Seismicity of Mongolia and activity around Ulaanbaatar city
• Brief information about Mongolia
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• Seismicity of Mongolia and seismic activity around Ulaanbaatar city
About of Mongolia

Government: Parliamentary with a president (4 years)
Capital city: Ulaanbaatar
Language: Mongolian
Religion: Buddhism
Economy: Traditionally based on agriculture, livestock breeding (camels, bovine, goats, horses and sheep); mining (coal, copper).

Mongolian total territory is divided into 4 big zones by geography.
• Snow-capped mountain ranges
• Semi-desert Gobi
• Forested slopes
• Open high-plateau steppe land
Mongolian culture

Deeply rooted in the natural environment, Mongolian culture has been molded under their harshest of climates; the identity of these ancient tribal peoples has survived for hundreds of years within traditional nomadic practices. During the greatest period of expansion at the time of powerful Mongol Empire, the mobility of the equestrian culture of the Mongols brought them into contact with other cultures and allowed them to absorb many different ideas and influences. However, the Mongols did not bring home many comfort from the civilized countries they conquered as they weren’t particularly interested in doing so.

Traditional values

Among the topics that are mentioned from the oldest works of Mongolian literature to modern soft pop songs are love for parents and homesickness, a longing for the place where one grew up.

Horses have always played an important role in daily life as well as in the arts. Mongols have a lot of epic heroes from the ancient time.

Hospitality is so important in the steppes that it is traditionally taken for granted.
Traditional costume – Deel

The main costume of the Mongols is the deel. It is usually made of silk and cotton. The Mongols have wearing this costume for centuries, it is perhaps as old as the gear. A deel design varies in different ethnic groups, and the materials also differ in different seasons. For example: in winter they wear sheepskin, their warmest deels, in summers they wear their lightest deels.

Although usual coat of European style is common, every mongolian has a best deel for special occasion such as Naadam and Tsagaan sar (Lunar new year).
Tsagaan sar is a family festival, which is celebrated on the first day of the Lunar new year to put some cheer in the endless winter months and mark the beginning of spring. This could be any date from late January to early March depending on Lunar calendar. The celebration happens over several days, with feasting on the night of the new moon. Everyone dresses in their best clothes to visit family members. Throughout the ages the festival has been celebrated in the traditional way- family ties are renewed and in particular it is a time to honor the elderly.

Naadam Festival: The sports most popular with the Mongols since ancient times are wrestling, horse racing and archery. Together they form Eriin Gurvan Naadam – the three manly sports. At present it is a national holiday held 11-13th July each year to commemorate the Mongol People's Revolution.
Development of Seismology in Mongolia
1957 - First International Geophysics Year
Installation of first seismic station in Ulaanbaatar
Remote stations of MNDC

Acquisition computer
Solar Panel
Digitizer
Seismometer L4-3D
UB network

Since Nov. 1994

2 station

Component LP+SP

4 stations

Vertical component

Since 2000

9 stations SP
Active faults in Mongolia
Seismicity of Mongolia

ONE CENTURY OF SEISMICITY IN MONGOLIA (1900 - 2000)

1905.07.09
M=8.0

1905.07.23
M=8.1

1931.08.10
M=8.0

1967.01.05
M = 7.4

1957.12.04
Ms=8.1
Seismicity of Mongolia (2001 - 2011)

- 2003.09.27, M=7.3
- 2005.02.18, M=5.3
- 2011.04.14, M=5.2
- 2011.08.27, M=5.8
- 2011.09.26, M=4.1
Seismic activity around Ulaanbaatar city
The capital city of Mongolia, Ulaanbaatar

Population – 1/3 people of Mongolia
We have taken a study’s region about 350 km radius around Ulaanbaatar city, and divided the region in six subregion, which is characterized by the epicenter’s density, geological structure and active fault. The range of magnitude are from 3 to 7. It shows high activity near the Mogod Earthquake, 5 January 1967, Mw= 7.2 and some dense activity as 180 km south of the capital in Deren region where a recent event was largely felt at Ulaanbaatar.
Seismic activity of UB area
Relatively large earthquakes
Red circles are seismic events detected between 2005 - 2010

Magnitude range is between 0.8 and 4.4

Depth range is 0.8 – 50 km, Majority 3 – 12 km

Yellow circles are showing earthquakes occurred between 1994 and 2004 UB and its neighbor areas
Seismic activity of Ulaanbaatar

Total number of earthquakes observed
2000 - 2011

Seismic swarms 2011 (until Oct)
Number of events 227

Seismic swarms starts -2010
Number of events – 623

Seismic swarms starts -2009
Number of events - 508

Seismic swarms starts -2005
Number of events - 350
Seismic activity of Ulaanbaatar
Density of earthquakes occurred

; 1994.7849 to 2009.2578

UB basin

log(EQ per km²)

-2.5
-2
-1.5
-1
-0.5
0
0.5
1

RCAG of MAS
Department of Seismology

October 11
Portable seismic and accelerometer stations around Ulaanbaatar
Seismicity of Ulaanbaatar area
1994 - 2009

Magnitudes:
- 0.0 - 0.5
- 0.5 - 1.5
- 1.5 - 2.5
- 2.5 - 3.5
- 3.5 - 4.5

Faults
THANK YOU FOR YOUR ATTENTION