



# World Meteorological Organization

Working together in weather, climate and water

## Technical Cooperation Workshop for Development of the Caribbean Regional Cooperation Programme in Multi-Hazard Early Warning System

### Session 4: Risk Analysis, Data Management and Exchange Issues to support DRM and EWS with Multi-Hazard Approach



# Data Management and risk analysis

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- Dominican Republic:
  - An observational network which consisting of manned and automatic weather stations;
  - Data is stored digitally (CLIDATA) and in paper based format;
  - Data has been used for hazard mapping but not for risk mapping;



# Data Management and risk analysis

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- UNICEF –(Guyana):
  - Data available in both digital and paper format
  - UNDP has a project on Risk Assessment in 2007 to which Civil Defense contributed;
  - ECLAC study of losses due to floods (2005)
  - DRM could be strengthened in the collection and use of data in vulnerability assessment;



# Data Management and risk analysis

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- Cuba:
    - Complete data collection and management from all agencies in DRM, Land Use Planning etc.
    - Completed Risk Assessment has been completed for the entire country to the level of which street is to be impacted for a particular hazard;
    - Any development requires a Certificate of Environmental Clearance by law;
    - Risk maps are in GIS format and are used in conjunction with the probability of an event.
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# Data Management and risk analysis

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- Cayman Islands

- National Weather Service is the primary source of hydro-meteorological data;
  - Data archived in a dedicated meteorological database (CLIMSOFT);
  - The impact of weather events since 2004 (IVAN) by Hazard Management has started;
  - Other DRM agencies Planning Dept, Environment Dept, etc also participate in data collection & archived
  - Recently a Risk Registry was started;
  - Hazard mapping for storm surge completed and a vulnerability assessment for tourism has started.
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# Data Management and risk analysis

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- Jamaica:
    - Data is stored in different agencies e.g. rainfall – Met. Service, hydrology – Hydrology Agency – impacts NDO;
    - No sharing of databases;
    - Vulnerability analysis ongoing for coastal inundation and riverine flooding. Draft analysis of storm surge and inland flooding is being reviewed.
    - Risk maps are available to all regulatory agencies.
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# Data Management and risk analysis

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- Belize:
    - Data scattered over multiple agencies;
    - No data sharing policy in place, hence it is difficult to get data;
    - The Meteorological Service has hazard maps and storm surge maps.
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# Data Management and risk analysis

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- St. Lucia:
    - No data sharing policy;
    - There limited information on what data is within the country and whether it resides in a database or paper format. Further, no one is sure, who holds what data.
    - The impact of Tomas has indicated the need for risk assessments for different scenarios.
    - Capacity must be built at all levels in DRM including all elements of data collection and management.
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# Data Management and risk analysis

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- Suriname:
    - The Met Service has data to 1853 in coarse resolution in a database (CLICOM);
    - High resolution data is still in paper format;
    - There are no risk assessment, however, there are hazard maps for flooding;
    - There no updated in geographic data;
    - Legislation on land use is ignored or flouted.
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# Shortcomings in Data Management and risk analysis

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- No multi-agency data sharing in any of the countries with the exception of Cuba;
  - Data from different database maybe propriety hence data sharing may be difficult;
  - Hazard mapping used interchangeably with risk mapping;
  - Tools and methodologies for risk modelling and risk assessment
  - Social sectors agencies and their data seems omitted from the discussion on risk assessment in all countries with the exception of Cuba; (Jamaica Cayman do use social sector data for social intervention more so for recovery than risk assessment)
  - Legal framework for risk assessment
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# Priorities for the Future

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- Data sharing policy:
    - Dominican Republic, Guyana, Cayman Islands, Jamaica, St Lucia, Suriname;
  - Data:
    - Jamaica:- real time sharing of rainfall data;
    - Suriname:- repatriation of historical data;
    - Belize: - topography, bathymetry, & hydrological modeling;
    - St Lucia: - acquisition and management;
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# Priorities for the Future

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- Human Resources:
  - continuity and capacity building
    - Cayman Islands, Guyana, St Lucia
- Policy Formulation:
  - Guyana – Water Policy
- EWS:
  - St Lucia



# Regional cooperation for risk assessment

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- Sharing of good practices from Cuba and Jamaica with other countries
  - Role of regional institutions for training and sharing of tools and methodologies
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# *Thank You*

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[http://www.wmo.int/pages/prog/drr/events/Barbados/index\\_en.html](http://www.wmo.int/pages/prog/drr/events/Barbados/index_en.html)

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