

# From Strategic Plan to Implementation

By

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Strategic Plan for  
Agricultural Meteorology  
in the Caribbean  
2007-2012

# Recommended Activity

- [irrigation estimates](#) through water balance calculation
- information on weather related natural disasters, particularly [floods](#), excessive temperature, strong winds. Such information through advisories will be issued in language/format that agriculturists can understand
- timing of farming activity (e.g. [sowing](#))
- the development of [drought](#) indices and drought risk assessment parameters
- implications of regular [3 to 5 day forecasts](#) to agriculture
- more relevant [seasonal rainfall outlook](#) for agriculture.
- indication of [when certain thresholds are met](#) e.g. crop temperature threshold, wind speed thresholds for spraying, temperature threshold for heat stress in animals.
- Weekly/dekadal [weather bulletin](#) and summaries catering to agriculture.
- [Climatological trends](#) – traditional farmer knowledge would not work in a changed environment

# Achievements after five years (2012)

- Trained personnel in met services and some agro institutions
- Developed dialogue and collaborative links between institutions
- Develop links with national/regional projects with agrometeorological implications
- Network of persons within the collaborative/dialogue forum...
- ...Development of CarAgMet
- Improved data bases and data collection
- Pilot farms/cooperatives/research sites for use of agro information...
- ...Proof of concept which includes...
- Cost benefit (and social implications)

# TOWARDS IMPLEMENTATION

## Accomplishing the Objectives

- Caribbean Agrometeorological Initiative
- Caribbean Drought and Precipitation Monitoring Network
- Caribbean Agrometeorological Network

# The Caribbean Agrometeorological Initiative (CAMI)

# CAMI

- Funded by the European Union's ACP Science and Technology Programme
- Partnership between CIMH (Applicant), WMO, CARDI, Ten Meteorological Services

# Ten National Meteorological Services

- Guyana
- Trinidad and Tobago
- Grenada
- St. Vincent and the Grenadines
- Barbados
- St. Lucia
- Dominica
- Antigua and Barbuda
- Jamaica
- Belize



The overarching objective of the Action is 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.

# Birth of the Concept

- WMO/FAO Seminar on the Application of Climate Data for Desertification Control, Drought Preparedness and Management of Sustainable Agriculture in the Caribbean Region held at the Antigua and Barbuda International Institute of Technology in 2004
- Agrometeorological services needed in different countries were identified and prioritized

# Agrometeorological Services recommended and their priority ranking for different Caribbean countries

Country	Type of service recommended					
	1	2	3	4	5	6
Trinidad	3	5	6	2	1	4
Belize	4	5	6	3	1	2
St Vincent	5	1	6	2	4	3
St Lucia	3	6	5	2	4	1
Dominica	2	5	6	1	4	3
Grenada	6	5	4	2	3	1
Jamaica	4	2	6	5	3	1
Guyana	1	4	6	3	2	5
Antigua	5	6	4	2	3	1
Average	3.6	4.3	5.4	2.4	3.0	2.4

1) Seasonal to inter-annual climate forecasts; 2) When and how much water to apply;  
 3) Forecasting crop pest and disease incidence; 4) User-friendly weather and climate information;  
 5) Research studies; 6) Improved awareness of the economic value of agrometeorological information

# Specific Activities of the Action

- Development of predictors of the rainy season potential characteristics through analysis of long-term climatic data and use of seasonal to inter-annual climate prediction models
- Interpretation of the climate predictor and near-real time weather information to support management decisions, especially irrigation scheduling
- Working with the agricultural research and extension agencies in developing an effective pest and disease forecasting system

# Specific Activities of the Action

- Preparation and wide diffusion of a user-friendly weather and climate information newsletter for the farming community
- Organization of regular forums with the farming community and agricultural extension agencies to promote a better understanding of the applications of weather and climate information
- Building capacity of the Meteorological and Agricultural Services and research institutions

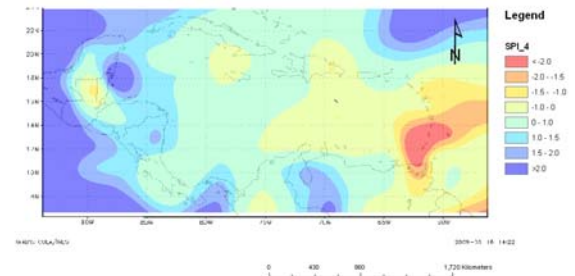
# Data Rescue



# Issues and Solutions

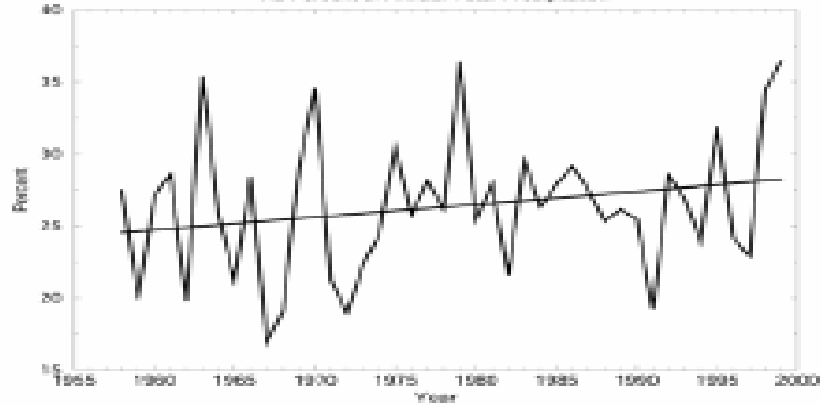


SPI for October 2009 to January 2010

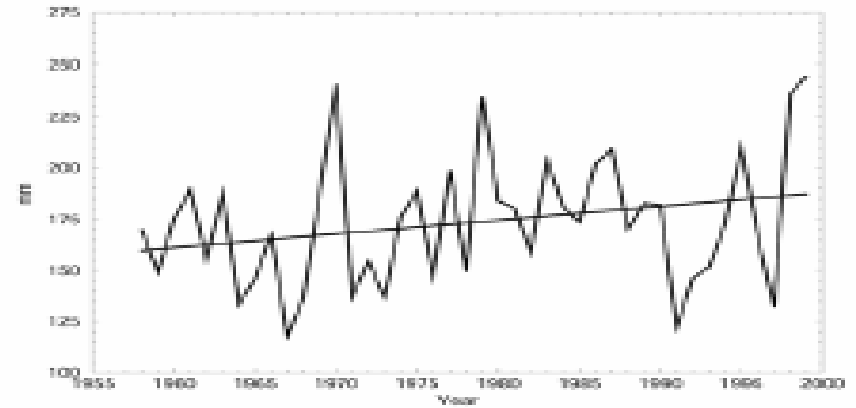


# Pattern of precipitation events since 1950

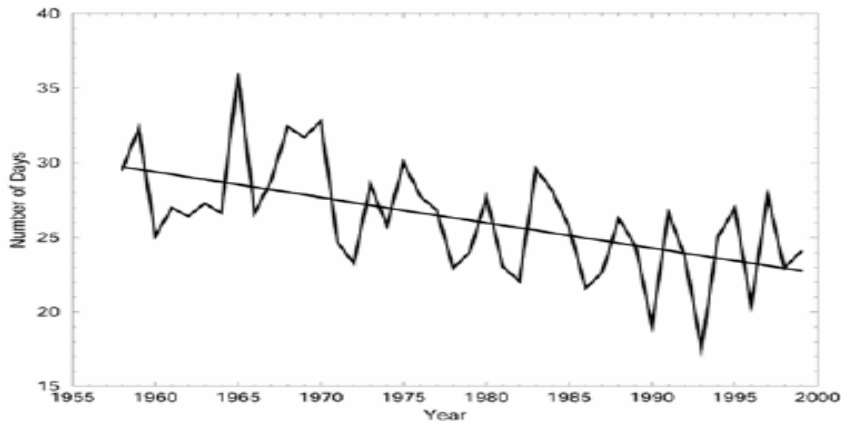
Precipitation due to Events Above the 95th Percentile  
As Percent of Annual Total Precipitation



Greatest 5-day Rainfall Total

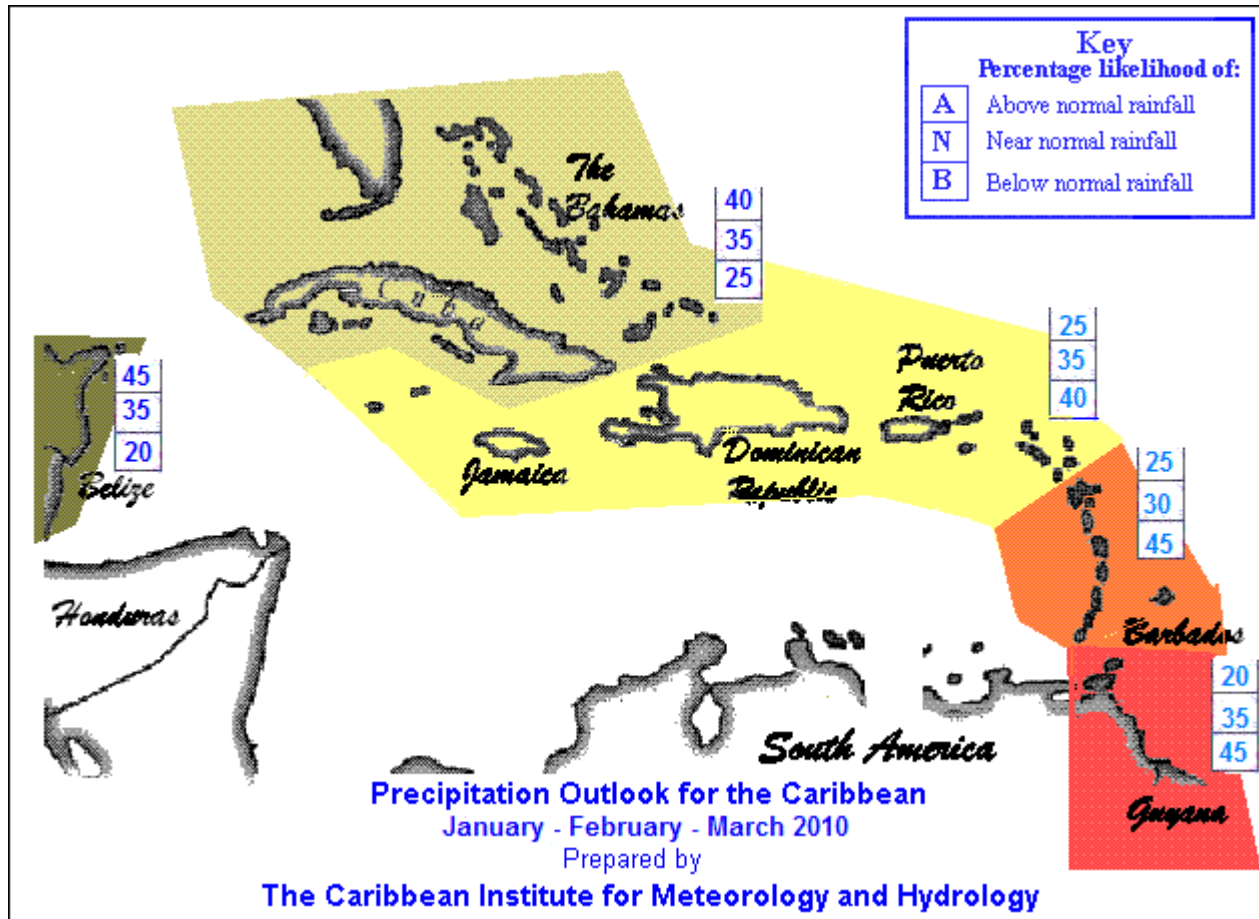


Maximum Number of Consecutive Dry Days



The maximum number of consecutive dry days is decreasing and the number of heavy rainfall events is increasing





# Cost of Action

- The total cost of the Action is estimated at **1,112,714.40 EURO**
- The Contracting Authority undertakes to finance a maximum of **720,388.20 EURO**, equivalent to **64.74%** of the estimated total eligible cost of the action

# Technical Approaches

- Training workshops for National Met Service and Agricultural Extension Service Personnel
- Attachments to the region of experts on (i) DSS for pest management (ii) Crop-weather models and Irrigation Models
- Attachment of CIMH and CARDI staff at international research institutes (mainly to finish/improve upon work begun at regional training workshop
- Publication and Dissemination of Agromet Bulletins and other forms of weather and climatic information for farming and wider agricultural communities

# Expected Results

- Improved ability of policy makers and extension agencies in exploiting the rainy season potential fully through strategic decisions and better preparedness strategies in case of a high probability for the occurrence of extreme events.
- Better informed farming community regarding the climate situation before and during the crop growing season.
- Improved capabilities in the farming community to make strategic and tactical decisions for soil and crop management and more efficient irrigation scheduling, especially for sugarcane, bananas and vegetable crops.
- Conservation-effective soil and crop management practices to reduce land degradation and improved long-term crop productivity.

# Expected Results

- Greater farm incomes for small farmers through more effective pest and disease management.
- Improved crop quality due to reduced incidence of pests and diseases.
- Enhanced environmental benefits through reduction in the use of insecticides and pesticides.
- Enhanced incomes at the farm level for the small farmer through better applications of weather and climate information in soil and crop management.

# Expected Results

- Enhanced linkages between meteorological services and agricultural research and extension agencies.
- Enhanced capacity of the farming community to understand and apply weather and climate information in their operational decisions.
- Enhanced capacity of Meteorological and Agricultural Services, CARDI and CIMH to perform the tasks relevant to the goals of this action.
- Increased interactions between the meteorological services, agricultural extension agencies and the farming community resulting in the provision of better services to farmers.
- Availability of regular feedback to the meteorological services on the nature of services and products needed by the farmers resulting in the preparation of user-friendly products from the meteorological services.