

5th Drin Stakeholders Conference

**GOVERNANCE FOR FLOODS IN
MONTENEGRO**

**The role of the Directorate for Water of
Montenegro in the flood protection activities**

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21 – 22 November 2017
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Directorate for Water of Montenegro

The Government of Montenegro with the Regulation on Organization and Manner of Work of the State Administration ("Official Gazette of the Republic of Montenegro", No. 78/04 and 54/04), has established a Directorate for Water, as a government body with the main goal of implementing water protection and protection from waters, especially for:

- planning and implementation of measures and works on watercourse management, protection against harmful effects of waters and protection of water quality;
- management of water facilities for protection against harmful effects of water;

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- establishment and management of water information system, water cadastre, water register for important water resources for Montenegro and monitoring of natural and other phenomena in order to provide data for protection against harmful effects of waters;
- preparation of professional bases for regulations, plans and programs;
- as well as others in accordance with the competencies deriving from the provisions of the Water Law.

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Institutions included on flood protection

- Ministry of Agriculture and Rural Development
- Directorate for Water
- Ministry of Interior
- Ministry of Defence
- Ministry of Sustainable Development and Tourism
- Hydrometeorology and Seismology Institute
- Environmental Protection Agency
- Local Administration
- Directorate for Public Works of Montenegro

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Readjustment of watercourses, projects, rehabilitation

1. THE OCCURENCE OF FLOODS IN DRIM, BOJANA AND SKADAR LAKE AREA

In the protection of the Bojana coastal floods, the Bojan Dyke has a key function. Nevertheless, in the last decades have not been allocated the necessary funds for their maintenance and rehabilitation.

At the end of December 2009 and early January 2010, in the Skadar Lake Basin and the Drim and Bojana rivers occurred big floods caused by abundant precipitation in the territory of Montenegro and Albania. They were manifested by the flooding of the coastal part of Bojana in the municipality of Ulcinj and the coast of Skadar Lake, on the territory of Montenegro, as well as in the wider zone of Shkodra in Albania.

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1. THE OCCURENCE OF FLOODS IN DRIM, BOJANA AND SKADAR LAKE AREA

- ✓ Starting from the rehabilitation of the most critical part of Bojana, the Main Project for maintaining the flow of the right watercourse of Bojana River in the zone of the mouth was made. The aim of the project was to define the optimal dimensions of the this watercourse in the Ade Bojana zone and to prepare a plan for the constant maintenance of the flow, using dredging and construction of appropriate facilities.
- ✓ Study for the repair of the embankment and securing the water flow of the right watercourse of the Bojana river .

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1. THE OCCURENCE OF FLOODS IN DRIM, BOJANA AND SKADAR LAKE AREA

- The Directorate for Water in cooperation with the Municipality of Ulcinj, bearing in mind that in that area readjustment works are the activities on urgent intervention measures on the improvement of flow and protection from the floods of the Bojana River, carried out in 2014 some works for the melioration of the area of the mouth of the river Bojana.

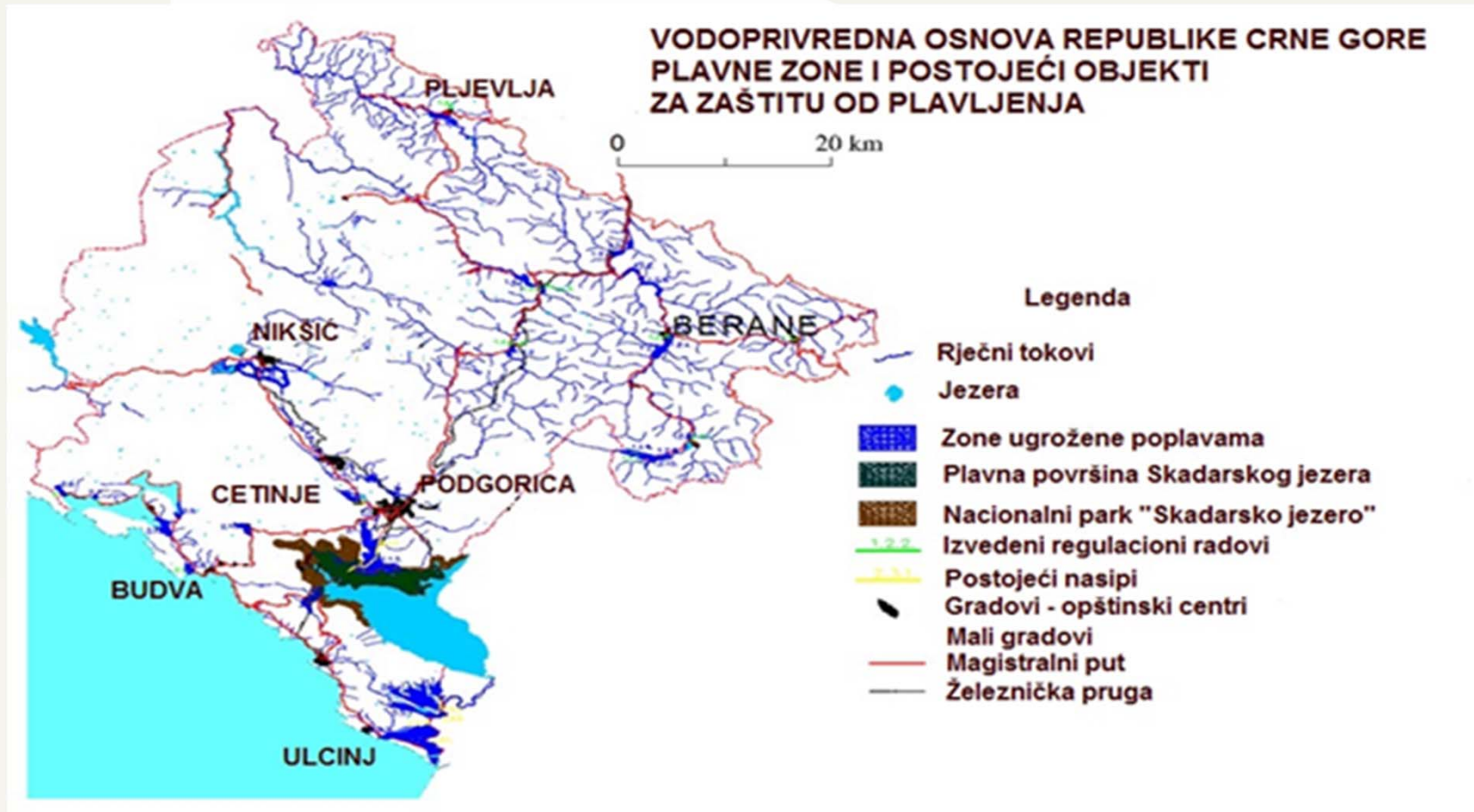
(Small fall of the Bojana River causes meandering, which cause the erosion of river banks, changing in that way the water course and the Montenegrin-Albanian border)



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2. Morača watercourse readjustment, in accordance with "The main project of regulation of the Moraca river from the mouth of the Sitnica river in Botun to Ponari"



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3. The other projects

For the purpose of protection, the following projects of rehabilitation of infrastructure facilities and regulation of water courses damaged by floods were carried out:

- 3.1. The project of banks protection and readjustment of the river bed Grnčar upstream and downstream of the bridge at the entrance to Gusinje, in the municipality of Plav.
- 3.2. Project for regulation of the Lim riverbed and protection of the coast at the locations of Trepča, Slatina, Seoce and Trešnjevo, in the municipality of Andrijevića.
- 3.3. Project for regulation of the Zlorečica River basin and protection of the coast at several locations with a total length of 500m, in the Municipality of Andrijevića.
- 3.4 Project for regulation of the river bed of Kraljštica river and protection of the river banks from Salević to the confluence in Lim at critical locations with a total length of 500m, in the municipality of Andrijevića.

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3. The other projects

- 3.5. Project for regulation of the Lim River, protection of the bypass road and the central city zone, as well as the protection of the banks downstream from the central city bridge, the left bank 1,100m and the right bank 200m in the Berane municipality.
- 3.6 The Jalovishta-Jalovista-Jalovishta-Ridge protection project and the protection of the Tara banks, from the railway bridge to the waste water treatment plant, as well as the protection of the right bank of the Tara River and the local road to Prošenje, in several locations, in the length of 600m, in the municipality of Mojkovac.
- 3.7 The project of regulation of the river Tara river basin and construction of the banks protection walls on the "Bećova bara - bridge Babljak" route, including the tributaries of the Pčinja River, the Svinjače and the Pažanj stream, 3000m long, in the municipality of Kolašin.
- 3.8 The Banks protection Project and the readjustment of the Vruja river basins upstream and downstream of the bridge over the Vruja River near the refugee settlement in Gusinje.

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3. The other projects

- 3.9 Interventional regulation works on the Lim River near Andrijevica from the mouth of the Zlorečica River to Slatina.
- 3.10 Banks protection project and readjustment of the Grnčar river basin in order to protect the area on the left bank upstream from the main road Plav-Gusinje and the building the pedestrian bridge for the replacement of the existing one.
- 3.11 Flood protection for Montenegro - The goal of the project, developed by "Slovakaid", is intended for immediate protection from acute situations in flood prone zones. The system that is the subject of the project enables the fast reaction of emergency staff at the locations affected by large waters, by constructing temporary protective structures which, after simple installation, protect the endangered zone from flooding to a height of 0.8 meters.

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GIS – one of the solutions

In addition to direct rescue of people, animals and property, flood protection measures can also be preventive. The necessary prerequisites are:

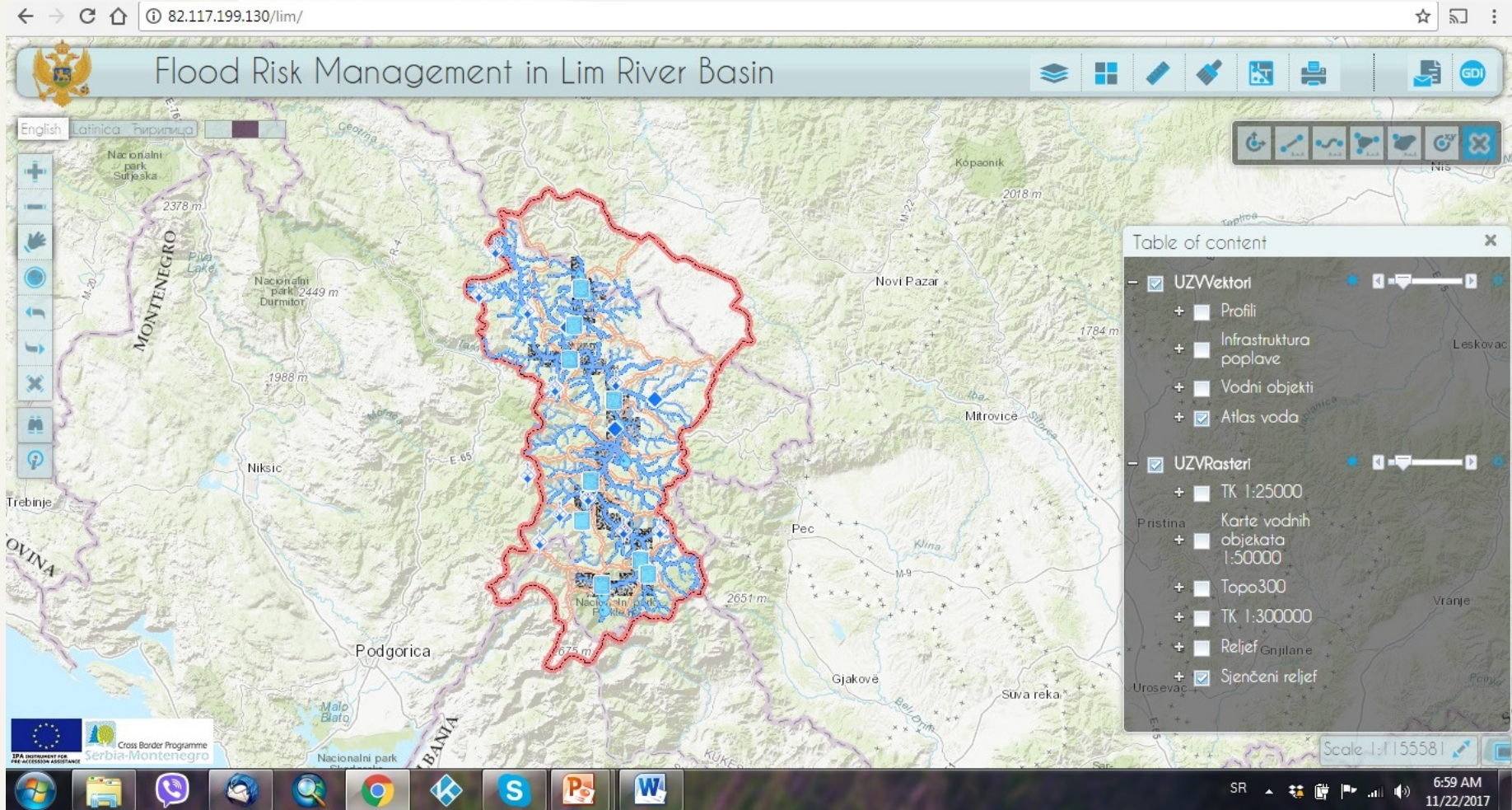
- knowledge of the terrain, different types of data bases
- organization of data in a technologically advanced way

GIS – one of the solutions

The geographic information system allows the binding of all data, which have a spatial component, for a specific geographic position ("information is visible on the map"). Data is stored in digital form and each type is in a special layer. (eg position of water bodies and their characteristics, position of hydrological stations and information on measured data or on station equipment, location of the settlement and population, etc.)

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GIS – one of the solutions



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Perspectives and Challenges

- ✓ Strengthening the existing capacities of the Water Directorate with expert staff.
- ✓ Provision of financial resources.
- ✓ Establishment of the water information system
- ✓ Apply a multifaceted approach to banning illegal constructions in flood prone areas.

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THANK YOU
FOR YOUR ATTENTION

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