

A General View of the International Field Experiment CINDY2011 & DYNAMO

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Outline

- 1) Observation Summary
- 2) General atmospheric/oceanic conditions
- 3) Infos



Purpose:

Collecting in-situ observations
to advance our understanding of the MJO initiation process
to improve the skill of MJO simulation and prediction

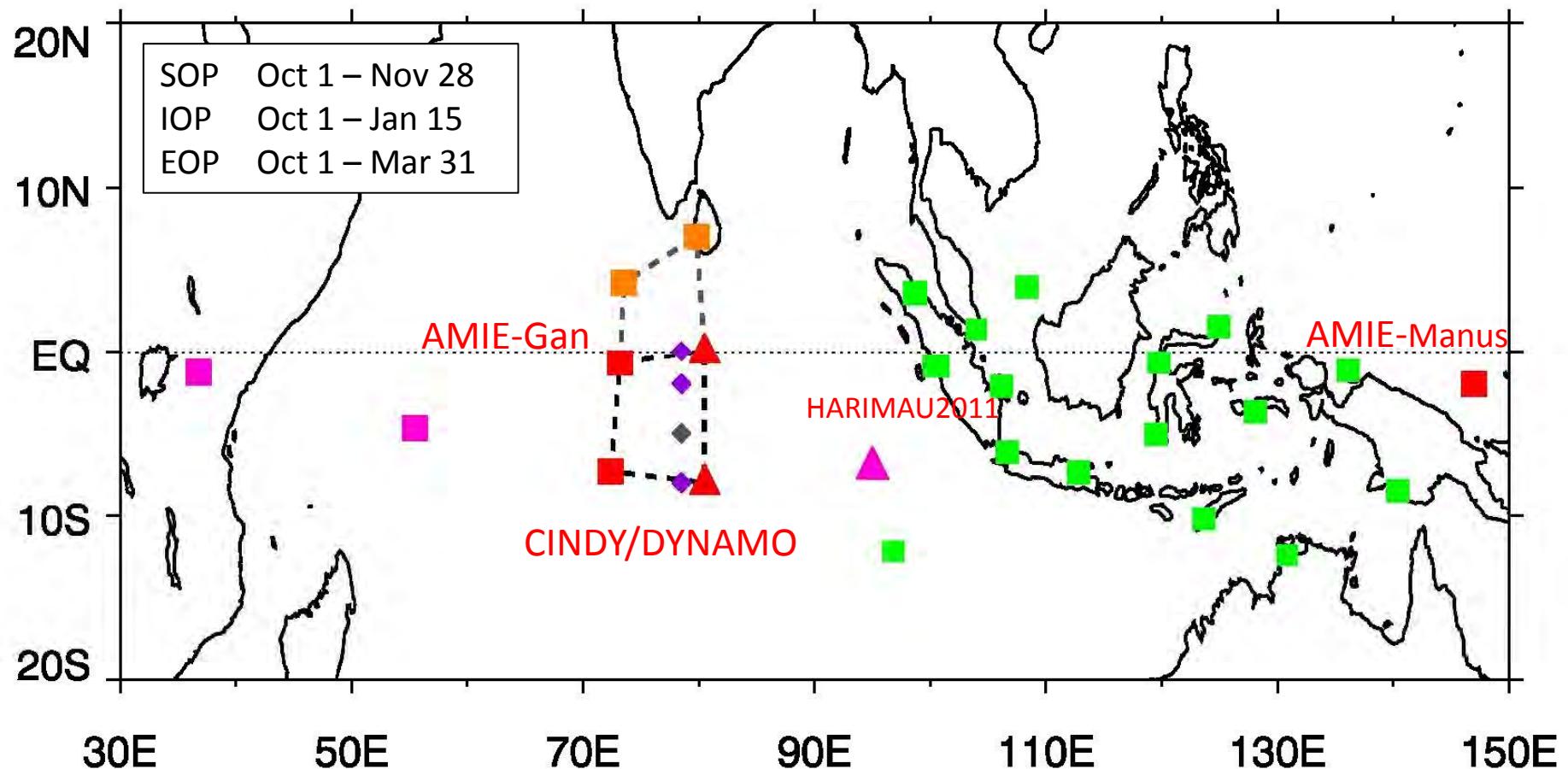
Period:

- | | | |
|------------------|------------------|------------------------------|
| 1 October 2011 - | 28 November 2011 | (Special Observing Period) |
| 1 October 2011 - | 15 January 2012 | (Intensive Observing Period) |
| 1 October 2011 - | 31 March 2012 | (Extended Observing Period) |

Participants:

Australia (2), France (7), India (5), Indonesia (2), Japan (12), Kenya (1), Korea (1), Maldives (1),
PNG (1), Seychelles (1), Singapore (1), Sri Lanka (1), Taiwan (3), UK (3), US (33)

Observation Network



- ▲ Ship sites 8 times/day
- Land intensive sites 8 times/day
- Enhanced Sounding sites 4 times /day during Oct - Nov
- Enhanced Sounding sites 2 – 4 times / day during Oct - Jan
- Routine sites (hi-res) 1 – 2 times / day
- ◆ Mooring sites

Land-based Observations

NCAR S-PolKa Radar



Texas A&M SMART Radar



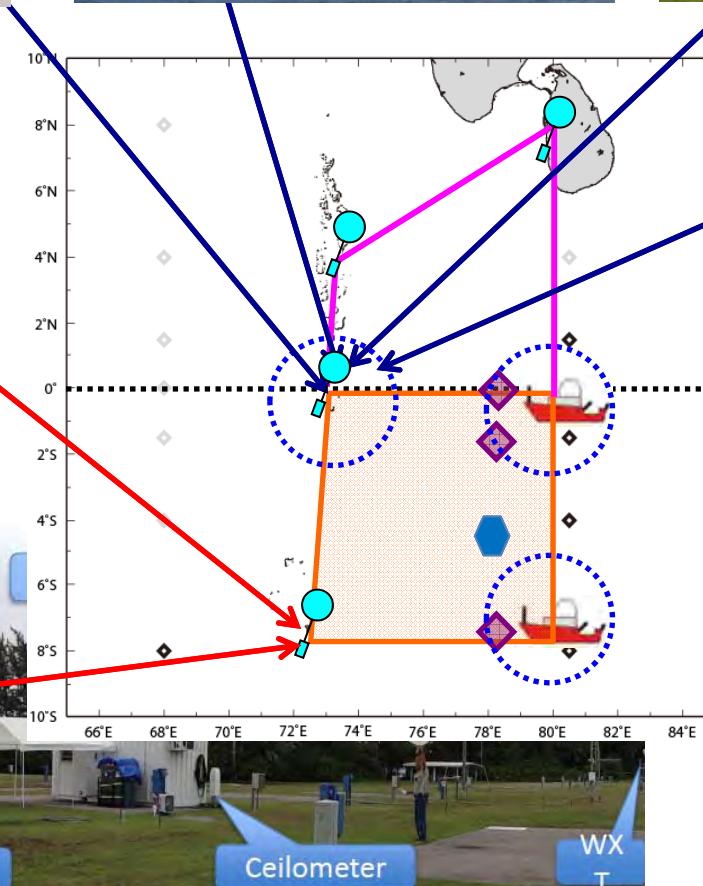
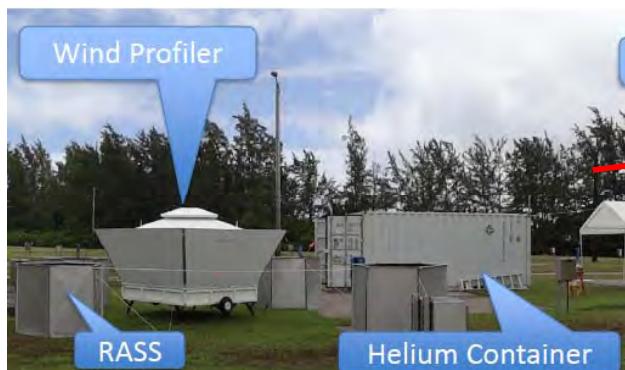
DOE - AMF2



NOAA WP-3D



NCAR ISS



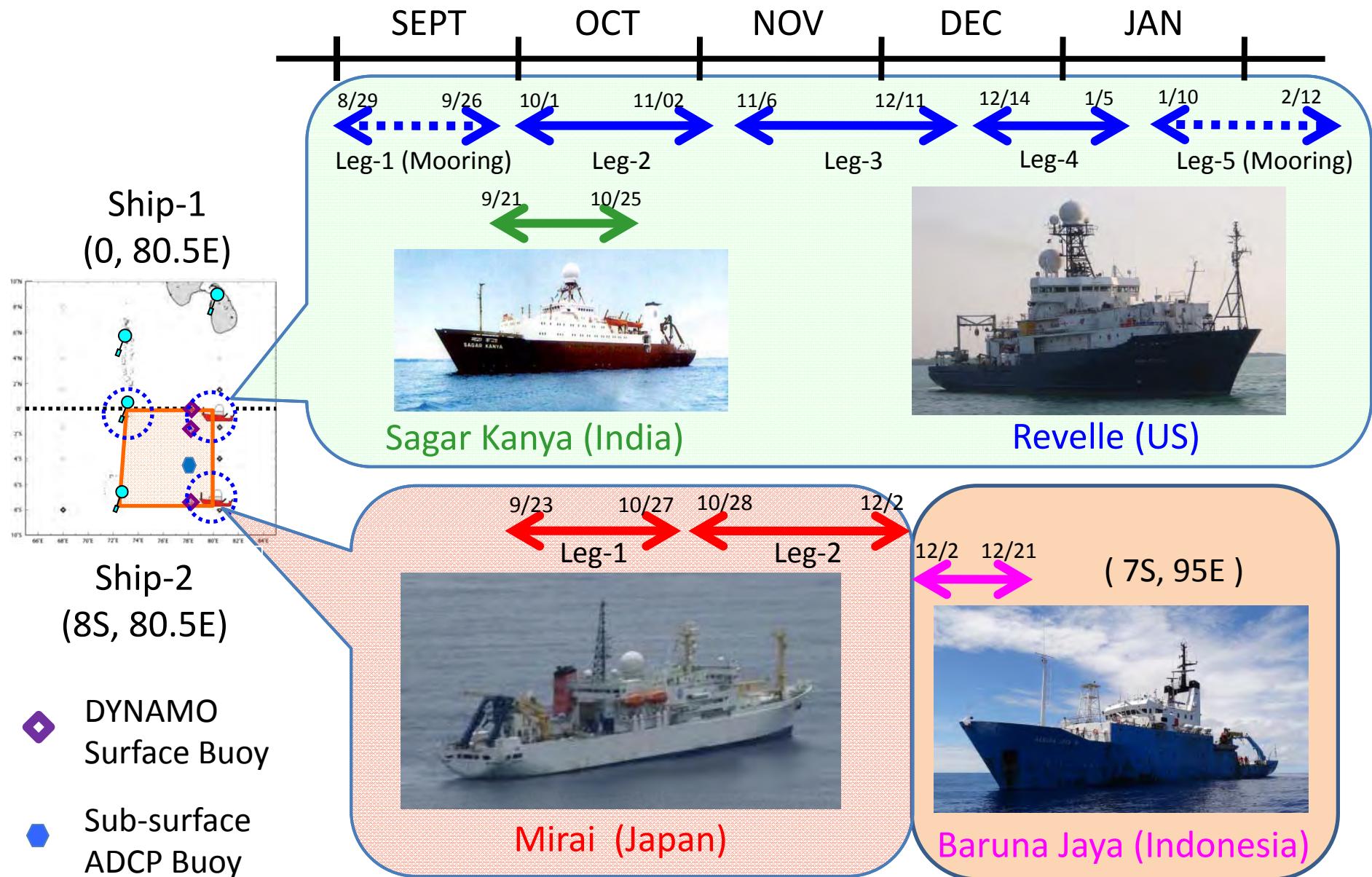
French Falcon-20



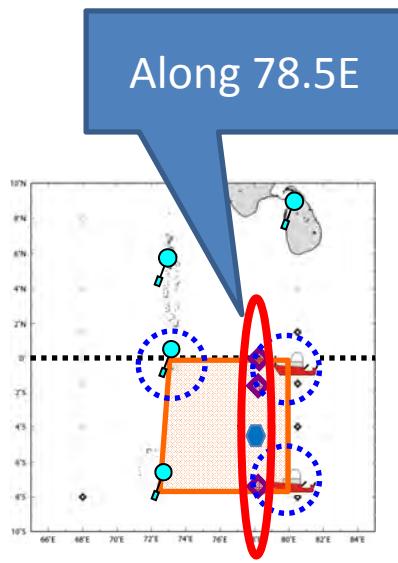
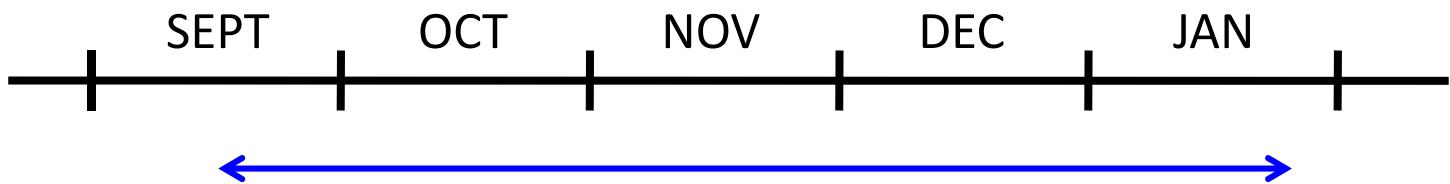
Addu Atoll - Super Site -

Scanning Radars
(S/C/X/Ka/W bands)
Radiosonde (8/day)
915MHz Wind Profiler
Micropulse Lidar
Microwave Radiometer
Ceilometer
Surface Meteorology

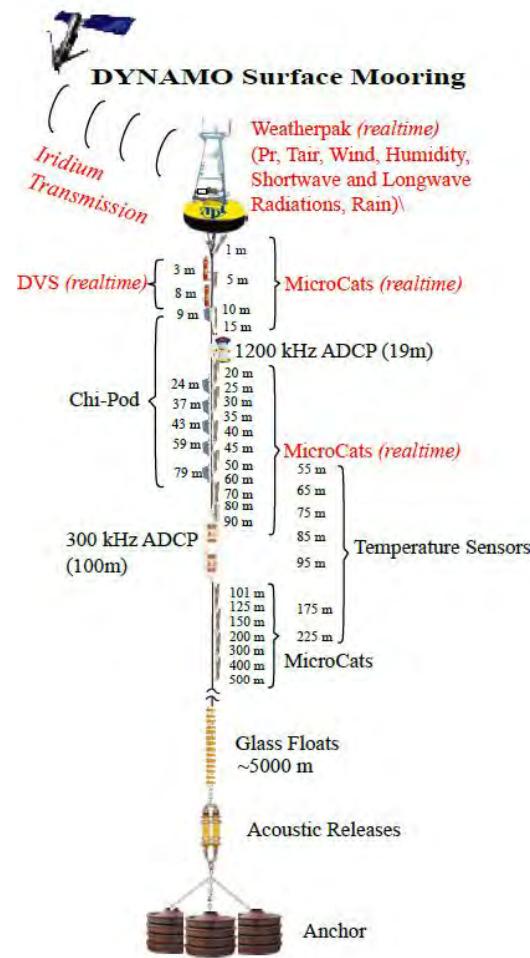
Ship Rotation



Moorings / Float / Glider

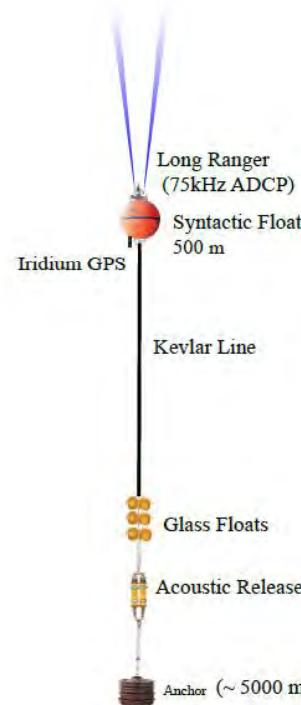


- DYNAMO Surface Buoy
- Sub-surface ADCP Buoy



DYNAMO Subsurface Mooring

(sensor dimensions and depths not in real scale)

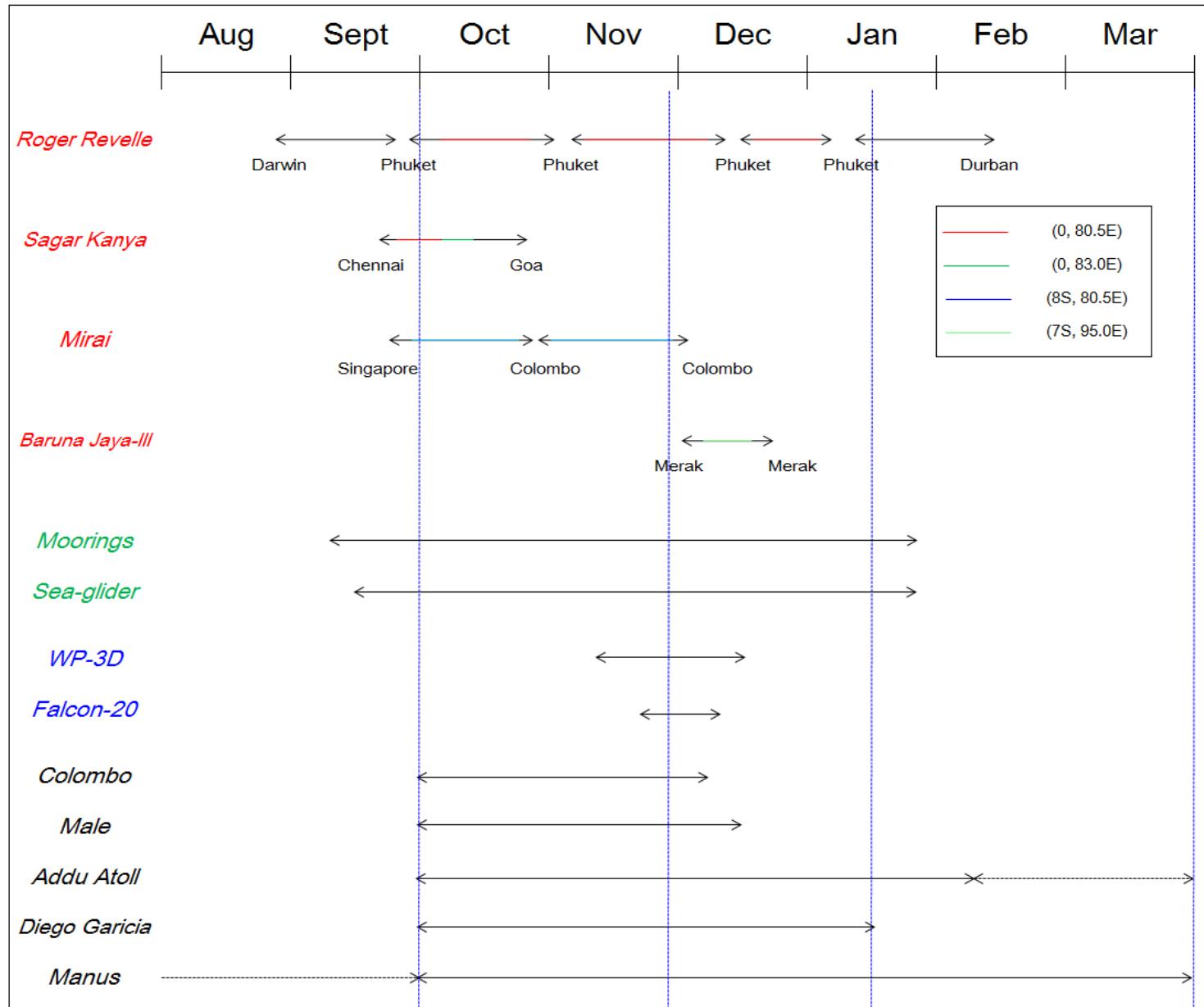


Observation Summary

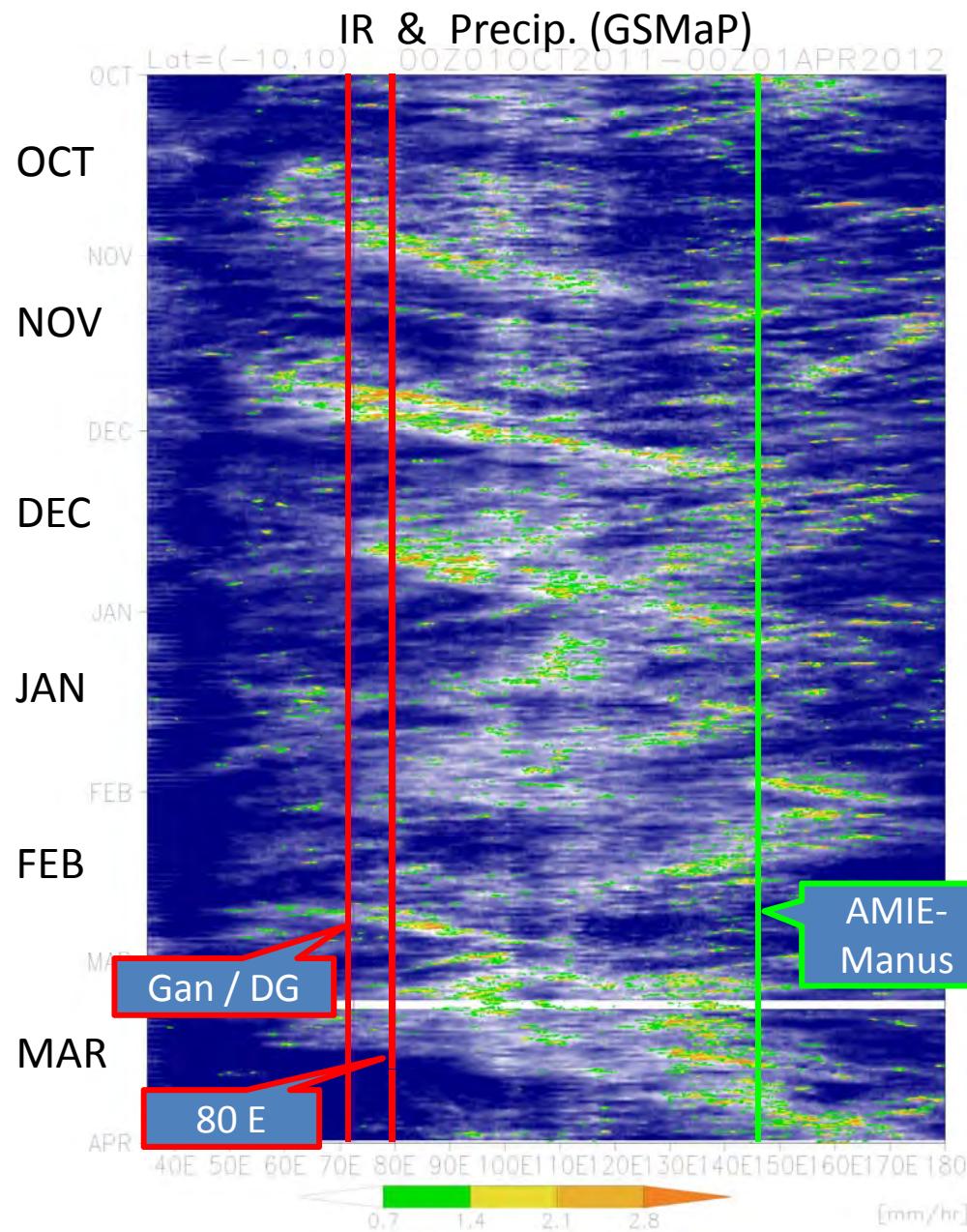
SHIP

Mooring / Float
Aircraft

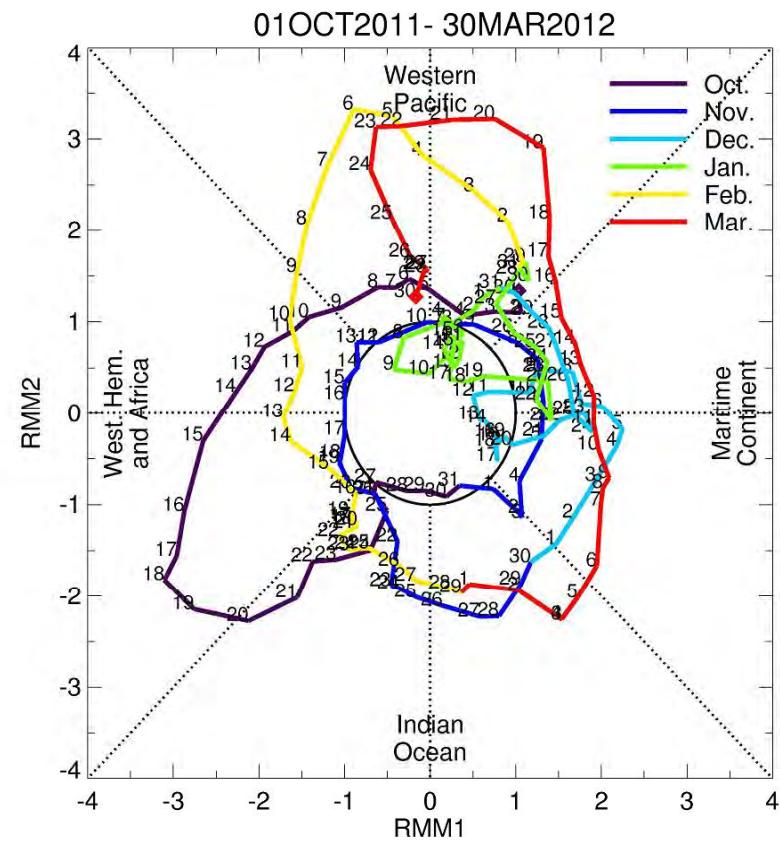
Island



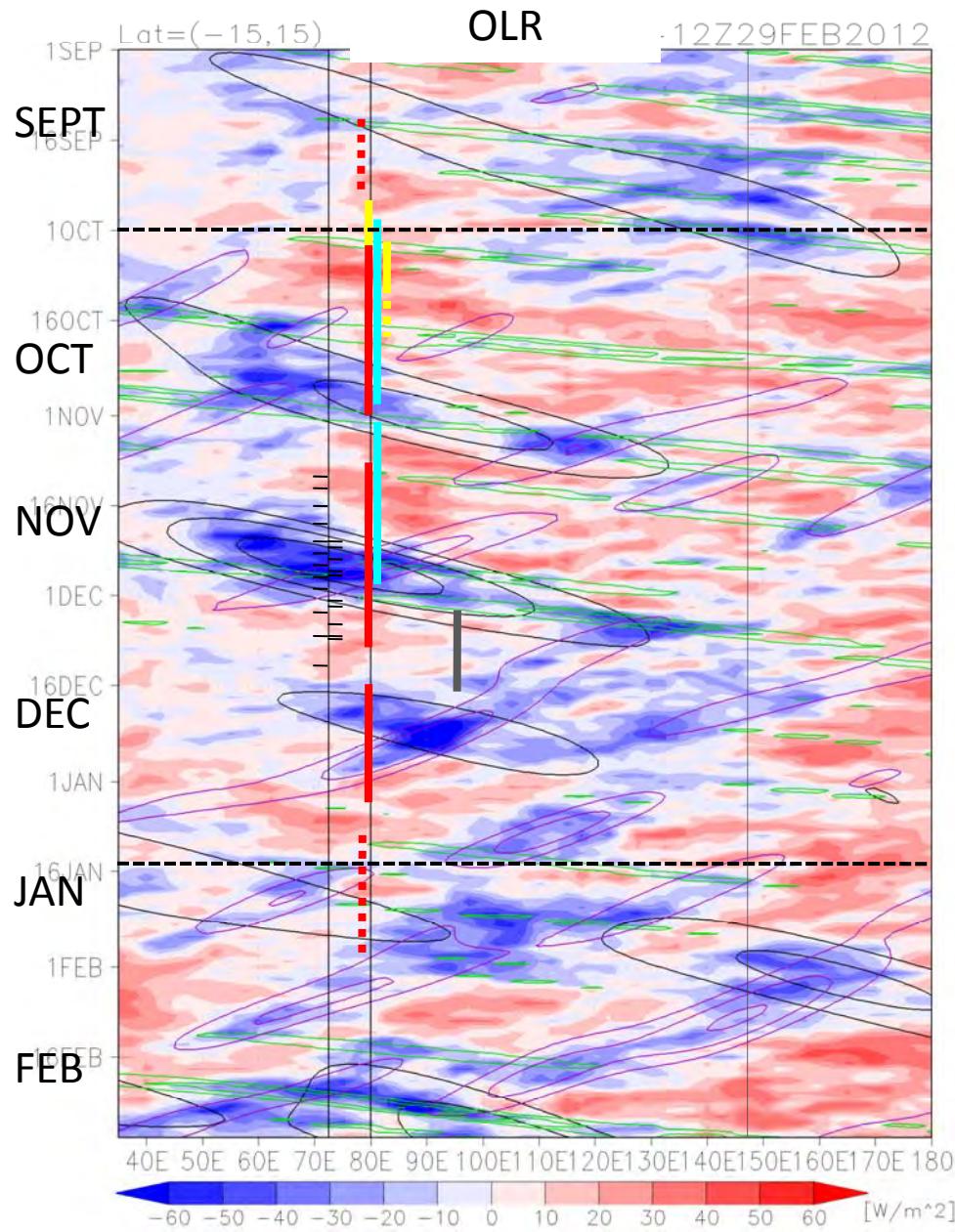
Convectively Active Period. Frequent Appearance of Equatorial Waves



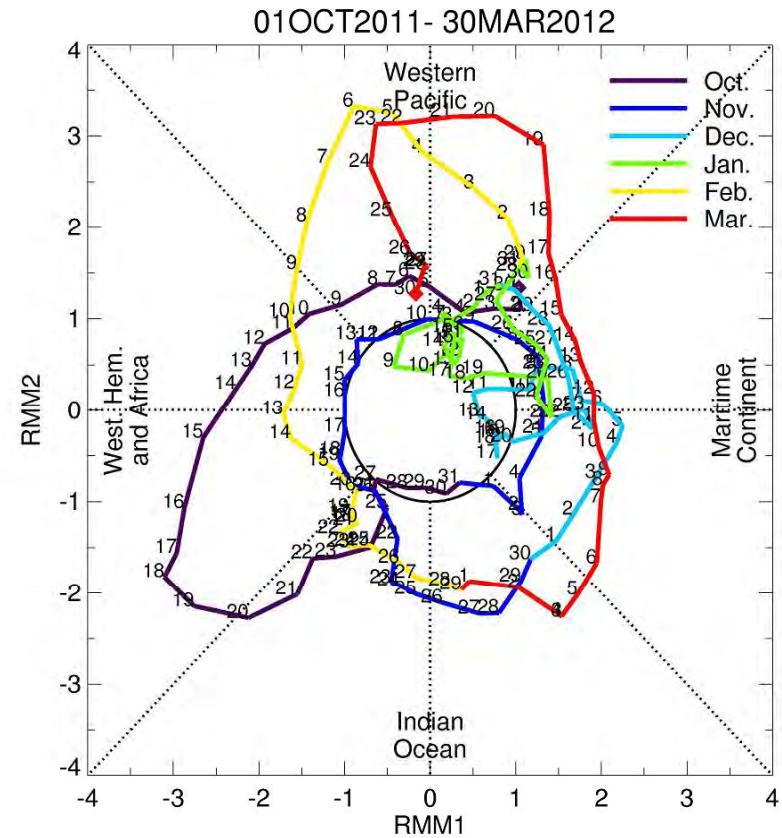
MJO Index (Wheeler & Hendon, 2004)



3 (2?) MJO Events in IOP

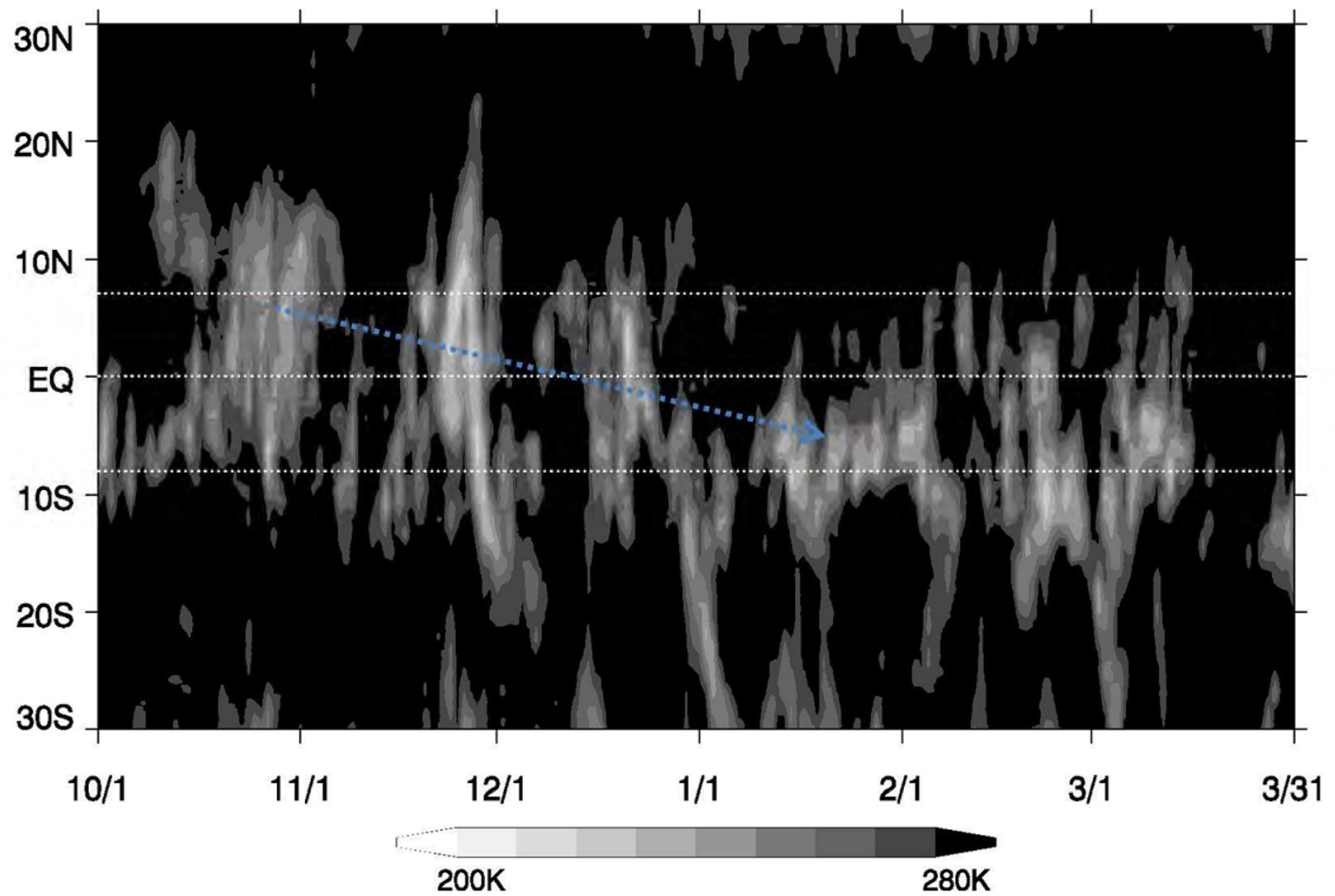


MJO Index (Wheeler & Hendon, 2004)

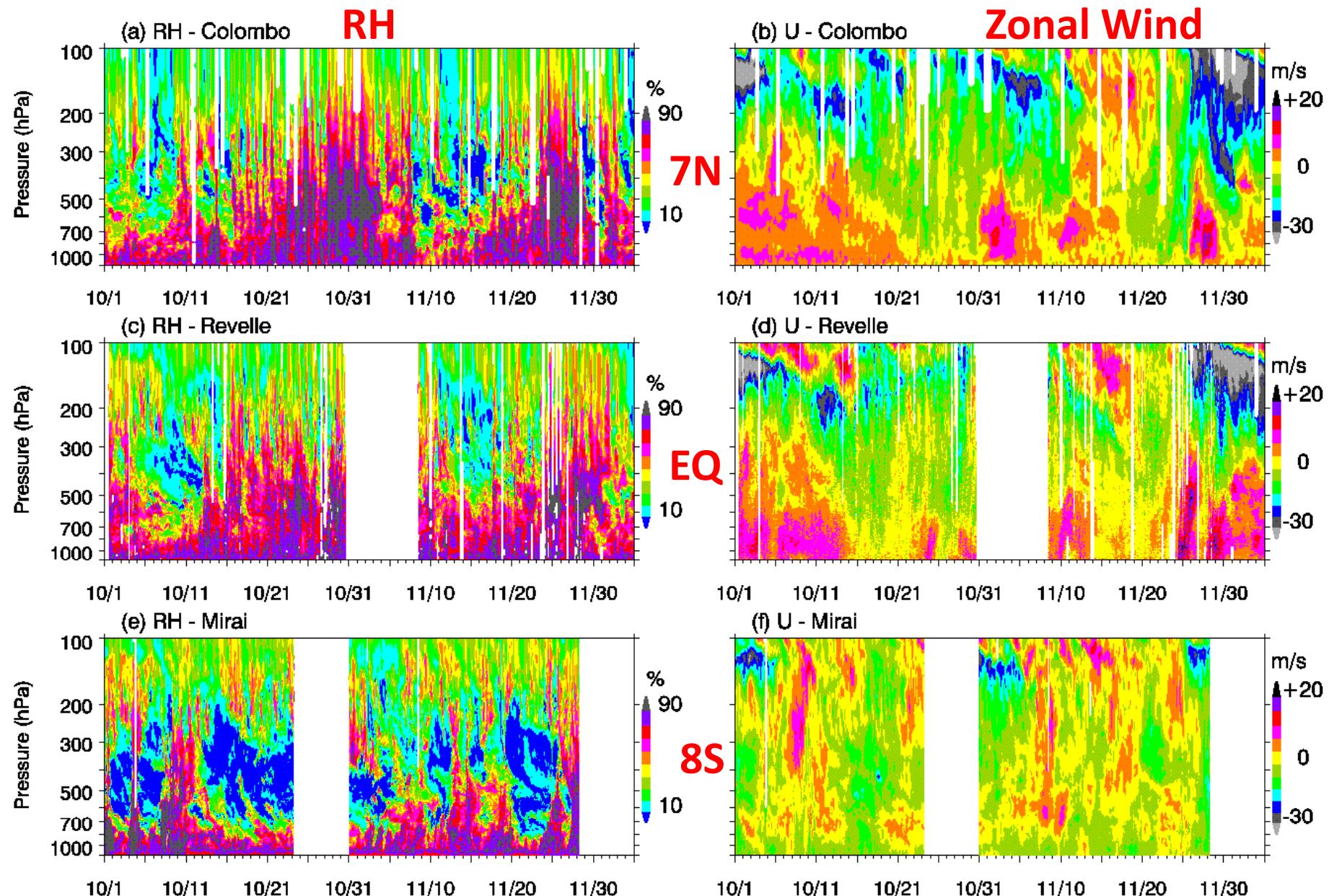


Revelle
S. Kanya
Mirai
BJ-III

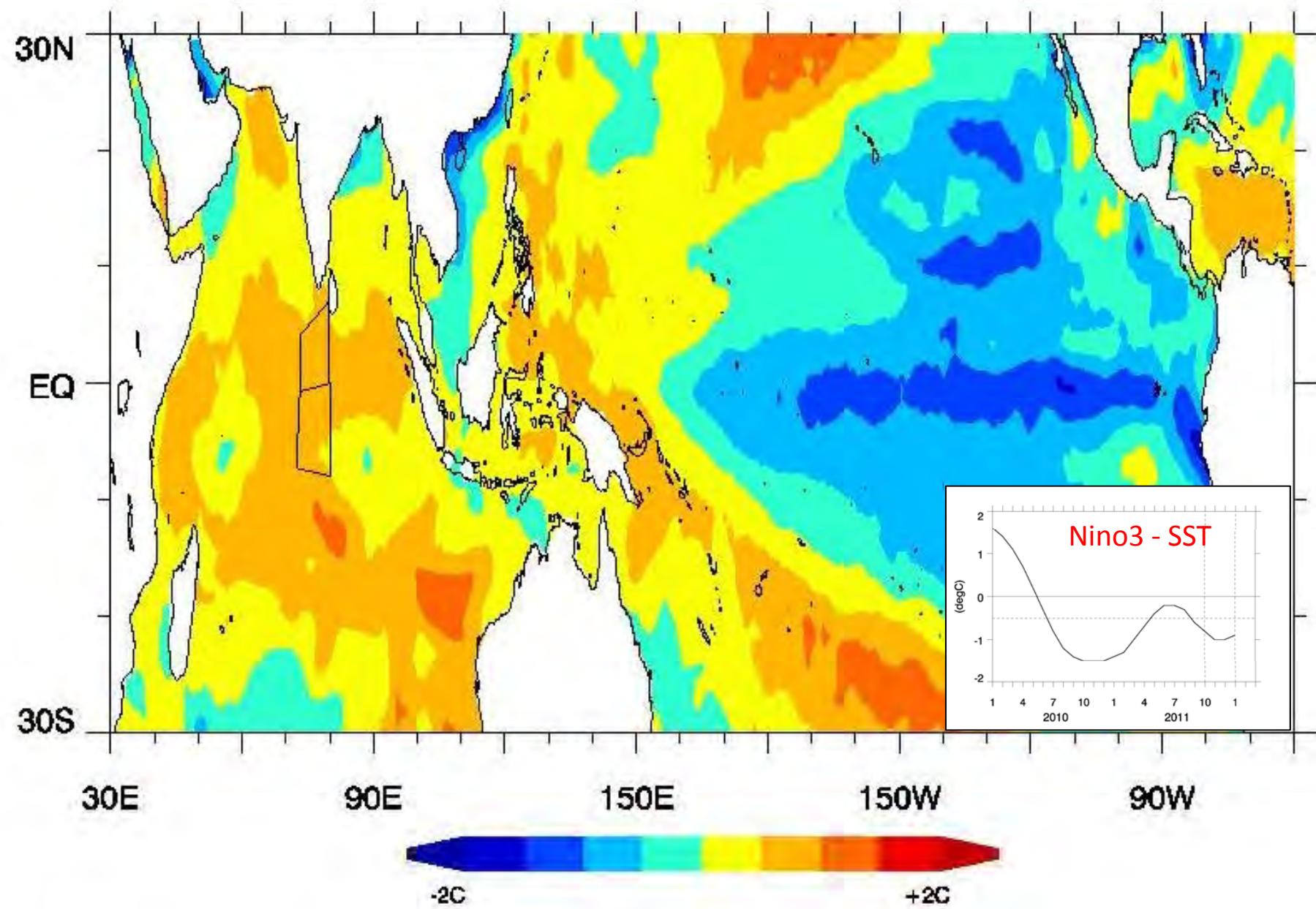
Time-Latitude section of IR along (70E-80E)



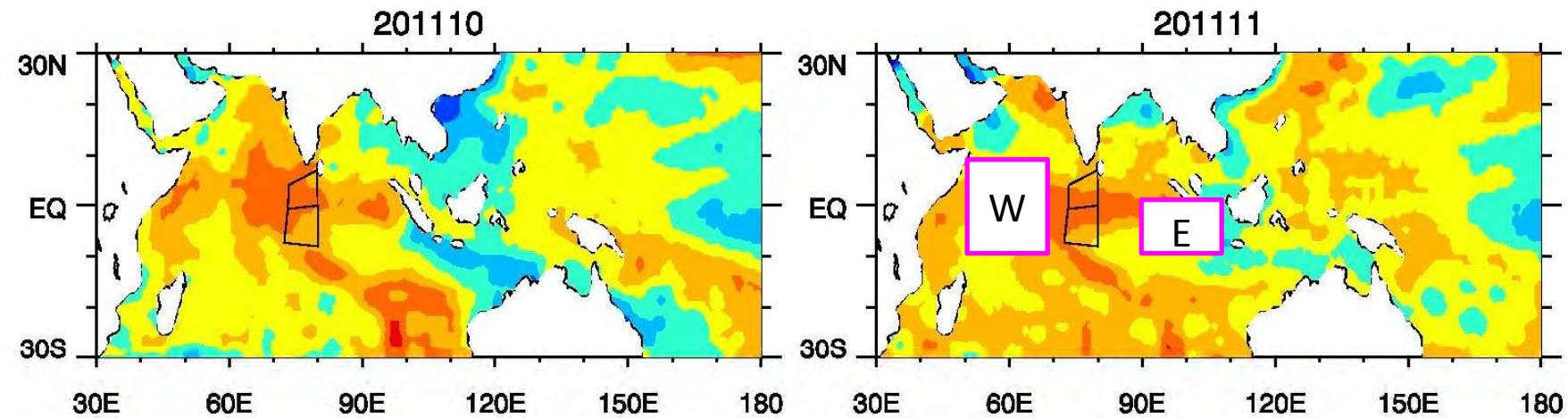
RH and Zonal wind along 80E during SOP



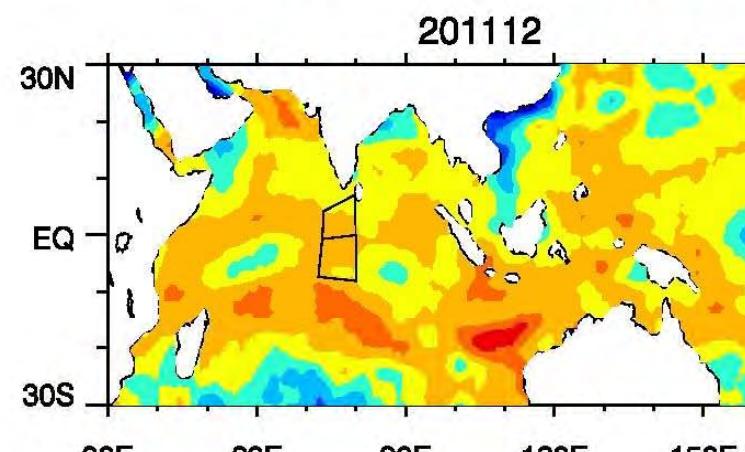
IOP-mean SSTA : A weak La Nina condition



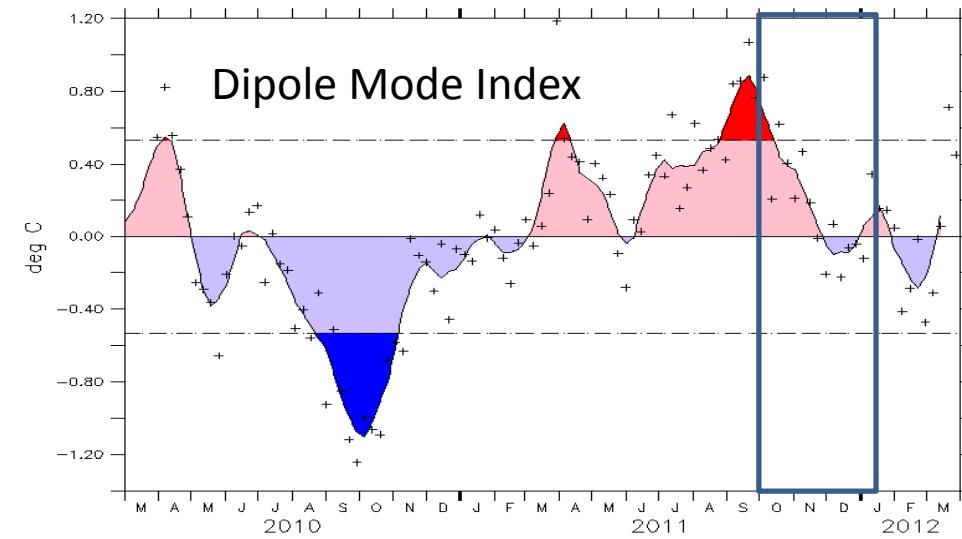
Monthly mean SSTA during IOP : A weak positive IOD ends



-2C +2C



-2C +2C



From <http://ioc-goos-oopc.org/>

Concluding Remarks / Infos

Quick Overview

- 1) Observation network had been established from eastern Africa to western Pacific with main intensive array over the central tropical Indian Ocean from October 2011 to March 2012 (IOP: Oct 2011 – Jan 2012; 3.5 months).
- 2) Background condition - Positive IOD terminated in Nov / Weak La Nina ended
- 3) 3 (or 2?) MJO events were observed during IOP, and more in EOP.

Successive MJOs

Regular and short interval (- 30 days) appearance

Information

- 1) QC-ed data will be released in early 2013 from CINDY/DYNAMO Data Centers
 - DYNAMO <http://www.eol.ucar.edu/projects/dynamo/>
 - CINDY <http://www.jamstec.go.jp/iorgc/cindy/>
 - cf. AMIE <http://www.arm.gov/>
- 2) Data Workshop in Spring 2013 (and Symposium in Fall 2013) are planned.

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