Indian Ocean Cruise Plan in China

Yan DU,

DongXiao WANG in the South China Sea Institute of Oceanology/CAS, & Weidong YU in the First Institute of Oceanography/SOA

Outlines

Previous Investigations

- 1.1 Moorings off Sumatra and Java by FIO/SOA
- 1.2 Eastern Indian Ocean cruise during 2010 by SCSIO/CAS

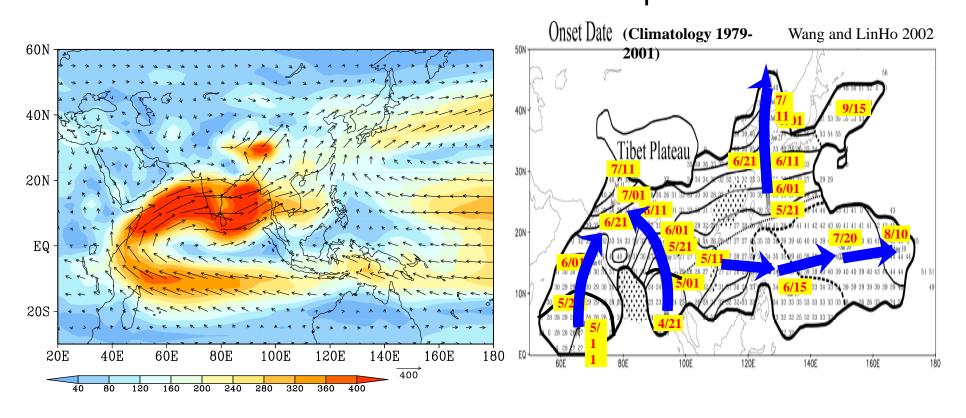
Cruise Plan in Year 2011

- 2.1 Eastern Indian Ocean cruise by SCSIO/CAS
 - 2.2 MOMSEI cruise by FIO/SOA-AMFRD





Motivation: Summer Monsoon circulation and it impact on the China

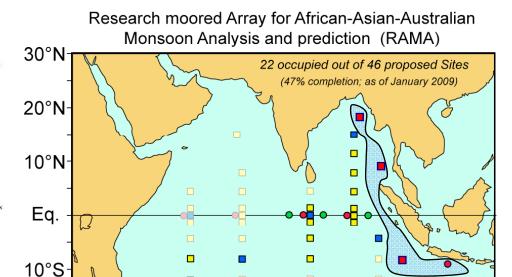


Water vapor transport

Monsoon onset

METEORO LOGICAL PACKAGE: -Sonic Winds (Gill) -Precipitation -Short Wave Radiation -Long Wave Radiation -Relative Humidity -Ba rometric Pressure -2 x 10-watt solar panel -Iridium Antennas (2) ARGOSPTT RADAR REFLECTOR ISTROBE for DEDIG VIOLE BUOY WELL: - Electronics - Iridium Modems (x2) - Power (batteries) - Stem Ballast FIO - CHINA 5/8" SAS 5/8" SAS 5-Ton MILLER SWIVEL 5/8" SAS 0.5MCHAIN ICC JUMPER (in conduit) 1 1/8 x 6" RING 3/4" SAS 0.5M 1/2 CHAIN 1" SAS DVS 1" SAS 3/4" SAS DVS 0.5" 1/2 " CHAIN 5/8" SAS 5-Ton Miller Swivel 4 GLASS BALLS-2M 1/2"CHAIN CT-37 3/4" SAS 4M 1/2" CHAIN GLASS BALLS-2M 1/2 CHAIN CT-37 1M3/4" CHAIN 1M 3/4" CHAIN DVS CT-37 4 GLASS BALLS 2M 1/2" CHAIN DOUBLE STACK ANCHOR T-39 Surface Instruments 4 GLASS BALLS 2M 1/2" CHAIN INSTRUMENTS: T-39 SHORT WAVE LONG WINE RELATIVE HUMIDT 4 GLASS BALLS 2M 1/2" CHAIN BAROMETRIC PRES Subsurface Instruments DEPTH (m) INSTRUMENT CT-37 4 GLASS BALLS 2M 1/2" CHAIN DVS-CT-37 GT-37 3/4" SL 5/8" SAS 4 GLASS BALLS 2M 1/2" CHAIN TD-39 5/8" SAS 0.5M 1/2" CHAIN RDSea & Associates, Inc. 104 32nd Ave St. Pete Bch., FL 33706 727.385.3834 MOORING First institute of Oceanography State Oceanographic Administration China 15M 7/16" TB WIRE ROPE DRAWN BY: DATE: VERSION #1: 4/28/08

1.1 Moorings off Sumatra and Java by FIO/SOA



ADCP

70°E

110°E

90°E

■ Flux Reference Site ■ Deep Ocean (Deep colors; Occupied locations)

50°E

Surface mooring

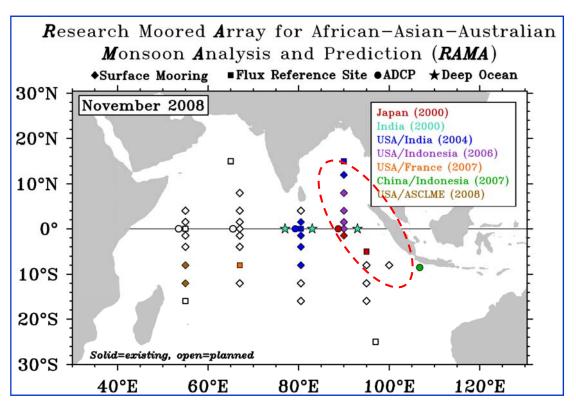
20°S

30°S

30°E



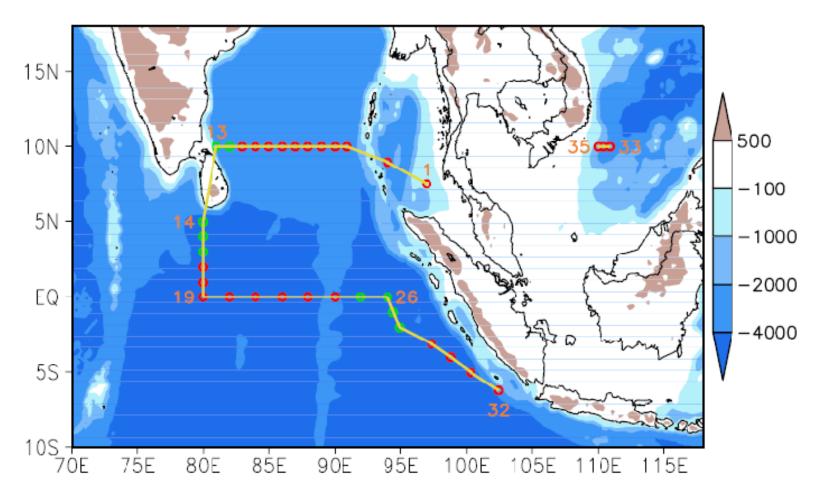




UNESCO/IOC WESTPAC SEAGOOS Pilot Project

Monsoon Onset Monitoring and its Social and Ecosystem Impacts (MOMSEI)

1.2 Eastern Indian Ocean cruise during 2010 by SCSIO/CAS



Cruise Map (Red: CTD, Green: XBT)

By "ShiYan 1" during 2010/4/12-5/29

Vessels in the SCSIO/CAS



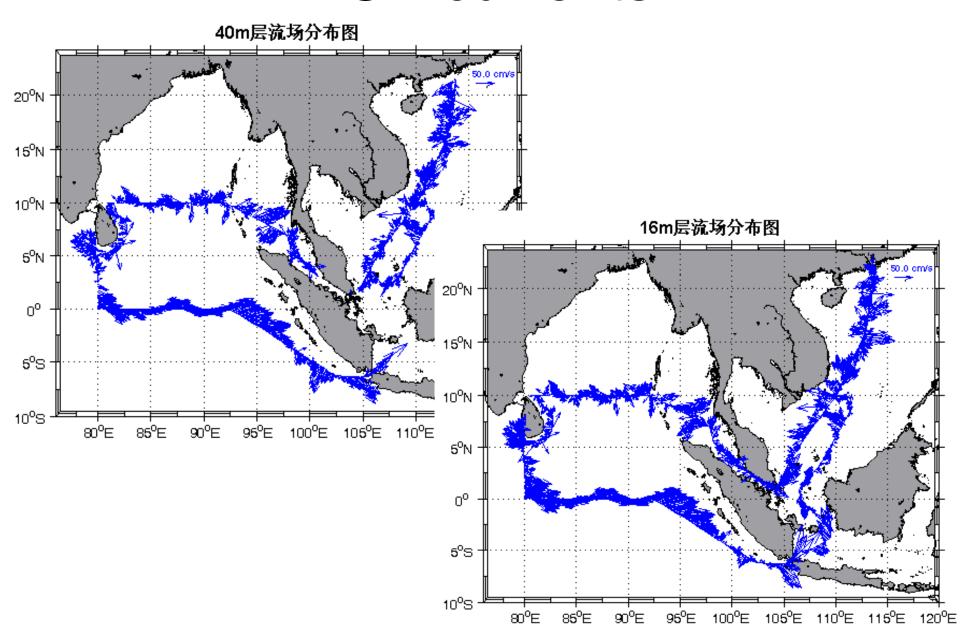




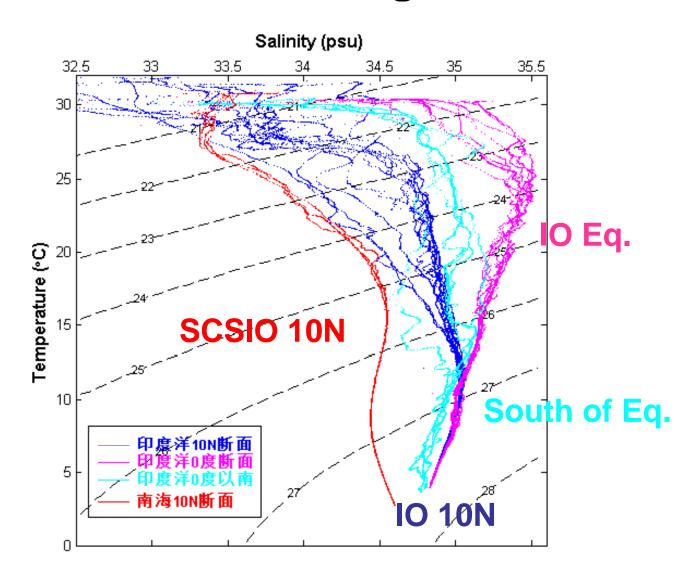
Observations

- Ship borne ADCP observation;
- 26 CTD stations;
- 150 XBT profiles;
- Surface CT (Salinity and Temperature);
- 12 Argos surface drifts and 15 Argo drifts;
- Auto Meteorology observation;
- Ocean-atmosphere heat flux;
- 133 GPS sounding balloons;
- Ocean-atmosphere CO2 flux;
- Biogeochemical sections;

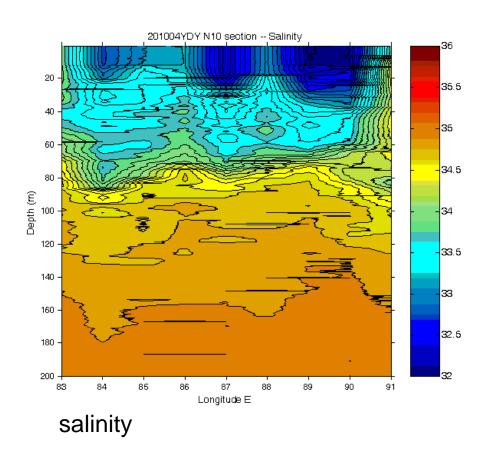
ADCP currents

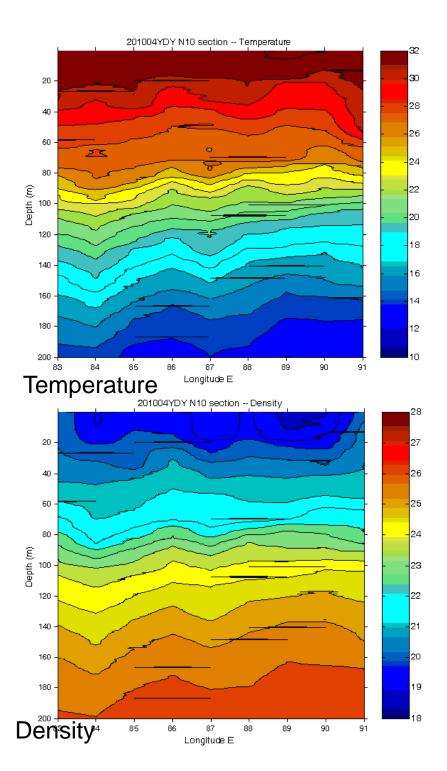


CTD T-S diagram



Temperature, salinity and density along 10N

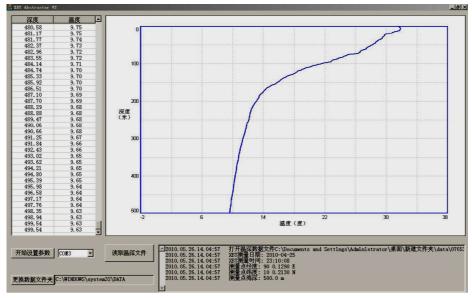




XBT profile



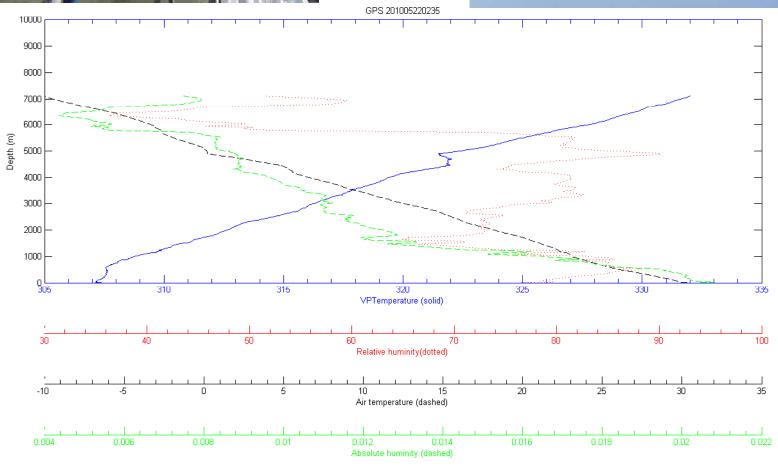






GPS sounding balloons

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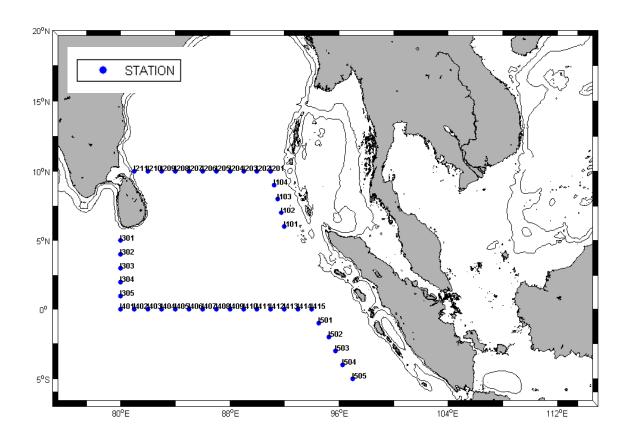


Argo, Argos





2.1 Cruise plan for Eastern Indian Ocean in 2011 April-May by SCSIO/CAS



Repeat 2010 cruise track

Observation Parameters

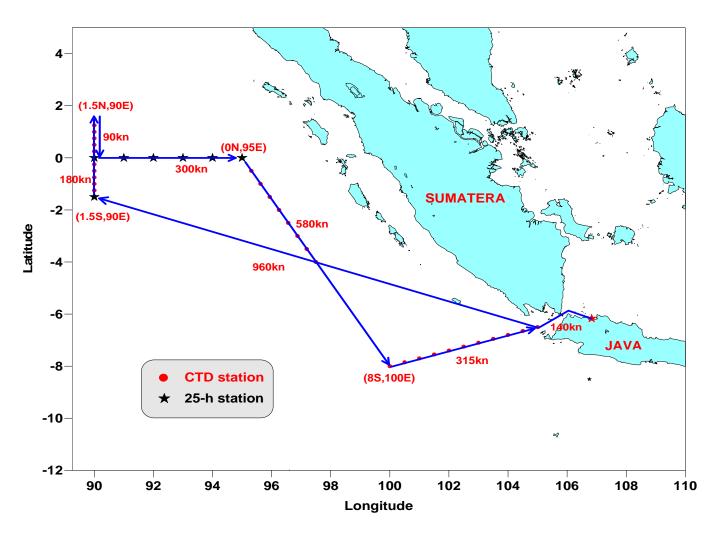
- Ship borne ADCP observation;
- 40 CTD stations:
- 100 XBT profiles;
- Surface CT (Salinity and Temperature);
- Auto Meteorology observation;
- Ocean-atmosphere heat flux;
- 150 GPS sounding balloons;
- Ocean-atmosphere CO2 flux;
- Biogeochemical sections;

Vessel arrangement:



By "ShiYan 1" from the SCSIO/CAS

2.2 MOMSEI cruise by FIO/SOA-AMFRD in 2011 April



Map of MOMSEI cruise tracks

Observation Parameters

- (1) CTD observations at 38 stations, with special focus on the tropical eastern Indian Ocean (including seven 25hr fixed stations) and cross-shelf of Java-Sumatra;
- (2) Meteorology observation including the air temperature, relative humility, pressure and wind along the cruise tracks, enhanced by the GPS sounding at 6hr interval;
- (3) Ocean-atmosphere heat flux along the cruise tracks;
- (4) Ocean-atmosphere CO2 flux at the CTD stations;
 - (5) Service the JUV/RAMA buoy at (100E, 8S);

Vessel arrangement:

R/V BJ-3 be used in the MOMSEI cruise.

AMFRD/Center for Research and Development on Marine and Coastal Resources, Indonesia will take care of the vessel arrangement through its administration procedure.