

*Mercury-2016 workshop
26-29 July 2016 Bangkok, Thailand*

Introduction of Mongolia

*Enkhmaa Sarangerel
National Agency for Meteorology and
Environment Monitoring*

Content are

- 1. General information of Mongolia**
- 2. About NAMEM and Environmental Monitoring Network of Mongolia**

General information of Mongolia (1)



Mongolia is located in the central part of Asia between $41^{\circ}35''$ - $52^{\circ}06''$ of altitude and $87^{\circ}47''$ - $119^{\circ}57''$ of longitude. Neighbouring with Russia along 3485km in the north, with China 4676.9km in the south. Mongolian territory 1564.1 thousand square km of land.

General information of Mongolia (2)

Average altitude – 1580m above sea level

-the highest point – 4653m,

-the lowest point – 532m

The capital city Ulaanbaatar – 1350 m

General information of Mongolia (3)

- Temperature:
 - Average annual temperature are around 8.5°C in the Gobi desert region and -7.8°C in the high mountainous areas.
 - The extreme minimum temperature is -31.1°C to -52.9°C in January,
 - The extreme maximum temperature is $+28.5^{\circ}\text{C}$ to $+42.2^{\circ}\text{C}$ in July.

General information of Mongolia (4)

- Precipitation:
 - The annual precipitation amount is low averaging 200-220mm
 - from less 50 mm per year in extreme South (Gobi desert region)
 - to about 400 mm per year in limited areas in the North.
 - Most precipitation occurs in June, July, August
- Driest months are from November to March

General information of Ulaanbaatar city

- Area: 4700 km²
- Population: half of total (as of 2015)
- Average temperature: +2.2⁰C
- Annual precipitation: 242.7 mm
- Relative humidity: 69%

Pollution sources in Ulaanbaatar city

1.Mobile sources:

- 350.000 vehicles

2.Stationary sources:

- 3 coal fired thermo power plants ,
- more than 370 heat only boilers (HOB)

3.Area sources:

- 180000 traditional and private houses (coal used)

4. Household waste -800-850.000 tons/year

Coal and fuel consumption in Ulaanbaatar city

1. Coal consumption: Mongolia is rich by coal reserves and coal is main source of electricity and heat production.

- The 3 power plants consume approximately 5 million tons of coal for energy production
- heat only boilers (HOB) burn an annual average of 300.000 tons of coal
- Ger house's consume are 600.000 tons per year of coal /winter season for cooking and heating

2. Fuel consumption:

- Diesel -350.191ton/year (in Mongolia)
- Benzene-232.950 ton/year (In Mongolia)

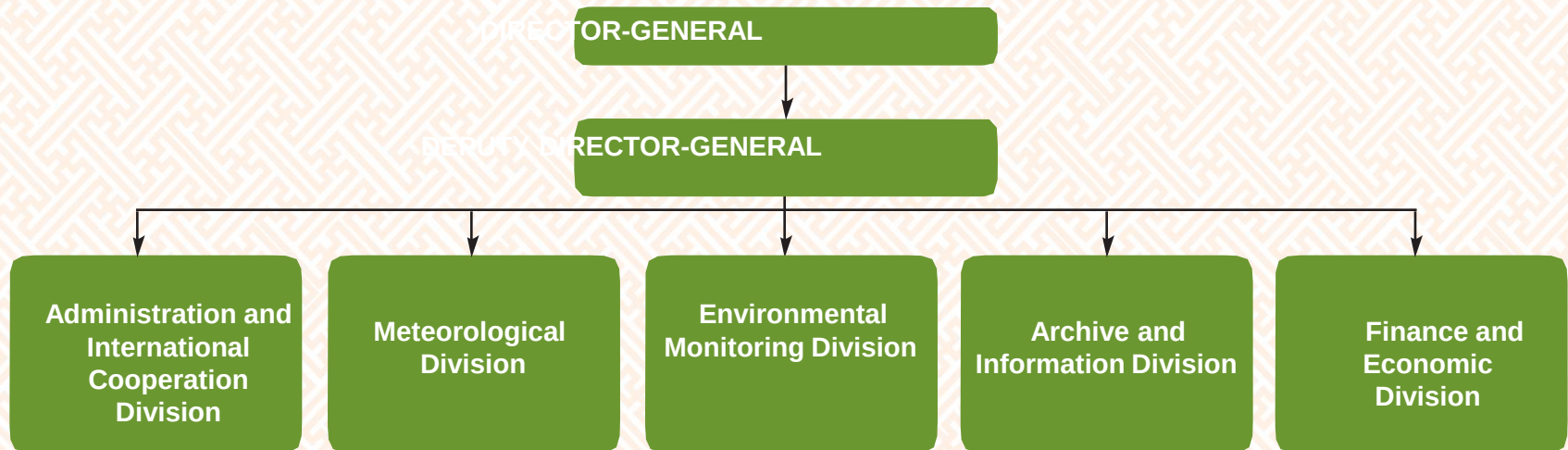
National agency of meteorology and environmental monitoring

Main goal of the service: to provide weather and climate forecasts and warning for the protection of human life and its property from a natural disasters and the enhancement of the national socio-economic development of the country

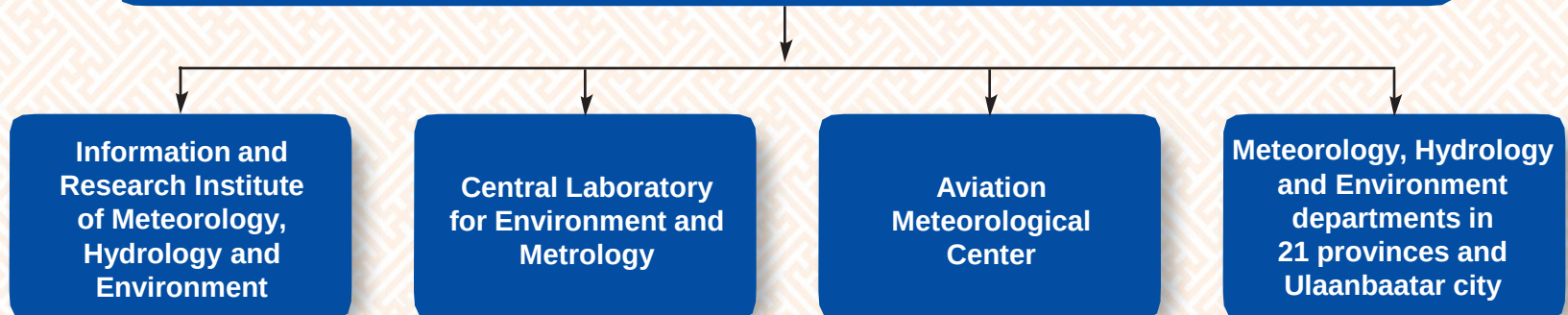
NAMEM is responsible for environmental monitoring of water, air, soil quality, acid deposition, radiation dose rate, yellow dust to control the environmental quality

Organizational structure of NAMEM

ORGANIZATIONAL STRUCTURE



ORGANIZATIONS UNDER NAMEM



Air quality network in Mongolia



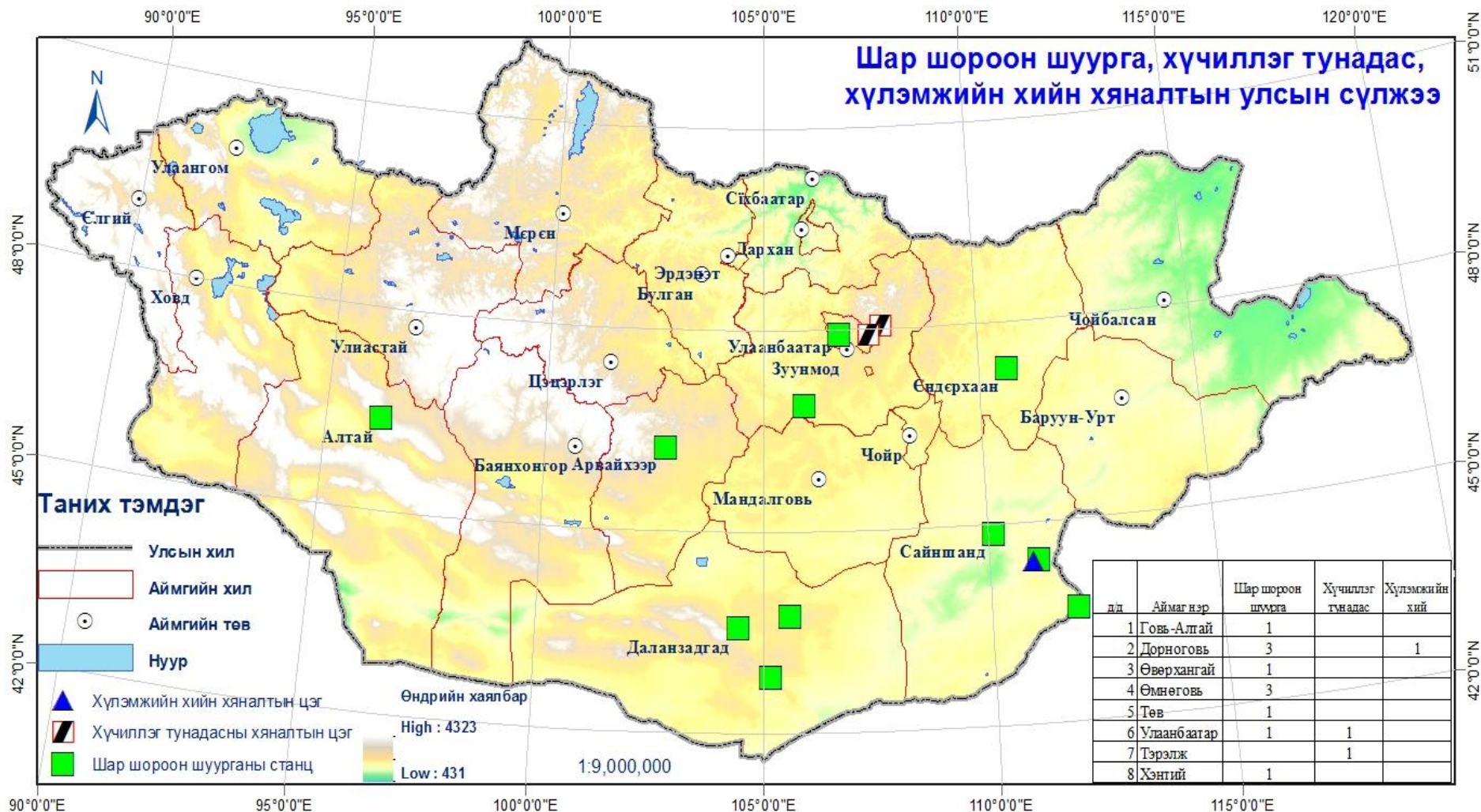
Surface water quality network in Mongolia



Radiation doze rate station in Mongolia



Yellow dust, acid deposition, GHG network in Mongolia



Wet deposition monitoring site

Mongolia has been participating in EANET since 1998 with start of activities during the preparatory phase.

Urban site- Ulaanbaatar



Longitude 106° 54' E,
Latitude 47° 55' N,
Altitude 1275m asl

Remote site - Terelj



Longitude 107° 29' E,
Latitude 47° 59' N,
Altitude 1550 m asl

Dry Deposition Monitoring site

Remote site - Terelj



Urban site- Ulaanbaatar



Dry & Wet Deposition Monitoring Plan

Monitoring site	Items	Monitoring interval	Monitoring parameters
Terelj Ulaanbaatar	Wet deposition	Daily Daily (May to October)	pH, EC, SO_4^{2-} , NO_3^- , Cl^- , NH_4^+ , Na^+ , K^+ , Ca^{2+} , Mg^{2+}
Terelj Ulaanbaatar	Dry deposition	Biweekly Weekly (May to October)	Gases: SO_2 , HNO_3 , HCl , NH_3 Aerosol: SO_4^{2-} , NO_3^- , Cl^- , NH_4^+ , Na^+ , K^+ , Ca^{2+} , Mg^{2+}

Training and awareness



A sunset scene with a bright sun low on the horizon, casting a golden glow across a sky filled with wispy clouds. The sun's reflection is visible on a dark, calm body of water in the foreground. The background features a dark silhouette of a mountain range.

***Thank you for your
attention!!!***