Why data?
Climate Monitoring, Sectoral Applications and More…

Part 2

Adrian R. Trotman

Chief, Applied Meteorology and Climatology

Caribbean Institute for Meteorology and Hydrology

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.

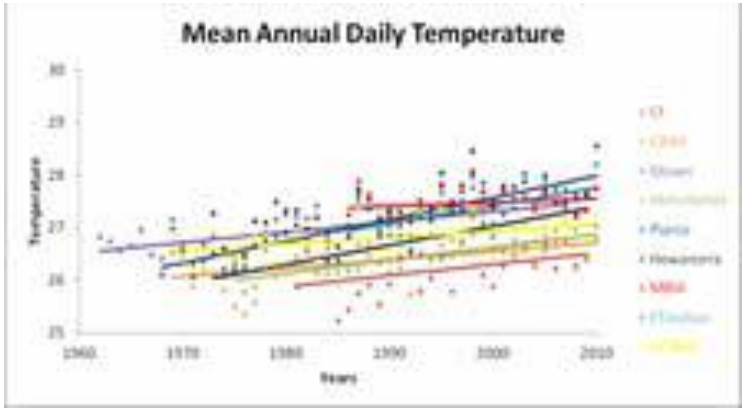
Specific Activities of the Action

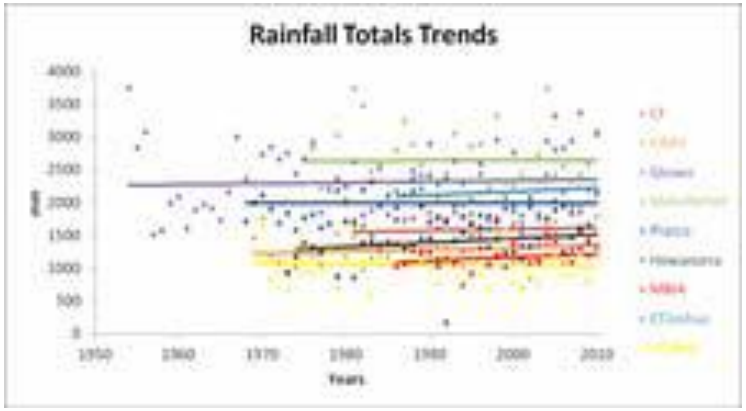
- Rainy season prediction and interpretation through analysis of long-term climatic data and use of seasonal to inter-annual climate prediction models
- Use of rainy season prediction and near-real time weather information to support management decisions such as especially irrigation scheduling
- Working with the agricultural research and extension agencies in developing an effective pest and disease forecasting system

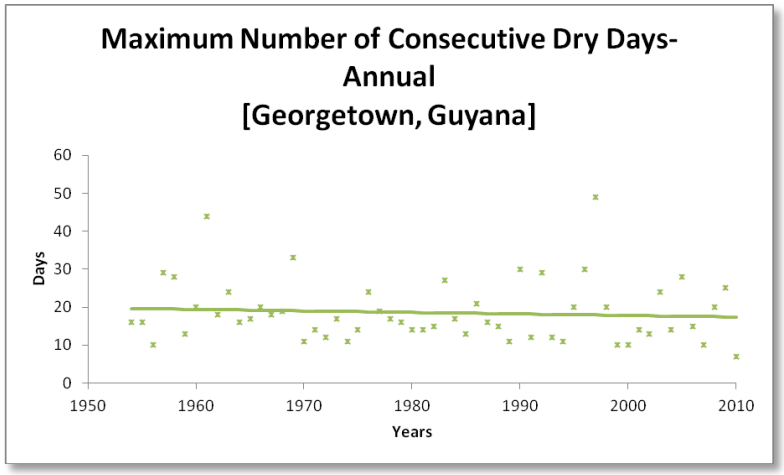
Specific Activities of the Action (Continued)

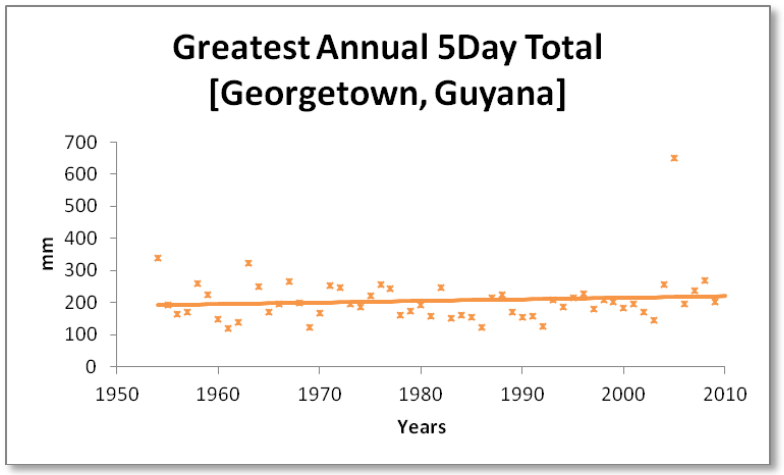
- Preparation and wide diffusion of a user-friendly weather and climate information newsletter for the farming community
- Organization of regular forums with the farming community and agricultural extension agencies to promote a better understanding of the applications of weather and climate information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

Analysis of Trends





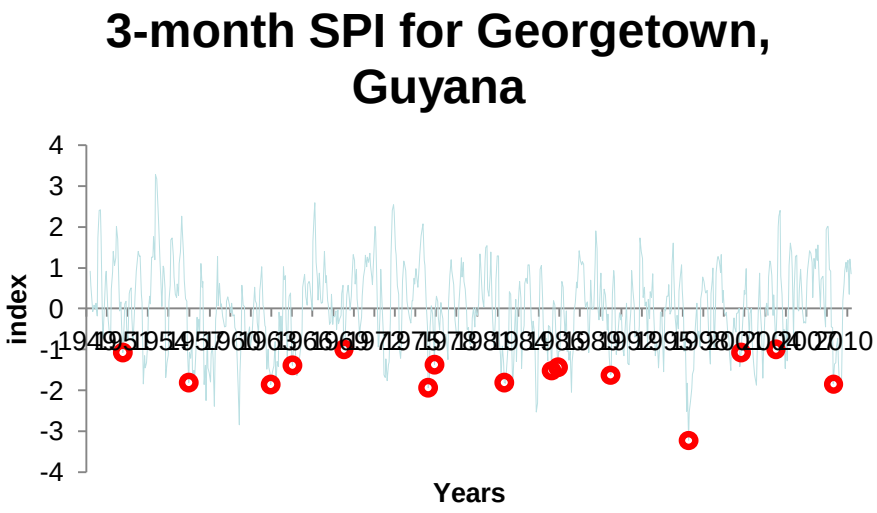




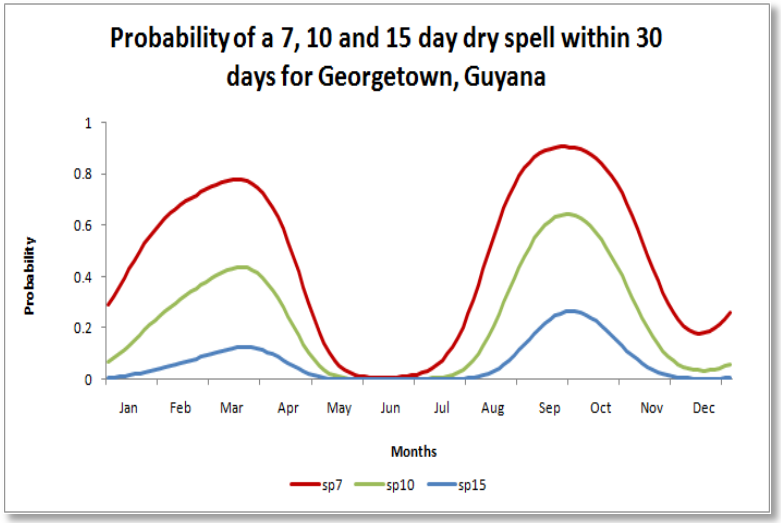
Temperature trends

Annual	Max Temperature			Min Temperature			Mean Temperature		
	Slope	**Constant**	**p-value**	**Slope**	**Constant**	**p-value**	**Slope**	**Constant**	**p-value**
CIMH	0.00795	14.16	0.054	0.0251	-27.1	*<.001*	0.01647	-6.39	<0.001
GAIA	0.02872	-27.03	*<.001*	0.0198	-15.64	<.001	0.02426	-21.33	*<0.001*
GTown	0.0283	-26.24	*<0.001*	0.00995	4.33	0.005	0.01238	1.2	*0.025*
Canefield	0.02702	-23.1	*0.002*	0.02702	-23.1	*0.002*	0.01646	-5.8	*0.037*
Piarco	0.04264	-53.35	*<.001*	0.03986	-56.48	*<.001*	0.04128	-54.98	*<0.001*
St Augustine	0.03072	-29.75	*<.001*	0.04016	-58.02	*<.001*	0.03552	-44.05	*<0.001*
Hewanorra	0.02759	-24.8	*<.001*	0.025	-25.6	*<.001*	0.02637	-25.18	*<0.001*
MBIA	0.01936	-8.2	0.035	-0.00346	31.4	0.685	0.00828	10.9	0.276
ET Joshua	0.034	-37	*0.834*	0.034	-43.4	*0.002*	0.034	-40	*0.679*
VC Bird	0.0164	-2.9	*0.003*	0.0075	8.98	*0.069*	0.01192	3.08	*0.004*
Worthy Park	0.02321	-16.8	*<.001*	-0.018	53.7	*0.142*	0.00144	20.8	*0.86*

Drought and Dry Spells



Red circles indicate El Niño years



Georgetown SPI with NAO and SOI (3mth)			
Month	**NAO [tpr]**	**SOI [tpr]**	**Fpr**
January	0.499	<0.001	<0.001
February	0.103	<0.001	<0.001
March	0.354	0.002	0.003
April	0.19	0.066	0.048
May	0.318	0.385	0.476
June	0.45	0.438	0.623
July	0.453	0.251	0.422
August	0.244	0.009	0.008
	2	0.009	0.027
	6	<0.001	<0.001
	8	0.002	0.002
	7	<0.001	<0.001

Rainfall Return Levels					
Return Period	**Annual**	**January**	**April**	**July**	**October**
2	96.6	42.1	38.07	48.56	31.22
5	119.6	68.1	61.28	63.59	50.57
10	135.6	88.0	76.18	72.47	64.06
20	151.5	109.3	90.15	80.25	77.53
50	173.1	140.7	107.75	89.37	95.78
100	189.9	167.3	120.60	95.57	110.08

Data Rescue

Data Rescue

- Using photographic imagery and data entry by 2 clerks at CIMH
- Some electronic data also collected
- Rescue conducted in Year 1 and Year 2 of CAMI
- During Year 2 a larger rescue proposal was approved by CBD (approx US 292,000.00)

CDB Project

More than just data rescue

- In collaboration with National Meteorological Services, climatic data across CMO member territories not currently housed at CIMH, whether on paper or in electronic format will be located.
- data on paper will be digitally photographed and images transferred to CIMH printed and keyed in by data entry clerks.
- Already existing digital data not currently housed at CIMH will be copied and transferred to CIMH.
- An ultra modern system for data capture and archiving system will be developed which will provide easy access to and dissemination of data.
- With the development of the database system, data already existing in CIMH databases as well as the rescued data will be added after quality control checks.
- The National Meteorological Services in each country be provided with copies of their relevant data bases (also acts as back-up)
- Future sustainability - developing a self financing mechanism, which will be agreed upon by CIMH and national data collection agencies.
- developing common procedures and policies for data management, sharing and disseminationwithin