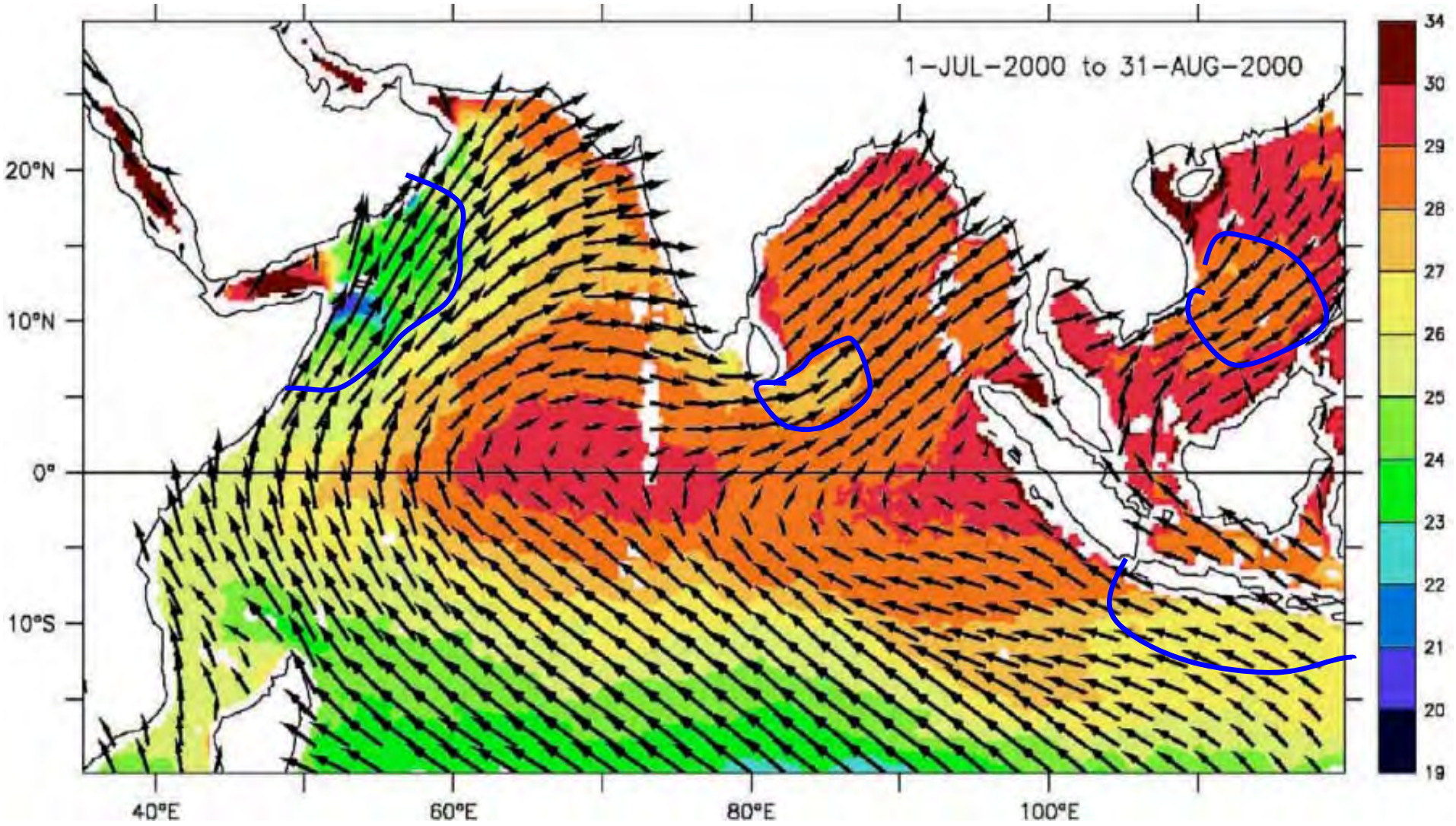
Eastern Indian Ocean Upwelling Research Initiative (EIOURI)

As IIOE-2/YMC overlapping interest

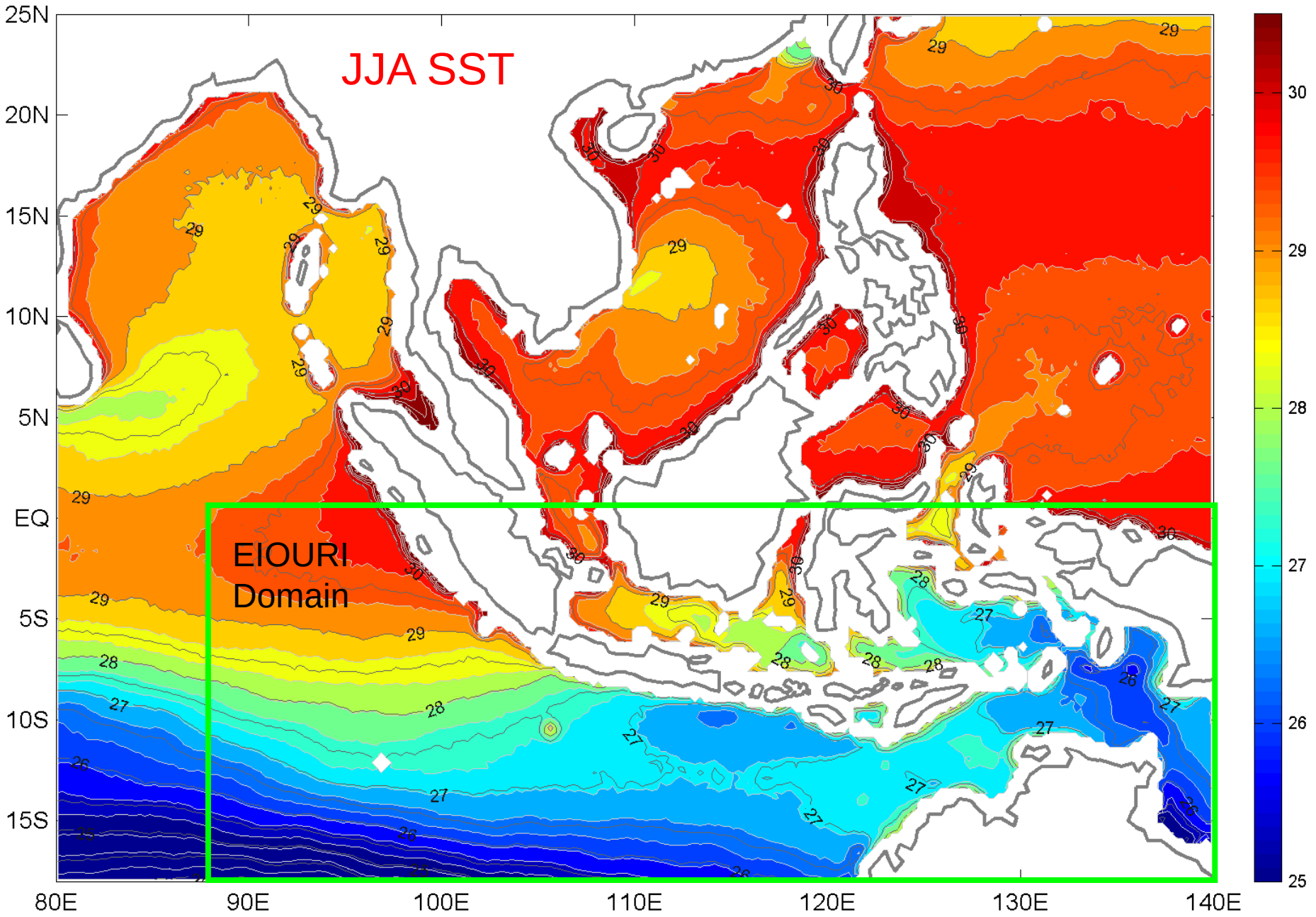
Weidong Yu, First Institute of Oceanography, SOA, China

With contributions from JAMSTEC, UT, WHOI, Scripps, UM, AMFR, LIPI, BMKG …

Seasonal Upwelling Regions in Indian Ocean



SST (color) **Wind Velocity** **in the Southwest Monsoon**


JJA SST
EIOURI
Domain
25N
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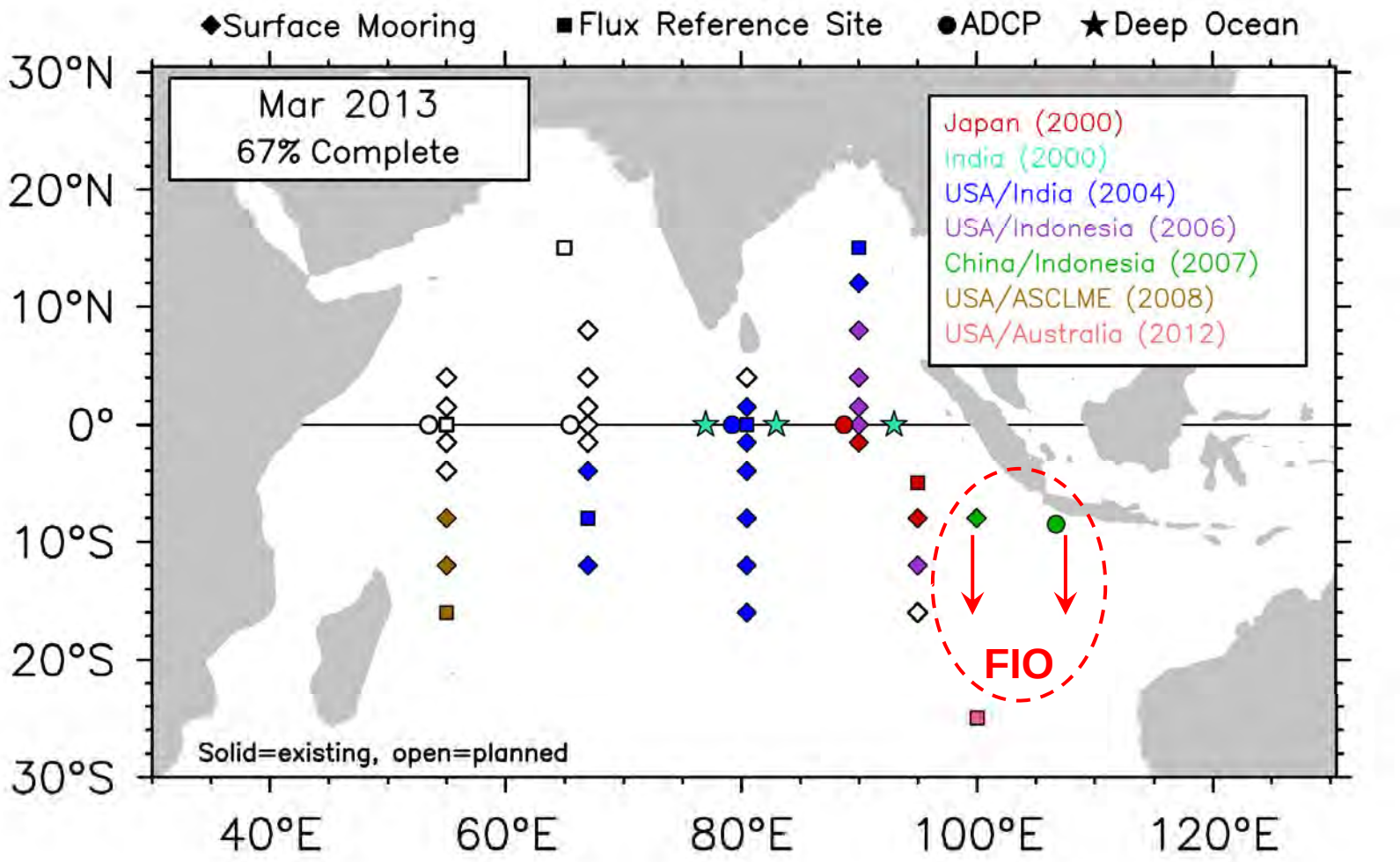
Research Moored Array for African-Asian-Australian Monsoon Analysis and Prediction (RAMA)



Eastern Indian Ocean Upwelling Research Initiative (EIOURI)

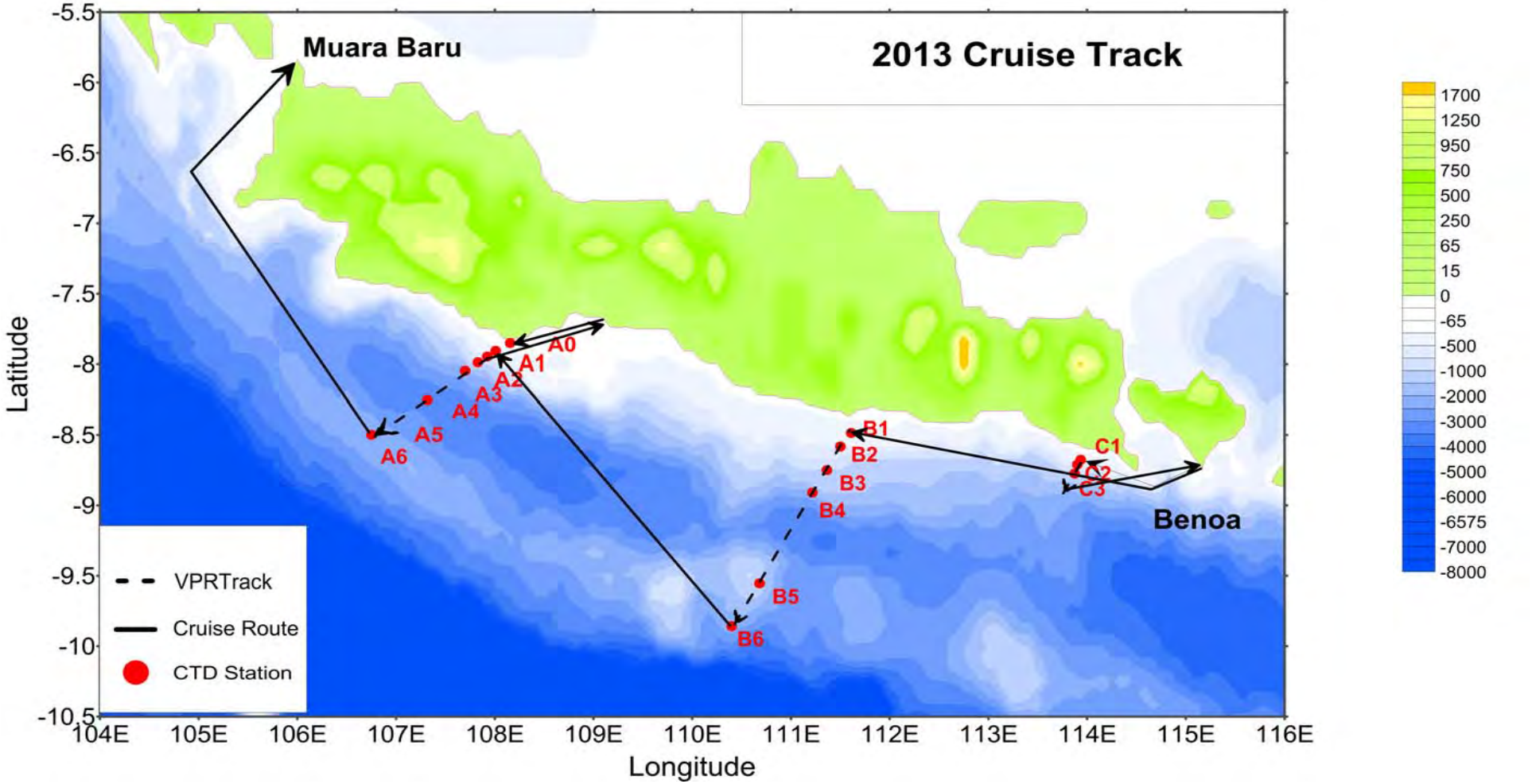
Science Plan and Implementation Strategy Writing Group Meeting

9-12 Apr. 2014, Phuket, Thailand

Hosted by: Thailand-China Joint Laboratory for Climate and Marine Ecosystem

- Physical oceanography
  - Upwelling processes: local and remote forcing
  - Open ocean-coastal interactions: circulation and eddy
- BGC and Biological oceanography
  - Nutrient and plankton responses (e.g. classic vs cryptic upwelling, stoichiometry)
- Ecology
  - Food web, higher level responses and physical mechanisms (e.g. offshore advection, massive-kills)
- The human dimension

Pilot Cruise in 2013

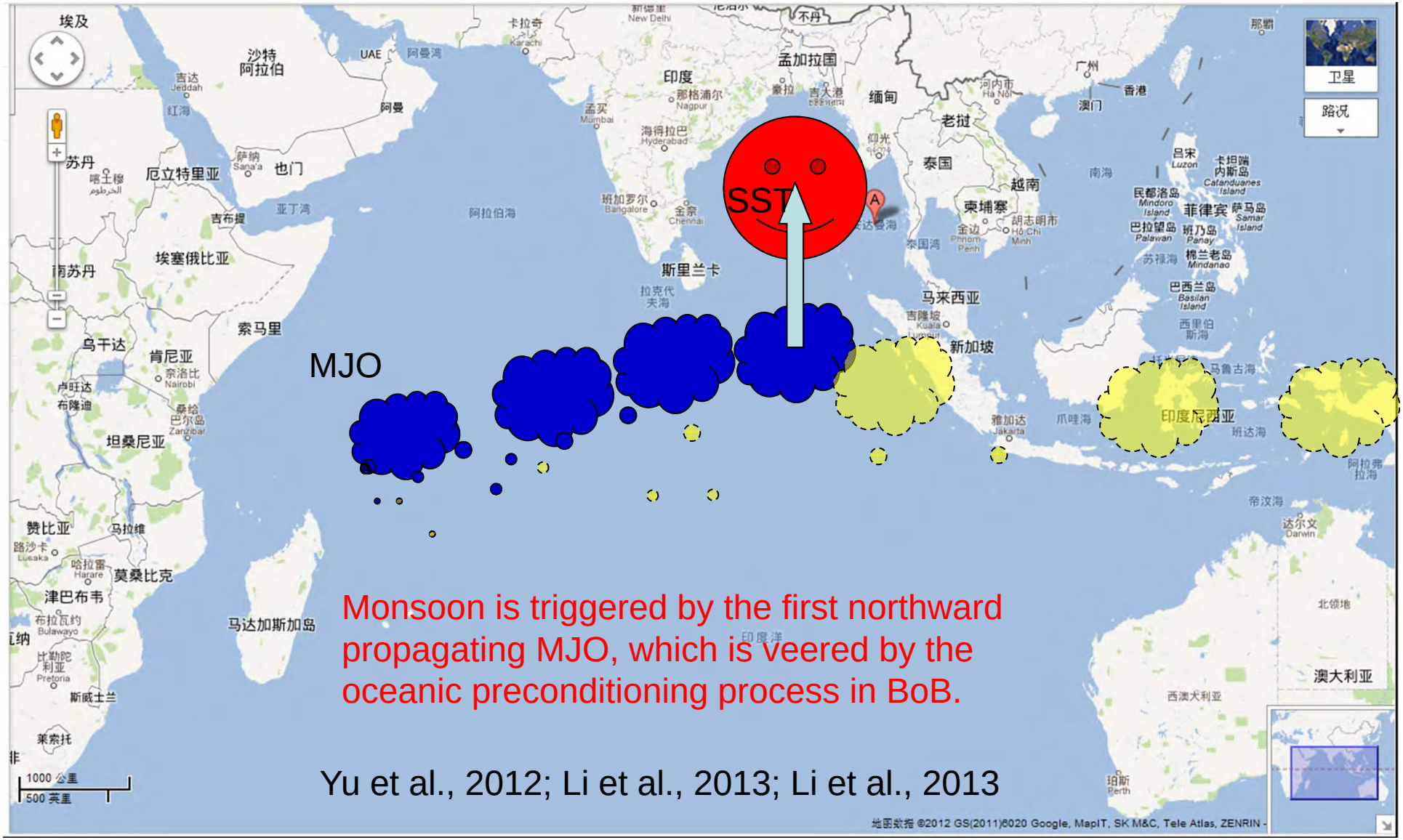


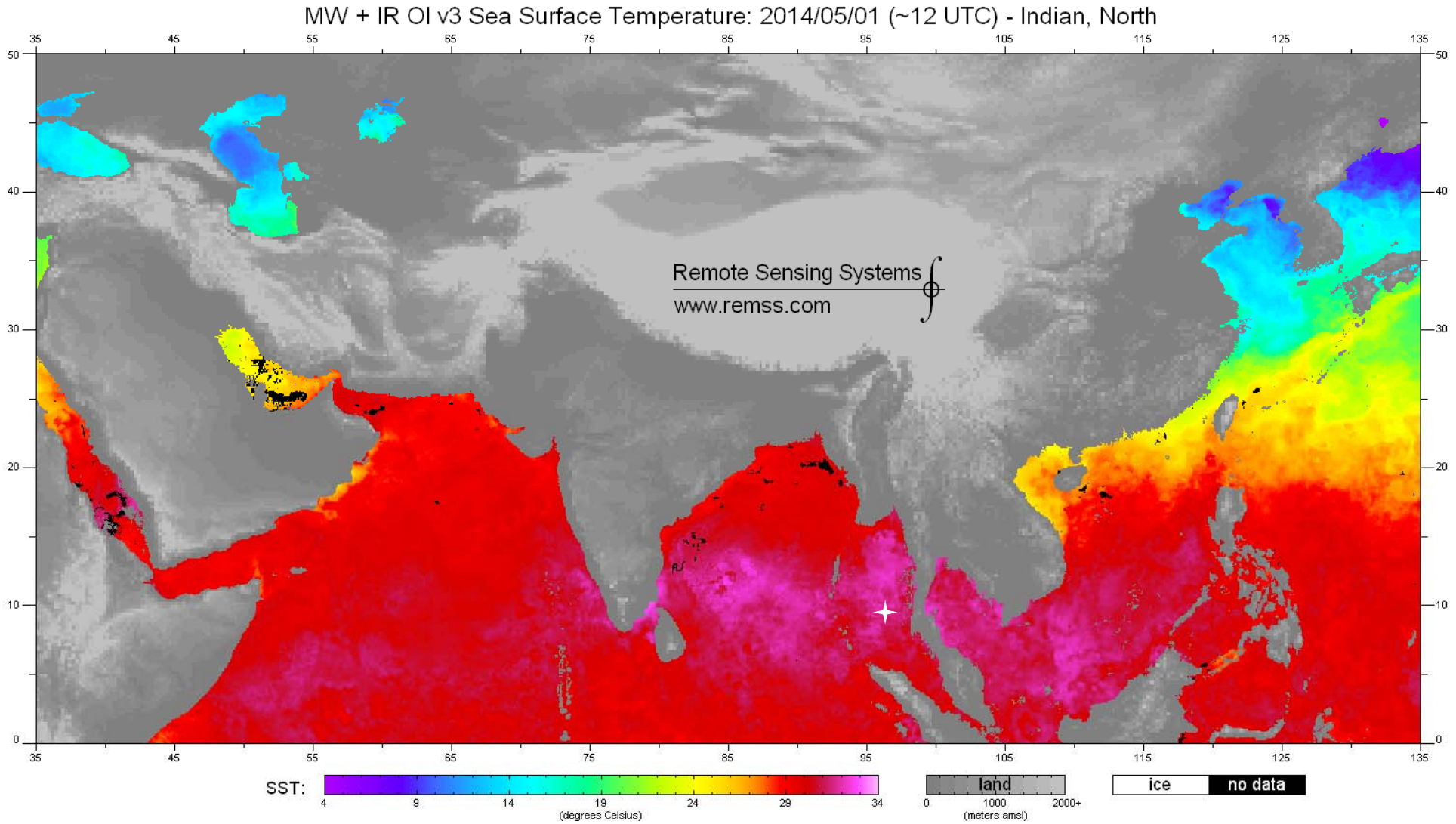
Extension of EIOURI to YMC in collaboration with MOMSEI

- Indonesian-Australian Monsoon Onset
- In context of MOMSEI study in BoB
- To identify the first eastward propagating MJO which triggers Indonesian-Australian Monsoon

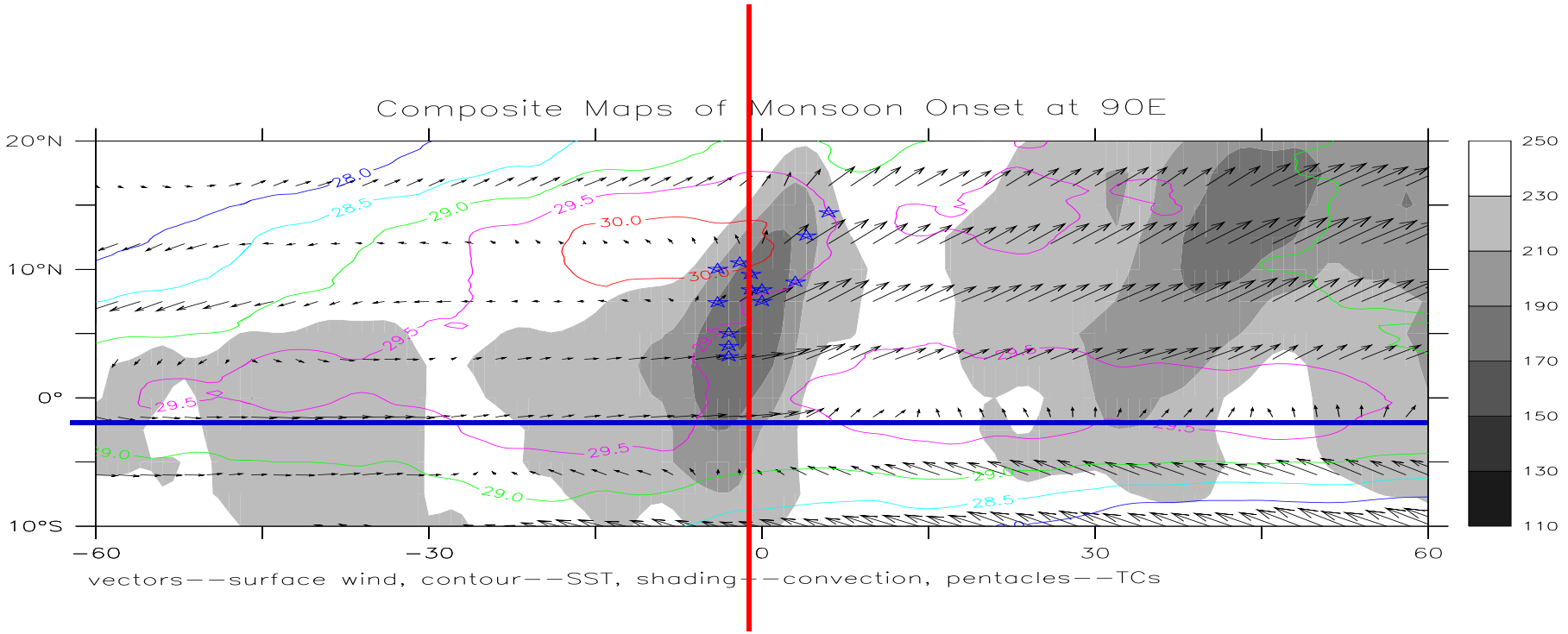
Monsoon Onset Process over BoB

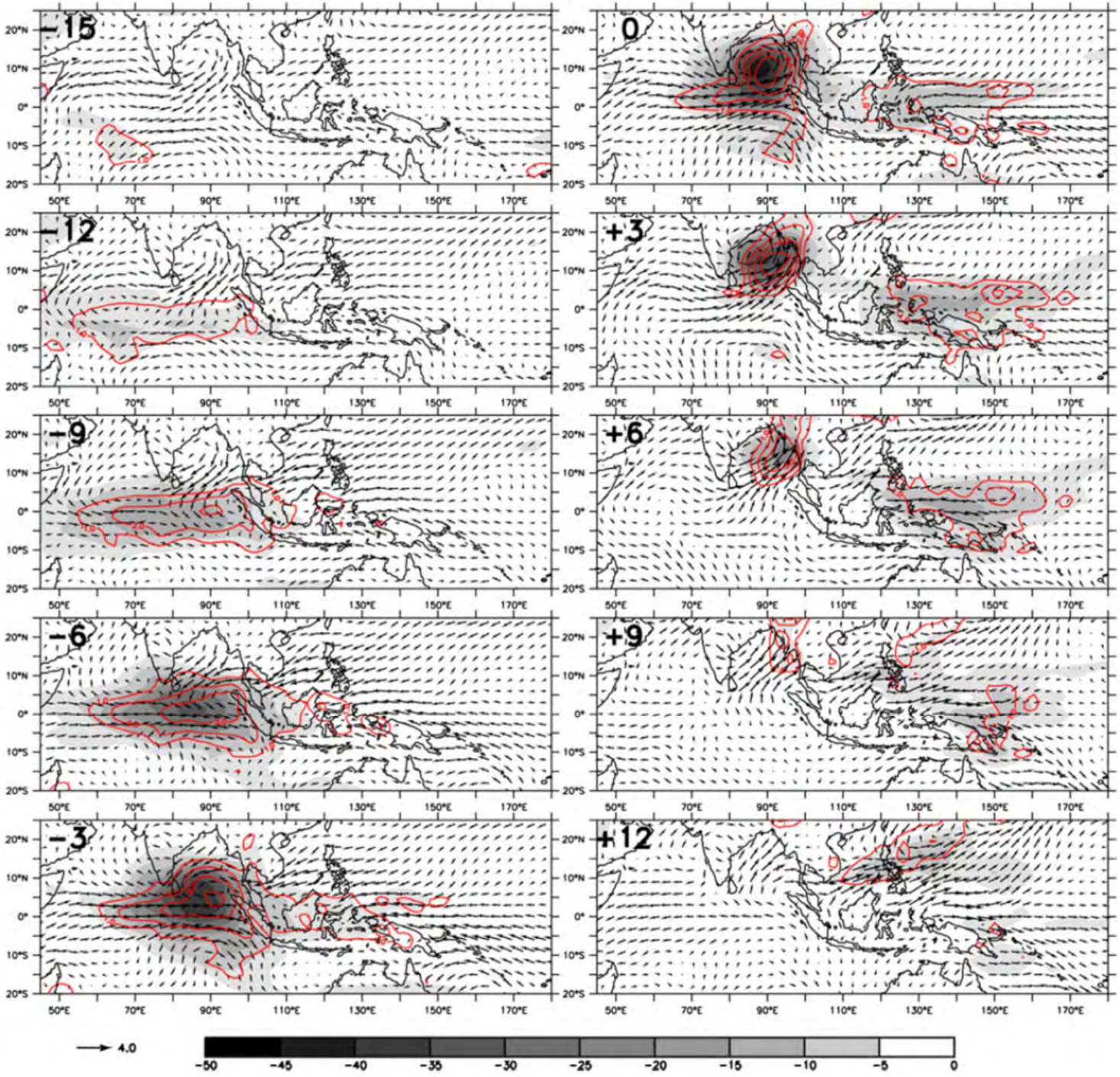
(SST-MJO-Monsoon Onset)




MW + IR OI v3 Sea Surface Temperature: 2014/05/01 (~12 UTC) - Indian, North
Remote Sensing Systems
www.remss.com
SST:
4
9
14
19
24
29
34
(degrees Celsius)
land
0
1000
2000+
(meters amsl)
ice
no data

Composite of BoB Monsoon Onset

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90°E
110°E
130°E
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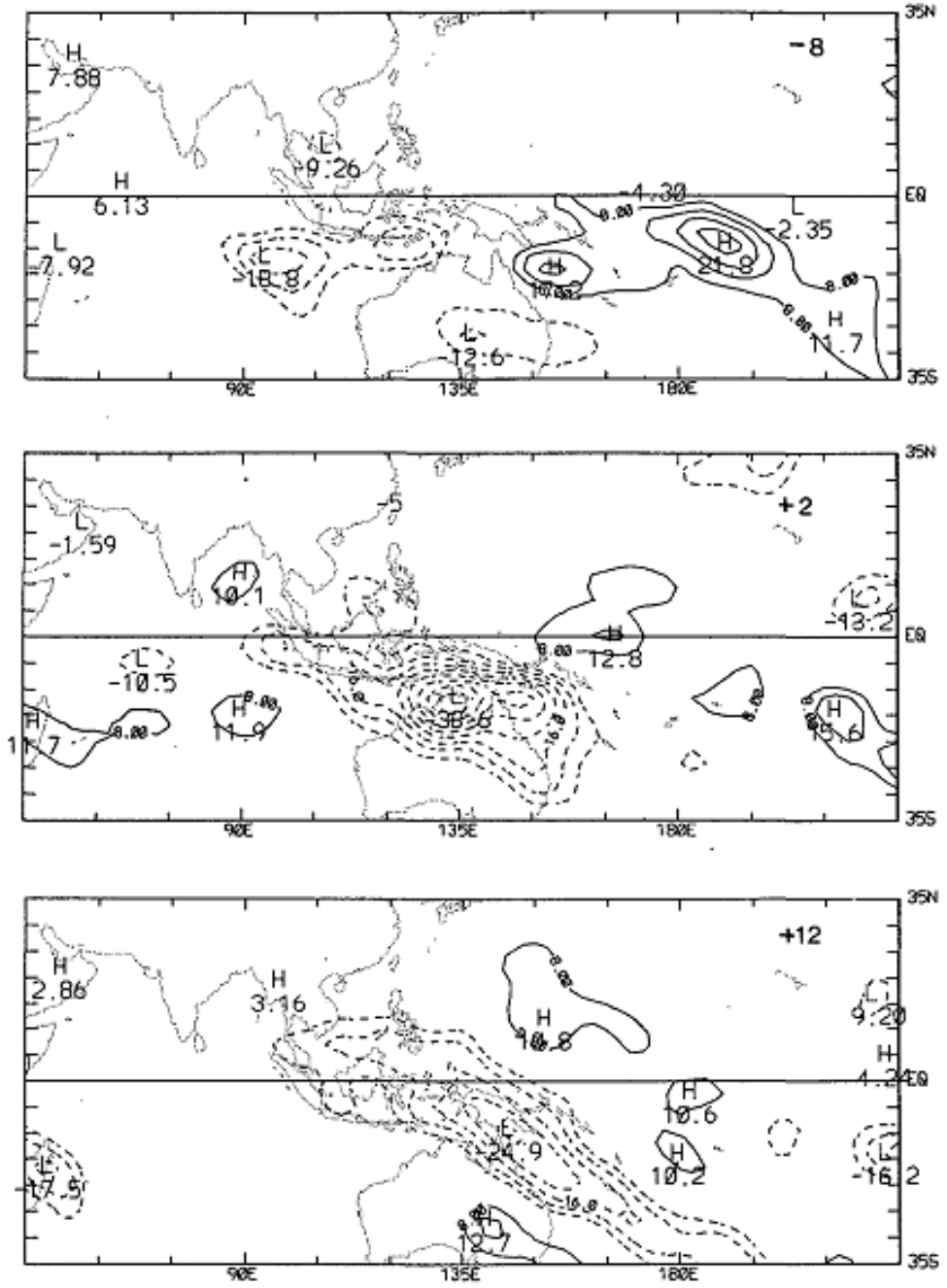
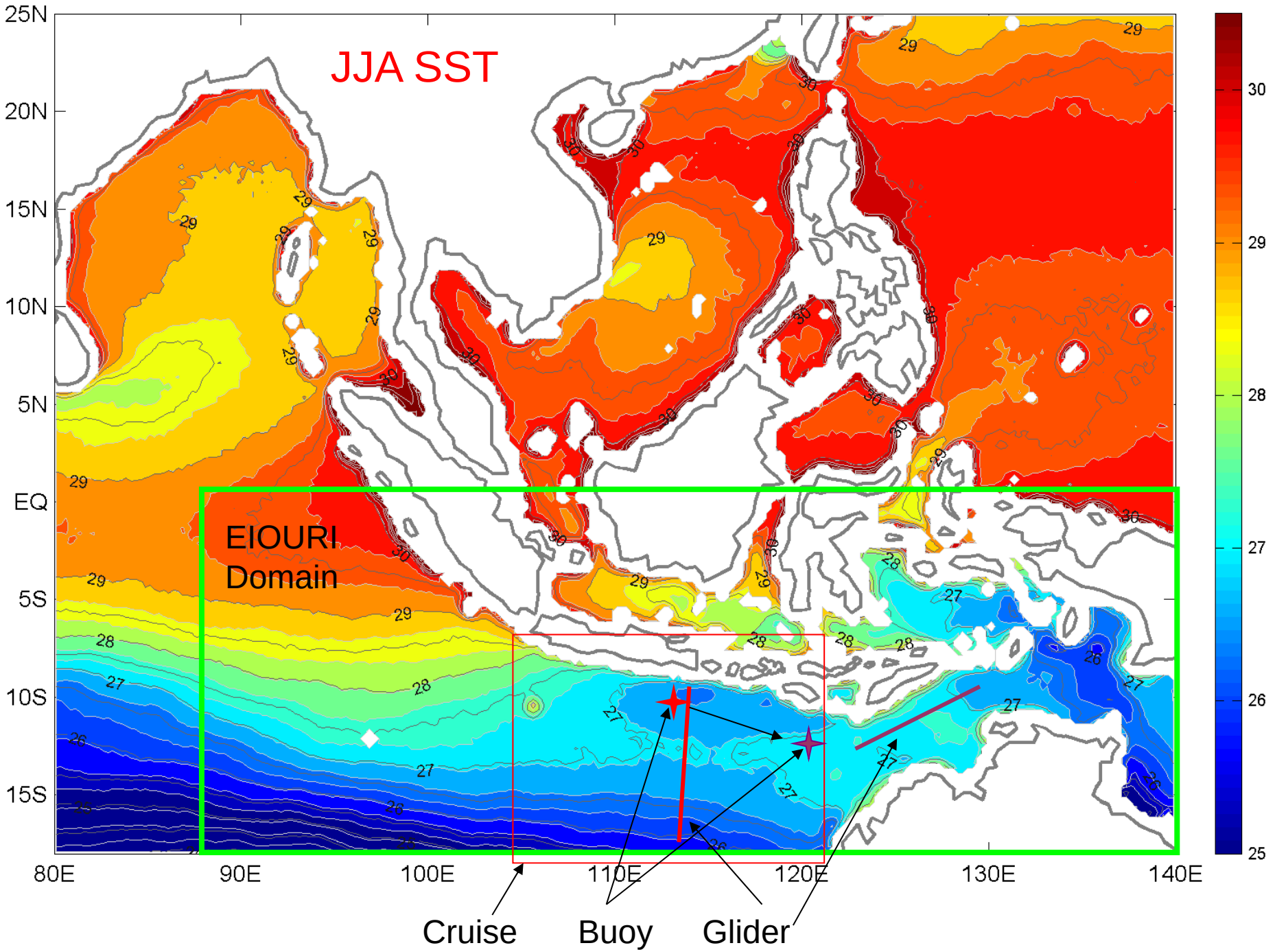


FIG. 10. Composite plan view of OLR relative to onset at Darwin. Contour interval is 5 W m^{-2} with first contour at ±10 W m^{-2}. The sequence is (a) day −8, (b) day +2, and (c) day +12.

Monsoon onset coincides with the first occurrence of convectively active 40-50 day oscillation.

Again, SST-MJO-Onset relationship should be examined, as in BoB.

Hendon and Liebmann, 1990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Cruise
Buoy
Glider


Thanks!