CTA-Wageningen UR ACP/EU Think Tank Pre-Conference Event

Partnerships for Research, Capacity Building, Innovation and Foresighting:
Managing Water for Agriculture and Food in ACP Countries

28 October 2012
Punta del Este, Uruguay

In collaboration with

Toward Efficient Water Management for Agriculture in a Changing Climate: The Caribbean Context

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PRIMARY FUNCTIONS

- Train various categories of meteorological and hydrological personnel
- Operate as a centre of research in meteorology, hydrology and associated sciences
- Data collection, storage, & dissemination
- Maintain, repair, and calibrate meteorological & hydrological instruments
- Advise regional governments on matters related to meteorology & hydrology
- Provide consulting services to industry

Demonstration Phase of WMO Regional Climate Centre

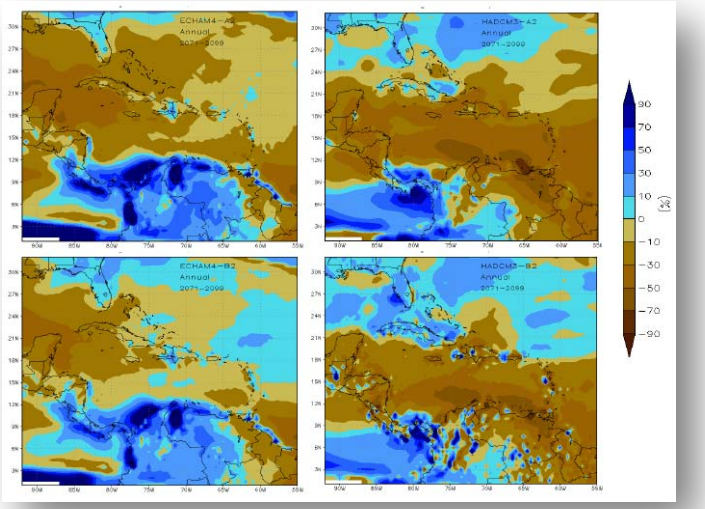
Creating a culture of using climate information for decision making

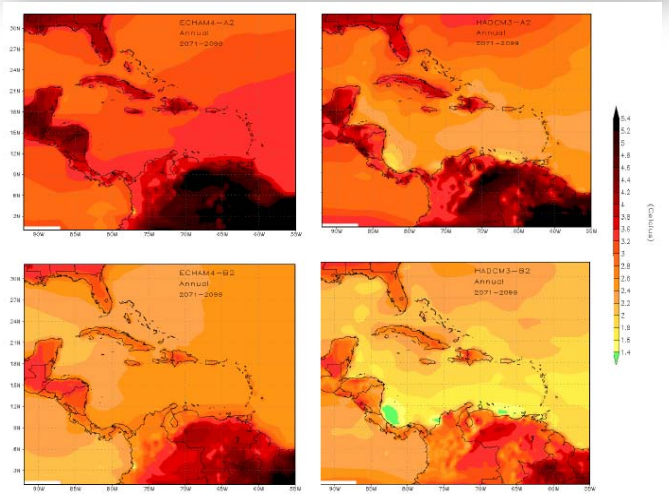
State of agriculture and food in the Caribbean

- Agriculture's contribution to the economies of CARICOM states have been on the decline since the 1970s
- Net agricultural trade moved from being a surplus of US$2.9 billion in 1988 to a deficit of US$2.2 billion in 2004 (CARICOM donor conference draft document 2007)
- Losses in preferential markets for traditional crops in Europe
- Except for Guyana and Belize, CARICOM states became net importers of food
- The Jagdeo Initiative, sought to breathe new life into the agriculture and related sectors – including land and water and Disaster Risk Reduction

Caribbean CC Context

- 0.5-4.2 ^{0}C increase from 2010 to 2099 and number of warm nights
- Sea level rise:- 35-50 cm over the next 50 years
- Drier mid-year, wetter end of year
- Models project decreases in annual precipitation (25 to 50%) but increase in intensity (up to 20% by 2050)
- Reduced length of rainy season 7-8% by 2050
- Increased length of dry season 6-8% by 2050
- summer drying to become more severe during the wet season
- Indications of more persistent ENSO-like conditions:





Contribution of agriculture to GDP and Employment, and proportion of irrigated land

	GDP (%)	Employment (%)	Agricultural Land ('000 ha)	Irrigated Land (% of cropland)
Antigua & Barbuda	3.77	NA	14	N/A
Barbados	4.47	4.6	19	29
Belize	16.65	27.5	152	3
Dominica	18.28	27.3	23	N/A
Grenada	9.77	13.8	13	NA
Guyana	31.44	27.8	1740	29
Jamaica	5.49	20.4	513	9
St Kitts & Nevis	3.03		10	N/A
St Lucia	5.27	11.4	20	17
St Vincent/ Grenadines	8.76	15.4	16	7
Trinidad & Tobago	1.1	6.9	133	3

Rainfall Information Still Critical

Integrated Water Resources Management:

"process that promotes the co-ordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems" FAO

Regional progress:

acceptance of real need for re-orientation of water sector governance towards

Caribbean reality:

process is long and fraught with difficulties

Two Initiatives

Caribbean Water Initiative (CARIWIN)

- Implemented jointly by McGill University, CIMH and 3 partner countries (Grenada, Jamaica, Guyana)
- To increase the capacity of the Caribbean countries to deliver equitable and sustainable IWRM by
  - Improving the capacity
  - Integrating IWRM approaches into CIMH (training and research agency)
  - Build national capacities of meteorology and hydrology Services
- www.mcgill.ca/cariwin

Caribbean Agrometeorological Initiative (CAMI)

- Implemented by CIMH, CARDI, WMO and Ten National Meteorological Services
- to increase and sustain agricultural productivity at the farm level in the Caribbean region through improved applications of weather and climate information using an integrated and coordinated approach
- Information providers, users and media
- www.cimh.edu.bb/cami

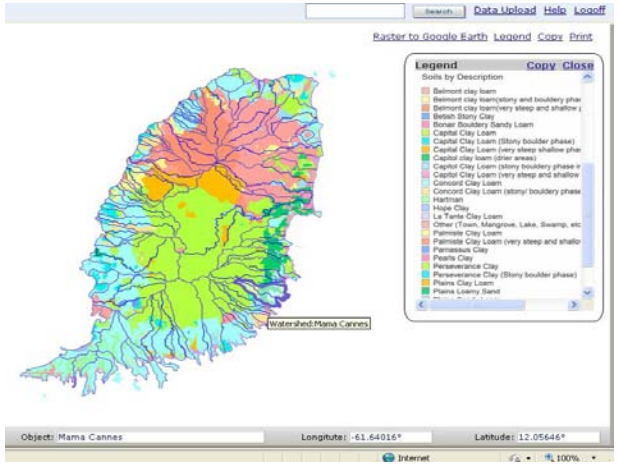
CARIWIN and CAMI

1. decision-support tools
2. professional development
3. partnerships
4. research
5. Dissemination of knowledge and information

Decision Support Tools

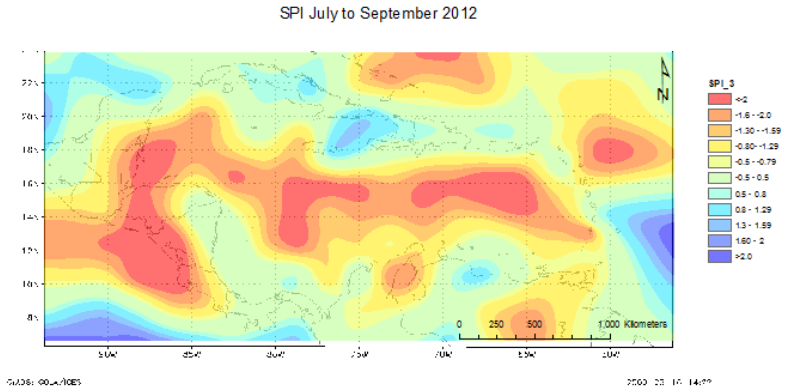
National Water Information Systems

1. centralized database for a country's water-related information
2. hydrologic, climate, land, watershed, infrastructure, water-related
3. technical, socio-economic, legal, environmental, and institutional
4. currently in 5 countries



Caribbean Drought and Precipitation Monitoring Network

1. 1,3,6,12 month SPI and Deciles for Caribbean basin rainfall Monitoring
2. Drought Alert service since 2009
3. National monitors in development in collaboration with the CARICOM/Brazil Cooperation on Disaster Risk Reduction – includes hydrological and agricultural drought



Professional Development

- Increasing the knowledge base of CIMH and other regional and national partner institutions/agencies and local and farming communities through …
- Graduate level certificates in water management
- short courses and seminars at, or facilitated or supported by internationally recognised cutting edge training and research institutions for regional and national institutions
- forums and other training sessions for farmers and indigenous communities.
- Of major importance in these initiatives is the training of trainers such that the capacity building exercises can be sustained post-project.

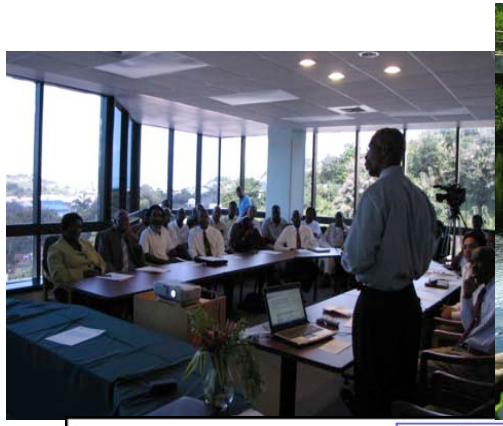
Professional development
Human Resources and Technical Capacity Building

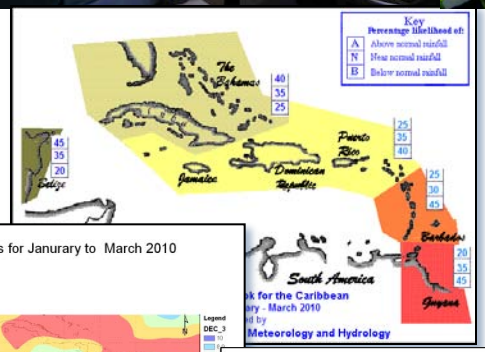
exposure to latest advancements and developments

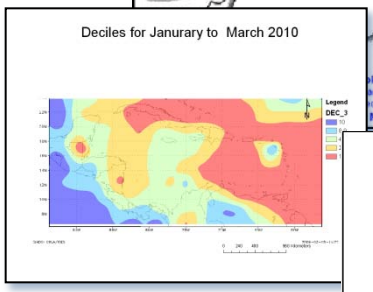
consensus-building for development of decision-support tools

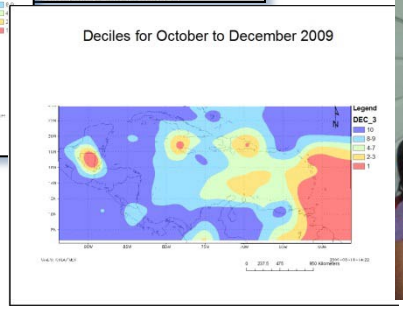
Use and interpretation of existing and new products for decision making at different scales

networking/partnership building – learning together and sharing experiences







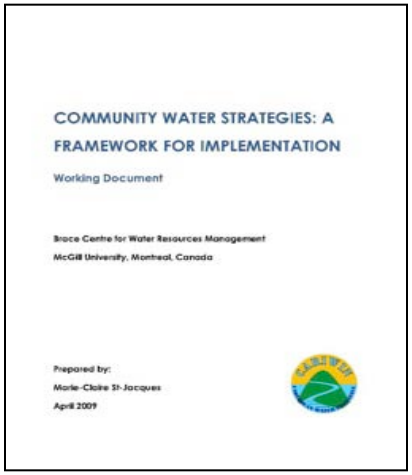


Partnerships

- Small Island Developing States and small mainland economies
- strategic partnerships become critical for sustainable development
- network of international development agencies, regional and national institutions, community groups (indegenous and farming)
- pooling of technical, financial and human resources small economies and states were impact far greater than with individual efforts

Partnership - Community Involvement Indigenous and Rural Farming

- synthesize key components of IWRM at the community level into manageable process
- 4 phase process: assessment, planning, implementation, monitoring
- CARIWIN Regional Seminar, January 2010, Guyana


COMMUNITY WATER STRATEGIES: A FRAMEWORK FOR IMPLEMENTATION

Working Document

Bruce Centre for Water Resources Management
McGill University, Montreal, Canada

Prepared by:
Marie-Claire St-Jacques
April 2009

- Through forums discussed the interpretation of and use of weather and climate information for on-farm decision making. Also illustrated the use of irrigation models given weather and climate forecasts
- Illustrated the use of crop simulation models in making comparisons of irrigation needs now vs future due to CC – long term planning
- Brought farmers into a dialouge and collabaorative process with meteorologist/climatologist
- Tri-partite committees formed that includes includes farmers to sustain and expand the gains made from CAMI post project

Research

Drought indices and indicators; prediction

Household water supply for local and indegenous…

adoption of biosand filter, ceramic candle filter, and chlorosol

scaling-up domestic rain water harvesting

Climate trends

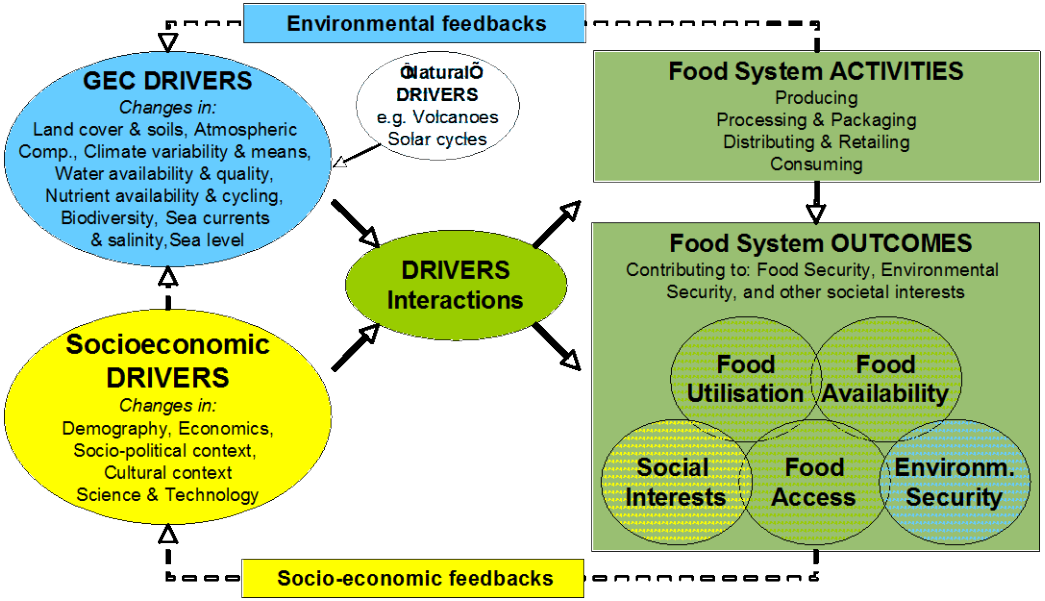
5 MSc degrees and 1 PhD

Knowledge Dissemination and Public Outreach and Awareness

- online dissemination of experience and learning with respect to IWRM, and climate related issues related to water management;
- availability and explanation of Early Warning Climate information;
- and the development of a DVD to be distributed to television stations, Government Information Services Units, other government departments, farming organisation on the importance and potential impacts of weather and climate information for policy and on-farm decision-making and planning
- farmers monthly bulletins, documentary for television

With Respect to Food Security Nationally and Regionally Requires Comprehensive/Integrated Approach

- Such Frameworks already exists
- FAO, GECAFS…



Thank you