



# **Geo-referenced Information Systems for Disaster Risk Management Activities in DMH**

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## **Outlines**

- Introduction
- Roles and Responsibility of Department of Meteorology and Hydrology (DMH)
- Current Status in Use of Geo-reference Information for DRR
- Identified Gaps
- Expected Collaboration with ESCAP

## Introduction

### Meteorological, Geological and Hydrological Hazard in MYANMAR



- Tropical storms
- Strong winds
- Heavy rains
- Storm surges
- Continuous rain spell
- Tornadoes
- Thunderstorms
- Continuous dry spell
- Heat and cold waves



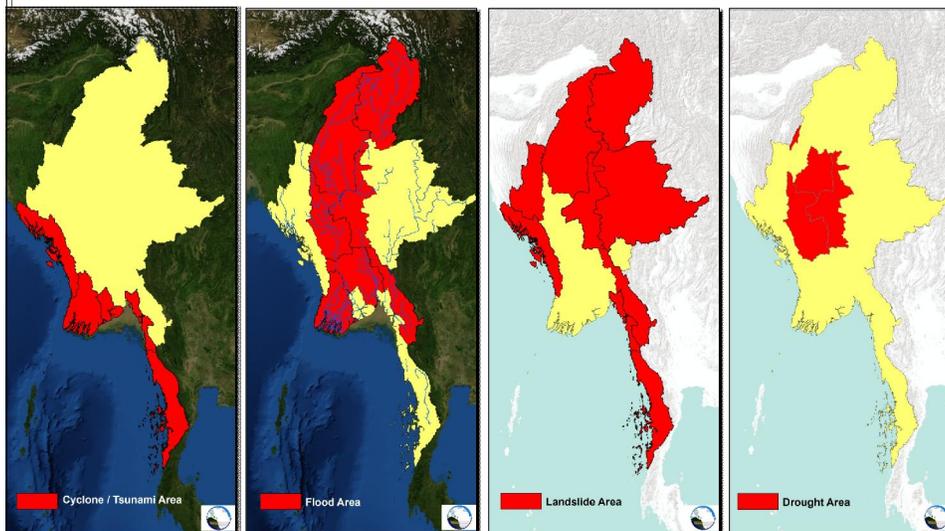
- Earthquake
- Land slide
- Tsunami



- River floods
- Flash floods
- Inundations
- Very low River water levels
- Very low ground water levels
- Heavy rain spells
- Droughts

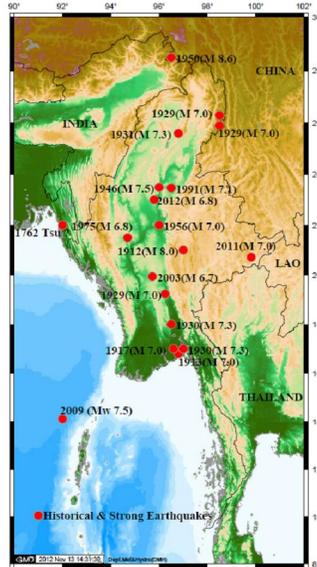
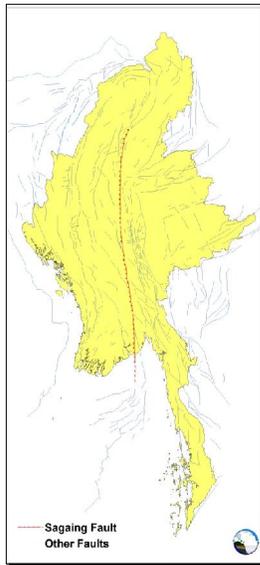
## Introduction

### Meteorological, Geological and Hydrological Hazard in MYANMAR



# Introduction

## Meteorological, Geological and Hydrological Hazard in MYANMAR



**Strong Earthquake in Myanmar**

## Tarlay Earthquake(2011)



**Magnitude 7.0**



## Thabeikkyin Earthquake in Myanmar (2012)



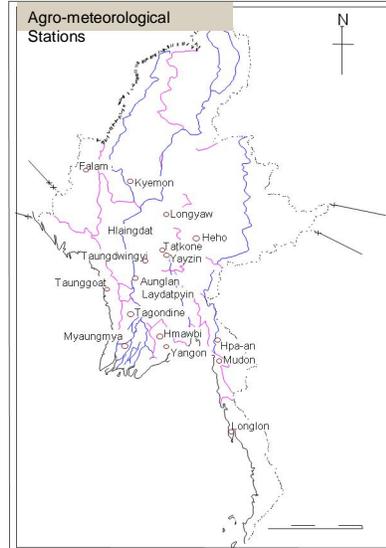
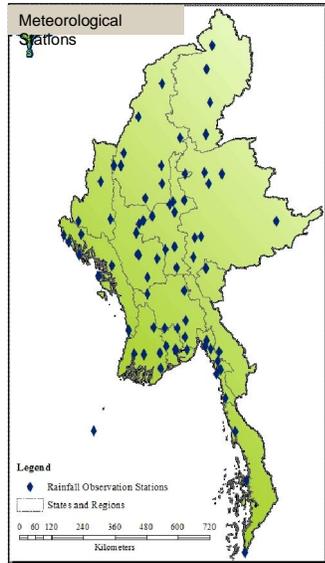
Magnitude  
6.8



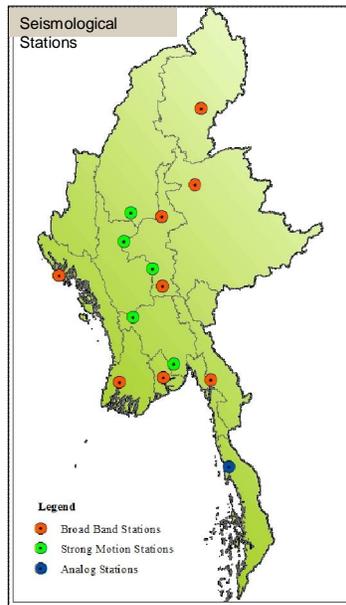
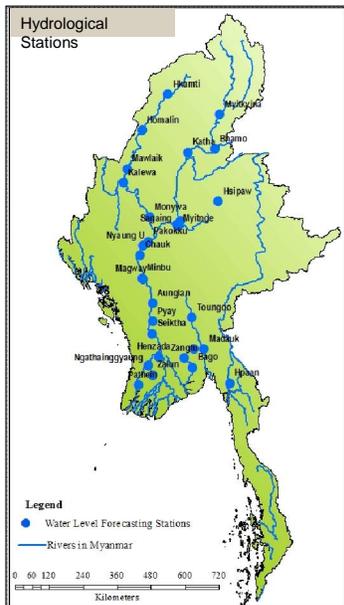
## Roles and Responsibility of DMH

- Meteorological Services in 1937
- Agro-meteorological Services in 1970
- Hydrological Services in 1964
- Seismological and Earthquake activities in 1961
- Acid Deposition Monitoring in 2003
- Issued Information, Forecasts and Warning
- Provide to decision makers, policy makers
- **Early Warning System is main responsibility of DMH**

## Roles and Responsibility of DMH

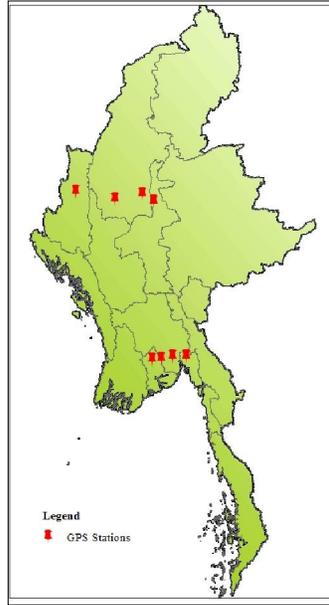


## Roles and Responsibility of DMH



## Roles and Responsibility of DMH

### GPS Stations for Fault Line Analysis



#### GPS installed on 2012

- § Hakha
- § Kani
- § Shwebo
- § Sint Gu

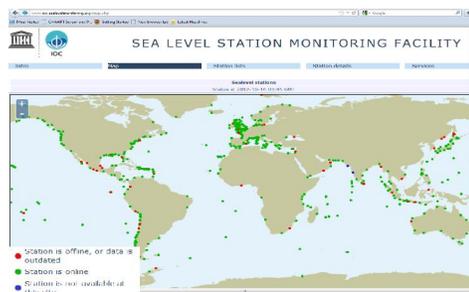
#### GPS installed on 2011

- § Gyophyu
- § Ingale
- § Waow
- § Kyaikhteeyo

## Roles and Responsibility of DMH



🚧 Sea Level Gauge (for Tsunami Warning) installed on 2006 (donated by UNESCO-IOC)



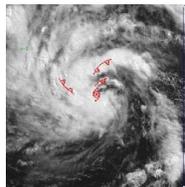
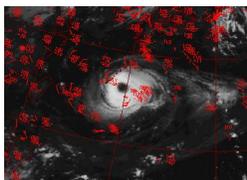
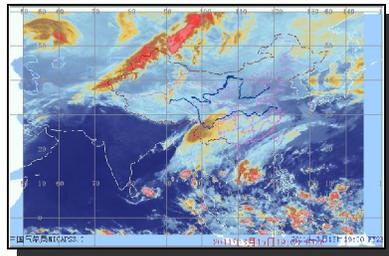
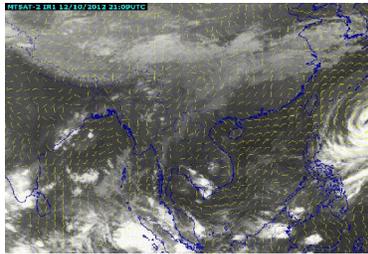
- § Tsunami Drill cooperate with IOC and RTSP's (Regional Tsunami Services Provider for Indian Ocean (India, Austrian, Indonesia))
- § Issue Tsunami Warning for Indian Ocean every 2 year for Regional Drill
- § Issue Tsunami Warning on Disaster day (14, October) every year for National Plan

## Roles and Responsibility of DMH

- Meteorological Stations	- 63
- Meteorological & Hydrological Stations	- 39
- Hydrological	- 30
- Pilot balloon	- 1
- Agro-meteorological	- 17
- Satellite receiving (MTSAT, FY-Cast)	- 3
- Aviation Met. Offices	- 6
- Seismological	- 14
- GPS Station (Manual)	- 8

**Not yet installed or set up any Automatic Stations such as; (automatic Rain gauge, Flood monitoring and Warning System )**

## Roles and Responsibility of DMH

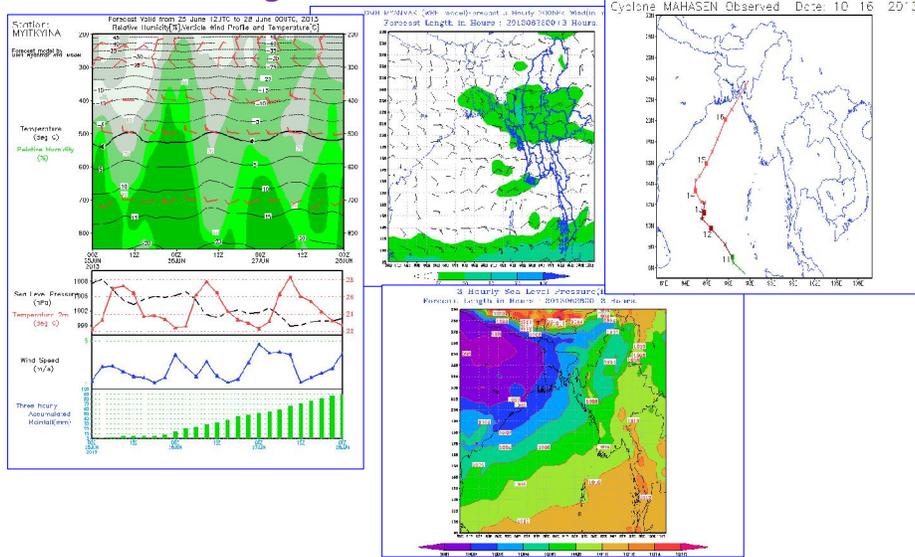


§ MTSAT Data Receiving System (JICA)

§ FY-Cast Receiving System (CMA)

## Roles and Responsibility of DMH

### Simulation using WRF Model



## Roles and Responsibility of DMH

### For Daily Water Level Forecast

- § River Stage Correlation Method
- § Empirical Model (based on single and multiple regression analysis)
- § Integrated Flood Analysis System (IFAS)

预览已结束，完整报告链接和二维码如下：

[https://www.yunbaogao.cn/report/index?reportId=5\\_5483](https://www.yunbaogao.cn/report/index?reportId=5_5483)

