



## **MALAYSIAN METEOROLOGICAL DEPARTMENT (MET Malaysia)**

### **MINISTRY OF ENERGY, SCIENCE, TECHNOLOGY, ENVIRONMENT & CLIMATE CHANGE (MESTECC)**

#### **SHAMSHUMAR BIN SHUHANI RADAR AND SATELLITE DIVISION**



# Our History

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- Established in 1958 under the Ministry of Transport as Malaysian Meteorological Services (MMS).
- Transferred to the Ministry of Science, Technology and Environment (MOSTE) in 1984. Currently known as Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC)
- Malaysian Meteorological Services (MMS) was changed to Malaysian Meteorological Department (MET Malaysia) in 28 September 2006.

# Our Vision and Mission

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## Vision

To be among the best of meteorological, climatological and geophysical service centre by 2020

## Mission

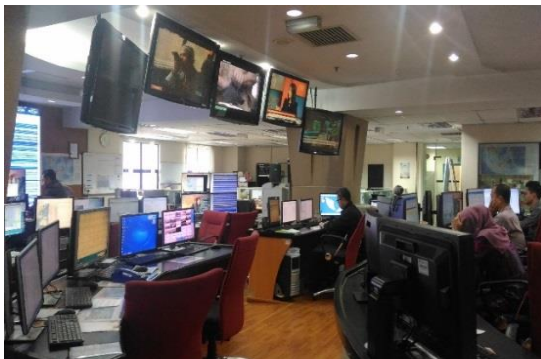
To fulfill Malaysians needs on meteorological, climatological and geophysical services for national security, societal well-being and sustainable socio-economic development



# Our Objectives

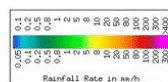
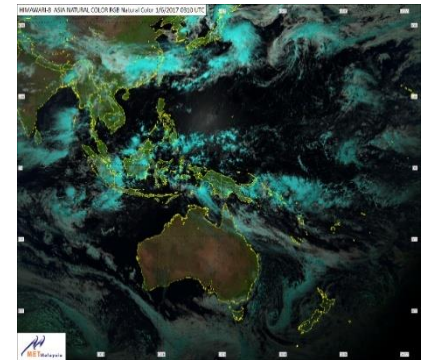
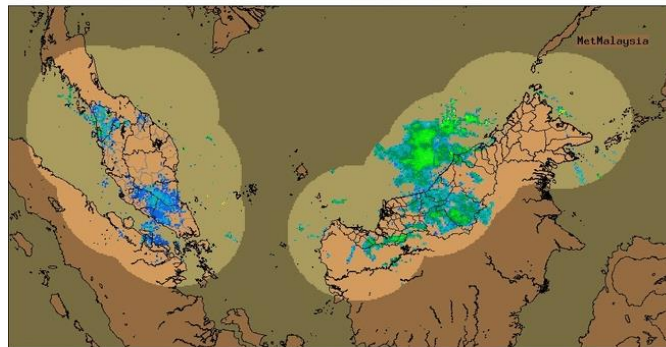
## Three main objectives

1. Enhance the meteorological, climatological and geophysical service system for:
  - safety and operational efficiency in the air, land, sea and military;
  - homeland security (such as disaster management and threats from climate change, extreme weather, earthquake and tsunami);
  - public safety and comfort; and
  - social economic development planning and environmental management



# Our Objectives

2. Enhance the observation system, and establish and regulate the national database of meteorology, climate, seismology and tsunami to meet the needs of present and future generations.
3. Protecting national interests at the international level and to promote the understanding and advancement in meteorological, climatological, seismological and tsunami sciences in the country.



Malaysia  
COPPE  
R\_300L2\_MY  
Task: LORANGE\_VOL  
PRF: 250Hz  
Height: 12.0 km  
Max Range: 1425 km  
**03:00:01**  
17 APR 2017 MYT



# Weather in Malaysia

The weather in Malaysia is characterized by two monsoon:

1. **Northeast Monsoon** (from November to March) -brings heavy rainfall, particularly to the east coast states of Peninsular Malaysia and western Sarawak.
2. **Southwest Monsoon** (from late May to September) normally signifies relatively drier weather causes haze.
3. The transition period in between the monsoons is known as the Inter-monsoon period (from April to May and From Sept to October).
4. During the inter-monsoon periods, winds are light and variable. Morning skies are often clear and this favour thunderstorm development in the afternoon. In the west coast states of Peninsular Malaysia causes flash flood.
5. MET Malaysia also issue strong winds and rough seas warnings as well as warnings on the presence of typhoons and tropical storms in national waters.



Haze



Flood



Flash Flood

# Our Services

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Weather and  
Marine  
Forecasts &  
Warnings



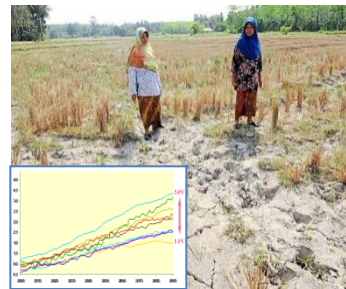
Aviation  
Meteorology



Atmospheric  
Science and Cloud  
Seeding



Earthquake Activities  
and Tsunami  
Warnings



Climatology and  
Agro-meteorology  
Services



# Our Clients

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Public



Special events



Aviation



Plantations



Military



Fisheries



Shipping



Sports & Recreational



Oil and Gas Exploration

# Weather Monitoring Network

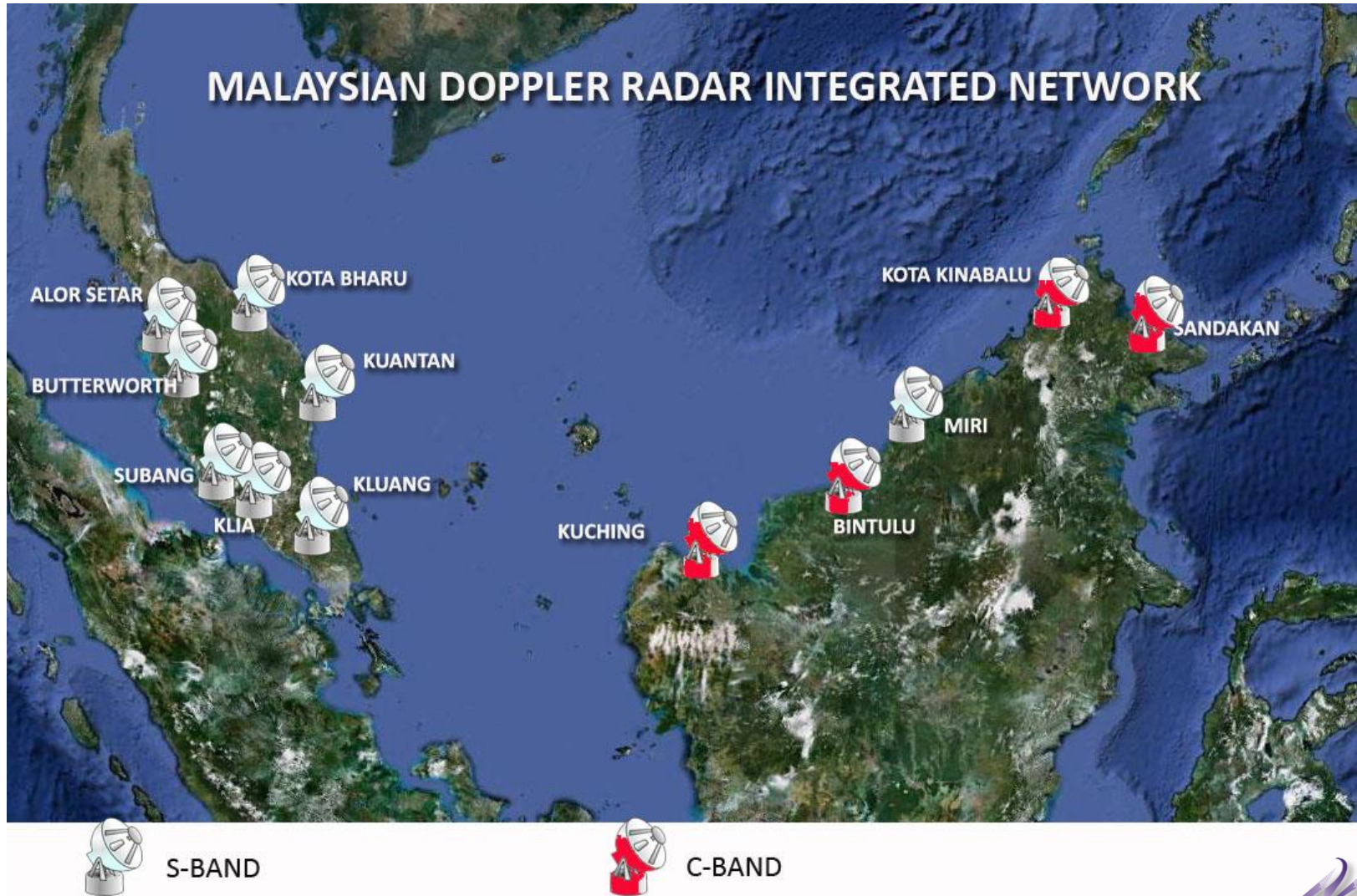
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- 44 Principal Meteorological Stations
- 384 Auxiliary Weather Stations (Automatic Weather Stations)
- 8 Upper Air Stations
- 23 Air Pollution Stations



# Weather Monitoring Network

- 12 Weather Radar



# Weather Monitoring Network

## Weather Radar Stations



# Weather Monitoring

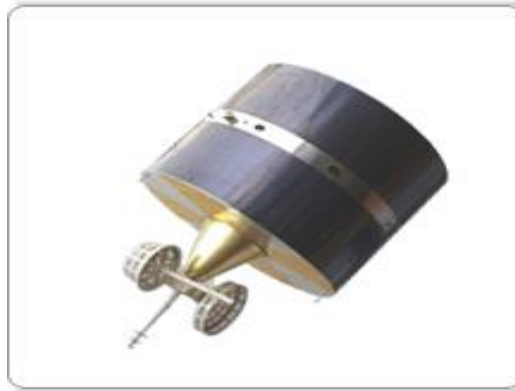
- 3 Geostationary Satellite Ground Stations

JCSat-2B Satellite



Himawari-8 Ground Station

Fengyun Satellite



FY-2 Ground Station

AsiaSat-4 Satellite



CMACast Ground Station

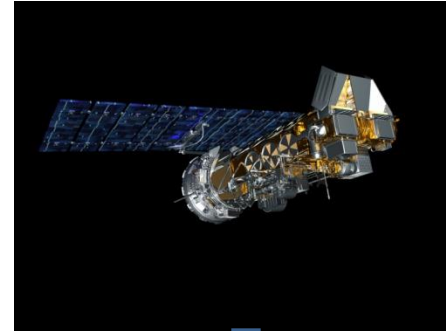
# Weather Monitoring

- 2 Polar Orbiting Ground Stations

MODIS



SATRAX Ground Station



VxEOS Ground Station

NOAA-18 &  
NOAA-19

# Weather Monitoring Network

## ■ FY-2G Geostationary Satellite Ground Station

Fengyun Satellite



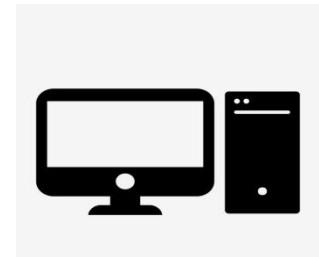
FY-2 Ground Station



Data Processing Workstation



Display PC

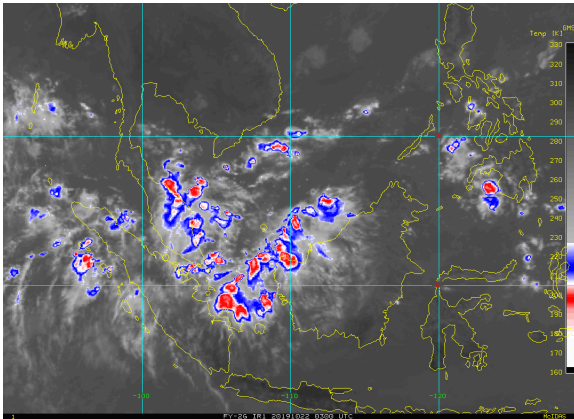


Antenna width (Meter)	Receiving Frequency (MHz)	Period	Type of Data	Product
3.7	1687.5	<ul style="list-style-type: none"> <li>• Hourly data (24 hours per day)</li> <li>• Full disk observation</li> </ul>	S-VISSR (Level 0 & Level 1B data)	Level 1B product (5 channels data: 4 Infrared and 1 Visible)

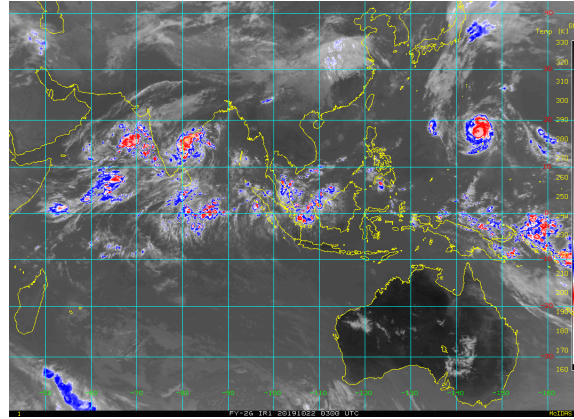
# Weather Monitoring Network

## ■ Products of FY-2G

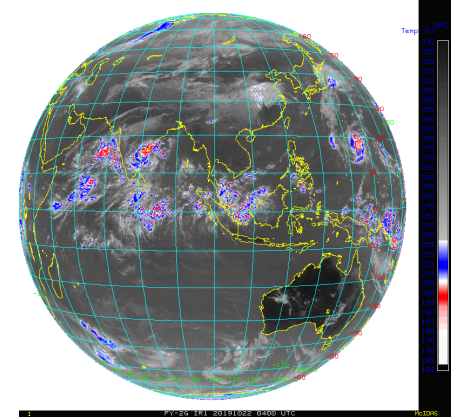
AREA	ASEAN	BROADSCALE	GLOBAL
PRODUCT	<ul style="list-style-type: none"><li>• Infrared-Grey Scale</li><li>• Infrared-Enhanced</li><li>• Visible</li></ul>	<ul style="list-style-type: none"><li>• Infrared-Grey Scale</li><li>• Infrared-Enhanced</li><li>• Visible</li><li>• Water Vapour</li></ul>	<ul style="list-style-type: none"><li>• Infrared-Grey Scale</li><li>• Infrared-Enhanced</li><li>• Water Vapour</li></ul>



ASEAN



BROADSCALE

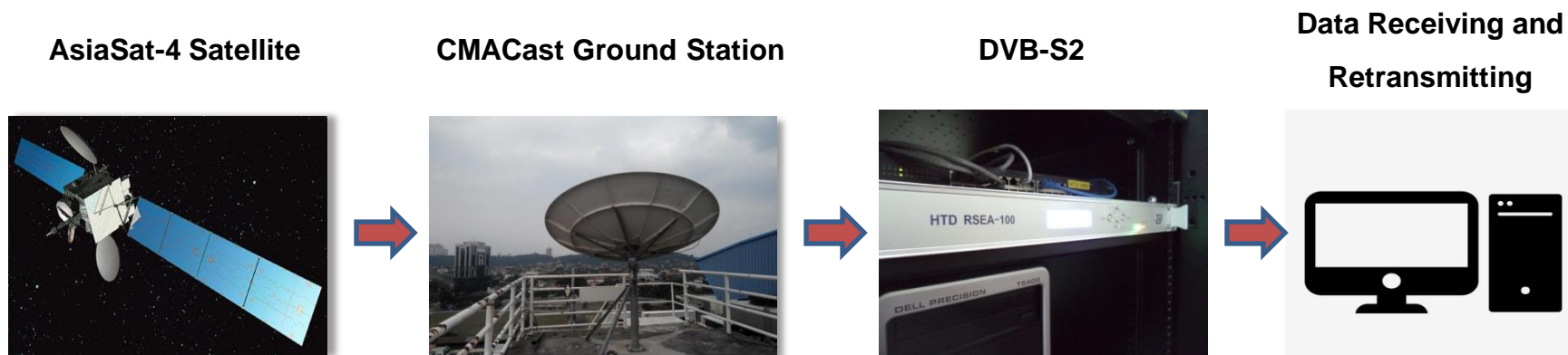


GLOBAL



# Weather Monitoring Network

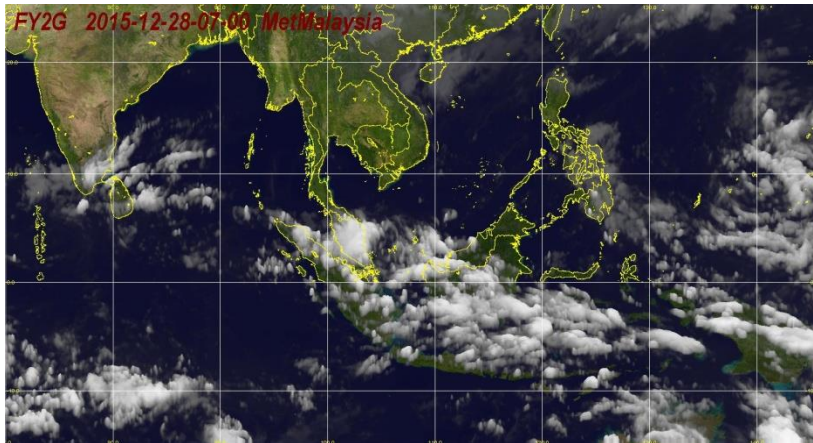
## ■ CMACast Reception System



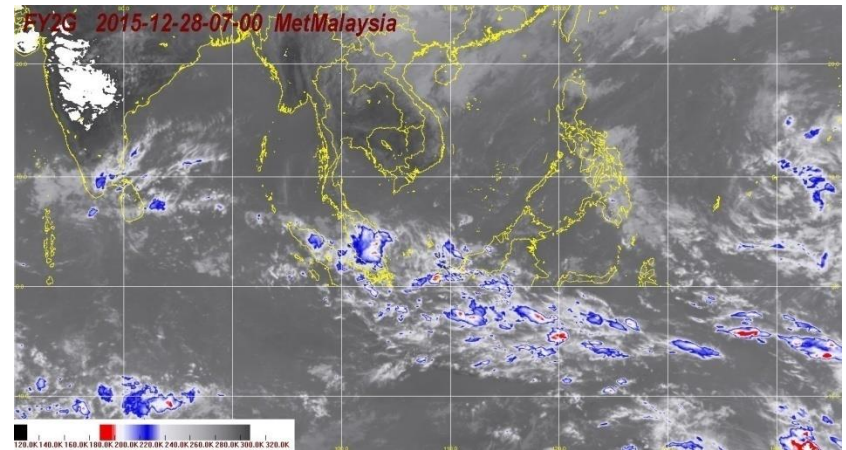
Antenna width (Meter)	Receiving Frequency (MHz)	Period	Type of Data	Product
2.4	4037.0	<ul style="list-style-type: none"> <li>• Hourly data (24 hours per day)</li> <li>• Full disk observation</li> </ul>	S-VISSR (Level 1B data)	Level 1B product (5 channels data: 4 Infrared and 1 Visible)

# Weather Monitoring Network

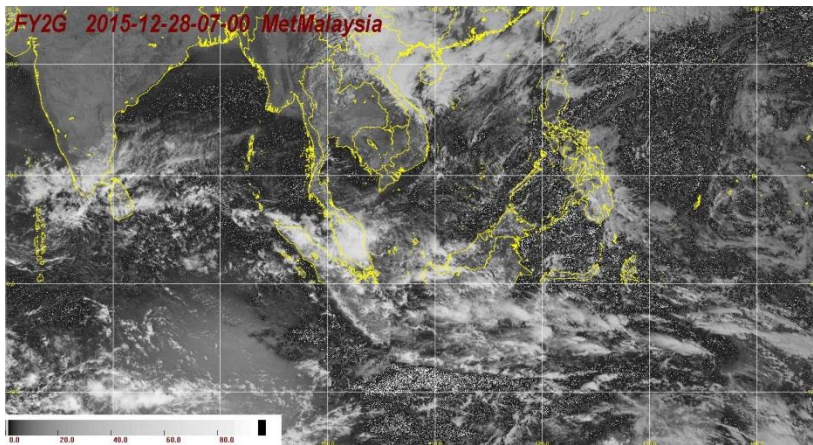
## ■ Products of CMACast



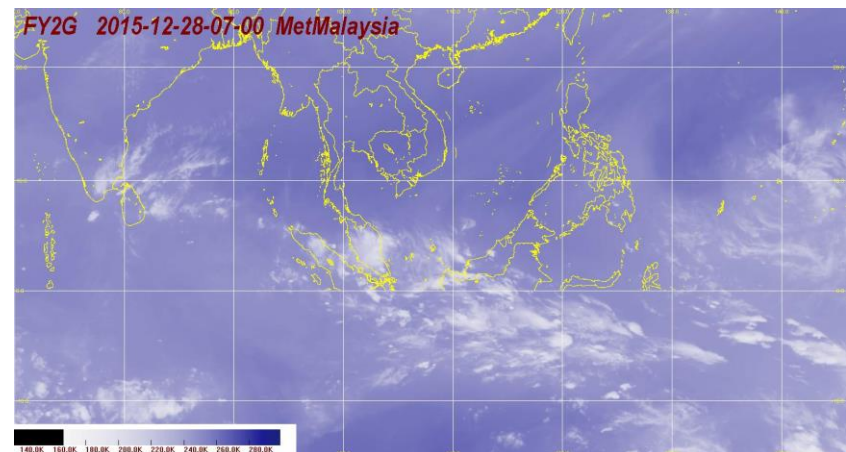
3D



Infrared 1



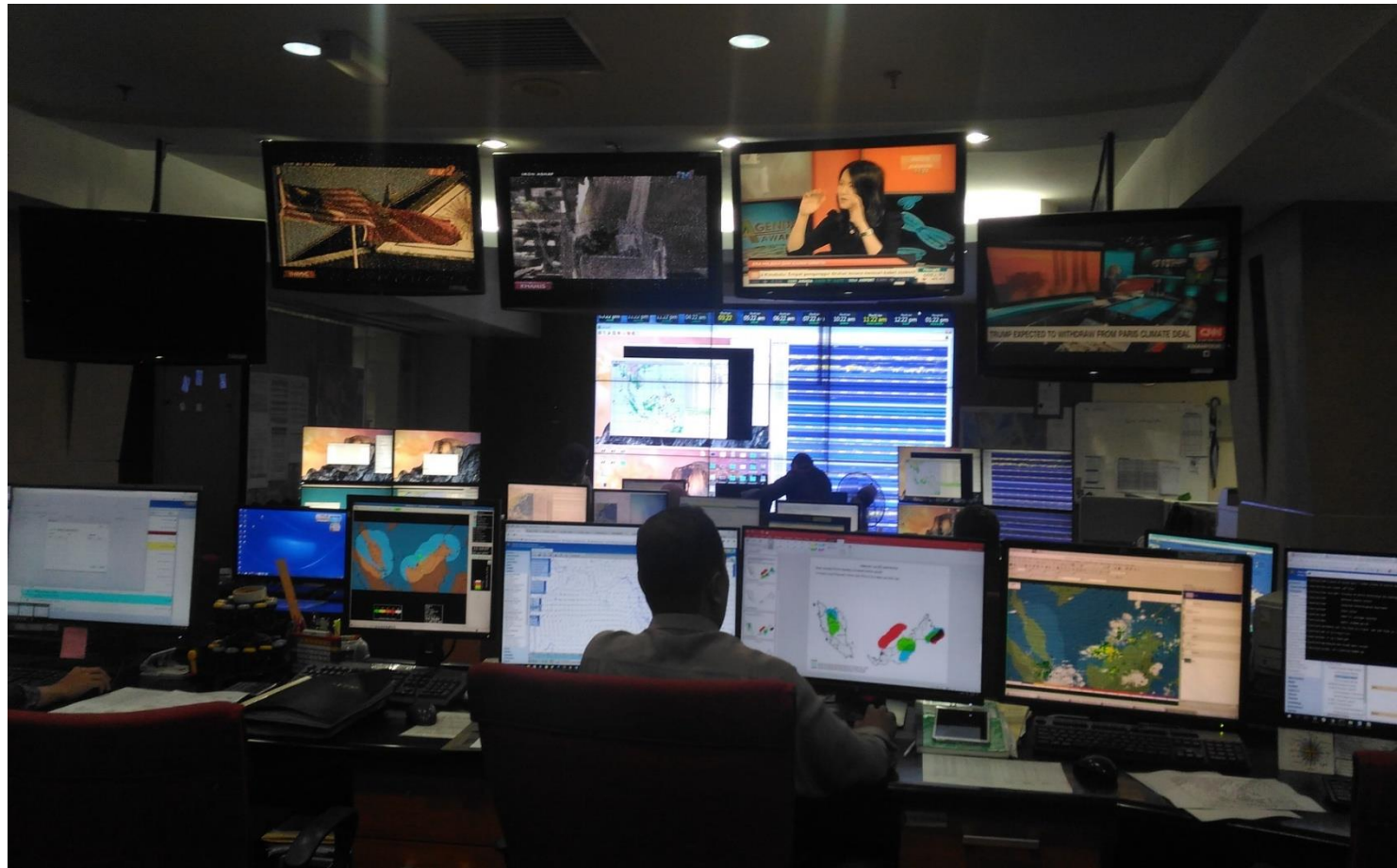
Visible



Water Vapour

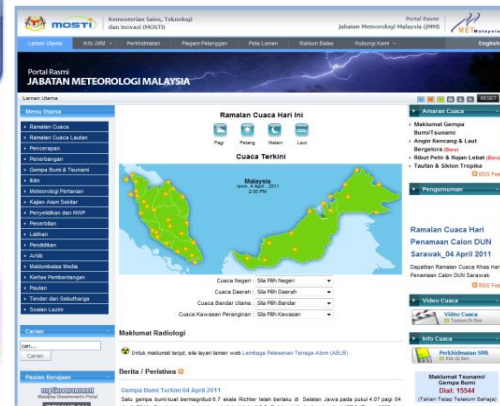
# National Weather and Geophysics Operation Center

- Operates 24 hours and 7 days
- About 10 staffs per shift
- 2 shifts of 12 hours

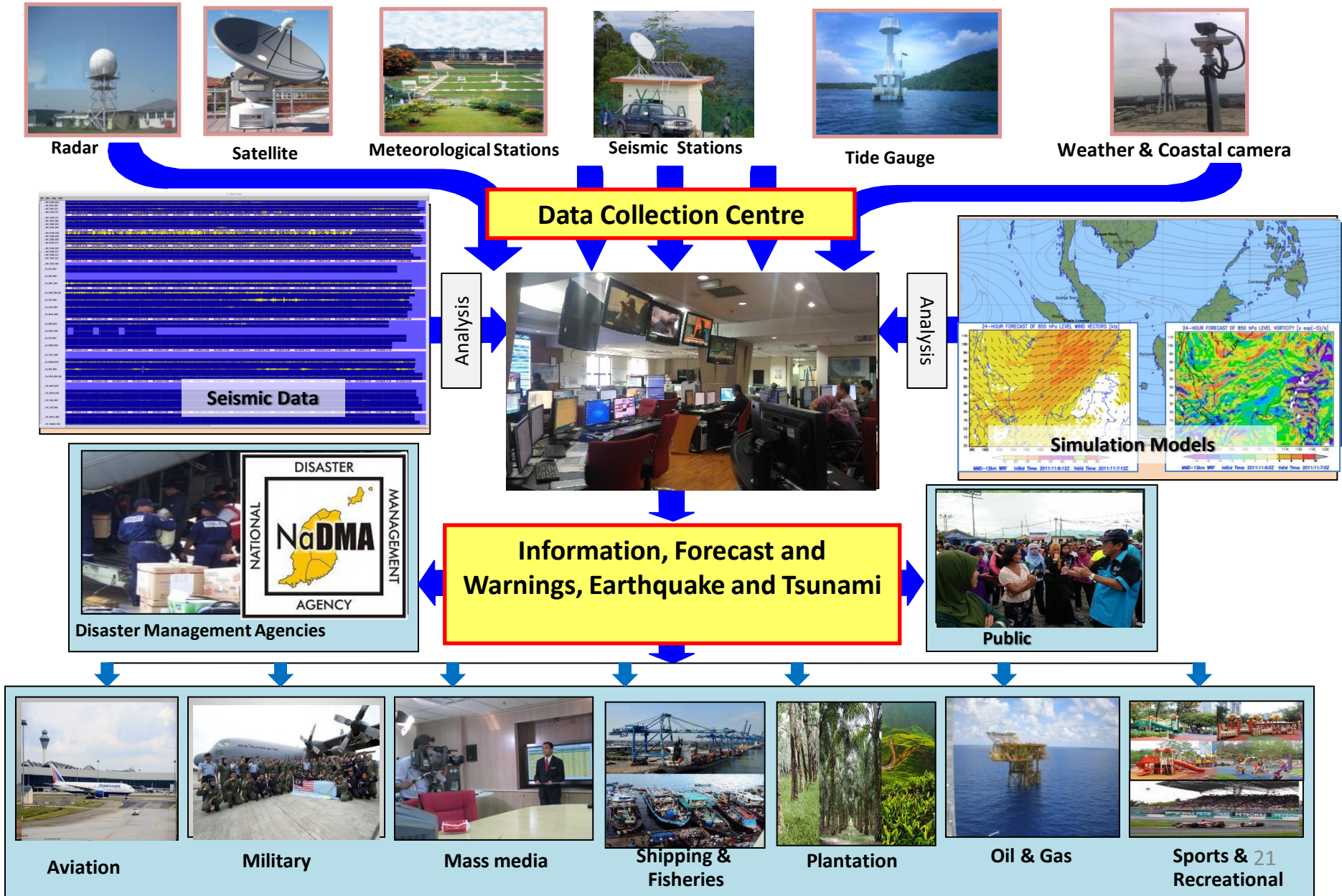


# Dissemination of Warning and Advisory

- Short Messaging System (SMS)
- Broadcast on TV
- Tsunami Coastal Siren
- Fix Lined Alert System (FLAS)
- Local Radio (Light FM, Radio 24 etc.)
- Fax (Disaster Management Agencies)
- Mass Media(printed and Electronic)
- Web: [www.met.gov.my](http://www.met.gov.my)
- Social media:
  - ❑ Facebook: [www.facebook.com/malaysiamet/](http://www.facebook.com/malaysiamet/)
  - ❑ Twitter: [twitter.com/malaysianmet](http://twitter.com/malaysianmet)
  - ❑ Instagram: [instagram.com/metmalaysia/](http://instagram.com/metmalaysia/)



# Conclusion





THE HEART OF CITY (KUALA LUMPUR)



**Thank you**

LANKAYAN ISLAND (SABAH)



PUTRAJAYA

