

EOS
 GEOSS
 ↓
Prime Minister Office
 Council for Science and Technology Policy



↓
MEXT
 SAC
 EOSC
 ↓

**Japanese EOS
 Promotion
 Program (JEPP)**

Theme 1:
**Global Warming
 & Carbon Cycle**
 (2005-)

- Marine atmos. CO₂ (Watanabe/JAMSTEC)
- Western Pacific O₂ budget (Mukai/NIES)
- CO₂-profiling (Nagasawa/Tokyo Metro. U)
- Bio-geochemical C cycle (Uematsu/U Tokyo)
- Oceanic CO₂ Tech. development (Uji/AESTO)

Theme 2:
**Asian
 Monsoon &
 Climate
 Variability**
 (2005-)

- Maritime continent radars (Yamanaka/JAMSTEC)
- Indian Ocean buoy (Mizuno/JAMSTEC)
- Thailand/Water management (Oki/U Tokyo)
- SE-Asian rainfall (Matsumoto/U Tokyo)
- GPS temperature-humidity (Tsuda/Kyoto U)
- Tibetan energy-water cycle (Ishikawa/Kyoto U)

Theme 3:
Informatics (2005-)

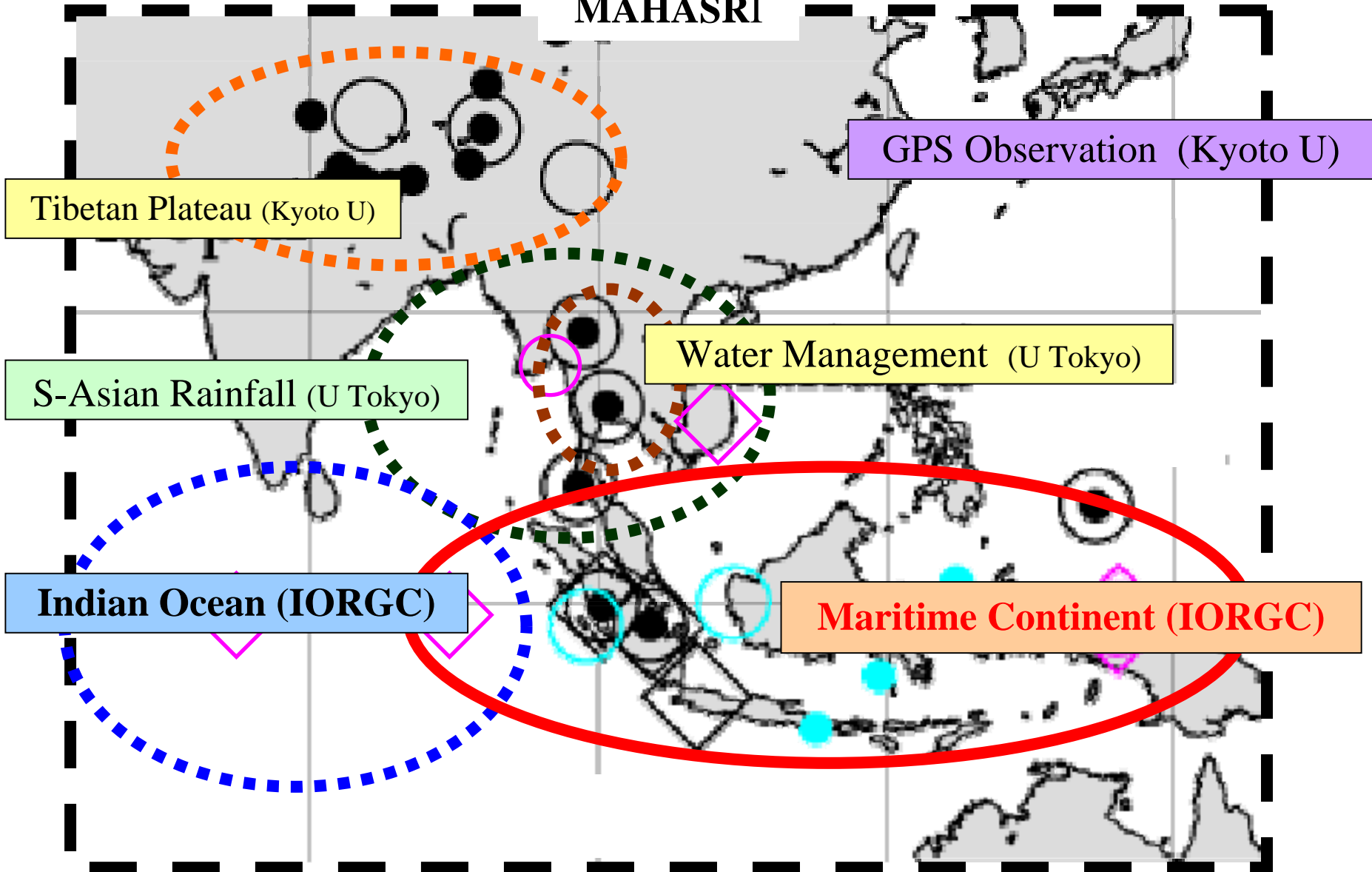
- Informatics for GEOSS (Takahashi/MRI Inc)
- Existing obs. systems (Ito/AESTO)

Theme 4: **Tropospheric
 Chemistry** (2006-)

- Aerosol monitoring (Takamura/Chiba U)
- Ground-based optics (Akimoto/JAMSTEC)

JEPPs and MAHASRI/GEWEX/WCRP

MAHASRI



Japanese EOS Promotion Program (JEPP)

Hydrometeorological Array for ISV-Monsoon Automonitoring
(HARIMAU)

IORGC/JAMSTEC

TISDA/BPPT

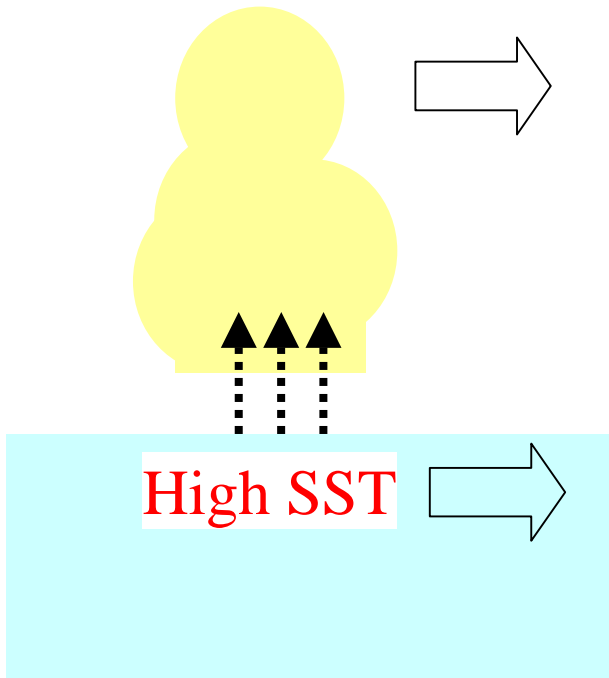


Objectives

- Construction of **Radar-profiler network** over Indonesian **Maritime Continent**
- Observation of **Intra-Seasonal Variations** for understanding global climate

Intra-Seasonal Variations (Super Cloud Clusters)

Indian Ocean



Atmos.-Ocean
coupled

Latent heating

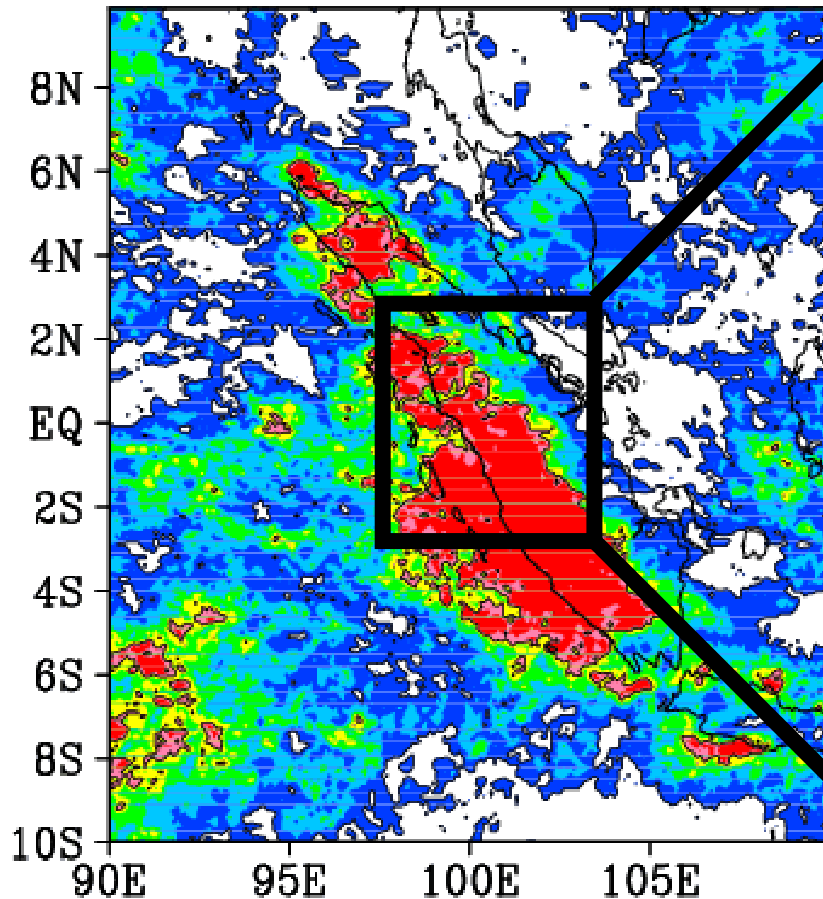
Giant Diurnal Cycle over Sumatera

(Single station obs.: Renggono et al., 2001, *AG*; Murata et al., 2002, *JMSJ*; Wu et al., 2003, *JAM*)

Satellite Observation

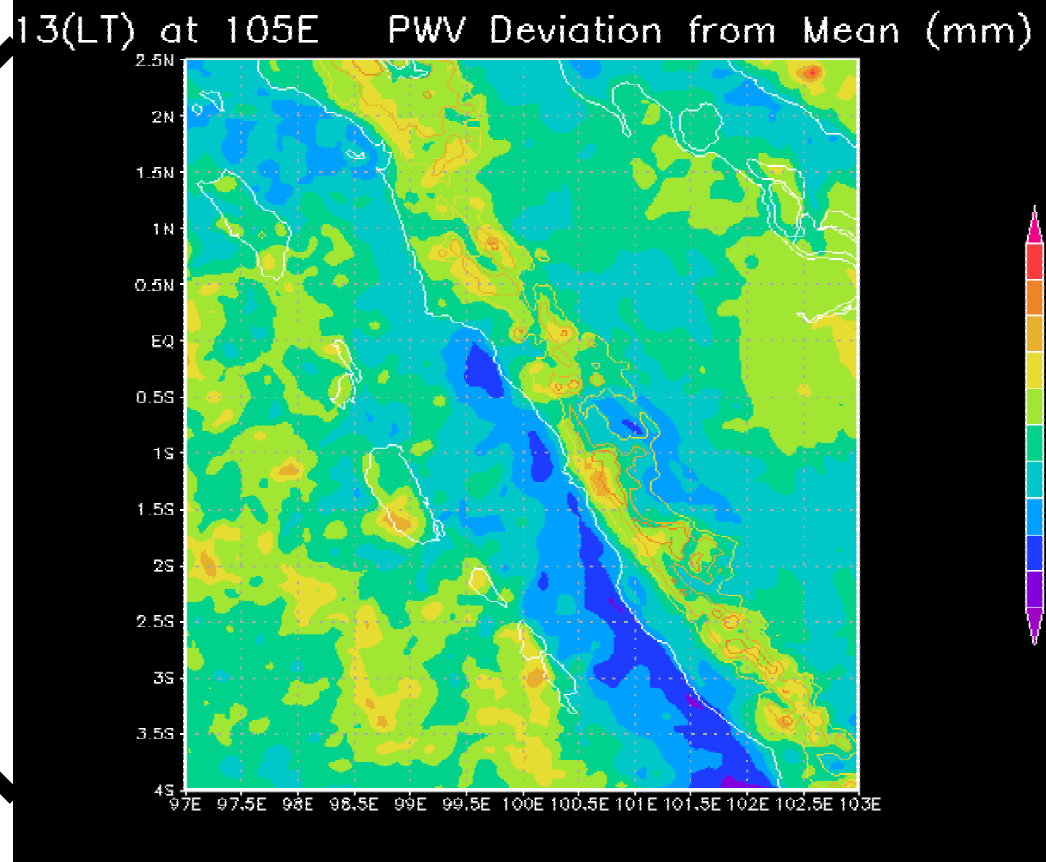
(Mori et al., 2004, *MWR*;
Sakurai et al., 2005, *JMSJ*)

00 LST



Numerical Modeling

(Sasaki et al., 2004, *GRL*;
Wu et al., submitted to *JAS*)



Kototabang Observatory, Sumatera, Indonesia



Equatorial Atmosphere Radar (VHF Profiler)

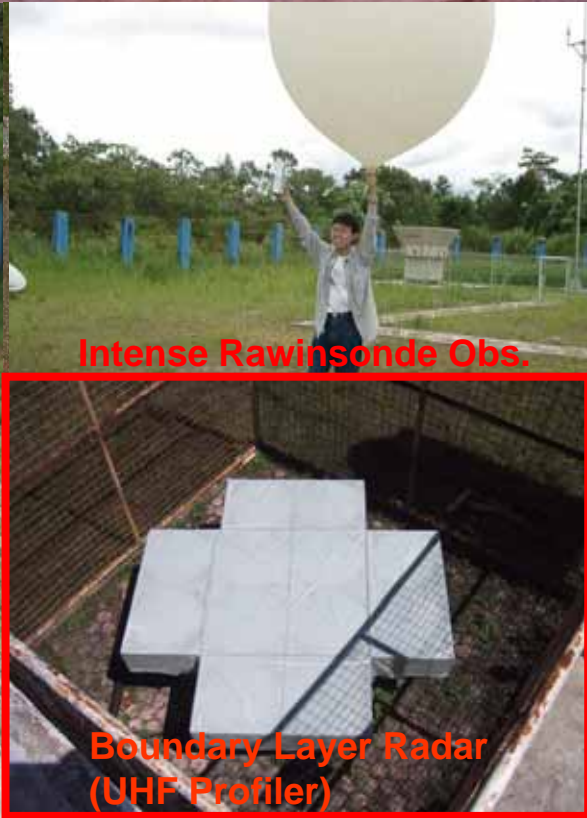


Meteorological Radar



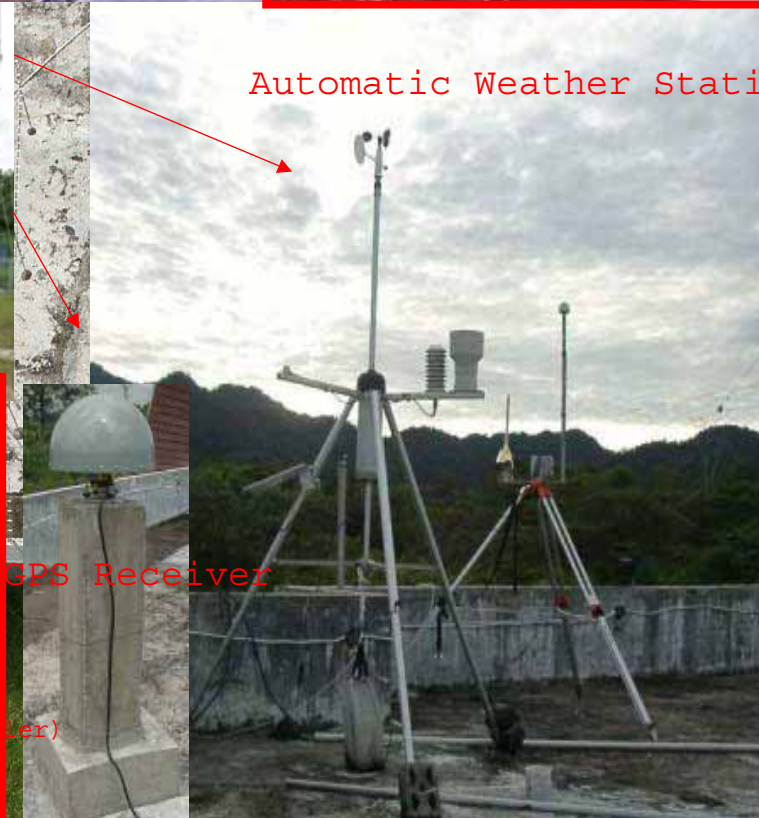
Sonic Anemometer

Sodar



Intense Rawinsonde Obs.

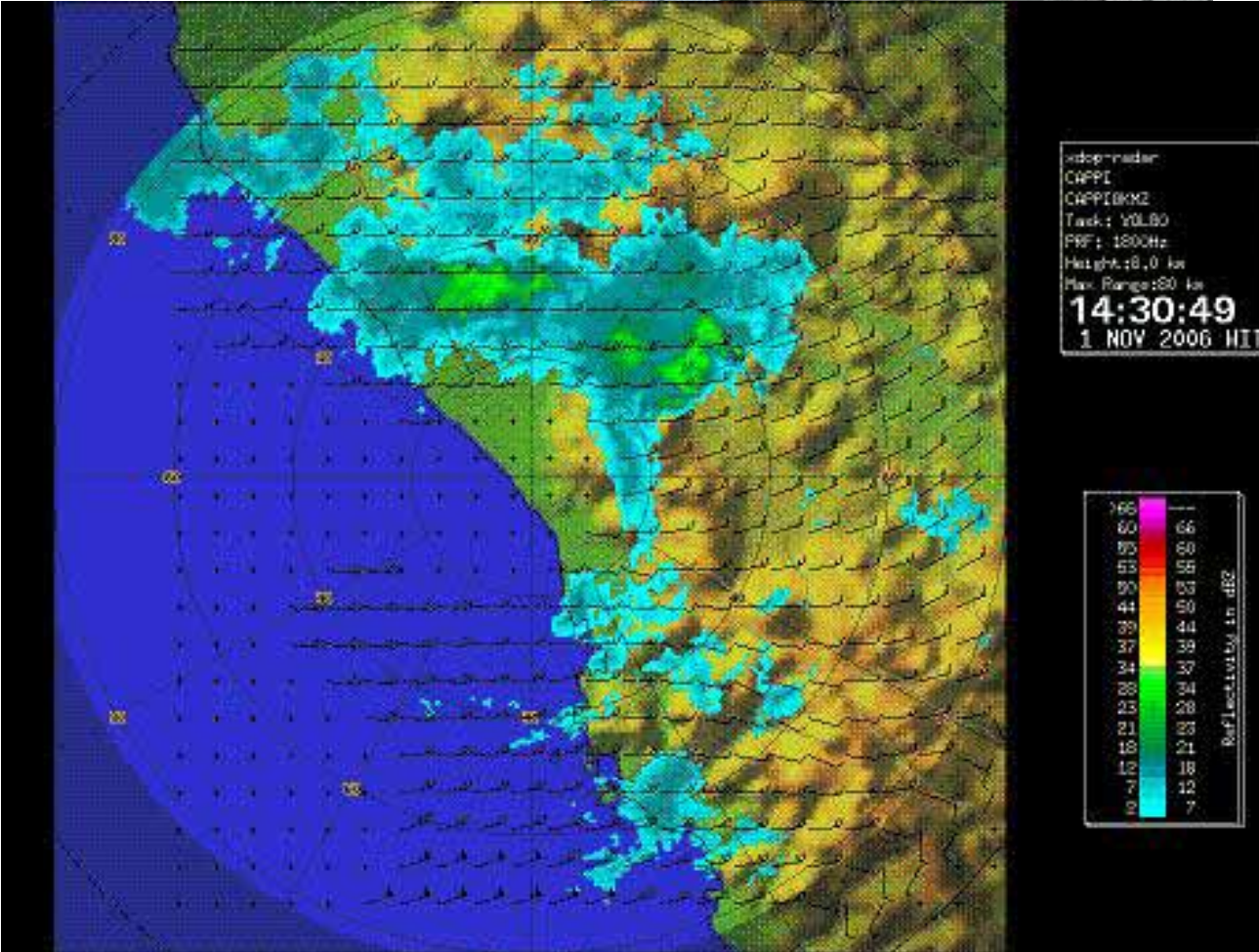
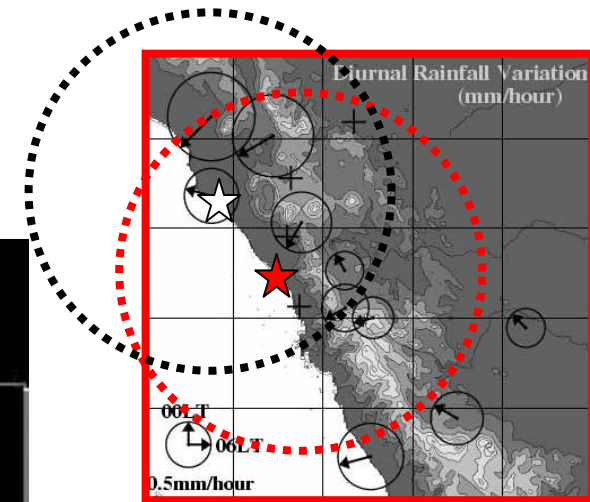
Boundary Layer Radar (UHF Profiler)



Automatic Weather Station

GPS Receiver

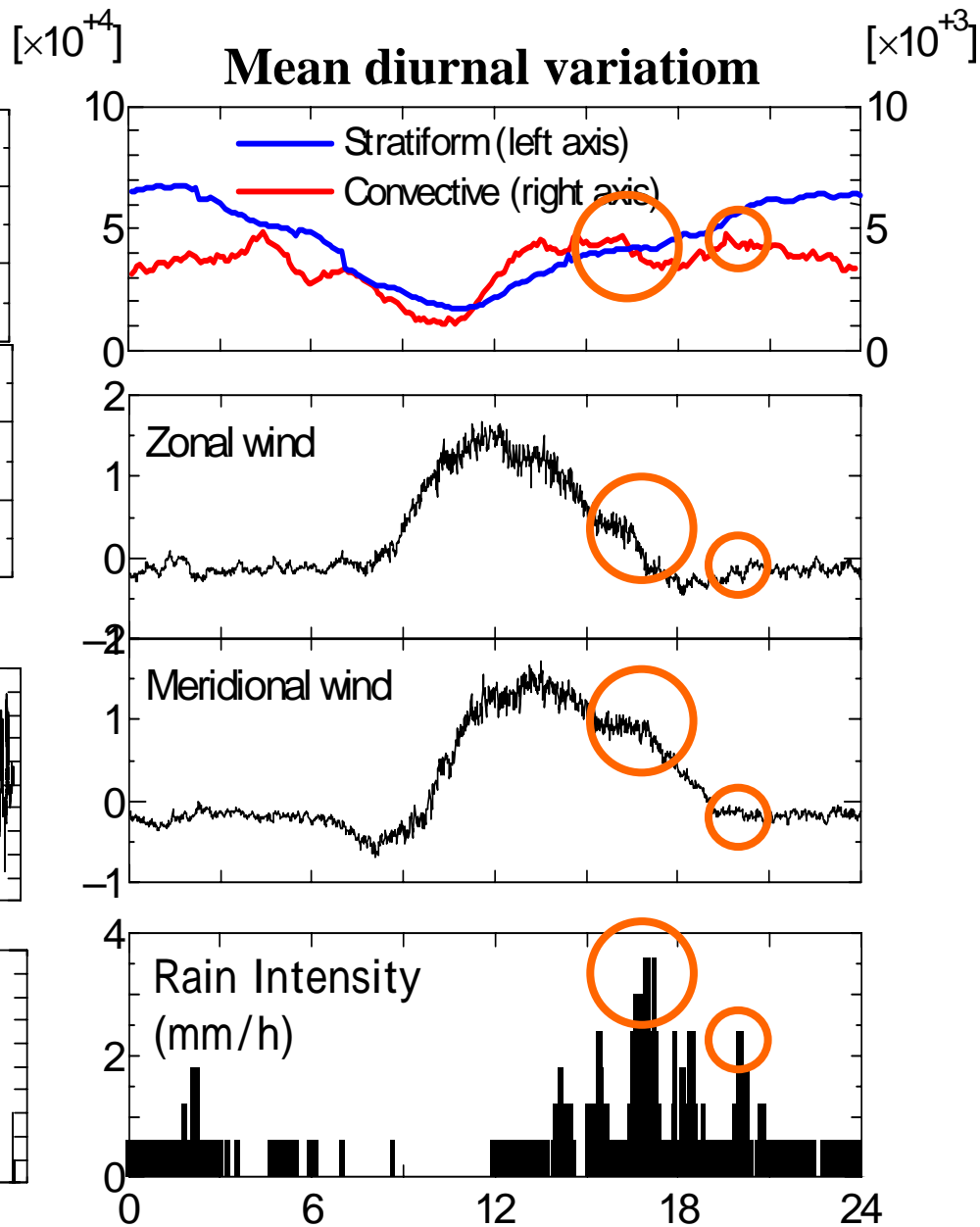
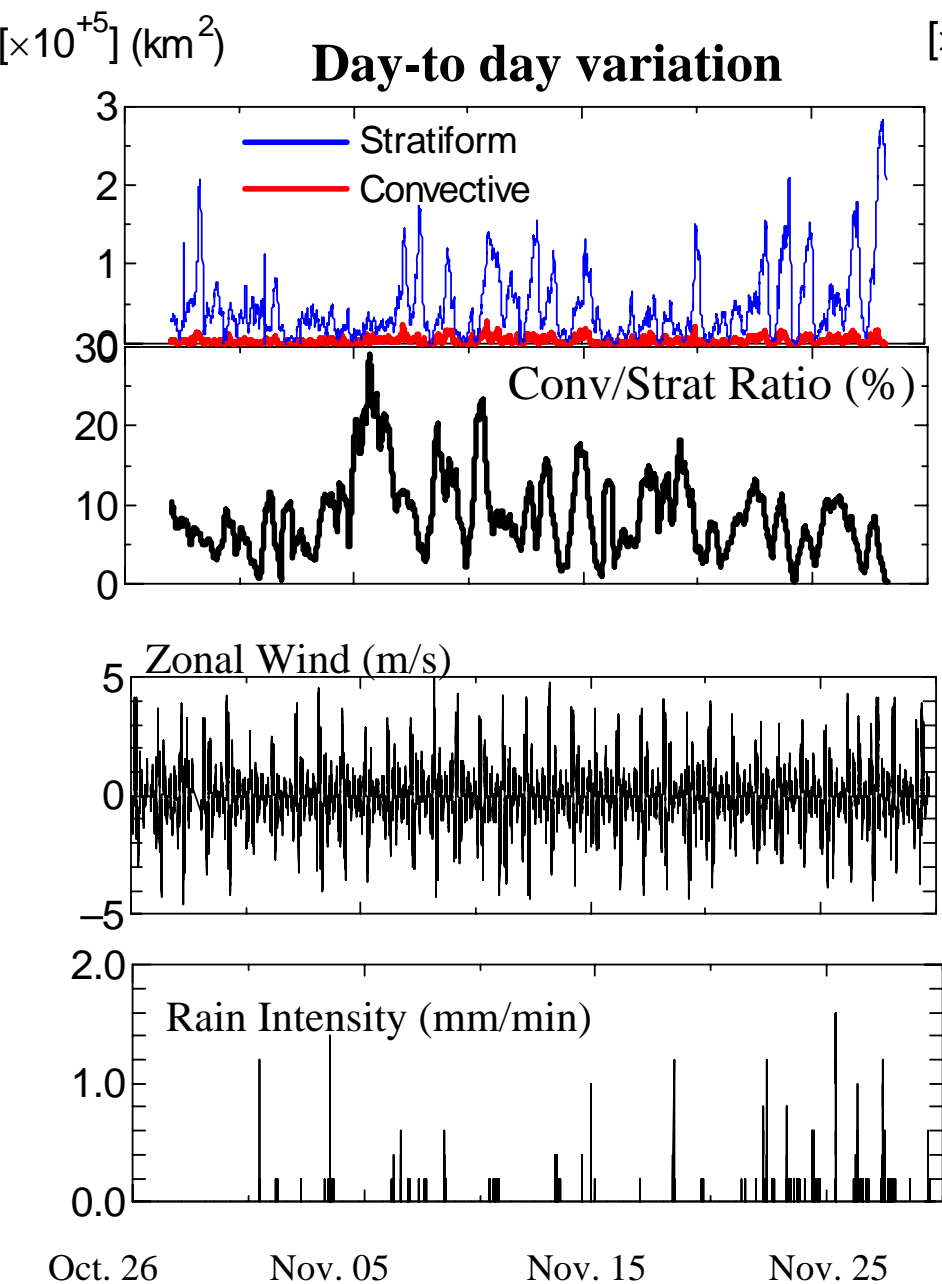
MIA and Tiku XDR Stations, Sumatera



Realtime Display on Web

http://203.88.86.149/mia_xdr/index.html

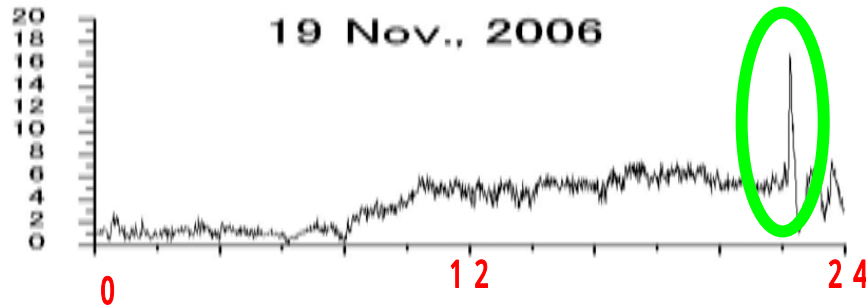
MIA-XDR HARIMAU-MISMO campaign: Quick looks



Gust due to conv

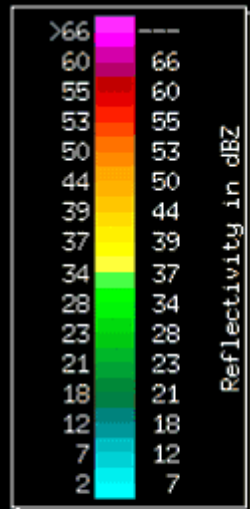
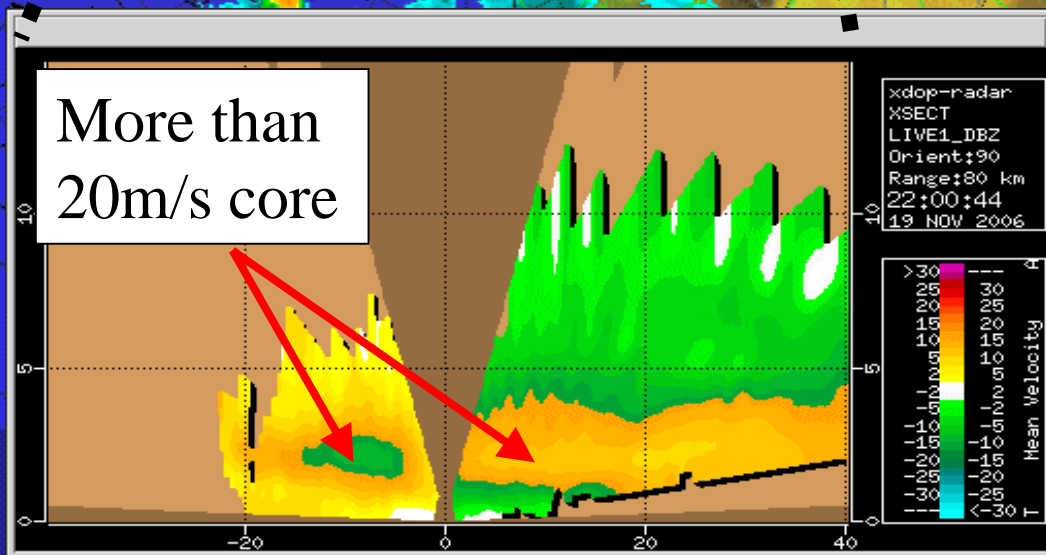
m/s

19 Nov., 2006

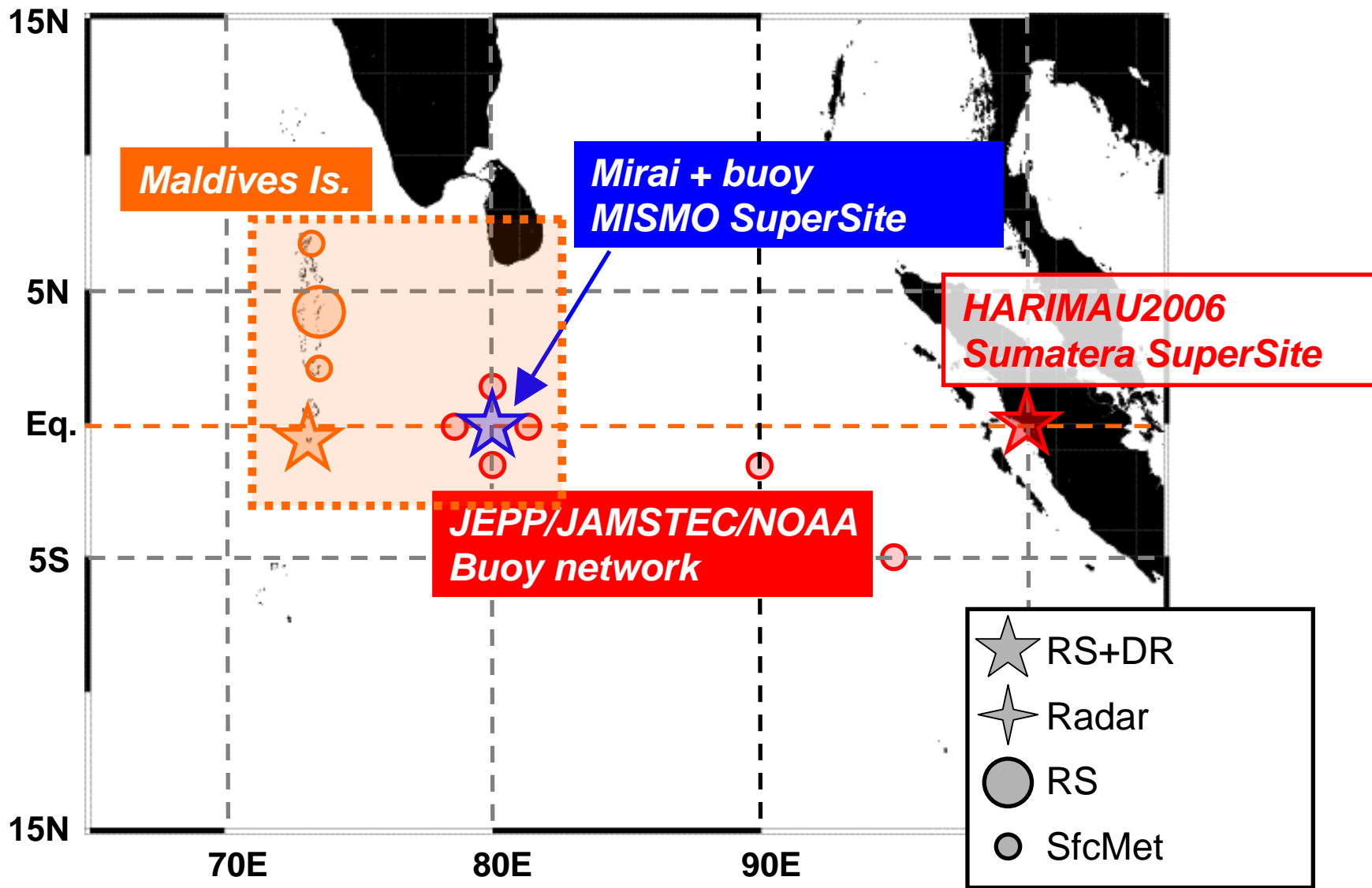


Max. Range: 80 km
22:18:44
19 NOV 2006 WIT

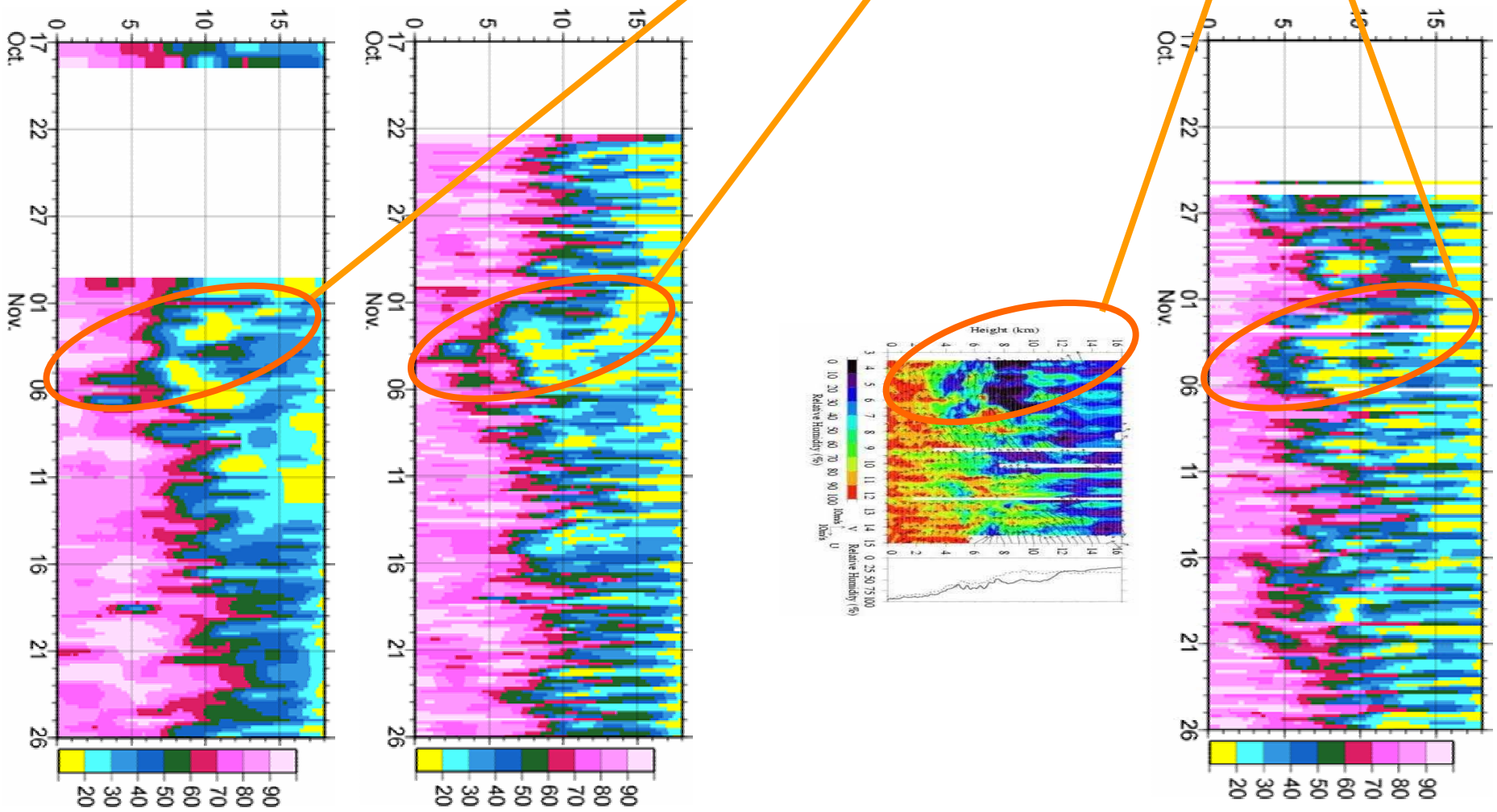
More than
20m/s core

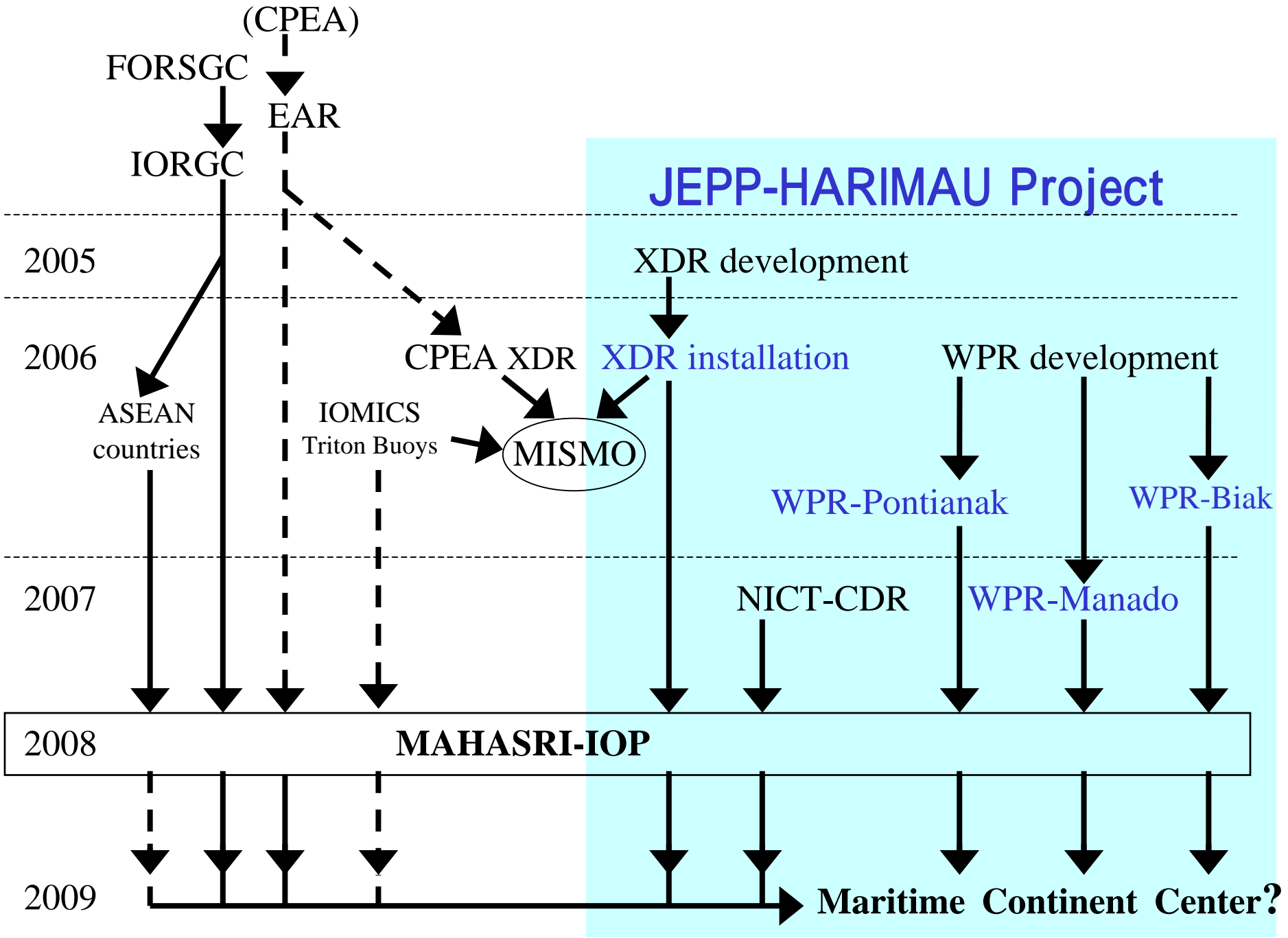


MISMO-IOP : 2006/10/24 - 2006/11/25



Zonally elongated dry air intrusion observed during MISMO-HARIMAU





L-band Wind Profilers

(1357.5 MHz, 2 kW)

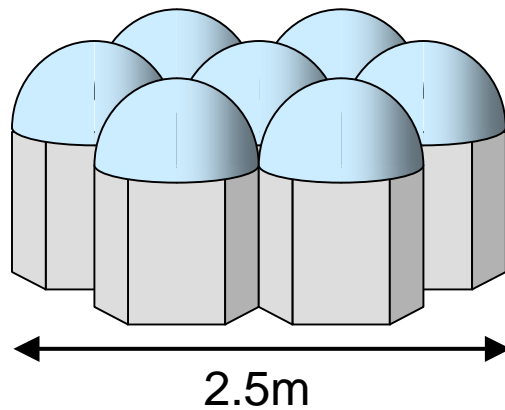
Hashiguchi, Yamamoto et al./RISH-Kyoto University

To be installed at Pontianak, Biak and Manado

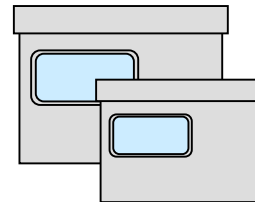


Radar System

Antenna Unit

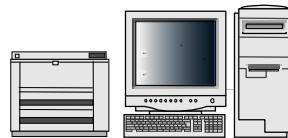


Transmitter

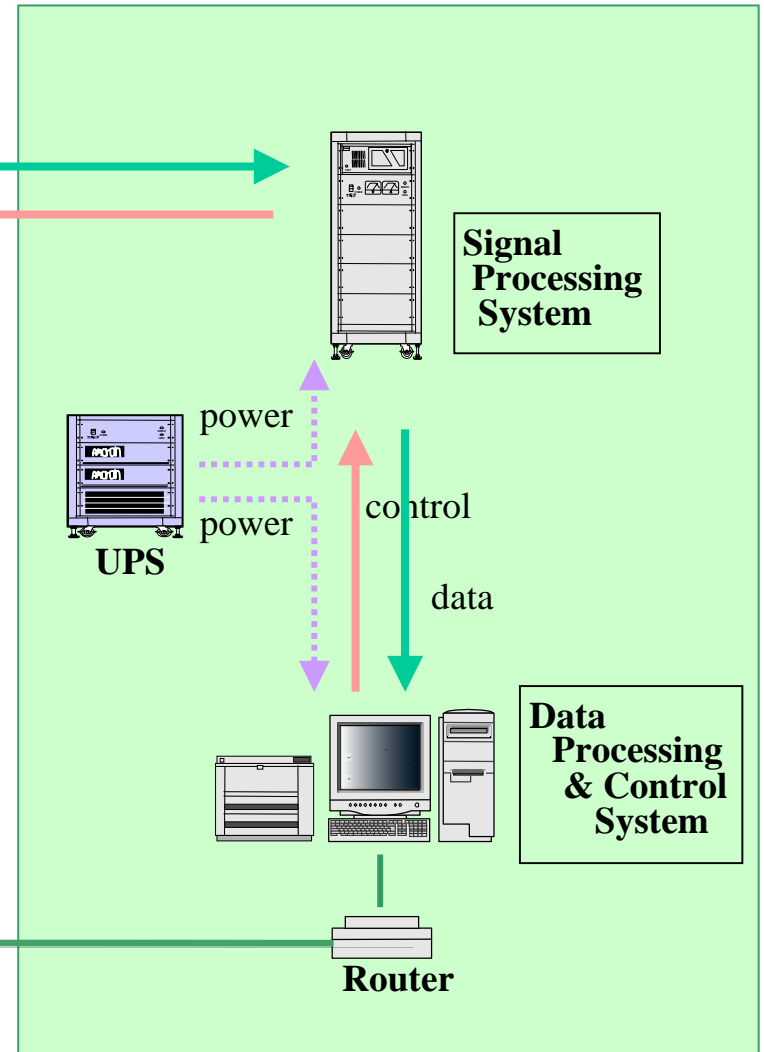


Power Unit

Remote Control System

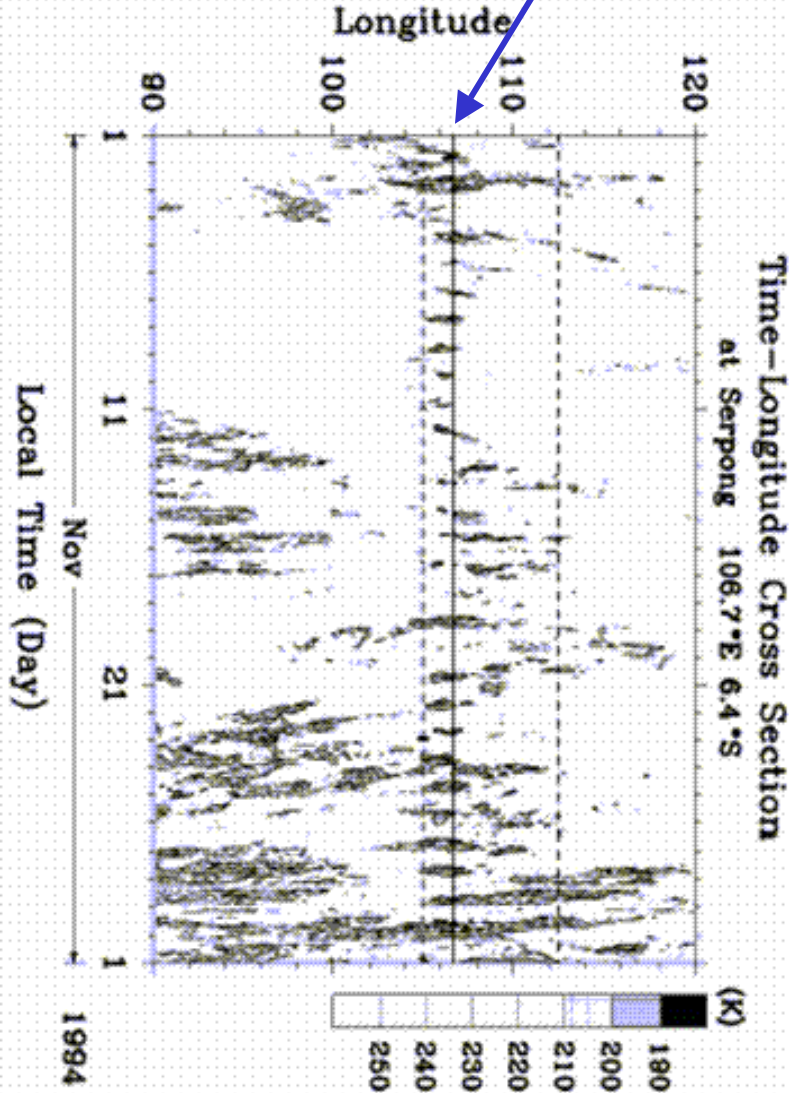


Network

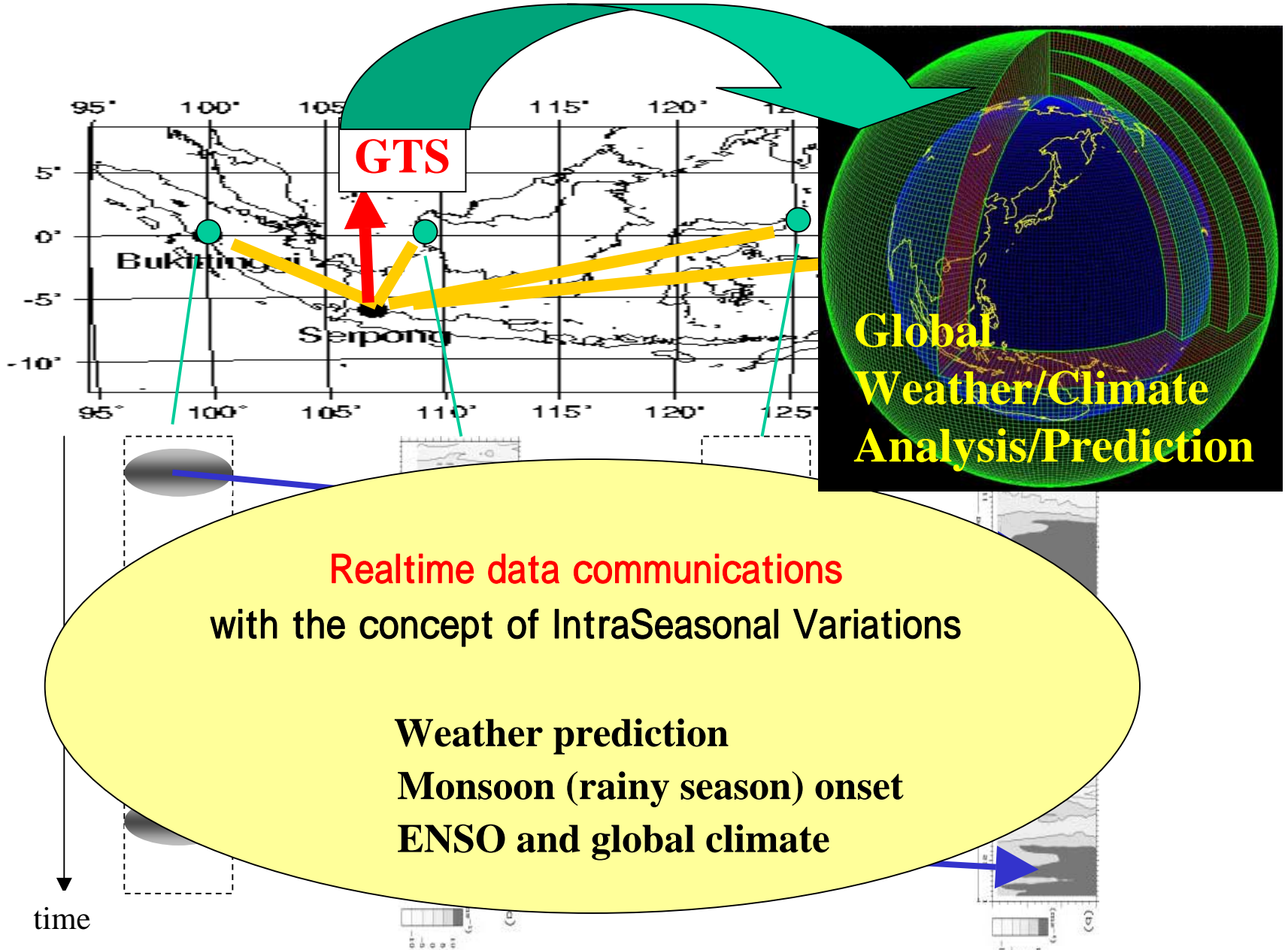


CDR transferred from NICT

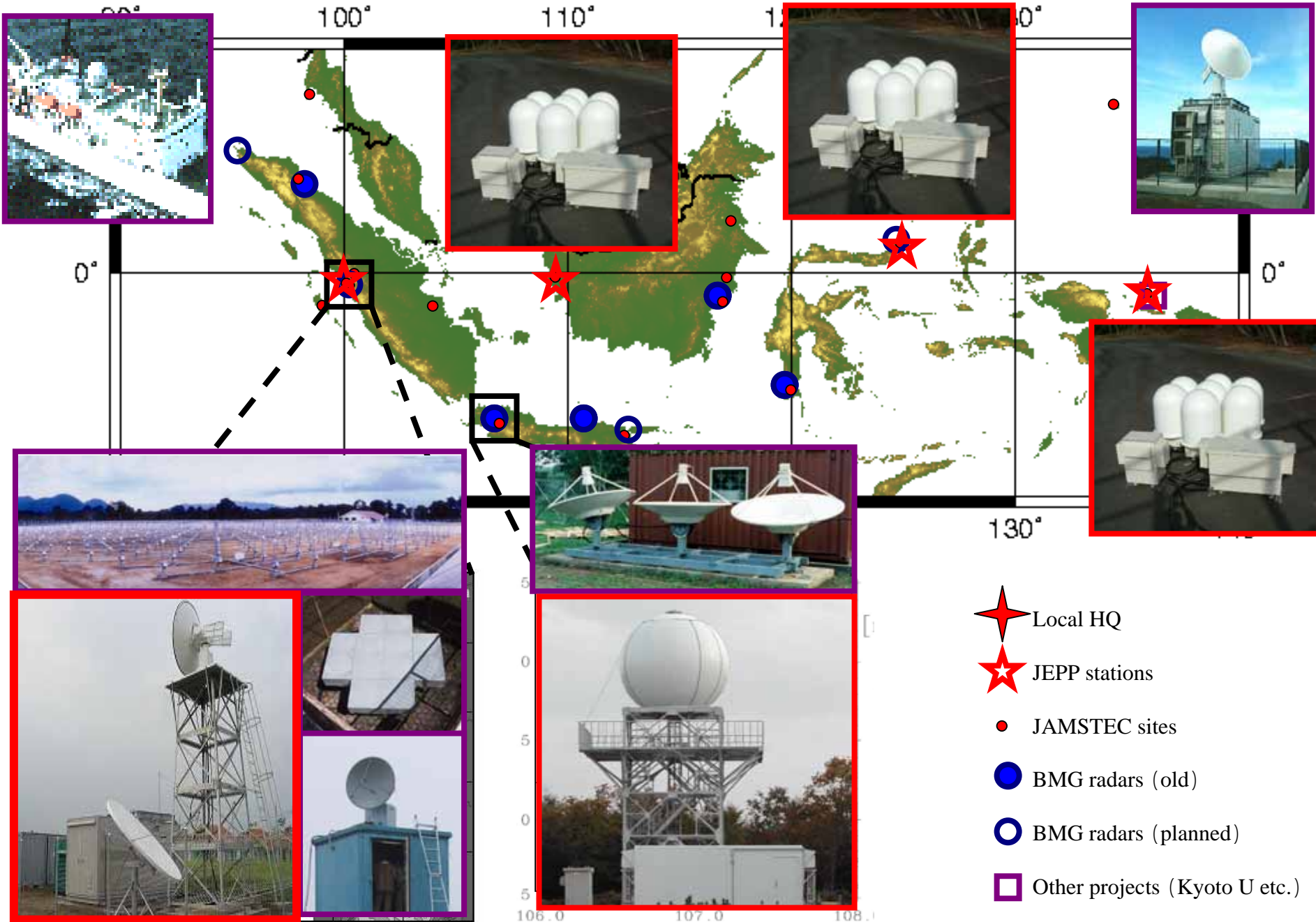
To be re-installed near **Jakarta**,
an area of most dominant
ISV-diurnal cycle interactions









Expected Social Applications

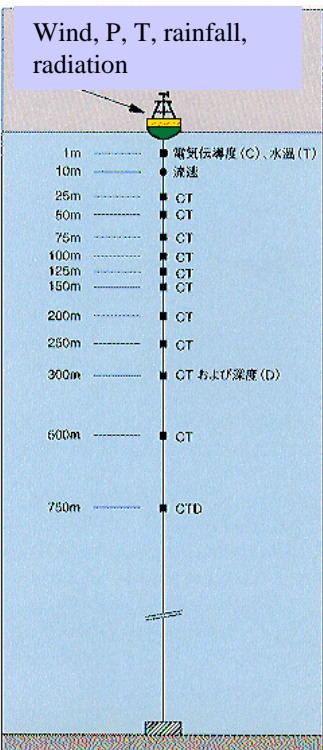
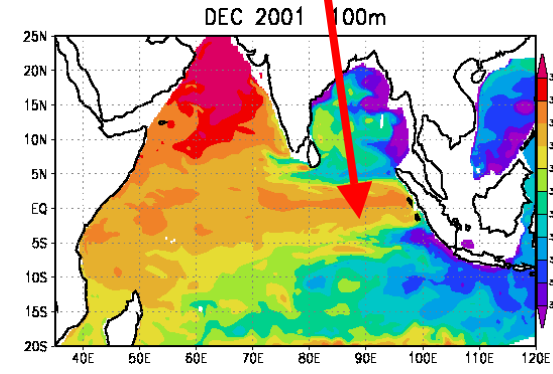
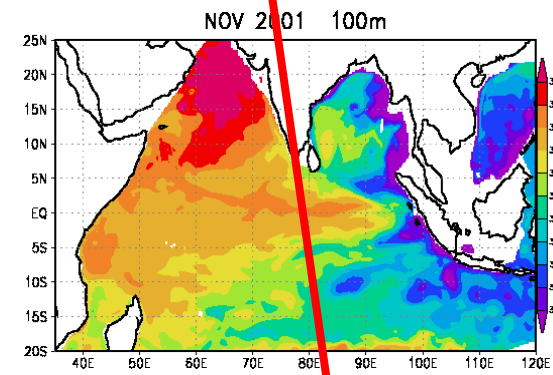
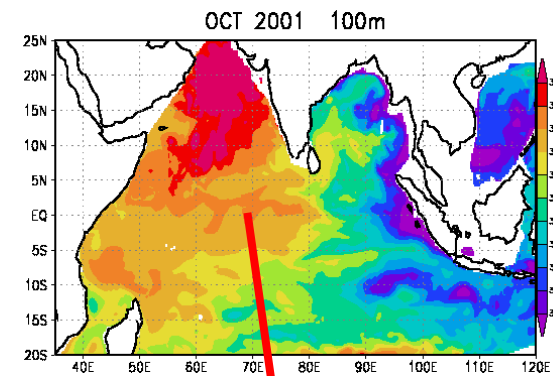


Hydrometeorological Array for ISV-Monsoon Automonitoring (HARIMAU)

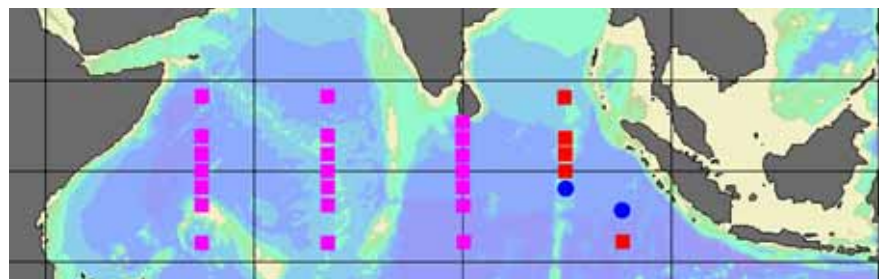
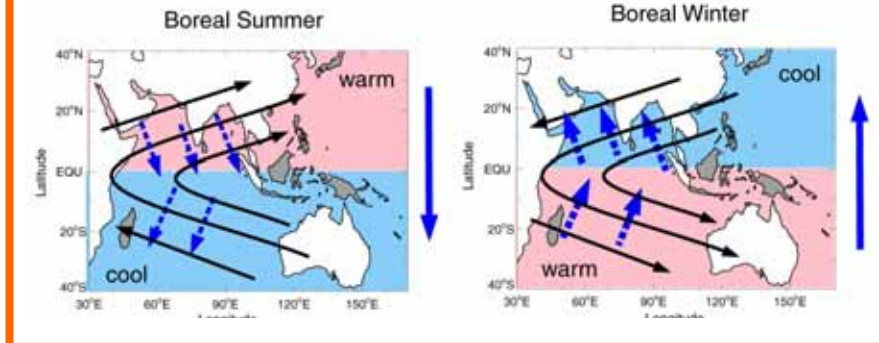


-  Local HQ
-  JEPP stations
-  JAMSTEC sites
-  BMG radars (old)
-  BMG radars (planned)
-  Other projects (Kyoto U etc.)

Intraseasonal Variations



Seasonal Variations



Interannual Variations (Dipole Mode)

