Kingdom of Thailand

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THAILAND COUNTRY REPORT
STATUS OF QUALITY MANAGEMENT IN RAINFALL OBSERVATION

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COUNTRY REPORT IN RAII WIGOS WORKSHOP ON QUALITY MANAGEMENT OF OBSERVATION HELD IN TOKYO, MARCH 2018

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1. CHALLENGES IN RAINFALL OBSERVATION

- Lack of the skilled experts for the maintenance to keep the accuracy of rainfall observation
- Absence of real-time observation report
- Little knowledge for the quality control after the observation

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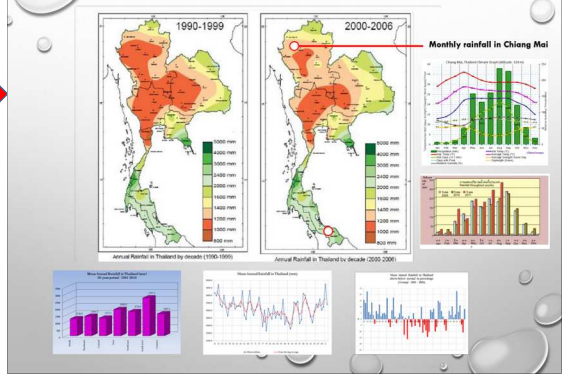
2. ANNUAL RAINFALL MAP



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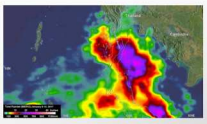
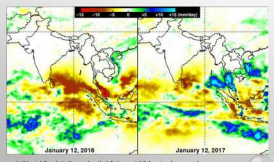
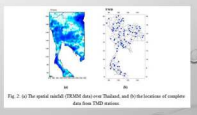
3. MAJOR RECENT RAINFALL-RELATED DISASTER

- Widespread flooding has recently caused the deaths of dozens of people in southern Thailand. Frequent and persistent downpours have resulted in record rainfall totals and NASA calculated rainfall over the region from January 5 to January 12, 2017.







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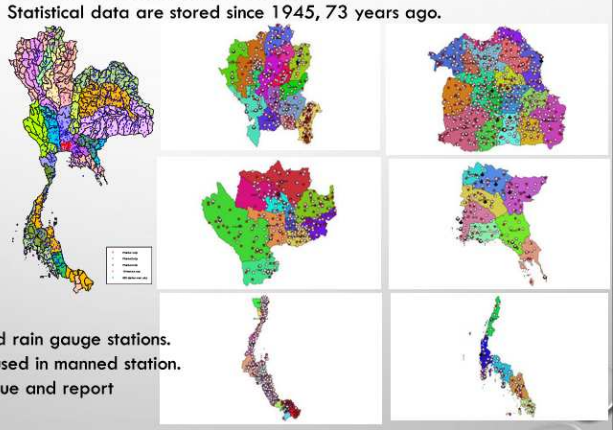
4. RAIN GAUGE NETWORK

- **White stars** represent the automatic rain gauge stations.
- Tipping bucket rain gauge is used in the station.
- It observes rainfall every minutes and transmit the data every 15 minutes.
- Minimum observation unit is 0.01mm.
- Statistical data are stored since 1945, 73 years ago.



- **Red stars** represent the manned rain gauge stations.
- Conical graduated cylinder is used in manned station.
- Observers read the rainfall value and report the data once a day.
- Minimum observation unit is 0.01mm.
- Statistical data are stored since 1999.

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4. WEATHER RADAR NETWORK

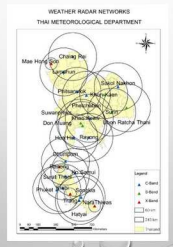
- **Blue** c triangles represent the **C Band Doppler RADAR/Portable** 22 stations/1set.
- **Green** triangles represent the **S Band Doppler RADAR** 1 station, Suwanaphumi.
- **Red** triangles represent the **X - Band Doppler RADAR/Mobile** 3 stations/1mobile.
- 26 Stations observes every minutes and transmit the data every 15 minutes.
- Minimum observation unit is 0.01mm.
- Statistical data are stored since April 2004.

TMD'S RADAR COVERAGE

REMARK

New site
- Nan
- Samutsongkram (Move from Don Muang)

Change Radar Type
- Narathiwas From X-band Doppler to C-Band Dual Pol.



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Current Status of TMD Radar Composite Map

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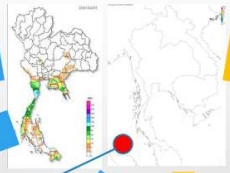
5. APPLICATIONS AND USERS

In this slide, it should be described how the observation data are sent to the user and how the data are utilized.

TMD Automatic Rain gage

TMD QPE Radar



Automatic rain gauge data are transmitted to headquarters every 15 minute.

Manned observed rain gauge data are reported to headquarters once a day.

Warning/Watch/Advisory for the stakeholder

Monthly rainfall map for the agricultural organization of government

Ministry of Agriculture

Data center in headquarters conducts AQC and archiving statistical data.

Observation data in real-time web for the nations

Agricultural instruction for the nations

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6. QUALITY MANAGEMENT

- conduct following quality management operations.

- Rain gauge inspection once a year
- Site environmental check once in every two years
- Daily site appearance check
- Limited value check for the observation data
- Training course for the observer

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7. EXPECTATION FOR THIS WORKSHOP

- Knowing how to adopt quality management
- Getting some skills of quality control for observation data
- Getting some tools of AQC and HQC
- Getting some materials for lecturing about quality management in my office
- Making firm relationships between participants to exchange useful information after the workshop

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KHOB KHUN KRAB!
ANY QUESTION !!!!