the Caribbean Regional Cooperation Programme in Multi-Hazard Early Warning Systems, 2-5 November 2010, Christ Church, Barbados. **Website:** http://www.wmo.int/pages/prog/drr/events/Barbados/index_en.html.
- George Town, Grand Cayman, Cayman Islands, 22-23 November 2010. **Website:** http://www.wmo.int/pages/prog/drr/events/Jamaica/index_en.html
- Report of Assessments of the Capacities, Needs and Priorities for the Strengthening of Multi-Hazard Early Warning Systems in the Caribbean. **Website:** http://www.wmo.int/pages/prog/drr/events/CaymanIslands/index_en.html.