MINISTRY OF EMERGENCY SITUATIONS OF THE KYRGYZ REPUBLIC

Good practice, utilization of satellite image for disaster mitigation¥reduction activity in the Kyrgyz Republic

23 January 2013 Kobe, Japan

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    Kyrgyzstan is a mountainous country in the eastern part of Central Asia, with no access to the sea. The country borders with Kazakhstan in the North, with Uzbekistan in the West, with Tajikistan in the south - west and with China in the South-East.

    The Kyrgyz Republic inherent in virtually all of the natural disasters, which occur on the Earth, except sea - tsunamis, typhoons and volcanoes.

For the 11 months of 2012 on the territory of the Kyrgyz Republic occurred 427 (218 for the same period of 2011) emergency situations, such as:
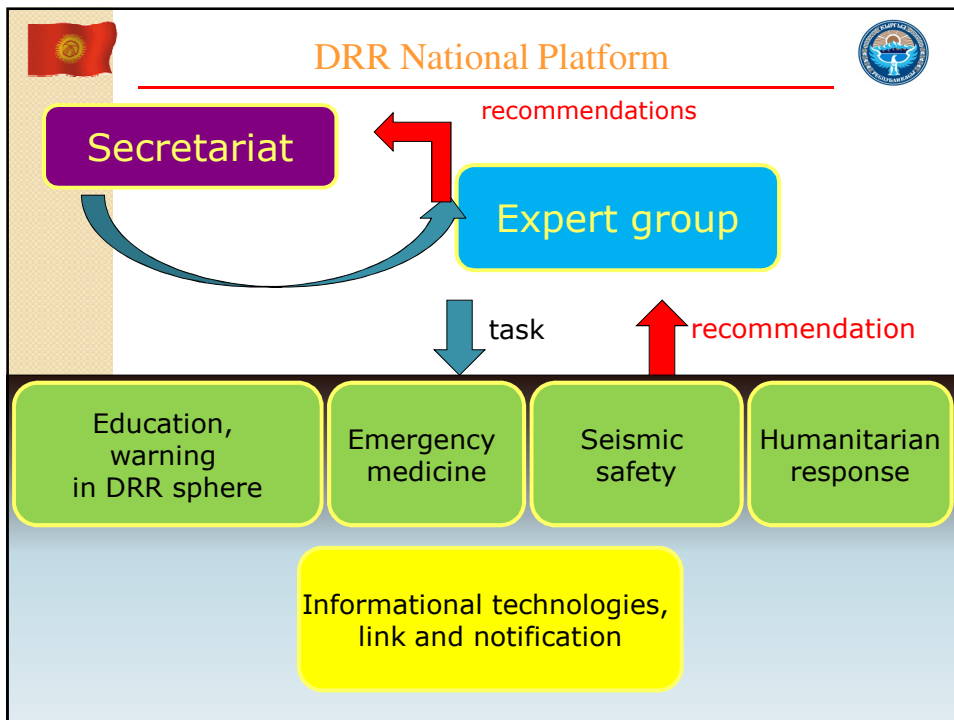

Earthquakes – 11

Avalanches - 86

Flooding and the rise of groundwater level - 10

For the 11 months of 2012 on the territory of the Kyrgyz Republic occurred 427 (218 for the same period of 2011) emergency situations, such as:

- - Storm, strong wind – 18
- - Fire – 31
- - Landslide – 17
- - Ice jam -5
- - Mudflow, flood – 217
- - Falling rocks – 4
- - Infections and infestations - 21
- - Hail -1
- - The collapse of the towers – 1
- - including 375 natural, 31 anthropogenic and 21 of biology -social catastrophes

As a result of occurred emergencies 34 people died (67 - in 2011), (as of December 25, 41 people died).

In connection with the growing number of disasters and natural catastrophes, based on the steps in recent years to disaster risk management, the Kyrgyz Republic announced the creation of the National Platform for Disaster Risk Reduction at the World Global conference within the framework of the 3rd session of the Global platform for the reduction of disaster risks, which was held from 8 to 13 May 2011 in Geneva.

The National Platform was created in the frame of implementation of the Hyogo Framework of action..

DRR National Platform

Secretariat

recommendations

Expert group

task   recommendation

| Education, warning in DRR sphere | Emergency medicine | Seismic safety | Humanitarian response |

Informational technologies, link and notification

For operational decision of tasks on prevention and liquidation of emergency situations direct and inverse mobile communications are necessary with using of advanced technologies in all areas and objects of the territory of the country.

In connection with this, Ministry of emergency situations of the Kyrgyz Republic initiated the adoption of the components of **the Unified information management system by the decisions of the Government of the Kyrgyz Republic.**

The Unified information management system represents organizational-technical association of communication facilities, notifications, networks of an announcement, channels of a communication networks of the general using and departmental communication providing of the operative information and signals of the notification to the **State system of civil defense** of the Kyrgyz Republic (further **SSCD**) and population.

The main task of the Unified information management system is the organization of qualitative interaction between of republican authorities, local government and organizations in realization of the activity in the field of prevention and liquidation of consequences is at emergency and crisis situations in Kyrgyz Republic.

The Unified information management system is intended for:
➢ qualitative management of the SSCD;
➢ automation of activity of controls and forces SSCD;
➢ increase of efficiency, reliability, validity and quality of acceptance of administrative decisions and finishing of administrative decisions and signals of the early notification to the controls and population about emergency and crisis situations.

The basic components of the Unified information management system is the:
➢ Crisis management center (CMC);
➢ National complex system of informing and warning the population (NCSIWP);
➢ United state of duty-dispatching service – 112 (USDDS).

The Unified information management system consists of the following 3 components:

1. The Crisis management center of the Ministry of emergency situations of the KR (CMC).

The Crisis management center unites and coordinates informational and control systems of ministries and agencies of the KR.

The main functions of CMC:
- An access to all information for:
    • forecasting of the development of events;
    • attracting of the forces and assets of the State civil protection system;
    • elaboration of variants of the decision.
- Ministries, agencies can coordinate the actions of subordinate bodies through the Crisis management centre.
- The opportunity to make coordinated decisions on the issues of prevention and liquidation of emergency situations.

The telecommunication links between the cities of Bishkek and Osh are installed

Bishkek

Osh

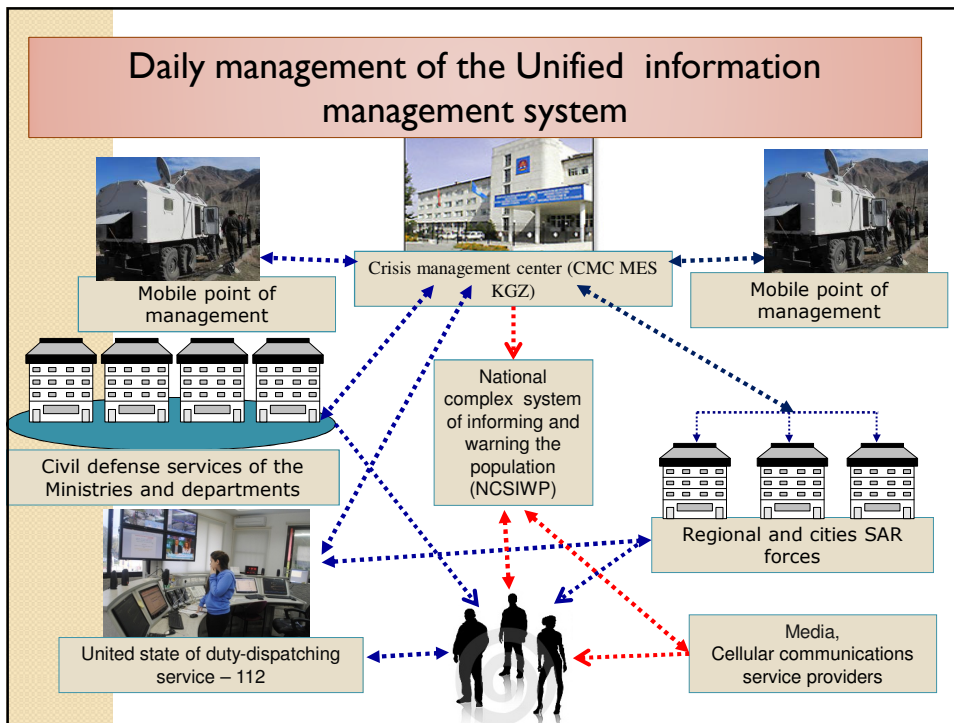### The National complex system of informing and warning the population (NCSIWP)

NCSIWP - a basis of information support and the notification of a management of Civil defense and the population under the prevention and liquidation of consequences of emergency situations in the Kirghiz Republic.

The main task of NCSIWP:
- Reduction of terms of notification about emergence situations;
- Increase of efficiency of informing of the population about rules of safe behavior in emergence situation;
- Increase of level of readiness of the population in the field of health and safety;
-Increase of level of culture of safety;
- Increase of efficiency of monitoring behind radiating both chemical conditions and a law and order condition in places of mass stay of people.

The United state of duty-dispatcher service - 112 (USDDS) is intended for:

- reception and transmission of control signals, signals the change of regimes of functioning of territorial subsystem of the State system of Civil defense;
- receiving messages about fires, accidents, catastrophes, natural disasters and other emergency situations, from population and organizations;
- rapid response and coordination of joint activities, departmental duty-dispatch services;
- operative control of the forces and means of the garrison of fire protection, rescue, search and rescue and other forces of Civil defense of constant readiness.

Daily management of the Unified information management system

Mobile point of management

Crisis management center (CMC MES KGZ)

Mobile point of management

Civil defense services of the Ministries and departments

National complex system of informing and warning the population (NCSIWP)

Regional and cities SAR forces

United state of duty-dispatching service – 112

Media, Cellular communications service providers

Automation of activity of controls and forces SSCD in the field of prevention and liquidation of consequences at emergency and crisis situations

Civil defense services of the Ministries and departments

In addition, in the frames of the Unified information management system the introduction of Geoinformation systems is planned. Geographic information systems (GIS) – are integrated into a single information environment of the electronic space-based images (maps, charts, plans, etc.) and database. The tables, passport, illustrations, schedules, etc can be used as a databases. This integration significantly expands the capabilities of the system and allows to simplify the analytical work with coordinated information.

Kyrgyzstan
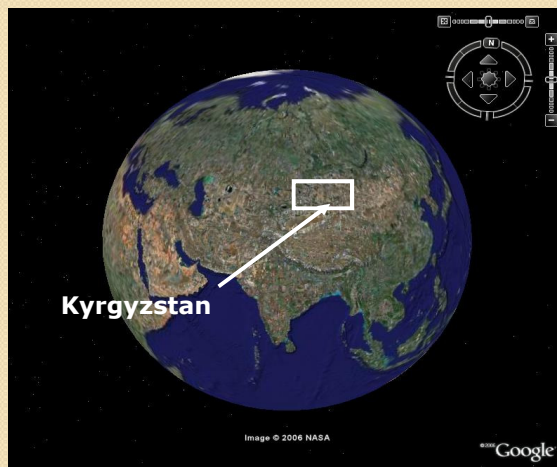
In this regard, at this moment the methodology of the database for the Geographical information system (GIS), as well as the electronic chart database are being developed.

Opportunities of GIS

the variety of graphical image information

The using of modern technologies of construction of information systems and in particular of geoinformation technologies, relational databases, remote sensing data, Internet mapping, the free Internet-resources of the spatial data will allow improving the efficiency and scientific validity of decisions in case of an emergency situations.
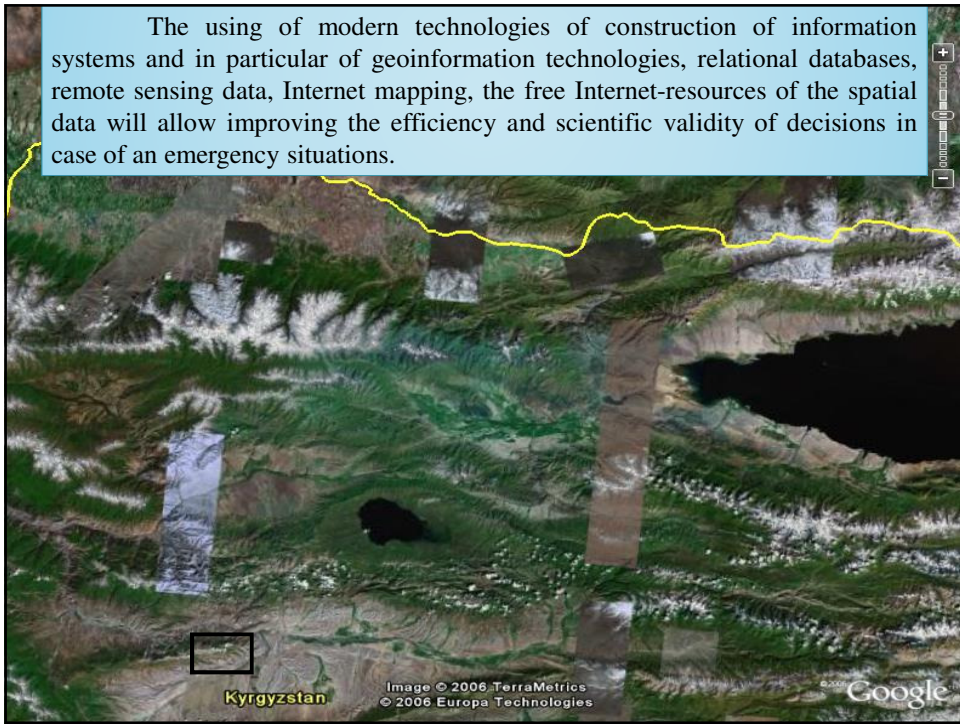

Geographic information systems (GIS) will create, store, visualize, analyze spatially distributed objects in the form of the base of the Geodata, which is a powerful tool to enhance the timeliness, appropriateness and effectiveness of decision-making in emergency situations.
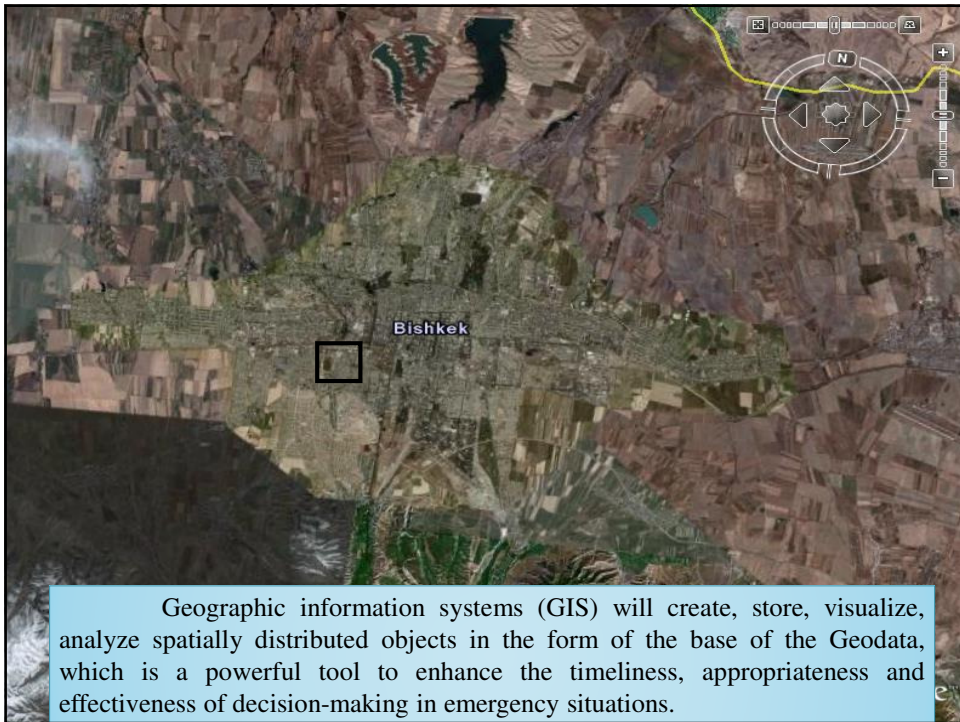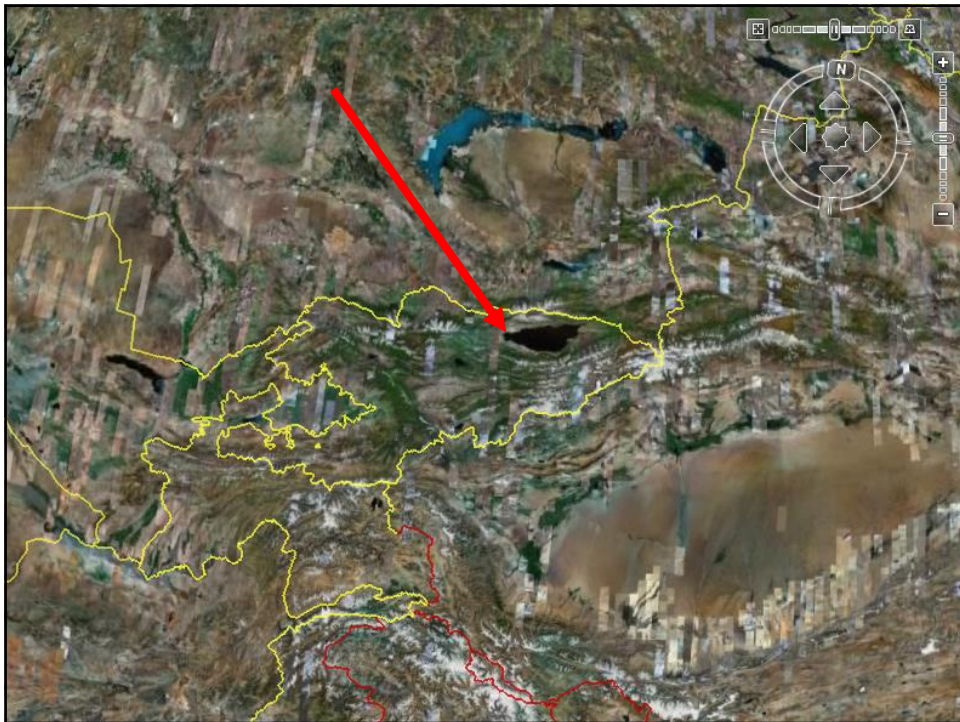
Base of geo-data created on the basis of GIS-technologies will allow the Ministry of emergency situations of the Kyrgyz Republic to:

- Accumulate all the emergencies to the spatial reference in the form of a point, line or polygon, text and tabular data, as well as photos and video.

- Analyze the event log to identify the trends and evaluation of probability parameters.

- Make possible scenarios for some kinds of emergency situations and assess their options.

- Provide free access to the resources of the database through the Internet.
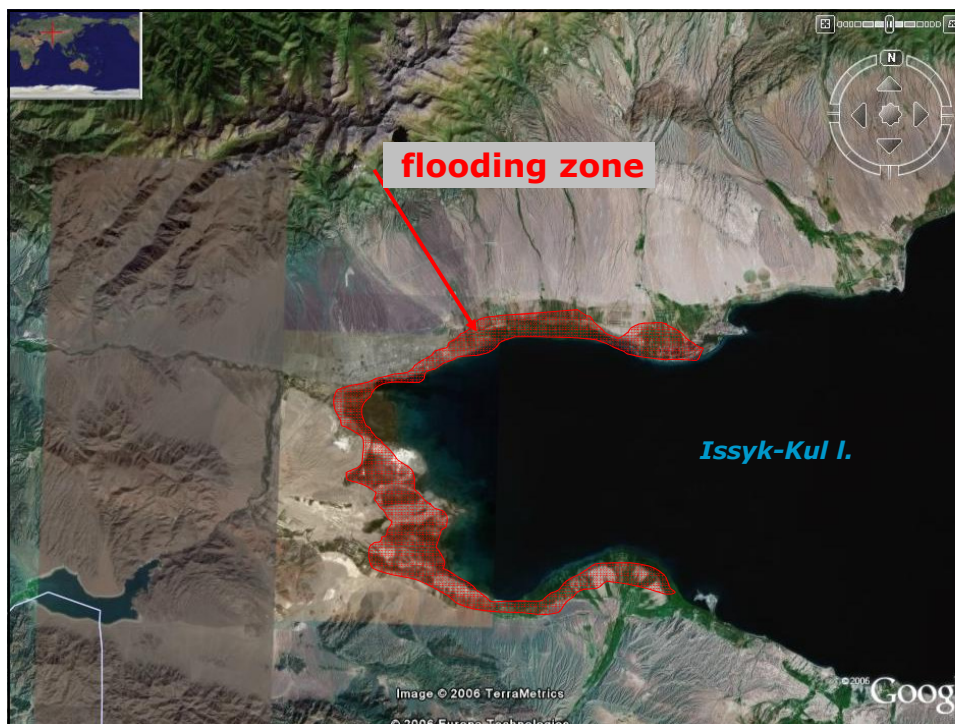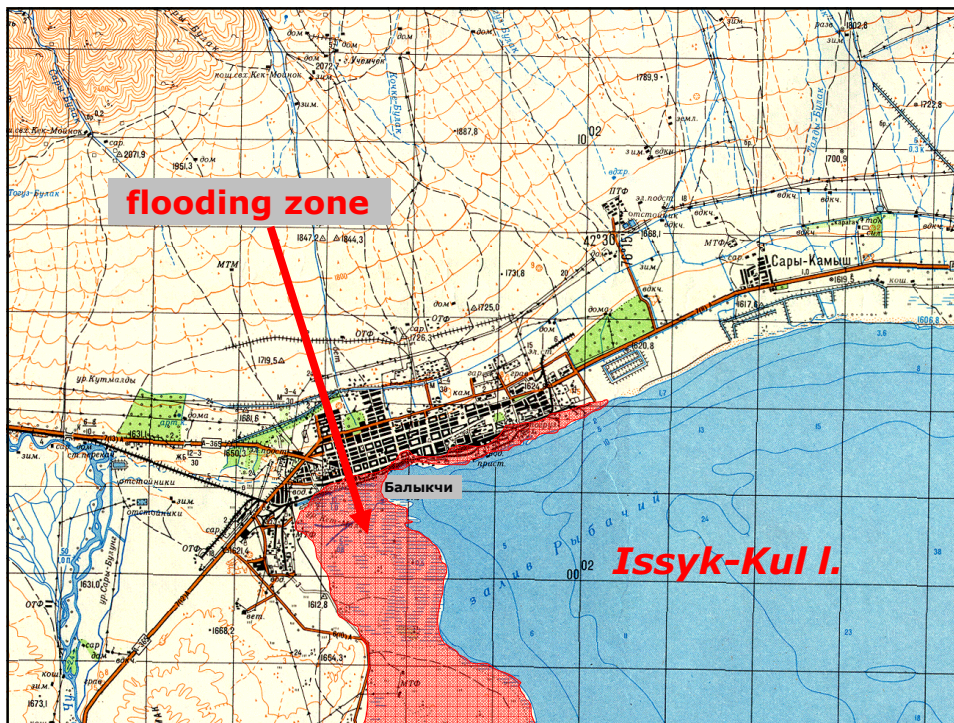
For the creation of a database of geographic data emergencies the following are necessary to:

- Organize and lead to the uniform standards existing in the Ministry information, in order to build the correct base Geodatabase of emergency situations.

- Create an input form data in the database, preventing the introduction of incorrect information.

- Determine the list of functions that can be performed by operators and users on the basis of Geodata of disaster.

- Create the database structure of the Geodata on the basis of geoinformation technologies, relational databases and Internet mapping. (Satellite images to create this kind of database is possible to obtain in the Central Asian Institute of applied Geosciences, which was established in 2002 on the basis of a Cooperative agreement between the Government of the Kyrgyz Republic and the German research Center of the Earth (at GRCE) Mr.. Potsdam, Germany).

- Work out the functioning of the Geodatabase with employees of the Ministry of emergency situations of the Kyrgyz Republic.

- To implement the system in the subdivisions of the Ministry of emergency situations and training the staff.

After completion of the project on the establishment and improvement of the Unified information-management system in emergency and crisis situation, the slim multi-level system response will be created in the Kyrgyz Republic, which will be based on the use of the most advanced technologies in the field of control systems.
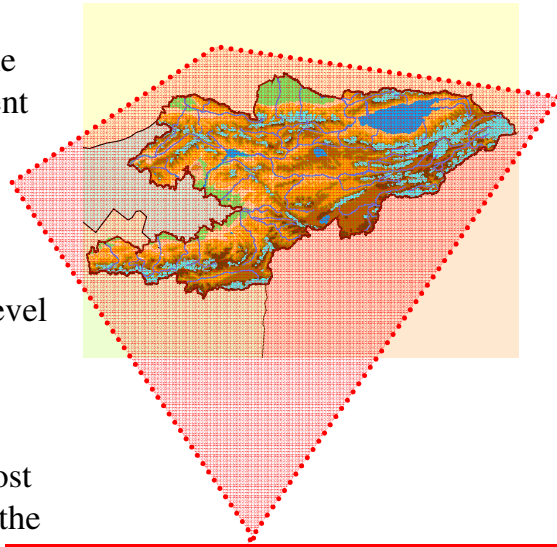
Crisis management center of the Ministry of emergency situations of the Kyrgyz Republic

Thank you for your attention!