The Background for Regional GOOS and IOOS

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Background for Regional Efforts in GOOS and IOOS

GOOS

• 1988: Jim Baker led an ad hoc group to define a GOOS
• 1989-1992: endorsed by IOC, WMO, IPCC, UNCED
• 1993: Regional scale concept introduced
• 1994-2002: EuroGOOS, NEAR-GOOS, IOCARIIBE-GOOS
• 2003: first IOCARIIBE-GOOS meeting
• 2004-2006: IOCARIIBE-GOOS represented at GOOS Regional Forum meetings
• Now 12 (13) GOOS Regional Alliances
Implementing Coastal GOOS

1st GOOS Regional Forum, Athens, 2-6 December, 2002
2nd GOOS Regional Forum, Nadi, Fiji, 7-9 February 2004
3rd GOOS Regional Forum, Cape Town, 14-17 November 2006
Background for Regional Efforts in GOOS and IOOS

**IOOS**

- 1990-1993: U.S. GOOS initiation
- 1997: NOPP established by law, center of activity
- 1999: Nowlin-Malone, and Frosch reports; IOOS
- 2002: Airlie House consensus meeting
- 2003: NFRA formed; first regional summit
- 2005: Implementation Plan based on eleven regions
11 Groups Funded to Establish Regional Associations (RAs)
Why Eleven RA’s?

• Nowlin-Malone and Frosch writing teams discussed various governance options to match one Federal government to possibly hundreds of small but interrelated observing systems
• Regionalization allowed $O(10)$ [not 1, not 100] consortia to “impedance match” the few Federal agencies to the many local needs and groups
• Also, eight LME’s already in place; plus Great Lakes
• Nine original strawmen, now stabilized at Eleven
GOOS: A global component, and 12 (13) regional alliances

IOOS: a global component, and 11 regional associations
- IOOS (= U.S. GOOS) is the U.S. contribution to GOOS
- CaRA is the Regional Association of IOOS for CarICOOS, covering the U.S. EEZ in the Caribbean

- CarICOOS is the U.S. contribution to IOCARIBE-GOOS (29 Member States and its territories comprising Antigua & Barbuda, Bahamas, Barbados, Belize, Brazil, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, France, Grenade, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, the Netherlands, Nicaragua, Panama, St. Kitts & Nevis, St. Lucia, St. Vincent & the Grenadines, Suriname, Trinidad & Tobago, United Kingdom, United States of America and Venezuela) (Steering Committee)
Role of CaRA in IOOS

• Cover the U.S. EEZ for PR, USVI
  – National Backbone scale (coarse, fiducial sites)
  – Intensive scale (specific local needs, research)

• Interface to other Caribbean partners to cover IOCARIIBE-GOOS

• Other?
Coastal Backbone
Core Variables

• **Geophysical**
  - Sea surface meteorological variables
  - Land–Sea Stream flows
  - Sea level
  - Surface waves, currents
  - Ice distribution
  - Temperature, Salinity
  - Bathymetry

• **Chemical**
  - pCO$_2$
  - Dissolved inorganic nutrients
  - Contaminants
  - Dissolved oxygen

• **Biological**
  - Fish species, abundance
  - Zooplankton species, abundance
  - Phytoplankton species, biomass (ocean color)
  - Waterborne pathogens

• **Biophysical**
  - Optical properties
  - Benthic habitats
Regional COOSs

- Regional Associations Responsible
- **Involve private & public sectors**
- Inform Federal Agencies of user needs
- Enhance the backbone based on user needs
- Incorporate sub-regional systems

National Backbone

- Federal Agencies Responsible
- EEZ & Great Lakes
- Core variables required by regions & Federal Agencies
- Network of sentinel & reference stations
- Standards/Protocols
Example of *In Situ* Elements of the NB with Regional Enhancements

**IOOS Elements**

- COOL: 7
- NJ CMN: 5
- Marthas Vineyard: 8
- NERR: 9
- GOMOOS: 6
- NDBC: 1
- COE Waves: 2
- NWLON: 3
- USGS Stream: 4

**Regional Enhancements**

- NERA
- MACOORA