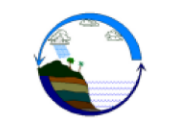





1

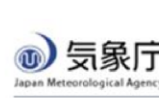



Session 3.3
Country report
Myanmar

Hla Tun
Department of Meteorology and Hydrology


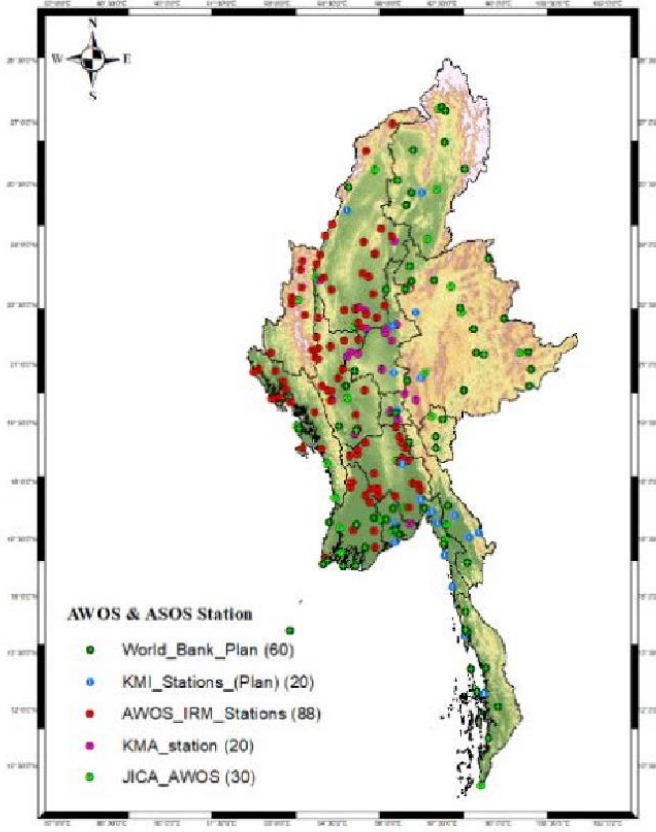

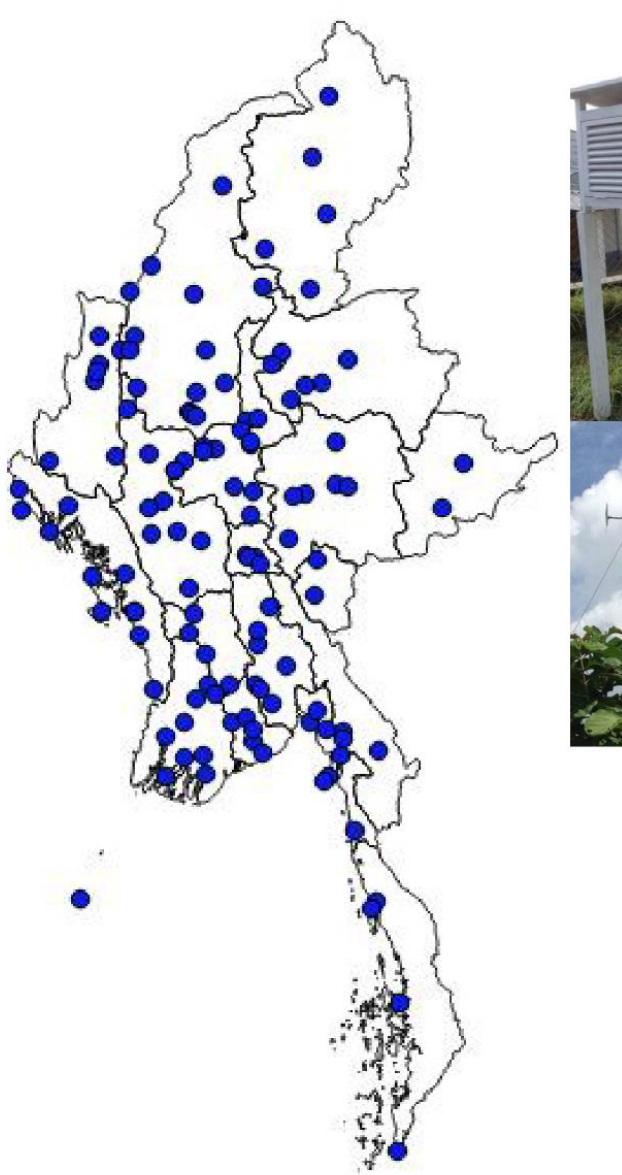
RA II WIGOS Workshop - Regional WIGOS Centres and its services for Members

Tokyo, Japan, 6-9 March 2019



2

Observation system overview









Manual Observation Station Network

Automated Observation Station Network

3

Observation system overview



Manual Observation Station Network (Agro-Met)

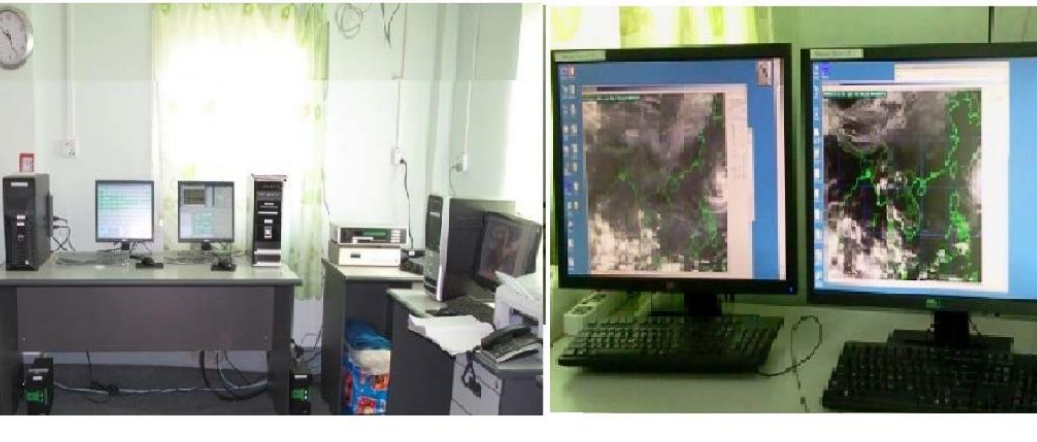

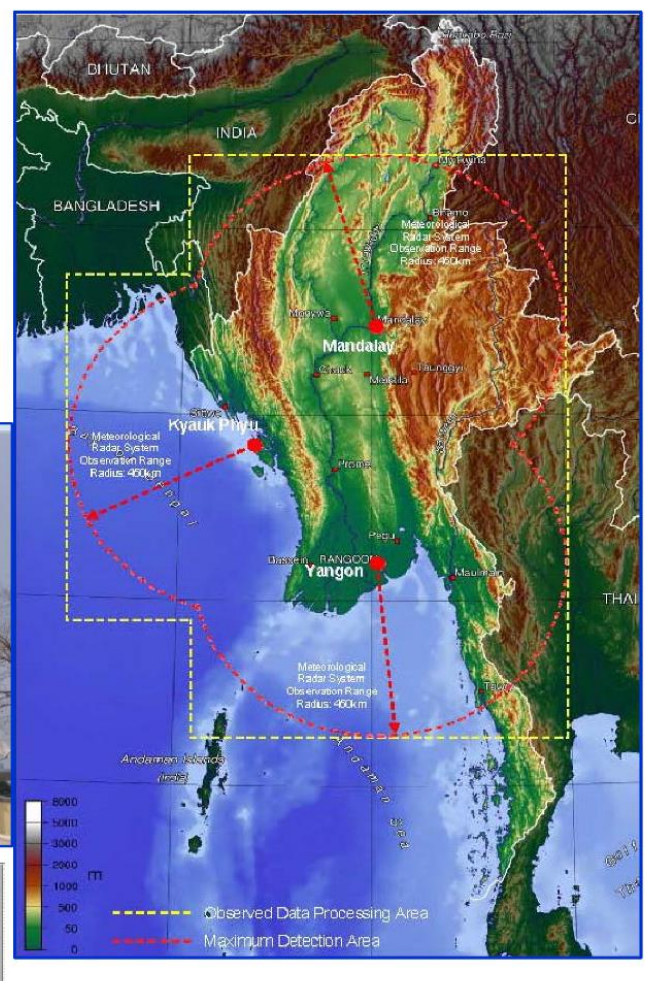

Upper Air Station Network

Vaisala RS 92 Radio Theodolite

5 upper air stations used to be in operation, however, most of them had to stop functioning.

4

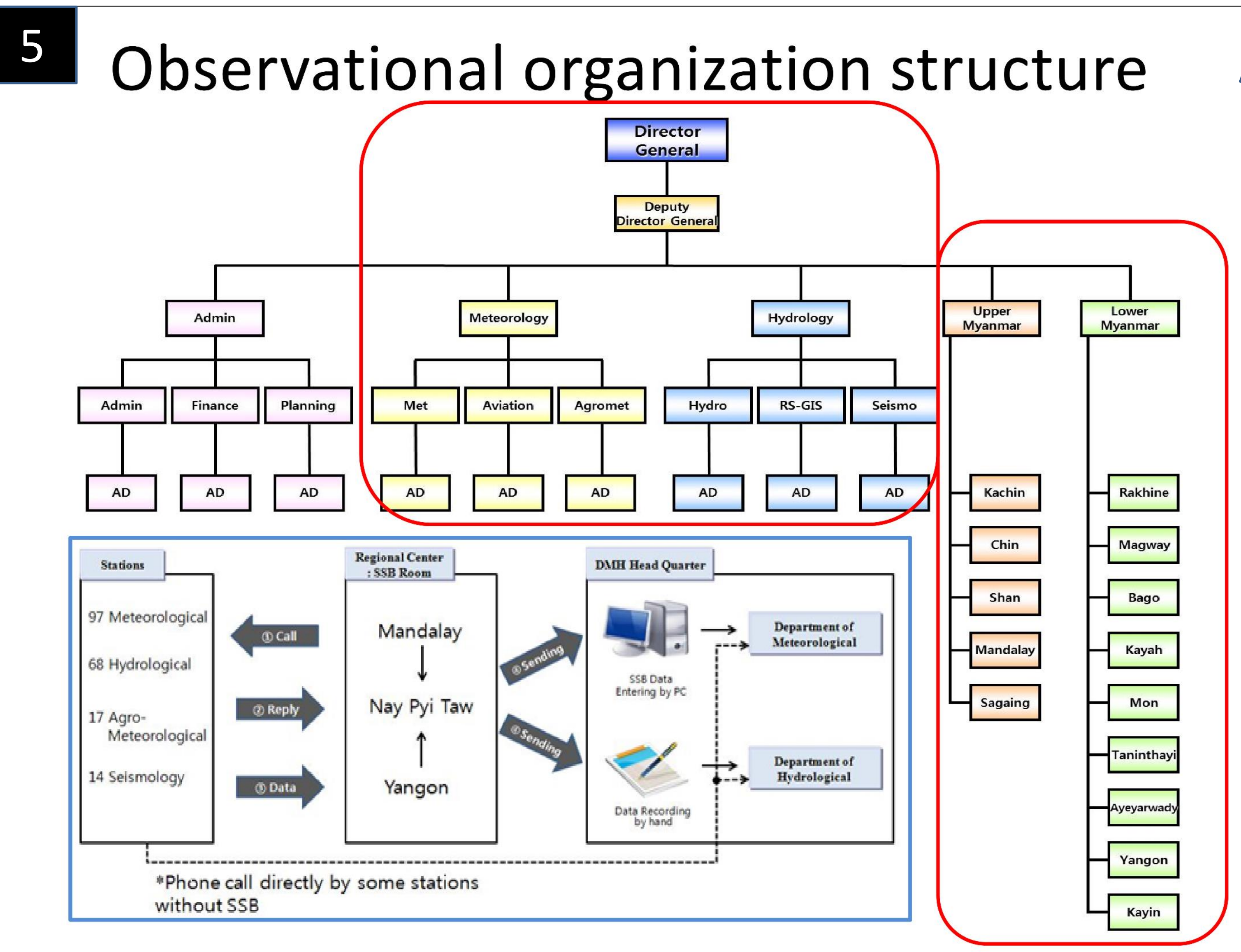
Observation system overview



Radar Observation Station Network

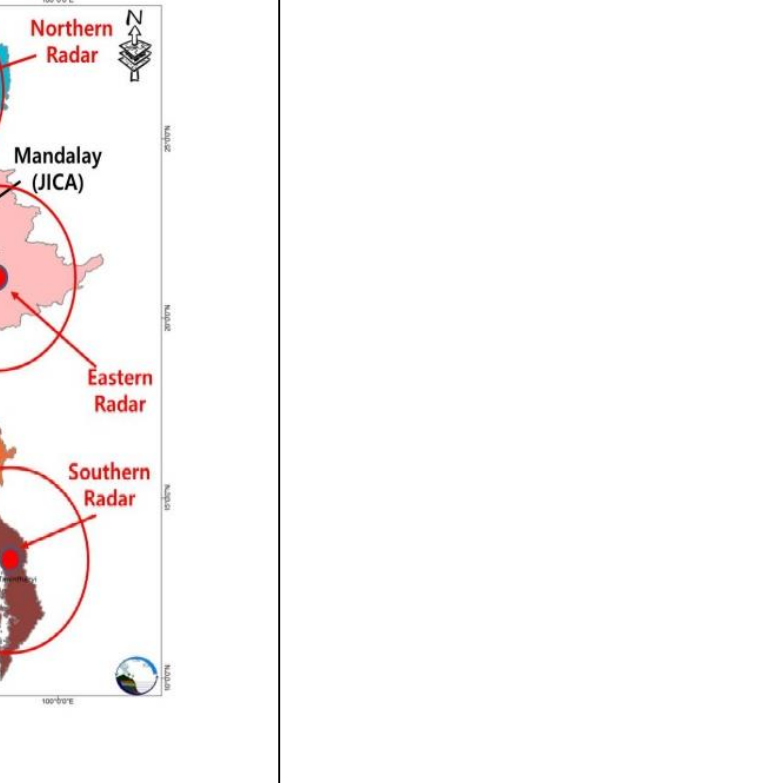
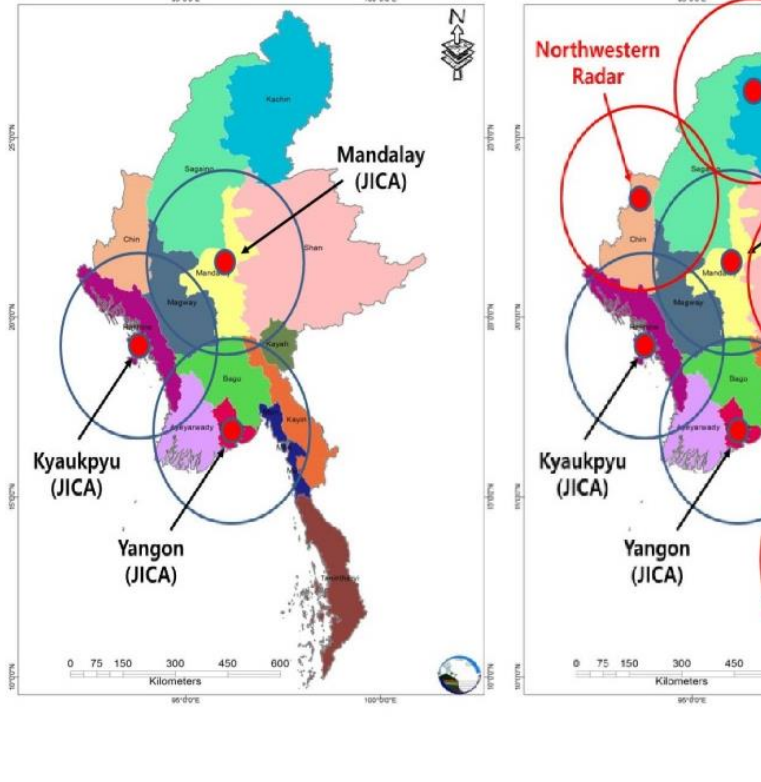
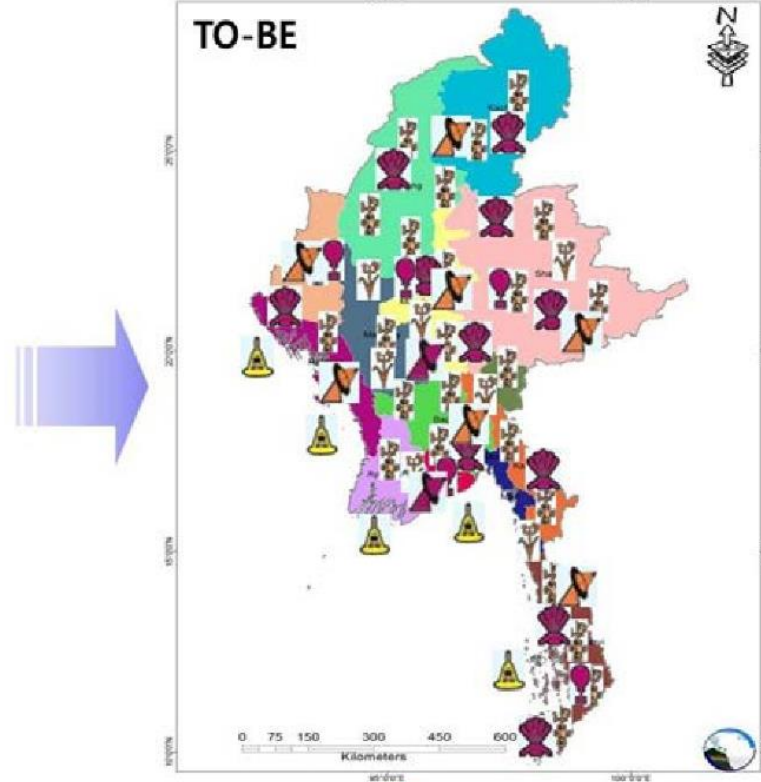
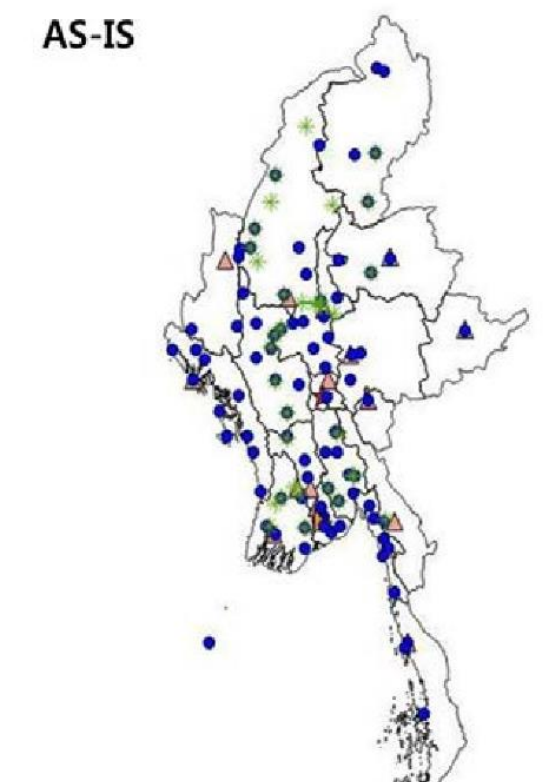
MTSAT/HRIT (Himawari -8) Direct Receiving Antenna

MTSAT/HRIT (Himawari -8) Data Processing System in DMH, Nay Pyi Taw



7

Integrated use of observation data



AS-IS

TO-BE

Automatic Weather Observation Station (50)

Automatic Agricultural Observation Station (17)

Radio Sonde (5)

Wind Profiler (11) + Radio Meter (11)

Weather Radar (7)

Satellite Receiving System (2)

Buoy (5)

Disaster

Flood

Typhoon

Landslide

Earthquake

Tsunami

Observation

Forecast

Automation

Modernization

Share

Dissemination

Provision

Benefits

Human being protection

Infrastructure improvement

Real time observation

Metrological statistics management

Early warning system

Before

Manual observation

Insufficient infrastructure

75% forecast accuracy

Advancement of National Meteorological System

After

Automatic observation

Real time processing

Increase forecast accuracy over 10%

8

Integrated Real-time Observation Data Monitoring System (Data Server Room)

JICA AVR and DB

JICA rack

J5

J6

J7

J8

J9

J10

J11

J12

J13

J14

J15

J16

J17

J18

Existing 12 JICA computers

To relocate into racks in small partition room

DMH Meteorology Room

DMH Engineer Room

Existing JICA computers

To relocate into racks in small partition room

DMH Meteorology Room

DMH Engineer Room

Each rack has 3 shelves

Can place 6 computer boxes into each rack

Monitor, keyboard and mouse will not be in rack

Use air cooling system from two computers outside the room using P2M network

3 racks to place 18 JICA computers

18 JICA computers in 3 racks. 18 racks to have 18 JICA computers

6

Quality management of observation data

Current Situations





1. Non-real time data collection
2. Manual input (Hand-writing)
3. Lack of quality control and poor storage condition
4. Statistical delay
5. Poor usage of statistical data

Requirements

- Establishment of an automated system for real-time data collection and daily statistical work
- Establishment of a data quality control program

Improvement Direction

- The establishment of real-time data collection of statistical climate data
- The introduction of AQC automated quality control system.
- Database computerization by introducing large digital scanners



9

Observer/expert training timeline

	1st year	2nd year	3rd year	4th year
New staff training				
On the Job Training				
Monitoring observation data in real time at Operation room				
Acting to system troubles				
Maintaining observation instruments				
Participating in the workshop				
Lecturing on XXX				

10

Plan for developing products

AWS

Network

Radar

Satellite

Gathering data

Observation data (SFC, Radar, Satellite...)

Database

Quality Control System

Data Assimilation System


NWP with data assimilation

Improvement Direction	Improvement Plan	Implementation Plan		
		Phase 1	Phase 2	Phase 3
Computer	Mini-supercomputer			1
Model	Data assimilation	Develop	Test	
	NWP model	Develop	Test	
	Statistics model		Develop	Test
Training Experts	9 people	3	3	3

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Expectation for this workshop

- Knowing how to encourage skilled staffs, improved observing system, develop products and train experts, develop an expert community based on inter-regional collaboration, be make quality management for low-cost instruments etc.
- Getting some materials for lecturing about integration, quality management of observation and application of GsMap, QPE/QPF in my office
- Making firm relationships between participants to exchange useful information after the workshop



12

THANK YOU.