

«APPROVED»

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of the Central Asian Countries
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**Initiative
on the Creation of a Digital Atlas of Transboundary Hazards
of the Central Asian Countries**

Central Asia is experiencing a range of climate changes and environmental challenges that significantly affect its population, ecosystems, and economic development. Global warming further intensifies disaster risks, while the region remains exposed to nearly all types of natural and technological hazards, including earthquakes, floods, landslides, mudflows, avalanches, droughts, extreme temperatures, epidemics, dam failures, and hazardous material releases.

Many of these hazards are transboundary in nature, with consequences that may simultaneously affect multiple countries. Historical experience in the region confirms such occurrences. Looking ahead, the potential remains for major earthquakes, large-scale dam failures involving significant water volumes, and increasing threats associated with moraine lakes located in border areas.

Central Asian countries have developed national atlases of natural and technological hazards. In addition, emergency authorities operate internal information systems, including dispatcher automated workstations and specialized systems for disaster monitoring and response management.

However, the region currently lacks a unified geospatial information system that integrates a Digital Atlas of Transboundary Hazards, consolidating comprehensive data on existing cross-border risks.

The development of a unified geoinformation platform through the integration of existing national systems, featuring interactive maps of Central Asian countries and layered risk data, would enable emergency management authorities to access reliable information on potential sources of transboundary hazards, understand their underlying causes, monitor evolving risks, and conduct early forecasting and coordinated response planning.

The establishment of a Digital Atlas of Transboundary Hazards in Central Asia would support the following objectives:

- comprehensive assessment of transboundary risks;
- analysis of potential impacts of cross-border disasters;
- identification of potential hazard propagation zones;
- enhancement of mutual information-sharing and early warning mechanisms for populations at risk;
- strengthening joint planning and coordinated response measures;
- addressing additional priorities related to protecting populations, infrastructure, and territories from transboundary hazards.

The creation of a Regional Digital Atlas of Hazards will require substantial investment. In this regard, the Centre for Emergency Situations and Disaster Risk Reduction, in partnership with the British non-governmental organization MapAction, which has extensive expertise in geospatial solutions, plans to develop a project proposal to mobilize financial support from international donors and development partners.

On 20 October 2023, during the Asian Conference on Disaster Risk Reduction held in Dushanbe, the Centre presented ongoing efforts to apply digital innovative technologies in managing transboundary risks. The Conference Summary acknowledged and highly appreciated the initiative to develop interactive mapping tools, digital safety passports, and a regional Digital Atlas of Transboundary Hazards as key instruments for enhancing regional climate resilience.

The establishment of a Digital Atlas of Transboundary Hazards in Central Asia will provide open access to risk-related information for all stakeholders, improve analytical capacities, support evidence-based decision-making, strengthen forecasting capabilities, and elevate regional disaster risk management systems to a new level of effectiveness.

This regional initiative aligns with **Priority 1 of the Sendai Framework for Disaster Risk Reduction 2015-2030**, particularly in enhancing access to non-sensitive data, promoting information exchange, and advancing geospatial technologies through international cooperation. It also corresponds with the **Action Plan for 2023-2024 on the implementation of innovative information and communication technologies in disaster risk reduction in Central Asian countries**, endorsed by the Regional Forum-Meeting of Heads of Emergency Authorities of Central Asian States (Protocol of 6 October 2022).