



INTER-AMERICAN INSTITUTE FOR GLOBAL CHANGE RESEARCH (IAI)

Developments in research activities relevant to the
Convention needs

Gaps in IAI research under its Collaborative Research Network (CRN II) as identified in document FCCC/SBSTA/2006/INF.2:

- Climate Change and Variability
- Integrated Assessment of climate variability, its impacts and scenarios of climate risks applied to health, agriculture, fisheries, water, tourism & energy
- Climate change effects on glaciers and water resources
- Use of general circulation models on a regional scale
- Vulnerability of coastal zones to climate change



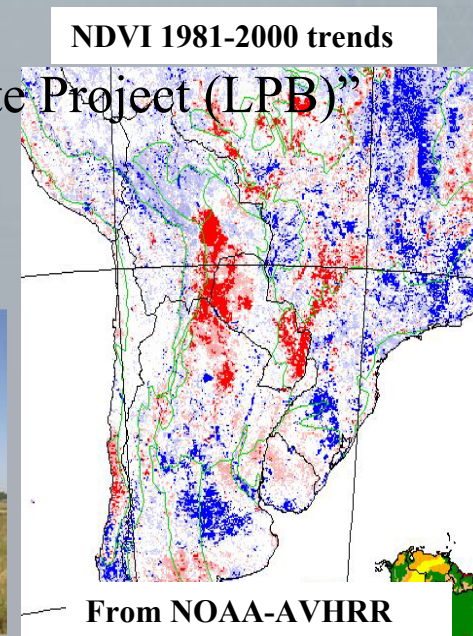
Addressing the gaps

- Inclusion of climate change into the CRN II portfolio by addition of a project on hydro-climate in the La Plata Basin
- IAI La Plata Basin integrated assessment funded by the Canadian International Development Research Centre (IDRC)
- CRN II project on 'Paleotempestology' responds to IPCC WG I identified gap on hurricane frequency and intensity
- Coastal Zones – IAI-LOICZ workshop in Costa Rica, CRN II project 'Caribbean Coastal Scenarios'
- Collaboration between natural and social sciences, between science and policy sectors and across departmental and ministerial divisions (IAI, SCOPE, UNESCO). - A capacity building project

CRN II project LUCC & Hydroclimate

“The Impact of Land Use and Cover Changes on the Hydroclimate in the La Plata Basin” (*Apr. 2008 – Jun. 2011; ARG, BRA, USA*)

- Main objectives:
 - Develop 25 year (1980-2005) datasets from a Land Data Assimilation System
 - Assess the impact of LCLU changes on the hydroclimate and regional hydrology of the La Plata Basin incl. the intensity and length of extreme events (floods droughts)
- Closely linked to the La Plata Basin Regional Hydroclimate Project (LPB)” under CLIVAR, GEWEX (WCRP)





IAI La Plata Basin Initiative

“Land Use Change, Biofuels and Rural Development in the La Plata Basin”,
IDRC funded, Mar. 2008 – Sep. 2010 (ARG, BRA, URU, PAR, BOL)

- Understand the interactions of *natural and human* components in agro-ecosystems in the La Plata Basin with the goal to provide guidance to actors and decision makers on the processes of land use and rural development

- Strong stakeholder involvement in project planning (AACREA, APRESID, IPNI ...)

Document & analyse LUC over the past 25 years in the context of regional climate variations



Analyse the social & economic drivers and impacts of this LUC



Socio-economic analyses of rural development and markets for industrial crops and biofuels



Synthesis, identify connections climate – LU - development patterns; forecast trends in cooperation with and for use of land users and decision makers; gap analysis for future needs

Closely Linked to Hydro-climate project

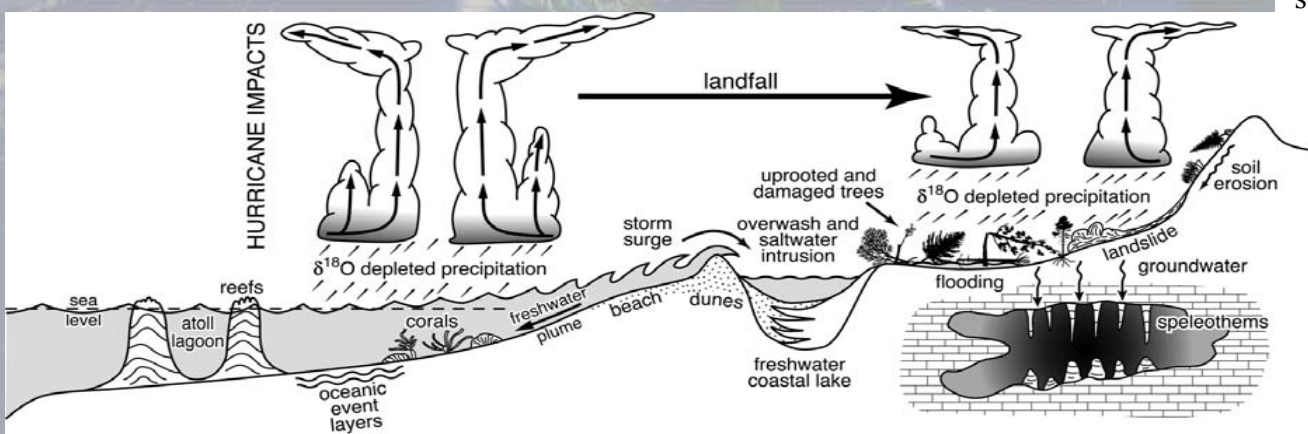


Paleotempestology Research

Past variability of Caribbean hurricanes (~ Jun. 2011)

Responds to IPCC WG I identified gap “... information on hurricane frequency and intensity is limited prior to the satellite era ..”

- Will extend the empirical record of hurricane activity to past centuries & millennia using multiple proxies, i.e., oxygen isotope ($\delta^{18}\text{O}$)-based records from coral skeletons, limestone caves and tree rings
- Is expected to provide insights into climate mechanisms controlling Caribbean hurricane activity - vital for hurricane risk assessment, vulnerability reduction, disaster management policy for the region



sediments



corals



speleothems



Carlsbad Caverns National Park.

documents



tree rings



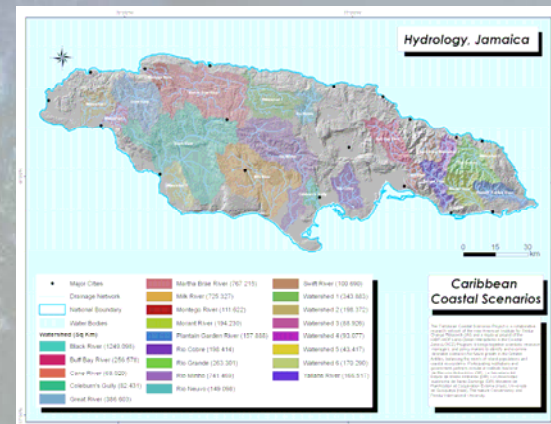
Coastal Activities

- Project on ‘Caribbean Coastal Scenarios’

Improve the understanding of relationships between island-scale development and coastal ecosystems (freshwater & pollution inputs) and supporting national/regional dialogues on the consequences of current and plausible future development and management activities

- IAI-LOICZ Regional WS on Governance for Latin American & Caribbean Practitioners (*Guayaquil, Ecuador, 27.11.07 – 02.12.07*)

Governance of coastal ecosystems, LOICZ priority topic 3 = linking governance and science in coastal regions



IAI emphasis over past years, integral part of IAI CRN II Talks with UNESCO and SCOPE on a pilot (*capacity building*) project for scientists and decisions makers to jointly develop mechanisms for the resolution of environmental challenges and opportunities

SCOPE

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Communicating Global Change Science to Society

An Assessment
and Case Studies

EDITED BY Holm Tiessen
Mike Brklacich
Gerhard Breulmann,
and Rômulo S.C. Menezes

