Tools & Current Practices on Integration of Climate Change Risk Assessment & Management and Disaster Risk Reduction Strategies

Experiencies from the Caribbean

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The Caribbean Community Climate Change Centre

- Endorsed by the CARICOM Heads of Government in July 2002
- An intergovernmental specialized agency of CARICOM with an independent management that is guided by

  The CARICOM Council of Trade and Economic Development (COTED) on policy matters.

  A board of directors with responsibility for strategic planning.

  A technical secretariat headed by an Executive Director with responsibility for tactical planning.
- The Centre is mandated to coordinate the regional response to climate change and its efforts to manage and adapt to its projected impacts.
- The Centre possesses full juridical personality.
- Financially independent

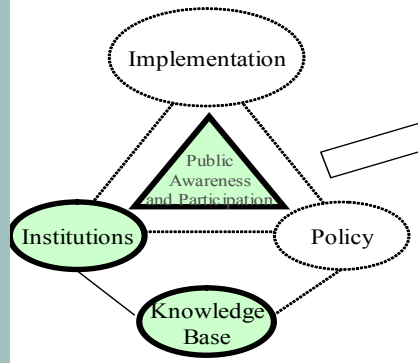
- **Operational since January 2004**
- **Located in Belmopan, Belize**


THE WORLD BANK
GLOBAL ENVIRONMENTAL FACILITY
ORGANIZATION OF AMERICAN STATES
The Bahamas
Belize
Jamaica
Antigua and Barbuda
St. Kitts and Nevis
Dominica
St. Lucia
St. Vincent and the Grenadines
Barbados
Grenada
Trinidad and Tobago
Guyana
CAICCOM
MACC Participating Countries

The Regional Response to Climate Change (1997 – 2011)

1997-2001
CPACC

Building awareness and strengthening knowledge base

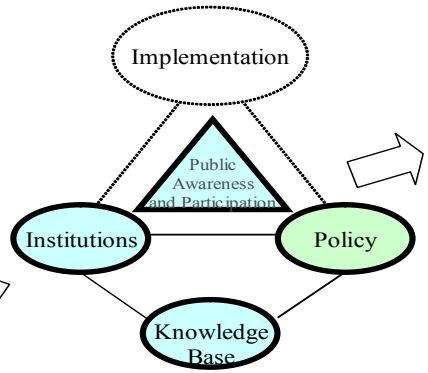


- **Building Awareness.**
- **Building monitoring and analysis capability**
- **Building planning capacity in institutions**

2001-2004
ACCC

2004-2008
MACC

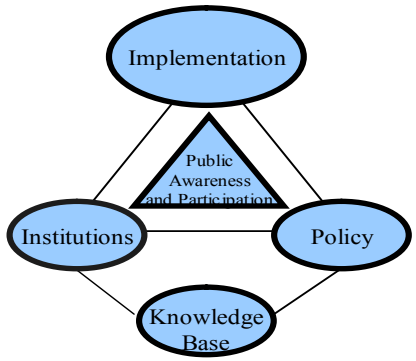
Creating an enabling environment for adaptation



- **Developing national policy framework for adaptation.**
- **Mainstreaming climate change issues into key sector activities.**
- **Preparation of pilot adaptation projects.**
- **Further strengthening of awareness andparticipation.**
- **Further strengthening of knowledge base**

2007-2011
SPACC

Adaptation



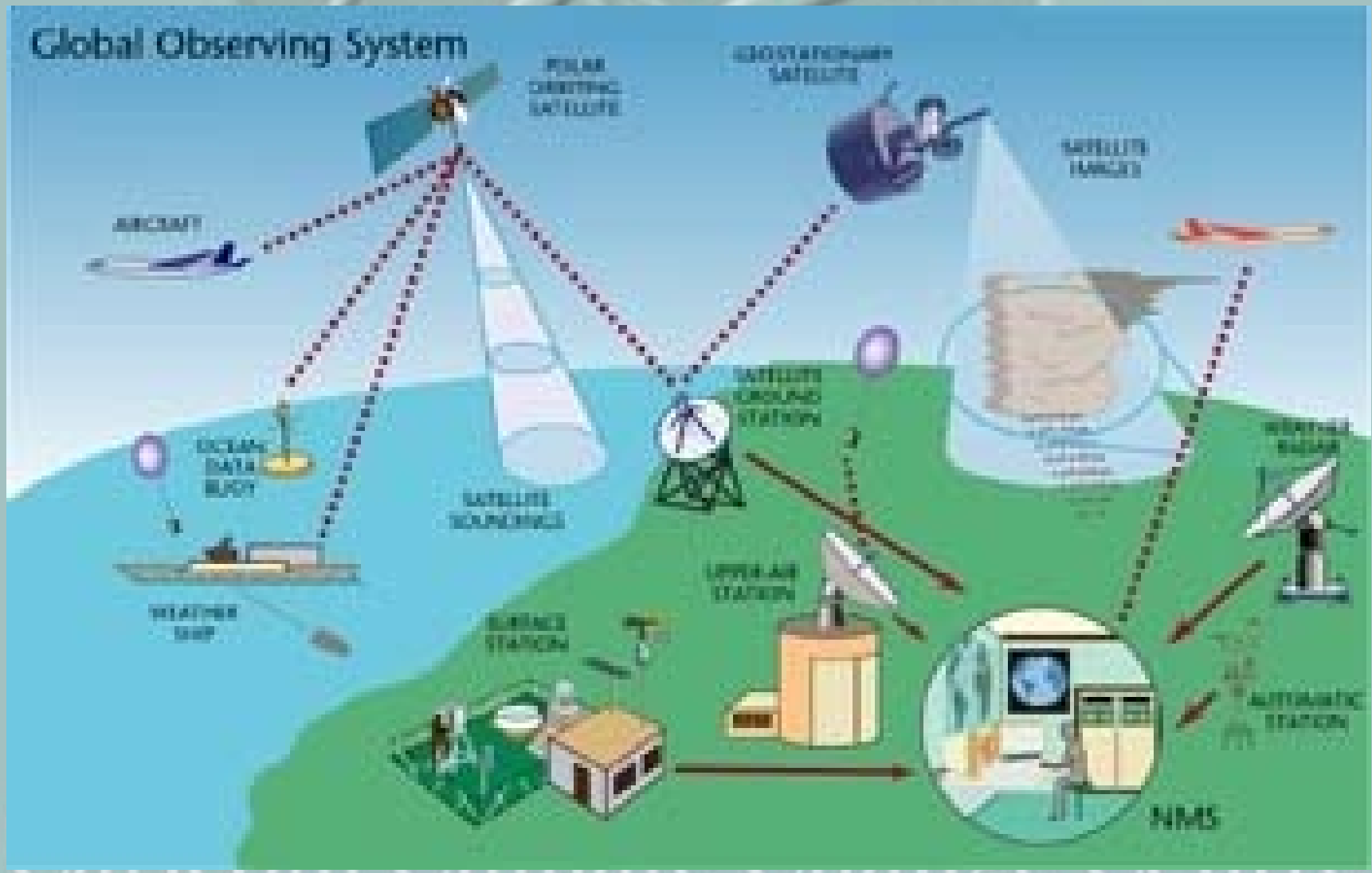
- **Policy framework for adaptation in place**
- **Projects being implemented.**
- **Awareness and participation high.**
- **Monitoring, analysis and planning integrated throughout all national and sectoral planning.**

Caribbean Planning for Adaptation to Climate Change (CPACC)

Objective: To support Caribbean countries in preparing to cope with the adverse effects of global climate change particularly sea-level rise, in coastal and marine areas, through vulnerability assessments, adaptation planning and related capacity-building initiatives.

1. Design and Installation of Sea-level Monitoring System
2. Establishment of Databases and Information Systems
3. Inventory of Coastal Resources and Uses
4. Formulation of Policy Framework for Integrated Adaptation Planning and Management
5. Coral Reef Monitoring for Climate Change Impacts
6. Coastal Vulnerability Assessment
7. Economic Valuation of Coastal and Marine Resources
8. Formulation of Economic and Regulatory Proposals
9. Preparation of St. Vincent and the Grenadines' First National Communication

Global Observing System



Adapting to Climate Change in the Caribbean (ACCC)

- Public Education and Outreach (PEO)
- Strengthen regional technical capacity
  - "Risk Management Approach to Climate Change"
  - Developed MSc in Climate Change Programme at CERMES UWI Cave Hill
  - Developed Business Plan for CCCCC
- Funded by CIDA

Mainstreaming Adaptation to Climate Change (MACC)

- Further Capacity Building
- Strengthen regional monitoring network:11 tide gauges & AWSs, CORS stations, CREWS in Jamaica
- Climate Modelling
  - Downscaling (PRECIS)
  - Japanese Earth Simulator
- Pilot Vulnerability Assessments
  - Barbados – Tourism
  - Belize – Water Resources (Surface Water)
  - Guyana - Agriculture
  - Jamaica – Water Resources (Ground Water)
- Prepare adaptation strategies
- Prepare regional climate change strategy
- Coordinate the region in the climate change negotiation process

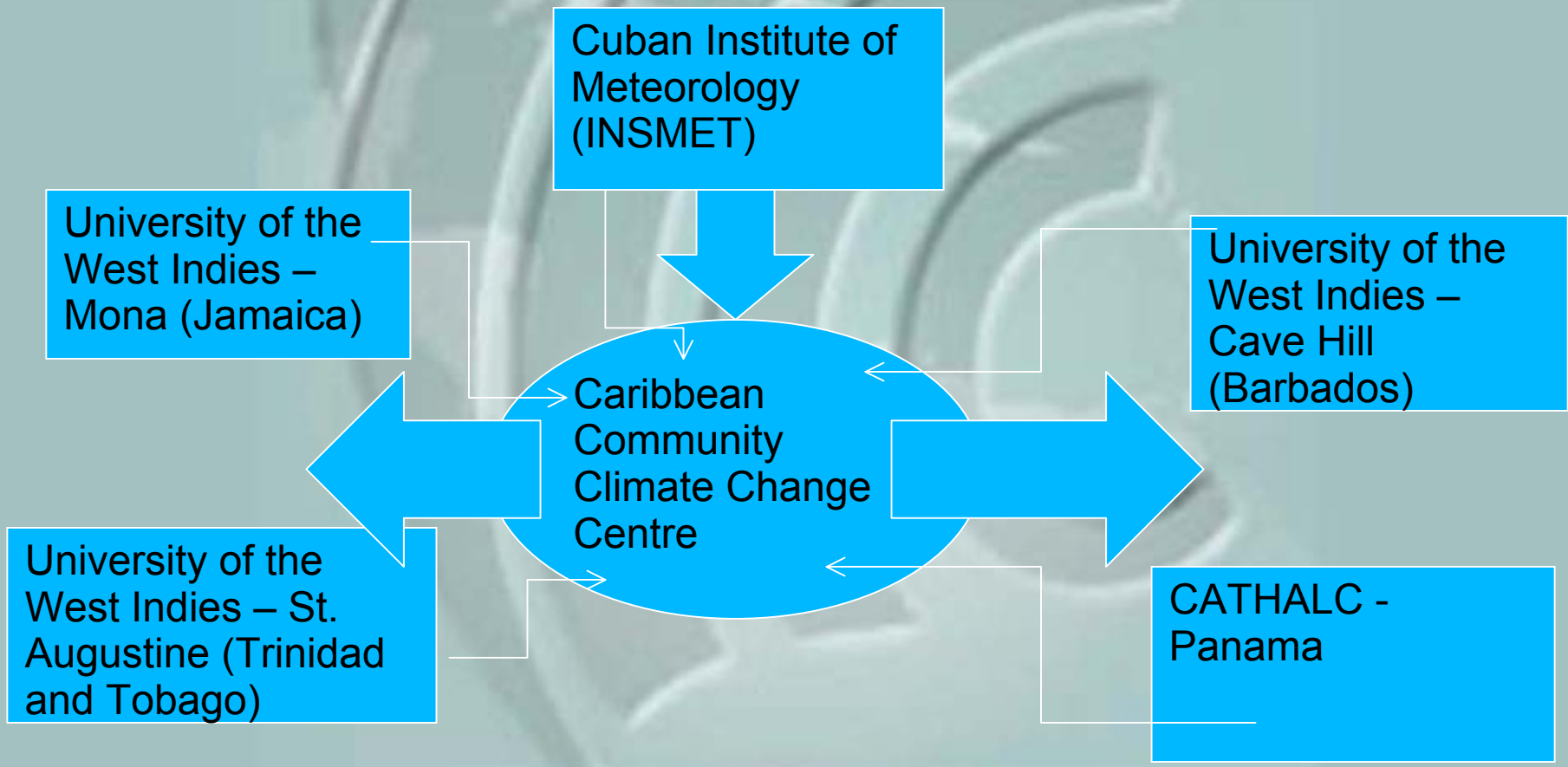
Modeling Activities

- The GCM's resolution of 300 km cannot resolve the small islands of the Caribbean.
- The Centre is collaborating with other institutions in the use of downscaling regional models to look at future climate scenarios.
- Collaborating Institutions include:
  - Hadley Centre
  - University of the West Indies
  - INSMET in Cuba
  - CATHALAC in Panama

Belize: Sept 25-29, 2006

Cuba: Dec 4 – 10, 2006

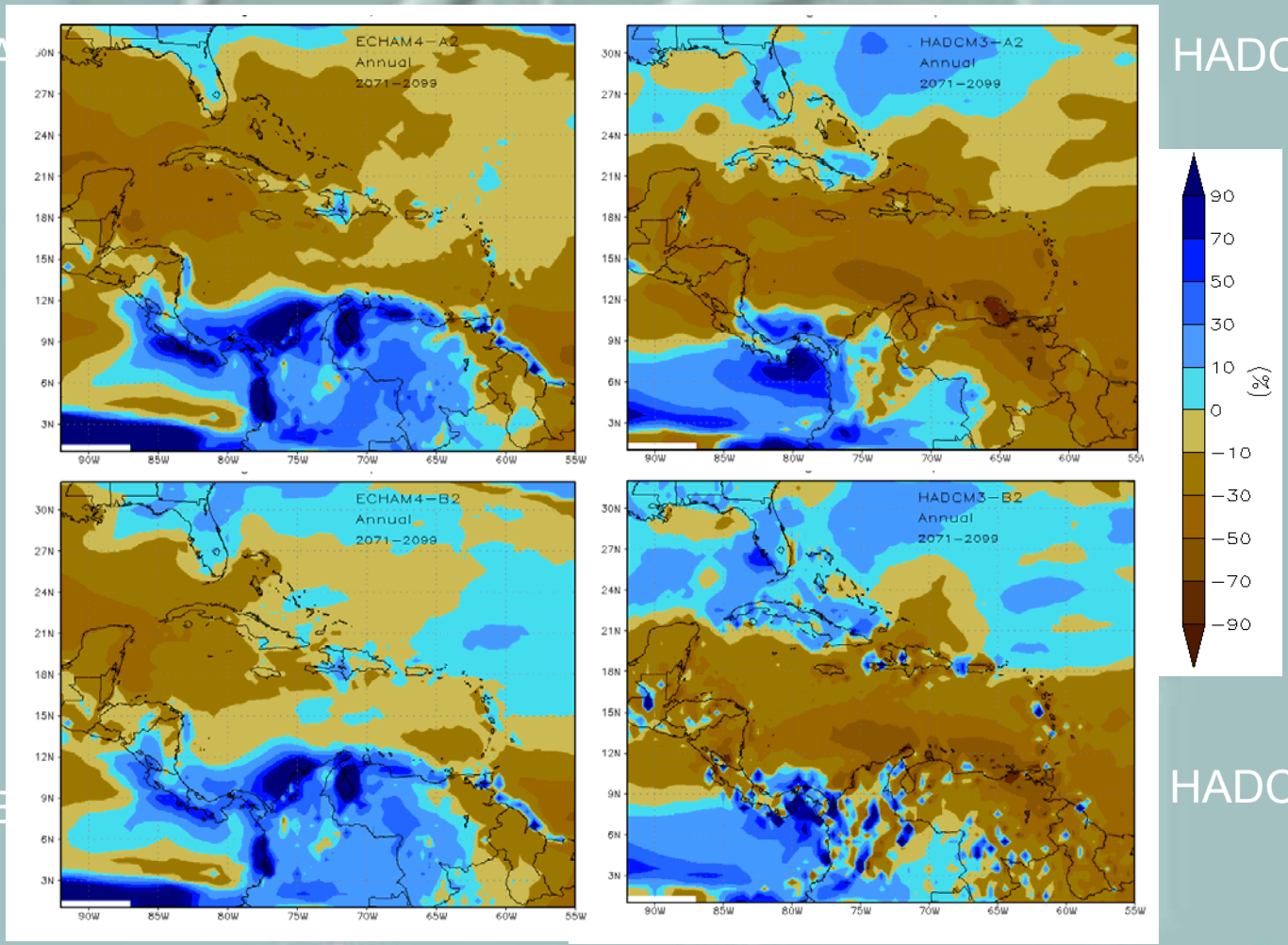
Network of Downscaling Activities



Annual mean changes in precipitation (%) for 2071-2099

ECHAM4 – A

HADCM3 – A2



ECHAM4 – B

HADCM3 – B2

Special Programme for Adaptation Climate Change (SPACC)

- 2007 – 2011: Supports efforts by three island states (Dominica, St. Lucia, and St. Vincent and the Grenadines) to ***implement specific pilot adaptation measures addressing the impacts of climate change on biodiversity and land degradation***; thus achieving a high level of integration between these Conventions at a practical field level.

1. Identify, prioritize and evaluate, and design appropriate options and measures that would address biodiversity and land degradation at the community level.

2. Support implementation of selected adaptation measures (on a pilot basis) in seven sites in participating countries to enhance the resilience of insular ecosystems under threat from climate change and land degradation

3 .Develop National Sustainable Development Strategy (1 country) which integrates climate change, biodiversity conservation, and land degradation management within national development planning framework.

PROCESS FOR DEVELOPING "CLIMATE PROOF" BUILDING CODES FOR SAINT LUCIA

Revision of Hurricane Wind Speed Information developed by Professor Curry et al (Georgia Tech University) by the consultants, International Codes Council (ICC). The hurricane studies developed by Curry et al considered the impact of climate change on the intensity and frequency of hurricane in the Saint Lucia area.

Technical translation of the Curry et al study into wind speed adjustment factor for critical buildings by Dr. Peter Vickery, wind expert, working for ICC. An increase in design wind speed of 15% was computed.

Development of engineering guidelines by ICC Consultant, Tony Gibbs, based on computed wind speed design.

Incorporation of the Engineering Guidelines by the Saint Lucian government into its building codes presently in draft form.

Re-design of the planned retrofitting of the Marchand Community Centre in Castries, incorporating the new engineering guidelines. The Marchand Centre serves as a hurricane shelter for residents in that area and as a telecommunication center for the Saint Lucia National Emergency Management Organization (NEMO).

Collaboration

- Co-sponsored along with GCOS Secretariat the “Meeting on Furthering the Implementation of the GCOS Regional Action Plan for Central America and the Caribbean” held in Belize City, Belize from 28 to 30 January 2008.
- Convened regional and international agencies involved in project development, project implementation and project funding to promote the implementation of the Regional Action Plan

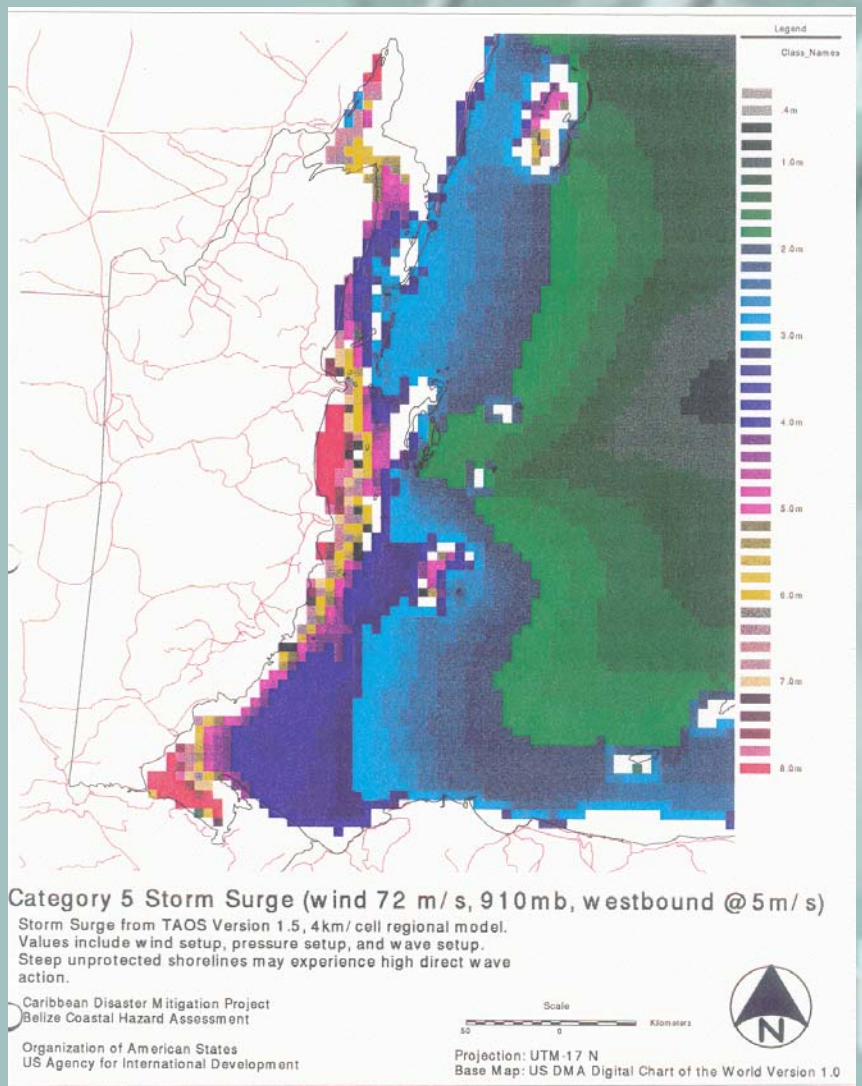
Project Proposals

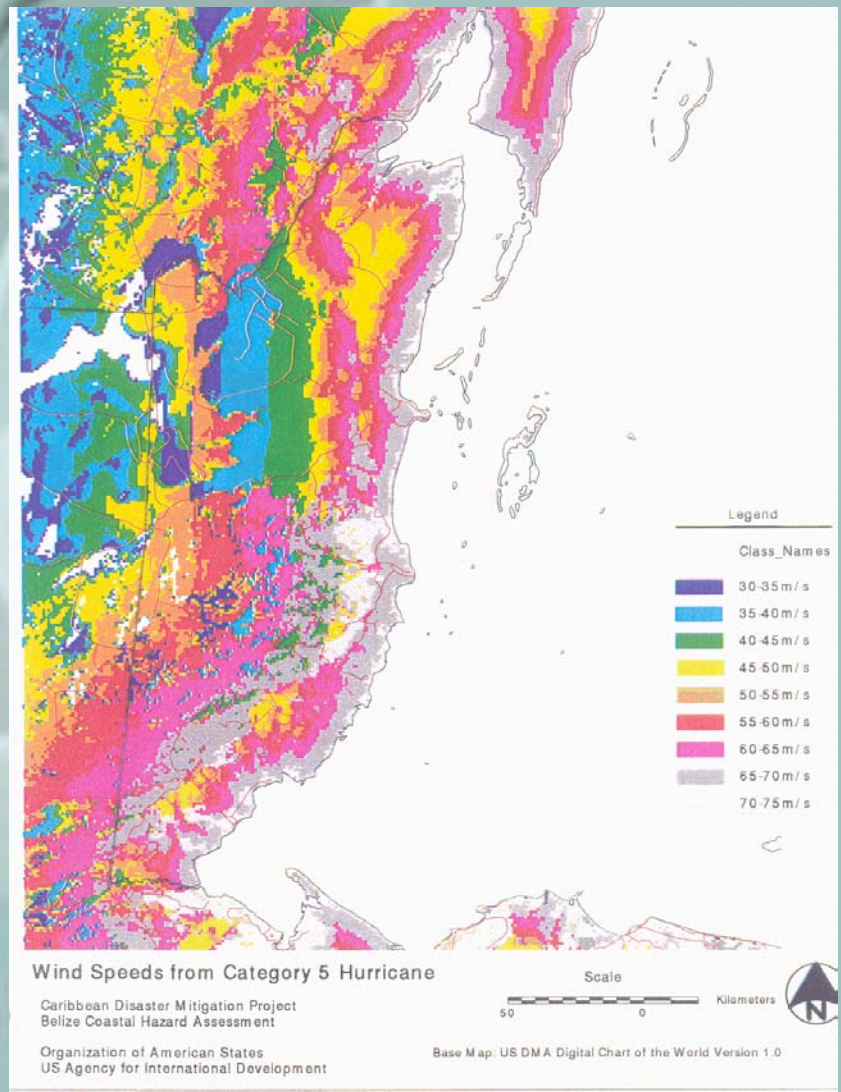
- Provision of Additional and Better Upper Air Observations to Climatological Centres
- Creating and Sustaining a Regional Technical Support Centre
- Improving Access to Climate Data in the Region
- An IOCARIBE-GOOS Partnership to Support a Multi-Use Sea Level Observation Network for the Caribbean region
- Adapting to Climate Change: Raising Awareness in Central America and the Caribbean

Storm Surge

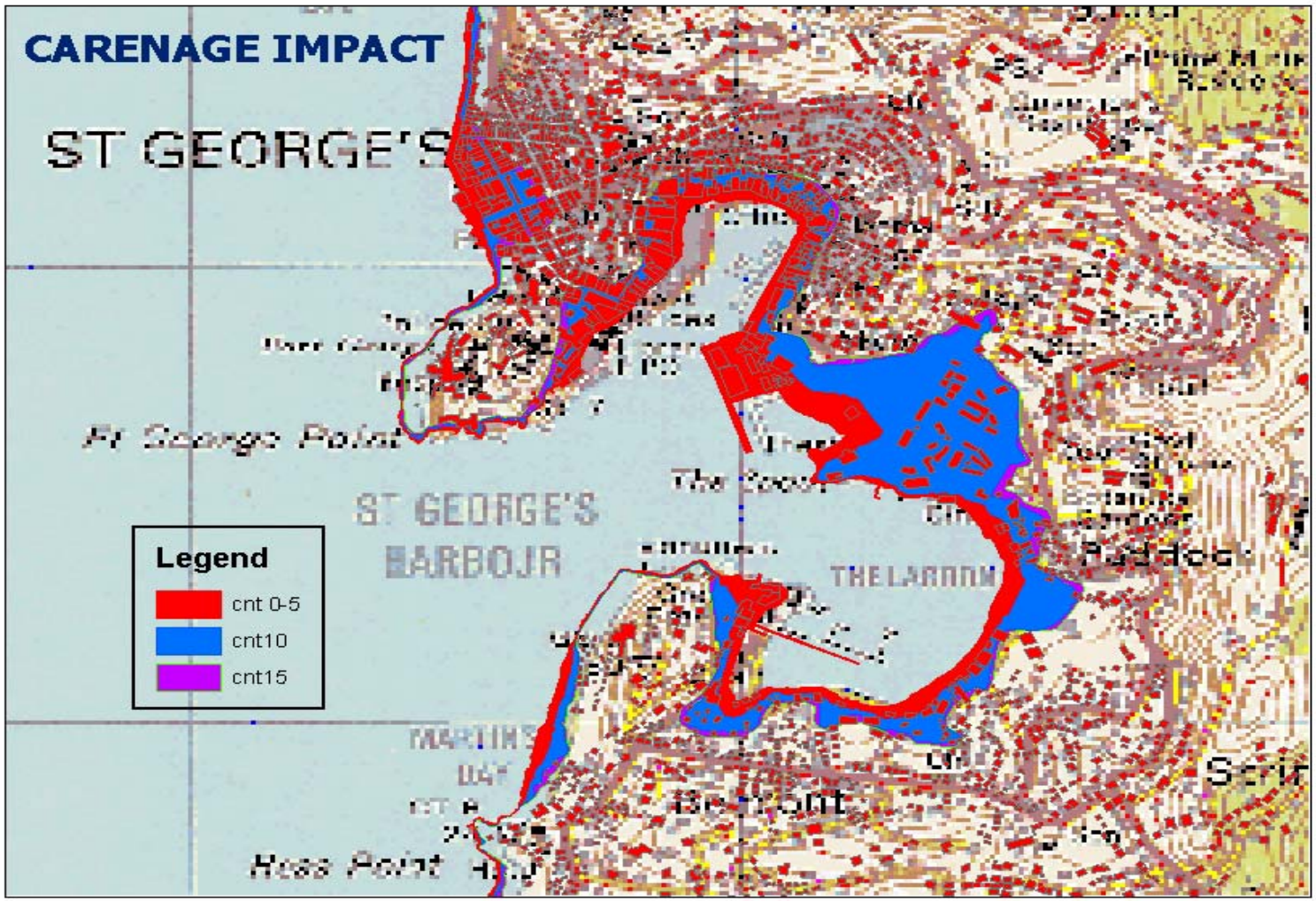
Caricom Climate Change Centre

Wind and Storm Surge Hazard Maps





Grenada's Vulnerability to Sea Level Rise



HURRICANE AND FLOOD-RELATED PROJECTS

- Development of LIDAR system for use in
  - High Resolution Bathymetric Mapping of coastal waters of the 15 Members States of CARICOM
  - High Resolution Topographic Mapping of coastal areas of the 15 Member States of CARICOM
  - High Resolution Topographic Mapping of catchments areas

INFORMATION AND EARLY WARNING-RELATED PROJECTS

- Develop Early Warning Regional Drought Forecast Model
- Develop Climate Change Sectoral Impact Models
- Clearing-house for Climate Change information in the Caribbean
- Modeling of sea level rise in the Caribbean, east-west