

DELIVERING CLIMATE EARLY WARNING INFORMATION TO CLIMATE-SENSITIVE SECTORS IN THE CARIBBEAN



A compelling case for action

The Caribbean region has been increasing its resilience to the impacts of weather and climate-related hazards for more than 40 years. However, the main sectoral drivers of socio-economic development of Caribbean States remain highly sensitive to climate.

Regional statistics indicate that weather and climate-related events are associated with more socio-economic damage and loss cumulatively than other types of natural hazards. For example, in 2009/2010, the most severe drought in 50 years led to widespread water shortages, reduced crop production, an increase in food prices and increased bush fires across many territories (Farrell, Trotman, & Cox, 2010).

A World Bank report (Toba, 2009) estimates future annual direct losses (values given in 2007 US dollars) in the region due to climate-related disasters to be in the range of billions of US dollars:

- 1) USD 2.6 billion due to wind damage;
- 2) USD 363.1 million due to flood damage; and
- 3) USD 3.7 million due to drought.

The adverse impacts of climate variability, extremes and change therefore pose a serious threat to the future of the region. They also present a compelling socio-economic case for action.

To address these impacts going forward, the American People, through the United States Agency for International Development (USAID), are funding the Programme for Building Regional Climate Capacity in the Caribbean (BRCCC Programme) to empower stakeholders in the Caribbean to adapt to climate variability and change, with a primary focus on Guyana and the islands of the Eastern Caribbean. Among other things, the Programme features a collaborative partnership between the World Meteorological Organization (WMO) and the Caribbean Institute for Meteorology and Hydrology (CIMH) in developing seasonal forecasting capabilities in six climate-sensitive sectors, namely, Agriculture and Food Security, Disaster Risk Management, Energy, Health, Tourism and Water.



The value of sector-specific climate early warning information

Climate variability and change occur on a range of timescales. Climate information then, is related to specific timescales and can be short-term (dekadal, monthly, seasonal, annual), mid-term (annual to multi-year) or long-range (decades in the future) in nature.

Sector-specific climate information can be particularly helpful to anticipate, prepare for and respond to climate-related risks and opportunities. In fact, **Sectoral Early Warning Information Systems Across Climate Timescales (EWISACTs)** can be of great value because they can provide early warning of potential impacting climatic events that may have implications for a wide range of climate-sensitive sectoral decisions.

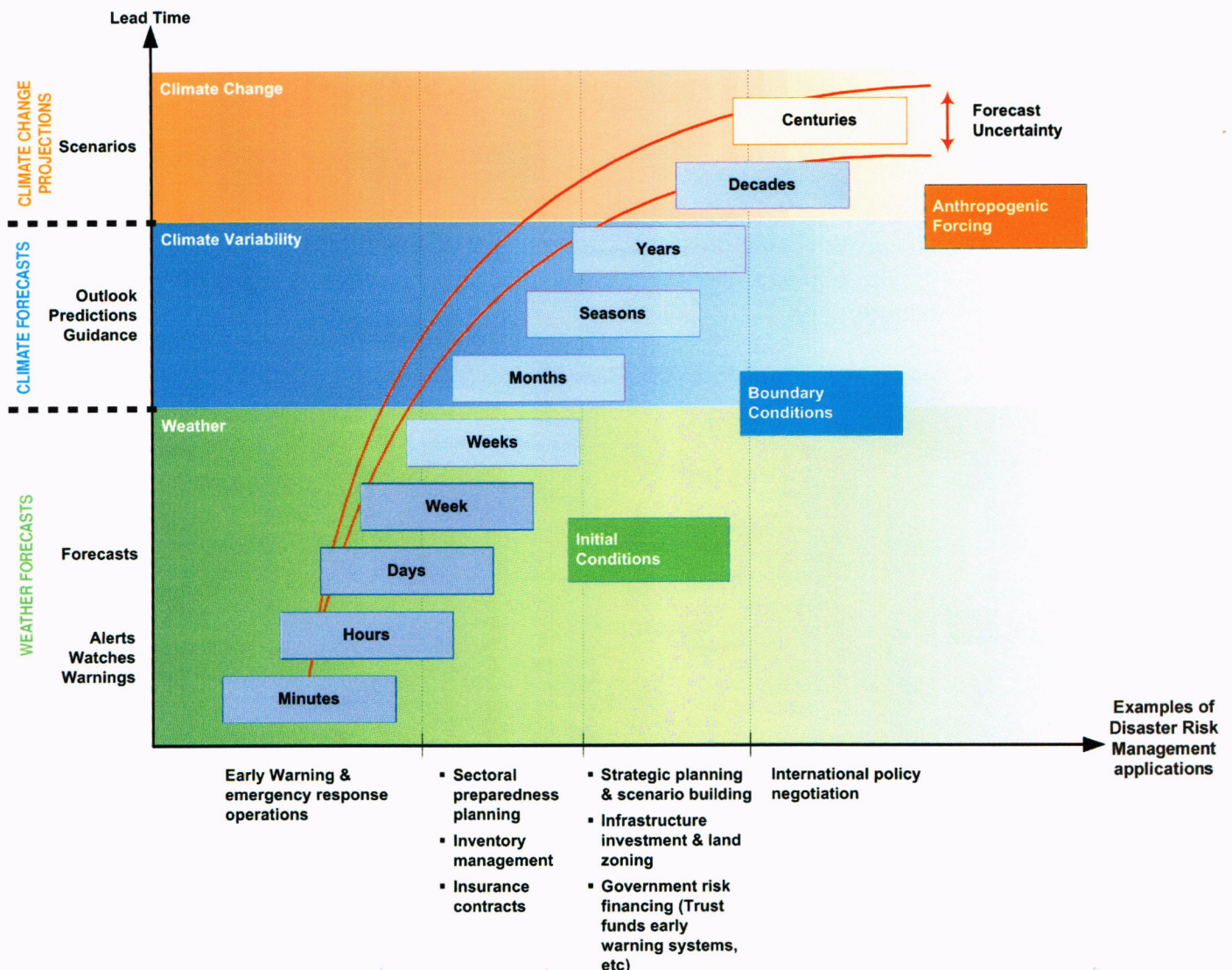


Figure 1. Types of weather and climate information for sectoral decision-making

Towards the development of sector-specific EWISACTs

For the Caribbean region, the formalization of the development of sectoral EWISACTs is a landmark initiative, in part because it will contribute to the implementation of the five pillars of the groundbreaking Global Framework for Climate Services (GFCS).

Recognizing that there are limitations and gaps within both the provider and user communities, sectoral EWISACTs aim to co-design, co-develop and co-deliver sector-specific products, services and capacity building efforts that begin to address these gaps. By working together to increase the range of sector-driven climate products, as well as integrated decision-support processes and tools, the CIMH in collaboration with the National Meteorological and Hydrological Services and its sectoral partners will build the region's capacity to engage in climate risk management.

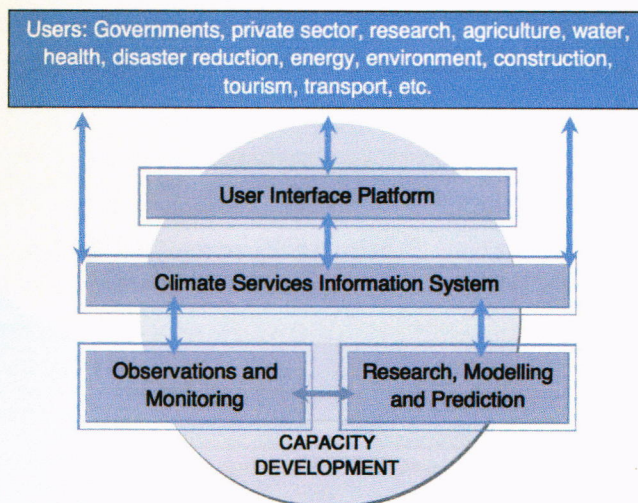


Figure 2. The Five Pillars of the Global Framework for Climate Services. Source: WMO (2014)

In the long-term, six (6) methodological steps will be pursued:

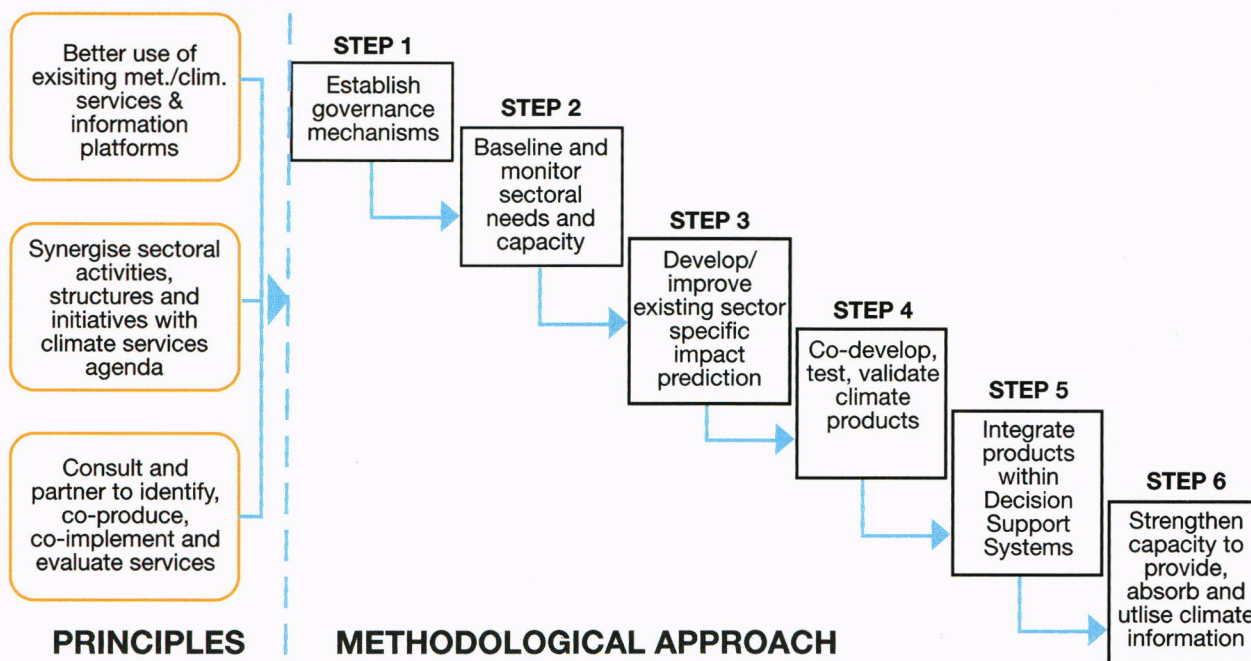


Figure 3. Methodological approach to the development of sectoral EWISACTs

A focus on concrete results

In the short-term, under the BRCCC Programme, fifteen (15) outputs that address nine (9) gaps and contribute to four (4) Outcome Areas are expected:

Table 1. Outcome Areas and Outputs under the BRCCC Programme

Outcome Area	Gap Ref.	Current Limitation(s)/ Gap(s)	Outputs
I. Established relationships between meteorologists/ climatologists, scientists from other sectors and policymakers from across sectors	1.1	Limited number of sectors (e.g., agriculture and food security, water, disaster risk management, health) in which awareness and use of climate products has been mainstreamed	1.1.1 Communication package of generic and sector-specific products and materials (e.g., sector-specific climatic bulletins, sector-specific webpages, product information sheets, and infographics)
	1.2	Limited number of technical sectoral interfaces at the regional and national levels	1.2.1 Sector-specific technical sessions at regional technical meetings such as the Caribbean Climate Outlook Forum (CariCOF) General Assemblies 2015-2016
			1.2.2 A series of regional cross-sectoral and/or sector-specific technical webinars
	1.3	Ad hoc sectoral relationships	1.2.3 National Sectoral EWISACTs Workshops 1.3.1 LoAs signed between CIMH and sector-specific regional agencies for formal collaboration on the climate services agenda
II. Initiation of the development, deployment and platform integration of sector-specific forecasting/ planning models in the form of early warning systems	2.1	No standardized decision support system (DSS) to support sectoral Early Warning Information System Across Climate Timescales (EWISACTs)	2.1.1 Report exploring data sharing and integration of sectoral datasets and sectoral DSSs into/with the Caribbean Dewetra platform
	2.2	Limited number of sector-specific climate indices and impact models for the Caribbean context	2.2.1 Sector-specific climate index/indices developed and/or co-developed

Outcome Area	Gap Ref.	Current Limitation(s)/ Gap(s)	Outputs
III. Enhanced institutional capacity	3.1	Insufficient baselines (re: user needs, provider capacity) to inform product tailoring and development in the short- and long-term	3.1.1 Research report baselining user needs and providers' capacity to deliver climate products that satisfy user needs
			3.1.2 Sectoral EWISACTs Plan of Action 2017-2027
	3.2	Lack of governance mechanisms anchored in and driven by sectoral partners and the regional and national contexts	3.2.1 Governance mechanisms at the regional level (e.g., the Consortium of Regional Sectoral EWISACTs Coordination Partners)
			3.2.2 Consortium landing page and associated functionalities (e.g., members only area accessible through login)
			3.2.3 Governance mechanisms at the national level (e.g., National Sectoral EWISACTs Committees)
IV. Enhanced adaptive capacity	4.1	Weak linkages between climate forecasts, impact and concrete action	4.1.1 Report on the relationship between climate and sectoral productivity, historical climate impacts and sectoral response; and the impact of climate outlooks on sectoral response
			4.1.2 Design of a web-based user interface tool enabling users to correlate forecasts to past impacts and appropriate response strategies
	4.2	Little documented evidence of how climate information improves sectoral decision-making in the Caribbean	4.2.1 Case study briefs demonstrating how existing climate information has been incorporated into sectoral decision-making

Source: Mahon, Rankine & Trotman (2015)

The USAID's support for the BRCCC Programme is fundamental to the development of climate services in the Caribbean. At the end of this Programme, climate-sensitive sectors will be in a better position to incorporate climate information to make evidence-based decisions.

References

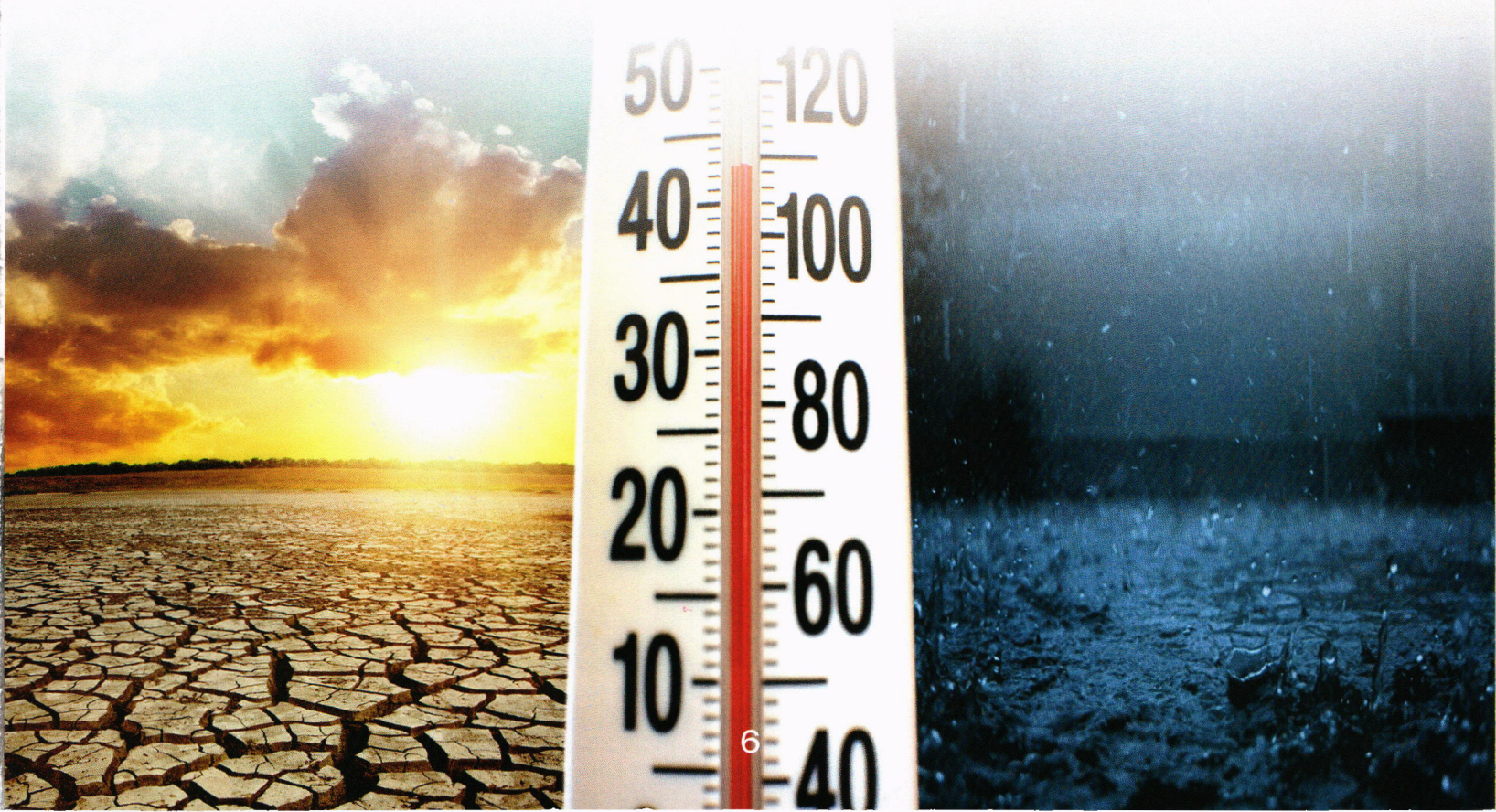
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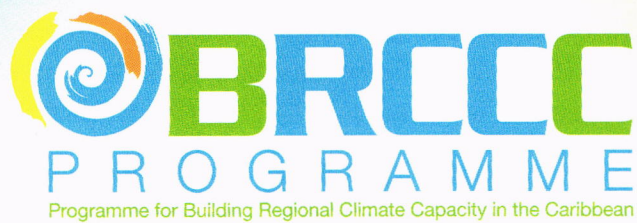
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