CLIVAR/GOOS Indian Ocean Panel

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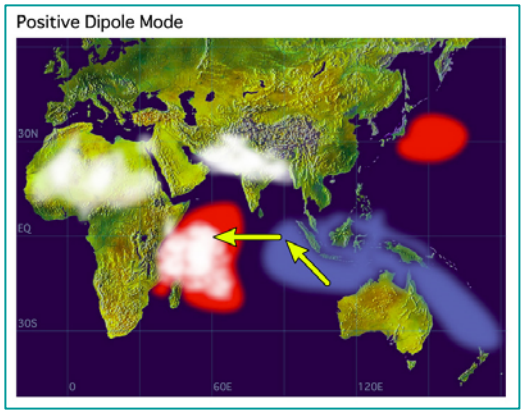
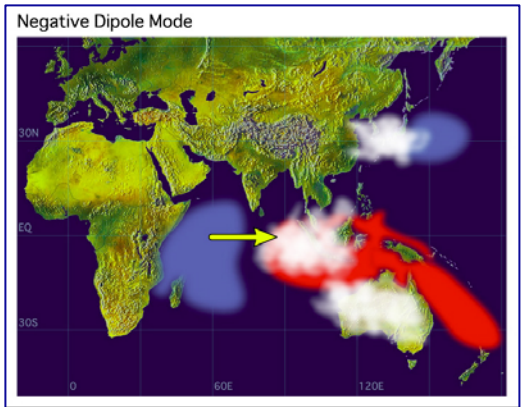
Yukio Masumoto

- IOP mostly focuses on Indian Ocean Observing System (IndOOS) implementation and data dissemination
- Outputs from IndOOS facilitates many climate-related researches

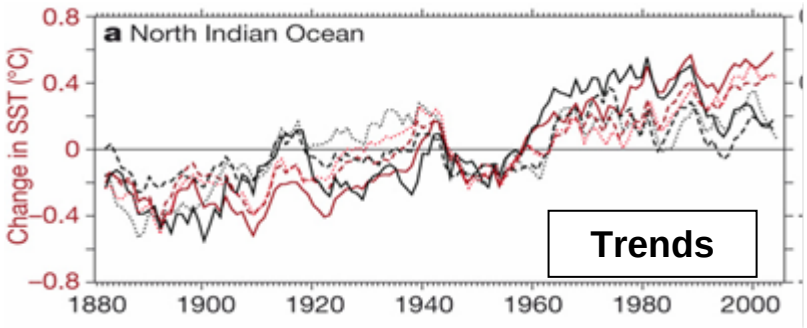
Indian Ocean Science Drivers

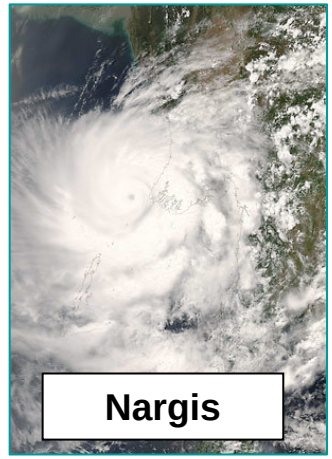


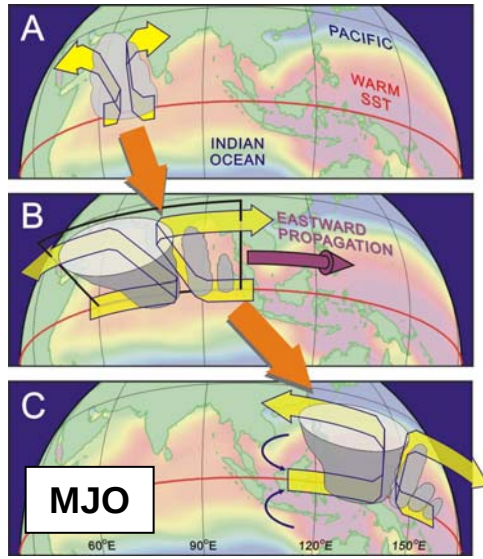


Indian Ocean Dipole

- Seasonal monsoons
- Severe weather events & cyclones
- Intraseasonal (30-60 day) variations, Madden Julian Oscillation
- Interannual variations: the Indian Ocean Dipole, Influence of ENSO
- Decadal variability and warming trends
- Ocean circulations & biogeochemistry

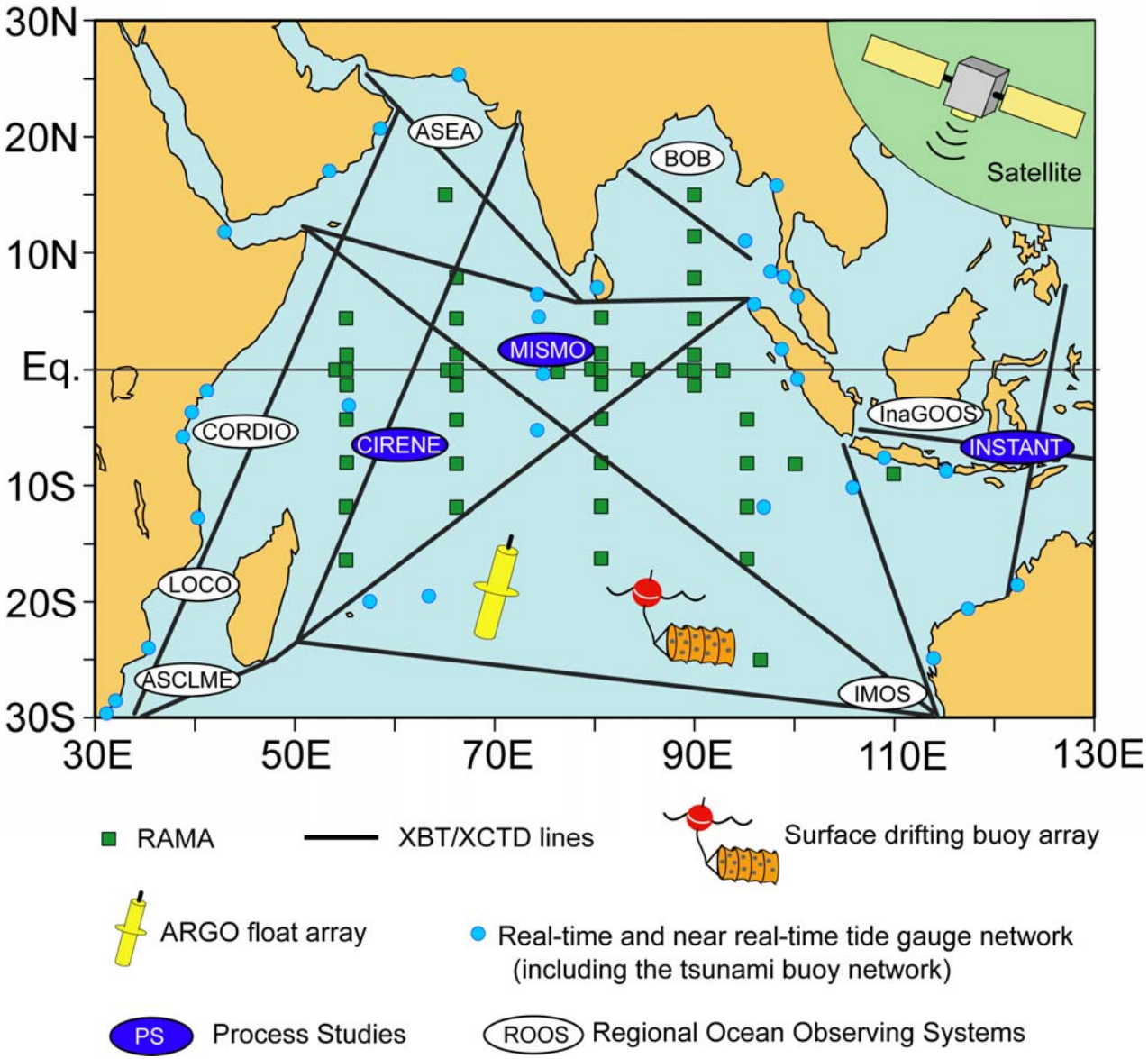






Indian Ocean is the most poorly sampled region of the tropics

Indian Ocean Observing System (IndOOS)



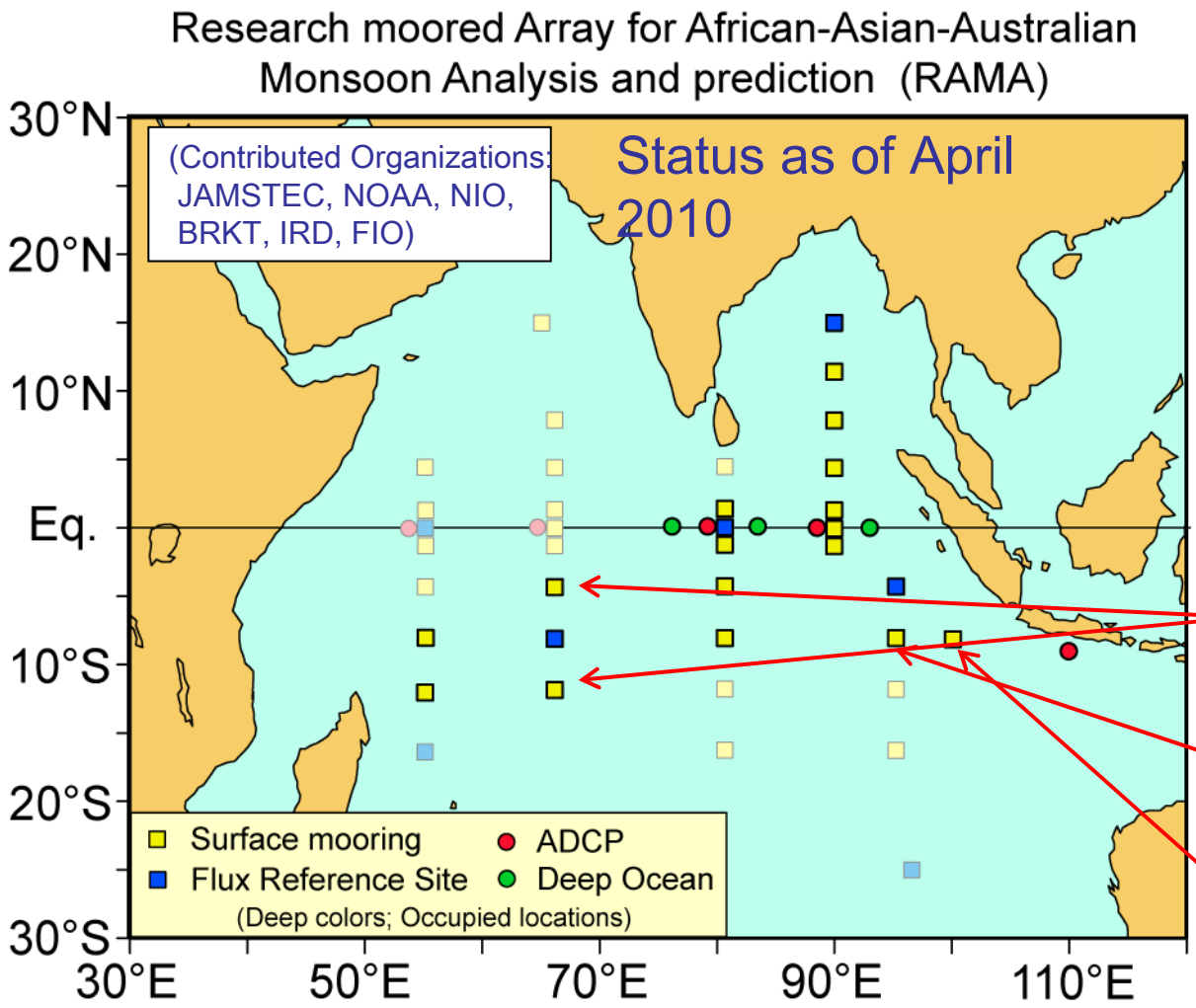
Multi-platform

Long-term

Observation

Network

Mooring Array: Present Status



- 56% complete

  (26 out of 46 Sites;

  4 Flux Reference Sites)

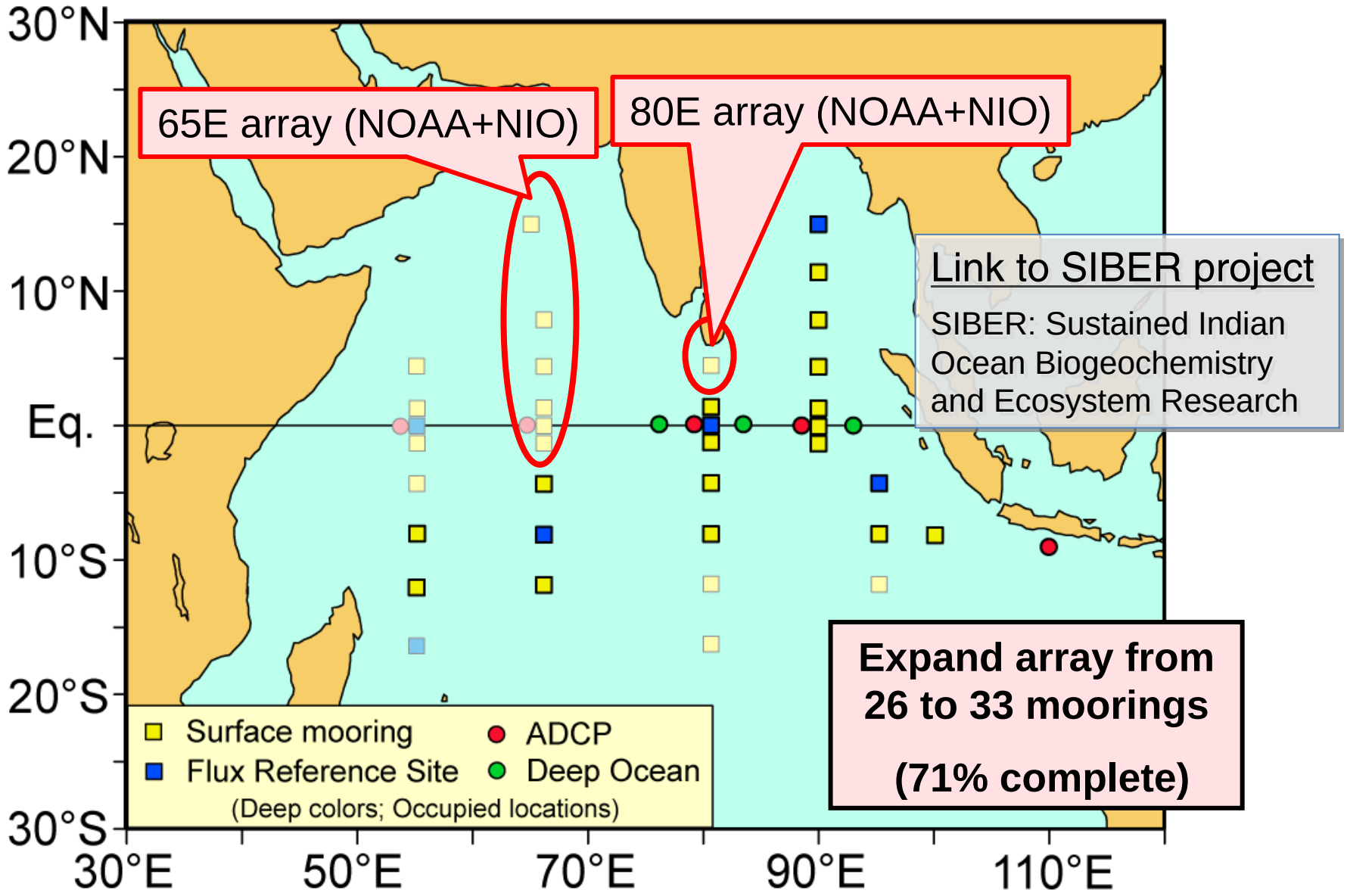
- Recent deployments

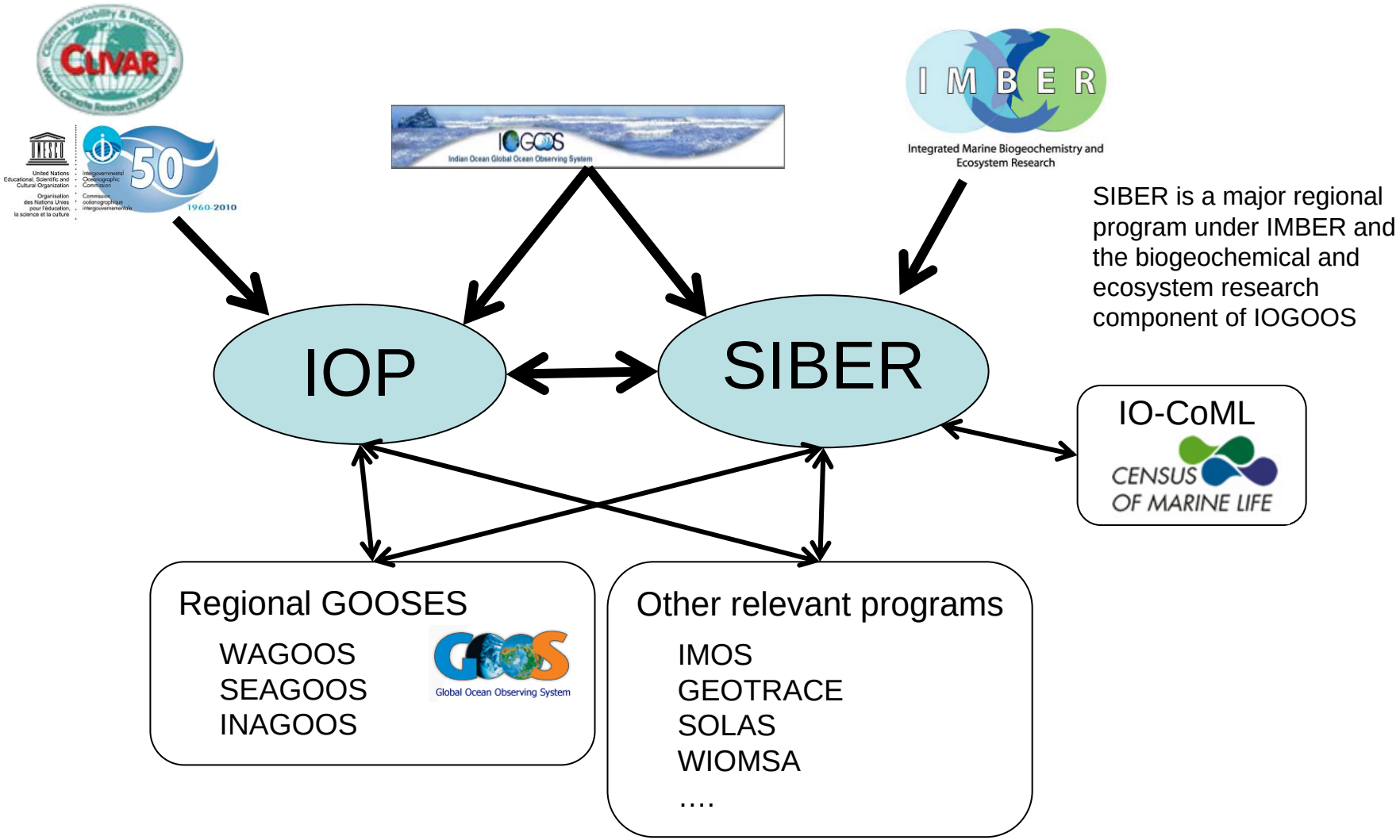
  ATLAS: 4°S, 12°S at 65°E (NOAA+NIO)

  m-TRITON: 8°S, 95°E (JAMSTEC)

  ATLAS: 8°S, 100°E (FOI+BRKT)

Mooring Array：Plan for 2010





IOP-SIBER collaboration promotes links among CLIVAR, IMBER, and GOOS

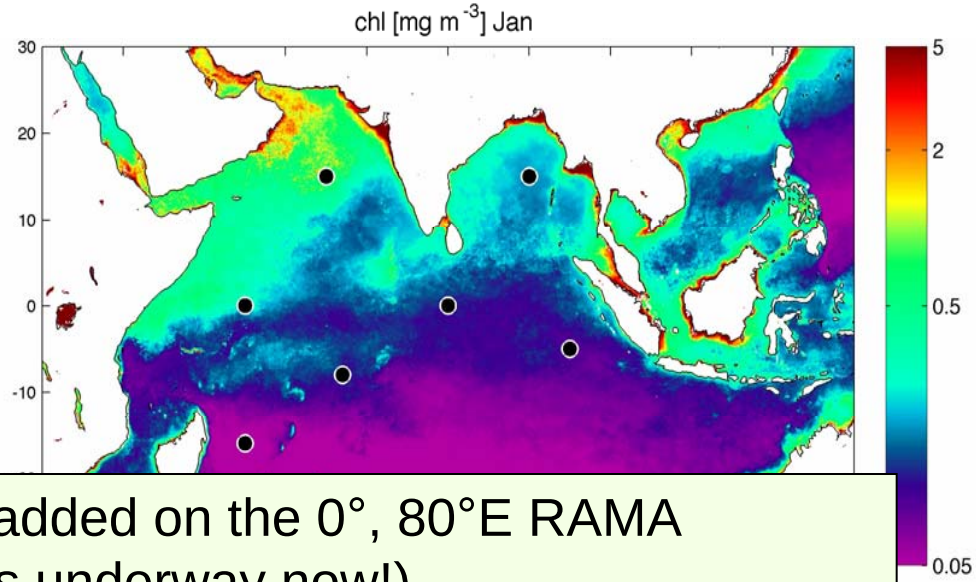
Planned Biogeochemical Measurements:

A SIBER-RAMA Initiative

Objectives:

- Provide data for defining biogeochemical variability in key regions of the Indian Ocean and for understanding the physical, biological and chemical processes that govern it

Monthly Seawifs Chl-a Concentrations

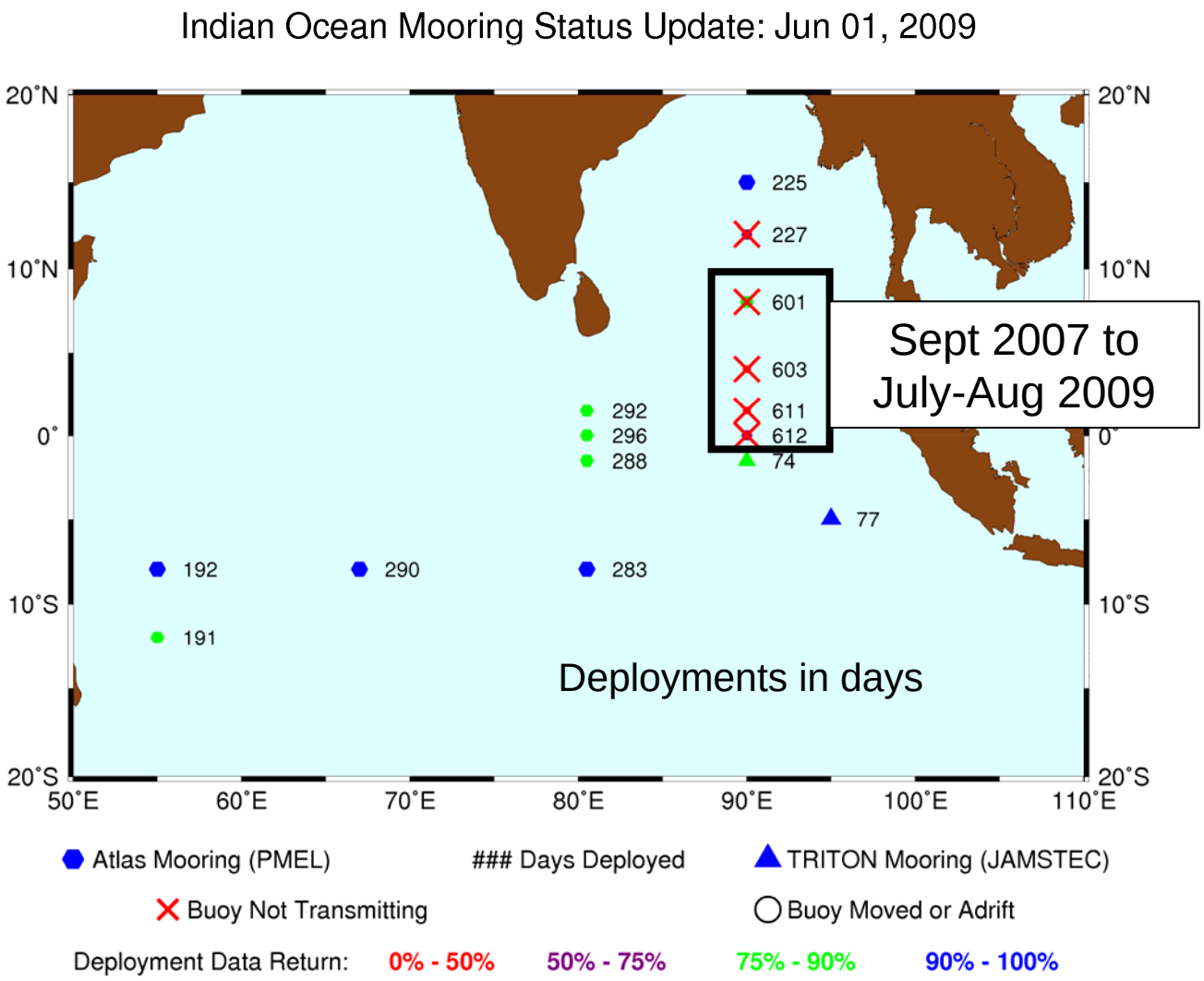


(1) A fluorometer will be added on the 0°, 80°E RAMA mooring (The cruise is underway now!)

(2) A proposal to NASA was submitted to fund bio-optical sensors on RAMA moorings at 15°N, 90°E; 0°, 80°E; and 8°S, 67°E for three years beginning in 2011

(3) PMEL, JAMSTEC, and FOI are planning to attach CO2 sensors to some buoys

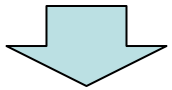
RAMA Mooring Deployment Status



IndOOS Resources Forum (IRF)

Background

- IndOOS has been implemented using bilateral corporations.
- IndOOS is being enhanced to include chemical and biological measurements
- Resources management has been an issue to implement/sustain the observing system.



- Establishment of the IRF under IOGOOS and its ToR were agreed at IOGOOS-6 (Hyderabad, 2008).
- The first IRF meeting will be held in Perth in July 16, 2010.

Objective of the IRF

- Facilitate and coordinate provisions for the the resources required for IndOOS implementation,
- Promote contributions from institutions in the participating countries,
- Consider at first ship-time and mooring equipments for RAMA, in particular in the western Indian Ocean.

- Other resources required:
  - Argo floats in remote regions
  - Biogeochemical sensors on RAMA and Argo
  - Ship of opportunity XBT network
  - Surface drifters
  - …

Initial members of the IRF

- IRF members will be high-level representatives of institutions in their respective countries that have a stake in the development of IndOOS.

  - Tim Moltmann (IMOS, Australia)
  - David Vousden (ASCLME)
  - Shanqing Lin (SOA, China)
  - Patrick Monfrey (INSU, France)
  - Shailesh Nayak (MoES, India)
  - Ridwan Djamaluddin (BPPT, Indonesia)
  - Wendy Watson-Wright (IOC)
  - Shiro Imawaki (JAMSTEC, Japan)
  - Chester Koblinsky (NOAA, USA)
  - (Director, South African Weather Service)

  Membership from other agencies will be addressed in the future.

Future plans and issues

- Keep the momentum for the implementation of IndOOS, especially RAMA
- Enhance links to other panels and working groups in CLIVAR

  (PP, AAMP, VACCS, WGSIP, MJO-WG, …) and outside CLIVAR (SIBER, RGOOS, RCOFs,…)

- IOP identified Dr. Charles Magori as a new member to enhance connections to the African east-coast countries and asks for the SSG's approval.
- There are several members whose term was expired in 2009. IOP will consider member rotations at the next IOP meeting in July.

  AAMP and VACS links will be considered.