INSURANCE RISK ASSESSMENT IN THE CARIBBEAN

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The purpose of this talk is provoke discussion. I am not an expert on this topic but I am interested in it as it is very important for the Caribbean.

HYPOTHESIS

- Nothing happens in our world unless it can be insured!

THE EXAMPLE OF MONTSERRAT

- Since volcanic activity started in 1995, it has been extremely difficult for property/businesses to obtain insurance cover for losses incurred because of volcanic activity.
- Borrowing from banks is inhibited and economic growth is slowed.

INSURANCE AND RE-INSURANCE

- Insurance companies are backed by just a few re-insurance companies
- These are multi-billion dollar companies
- Examples are:
  - Munich Re
  - Swiss Re
  - American Re

MY EXPERIENCE WITH RE-INSURANCE (1)

- 1995: Gave presentation at Munich Re in Munich
- Large team of environmental specialists (Gerhard Berz)
- Billions of dollars in losses at stake
- Must assess as accurately as possible the risk

MY EXPERIENCE WITH RE-INSURANCE (2)

- 2005: Visit from Swiss Re in Puerto Rico
- I was the State Climatologist for PR
- Half insurance risk for Caribbean in PR
- Knowledge basic, data sparse
- Hence cannot assess risk accurately
- Swiss Re errs on the side of caution

THIS IS A COMMON PROBLEM FOR THE CARIBBEAN. HOW DO WE ADDRESS IT?

- Create a Caribbean-wide institute
- Difficult because of political nature of the Caribbean
- Maybe get help from international bodies and re-insurance companies

THERE ARE MODELS

- Bermuda – BBS and Bermuda Re (?)
- Florida – International Hurricane Research Center, Florida International University

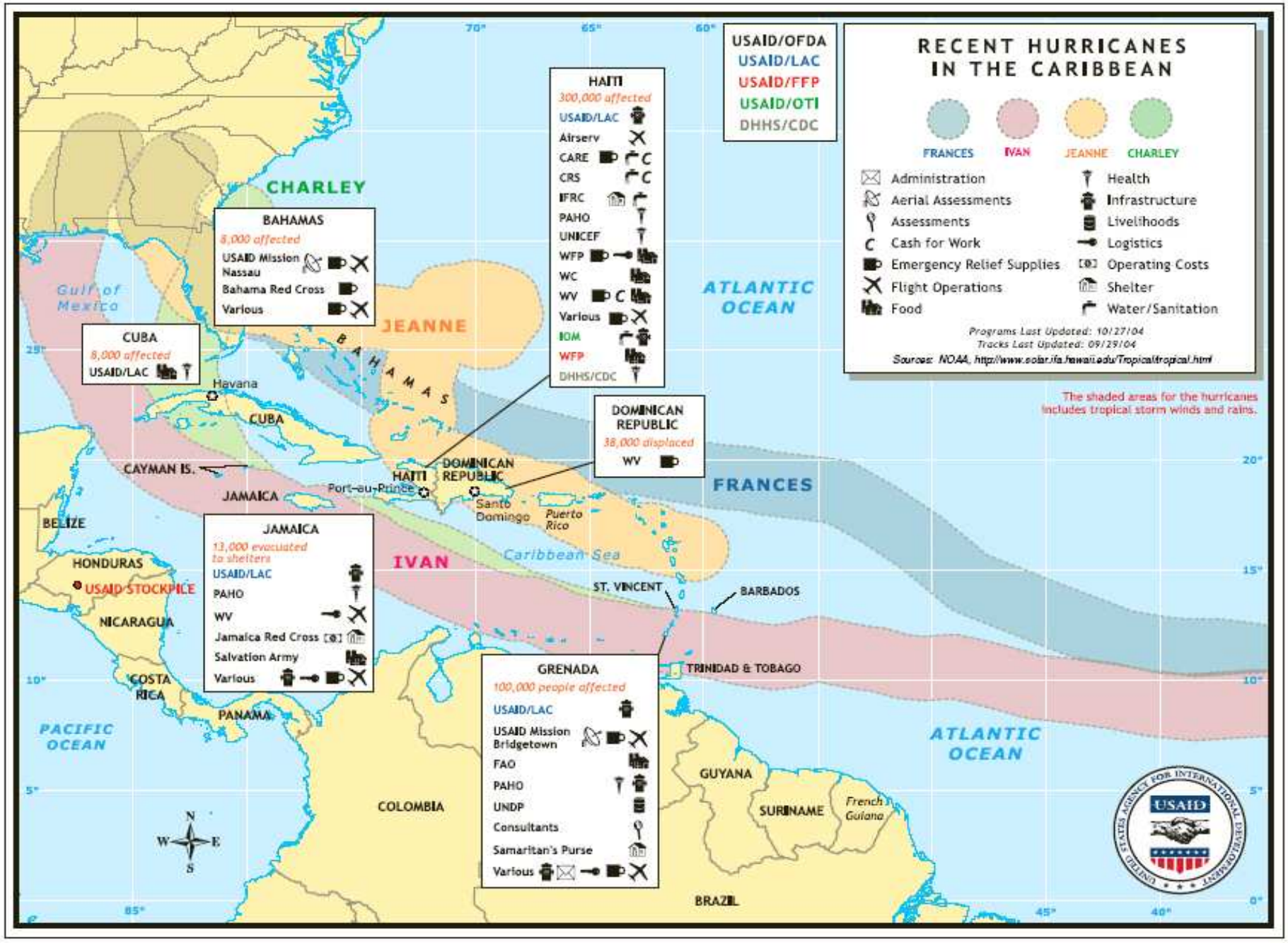
HURRICANES & INSURANCE

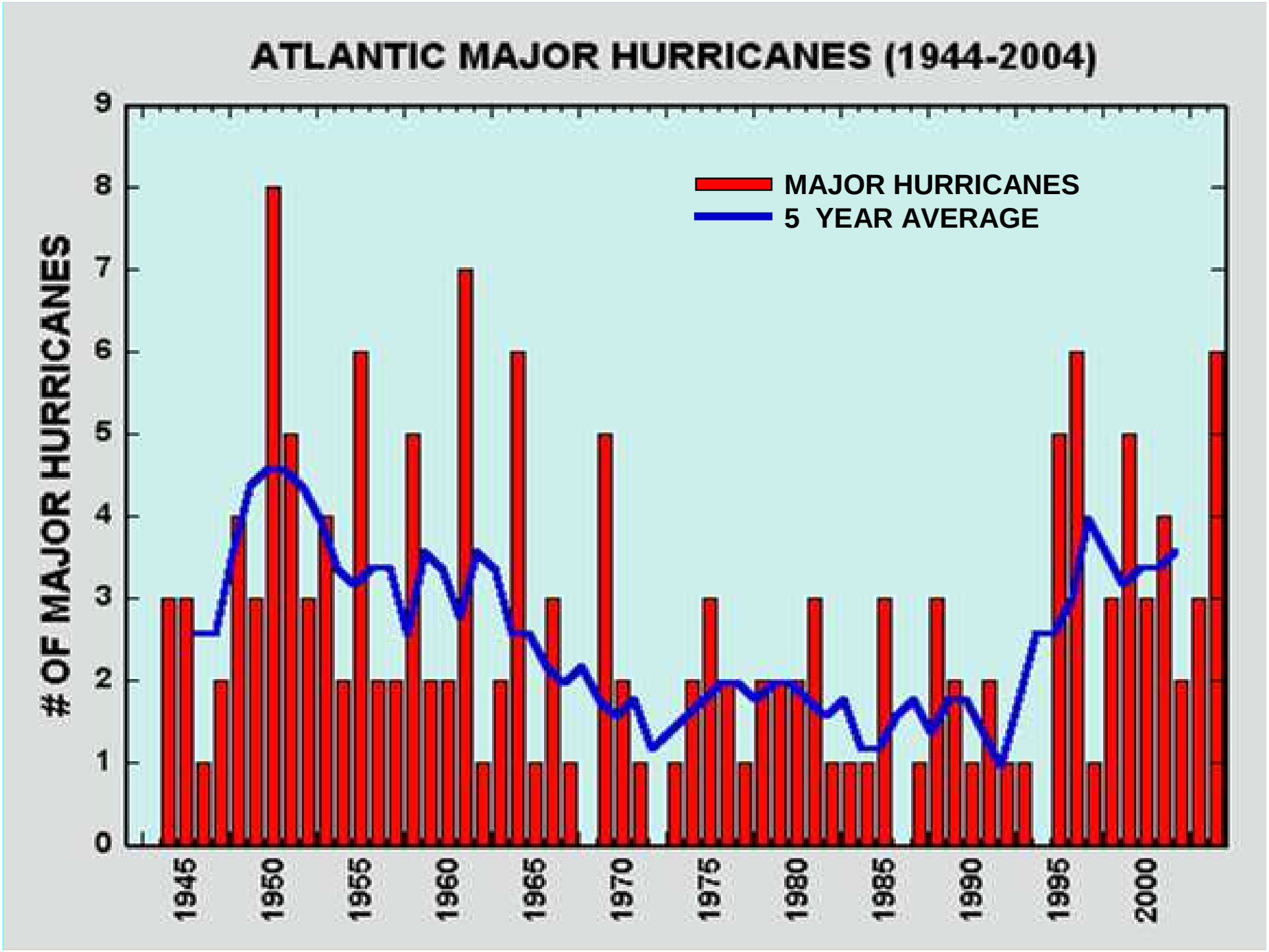
Stephen P. Leatherman, Director

International

Hurricane Research Center

Florida International University


USAID/OFDA
USAID/LAC
USAID/FFP
USAID/OTI
DHHS/CDC
RECENT HURRICANES IN THE CARIBBEAN
FRANCES
IVAN
JEANNE
CHARLEY
Administration
Aerial Assessments
Assessments
Cash for Work
Emergency Relief Supplies
Flight Operations
Food
Health
Infrastructure
Livelihoods
Logistics
Operating Costs
Shelter
Water/Sanitation
Programs Last Updated: 10/27/04
Tracks Last Updated: 09/29/04
Source: NOAA, http://www.solar.ifa.hawaii.edu/Tropical/tropical.html
The shaded areas for the hurricanes includes tropical storm winds and rains.
HAITI
300,000 affected
USAID/LAC
Airserv
CARE
CRS
IFRC
PAHO
UNICEF
WFP
WC
WV
Various
IOM
WFP
DHHS/CDC
BAHAMAS
8,000 affected
USAID Mission Nassau
Bahama Red Cross
Various
CUBA
8,000 affected
USAID/LAC
DOMINICAN REPUBLIC
38,000 displaced
WV
JAMAICA
13,000 evacuated to shelters
USAID/LAC
PAHO
WV
Jamaica Red Cross
Salvation Army
Various
GRENADA
100,000 people affected
USAID/LAC
USAID Mission Bridgetown
FAO
PAHO
UNDP
Consultants
Samaritan's Purse
Various
CHARLEY
JEANNE
IVAN
FRANCES
ATLANTIC OCEAN
Gulf of Mexico
Caribbean Sea
PACIFIC OCEAN
ATLANTIC OCEAN
BAHAMAS
CUBA
Havana
CAYMAN IS.
JAMAICA
HAITI
Port-au-Prince
DOMINICAN REPUBLIC
Santo Domingo
Puerto Rico
BELIZE
HONDURAS
USAID STOCKPILE
NICARAGUA
COSTA RICA
PANAMA
COLOMBIA
ST. VINCENT
BARBADOS
TRINIDAD & TOBAGO
GUYANA
SURINAME
French Guiana
BRAZIL
70°
65°
60°
25°
20°
15°
10°
5°
0°
85°
45°
40°
N
W
E
S
USAID
UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT


ATLANTIC MAJOR HURRICANES (1944-2004)
OF MAJOR HURRICANES
MAJOR HURRICANES
5 YEAR AVERAGE
0
1
2
3
4
5
6
7
8
9
1945
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000

Hurricane Loss Projection Model

- The goal of the model is to assess hurricane risk, and to project annual expected insured residential losses in Florida.
- These losses can be estimated for both individual property and for entire portfolios of residential properties, and by zip code or construction type.
- The model can also project insured losses for user defined scenarios and historical events.
- Funded by the FL Dept of Financial Services/ Office of Insurance Regulation

The model can be used to:

- Provide assistance in the residential rate making process. Make Cat models affordable for smaller firms.
- Provide a state of the art transparent wind hazard, vulnerability and insured loss models.
- Provide a check on the assumptions, analysis and results generated by the proprietary models.
- Help evaluate reinsurance risk for, e.g., the Florida CAT Fund.
- Assess the efficacy of disaster mitigation strategies.

Table 2. Normalized Hurricane Losses from Selected Central American and Caribbean Hurricanes since 1960

Hurricane/date	Country affected	Reported damage	Damage normalized to 1998 U.S. dollars[a]
Mitch/October 1998	Honduras Nicaragua El Salvador Guatemala	$5–7 billion	$5–7 billion
Georges/September–October 1998	St Kitts and Nevis	$800 million	$800 million
	U.S.V.I.	$100 million	$100 million
	Puerto Rico	$3.5 billion	$3.5 billion
	Dom Rep	$2 billion	$2 billion
Marilyn/September 1995	U.S.V.I.	$3 billion	$3.1 billion
Luis/August–September 1995	St. Maartin St. Martin Antigua Barbuda	$2.5 billion	$2.7 billion
Hugo/September 1989	Puerto Rico	$1 billion	$1.5 billion
Joan/October 1988	Nicaragua	$2 billion	$3.3 billion
	Costa Rica Colombia Venezuela Panama	($1 billion Nicaragua)	($1.5 billion Nicaragua)[b]
Allen/August 1980	St. Lucia	$235 million	$617 million
Claudette/July 1979	Puerto Rico	$750,000	$2 million
David/August–September 1979	Dominican Republic	$1 billion	$4 billion
Kendra/October–November 1978	Puerto Rico	$6 million	$17 million
Eloise/September 1975	Puerto Rico	$125 million	$458 million
Carmen/August–September 1974	Puerto Rico	$2 million	$8 million
Francelia/September 1969	Guatemala	$4.7 million	$71 million
Hattie/October 1961	Belize	$60 million	$1 billion
Abby/July 1960	Belize	$600,000	$11 million

HYPOTHESIS

With more accurate, up-to-date, and more re-insurance friendly data, economic investment conditions will improve because risk will be assessed more accurately.

DISCUSSION