

INTER-COMMISSION / INTER-PROGRAMME ACTIVITIES

Report of CAS Representative to EC Working Group on Disaster Risk Reduction

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This document contains review of activities related to the WMO Disaster Risk Reduction (DRR) Programme in support of CAS objectives.

Summary of Activity

Through Disaster Risk Reduction Programme (DRR) as a crosscutting Programme, WMO is leveraging capacities and projects from its operational and research networks, together with those from partner agencies, to develop capacities at national, regional and international levels for disaster risk management, with strong focus on prevention and preparedness.

WMO has organized a number of conferences and workshops on NMHSs participation in DRR coordination mechanisms and early warning systems and published guidelines to enhance participation of NMHSs in DRR and being a visible contributor in the international forums (e.g. Regional technical conference "Role of the National Meteorological and Hydrological Service in the prevention and mitigation of natural hazards impacts", Chisinau, Moldova, 9 and 10 October 2008). Recently WMO carried out a detailed country level survey on the capacities of NMHSs to provide support for DRR in their countries.

Regional Climate Outlook Forums (RCOF), active in several parts of the world, routinely provide real-time regional climate outlook products. The Forum process promoted the recognition in many parts of the world that climate predictions could be of substantial benefit in adapting to and mitigating climate variations.

Recommendations

- To continue co-ordination with the WMO DRR Programme office and stimulate research on the composition of the atmosphere and weather forecasting, focusing on extreme weather events and socio-economic impacts, climate variability and change
- To support regional and national crosscutting projects related to DRR
- To support educational and training programmes for NMHS and their key stakeholders such as authorities, emergency response operators and media
- To assist in survey to help filling gaps in funding resources for research related to DRR (e.g. WMO VCP, EU FP7, World Bank, COST, DG of enlargement, or other international donors)

Brief Information on the WMO Disaster Risk Reduction (DRR) Programme

WMO established its DRR Programme (in 2003) to strengthen contributions of NMHSs for disaster risk reduction. Through this crosscutting Programme, WMO is leveraging capacities and projects from its operational and research networks, together with those from partner agencies, to develop capacities at national, regional and international levels for disaster risk management, with strong focus on prevention and preparedness.

Preparedness and prevention, combined with effective emergency management and early warning systems can significantly contribute to reducing impacts of hazards on human life (Hyogo Framework for Action 2005 – 2015, HFA).

Derived from the HFA, the new disaster risk management framework consists of three substance areas supported by appropriate governance, organizational and coordination mechanisms and effective sharing of knowledge:

- *Risk identification and assessment* - aiming at standardized hazard data and metadata, standardized hazard analysis and mapping technologies;
- *Risk reduction* – aiming at reduced economic losses and casualties through more effective early warning systems, strong governance, organizational coordination and cooperational processes and coordination mechanisms and mainstreaming risk assessment in sectoral planning;
- *Risk transfer* – by addressing the role of NMHSs for financial risk transfer – increasing availability and accessibility of quality assured historical and real time data, forecasts for management of risk portfolio, guidelines of standardized data and forecast products.

WMO strategic goals in DRR:

- Analyzing and providing hazard information for risk assessment
- Strengthening and sustainability of multi-hazard early warning systems
- Delivery of timely and understandable warnings and specialized forecasts - driven by user requirements
- Strengthening WMO/NMHS cooperation and partnerships with disaster risk reduction organizations
- Public outreach campaigns

Implementation:

- Modernization of NMHSs and observing networks
- Implementation of national operational multi-hazard early warning systems
- Strengthening of hazard analysis and hydro-meteorological risk assessment tools
- Strengthening NMHSs cooperation with civil protection and disaster risk management agencies
- Coordinated training and public outreach Programmes

Criteria for DRR projects:

- Alignment with WMO Strategic Goals related to disaster risk reduction and WMO Strategic Plan
- Built on priorities, requirements and needs at regional, sub-regional, country-grouping and national levels
- Involve integrated planning, budgeting, implementation (leveraging WMO and partners)
- Result-based approach (outcomes, deliverables, timelines)
- Must be scalable & ensure sustainability of capacities overtime

- Ensure end-to-end solutions to the Members leading to better DRR decision-making capacities
- Appropriate resource mobilization strategy

Programmes and Initiatives

- Global Monitoring of Environment and Security (GMES)
- South Eastern Europe Disaster Risk Mitigation and Adaptation Initiative (ISDR, The World Bank)
- EURORISK (RISK-EOS and PREVIEW programmes)
- EU flood initiative & Flood alert system (EFAS)
- EuroGOOS
- EUMETNET/EUCOS and other ongoing projects
- THORPEX/European plan
- International Polar year (IPY)

The most important is cooperation of CAS with other technical commissions in coordination of projects and programmes related to DRR. AREP, together with WWW, the Applications of Meteorology Programme (AMP), the World Climate Programme (WCP) and the Hydrology and Water Resources Programme (HWRP), contributed global capabilities for the detection, forecasting and early warning of hazards. Through its research and development projects and programmes, AREP had been improving tools to provide timely warnings of weather, water and climate related hazards. Ongoing key activities pertinent to DPM included GAW (impact of smoke and haze from wildfires), WWRP (wildfire prediction and detection along with other natural hazards), Physics and Chemistry of Clouds and Weather Modification Research (PCCWMR) (conditions for severe storms), GURME (urban air quality forecasting), the Tropical Meteorology Research Programme (TMRP) in collaboration with the Tropical Cyclone Programme (TCP) (tracking and intensity of tropical cyclones), THORPEX (ensemble prediction techniques, social and economic aspects) and Public Weather Services Programme (PWSP) and the Agricultural Meteorology Programme (AgMP) (early warning systems for health, agriculture and other societal benefit areas).

One of the examples of good co-operation is METEOALARM – a new website www.meteoalarm.eu designed to warn public of severe weather across Europe. More than 28 European countries have co-operated to develop METEOALARM - an initiative from EUMETNET, the public European weather services network within the WMO. The concept of METEOALARM could in principle be adapted at a global level under the co-ordination of WMO. A logical place for those warnings to appear would be the WMO Severe Weather Information Centre.

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Disaster risk management is a critical component of climate change adaptation. Impacts are expected e.g. due to more frequent heat waves and heavy precipitation events, increases of drought, tropical cyclone activity and incidents of high sea level.

¹ The Capacities of NMHSs in Support of Disaster Risk Reduction – A Status Report Based on WMO Disaster Risk Reduction Country-level Survey 2006 (Draft report, pending for publication)

Regional Climate Outlook Forums (RCOF), active in several parts of the world, routinely provide real-time regional climate outlook products. The Forum process promoted the recognition in many parts of the world that climate predictions could be of substantial benefit in adapting to and mitigating climate variations. One important aspect of the Forums is the facility to bring together experts in various fields, local meteorologists and end users of forecasts in an environment that encourages interaction and learning. WMO recognizes that Europe has so far not been involved in the RCOF process and that there are a number of countries which would potentially benefit from such a forum. The first session of the Southeast European Climate Outlook Forum (SEECOF-1) was held in Zagreb, Croatia, from 11 to 12 June 2008. The main objective of the Forum is to bring together hydro-meteorological experts and the "user community" to discuss experiences, capabilities and needs for climate trends analysis, climate prediction (seasonal to annual) and climate projections (over the coming decades) provided by the National Meteorological and Hydrological Services (NMHSs) to the various social and economic sectors.

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