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Country report

MONGOLIA

Amgalan Ganbat

National Agency for Meteorology and Environmental Monitoring (NAMEM)

World Meteorological Organization
Organisation météorologique mondiale

RA II WIGOS Workshop
6-9 March 2019, Tokyo, Japan

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1. Observation system overview

Surface Observation
at Observatories (318) and AWSs (142)

Upper-air Observation
using Radiosondes- 4

Other Sites:

- Hydrological – 152
- Air quality monitoring – 36
- Green house monitoring – 1
- Desertification monitoring – 1550
- Environmental monitoring – 22

Weather Radar Observation- 1
and Mobile Radar -4

Satellite Data Receiving- 3

Observation for Civil Aviation -1

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NAMEM structure

Director-General

Deputy Director-General

Headquarter (77)

- National Observation Network & Climate Service Division
- Weather Forecasting Division
- Administration, Planning, Finance & International Cooperation Division
- Environmental Monitoring Division
- Archive & Database Division

Under NAMEM

- Meteorological Research Institute (98)
- Local Meteorological Offices (1659)
- Central Laboratory for Environment & Metrology (36)
- Aviation Meteorological Center (47)

Observation types:

- Surface observation (318)
- Upper-air Observation (4)
- Weather Radar Observation (1)
- Hydrological Observation (152)
- Air quality monitoring (36)
- Geostationary Satellite Observation (2)
- Observation for Environment (22)
- Observation for Civil Aviation (1)

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3. Quality management of observation data

Site observer

Data+HK

Local Meteorological Offices

AQC+HQC Multi-element

Meteorological Research Institute

HQC in spatial & theoretical

Database, NAMEM

Users

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4. Integrated use of observation data

- Weather Doppler Radar – 1
- Weather radar (mobile) – 4
- Satellite -4
- Upper-air Observation using Radiosonde- 4

(MODIS, NOAA, FY, HIMAWARI)

- ✓ Radar-rain gauge integration
- ✓ Radar-satellite integration
- ✓ Radiosonde-satellite integration

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5. Observer/expert training timeline

Training	Timeline
New observer training	every year for 21 days
Observer for civil aviation	1 in every 2 years
Maintaining observation instruments	1 in every 2 years
Participating in the workshop	Every year
Telecommunication network	1 in every 2 years
Weather Forecaster every year	Every year

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6. Plan for developing products

	2019	2020	2021
Provision of materials and training for users	<ul style="list-style-type: none">• Mobile application• Provide user manual• To improve user's knowledge• To hold a regular meeting with users	<ul style="list-style-type: none">• Provide training for AWS and it's manual• Human resource capability	<ul style="list-style-type: none">• To release Report and publication• Data management using toolkit
Satellite	Harsh winter risk map	Research on remote risk assessment, remote research and technology development	To test disaster risk by remote sensing and early warning systems
Radar	To increase 1-2 Radar network	X-band network in UB city	Integrated use of observation data
Surface	50 Manual observation should be automated <ul style="list-style-type: none">• Data quality monitoring system• Increase rain-gauge To bring the quality of the meteorological service for Air navigation to the international level	All manual observations replaced with AWS	Increase mountain observation Increase mesuarment of soil depth temperature at sites
Long Term Forecast	Upgrade the super computer speed is 22.6 TFLOPS and the capacity is 400TB	<ul style="list-style-type: none">• Upgrade the appropriate model• Provide more accurate weather forecasting and climate and environmental data	
National program for climate change	Meteorology and Environmental monitoring development program – 2025	To finalize proposals for the country's short and medium term and development program for local development policy and plan	Submit to the Government of Mongolia for an approval

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7. Expectation for this workshop

- Knowing how to use RWCs product
- Getting some materials for lecturing about Capacity building on human resources in my office
 - Integration of different observation systems and Weather Radar
- Making firm relationships between participants to exchange useful information after the workshop