

Short Report of MetMalaysia (MMD) Visit

Meeting with DG, Deputy DG, Directors for relevant divisions, and key personnel of MetMalaysia on Jan 26, 2015 has resulted in the followings.

- 1) MetMalaysia has agreed to join the campaign.
- 2) MM has agreed to provide YMC community with original routine data (see next slides*).
- 3) Focal point of Malaysia may be chosen from university. (But always communicate with MM)

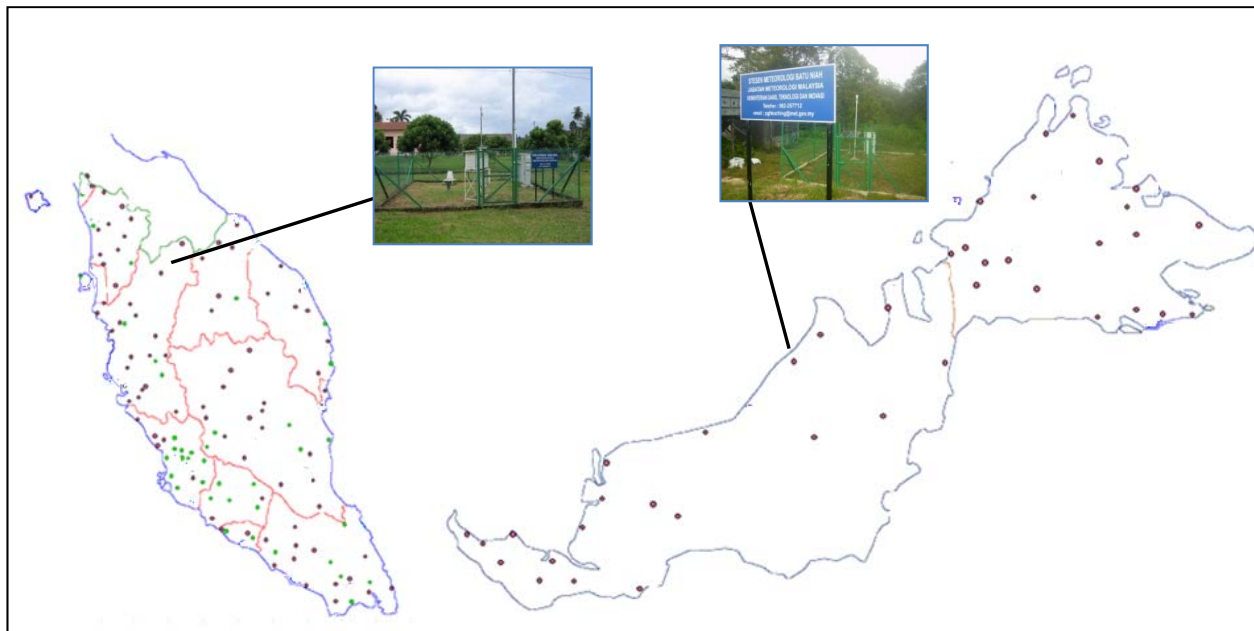
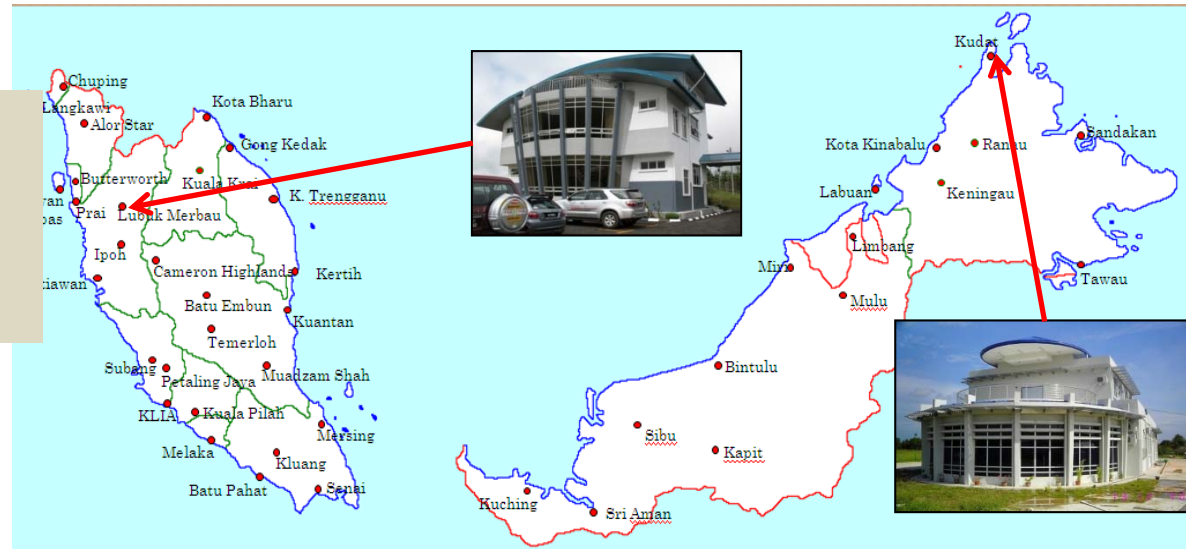
* Note. The following slides are provided by MM.

Summary of MM Observations

- 44 Principal Meteorological Stations
- 490 Auxiliary Weather Stations Including
140 Automatic Weather Stations (AWS)
- 8 Upper Air Stations
- 23 Air Pollution Stations
- 12 Weather Radar Stations
(7 located at Peninsular Malaysia,
3 at Sarawak and 2 at Sabah)

Weather Observation Network

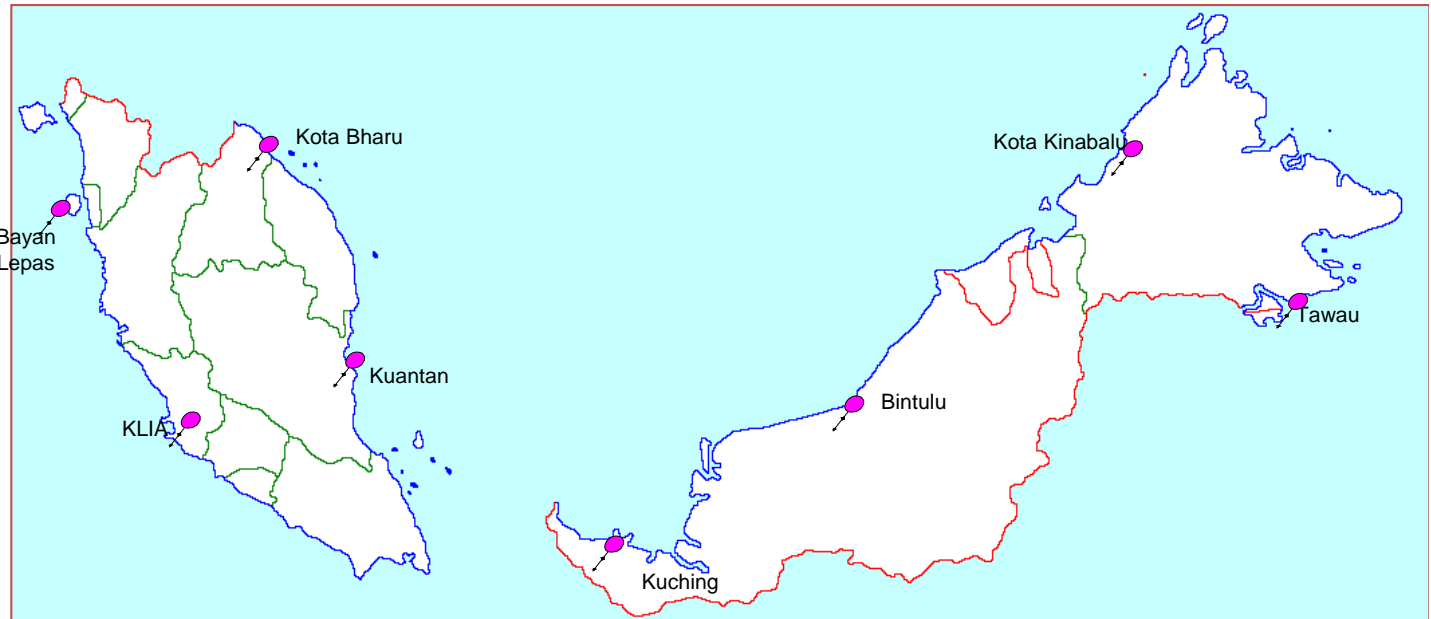
44 Principal Meteorological Stations



490 Auxiliary Weather Stations

Weather Observation Network

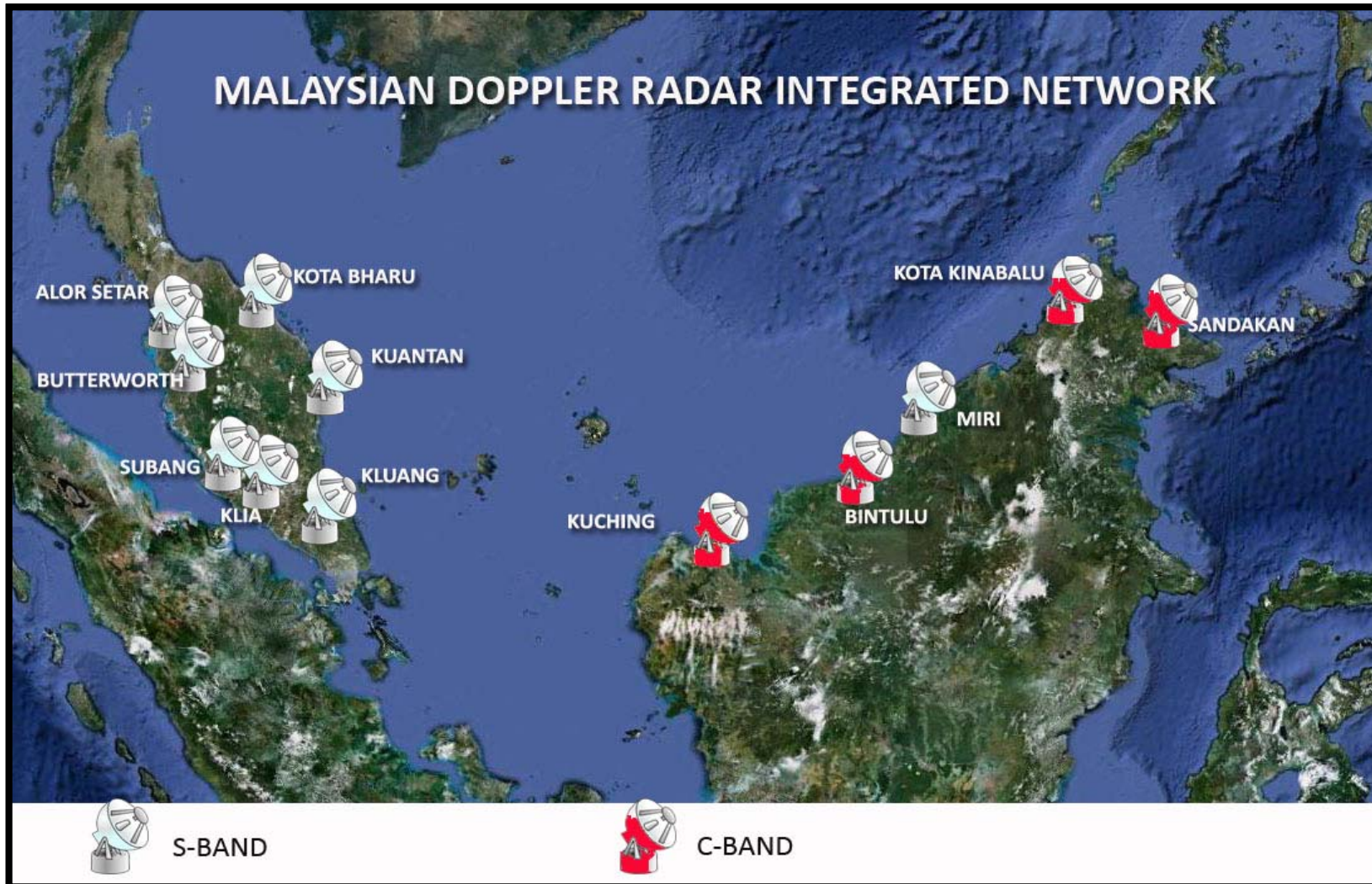
8 Upper Air Stations



23 Air Pollution Stations



Weather Monitoring Network

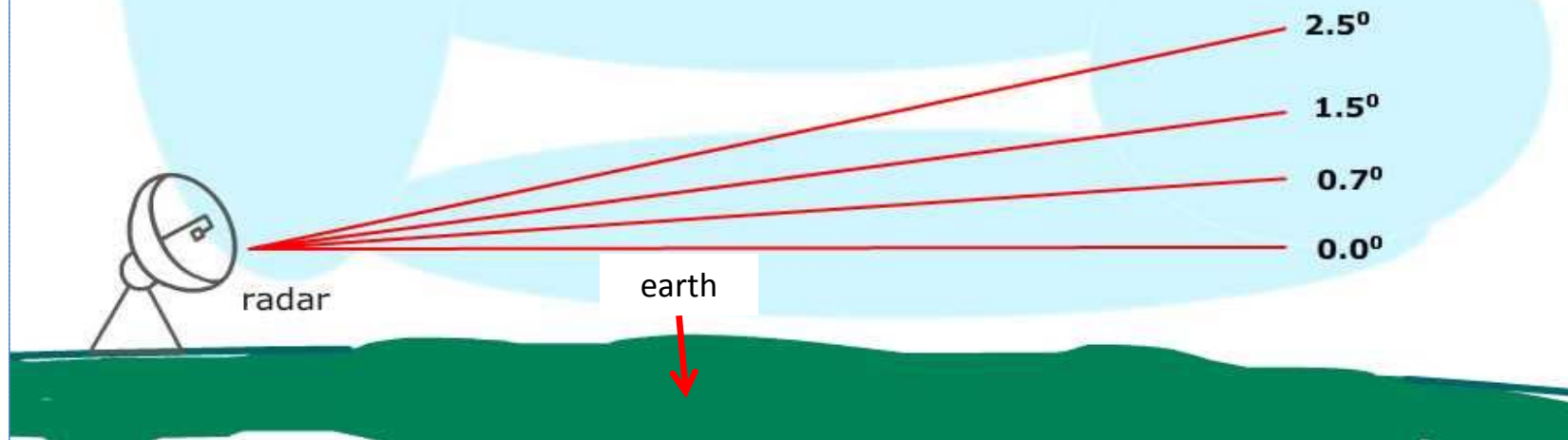


12 Weather Radar Stations

LRange_VOL

Volume Scan Lrange_Vol :

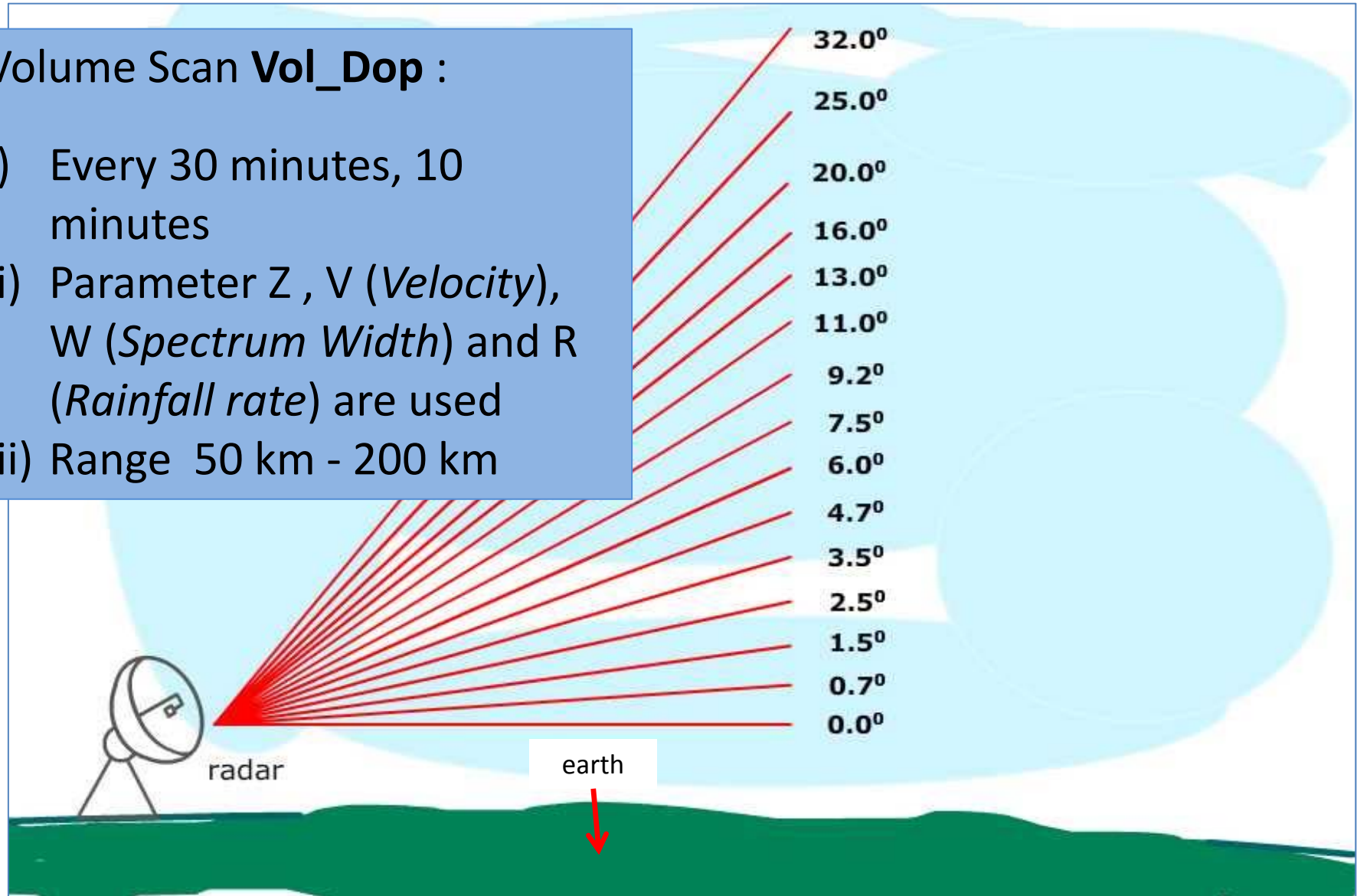
- i) 4 *Elevation angle* 0.0° , 0.7° , 1.5° , 2.5°
- ii) Each 10 minutes
- iii) Parameter *Z (Reflectivity)* dan *R (Rainfall rate)* are used
- iv) Range 300 km – 500 km

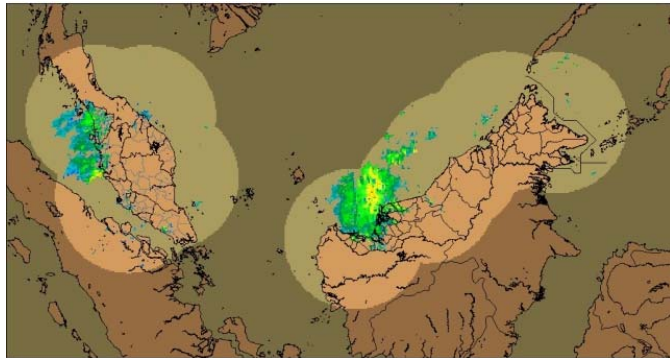


VOL_DOP

Volume Scan Vol_Dop :

- i) Every 30 minutes, 10 minutes
- ii) Parameter Z , V (*Velocity*), W (*Spectrum Width*) and R (*Rainfall rate*) are used
- iii) Range 50 km - 200 km





Radar Sites

RAW DATA

**Head Office
RADAR Division**

- i. ARCHIVING RAW DATA
- ii. GENERATE PRODUCT RADAR IN IRIS FORMAT ; CAPPI, RAIN1, RAINN
- iii. GENERATE OTHERS FORMAT
 - i. BUFR, NetCDF, etc
 - ii. Jpeg, png etc

**Climatologists
Radar Data**

RAIN24, RAIN1

**QPE
products**

**NWP &
RESEARCH
Division**

Raw Data,
BUFR,

BUFR, jpeg

**ICT
Division**

Central Forecast Office

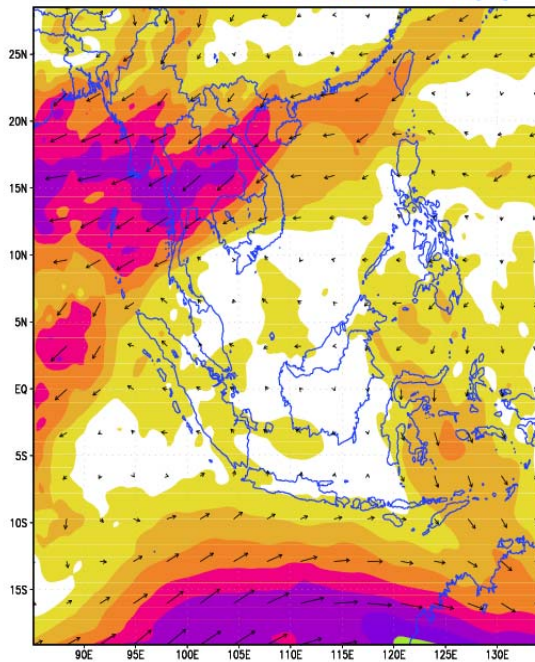


2. Numerical Weather Prediction Models

➤ Local Models:

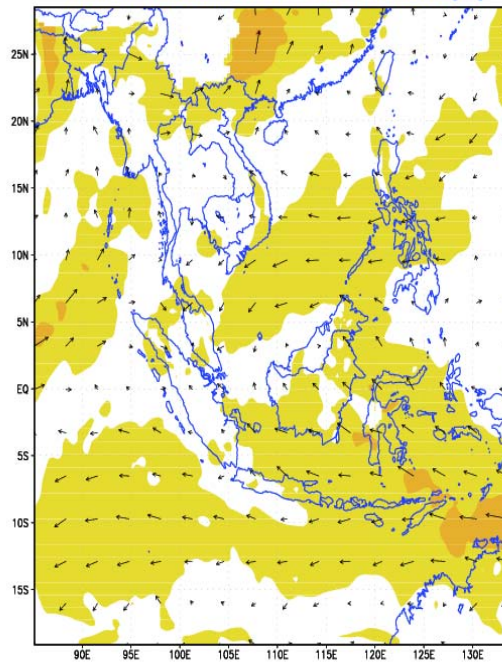
MMD-MM5

12-HOUR FORECAST OF 200 hPa LEVEL WIND VECTORS [kts]



MMD-36km MM5 Initial Time: 2009:8:15:12Z Valid Time: 2009:8:16:0Z

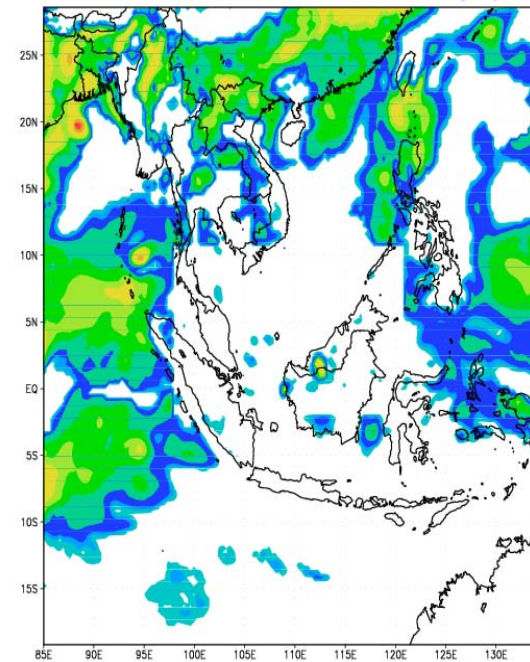
24-HOUR FORECAST OF 850 hPa LEVEL WIND VECTORS [kts]



MMD-36km MM5 Initial Time: 2009:8:15:12Z Valid Time: 2009:8:16:12Z

MMD-WRF

1-HOUR FORECAST OF 01h ACCUMULATED RAINFALL [mm]



MMD-36km WRF Initial Time: 2009:8:15:0Z Valid Time: 2009:8:15:1Z

3. Marine Monitoring Networks



- ❖ 4 Acoustic Doppler Current Profiler (ADCP) & 2 Recording Doppler Current Profiler (RDCP) – real-time
- ❖ Data from various agencies: Royal Navy, Marine Dept., Oil & Gas, Scientific Expedition etc
- ❖ Voluntary Observing Ship (VOS)