



## PROTECTION AGAINST NATURAL AND OTHER DISASTERS

**Natural and other disasters**, which are a consequence of geographical, settlement and other phenomena, represent a constant threat to the safety of the Republic of Slovenia, its citizens, property, cultural heritage, and other features. Due to climate change natural disasters such as thunderstorms with hail and strong winds, floods and landslides and avalanches, drought, deep snow, sleet and others are becoming increasingly more frequent and more intense.

Provision of **protection against natural and other disasters** which also includes environmental, industrial and other disasters caused by human activity and conduct, but also protection against acts of terrorism and various forms of mass violence and other non-military and military sources of threats is a permanent actual and strategic goal of the development of the Republic of Slovenia. Among other matters this is also emphasized in The Resolution on the National Programme of Protection against Natural and Other Disasters for 2009-2015. (ReNPPAN-OD), (OG RS, No. 57/09).

Protection against natural and other disasters is **a uniform and comprehensive sub-system of the state's national security**.

The main goals of the system of protection against natural and other disasters are the **reduction of the number of disasters and the prevention or the reduction of the number of casualties and other effects**.

Slovenia, as a EU Member, actively co-operates in the field of Civil Protection where the principle of subsidiarity applies. When major disasters, deal with them, occur, the role which exceed the capabilities of individual

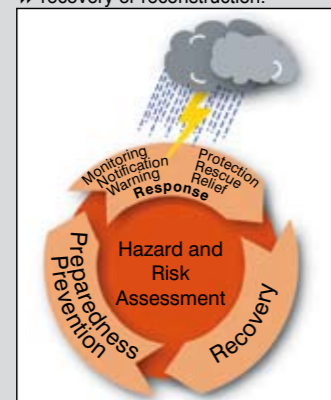
countries to deal with them, the role of the EU is also the co-ordination of assistance to Member Countries within the framework of the EU Civil Protection Mechanism.

The system is based on:

- ▶ the responsibility of state authorities and municipalities for the prevention and elimination of danger and timely response when disasters happen;
- ▶ obligations of companies, institutions and other organisations for the implementation of emergency measures for protection, rescue and relief;
- ▶ the responsibility of inhabitants for their own safety and the safety of their property.

The fundamental tasks of the system are:

- ▶ implementation of preventive measures (disaster prevention)
- ▶ upkeep of preparedness for disasters
- ▶ monitoring, notification and warning of dangers and disasters
- ▶ protection, rescue and relief
- ▶ direct disaster relief and
- ▶ recovery or reconstruction.



## PREVENTION AND PREPAREDNESS

The principal effort for the protection against natural and other disasters is the implementation of preventive measures which also includes protection against fires, floods and other threats.

**Preventive measures** are all measures with which the risk of an occurrence of a disaster is reduced, or measures with which the adverse impacts of disasters are reduced.

In past years the implementation of preventive measures has been carried out more intensely, in particular in the field of spatial planning and area management, protection against fire, seismological, meteorological and hydrological activity as well as protection of transport and other infrastructural systems.

In regard to all activities, special attention needs to be dedicated also to adapting to consequences caused by climate change and globalisation.

**Preparedness** against disaster is reflected in the emergency response plans, in the performance of tasks regarding monitoring, notification and warning, in the provision of shelters, in personal and mutual protection, in protection from explosive ordnance disposal, in the protection, rescue and relief forces, in education and training, in research work and international co-operation.

A complete protection against natural disasters does not exist. There is always some risk which has to be assumed by society and the individual and this is why the notification, awareness raising and education of the public regarding danger and threat and the possibilities for self-protection are so very important.

An **emergency response plan** is a detailed plan for protection, rescue and relief in the event of natural and other disasters. It is developed separately for each type of disaster, and is based on risk/threat assessment and on proposals for protection, rescue and relief that derive from the risk/threat assessment, and on the availability of forces for protection, rescue and relief.

The **early-warning (alarm) system** is organised as an uniform system, deployed on national, regional and local levels.

Protection, rescue and relief **services** comprise available capabilities of companies, institutions and other organisations, local communities and the state that are intended for protection, rescue and relief in the event of natural and other disasters.

**Tasks** regarding protection, rescue and relief in the event of natural and other disasters are performed by: units and services of associations and other non-governmental organisations (the fire-fighting service, the mountain-rescue service, the cave-rescue service, the underwater-rescue service, the rescue service for ecological and other disasters, the Slovenian Red Cross and other humanitarian organisations, Scouts and Catholic Scouts), companies, institutions and other organisations, units, services and bodies for Civil Protection, the Police, and the Slovenian Armed Forces in accordance with the law.

To improve the preparedness for natural disasters, the activities of the state, and the everyday conduct of local communities and every individual are important.

## ADMINISTRATION OF THE REPUBLIC OF SLOVENIA FOR PROTECTION AND DISASTER RELIEF (ACPDR)

**ACPDR** is a constituent body of the Ministry of Defence. It performs administrative and certain technical duties regarding protection against natural and other disasters which fall under state's jurisdiction:

- ▶ preparing the National Programme on Protection against Natural and Other Disasters;
- ▶ proposing research and development projects;
- ▶ conducting risks and threats analysis;
- ▶ organising the system of monitoring, notification and warning and maintaining its operation;
- ▶ organising the system of communications and maintaining its operation;
- ▶ directing and coordinating preventive measures in co-operation with other ministries;
- ▶ disseminating early-warning alerts;
- ▶ preparing information to the public on danger and disasters;
- ▶ preparing national emergency-response plans;
- ▶ organising, and providing equipment and training for Civil Protection units and services;
- ▶ coordinating preparedness and operations and co-financing activities of public rescue and relief services;
- ▶ preparing programmes, and organising and implementing education and training in relation to protection, rescue and relief;
- ▶ providing conditions of work for the Civil Protection commander and the Civil Protection Headquarters of the Republic of Slovenia;
- ▶ providing conditions of work for national damage-assessment committees;
- ▶ creating and maintaining national reserves of material for natural and other disasters.

Slovenia has 1 national (NCRS) and 13 regional notification centres. Their duties are:

- ▶ collection and processing of data
- ▶ transmission of data to rescue and relief forces, national bodies, mayors, etc.
- ▶ to give warning of danger
- ▶ public warning
- ▶ transmission of instructions to inhabitants for dealing with danger or disasters
- ▶ performance of dispatching service for fire-fighters, emergency medical services, assistance of the mountain-rescue service, cave-rescue service, underwater-rescue service and other rescue and relief services
- ▶ liaising in the provision of logistic support to rescue and relief services
- ▶ international exchange of data.

In Slovenia the single emergency number 112 was applied in 1997.



Prevention and operational notification and warning on risks posed by natural and other disasters is prepared by NCRS in cooperation with the Environmental Agency of the Republic of Slovenia. It particularly deals with warning with regard to extensive rain and floods, extensive snow falls, strong winds, sleet, high tides, thunderstorms with hail and announcement of risk of fire in the natural environment. They are also accessible on the web addresses:

[www.sos112.si/](http://www.sos112.si/)  
[www.arso.gov.si/vode/opozorila](http://www.arso.gov.si/vode/opozorila)

## MUNICIPALITIES

**Municipalities** independently organise, prepare and manage the protection, rescue and relief system on their territories.

They are assisted by the state with the state's means and forces from within its responsibility.

The municipality is responsible for:

- ▶ arrangement of the protection, rescue and relief system in the territory of the municipality
- ▶ monitoring of hazards, notification and warning the population about the imminent threats
- ▶ provision of electronic communications
- ▶ planning and implementation of protective measures
- ▶ creation of threat assessments and emergency response plans
- ▶ organization, development and management of personal and mutual protection
- ▶ organization, management and implementation of protection, rescue and relief
- ▶ determination, organization and equipment of municipal units and services of the Civil Protection and other protection, rescue and relief forces
- ▶ provision of urgent resources for emergency accommodation
- ▶ determination and implementation of training programmes
- ▶ co-ordination of emergency response plans and other preparations for protection, rescue and relief with neighbouring countries
- ▶ provision of basic conditions of living and reconstruction and recovery from disasters
- ▶ identification of organizations of special importance for protection, rescue and relief
- ▶ international co-operation in the

field of protection, rescue, and relief.

The mayor of each municipality is held responsible for the implementation of preparations for protection against natural and other disasters.

**Mayor:**

- ▶ adopts rescue and emergency response plans
- ▶ determines the type and the size of the protection, rescue and relief forces
- ▶ provides the implementation of measures for the prevention and mitigation of consequences of natural and other disasters
- ▶ manages protection, rescue and relief and recovery from natural and other disasters and
- ▶ provides for the notification of inhabitants of danger, state of protection and protective measures in his territory.



## PROTECTION AGAINST NATURAL AND OTHER DISASTERS IN SLOVENIA

PREVENTION · PREPAREDNESS · RESPONSE · RECOVERY





## PREVENTIVE MEASURES

**Preventive measures** are essential for reducing the possibility of occurrence of a disaster and for the reduction of damage potential. They are implemented in various manners at various levels:

- ▶ within the framework of spatial planning (for example by avoiding potentially dangerous areas, perseverance, recovery and reservation of flood relief surfaces, by considering more detailed guidelines from the field of protection against natural disasters, in urban planning, etc.)
- ▶ within the framework of individual activities such as planning water courses (provision for unhindered drainage of water) or the care of protective forests (provision of appropriate viability and age structure of stands, etc.)
- ▶ within the framework of protective measures for an existing endangered area (building of protection facilities, building of permanent protective shields for endangered buildings, etc.)
- ▶ with the help of protection, emergency response plans for individual local communities and companies
- ▶ by informing individuals and the general public with regard to threats and types and roles of preventive measures
- ▶ with the help of education and training of protection, rescue and relief forces
- ▶ by the timely securing of property.



## SPATIAL PLANNING

Natural disasters affect an individual, the economy and society as a whole, which is why it is in the public interest to avoid them in the first place. This may be achieved within the framework of spatial planning whereby the coordination of natural characteristics and various needs and interests regarding the development of public interests in the field of the environment, nature, cultural heritage, protection of natural resources, security and protection against natural and other disasters take place.

In planning, natural processes need to be taken into consideration. In order not to develop on flood and slide risk areas constructions or activities on which these natural processes may have an adverse effect or which may trigger or enhance these natural processes must be considered. The goal of spatial planning is the prevention of damage and reduction of adverse effects caused by disasters.

This may be most efficiently achieved by planning the construction outside the potentially hazardous areas, and in the risk areas by means of mitigation measures concerning construction and other matters.

The Ministry of the Environment and Spatial Planning, Spatial Planning Directorate gives instructions regarding the development of human settlements, particularly the network and the development of settlements, location of activities and the areas of eligible use of space.



In the Spatial Plan the municipality defines strategic goals and the baselines of spatial development, the use of space and conditions for the placing of constructions in the physical area and planning for spatial arrangement of local importance.

An integral part of the municipal Spatial Plan (Display of the arrangement of space) should also be the maps of:

- ▶ flood areas
- ▶ landslide areas
- ▶ avalanche areas
- ▶ erosion areas and
- ▶ water protection areas.

In the spatial plan the municipality determines areas for protection against natural and other disasters and areas for protection, rescue and relief needs. The Administration for Civil Protection and Disaster Relief gives guidelines and opinions on national and municipal spatial documents. "General Guidelines from the Field of Water Management for the Preparation of the Spatial Plan" are published on the web page of the Environment Agency of the Republic of Slovenia:

[www.arso.gov.si/vode/Urejanje](http://www.arso.gov.si/vode/Urejanje)

The Alpine Convention and PLANALP encourage comprehensive and preventive risk management against natural disasters, which requires taking advantage of and coordinating all available activities for prevention or mitigation of a potential natural disaster.

## HAZARD MAPS, RISK MAPS

One condition for appropriate preventive action is the knowledge of natural hazards and the assessment of their characteristics.

**Hazard indication maps** are prepared with the help of modelling and recording past events; they represent a basic overview of potential risk areas. They are used in strategic decisions with regard to spatial development, in the assessment of the feasibility of construction outside the settlement development zone and for the determination of priorities in the production of more detailed risk maps.

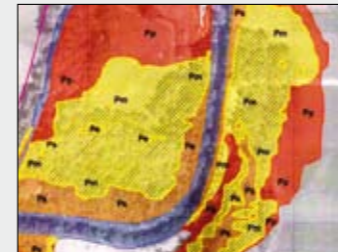
The **flood hazard indication map** shows the extent of the flood areas with regard to the frequency of floods (frequent, rare and very rare floods) with the aim of warning about the flood hazard.



**Risk maps** are more exact and offer a very thorough, plot by plot overview of causes, the dynamics of natural processes, the extent, intensity and the probability of occurrence, (return pe-

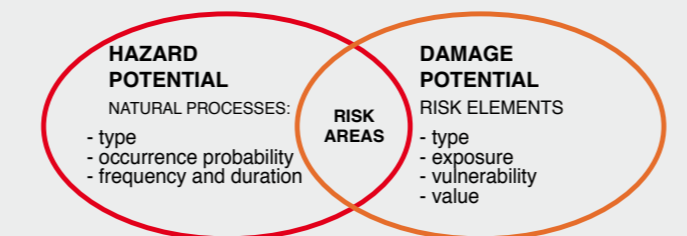
riod) of natural hazards: what, where, how often and with what kind of intensity it may happen.

The **flood hazard map** is intended particularly for experts and it shows the areas of various parameters of intensity (flood extent with various probabilities of occurrence, depth, the product of depth and the flow velocity).



The **flood hazard classes map** is intended for use in spatial planning as with the help of the implementing regulation which regulates the conditions and limitations in the areas of individual flood hazard classes, it sets general guidelines for the assessment of the feasibility of the implementation of activities and construction depending on the types of buildings and activities.

The **flood risk map** combines the results of the analysis of flood hazard and vulnerability (damage potential) and displays areas of potential adverse consequences due to natural hazards.



## DATA AND INFORMATION

Data and information regarding the state of spatial planning are, taking into consideration development goals, an important basis for the preparation of expert groundwork and national and municipal construction master plans. The Ministry of the Environment and Spatial Planning provides for the management and maintenance of the Spatial Planning Information System.

The basic data with regard to real estate is accessible on the portal "spatial planning:" [www.prostor.gov.si](http://www.prostor.gov.si)



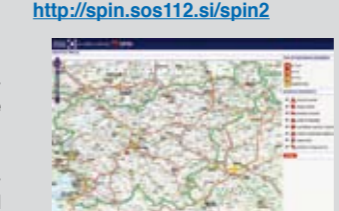
Expert groundwork from the field of water management which is essential for the definition of risk areas due to water activity is accessible at the portal of the Environment Agency of the Republic of Slovenia by using the web application Atlas of Environment:



Data from the field of protection against natural and other disasters is accessible at the portal e-GIS\_Natural Hazards: <http://gis3.sos112.si/>



ACPDR provides the information system for reporting on intervention and disasters (SPIN). It is accessible to the public on the web page: <http://spin.sos112.si/spin2>



Other useful links:

The document "Integral natural hazard risk management – recommendations" is accessible on the Alpine Convention's web page [www.alpconv.org](http://www.alpconv.org/documents/Permanent_Secretariat/web/library/PLANALP_Hotspot_Paper.pdf) on the sub-page: [http://www.alpconv.org/documents/Permanent\\_Secretariat/web/library/PLANALP\\_Hotspot\\_Paper.pdf](http://www.alpconv.org/documents/Permanent_Secretariat/web/library/PLANALP_Hotspot_Paper.pdf).

On the web page of the Institute for Water there is a review of data for water bodies of surface waters [www.izvrs.si/pregledovalnik\\_vtpv/](http://www.izvrs.si/pregledovalnik_vtpv/).

Much useful information with regard to the protection against natural and other disasters is accessible on the ACPDR's web page ([www.sos112.si](http://www.sos112.si)) and sub pages).

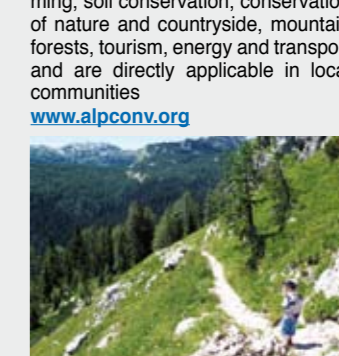
Useful information and instructions regarding protection against natural and other disasters are also found on web pages of municipalities.

The landslide probability and debris flow map (1:250000) is published on a web page of the Geological Survey of Slovenia ([www.geo-zs.si](http://www.geo-zs.si)) and advice is provided with regard to conduct in landslide areas.

## INTERNATIONAL CO-OPERATION

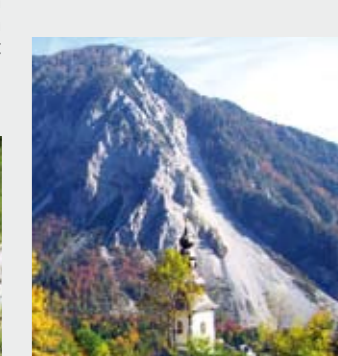
### ALPINE CONVENTION

There are approximately 14 million people living in the Alps. For them and for more than a million guests who visit the Alps every year it is necessary to protect the nature and the culture of this area and preserve this important living and economic space with its riches and peculiarities. For this purpose the Alpine Convention was signed in 1991. The Alpine Convention is an international legally binding treaty between eight Alpine states and the European Union which the Contracting Parties have undertaken for the sustainable development of the Alpine space, the protection of the Alpine eco-systems and for the economic and cultural progress of the population living in this area. The State Parties signed and ratified the protocols to the Alpine Convention which stipulate in more detail the guidelines for spatial planning, mountain farming, soil conservation, conservation of nature and countryside, mountain forests, tourism, energy and transport and are directly applicable in local communities [www.alpconv.org](http://www.alpconv.org)



### PLANALP

The Working group "The Platform on Natural Hazards of the Alpine Convention (PLANALP)" which was established in November 2004 on the VIth. Alpine Conference prepares common strategies and recommendations for protection against natural disasters in the Alpine space. Damage due to natural disasters is continuously rising. There are various causes: the increase of the extent of the damage potential, the exposure and the vulnerability of the infrastructure, increased demands regarding the mobility and communications, greater insecurity due to climate change, etc. That is why it makes sense that some preventive measures be recommended which are suited to conditions in the Alpine space and are adequate for the implementation in the entire region of the Alps.



### Colophon

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