EXPLANATORY NOTE

TO THE INFORMATION ON THE IMPLEMENTATION OF MEASURES
TO CREATE A CENTRAL ASIAN DIGITAL CROSS-BORDER HAZARD ATLAS

Central Asia is experiencing a number of climate changes and environmental challenges that are having serious impacts on its people, ecosystems, and economies. In addition, global warming increases the risk of disasters, while the territory of Central Asia is exposed to almost all natural and man-made threats.

Emerging threats are cross-border in nature and their consequences can affect several states at once, and such examples, unfortunately, were recorded in the history of the region. Thus, in the future, there may be powerful earthquakes, dam breaks with significant volumes of water, increased threats from moraine-dammed lakes located in border areas, natural fires etc.

In the countries of Central Asia, there are various atlases of natural and man-made hazards, but none of them are presented as an open interactive service that has emergency simulation and assessment of the possible consequences of a disaster.

Along with this, each Emergency Authority of Central Asian countries has its own internal information systems in the form of automated workplace dispatchers and automated information systems for "accounting and control", maintaining an "event log", "reports, reference books and registers of emergency data" and other indicators and statistical data (*for example: the Ministry of Emergency Situations of Kazakhstan (Automated Information System of Emergencies, Automated Workplace Dispatcher 101), the Ministry of Emergency Situations of Kyrgyzstan (Automated Information Control System of Emergencies, Automated Workplace Dispatcher of Crisis Management Center, 112-Emergency), the Ministry of Emergency Situations of Uzbekistan (Information System the Ministry of Emergency Situations), as well as various, not always updated Geoservices and Geoportals for displaying cartographic and other spatial information*). Their main tasks are to automate the processes of collecting, recording, systematizing, and storing quantitative and qualitative characteristics of emergency situations. At the same time, each information system has its own "database" for storing data, as well as its own channels for their transmission.

In this regard, there is a need to create standardized country-specific interactive hazard atlases with the possibility of integration into a single interactive atlas of natural and man-made hazards of Central Asian countries, which will include functionality for assessing cross-border disaster risks and will also ensure maximum efficiency and coordination of actions in emergency management and reducing the risk of cross-border disasters.

Since 2023, with the support of the OSCE Office in Astana, the CESDRR has been implementing the Project "Creation of a Digital Safety Passport and Interactive Maps of the Territories of Kazakhstan," which is to be completed in 2024 with the subsequent transfer of the developed information system to the Ministry of Emergency Situations of Kazakhstan.

Thus, this year, the Ministry of Emergency Situations of Kazakhstan will switch to a unified Geographic Information System (hereinafter – the GIS) with the reflection of interactive maps of the regions and plotting of information from the developed digital safety passports in the form of blocks (layers), which will allow emergency management subjects to provide reliable information about potential sources of emergencies and causes of their occurrence, ensuring control over the state of natural sources of emergencies, early forecasting of possible emergencies and their management.

In this regard, the GIS system being developed for the Ministry of Emergency Situations of Kazakhstan will become a ready-made prototype of the Regional Atlas with the necessary set of tools for forecasting, assessing, and analyzing cross-border threats in Central Asia.

On November 10, 2023, in Almaty, during the Regional Forum, the Heads of Emergency Authorities of Central Asian countries reviewed and approved the Initiative to create the Central Asian Digital Cross-Border Hazard Atlas using the example of the platform being developed "Digital Safety Passport and Interactive Map – Digital Atlas of Risks in the Republic of Kazakhstan."

The CESDRR is actively promoting the project idea to create the Central Asian Digital Cross-Border Hazard Atlas, announcing it on various platforms and sending it to partners for consideration as a project for cooperation.

Thus, during working meetings with partners, the CESDRR enlisted the support of Europe's leading non-governmental organization for providing mapping services in emergency situations – MapAction – in providing technical assistance in the development of the Digital Atlas of Central Asia.

In addition, during a working meeting with the delegation of the Directorate-General for European Civil Protection and Humanitarian Aid Operations (DG ECHO), their representatives informed that the project idea of the CESDRR to create the Regional Atlas, along with the project to create the Regional Early Warning System, is considered as one of the areas for a pilot project planned for implementation in Central Asia with the support of the European Commission.

To evaluate the results please watch the video (10 minutes)

The creation of the Regional Digital Hazard Atlas by integrating country atlases and automated information systems into it will have the following advantages:

- **Ability to prevent and respond to cross-border emergencies:** The centralized system will include an emergency simulation tool and will improve the response to threats and emergencies, prepare management decisions, as well as identify the areas of spread of cross-border emergencies and assess the possible consequences of their occurrence;
- **More accurate risk assessments:** Analyzing data from different countries will lead to more accurate and complete assessments of the risk of cross-border disasters;
- **Joint planning and resources:** Sharing information and resources to respond to cross-border disasters will be more efficient and cost-effective, and will eliminate duplication of efforts and resources;
- **Mutual information and warning:** The Regional atlas with the possibility of integration with the Regional Mutual Information and Early Warning System for threatened and occurred cross-border emergencies will significantly contribute to improving the mechanisms for mutual information and notification of the population of Central Asian countries that fall into the risk zone of cross-border emergencies.

In May 2024, the UNDP Office for Central Asia presented the results of research by international early warning expert Mr. Vasko Popovski to draft a Regional Report on Mapping Early Warning Systems in Central Asia. As a result of the research, several issues of concern related to insufficient digitalization and automation of early warning processes were identified. The international expert proposed conceptual measures to eliminate technical, regulatory, and

institutional shortcomings, **which are fully consistent with** the functionality of the Central Asian Digital Cross-Border Hazard Atlas proposed by the CESDRR, namely:

- *Standardization of risk and hazard assessment systems;*
- *Integration of technologies for data collection, analysis and dissemination;*
- *Establishing monitoring mechanisms to assess the effectiveness of early warning systems and make necessary adjustments for continuous improvement;*
- *Integration of new communication channels and services to disseminate warnings.*

In general, the creation of the Central Asian Digital Cross-Border Hazard Atlas will open up access to information about risks (including cross-border ones) in the relevant territory to the public and all interested parties, and will also assist in more effective and coordinated work in the field of hazard and emergency management, which ultimately helps to protect the lives and property of the people living in Central Asian countries and border areas.

Drawing on the approval of the Heads of Emergency Authorities of the Central Asian countries, the CESDRR continues to work on creating the Central Asian Digital Cross-Border Hazard Atlas.