

Regional Seminar on Aviation
Meteorology Service in Asia
Beijing, China (11 -15 April 2011)

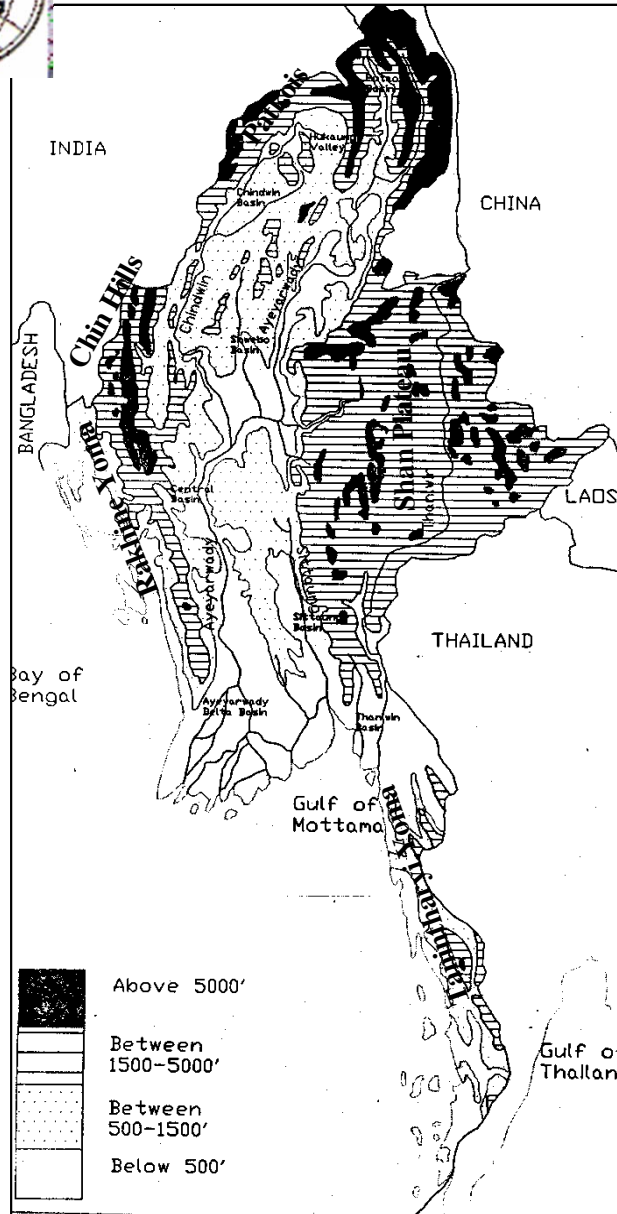
Aviation Meteorology Service in Myanmar

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Staff Officer

Department of Meteorology and Hydrology
Myanmar

GEOGRAPHICAL FEATURES OF MYANMAR



- **Location:** lat: $9^{\circ} 28'$ & $28^{\circ} 31'$
long: $92^{\circ} 10'$ & 101°
- **Area:** 687,033 sq km
- **Neighbouring countries :**
 - (1) N & NNE : China
 - (2) E & SE : Lao , Thailand
 - (3) S : Andaman sea & Bay of Bengal
 - (4) W : Bangladesh & India
- **Coastal seashore :** 2,276 km
- **Four distinct physical units:**
 - (1) The western and Northern mountain ranges
 - (2) The Shan plateau
 - (3) The central basin
 - (4) Rakhine coast strip
- **Four major river systems:**
 - (1) Ayeyarwady
 - (2) Chindwin
 - (3) Sittaung
 - (4) Thanlwin



CLIMATE OF MYANMAR

Three seasons

- (1) **Summer season (March to mid May)**
- (2) **Rainy season (June to October)**
- (3) **Winter season (November to February)**

Annual Rainfall

Central Myanmar : 1016 mm (40 inches)

Coastal Region : 5000 mm (200 inches)

Mean Maximum Temperature

Central Myanmar : 40 ° C (104 ° F) [March & April]

Mean Minimum Temperature

Northern Myanmar : 0 ° C-10 ° C (32 ° F-50 ° F) [Jan & Feb]



Department of Meteorology Hydrology



The department of Meteorology and Hydrology (DMH) is a state organization under the Ministry of Transport of the Government of the Union of Myanmar.

Aerodrome Meteorological office is under the Aviation Met. Division and located in Yangon International Airport, which is control of Ministry of Transport.

We are servicing in co-operation with the Department of Civil Aviation D.C.A under control of the same Ministry.



Our objectives are :-

- **to protect the lives and property of the public from the danger of natural disasters,**
- **to provide weather information for the safety and comfort of the passengers air/ sea / land traffic and**
- **to carry out capacity building through World Meteorological Organization (WMO) and regional/ international collaboration.**



မိုးလေဝသနှင့် ဇလဗေဒညွှန်ကြားမှုဦးစီးဌာန
Department of Meteorology and Hydrology (Myanmar)



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- Natural Disaster
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- Public Education
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Welcome to Department of Meteorology and Hydrology

Thursday, 13 January 2011 11:34

Cyclone Warning Update News



CYCLONE



FLOOD



TSUNAMI



EARTHQUAKE

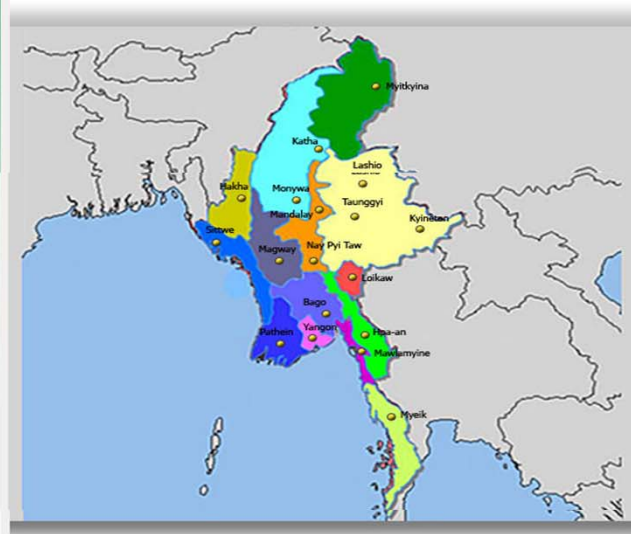


SEVERE WEATHER



Weather Map

QUIZ PROGRAM



Last Updated on Saturday, 26 March 2011 07:28

Add comment

Name (required)

E-mail (required, but will not display)

1000 symbols left



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39.5°C Nay Pyi Taw

Monthly Weather

DAILY FORECAST

Photo Gallery



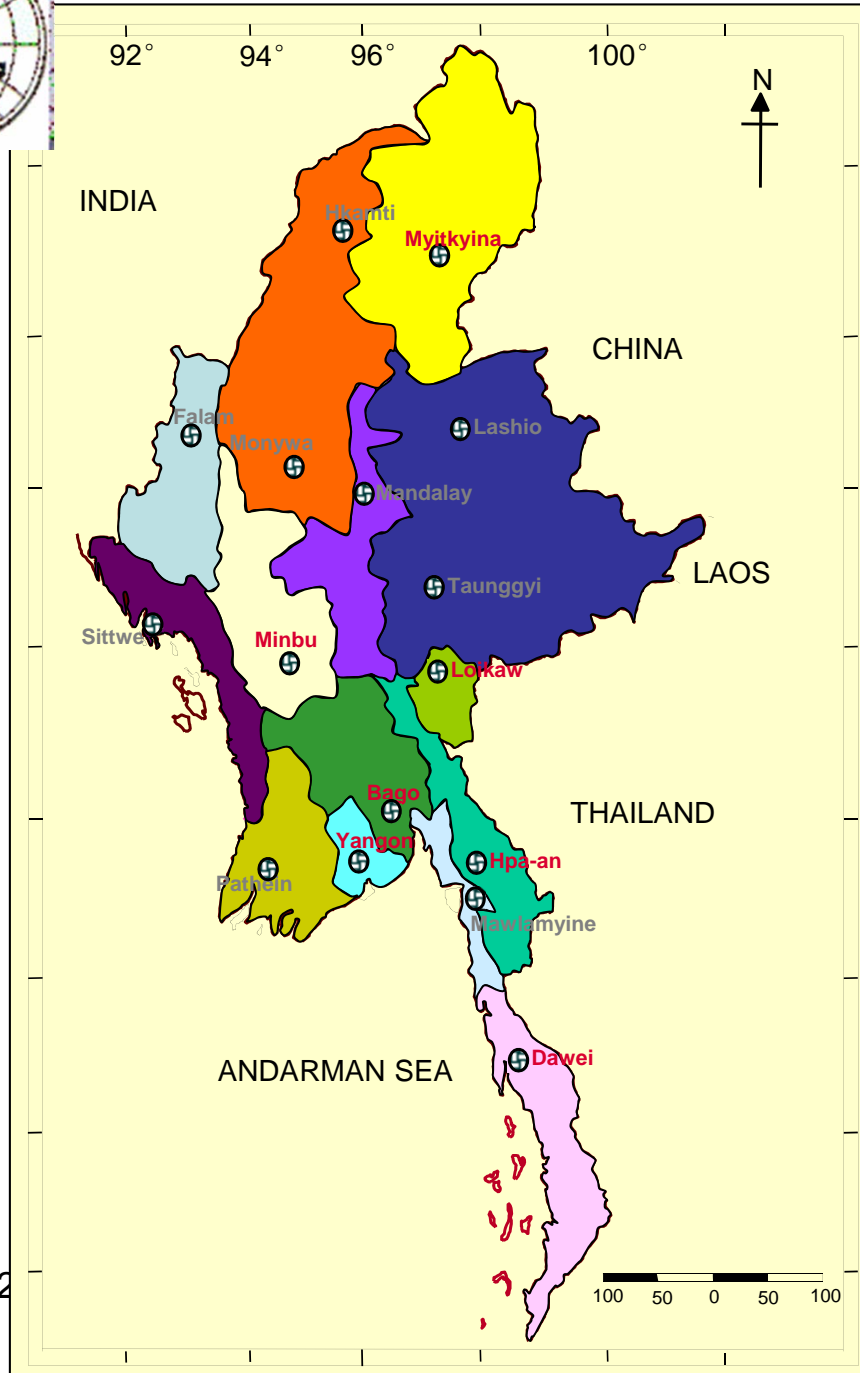
Regional City Weather

NMHSS

Glossary



WORLD METEOROLOGICAL ORGANIZATION



Meteorological Station -	63
Hydrological station -	30
Met & Hydro station -	39
Agro-Met Stations -	18
Aviation-Met station -	7
Seismological station -	4



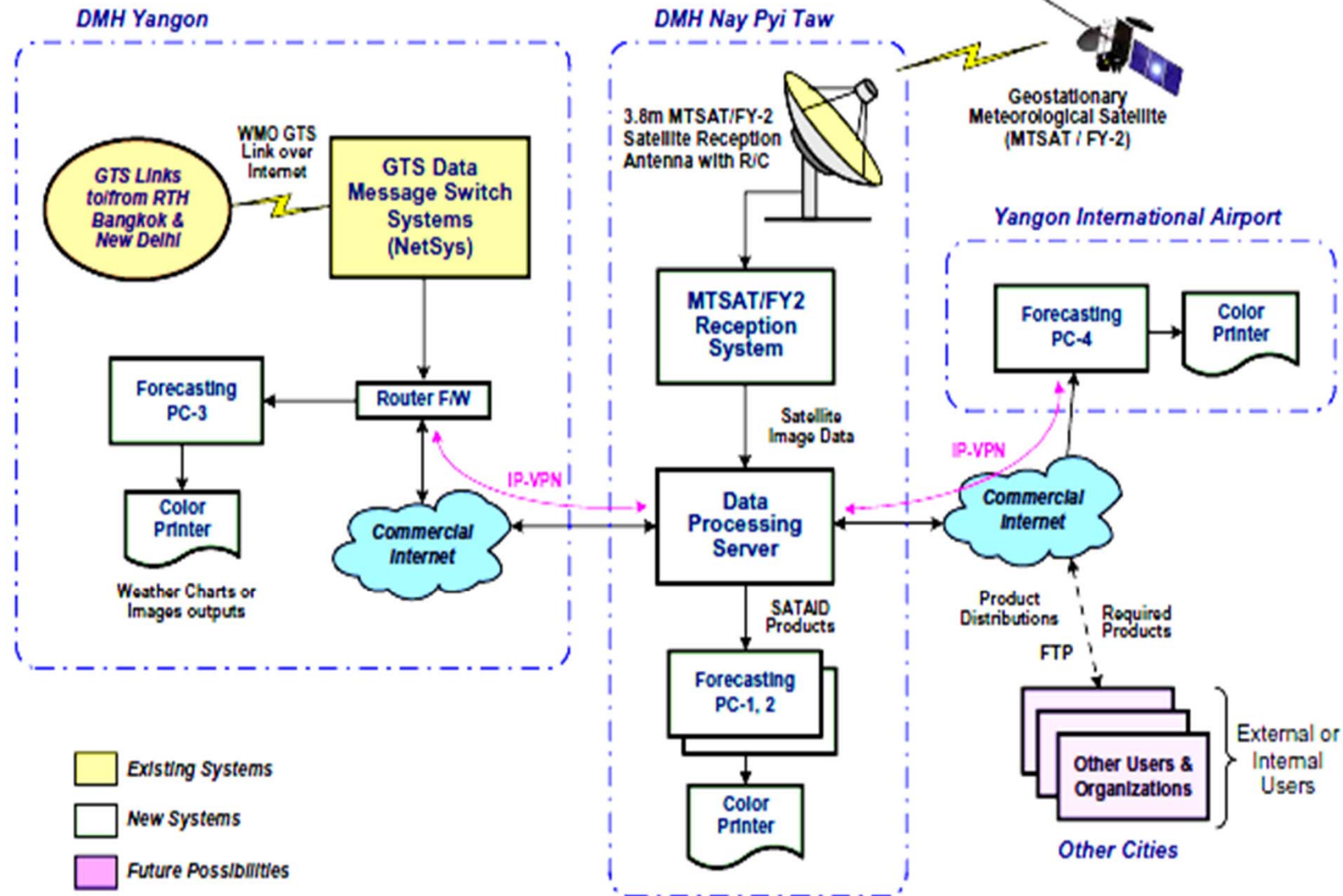
Facilities



- Internet based WMO/GTS Message Handling System by WMO
- MTSAT Satellite Receiving Workstation by JICA.
- Installation of SATAID program and by using SATAID Data (Satellite imagery and NWP Data).
- Fengyuncast Satellite Receiver in 2008 at Nay Pyi Taw (WMO/VCP from China),but not received at present.
- Aeronautical Telecommunication (MTSAT,AFTN)



Meteorological Satellite Reception and Data Processing Systems for DMH in Myanmar





Responsibilities of Aviation Met.office



- Issuing the 24 hour TAF (related weather parameters)
- METAR (observation interval half hourly)
- SPECI (Criteria for issuance of)
 - (a) Fog
 - (b) Active Thunderstorm
 - (c) Strong wind
 - (d) Tropical Cyclone
 - (e) Low visibility
 - (f) Heavy rain
- Take off /Landing Forecast
- Significant weather Prognostic Charts
- Upper wind pattern & Temperature
- Weather briefing to all Pilots.

Service System of Aeronautical Meteorological Information

- Provided by Aeronautical Fixed Telecommunication Network (AFTN) and internet to be easily available by airlines and ATS units.
(AFTN) system is available at the Airport
- We are providing Aviation weather Forecast to all Airlines.
(International & Domestic)

Flight Documentation

- Flight Documentation shall comprise information
- Forecast of upper wind and temperature; SIGWX phenomena
- METAR or SPECI
- TAF or amended TAF
- SIGMET information and appropriate special air reports.



Climate Application and Services Provided by DMH

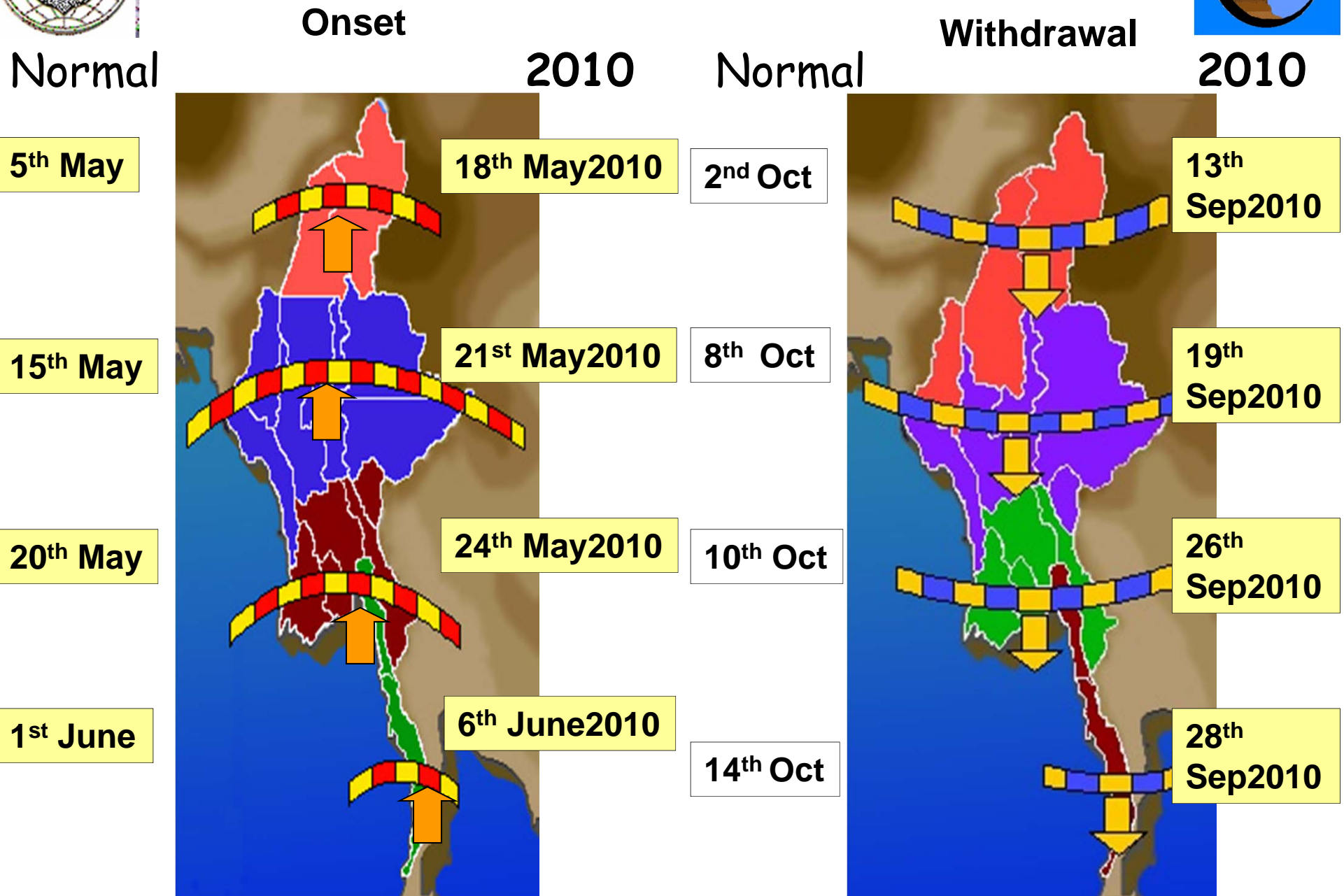
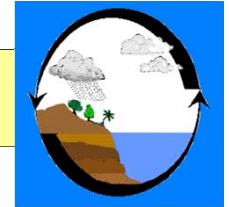


DMH responsible the issuance of weather and climate related warnings, news, bulletins, advisories. Climate section under Meteorological Division issue Dekad, Monthly, and Seasonal Weather Forecasts as shown in Table.

Type of Forecast	Time of Issuance	Forecast Validity
(10) Days Weather Forecast	Every Month of 8, 18, 28	(10) days
Monthly Weather Forecast	Every Month of 28	(1) Month
Seasonal Weather Forecast	April 28 June 28 August 28	Early Monsoon Peak Monsoon Late Monsoon
General Weather Outlook for Monsoon Season	April 28	Monsoon Season



2010 and Normal Monsoon Onset & Withdrawal

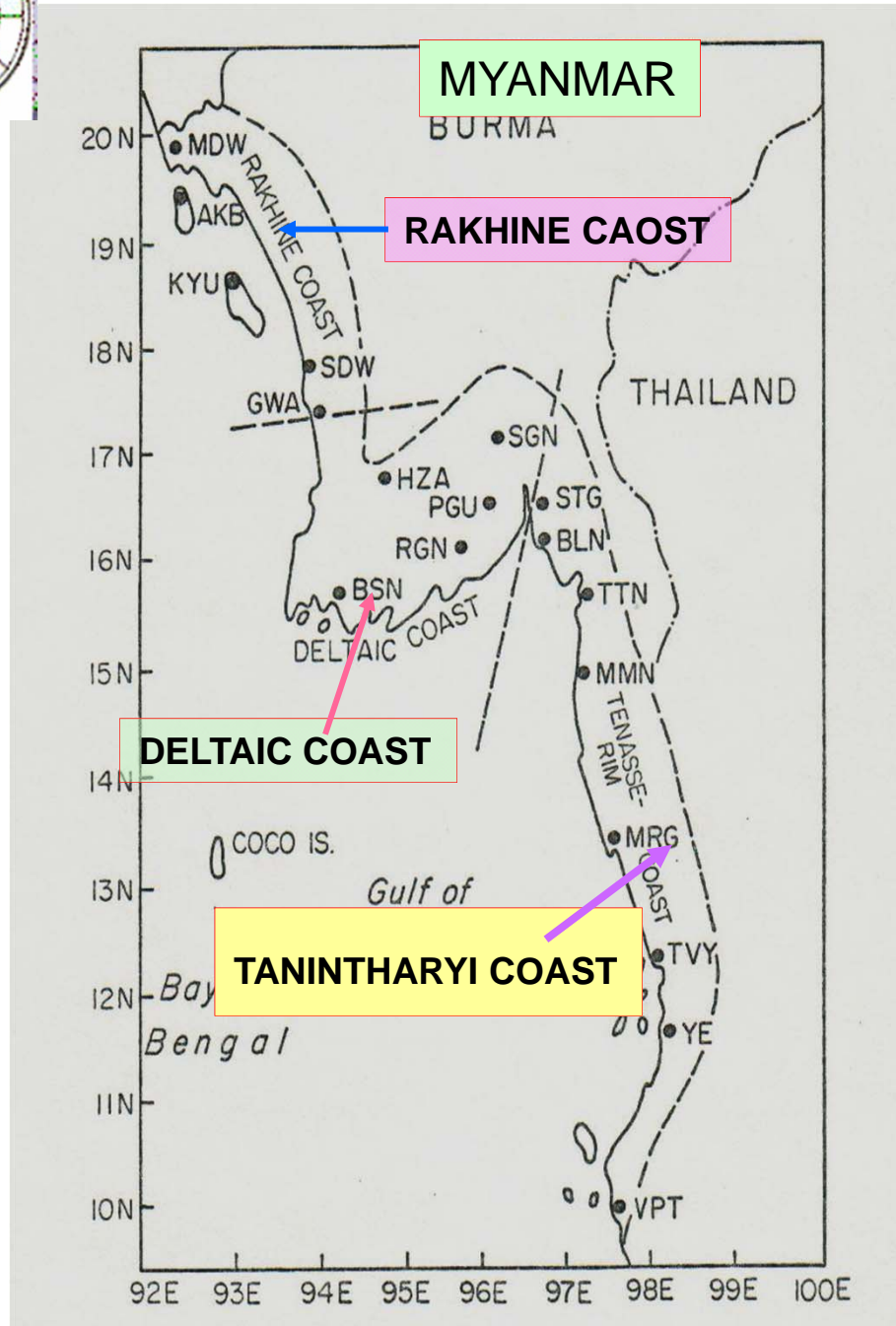




Method of Climate Forecast



- DMH used Analogue method for Medium and Long-range weather forecast by using historical climatic data of Regions and States, cyclone frequency, rainfall anomaly and temperature anomaly.
- DMH also used the forecast and product of IRI, IMD, TMD, JTWC, NCEP, ECMWF,CMA, JMA and so on..



THREE CLIMATIC
COASTAL ZONES OF
MYANMAR



COLOUR CODING FOR THE STORM



Doesn't depend on storm 's intensity

(ie, whatever it is TD, TC or CS), it means only for **RISK** of the storm.

- **YELLOW COLOR STAGE:** Whatever the storm is TC or CS , which is not expected to move towards Myanmar coast by the present.
- **ORANGE COLOR STAGE:** Whatever the storm is TC or CS, which is leading to Myanmar coast by the present.
- **RED COLOR STAGE:** Whatever the storm is TS or CS, which may cross to Myanmar coast within next (12)hrs.
- **BROWN COLOR STAGE:** Whatever the storm is TS or CS, which is crossing to Myanmar coast by the present.
- **GREEN COLOR STAGE:** Whatever the storm is TS or CS, which has crossed to Myanmar coast & free from storm risk.



Example of Storm News

(Issued at 16:30 hrs MST on 15th April ,2009)

According to the observation at 16:00 hrs MST today, the depression over Westcentral Bay has further intensified into Tropical Storm. It is centered at about (250) miles SE of Vishakhapatnam (India).It is forecast to move Northwest wards.

The maximum sustained wind near the center is expected about 45-55mph and seas are likely to be to Rough.

The intensity of the storm at the present is **YELLOW** color stage and it is not expected to move towards Myanmar coast by the present

Example of SIGMET of Myanmar

GG VYYYYZTZX VYYFZRZX VYYYYZQZX VYYYYNYX
VYMDYMYX VYMDYFYX VYMDZTZX VYYYUBAX
VYYYYNYX

071610 VYYYYMYX

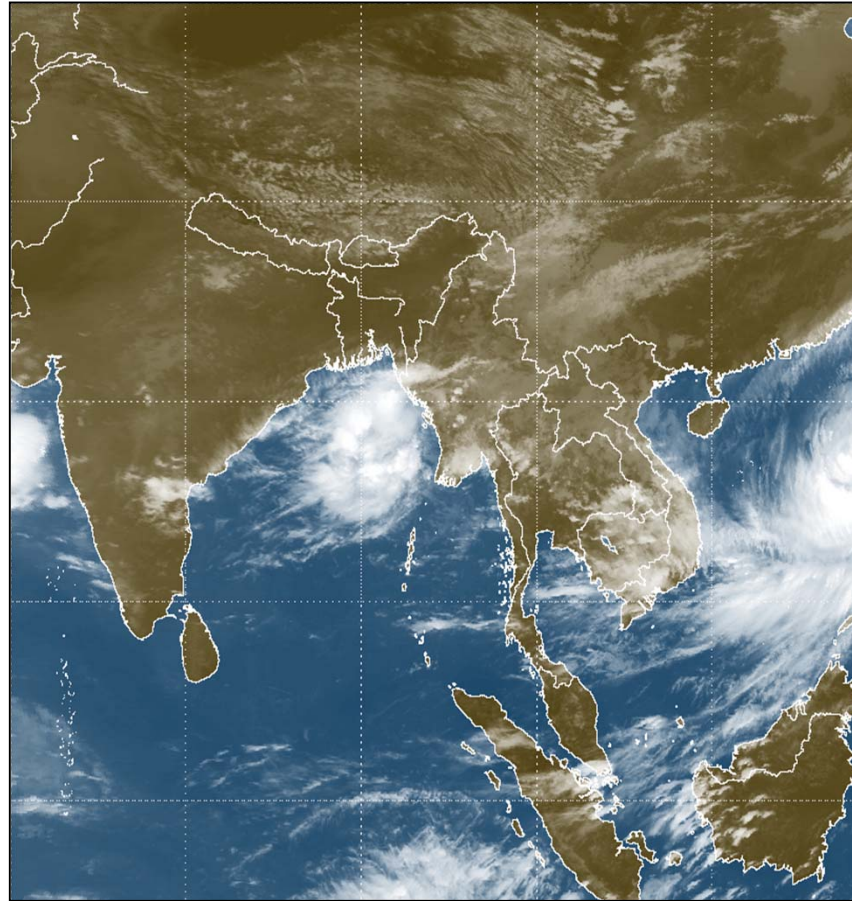
WSBM31 VYYY071611

VYYY SIGMET A3 VALID 071630/072230 VYYY

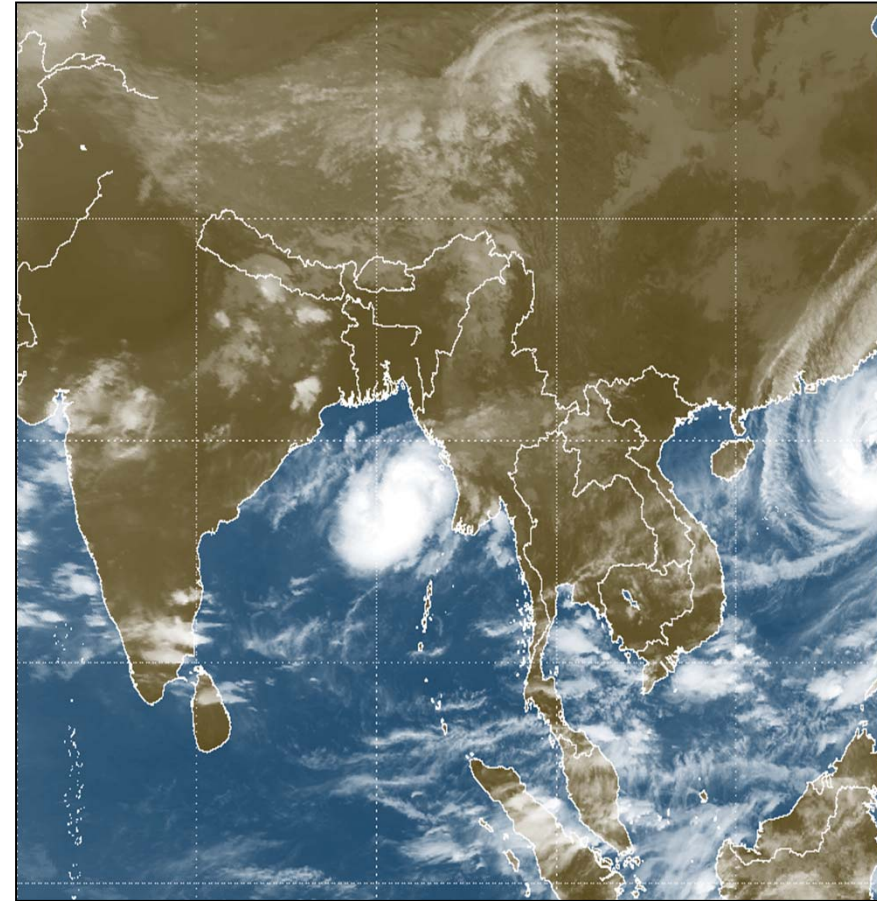
VYYY YANGON FIR EMBD TS OBS AT 1100Z S OF N19 E
OF E92 TOP FL350 MOVE NE SLOWLY.



Some of Satellite Images (GIRI)



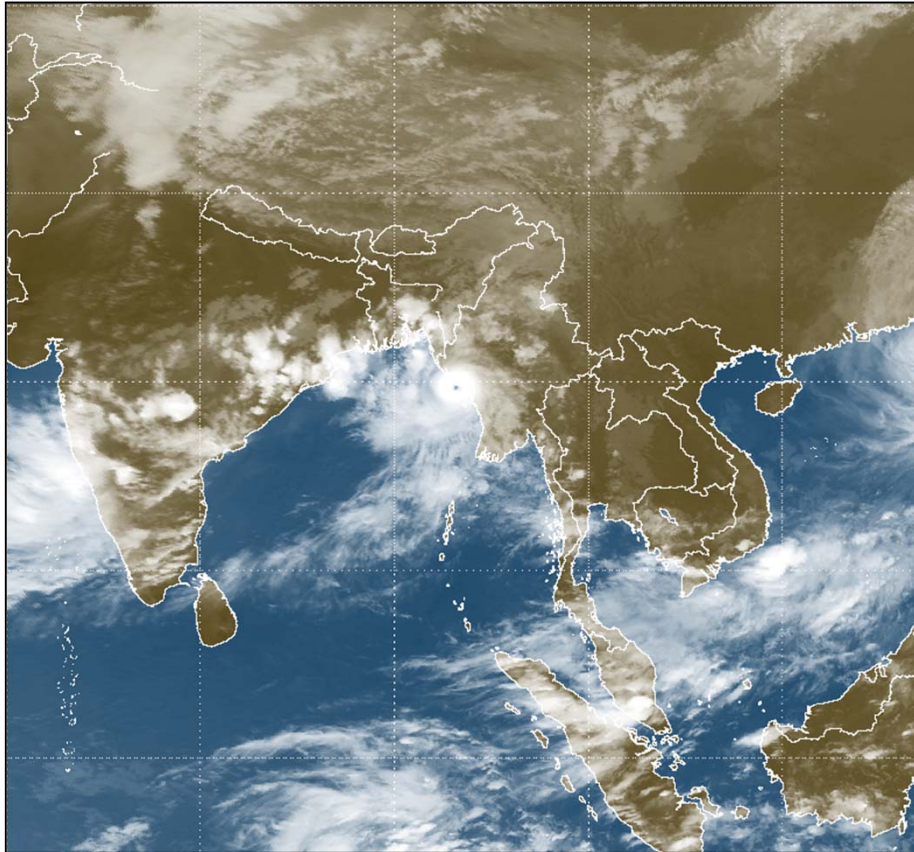
LPA (19-10-2010) 0600UTC



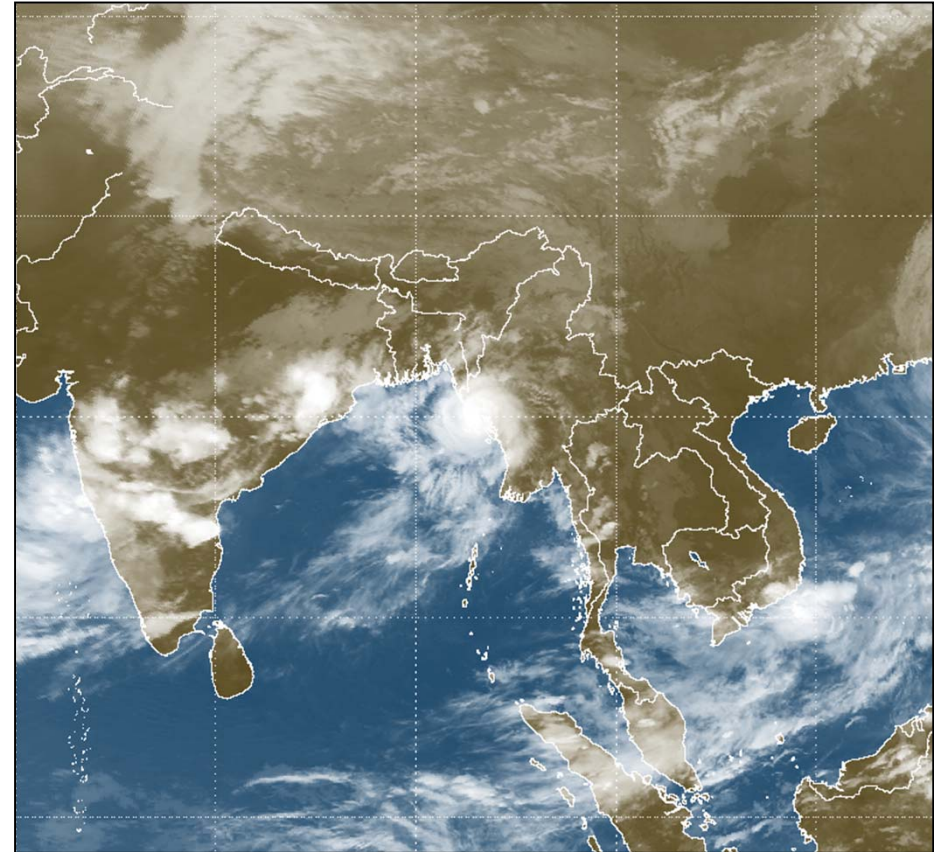
DEP(21-10-2010) 0400UTC



Some of Satellite Images (GIRI)



VSCS (22-10-2010) 0600UTC



Has Crossed RAKHINE Coast
(22-10-2010) 1200UTC



Cumulonimbus Cloud with Thunderstorm

Turbulence experienced in Myanmar

- *During pre-Monsoon periods ,most turbulence experienced in southern and central Myanmar Areas at FL180 to 220.
- *Next time experienced in before withdrawal monsoon periods over Northern and Central Myanmar at FL 150 to 200.

Icing experienced in Myanmar

- *At the summer periods, icing are experienced in FL250 and above.
- *At the winter periods, icing are experienced in FL 200 and above.

THANK YOU!

Myanmar