



*Information and Research Institute of  
Meteorology, Hydrology and Environment,  
NAMEM, MONGOLIA*



# **Recent climate feature and seasonal outlook for Winter 2017/2018 over Mongolia**

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A.Davaadorj, CH.Sarantuya and L.Oyunjargal

*Weather and Environmental, Numerical Modeling Research Division,  
IRIMHE, NAMEM*

# Outline

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## ➤ **Recent climate feature**

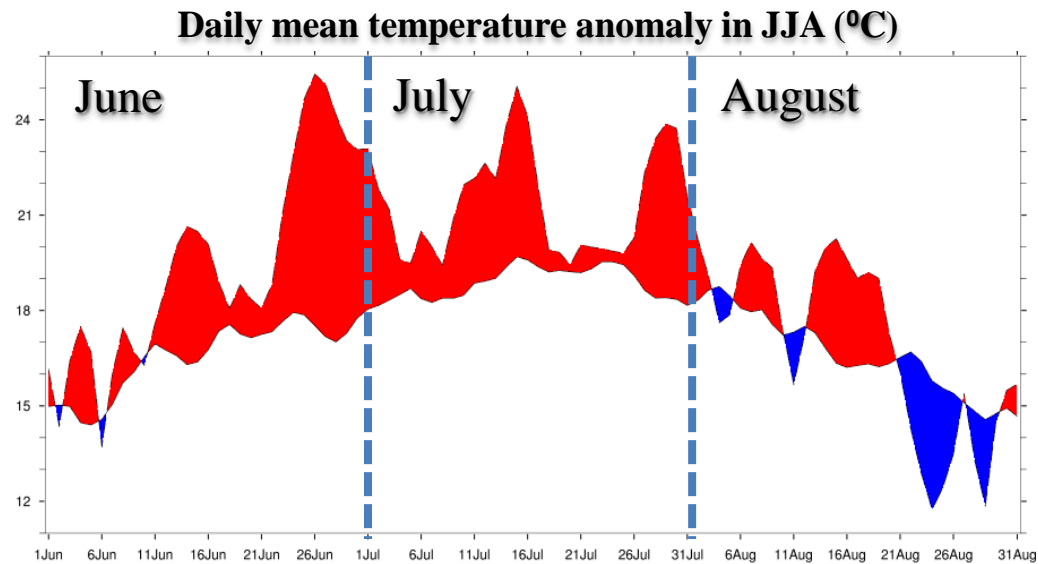
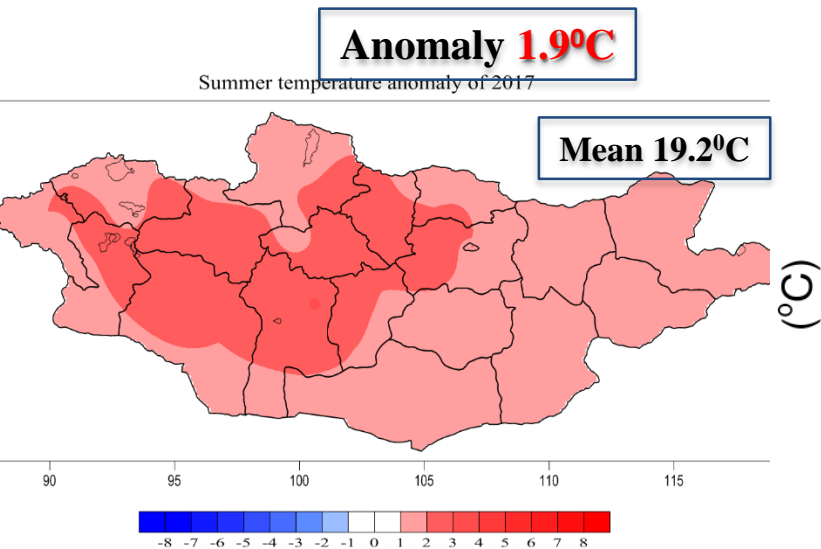
- **Temperature**
- **Precipitation**
- **Extreme events**

## ➤ **Summer temperature and precipitation accuracy over Mongolia**

## ➤ **Seasonal Outlook for Winter 2017/2018 over Mongolia**

## ➤ **Summary**

# Temperature

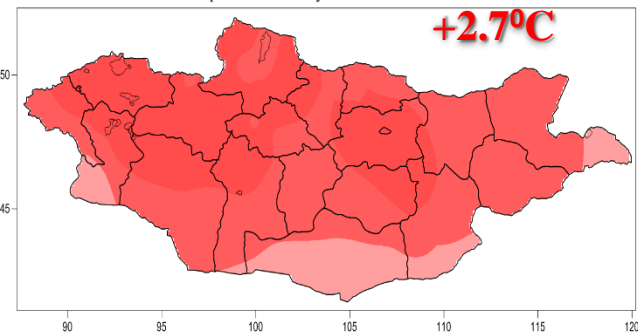


June

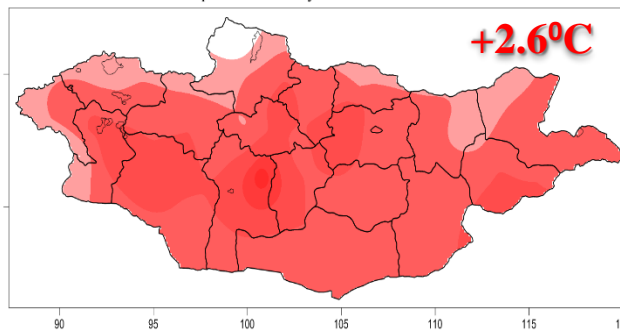
July

August

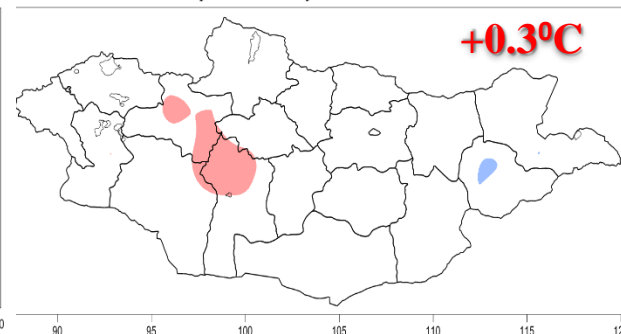
Temperature anomaly 2017-06



Temperature anomaly 2017-07

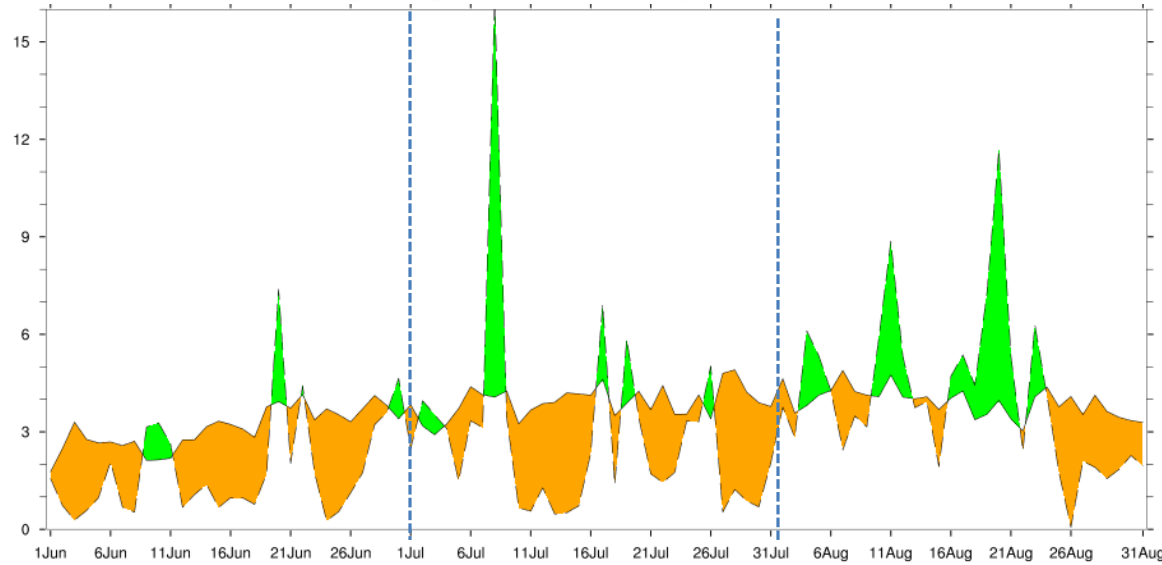


Temperature anomaly 2017-08



# Precipitation

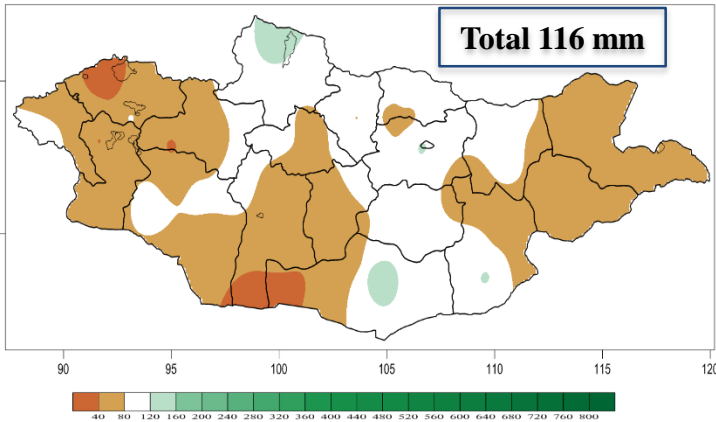
## Daily mean precipitation anomaly (mm)



Ratio 77%

Summer precipitation anomaly of 2017

Total 116 mm



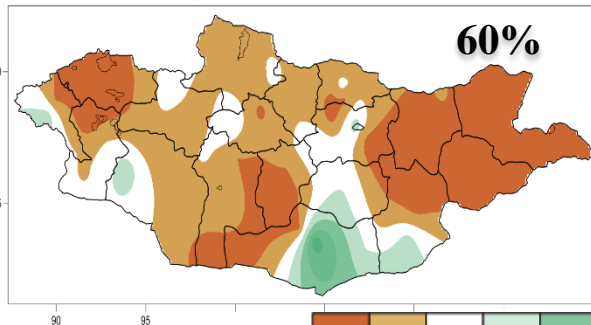
June

July

August

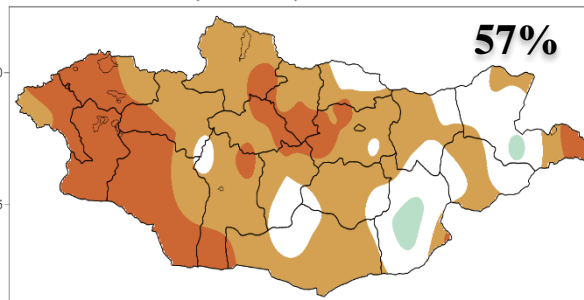
Precipitation anomaly 2017-06

60%



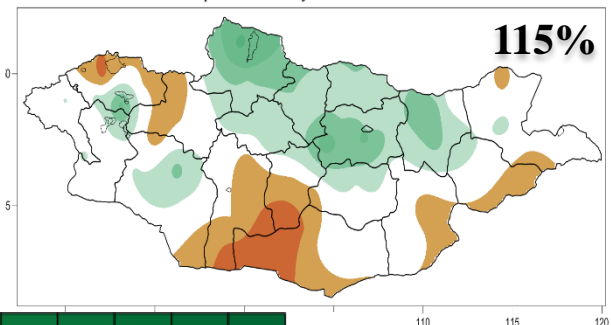
Precipitation anomaly 2017-07

57%



Precipitation anomaly 2017-08

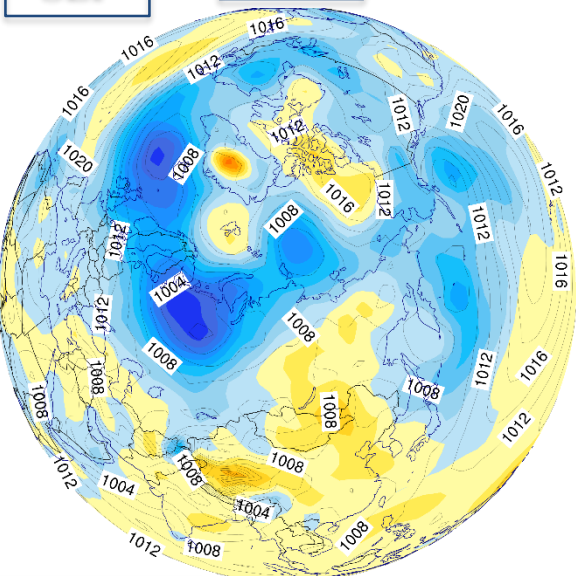
115%



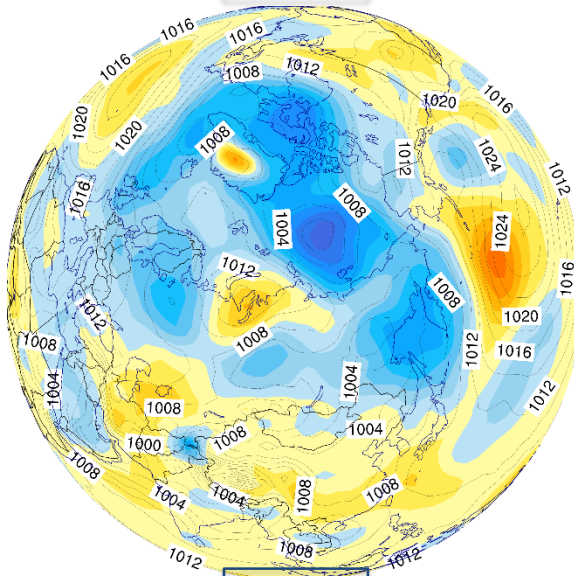
# Atmospheric circulation

SLP

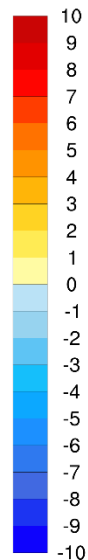
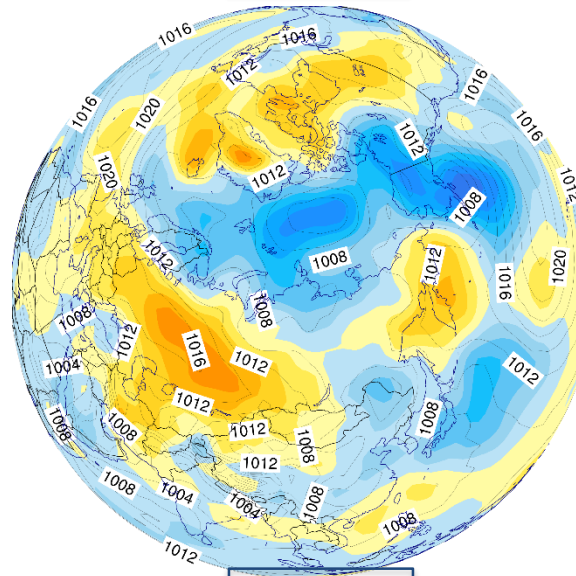
June



July

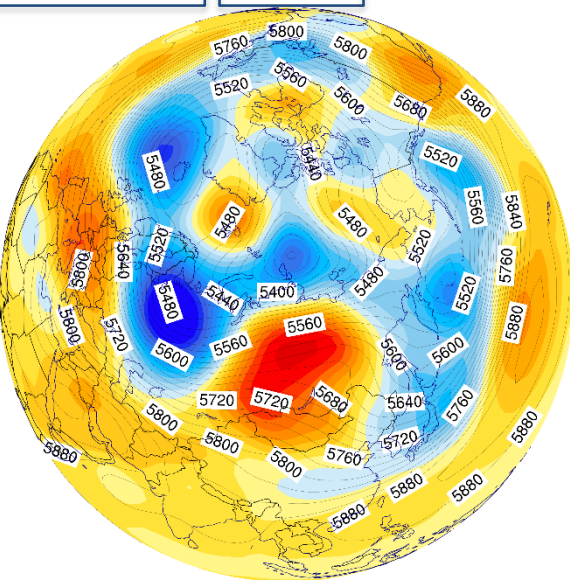


August

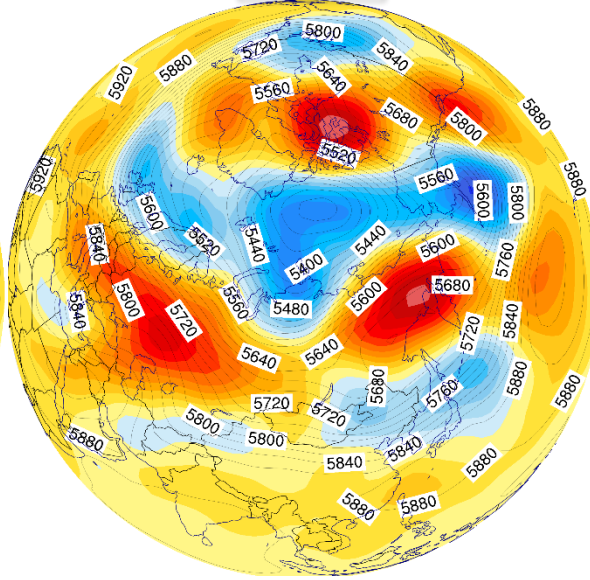


HGT500

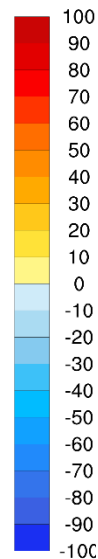
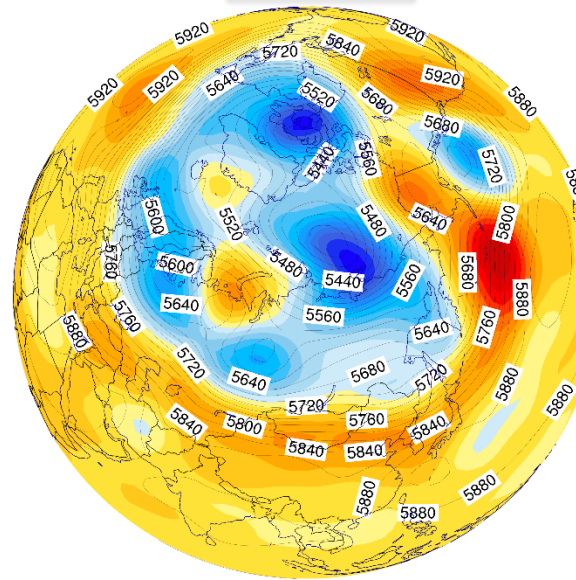
June



July

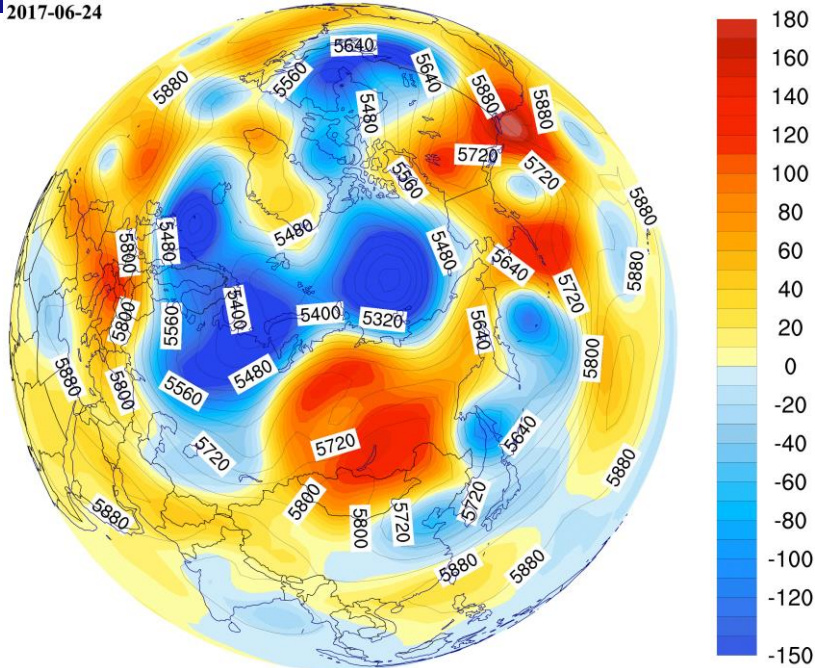


August

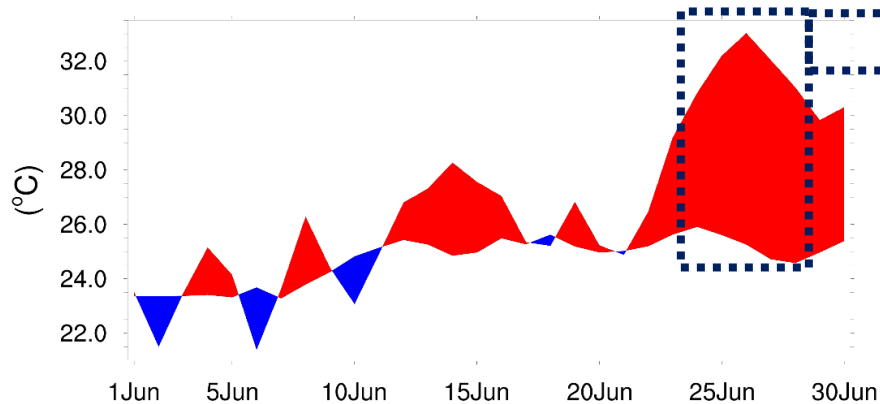


# Extreme event: Heat Wave

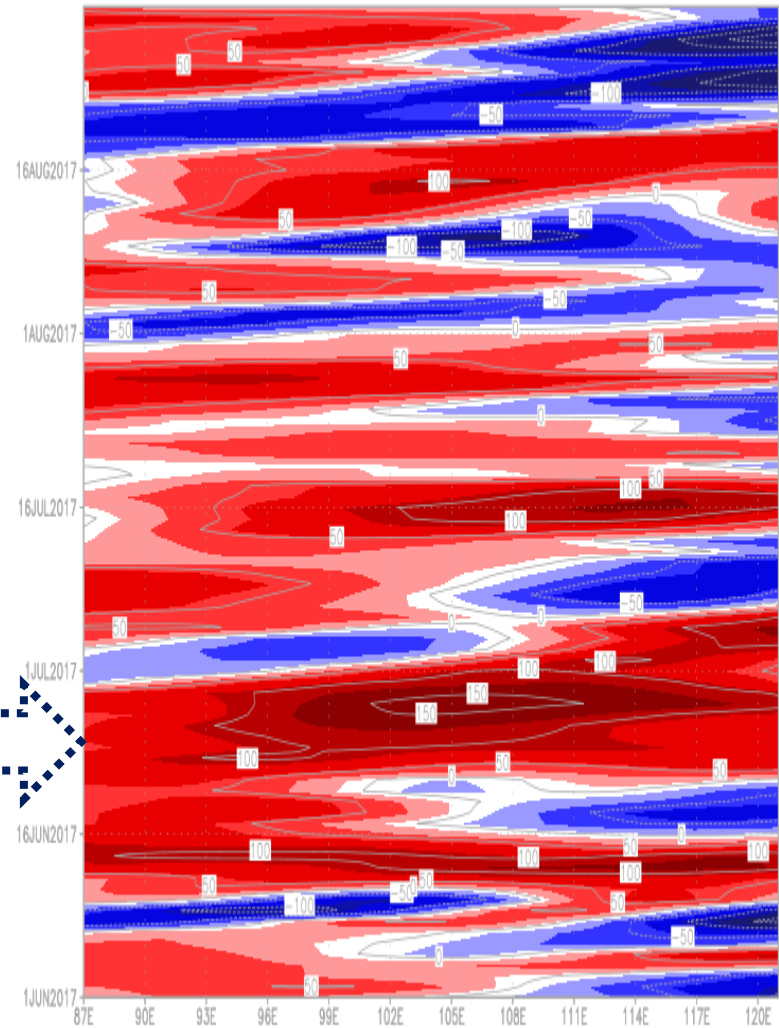
2017-06-24



500 Geopotential height



Maximum temperature anomaly of June



GADS: COLA/IGES

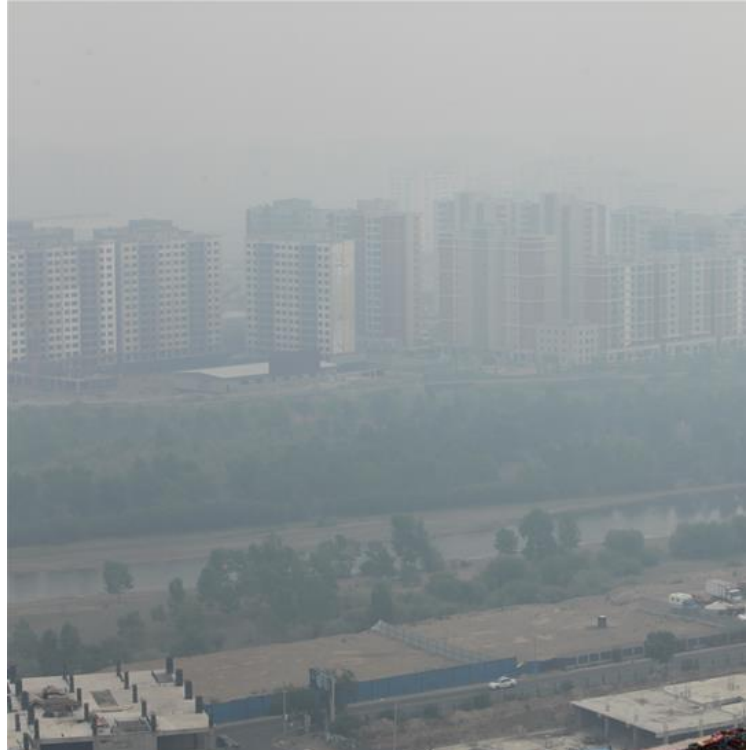
Daily 500 Geopotential height cross section /45/

2017-10-22-13:44

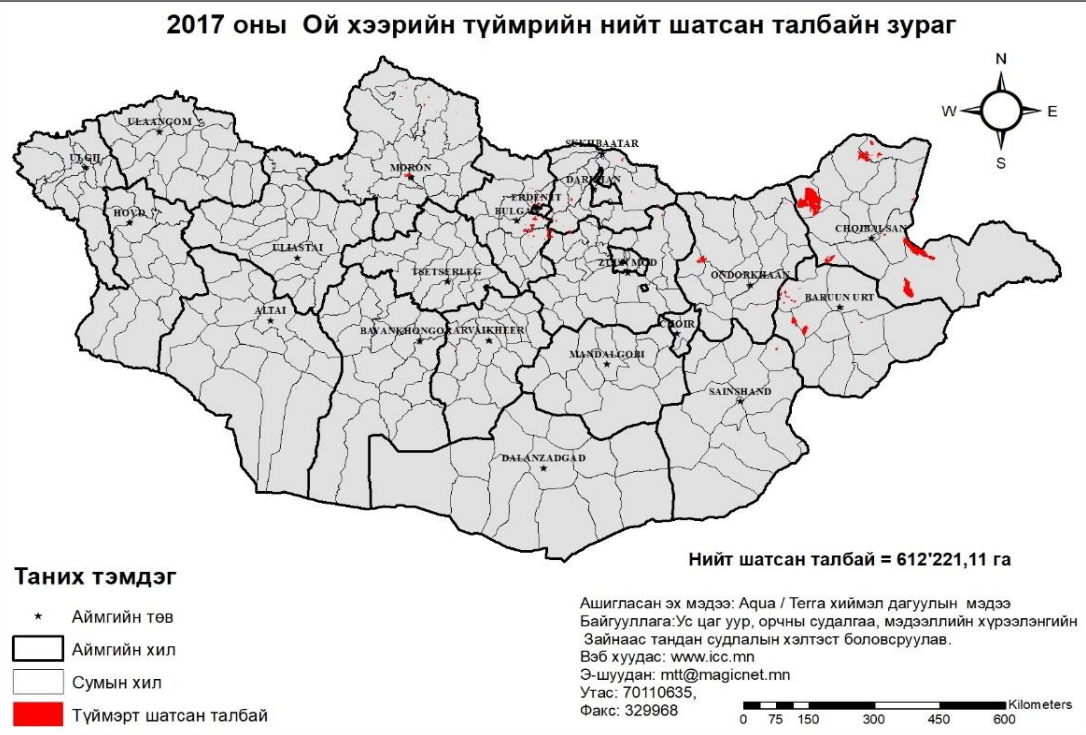


# Heat Wave

Since early July, more than 20 forest fires have hit northern Mongolia, including areas near the capital city of UlaanBaatar, Tuv aimag, Selenge aimag and Bulgan aimag.



2017-07-16 Ulaanbaatar, Mongolia



Burned territory of Mongolia

~6122 km square  
area burned



# Agriculture loses



The land farming sector has seen crop loss on 133 thousand hectares land this year, it's more than 30 % of national level.

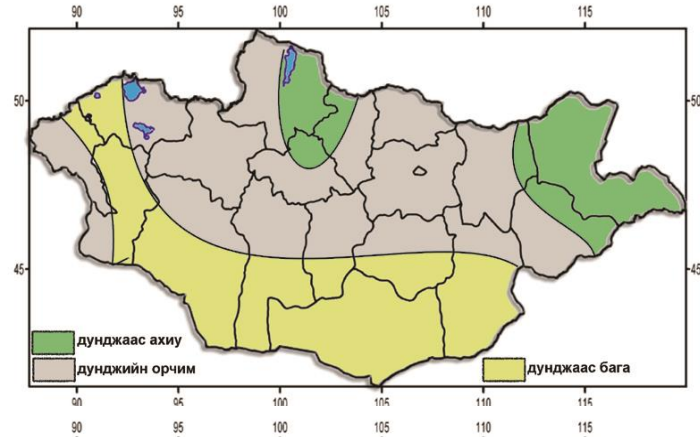
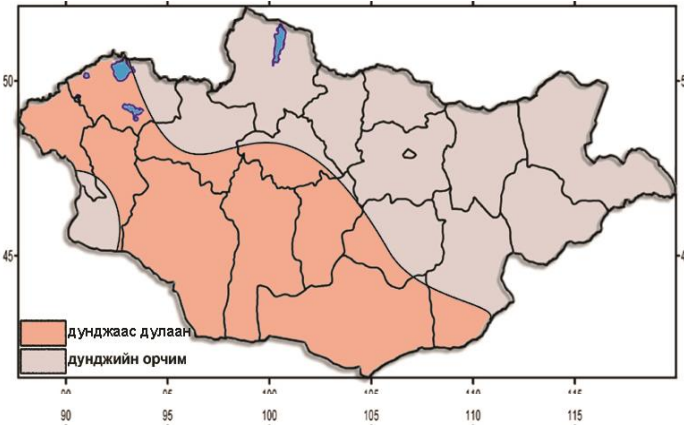
# Monthly forecast accuracy

Months	Temperature	Precipitation
<b>June</b>	68.9 %	54.8 %
<b>July</b>	92.9 %	60.7 %
<b>August</b>	66.1 %	52.9 %
<b>Mean</b>	76.0 %	56.1 %

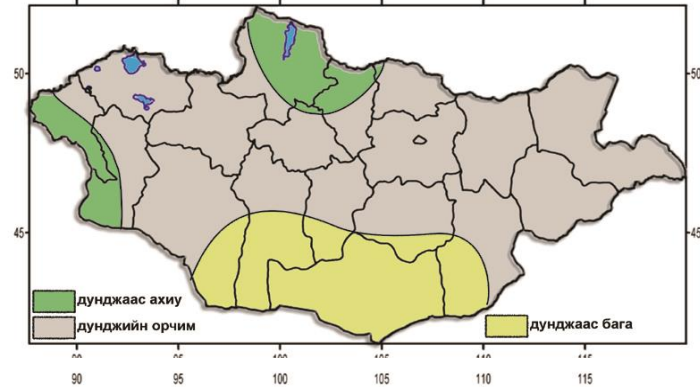
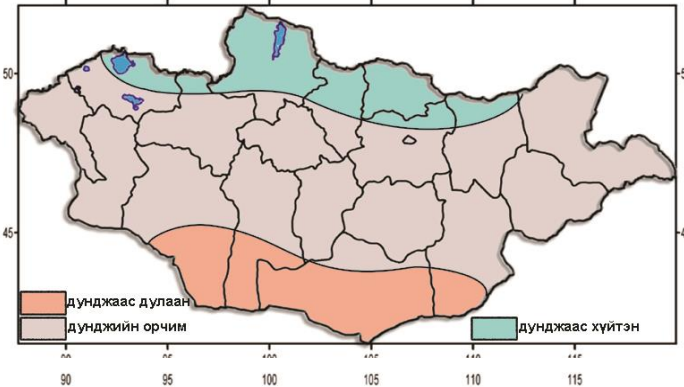
# Seasonal outlook for Winter 2017/2018 over Mongolia

# Climate prediction in Winter

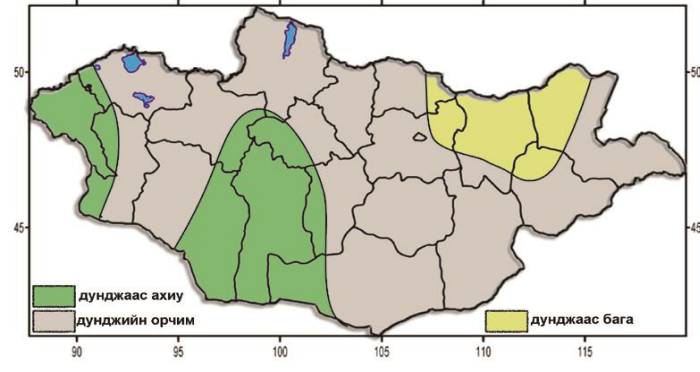
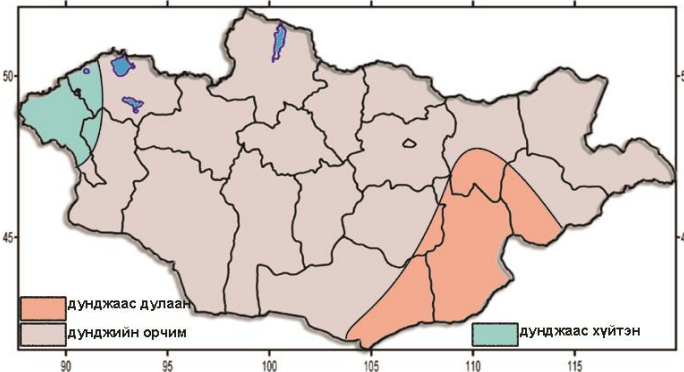
December



January



February



2 дугаар сарын агаарын температурын урьдчилсан төлөв

2 дугаар сард орох хур тунадасны урьдчилсан төлөв

# Temperature prediction in Winter



# Precipitation prediction in Winter



# Summary

Mongolia experienced above normal temperature and normal precipitation in 2017 summer.

June and July were the 1st warmest and the 3rd driest months since 1961, respectively. Also, record-breaking heat wave occurred in the late June. Due this dry and hot condition, forest and steppe wildfire frequently occurred during the summer, resulting huge economics loses.

Beside, above normal dry condition started to be observed from the beginning of June and intensified up to late July almost all over the country. This caused extreme and moderate drought condition over 70% of the whole country. The land farming sector has seen crop loss on 133 thousand hectares land this year, it's more than 30 % of national level.

Based on statistic models and dynamic model, the seasonal outlook over Mongolia in 2017/2018 winter illustrated. The winter temperature expect below normal over southern part, above normal over south western part, other part is near normal over Mongolia. The winter precipitation expect above normal over northern and some part of eastern, below normal precipitation over southern part of Mongolia.

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Thank you for your attention