CPACC, World Bank, OAS, CIDA, GCSI Technical Meeting
Caribbean Observations in a Global Context
Barbados February 29 – March 2, 2001

Notes from the
Coral Reef Monitoring Special Meeting
March 2, 2001

Present were:

Mike Risk	- McMaster University – Chairperson
Gregor Hodgson	- ReefCheck
Walter Vergara	- World Bank
Shahiba Ali	- GIS Specialist, UWI. Trinidad
George Needler	- Bedford Institute of Oceanography
George Warner	- Center for Marine, UWI, Jamaica
Loreto Duffy-Mayers	- Barbados Marine Trust
Clement Lewsey	- NOAA
Serwan Baban	- UWI, Trinidad
Wayne Hunte	- UWI, Barbados
Luc St Pierre	- UNEP
Leslie Walling	- CPACC
Marcia Creary	- CPACC

Meeting Objectives:

(i) To define the minimum suite of coral reef ecosystem parameters that must be monitored to be able to assess the impacts of climate change on coral reef health.

(ii) Strategies for sustaining coral reef monitoring activities at the national and regional scales.

Indicators of Coral Reef Health and Climate Change Impact.

It was agreed that the meeting would not involve itself in discussions on the relative merits of different monitoring methods, or the level of effort required to collect and process data under various methods. The meeting was advised that methods had been extensively reviewed, compared, shown to work well and produce the same basic information.

It was noted that the issues of methodology and effort were not independent of each other. However, it was suggested that if the minimum number of indicators needed to assess climate change impacts to, and the health of, coral reefs, were identified, a method could be designed that would allow confidence in the trends that were revealed.

In response to the question "**What do we need to measure coral health?"** it was suggested that **relative change in coral cover over time** should be considered. The **baseline** would be established once the first set of data is collected.

(i) Turf algae was considered to be the best fast indicator as it responds to nutrients, and herbivores, and has a negative correlation to coral cover.
(ii) Encrusting corals
(iii) Fleshy algae
(iv) Corals

(v) Fish. It was noted that there was a difficulty in linking fish to climate change. It was agreed that Leslie Walling and Professor Hunte would review and select indicator fish species after the meeting.
(vi) Sponges, as indicators of sewage pollution.
(vii) Chlorophyll obtained by remote sensing
(viii) Frequency of incidents of coral bleaching, possibly using Hot Spots imagery informing and being supported by ground checks.
(ix) D*iadema*
(x) An indicator of bio-erosion

It was strongly suggested that coral reef growth should not be used as an indicator of reef health. It was also pointed out that coral diversity was not a useful measurement as a decline in **species numbers** and **species abundance** declined simultaneously there will be no change in diversity. It was suggested that it was better to monitor and report both parameters individually.

A two-tired monitoring system was recommended. Monitoring at specific sites would not necessarily capture bleaching events, where as the every day usage seen in the scuba diving industry would.

Geo-referenced archival video data was considered essential to map recovery.
The meeting recommended that the video monitoring method being used in the CPACC Project be continued with the addition of selected bio-indicators.

The representatives from UNEP and Reef Check expressed interest in collaborating with the CPACC project in its regional coral reef monitoring initiative.
Prof. Hunte expressed a willingness to assist in designing and implementing the monitoring approach for the Eastern Caribbean.

Sustaining Coral Reef Monitoring Activities

Government buy-in and support was consider to be critical to ensure sustainable coral reef monitoring at the national and regional levels in support of climate change adaptation at the national and regional levels.

It was noted that personal commitment and enthusiasm was an essential ingredient in Caribbean success stories in coastal resource management and coral reef monitoring.

The meeting was advised that sustainability in Barbados is as result of an enlightened coastal zone manager, Leonard Nurse, who convinced the government of the importance of monitoring and put it into the routine budget allocation. This was supplemented by the physical presences of the UWI and the marine research lab – all these contributed to developing infrastructure and capacity.

Success in sustaining the regional coral reef monitoring network under the CARICOMP project was attributed to people and their varying enthusiasm.

The vehicle for climate change adoption is integrated Coastal Resource Management (ICZM). Government support will be required to institutionalize and maintain this vehicle of which coral reef monitoring will be one component.

A distinction was made between policy and implementation. Government buy-in for policy was considered to be important, however it was suggested that governments face constraints to implementation. It was at the point of constraint that it was felt that enlightened individuals became critical to the successful implementation.

It was agreed that sustained coral reef monitoring on a regional basis would require the development of partnerships between the various regional, governmental, and non-governmental organizations with mandates and or interests in sustainable coastal resource management and coral reef monitoring.

It was recognized that it would not be reasonable to expect full institutional capacity for coral reef monitoring and data analysis to reside in each state participating in the CPACC Project and its successor project, IMPACC. It was envisaged that that core technical expertise to serve sub-regional needs would reside, as it now does, at the Centre for Marine Sciences on the UWI Campus in Jamaica, and as a future possibility, at the Coastal Zone Management Unit (Government of Barbados) and the CERMES Centre at the Cave Hill Campus of the UWI in Barbados.