



World Meteorological Organization

Working together in weather, climate and water

Training Workshop on Multi-Hazard Early Warning Systems with focus on Institutional Partnership and Coordination

Background and objectives

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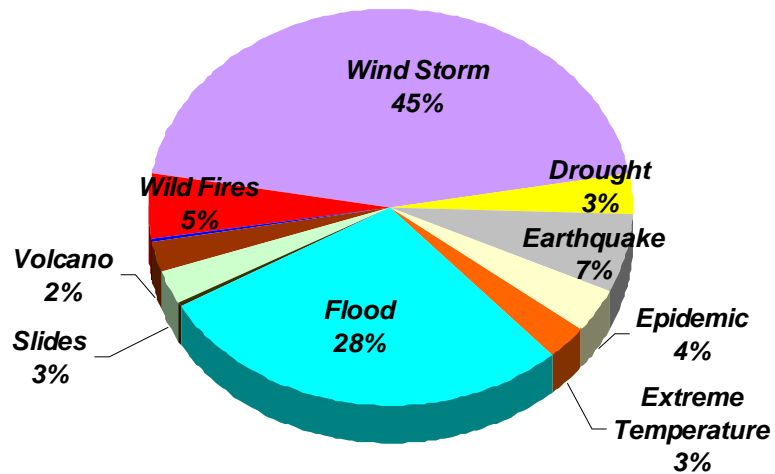
22-25 March 2010

**Radisson Europa Hotel and Conference Center
San José, Costa Rica**

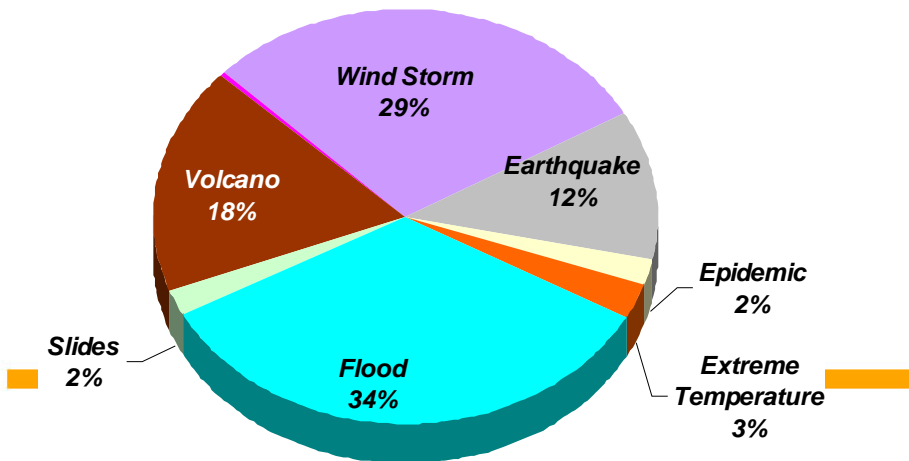


North America, Central America & the Caribbean (RA IV) - 1980-2007

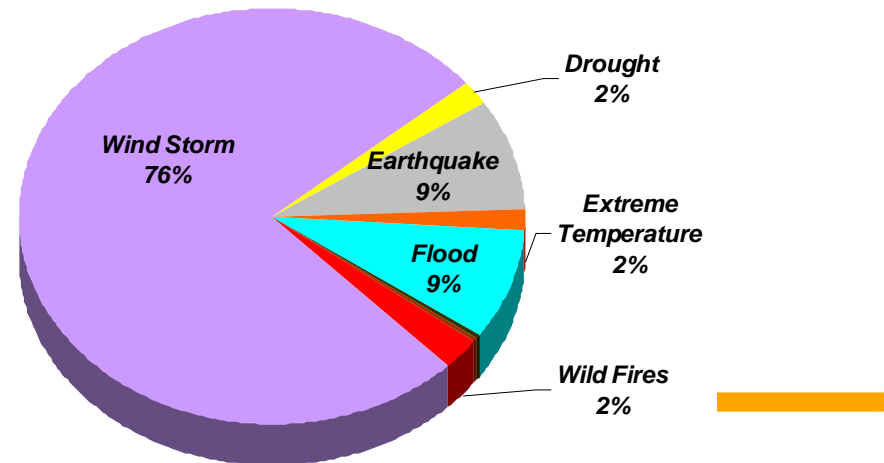
Number of events - 1980-2007 (RA IV)



Casualties - 1980-2007 (RA IV)



Economic losses - 1980-2007 (RA IV)

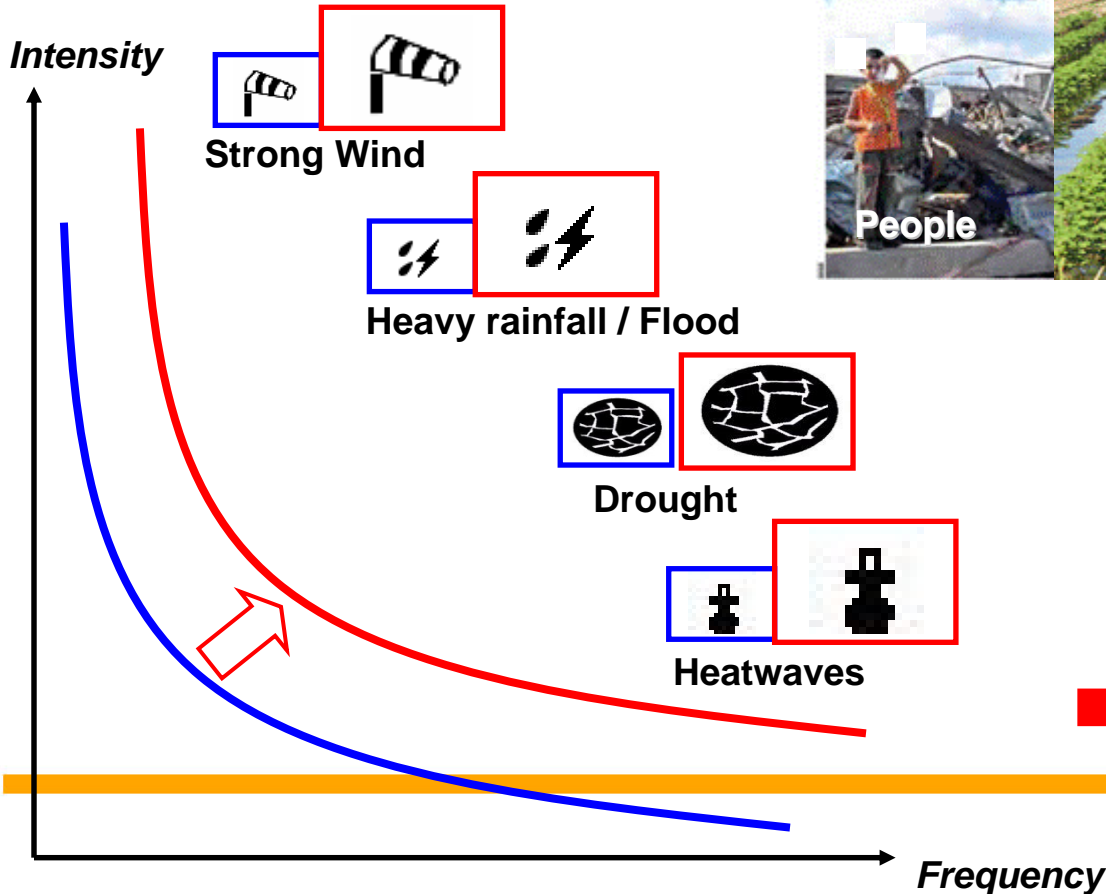


91 % of events
70 % of casualties
91 % of economic losses
are related to hydro-meteorological hazards and conditions.



IPCC 4th Assessment: Socio-economic Impacts of Climate-Related Extremes on the Rise !

Hazard intensity and frequency increasing linked to climate variability and change!



Vulnerability and exposure on the rise !



Need for Multi-sectoral risk management



Components of Disaster Risk Management Framework as Outlined in Hyogo Framework for Action

1 Alignment of clear policies, legislation, planning, resources at national to local Levels (Multi-sectoral, Multi-agency)

Risk Assessment

2
Historical Hazard databases
Hazard statistics
Climate forecasting and forward looking hazard trend analysis
Exposed assets & vulnerability

Risk Reduction

3
Preparedness (saving lives):
early warning systems
emergency planning and response
4
Prevention (Reduction of economic losses):
Medium to long term sectoral planning (e.g. zoning, infrastructure, agriculture)

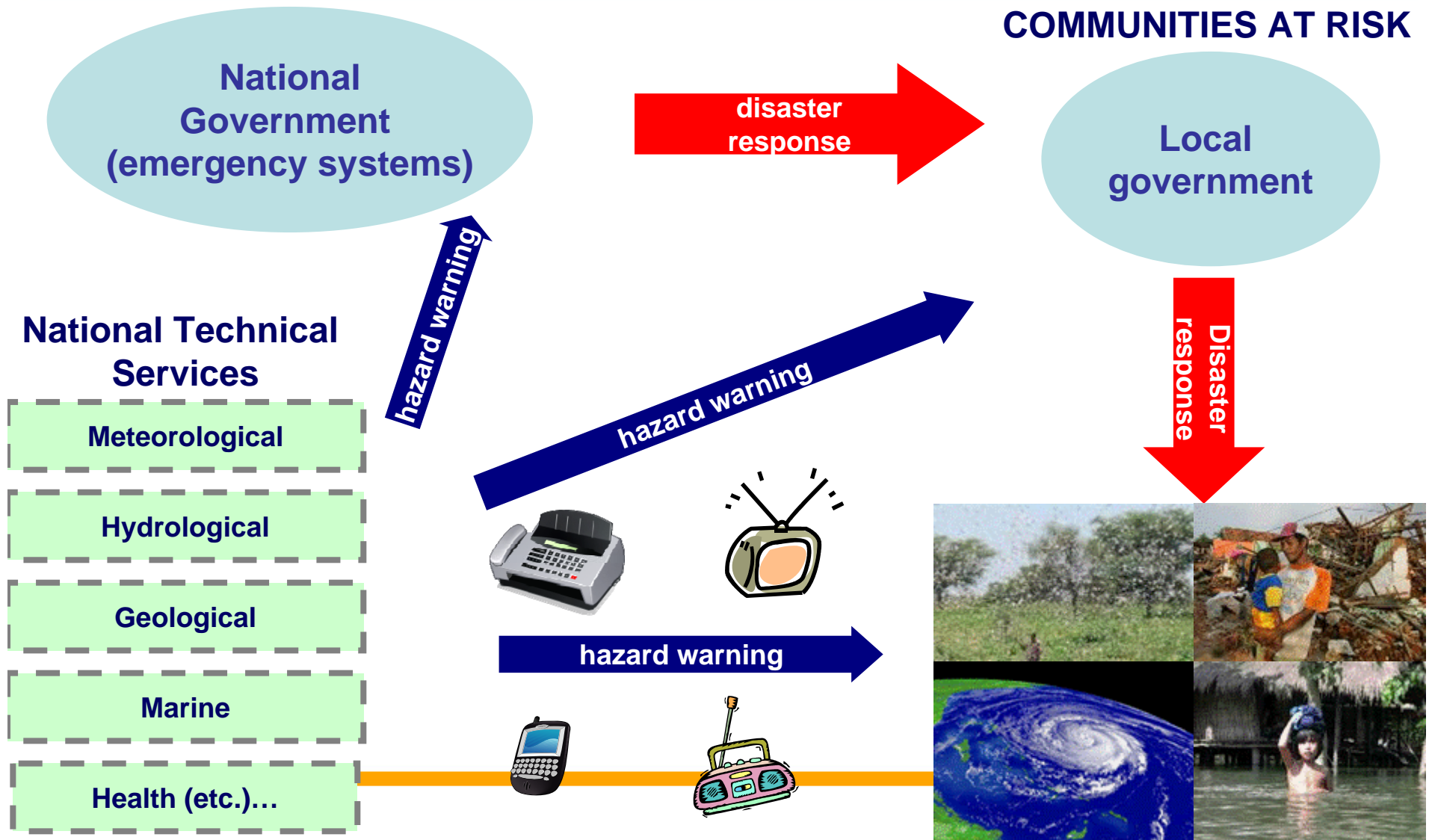
Risk Transfer

5
CATastrophe insurance & bonds
Weather-indexed insurance and derivatives

6
Information and Knowledge Sharing
Education and training across agencies

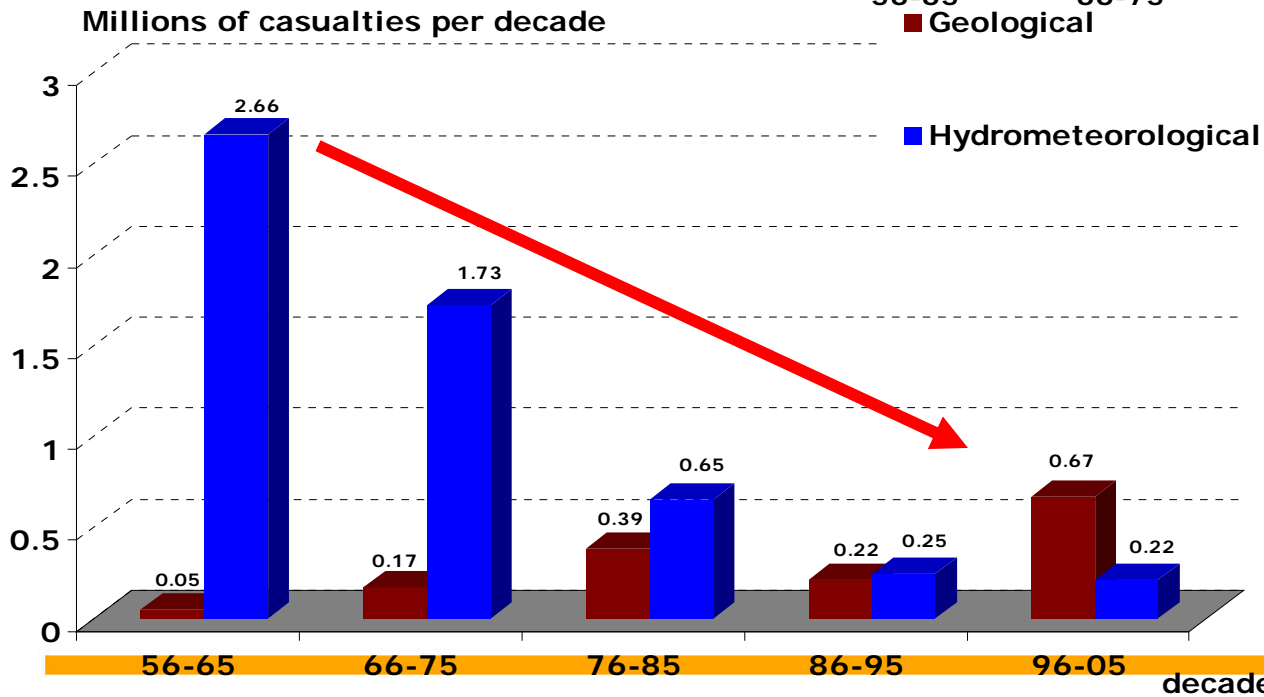
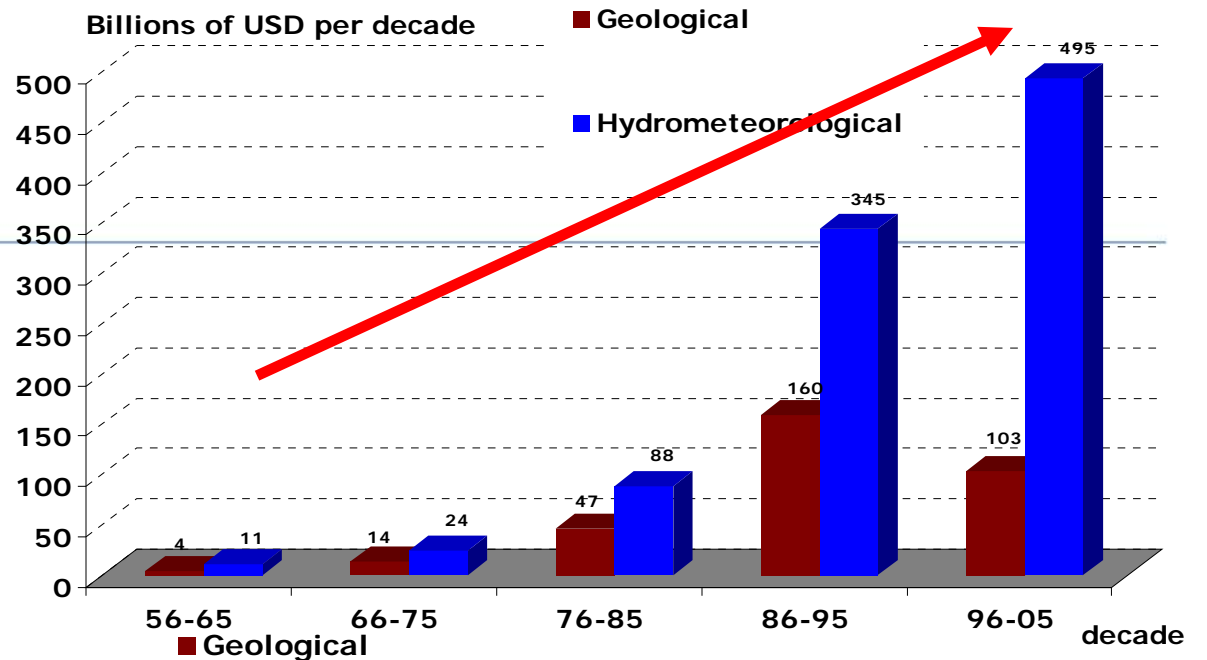


Many countries are still in response and relief mode!





While economic losses are on the way up!



Loss of life from hydro-meteorological disasters are decreasing!

Source: EM-DAT: The OFDA/CRED International Disaster Database



Early Warning Systems Require Coordination Across Many Levels and Agencies

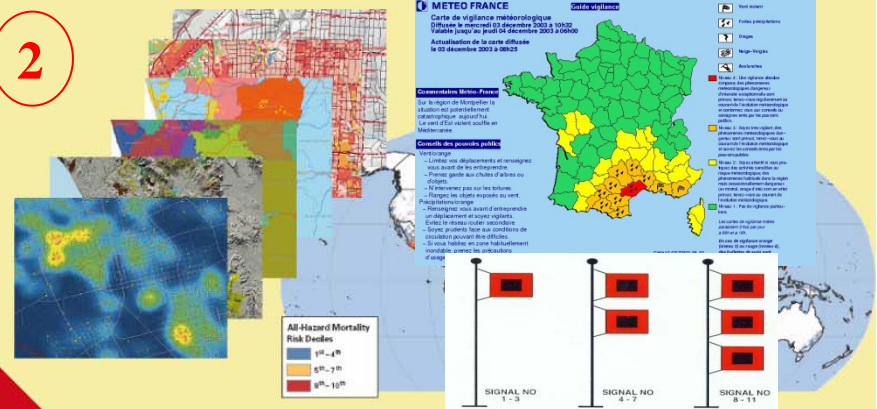
National to local disaster risk reduction plans, legislation and coordination mechanisms



Hazard Data and Forecasts

1

2



Risk Information



Coordination and Collaborations



Communication and Dissemination Mechanisms

3

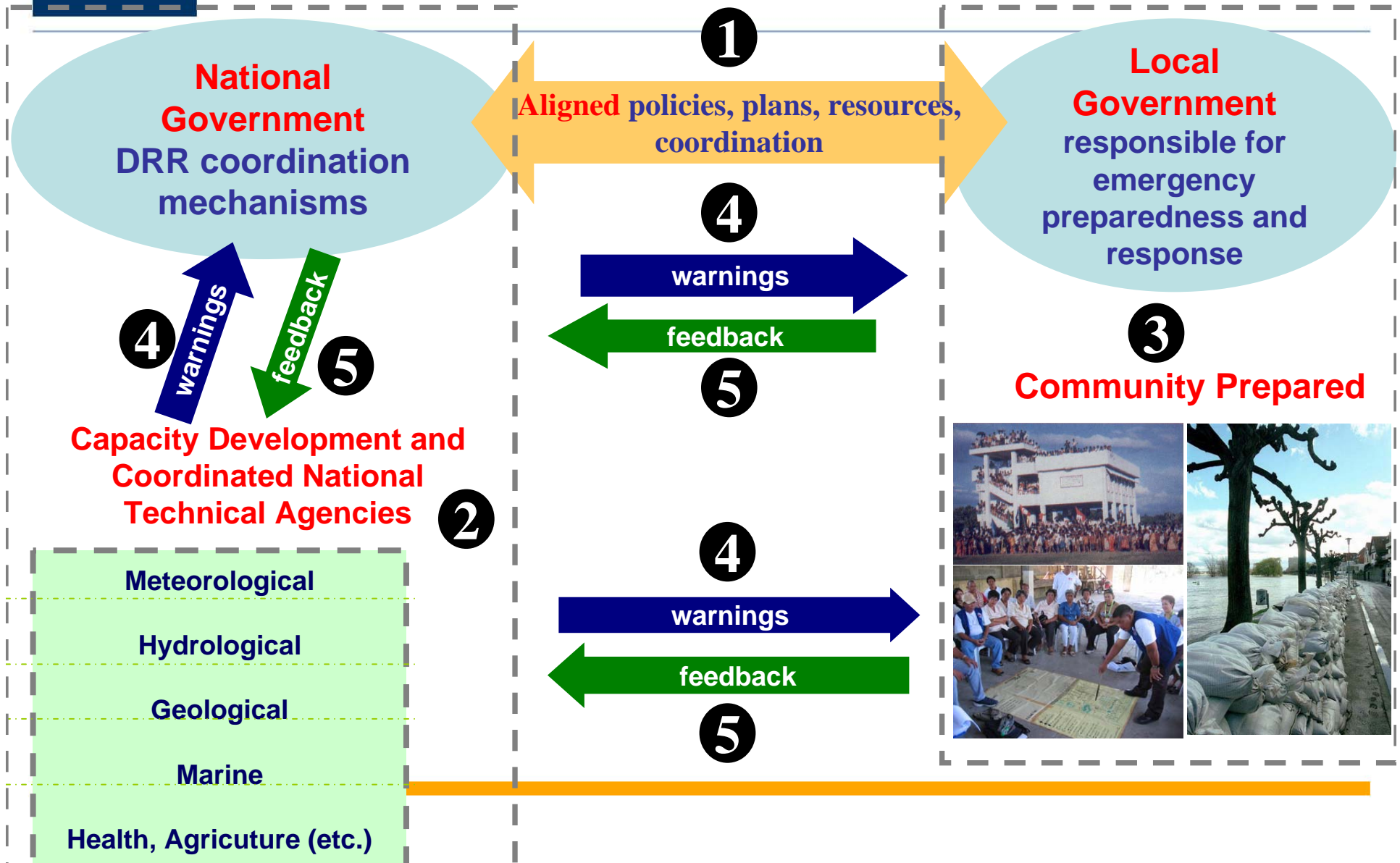
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Preparedness and Early Response



There is need for investments in all Components of Early Warning Systems !





Sharing Lessons learnt from Good Practices in Early Warning Systems



First EWS Publication of a series being published in 2010



10 Basic principles for effective Early Warning Systems

1. There is strong political recognition of the benefits of EWS and the related institutional capacities along with implementation of effective legislation and planning that governs the operational EWS”.
 2. The roles and responsibilities of all EWS stakeholders are clearly defined and documented from national to local levels, including organizational structures, mechanisms and processes to encourage and facilitate collaboration and coordination between them”.
 3. NMHS capacities, roles and responsibilities are clearly defined and reflected in EWS related policies, plans, legislation, standard operating procedures, and directives”.
 4. EWS capacities are supported by adequate financial, human and other resources across national to local levels”.
 5. Hazard, exposure and vulnerability information is utilized to develop risk assessments for EWS planning and implementation”.
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10 Basic principles for effective Early Warning System (Continued)

6. Warnings: i) are clear, consistent and actionable ii) have a widely- understood incremental system, based on the level of threat, that facilitates the activation of appropriate emergency response actions, iii) include information about potential impacts and associated risks, iv) are issued from a single, or unified, recognized and authoritative source
 7. Warning dissemination mechanisms are i) able to reach EWS stakeholders and the population at risk in a timely fashion ii) reliable and redundant iii) sustainable over time based on available resources iv) systematically documented
 8. Emergency response plans are tailored to the individual needs of authorities, emergency responders and exposed communities, including urban, rural and ethnic populations, tourists, and particularly vulnerable groups such as children, the elderly and the hospitalized
 9. Training and education programmes are conducted regularly and target public awareness and education in the areas of hazard and warning recognition, risk awareness and emergency response actions
 10. Effective feedback and improvement mechanisms are in place throughout all levels of the EWS to provide systematic input on its performance and ensure system improvement over time
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Training Workshop on Multi-Hazard Early Warning Systems with Focus on Institutional Partnerships and Coordination (Doc 1)

- **SCOPE**

Policy, planning, legislative, institutional partnerships and cooperation aspects of EWS.

- **TARGET AUDIENCE**

Directors and senior executives of National Disaster Risk Management Agencies, National Meteorological and Hydrological Services and other national, regional and international agencies engaged in EWS in Central America and the Caribbean.

- **EXPECTED OUTCOMES**

1. Participants will benefit from exchanging experiences and lessons learnt;
 2. A document will be developed highlighting priorities of action for national EWS development and concrete areas for regional cooperation for the region.
 3. Facilitate a more coordinated approach among national, regional and international development and funding agencies, supporting EWS projects in the regions
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Training Workshop on Multi-Hazard Early Warning Systems with Focus on Institutional Partnerships and Coordination

AGENDA (Doc 2a)

- **Session 1**
Opening and introduction
 - **Session 2**
Presentations of good practices in multi-hazard early warning systems
 - **Session 3**
Regional Initiatives in Disaster Risk Reduction and Early Warning Systems
 - **Session 4**
Review and analysis of national early warning systems capacities, gaps and needs in Central America and the Caribbean .
 - **Session 5**
Review of the outcomes of the working groups and recommendations
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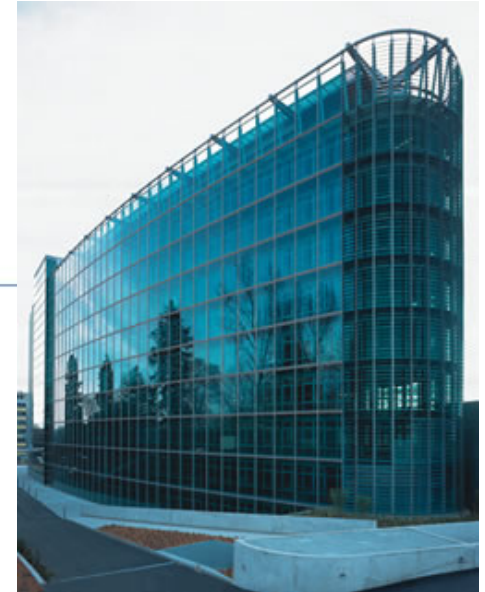


Other Highlights

- Working Groups A, B, C (March 24, 25)
 - Please check the lists and sign up
 - Questionnaires filled by countries
 - Interpretation
 - Drafting Committee
 - To document the recommendations and outcomes of the discussions
 - Chair, Working Groups Facilitators and Rapporteurs, WMO RA IV DRR TT, others interested
 - Will meet four times, first coordination meeting on Tuesday March 25 at 8 AM
 - A special session on EWS for Haiti (Thursday 25 March, 17:30 – 19:30)
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Thank You



WMO Staff:

Logistical issues: Ms. Priscilla Romirez

Programmatic and Technical Issues: Maryam Golnaraghi, Oscar Arango, Hugo Hidalgo, Haleh Kootval, Charles Baubion and James Douris

Webpage:

**[http://www.wmo.int/pages/prog/drr/events/MHEWS
CostaRica/index_en.html](http://www.wmo.int/pages/prog/drr/events/MHEWSCostaRica/index_en.html)**

