



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 6: Overall Outcomes

**Dr Maryam Golnaraghi**

**Chief of Disaster Risk Reduction Programme**

*2-5 November 2010*

*Accra Beach Hotel & Spa*

*Christ Church, Barbados*



# Comprehensive Disaster Risk Management involves ....

## 1 Alignment of 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

Preparedness (saving lives):  
 early warning systems  
 emergency planning and response

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



# Early Warning Systems Require Coordination Across Many Levels and Agencies

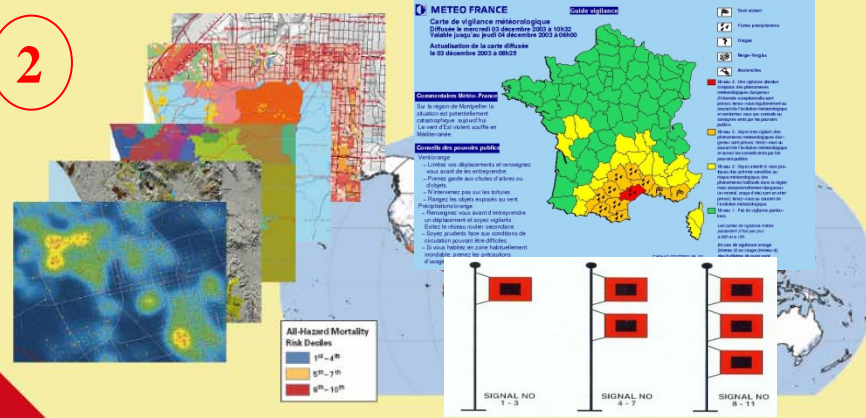
National to local disaster risk reduction plans, legislation and coordination mechanisms



**Hazard Data and Forecasts**

1

2



**Risk Information**



**Communication and Dissemination Mechanisms**

3

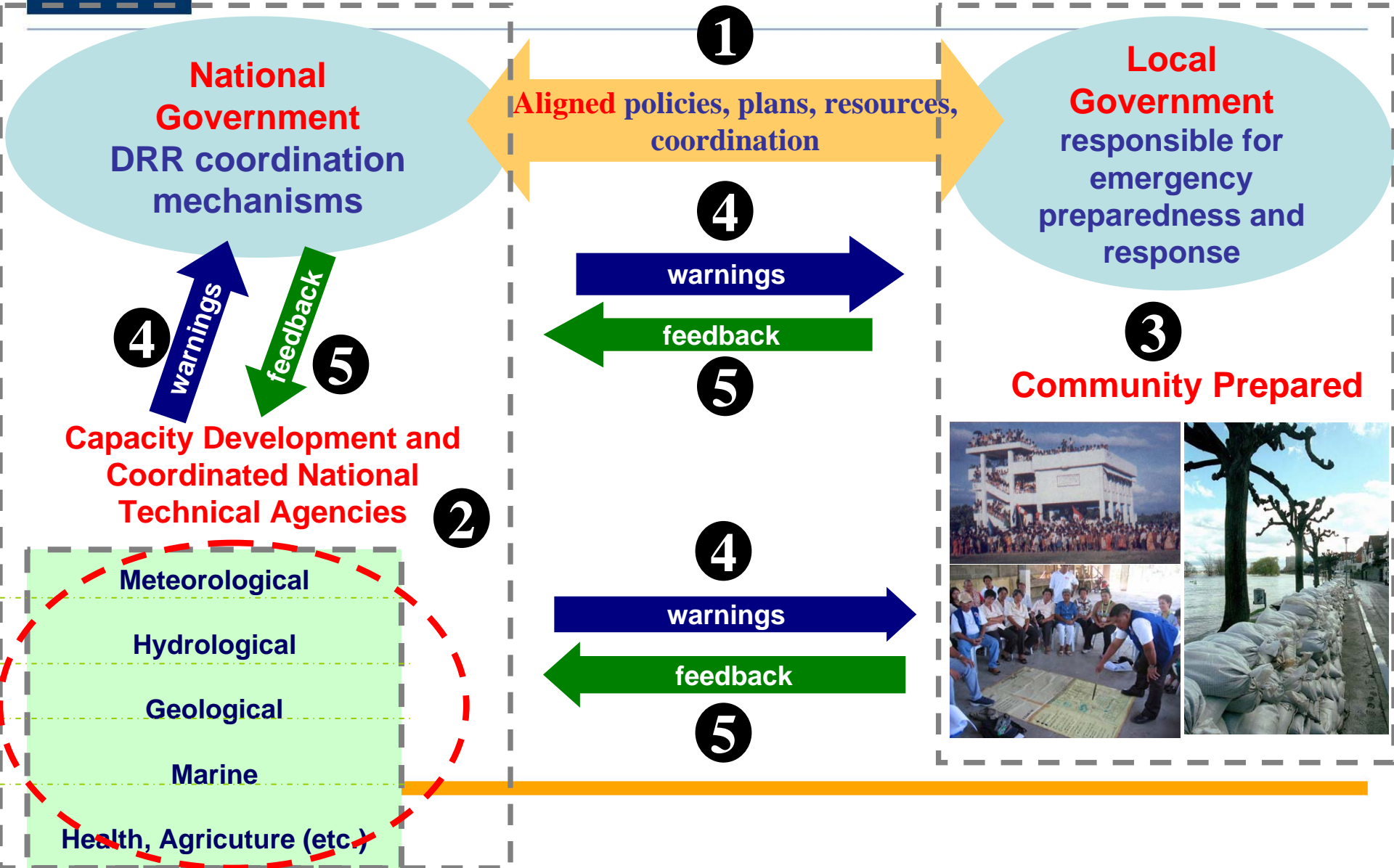
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**Preparedness and Early Response**



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





# MHEWS-I: Training and Coordination Workshop on Multi-Hazard Early Warning Systems (1/5)

(22-26 March 2010, Costa Rica)

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

## SCOPE

Policy, planning, legislative, institutional partnerships and cooperation aspects of EWS at national level and recommendations for regional cooperation.

## AUDIENCE

- Senior executives from **36 National Meteorological and Hydrological Services**
- **Directors of 33 of National DRM agencies**
- 8 Regional agencies (ACS, CDEMA, CEPREDENAC, CIIFEN, CMO, CIMH, CRRH, OAS)
- 6 International Organizations (World Bank, UNDP, ISDR, UNESCO-IOC, IFRC, WFP)
- Donors (USA, Canada, Finland, Italy, Japan, Spain, World Bank)

## Report of the MHEWS Workshop as Ref 1





# Overall Goals (Outcomes of MHEWS-I Workshop in Costa Rica and Consultations with countries/territories & region)

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**Strengthening of Early Warning Systems in the Caribbean Region with a Multi-Hazard Approach building on existing regional capacities and projects:**

- 1. To strengthen national and regional institutional capacities and cooperation among the National Meteorological and Hydrological Services and Disaster Risk Management stakeholders (multi-agency) in early warning systems hydro-meteorological hazards**
  - 2. To enhance coordination and harmonization among hydro-meteorological warning systems (building on the existing regional coordination for tropical cyclones) and other hazards (e.g., tsunamis)**
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# Characterization of the relationships and capacities within and across Countries/Territories

Table 4: Overview of the overall policies and legal framework supporting DRM and EWS

Island and its DRM Agency	Island Status	Does the island have a DR Service (DR), dependent on type of DRM - AEM Service	Has the island a national law, regulation, or policy on disaster preparedness and emergency response?	Legal framework supporting DRM and EWS (Legislation, Regulations, Decrees, etc.)	Existence of a national disaster risk assessment?	Existence of a national disaster preparedness and emergency response plan?	Existence of a national disaster recovery policy?	Defined policies and procedures
<b>Category 1: Countries with complete DR Service</b>								
BARBUDA & BARBUDA	ACP	YES	2002 Disaster Management Legislation of Antigua and Barbuda	2002 Disaster Management Act	YES	NO	NO	Shelter Policy
BARBADOS	ACP	YES	2006 Disaster Preparedness and	1996 National Emergency Management Act	YES	YES	NO	Disaster Management, Shelter, Domestic, Relief and Emergency Housing Assistance Policy
BAHAMAS	ACP	YES	2006 Emergency Management Act	1996 National Emergency Management Act	in drafting phase	NO	YES	
BALEARES	ACP	YES	1993 Disaster Preparedness and Emergency Management Act	1993 Disaster Preparedness and Emergency Management Act	in drafting phase	NO	YES	
CAYMAN ISLANDS	UK OCT	YES	1987 Emergency Powers Act	1997 Disaster Preparedness and Emergency Management Act				
COBA	ACP	YES	1997 Disaster Preparedness and Emergency Management Act	1997 Disaster Preparedness and Emergency Management Act				
CUBA	ACP	YES	1997 Disaster Preparedness and Emergency Management Act	1997 Disaster Preparedness and Emergency Management Act				
DOMINICAN REPUBLIC	ACP	YES	2002 Law on Risk Management	1996 Emergency Powers Act	in drafting phase			
GUYANA	ACP	YES	1993 Disaster Preparedness and Emergency Management Act	1993 Disaster Preparedness and Emergency Management Act	in drafting phase			
JAMAICA	ACP	YES	1993 Disaster Preparedness and Emergency Management Act	1993 Disaster Preparedness and Emergency Management Act	in drafting phase			
MAFFIOLLO	FR OR	YES	1978 Disaster Measures Act	1996 Emergency Powers Act	in drafting phase			
ST LUCIA	ACP	YES	2006 Disaster Management Act	1996 Emergency Powers Act	in drafting phase			
TRINIDAD & TOBAGO	ACP	YES	1978 Disaster Measures Act	1996 Emergency Powers Act	in drafting phase			

Table 5: DRM Agencies and their capacities

Country/Territory	Type of Regional Grouping	DRM Agency	Does Country/Territory have a Met Service?	DRM Agency depends on Met Service or if different from Met Service?	Met Service depends on support of the Met Service?	OTHER countries / territories that use the Service has a mandate for risk-reducing and/or emergency response?	Responsible Hydrological Service
Bahamas	ACP	National Emergency Management Agency (NEMA)	YES	NO	NO		
Barbados	ACP	National Disaster Management Agency (NDMA)	YES	NO	NO		
Belize	ACP	National Disaster Management Agency (NDMA)	YES	NO	NO		
Cuba	ACP	National Disaster Management Agency (NDMA)	YES	NO	NO		
Trinidad & Tobago	ACP	National Disaster Management Agency (NDMA)	YES	NO	NO		

Table 6: Relationships and dependencies between DRM agencies and Met services

Country/Territory	Type of Regional Grouping	DRM Agency	Does Country/Territory have a Met Service?	DRM Agency depends on Met Service or if different from Met Service?	Met Service depends on support of the Met Service?	OTHER countries / territories that use the Service has a mandate for risk-reducing and/or emergency response?	Responsible Hydrological Service
<b>Met Category 1: DRM Agency depends on the island's own Met Service, and the Met Service has full oversight</b>							
Belize	ACP	National Emergency Management Organization (NEMO)	YES	YES	NO		
Cuba	ACP	National Civil Defense (DCN)	YES	YES	NO		Instituto Nacional de Recursos Hidrológicos
Dominican Republic	ACP	Civil Defense (DC)	YES	YES	NO		Instituto Nacional de Recursos Hidrológicos
Guyana	ACP	Civil Defense Commission (CDC)	YES	YES	NO		Hydro-meteorological Service
Haiti	ACP	Direction de la Protection Civil (DPC)	YES	YES	NO		Service National des Ressources en Eau
Jamaica	ACP	Office for Disaster Prevention and Emergency Management (ODEM)	YES	YES	NO		Water Resources Authority
St Lucia	ACP	National Emergency Management Organization (NEMO)	YES	YES	NO		Water Resources Management Agency
Suriname	ACP	National Coordination Centre for Disaster Preparedness (NCCD)	YES	YES	NO		none
Martinique	FR OR	Service Interministériel Départemental de la Protection Civil Etat Major de la Zone Antilles (SICDP BMAZ)	YES	YES	NO		DIREN Martinique
Cayman Islands	UK OCT	Disaster Management Cayman Islands (DMCI)	YES	YES	NO		DMH
Antigua & Barbuda	ACP	National Office of Disaster Services (NODS)	YES	YES	NO		St Kitts and Nevis, Antigua, British Virgin Islands, Montserrat
Bahamas	ACP	National Emergency Management Agency (NEMA)	YES	YES	NO		Turks and Caicos Islands





# MHEWS II: Technical Cooperation Workshop for Development of the Caribbean Regional Cooperation in MHEWS

Barbados, Nov 2-5, 2010

- **TARGET AUDIENCE**

Experts from National Disaster Risk Management Agencies, National Meteorological and Hydrological Services and other national, regional and international agencies engaged in EWS in the Caribbean.

- **EXPECTED OUTCOMES**

1. Development of priorities for the Caribbean MHEWS regional cooperation;
2. Prioritization of activities and recommendations for phase-I project;
3. Presentation and identification of good practices in areas highlighted in the Caribbean MHEWS regional cooperation

**CDEMA**  
The Caribbean Disaster  
Emergency Management Agency



FINNISH METEOROLOGICAL INSTITUTE



# Caribbean countries and territories



Antigua and Barbuda, Aruba, the Bahamas, Barbados, Belize, Bermudas, the British Caribbean Territories, the Caribbean Netherlands, Cuba, Curacao, Dominica, the Dominican Republic, the French West Indies, Grenada, Guyana, Haiti, Jamaica, the Netherland Antilles and Aruba, Saint Kitts and Nevis, Saint Lucia, Saint-Marteen, Saint Vincent and the Grenadines, Suriname and Trinidad and Tobago.



# Key Stakeholders

## ✓ National:

- National Meteorological and Hydrological Services (NMHS) and Disaster Risk Management (DRM) Agencies of the beneficiary countries.
- Other EWS stakeholders such as media, economic sectors (health, agriculture,) (TBD)

## ✓ Regional:

- Regional centers and agencies of CARICOM: CDEMA, CMO and its CIMH;
- WMO RA IV and its DRR Task Team, WMO RA IV Hurricane Committee, the WMO RSMC – Miami Hurricane Center,
- Regional agencies and platforms: ACS, OAS, the Eastern Caribbean Donor Group, Caribbean Development Bank (CDB) and IADB.
- Other regional partners (TBD)

## ✓ International and donors:

- UN and International Agencies: WMO, UNESCO-IOC, UN-ISDR, UNDP, IFRC, etc.
- Bi-lat donors and development banks: World Bank, USAID/OFDA, Canada (CIDA), Finland (MFA), Spain (ACE), Japan (JICA), UK (DFID), EU, France, etc.



# Topics Addressed

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- Risk Assessment and Modeling, including data management and exchange issues
  - Operational Cooperation of National Meteorological and Hydrological Services and Disaster Risk Management Stakeholder and Service Delivery
  - Monitoring, Forecasting and Watch and Warning Systems
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# MHEWS – II : Technical Cooperation Workshop for Development of the Caribbean Regional Cooperation Programme in Multi-Hazard Early Warning System

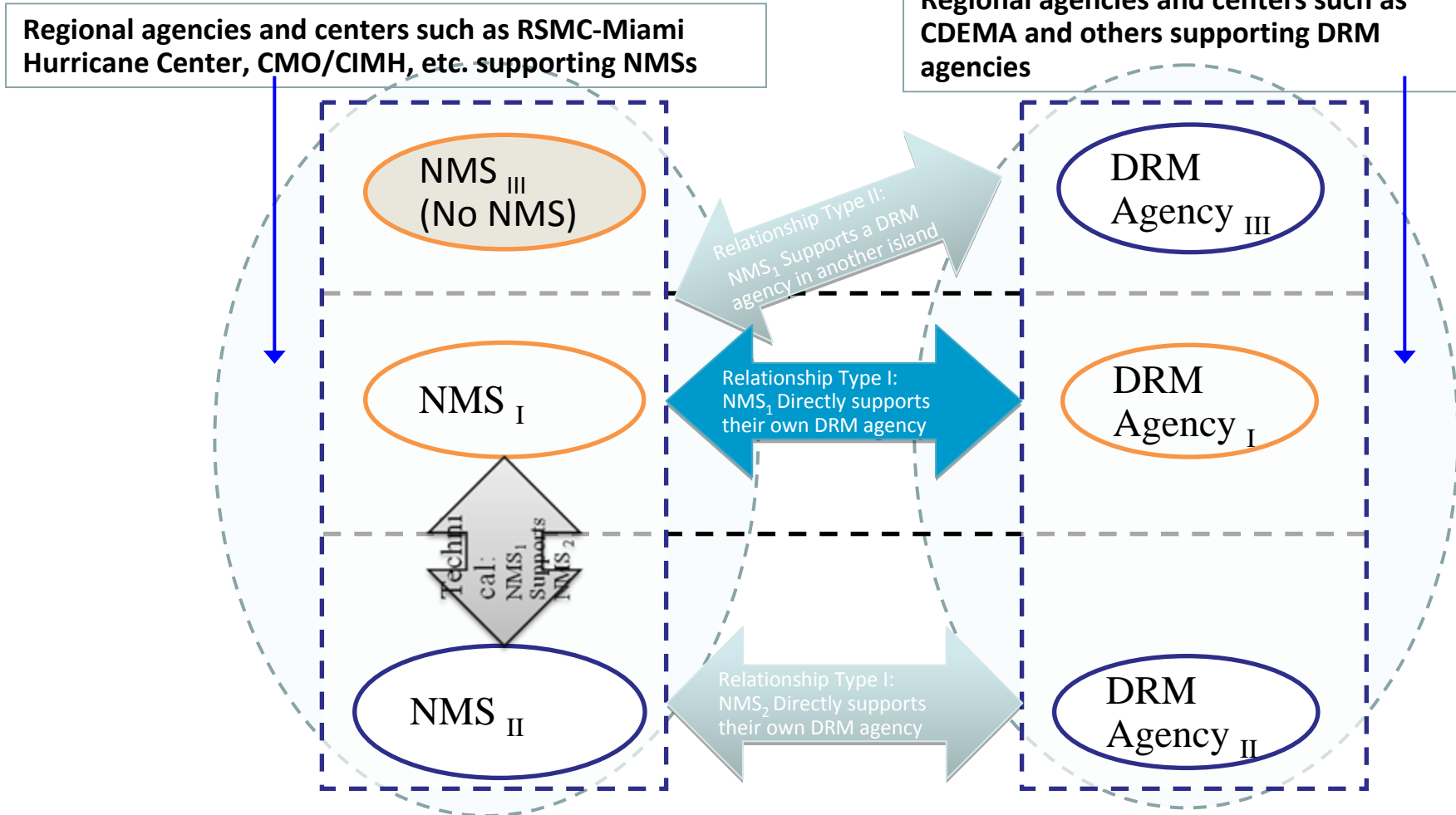
## LIST OF DOCUMENTS

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- **Doc. 1:** Roadmap for the Design of a Caribbean Regional Programme in Multi-Hazard Early Warning Systems (MHEWS) with National Capacity Developments.
  - **Doc. 2:** Brochure of the Technical Workshop for the Development of Caribbean Regional Programme in Multi-Hazard Early Warning Systems.
  - **Doc. 3:** Agenda of the Workshop.
  - **Doc. 4:** Preliminary Draft Report of the Assessments of the Capacities, Gaps and Needs for the Development of the Caribbean Regional Programme on Multi-Hazard Early Warning Systems and Phase-I Project Priorities. Focus on Hydrometeorological hazards warning systems and possible linkages with other warning systems.
  - **Doc. 5:** Guidance for Participants and Preparations for the Workshop (Panels and Working Groups).
  - **Doc. 6:** Questions and Issues to be addressed during the Working Group Sessions.
  - **Inf. 1:** Logistical Information Note for Participants.
  - **Inf. 2:** List of Participants.
  - **Ref. 1:** Common Alert Protocols
  - **Ref. 2:** Report from Costa Rica MHEWS Training Workshop
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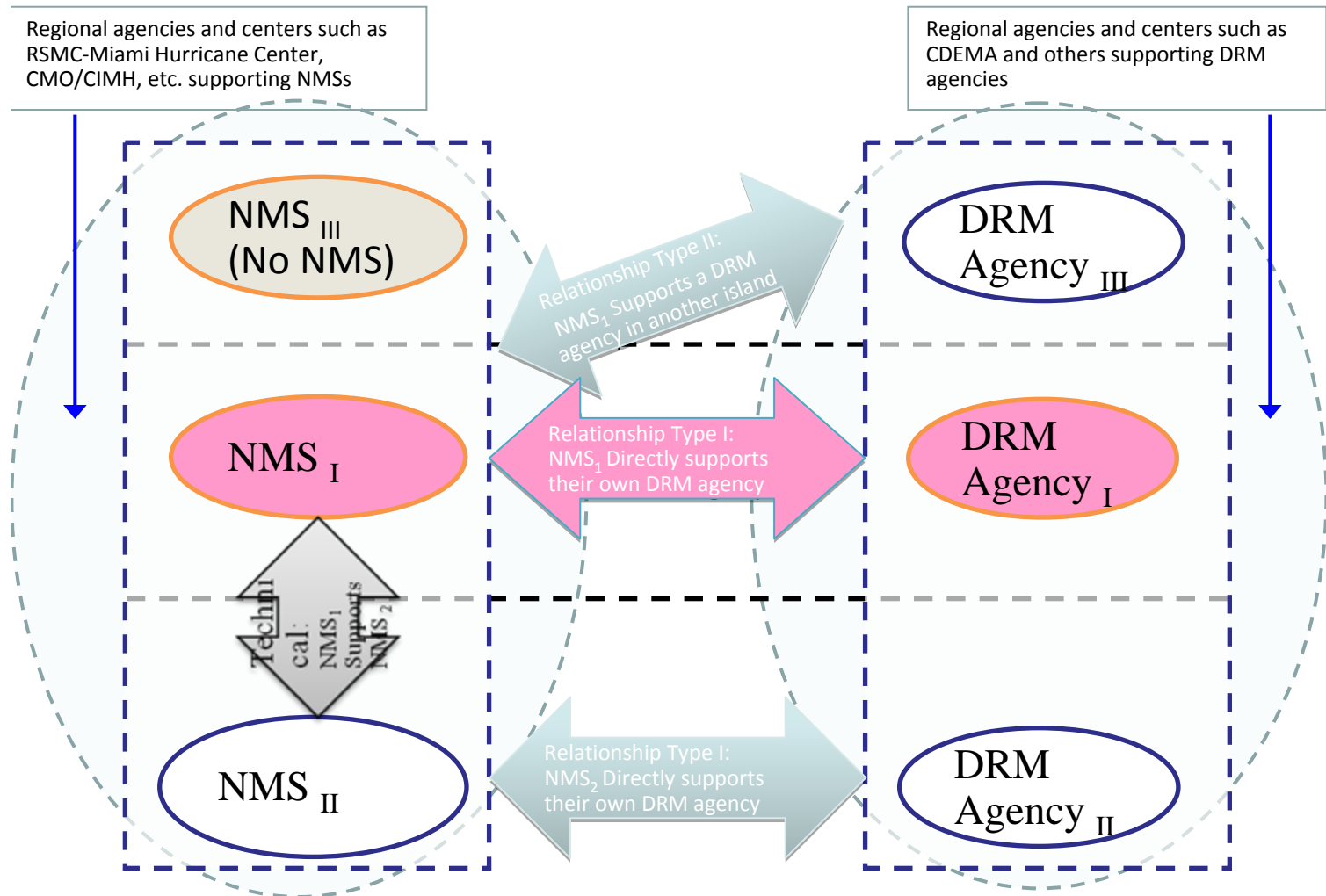
# Different relationships between Disaster Management Agencies and Meteorological Services





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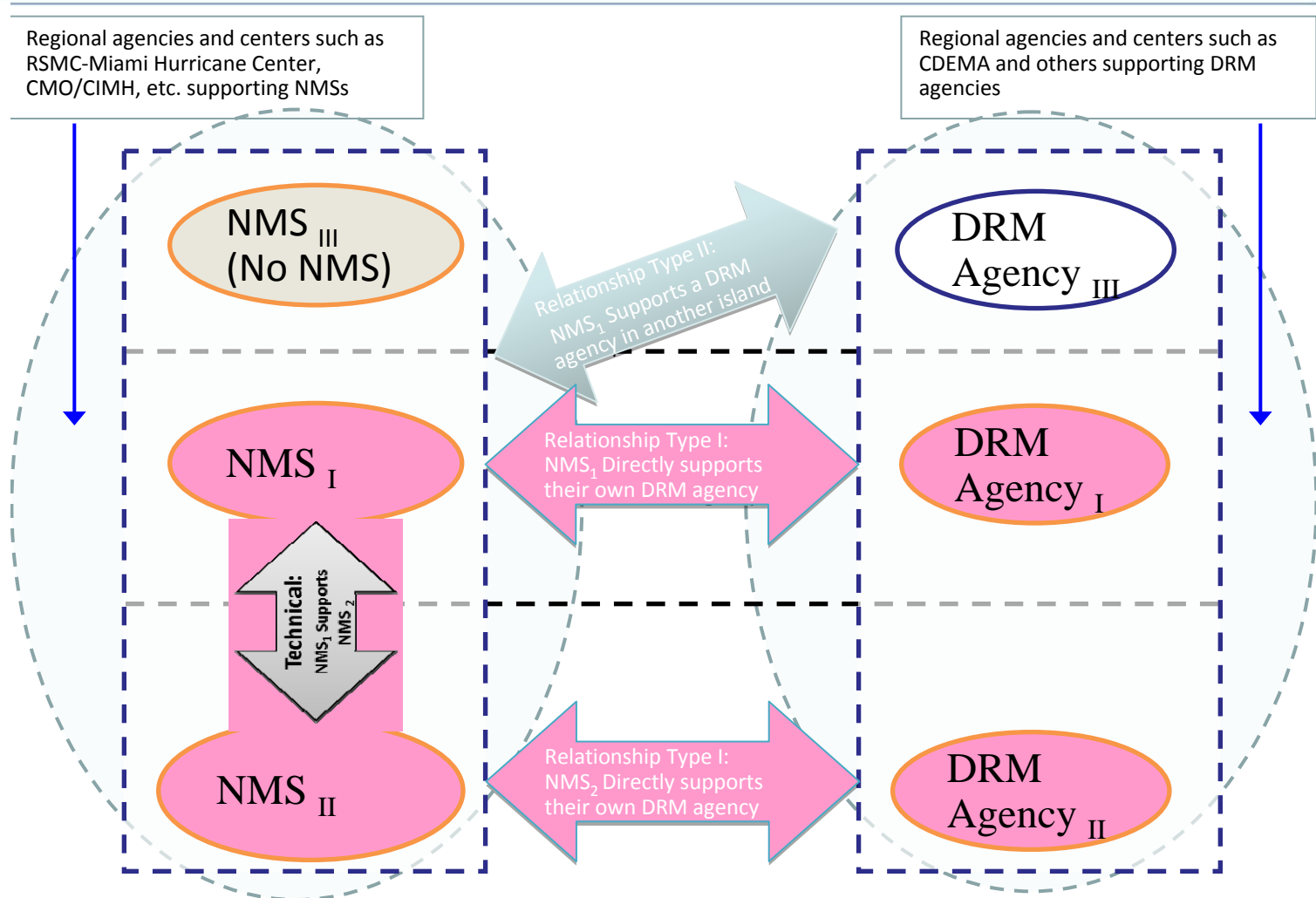
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- Jamaica
- Martinique
- St Lucia
- Suriname
- Trinidad & T.





# Different relationships between Disaster Management Agencies and Meteorological Services

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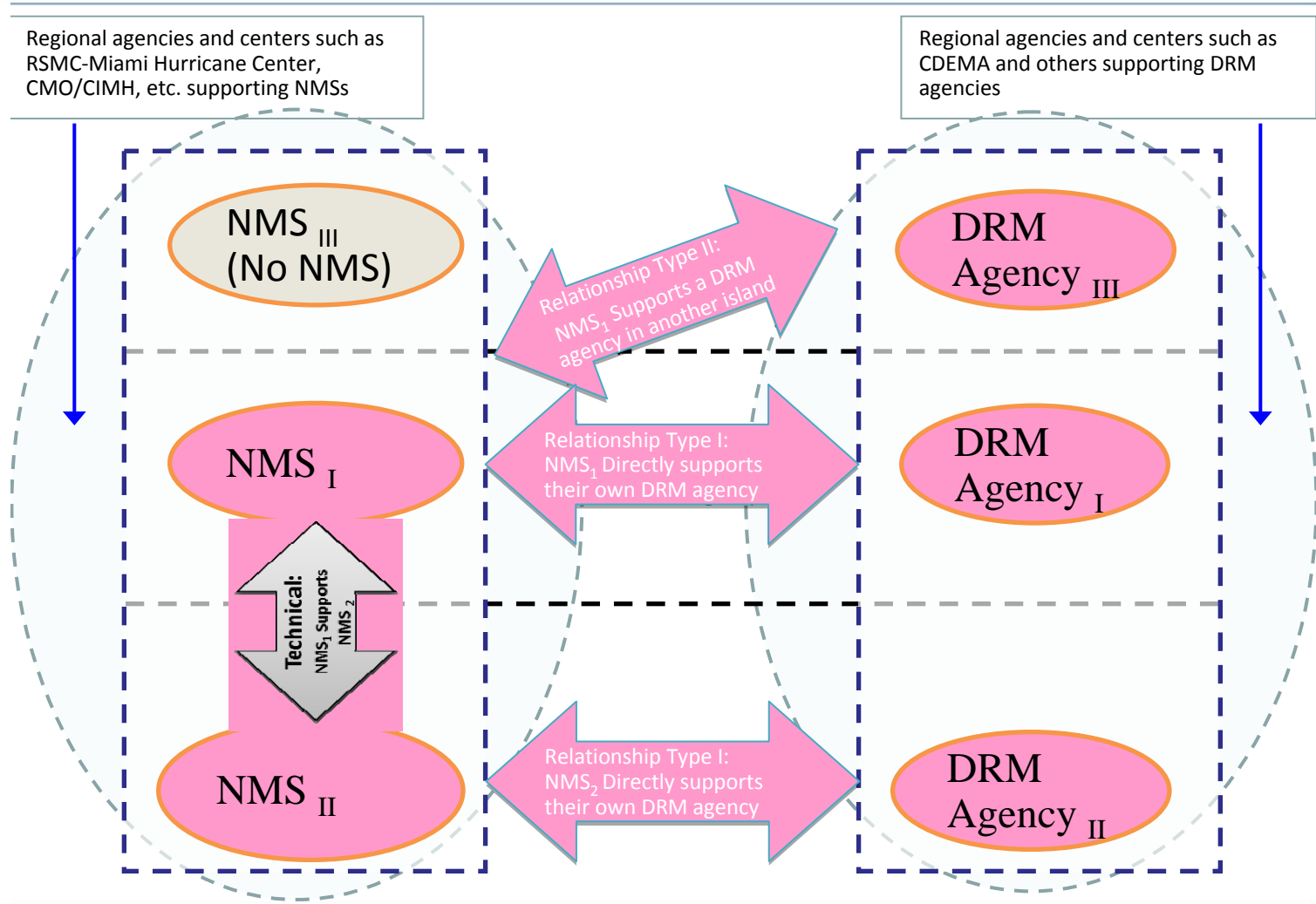






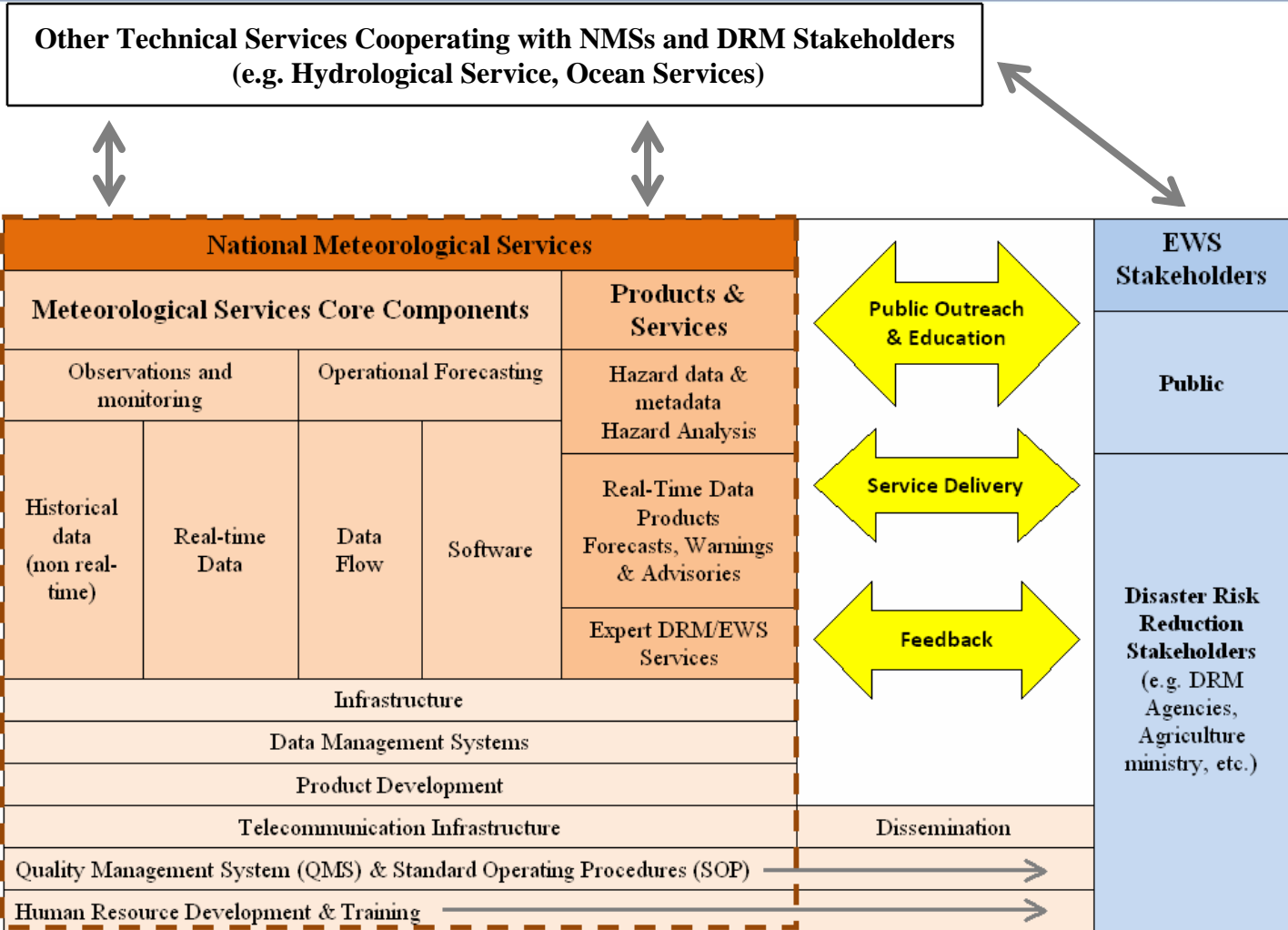
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- St Lucia
- Suriname
- Trinidad & T.
- Aruba
- Dominica
- Grenada
- St Marteen
- St Vincent & G.
- Anguilla
- BVI
- Bonaire
- Montserrat
- St Kitts & N.
- St Martin/St Barth





# Linkages of Meteorological Services with EWS stakeholders and core capacities of Meteorological Services to support EWS and DRM stakeholders





# Overall Conclusions

## Recommendations

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- **Risk Quantification** with a **multi-hazard and multi-agency** approach (civil protection and economic sectors) should be the **basis for risk reduction and early warning system** planning and developments particularly in linkage to **climate** variability and change
- Need for Country/Territories multi-sectoral **institutional mapping, coordination, relationship development** reflected in SOPs:
  - Institutional Capacities across sectors (DRM, water resource, zoning, agri, etc) and technical agencies (met, hydro, coastal)
  - Institutional Linkages (Who does what, when and how with whom)
- Some countries/territories in need **to revisit policies, legislation and legal frameworks in support of DRR and EWS**
  - **CDEMA Legislation models and tools**

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# Overall Conclusions Recommendations

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- **Risk-based, multi-agency approach** to identifying **needs and requirements** for meteorological, hydrological and climate products and services
    - Data Products
    - Hazard analysis (statistical and forward looking)
    - Forecast and warnings
    - Technical Advise and operational support
  - Significant variations in country/territory capacities across the region, need to address national needs
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# Overall Conclusions Recommendations

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- Need for data rescue, data and metadata sharing and integrated data management systems in the countries/territories
  - National and Regional exchange and updating and maintenance of data
  - Harmonization and/or integration of regional observations networks (Carib Hycos, Carib WIGOS, Radar project, etc...) and accessibility to countries/territories
  - Varying needs for capacity development in Hazard and Risk analysis
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# Overall Conclusions Recommendations

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- Expand forecasting capacities of other high-priority hazards
    - Severe Weather and Flash Flood Guidance
    - Marine and ocean related hazards, including storm surges, high waves and coastal inundations
    - Droughts
    - Building on regional capacities and cooperation in Tropical Cyclone forecasting
    - Strengthening operational linkages across technical agencies (met, hydro, coastal, etc.)
  - Leveraging opportunities across hydro-met and tsunami warning systems
  - Strengthening OBS networks, maintenance, interoperability and linked to data management system (real-time and historical)
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# Overall Conclusions Recommendations

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- Telecommunication and IT issues
  - Cross Training and technical training needs
  - Public Education programmes in Hydro-meteorological and climate related hazards and impacts)
  - QMS and SOPs across agencies (Relationship Types I and II) and within Services
  - Strengthening of the regional centers providing regional forecasting guidance tools and enhanced utilization by NMHS
  - Coordinated Country/territory and regional meetings for planning, operations, evaluation, good practice sharing, etc.
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# Building on and strengthening as relevant existing Regional Cooperation, Centers and coordination mechanisms

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- WMO RA IV RSMC /- Miami Hurricane Center and Hurricane Committee
  - CMO
  - CIMH (in its various capacities) and also development on reestablishment of Caribbean RCOF and Regional Climate Center establishment discussions
  - CCCCC
  - Other relevant CARICOM Centers
  - UNESCO-IOC ICG Tsunami EWS for Caribbean and Adjacent Seas
  - CDEMA/CDM
  - CCRIF
  - Other
-





# Many Projects and Assessment with no integration or linkages: Redundancies and gaps exist

- Need for linking and leverage projects
- Efficient use of human and economic resources, addressing systemically gaps and building capacities
- Sustainability

**Table 3: Mapping of information provided in visits and assessments**

Global Lead UN/UNEP Agency	Global Issues	Does it have a Meteorological Service (MS) link?	Type of MS link	Is there a legal framework supporting MS linkages?	Operational cooperation in terms of Meteorological Services (MS)	Cooperation with other technical agencies (e.g. Hydrological Services)	Product and Service delivery to support EWS and risk analysis				Core capabilities of the Meteorological Services to support EWS				Overarching capacities	Public outreach and educational programmes in EWS	Watch and Warning Systems	
							Short-term	Operational	Capacity building	Operational	Observing and Observation network	Operational	Data management and exchange	Product development				IT infrastructure
<b>Category 1: Countries with complete Meteorological Services</b>																		
Australia	Intl	Yes	+	CEM	WMO0218 E.E. WMO0218	RM02001 F027 KAP-02001	CMAP J VSHI CAR-IT	RM02001 VSHI CAR-IT	WMO0218 F027 KAP-IT	RM02001 VSHI CAR-IT	WMO0218 F027 KAP-IT	RM02001 VSHI CAR-IT	WMO0218 F027 KAP-IT	RM02001 VSHI CAR-IT	RM02001 VSHI CAR-IT	RM02001 VSHI CAR-IT	RM02001 VSHI CAR-IT	RM02001 VSHI CAR-IT
Bahamas	Intl	Yes	+	E.E.	WMO0218 WMO0218	RM02001 KAP-02001	CMAP J WMO0218	RM02001 KAP-IT	WMO0218 KAP-IT	RM02001 KAP-IT	WMO0218 KAP-IT	RM02001 KAP-IT	WMO0218 KAP-IT	RM02001 KAP-IT	RM02001 KAP-IT	RM02001 KAP-IT	RM02001 KAP-IT	RM02001 KAP-IT
Bahrain	Intl	Yes	+	CEM	WMO0218 WMO0218	RM02001 F027	CMAP J F027	RM02001 F027	WMO0218 F027	RM02001 F027	WMO0218 F027	RM02001 F027	WMO0218 F027	RM02001 F027	RM02001 F027	RM02001 F027	RM02001 F027	RM02001 F027
Belize	Intl	Yes	+	E.E.	WMO0218 WMO0218	KAP-02001 CALM J CMAP J	CMAP J CMAP J	RM02001 KAP-IT	WMO0218 KAP-IT	RM02001 KAP-IT	WMO0218 KAP-IT	RM02001 KAP-IT	WMO0218 KAP-IT	RM02001 KAP-IT	RM02001 KAP-IT	RM02001 KAP-IT	RM02001 KAP-IT	RM02001 KAP-IT
Bhola	Intl	Yes	+	E.E.	WMO0218 WMO0218	WMO0218 F027	CMAP J F027	CMAP J F027	WMO0218 F027	RM02001 F027	WMO0218 F027	RM02001 F027	WMO0218 F027	RM02001 F027	RM02001 F027	RM02001 F027	RM02001 F027	RM02001 F027
Comoros	Intl	Yes	+	E.E.	WMO0218 WMO0218	RM02001 F027	CMAP J F027	RM02001 F027	WMO0218 F027	RM02001 F027	WMO0218 F027	RM02001 F027	WMO0218 F027	RM02001 F027	RM02001 F027	RM02001 F027	RM02001 F027	RM02001 F027
Costa Rica	Intl	Yes	+	E.E.	WMO0218 WMO0218	RM02001 F027	CMAP J F027	RM02001 F027	WMO0218 F027	RM02001 F027	WMO0218 F027	RM02001 F027	WMO0218 F027	RM02001 F027	RM02001 F027	RM02001 F027	RM02001 F027	RM02001 F027
Dominican Rep.	Intl	Yes	+	E.E.	WMO0218 WMO0218	RM02001 F027	CMAP J F027	RM02001 F027	WMO0218 F027	RM02001 F027	WMO0218 F027	RM02001 F027	WMO0218 F027	RM02001 F027	RM02001 F027	RM02001 F027	RM02001 F027	RM02001 F027
Egypt	Intl	Yes	+	CEM	WMO0218 WMO0218	RM02001 F027	CMAP J F027	RM02001 F027	WMO0218 F027	RM02001 F027	WMO0218 F027	RM02001 F027	WMO0218 F027	RM02001 F027	RM02001 F027	RM02001 F027	RM02001 F027	RM02001 F027
India	Intl	Yes	+	E.E.	WMO0218 WMO0218	RM02001 F027	CMAP J F027	RM02001 F027	WMO0218 F027	RM02001 F027	WMO0218 F027	RM02001 F027	WMO0218 F027	RM02001 F027	RM02001 F027	RM02001 F027	RM02001 F027	RM02001 F027
Indonesia	Intl	Yes	+	CEM	WMO0218 WMO0218	RM02001 F027	CMAP J F027	RM02001 F027	WMO0218 F027	RM02001 F027	WMO0218 F027	RM02001 F027	WMO0218 F027	RM02001 F027	RM02001 F027	RM02001 F027	RM02001 F027	RM02001 F027
Kenya	Intl	Yes	+	E.E.	WMO0218 WMO0218	RM02001 F027	CMAP J F027	RM02001 F027	WMO0218 F027	RM02001 F027	WMO0218 F027	RM02001 F027	WMO0218 F027	RM02001 F027	RM02001 F027	RM02001 F027	RM02001 F027	RM02001 F027
Laos	Intl	Yes	+	CEM	WMO0218 WMO0218	RM02001 F027	CMAP J F027	RM02001 F027	WMO0218 F027	RM02001 F027	WMO0218 F027	RM02001 F027	WMO0218 F027	RM02001 F027	RM02001 F027	RM02001 F027	RM02001 F027	RM02001 F027



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

- **Doc. 4:** Preliminary Draft Report of the Assessments of the Capacities, Gaps and Needs for the Development of the Caribbean Regional Programme on Multi-Hazard Early Warning Systems and Phase-I Project Priorities. Focus on Hydrometeorological hazards warning systems and possible linkages with other warning systems.
- **Doc. 6:** Questions and Issues to be addressed during the Working Group Sessions.

**Please send Responses to Doc 6, and any written feedback on Doc 4 including additional projects that have not been documented by November 15. (if you haven't done so)**



# Consultation process for technical and programme/project development – 2010 (1/3)

CONSULTATIONS AND DELIVERABLES	ORGANIZERS/SPONSORS	EXPECTED OUTCOMES	DATE & VENUE
<p><b>1. Training and Coordination Workshop on Multi-Hazard Early Warning Systems with Focus on Institutional Partnerships and Coordination</b></p>	<p>WMO with NOAA, ISDR, CDEMA, CEPREDENAC, UNDP, World Bank, IFRC, NMHS and DRM of Costa Rica</p>	<p>•Identified and prioritized concrete areas for development and cooperation at national and (sub) regional levels in MHEWS</p>	<p>22 – 26 March 2010, San Jose Costa Rica</p>
<p><b>2. Consultants’ missions in the region and assessment of all assessment and projects</b></p> <p><b>MISSIONS:</b></p> <p>Trinidad and Tobago Barbados  Dominica Antigua and Barbuda  Saint-Lucia Martinique  Cuba Dominican Republic  Bahamas</p> <p>CMO CIMH CDEMA ACS</p>	<p>WMO and UNDP</p>	<p>•Identification and confirmation of gaps and needs in MHEWS;  •Identification of national, regional and international stakeholders;  •Identification of priorities for design of the programme and phase I project.</p>	<p>1 July – 15 September 2010</p>
<p><b>3. Consultation at the 2nd Meeting of the Work Programme Development and Review Sub-Committee of the CDEMA Technical Advisory Committee</b></p>	<p>CDEMA</p>	<p>•Introduction of the road map and feedback.</p>	<p>21 July 2010, Barbados</p>



# Consultation process for technical and programme/project development – 2010 (2/3)

CONSULTATIONS AND DELIVERABLES	ORGANIZERS/SPONSORS	EXPECTED OUTCOMES	DATE & VENUE
4. Consultation at the Sixth (6th) Meeting of the Comprehensive Disaster Management Coordination and Harmonisation Council (CDM CHC) and 2010 Programming Consultation on Comprehensive Disaster Management (CDM)	CDEMA	•Introduction of the road map and feedback for incorporation of the Caribbean MHEWS Programme in CDM Programming.	19 – 20 August 2010, Barbados
5. 18 <sup>th</sup> meeting of the Committee on Disaster Risk Reduction	Association of Caribbean State (ACS)		9 – 10 Sept, 2010 Santo Domingo, DR
6. Technical Cooperation Workshop for the Development of Caribbean Regional Programme in Multi-Hazard EWS (MHEWS)	<ul style="list-style-type: none"> <li>•WMO with CMO/CIMH, CDEMA, UNDP, World Bank, NOAA, NMHS and DRM agencies of Barbados</li> <li>•Other potential sponsors: ISDR, ACS, Finland Meteorological Institute and Ministry of Foreign Affairs, others (TBD)</li> </ul>	<ul style="list-style-type: none"> <li>•Development of priorities for Caribbean MHEWS Programme;</li> <li>•Prioritization of activities for Phase I project and development of a detailed project implementation plan.</li> </ul>	2-5-November 2010 Barbados
7. Consultation with the Directors of NMHS (CMO) and Ministers (CARICOM) during the 50 <sup>th</sup> session of the Caribbean Meteorological Council	CMO	•Feedback on the first draft of the Caribbean Regional MHEWS programme and phase I project	20 – 22 November 2010 Cayman Island



# Consultation process for technical and programme/project development – 2010 (3/3)

<b>CONSULTATIONS AND DELIVERABLES</b>	<b>ORGANIZERS/SPONSORS</b>	<b>EXPECTED OUTCOMES</b>	<b>DATE &amp; VENUE</b>
<b>10. Consultations during the Conference of the Directors of the Ibero-American Hydrometeorological Services</b>	<b>Ibeto-American Cooperation</b>	<ul style="list-style-type: none"> <li>•Feedback on the first draft of the Caribbean Regional MHEWS programme and phase I project</li> </ul>	<b>November, 2010 Chile</b>
<b>12. 1/2-day High-level panel for presentation of priorities</b>	<ul style="list-style-type: none"> <li>•WMO with CDEMA, CMO/ CIMH, UNDP, NMHS and DRM of Jamaica</li> <li>•Other potential sponsors: ISDR, World Bank, ACS, NOAA, Finland Meteorological Institute and Ministry of Foreign Affairs, others (TBD)</li> </ul>	<ul style="list-style-type: none"> <li>•Revised draft of the Caribbean MHEWS programme and phase I project</li> </ul>	<b>6 December 2010 Montego Bay, Jamaica</b>
<b>13. Presentation of the Programme to the Seventh (7th) Meeting of CDM CHC</b>	<b>CDEMA</b>	<ul style="list-style-type: none"> <li>•Presentation of the Draft of the Caribbean MHEWS Programme and Phase I Project in CDM Programming</li> </ul>	<b>6 – 9 December 2010 Montego Bay, Jamaica</b>
<b>14. Draft of the Caribbean MHEWS programme + phase 1 project</b>			<b>Q1 2011</b>



# Roadmap for strengthening Caribbean regional cooperation in MHEWS with national development components

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## **A phased approach is proposed:**

- 2010-2011: Identification of gaps and needs in a multi-stakeholder approach and priorities engaging consultations with all countries/territories, regional agencies and partners
  - 2011:
    - Institutional partnerships
    - Phase-I project implementation plan
    - Resource mobilisation strategy and coordination with the donors
    - Monitoring and evaluation processes
  - 2011-2012: Phase I Project to be Launched
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# *Thank You*

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**Webpage:**

[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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