MALAYSIAN METEOROLOGICAL DEPARTMENT (MET Malaysia)

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

SHAMSHUMAR BIN SHUHANI
RADAR AND SATELLITE DIVISION
Our History

- 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

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.
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 causing 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 favours 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.
Weather and Marine Forecasts & Warnings

Aviation Meteorology

Atmospheric Science and Cloud Seeding

Earthquake Activities and Tsunami Warnings

Climatology and Agro-meteorology Services
Our Clients

- Public
- Special events
- Aviation
- Plantations
- Military
- Fisheries
- Shipping
- Sports & Recreational
- Oil and Gas Exploration
Weather Monitoring Network

- 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

ALOR SETAR STATION

SUBANG STATION

BUTTERWORTH STATION

SANDAKAN STATION
Weather Monitoring

- 3 Geostationary Satellite Ground Stations

- JCSat-2B Satellite
- Fengyun Satellite
- AsiaSat-4 Satellite

- Himawari-8 Ground Station
- FY-2 Ground Station
- 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

<table>
<thead>
<tr>
<th>Antenna width (Meter)</th>
<th>Receiving Frequency (MHz)</th>
<th>Period</th>
<th>Type of Data</th>
<th>Product</th>
</tr>
</thead>
</table>
| 3.7                   | 1687.5                    | • Hourly data (24 hours per day)  
• Full disk observation | 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

<table>
<thead>
<tr>
<th>AREA</th>
<th>ASEAN</th>
<th>BROADSCALE</th>
<th>GLOBAL</th>
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</thead>
<tbody>
<tr>
<td>PRODUCT</td>
<td>• Infrared-Grey Scale</td>
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<td>• Infrared-Enhanced</td>
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<td>• Water Vapour</td>
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</tbody>
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ASEAN

BROADSCALE

GLOBAL
Weather Monitoring Network

- CMACast Reception System

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</thead>
</table>
| 2.4                   | 4037.0                    | • Hourly data (24 hours per day)  
• Full disk observation | 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
- Social media:
  - Facebook: www.facebook.com/malaysiamet/
  - Twitter: twitter.com/malaysianmet
  - Instagram: instagram.com/metmalaysia/
Conclusion

Data Collection Centre

Analysis

Seismic Data

Information, Forecast and Warnings, Earthquake and Tsunami

Simulation Models

Disaster Management Agencies

Analysis

Public

Aviation

Military

Mass media

Shipping & Fisheries

Plantation

Oil & Gas

Sports & Recreational
Thank you