

GEOSPATIAL AND LEGAL
SOLUTIONS:
EARTHQUAKES AND
OTHER RISKS

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Deputy head of Cadastre Committee of
Republic of Armenia

5 facts about Armenia

1 Armenia is situated in Caucasus region, its neighbors are Azerbaijan, Georgia, Iran and Turkey

2 Armenia is in 7th place among 142 countries: Safety Index by Country

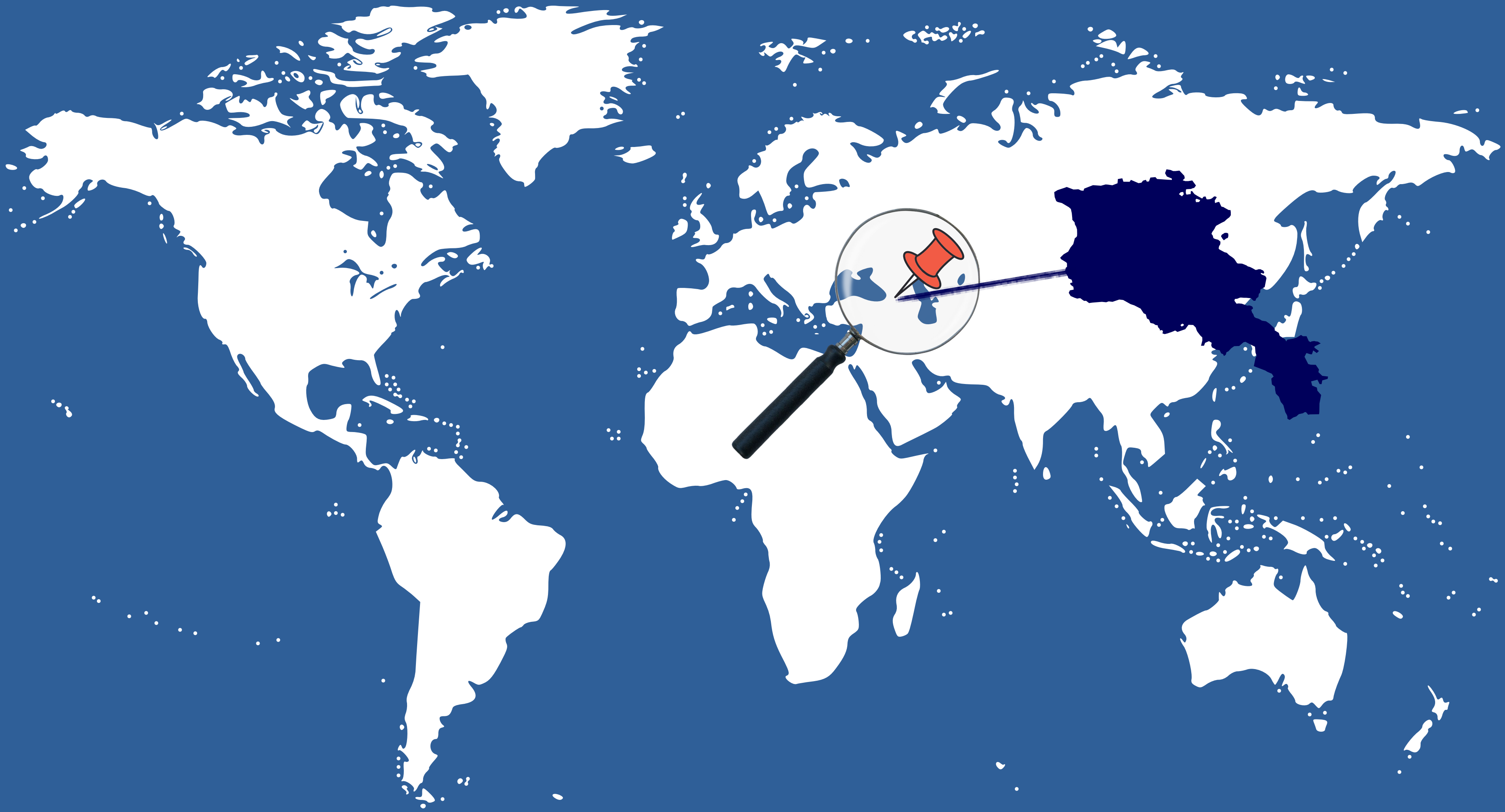
3 Armenia's economy growth was 12,6% in 2022

4 Drinkable water is accessible everywhere in Armenia from drinkable fountains

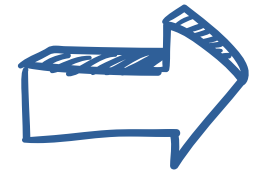
5 Chess is a mandatory subject in all public schools in Armenia



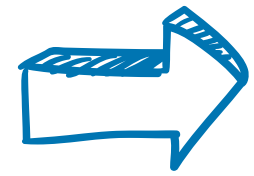
Mount Aragats: highest peak in Armenia



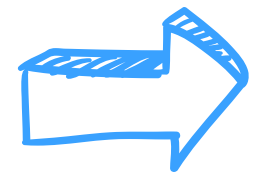
Core functions of Cadastre Committee of Armenia



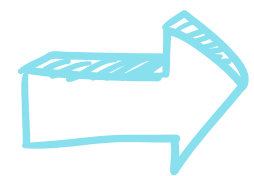
Registration of property rights, limitations to those rights



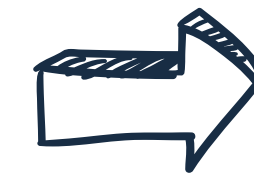
Creation and compilation of digital topographic maps and plans, as well as cadastral maps and plans using modern technologies



Organization and implementation of state and national planning geodetic and state elevation, geodynamic networks and regular updating works



Development and implementation of geodetic and cartographic target programs of state significance



Ensuring the formation of a unified system of coordinate, height, gravimetric measurements

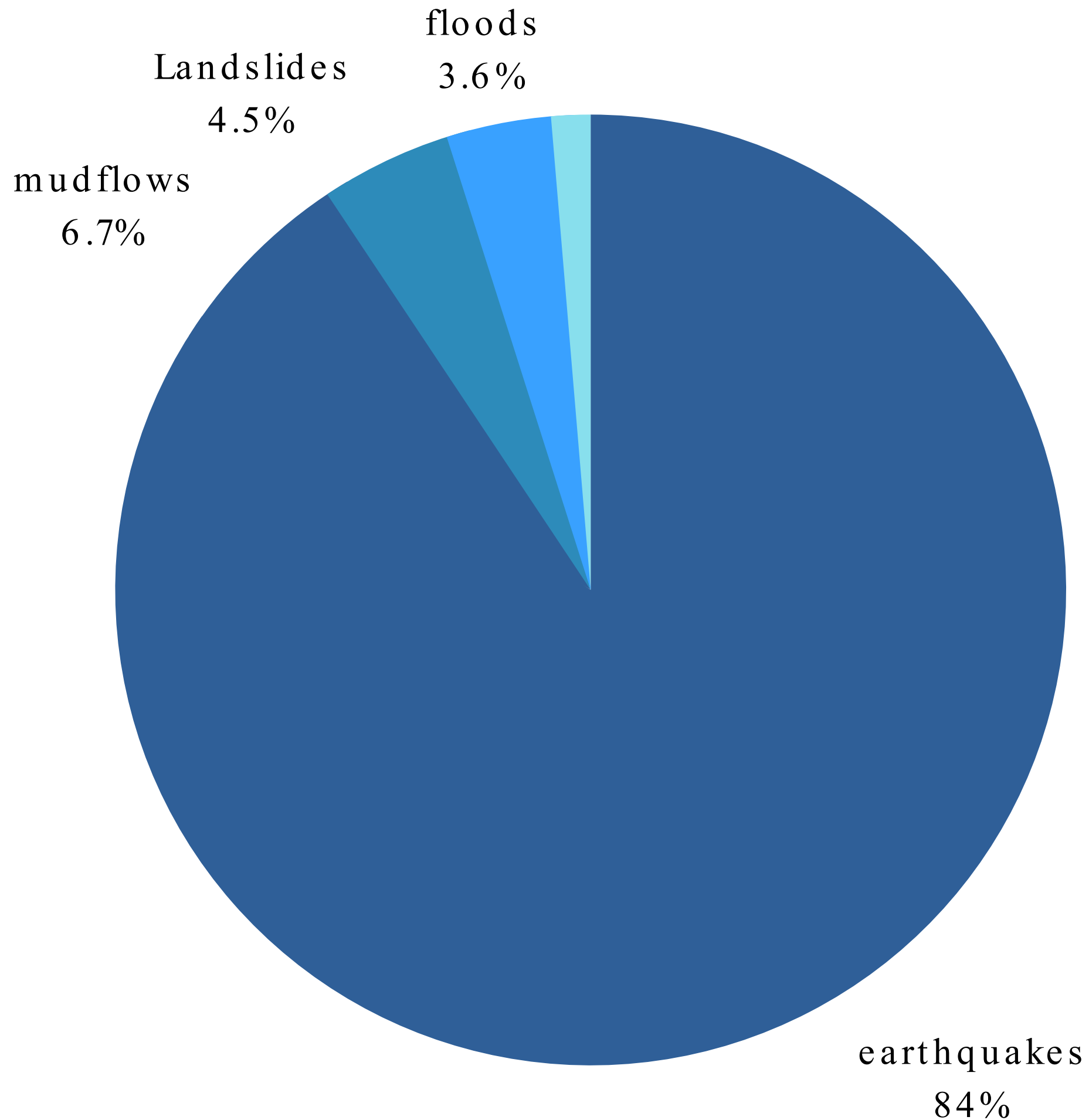


Development of land relations regulation, land policy, principles of land resource management in terms of land rights, land market formation

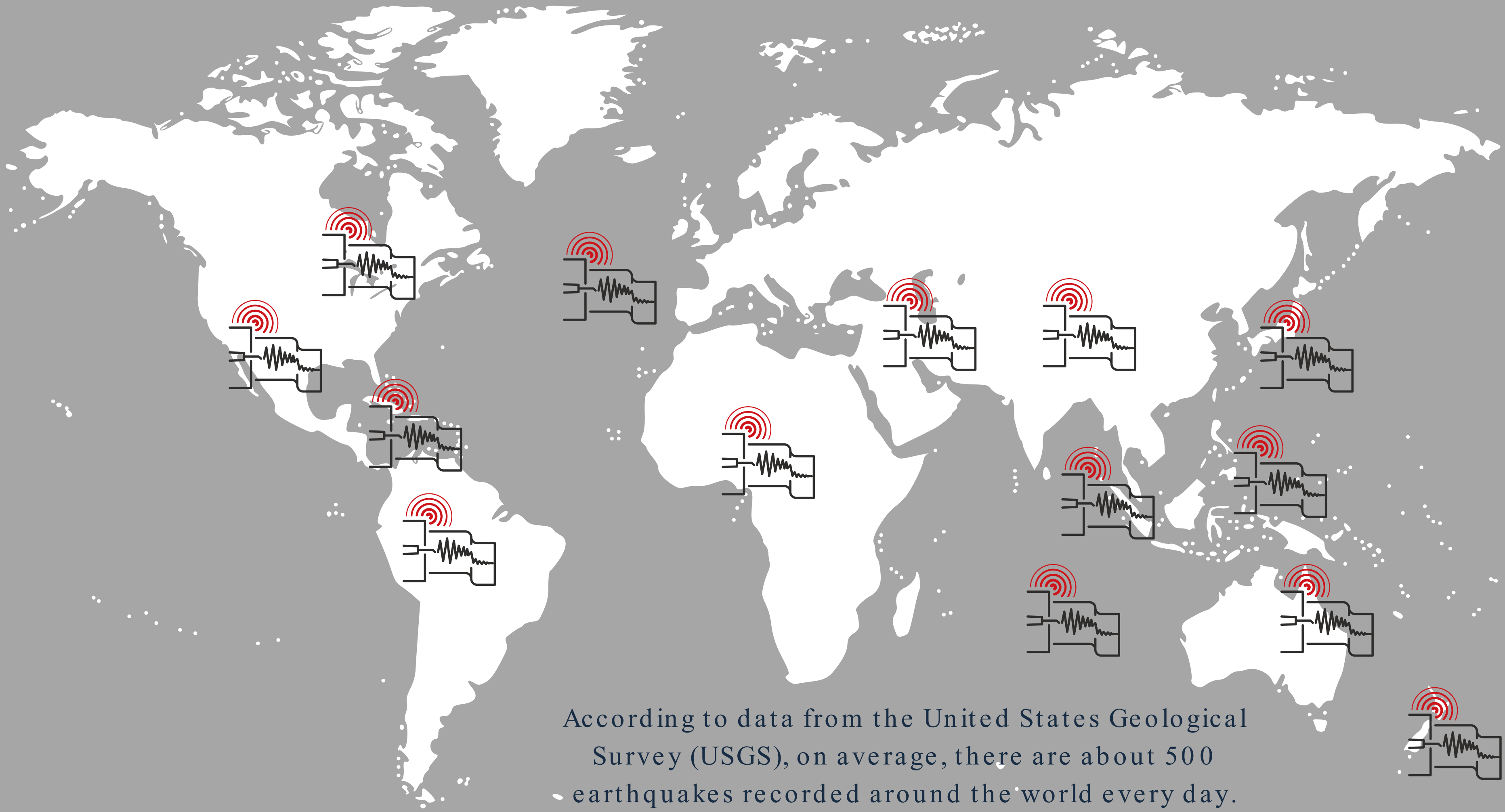
The role of Cadastre Committee in disaster management

- Orto photos and high-resolution satellite images
- Cadastral, topographic and land planning maps
- Reference stations
- National spatial data infrastructure

Natural disaster risks in Armenia



Geographically, Armenia is located in the northeast of Armenian Upland between the Caucasus and Southwestern Asia. The seismicity of Armenian Upland relates to the Arabian-Eurasian plates' collision, which is characterized by diffusive distribution of shallow earthquakes of various magnitudes.

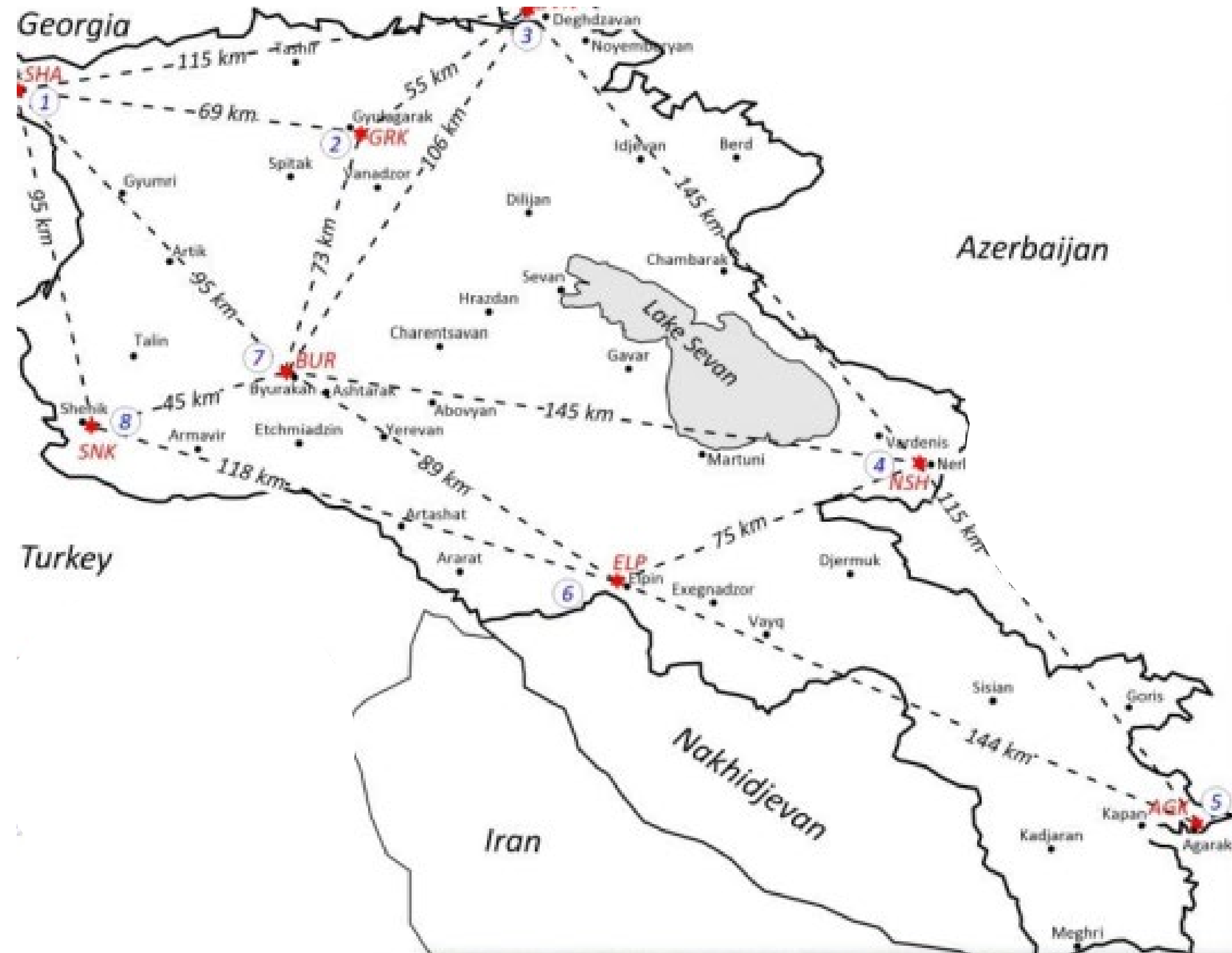


According to data from the United States Geological Survey (USGS), on average, there are about 500 earthquakes recorded around the world every day.



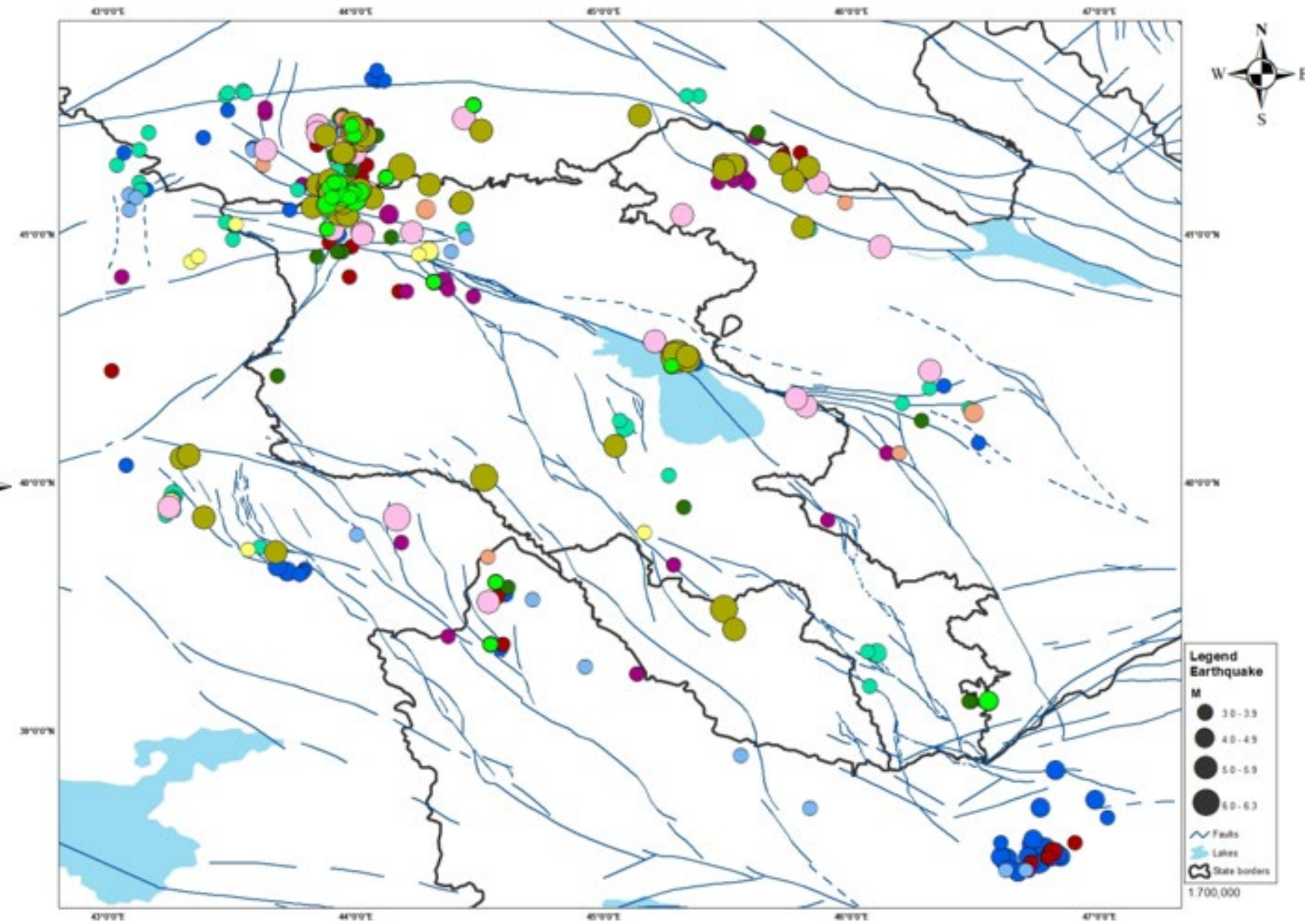
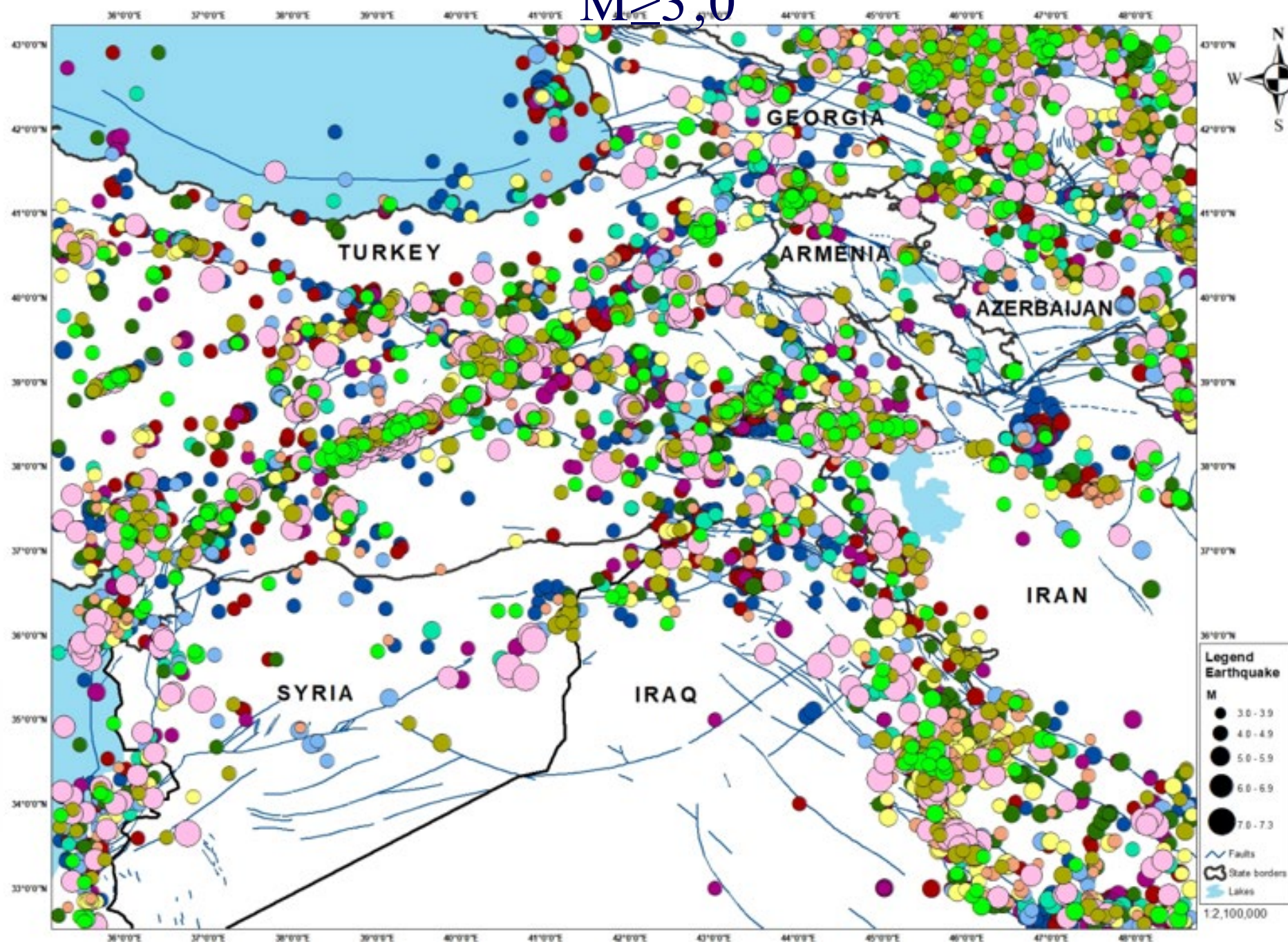
Severe recorded earthquakes in Armenia

Epicenter	Year	Magnitude
Gyumri	1926	6,2
Zangezour	1931	6,5
Yerevan	1937	4,7
Zangezour	1968	5,1
Spitak	1988	7,0



Seismicity of the Tavo Caucasus

Number of earthquakes more 7000,
 $M \geq 3,0$



Number of earthquakes more 300,
 $M \geq 3,0$

Legal solutions



Reviewal of regulations regarding seismic security

Reviewal of construction norms

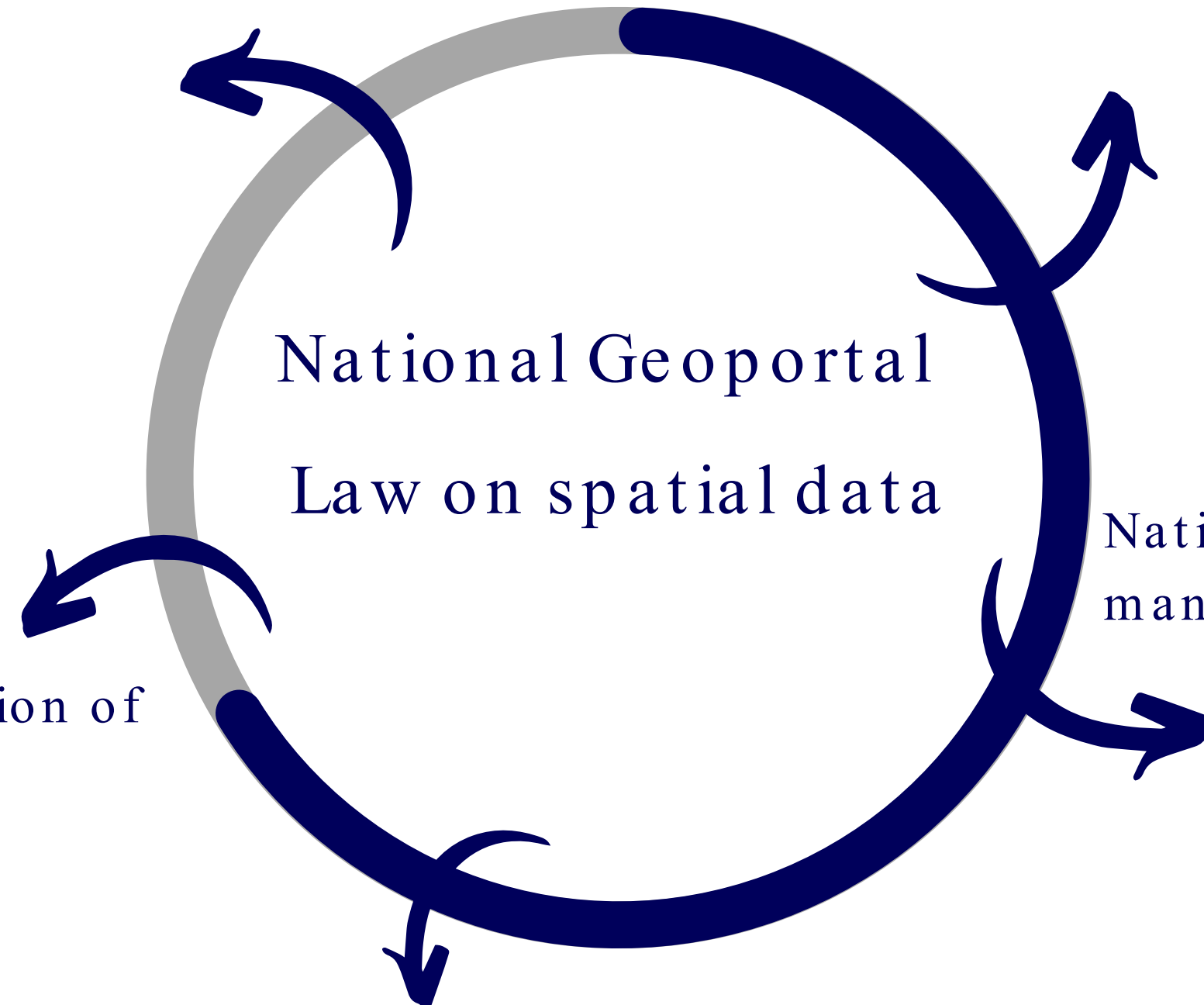
Reviewal of procedures for construction permissions

Adoption of law on spatial data

Adoption of law on geodetic activity and cartography

principles for formation of spatial data

new approaches to organisations that are
generating GIS layers



National spatial data infrastructure
management foundations

new approaches for collection of
spatial data

Separation and stipulation of state
and private functions

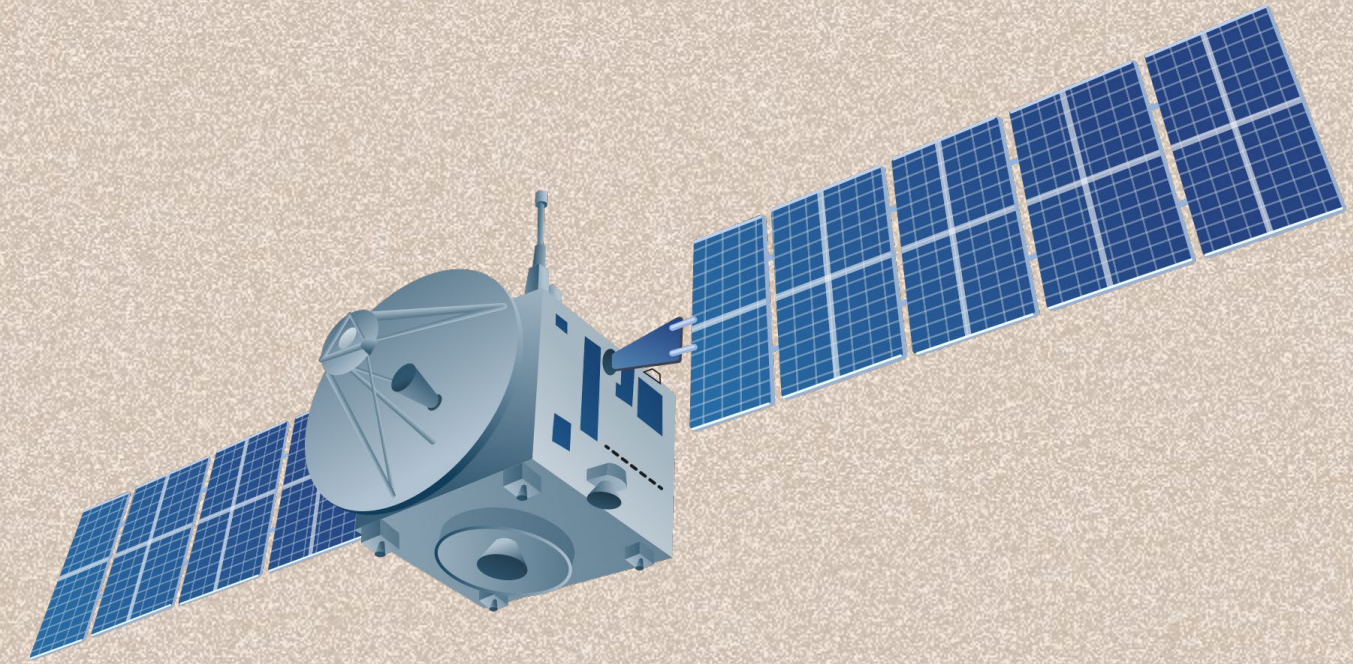




GEO SPATIAL SOLUTIONS

GIS is currently used for monitoring and predictions of disasters such as assessing possible landslides, simulating situations of possible dam failure, and preparation of thematic maps for rescue services.

Recent amendments

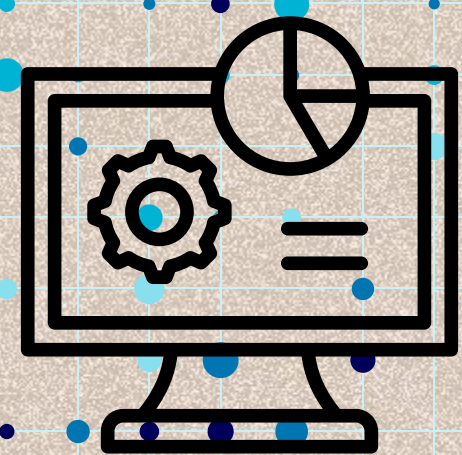


In 20 21 orthophotos were obtained from Maxar

In 20 22 reference stations were technically updated

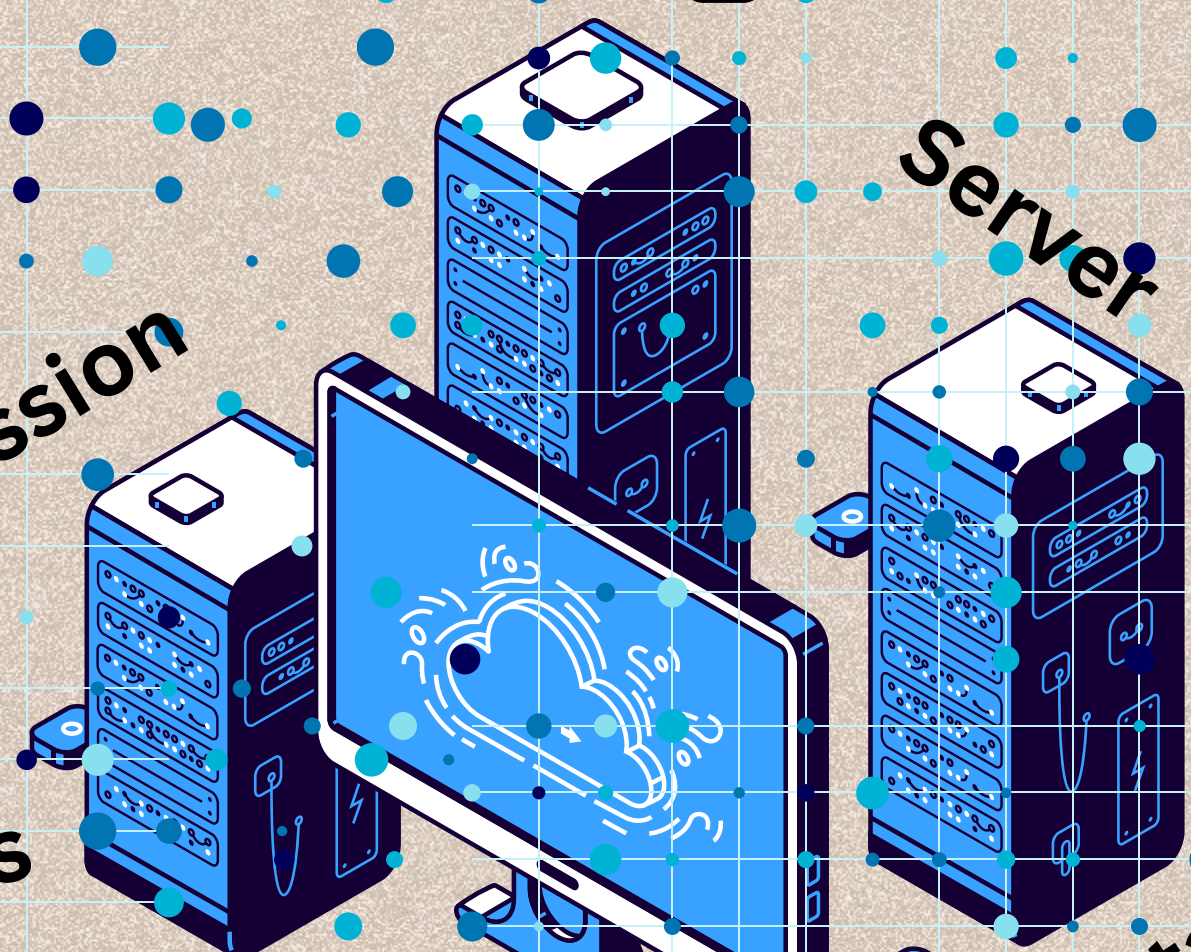
During 20 22 under ADB grant project technical support was provided by LX Korea

During 20 21-20 22 technical support was provided for digitization and modernization of archiving by Land registry and mapping agency of Netherlands



Data Standards

Data transmission

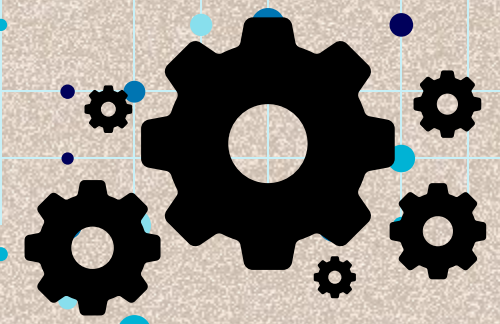
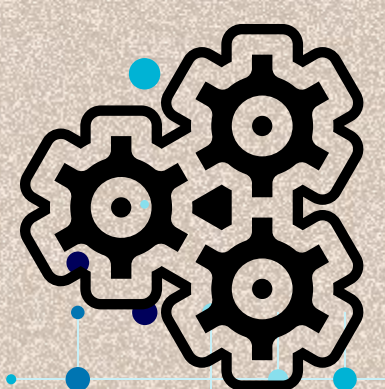
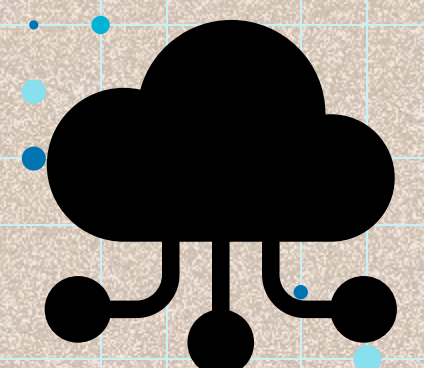


sync

Metadata

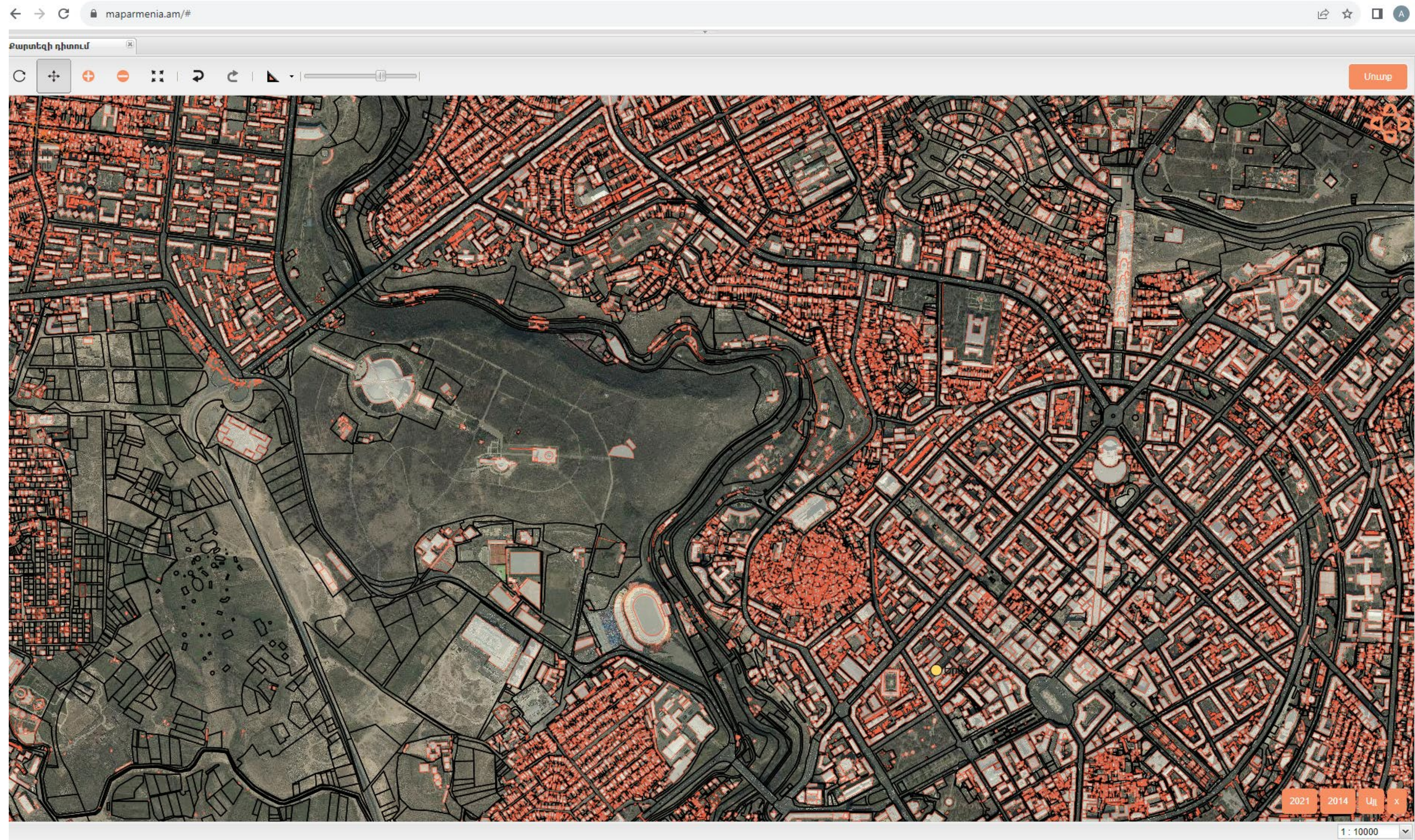
Server

Database

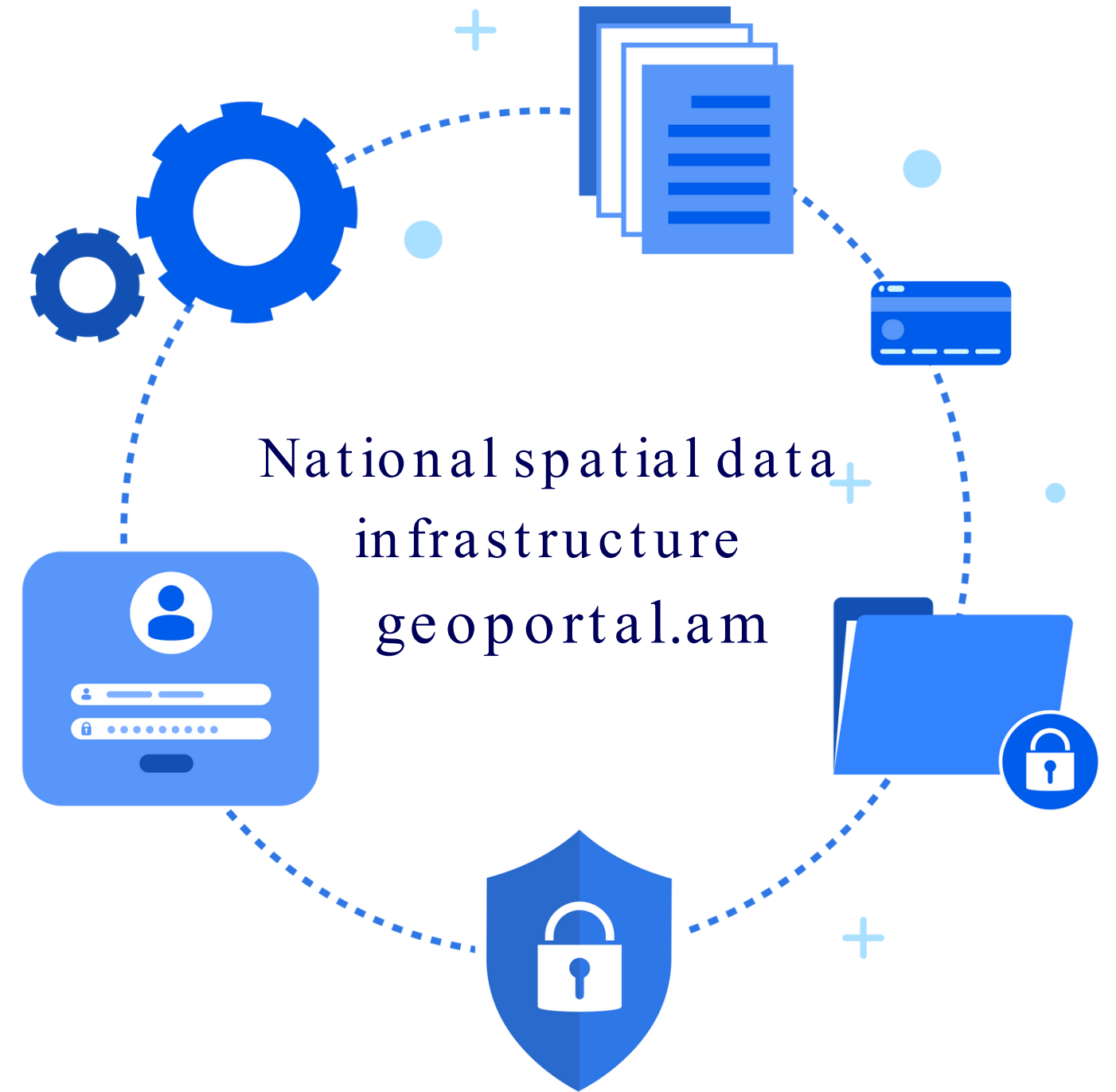
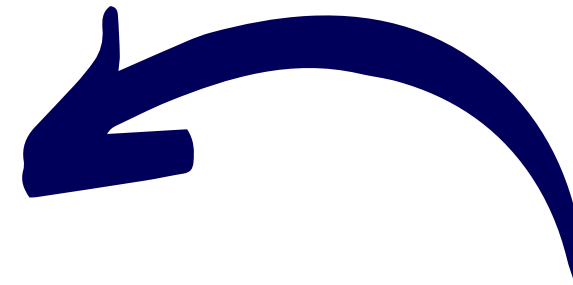
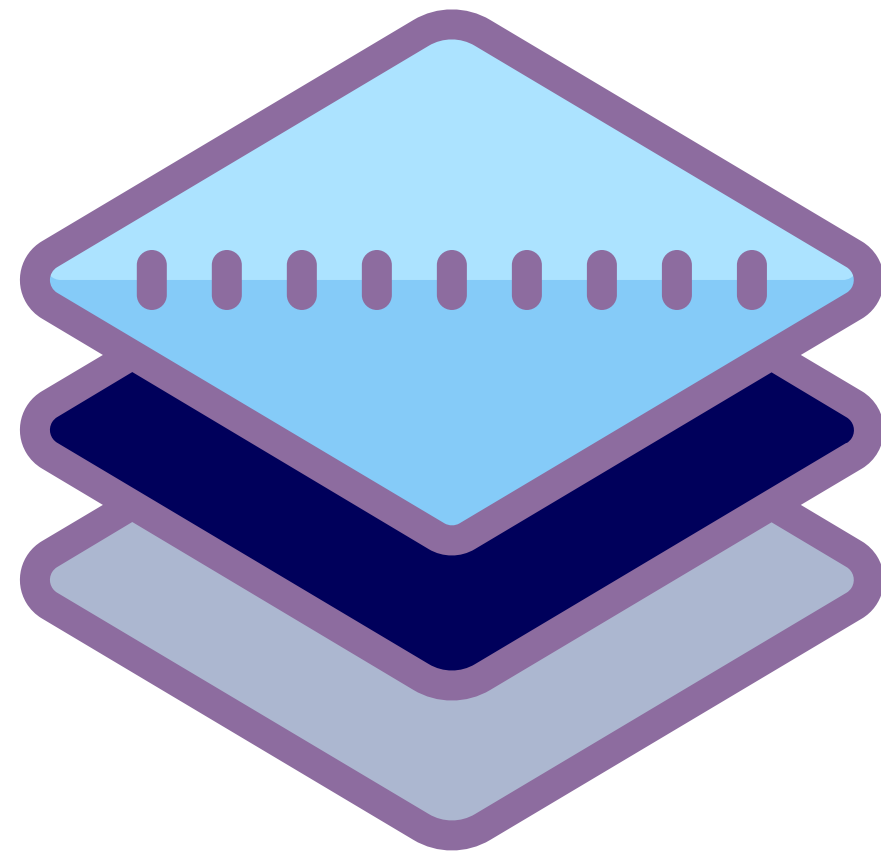


Update...

National spatial data infrastructure / geoportal.am



GIS layers





THANK
YOU
ANY QUESTIONS
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