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## REPORT ON DISASTER RISK ASSESSMENT OF THE REPUBLIC OF SLOVENIA FOR THE PERIOD 2014–2018

### 1 Introduction

#### 1.1 Introduction

The Report on Disaster Risk Assessment of the Republic of Slovenia for the Period 2014–2018 provides information on the activities related to the identification of disaster risk in the Republic of Slovenia for the period 2014–2018 and a summary of important elements of disaster risk assessments, in line with the provisions of Article 6(a) of Decision No. 1313/2013/EU of the European Parliament and of the Council of 17 December 2013 on a Union Civil Protection Mechanism (OJ L 347 of 20 December 2013, p. 924) (hereinafter referred to as: Decision on a Union Civil Protection Mechanism). The Report on Disaster Risk Assessment of the Republic of Slovenia for the Period 2014–2018 was prepared on the basis of Article 5 paragraph 2 indents 5 and 6 of the Decree Implementing the Decision on a Union Civil Protection Mechanism (Official Gazette of the Republic of Slovenia, No. 62/14 and 13/17).

It was prepared by the Administration of the Republic of Slovenia for Civil Protection and Disaster Relief of the Ministry of Defence acting as the National Coordination Body for disaster risk assessments and disaster risk management capability assessments.

The Intersectoral Working Group for Monitoring the Development of Disaster Risk Assessments, Registers and Disaster Risk Management Capability Assessments has taken note of the Report. The Report was adopted by a decision of the Government of the Republic of Slovenia, together with the National Disaster Risk Assessment, version 2.0.

## 1.2 The Documents Underlying Disaster Risk Assessments and their Purpose

The primary basis for disaster risk assessment is the Decision on a Union Civil Protection Mechanism, along with some other important documents. Article 6(a) of the Decision on a Union Civil Protection Mechanism, which has been in force since 1 January 2014, specifies, among other things, the development of disaster risk assessments and the deadlines for reporting to the European Commission.

For the development of risk assessments for individual disasters, guidelines titled “Risk Assessment and Mapping Guidelines for Disaster Management”, SEC (2010) 1626 final of 21 December 2010 (hereinafter referred to as “European Guidelines”) can be used. These Guidelines govern the content and concept of the assessment and the presentation of risks in the field of risk management. Considering these Guidelines, Member States should make development methods and standards for disaster risk assessments more comparable. With these Guidelines, the European Commission wanted to encourage Member States to work on these issues more intensively and consistently, using similar methods and content constituting disaster risk assessments, despite the different starting points of individual states. This would make the results of disaster risk assessments for individual states more comparable, allowing the European Union, among other things, to develop unified overviews of risks of natural and other disasters within the European area. Additional challenges in the area of risk assessment for disasters are new risks and the increasingly obvious climate change affecting the incidence and intensity of some disasters, especially natural disasters.

Taking into account the European Guidelines, disaster risk assessments can, due to the nature and the scope of their content, serve as a basis for a number of activities in several fields, in particular for the:

- Planning of risk management for the purposes of prevention and preparedness;
- Implementation of appropriate measures for the prevention against risks and preparedness;
- Development of disaster risk management capability assessments;
- Development of financial strategies for preventive measures aimed at preventing or reducing the potential for the occurrence of disasters, and also at emergency response measures, relief and elimination of the disaster consequences (financial basis for disaster risk management);
- Identification of priority investments for reducing the possibility of disasters or their consequences;
- Public investments planning;
- Social protection planning;
- The development of threat assessments and disaster response plans;
- Identification of gaps in protection, rescue and relief forces and resources, and the planning of the manning and augmentation of protection, rescue and relief forces and resources.
- Spatial planning.

A unified and a coordinated approach to disaster risk assessment in the Republic of Slovenia is an important foundation for the understanding of disasters as a phenomenon, especially with regard to assessing the scope of their impact and likelihood.

### 1.3 Organisational Frameworks and Overview of Activities in Related to the Development of Disaster Risk Assessments

In August 2014, the Government of the Republic of Slovenia adopted the Decree Implementing the Decision on a Union Civil Protection Mechanism (Official Gazette of the Republic of Slovenia, No. 62/14, hereinafter referred to as: the Decree). The Decree specified the types and content of disaster risk assessments and the process of developing risk assessments for individual disasters and the National Disaster Risk Assessment, or the manner of amending disaster risk assessments with the content related to climate change and the adjustments to this change. The Decree specifies or defines types of disaster risk assessments, the responsible authorities and their responsibilities, development processes, methods and techniques that are available for the development of disaster risk assessments, content of disaster risk assessments, and the method of adopting and amending those assessments, including the integration of content related to climate change. The Decree also provides for active intersectoral cooperation in the development of assessments risk assessments for individual disasters, the inclusion of experts and scientists, the involvement of the public and the public character of the adopted risk assessments for individual disasters, the coordination of certain content with the neighbouring states, etc.

The Decree specified 12 disasters for which a state-level risk assessment for an individual disaster was developed for each of them in 2015, and also determined the authorities responsible for their development. The amended Decree from 2017 (Official Gazette of the RS, No. 13/17) which, in accordance with the Decision on a Union Civil Protection Mechanism, specifies above all the development of disaster risks management capability assessments, also provides for the development of three new risk assessments for individual disasters, namely the Risk Assessment for Disasters at Sea, the Assessment of Cyber Risks, and the Risk Assessment for Diseases and Pests Affecting Forest Trees. An overview of these disasters and the responsible authorities is shown in Table 1.

Table 1: Responsibility to develop of risk assessments for individual disasters

<b>RISK ASSESSMENTS FOR INDIVIDUAL DISASTERS</b>	<b>Responsible authorities</b>	<b>Deadline from the Decree for the submission of version 1 of the assessment</b>
Earthquake	Ministry responsible for the construction	1 July 2015
Floods	Ministry responsible for the environment	1 July 2015
Hazards of biological, chemical, environmental or unknown origin for human health (after 2017 epidemics or pandemics of communicable diseases in humans)	Ministry responsible for health	1 July 2015
Highly contagious animal diseases	Ministry responsible for agriculture	1 July 2015
Nuclear or radiological accident	Ministry responsible for the environment	1 July 2015

<b>RISK ASSESSMENTS FOR INDIVIDUAL DISASTERS</b>	<b>Responsible authorities</b>	<b>Deadline from the Decree for the submission of version 1 of the assessment</b>
Railway accident	Ministry responsible for transport	1 July 2015
Aircraft accident	Ministry responsible for transport	1 July 2015
Large wildfire	Ministry responsible for forestry	1 July 2015
Terrorism	Ministry responsible for the interior	1 July 2015
Drought	Ministry responsible for the environment	1 July 2015
Ice storm	Ministry responsible for the protection against natural and other disasters	1 July 2015
Accidents involving dangerous substances	Ministry responsible for the environment	1 July 2015
Accidents at sea	Ministry responsible for transport	1 July 2018
Cyber risks	Ministry responsible for information society and electronic communications	1 July 2018
Diseases and pests affecting forest trees	Ministry responsible for forestry	1 July 2018

Risk assessments for individual disasters consist of the following content:

1. Introduction;
2. Description of the methods and techniques used in the development of disaster risk assessments;
3. Process of disaster risk identification (description of disaster characteristics, risk scenarios);
4. Risk analyses based on individual risk scenarios (impacts on people, economic and environmental impacts and impacts on cultural heritage, political and social impacts, assessment of the likelihood level and reliability of data related to risk analyses results);
5. Evaluation of disaster risk (criteria for the assessment of risk impacts and the likelihood of a disaster, comparison of risk analyses results with these criteria, disaster risk matrices, risk categorisation (geographical risk distribution));
6. Risk assessment summary;
7. Conclusion;
8. Explanation of terms, acronyms and abbreviations;
9. Bibliography;
10. Annexes;
11. Record of amendments and updates.

In accordance with the Decree, risk assessments for individual disasters which are directly or indirectly affected by climate change, and particularly the analysis and evaluation of these risks, must also include the content related to climate change, the assessment of risks posed by climate change, and the action plan for adapting to climate change. This content is always provided and coordinated by the authority responsible for the area of climate change.

Risk assessments for individual disasters may also include proposals for preventive and other measures for preventing or reducing the possibility of disasters, proposals for disaster risk management, measures for mitigating the impact of risk, and proposals for measures for the systemic regulation of risk management on the basis of current policies, acts and strategic documents related to a specific risk, as well as other content determined by specific risk-related regulations.

The Decree also specifies the development of the National Disaster Risk Assessment, which comprises of summaries and a synthesis of the content and conclusions from individual disaster risk assessments.

The National Disaster Risk Assessment consists of:

1. Introduction;
2. Criteria for the assessment of risk impacts and the likelihood of disasters;
3. Summaries and conclusions of risk assessments for individual disasters and the comparison of the results of disaster risk analyses from the risk assessments for individual disasters with the risk criteria, including risk matrices for individual disasters;
4. Overall disaster risk assessment based on the results from the previous point, and the overall disaster risk matrices included in the National Disaster Risk Assessment;
5. Overview of the selected scenarios of individual risks and multi-risk scenarios, and also the analyses of these risks;
6. Overview of the selected scenarios defining the course of several possible mutually independent disasters in the same area, and the analyses of these risks;
7. Conclusion;
8. Explanation of terms, acronyms and abbreviations;
9. Bibliography;
10. Annexes;
11. Record of amendments and updates.

The National Disaster Risk Assessment can also include the available content from the climate change risk assessment, provided by the ministry responsible for climate change. In addition, the content from the existing national risk assessments for individual natural or other disasters, as well as other content, can also be included.

Since risk assessments for individual disasters are produced by various ministries, a National Coordinating Body for Disaster Risk Assessments has been established. With the amended Decree in 2017, this body was renamed the National Coordinating Body for Disaster Risk Assessments and Disaster Risk Management Capability Assessments (hereinafter referred to as: the National Coordinating Body). With regard to disaster risk assessments, their functions are mostly focused on the coordination, assistance and support to the ministries in the preparation of risk assessments for individual disasters, informing the Government of the Republic of Slovenia and the Intersectoral Working Group for Disaster Risk Assessments (established in 2014 and replaced in 2017 by the Intersectoral Working Group for Monitoring the Development of Disaster Risk Assessments, Registers and Disaster Risk Management Capacity Assessments, while the members stayed mostly the same) about the activities and progress in the field of producing disaster risk assessments, reporting to the European Commission in accordance with the obligations from the Decision on a Union Civil Protection Mechanism, and the production of the National Disaster Risk Assessment. The functions of

the National Coordinating Body in the Republic of Slovenia are performed by the Administration of the Republic of Slovenia for Civil Protection and Disaster Relief. The National Coordinating Body periodically informs the Government of the Republic of Slovenia of the topics and current issues related to disaster risk assessments. In relation to that, the Government of the Republic of Slovenia also adopts certain decisions and documents. Among other things, the Government of the Republic of Slovenia adopts the National Disaster Risk Assessment and the Report on Disaster Risk Assessment in the Republic of Slovenia for the European Commission.

Version 1 of the assessment was prepared in December 2015, and a report on the activities in the field of disaster risk assessment was sent to the responsible authority of the European Commission in line with the provisions of the Decision on a Union Civil Protection Mechanism. Additional and important challenges in the period 2015–2016 included the ex-ante conditionalities in the framework of the Partnership Agreement between Slovenia and the European Commission for the absorption of funds from the European structural and investment funds (ESIFs) for the period 2014–2020. The ex-ante conditionalities for the absorption of the EU funds in the framework of the thematic area 5 of the Partnership Agreement between the republic of Slovenia and the European Commission (Adaptation to climate change and disaster risk management) also included an adequately developed national disaster risk assessment by the end of 2016, in compliance with the European Guidelines and in accordance with the processes for the production of disaster risk assessments, as stated in the international standard ISO 31010 (especially the intersectoral approach, cooperation of experts, scientists and the interested public, the public nature of disaster risk assessments, and the taking into account of climate change). Since version 1.0 of the assessment did not contain all the necessary content which would allow the Republic of Slovenia to fulfil the relevant conditionalities, which is especially true for the content related to climate change and their impacts which was still non-existent or too short at that time (it is provided by the ministry responsible for the area of climate change), version 1.1 of the assessment was produced in the autumn of 2016. In comparison to the 1.0 version, the 1.1 version included new content linked, in particular, to climate change and the impacts of future climate change which can cause changes in the frequency, consequences and the likelihood of certain natural and other disasters. Before that in 2016, the responsible authorities added that content mostly to those risk assessments for individual disasters which can have the greatest impact from climate change (drought, flood, large wildfire, highly contagious animal diseases, hazards of biological, chemical, environmental or unknown origin to human health) and the Risk Assessment for Ice Storms. By producing version 1.1 of the assessment, the Republic of Slovenia successfully and fully fulfilled its obligations within the provided period of time, that is, by the end of 2016. The Republic of Slovenia is expected to be able to absorb funds from the European structural and investment funds for investments in the relevant thematic area in the period 2014–2020 in the amount of over EUR 83 million, mostly planned for flood protection construction measures within the responsibility of the Ministry of the Environment and Spatial Planning. Version 1.1 of the assessment in fact represents a special issue of that assessment, which needed to be prepared mostly in order to properly fulfill the relevant ex-ante conditionalities and submitted in full to the European Commission.

The current version of the assessment, version 2.0 from 2018, represents the upgrade of version 1.1 of the assessment. It includes the content of three new risk assessments for individual disasters, large amendments of an already existent risk assessment for individual

disasters, and small amendments of certain content related to the already existent risk assessments for individual disasters. In addition, small amendments and corrections were made throughout the entire document. In accordance with the new situation, the initial part of the assessment was amended, and in accordance with the new findings, especially in relation to the content of new risk assessments for individual disasters, Chapter 6 representing a synthesis was amended. In the Annex, a risk assessment related to the topic of cyber risks or threats was added.

The National Disaster Risk Assessment should be amended every three years, which means that the next amendment is expected to take place in 2021, with the assessment version 2.0 serving as a basis. The amendments will mostly include the findings of risk assessments for individual disasters which will be developed after 2018, and also the amendments of the existing risk assessments for individual disasters. During the preparation of this version of the National Disaster Risk Assessment, legislative procedures are under way at the level of EU with regard to changes to the EU Civil Protection mechanism. Consequently, certain changes are possible in the future, especially in terms of deadlines.

Risk assessments for individual disasters, with the exception of the Risk Assessment for Terrorism, are publicly available at the websites of respective ministries (responsible authorities) which prepared them.

## **2 Criteria for the Assessment of Risk Impacts and the Likelihood of Disasters and Disaster Risk Matrices**

### **2.1 Criteria for the Assessment of Risk Impacts and the Likelihood of Disasters**

In order to establish the severity or the significance of individual risks, criteria for the assessment of risk impacts and the likelihood of disaster occurrence had to be established for individual disasters prior to the preparation of individual risk assessments. With these criteria, the consequences or impacts of different disasters and their likelihood or frequency can be compared. In compliance with the European Guidelines and the Decree, risk impacts are divided into impacts on people, economic and environmental impacts and impacts on cultural heritage, and also political and social impacts. In the spring of 2015, the criteria for the assessment of risk impacts and the likelihood of disasters were coordinated and adopted by the Administration for Civil Protection and Disaster Relief as the National Coordinating Body, at working meetings with ministries developing risk assessments for individual disasters or participating in their development. In 2017, the National Coordinating Body slightly changed the criteria for the assessment of economic and environmental risk impacts and impacts of risk on cultural heritage.

The uniform criteria for the assessment of risk impacts and the likelihood of disasters enables a comparison of the analyses results of several risk scenarios in the context of one risk, and also the comparison of impacts or consequences and the likelihood of disaster occurrence for an individual risk with other risks. The criteria for the assessment of risk impacts and the likelihood of disaster occurrence are divided into five levels, which define the impact or the likelihood as:

- 1 – very low
- 2 – low
- 3 – medium
- 4 – high
- 5 – very high.

### 2.1.1 Criteria for the Assessment of Risk Impacts on People

The risk impacts on people in relation to the type of risk can predominantly refer to the number of fatalities, number of injured or sick people, number of permanently evacuated people, number of people living and working in areas which are affected by the disaster, and others (e.g. impacts on vulnerable population groups such as children, the elderly and the socially disadvantaged people). For disasters with possible long-term impacts (such as accidents involving dangerous substances and nuclear or radiological accidents), these impacts are used or determined based on the number of fatalities and injured or sick people during the period of 10 years following the disaster. The criteria for the assessment of risk impacts on people are expressed in the number of the dead, injured, sick or permanently evacuated people, as shown in Table 2.

Included in the number of fatalities and injured people are the possible dead and injured members of the protection, rescue and relief forces involved in emergency response operations, and the number of police personnel, Slovenian Armed Forces members and emergency response teams from various services (emergency medical services, teams from electrical companies, public utility companies and others) who have died or were injured, either during the execution of emergency measures within their realm of responsibility or during the initial restoration activities, but not longer than one year after the disaster. Included in the risk matrices is the value reaching the highest impact with reference to the criteria for the assessment of risk impacts on people.

Table 2: Criteria for the assessment of risk impacts on people

<b>Criteria for the assessment of risk impacts on people</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Number of fatalities	Up to 5	5-10	10-50	50-200	More than 200
Number of fatalities (10 years)*	Up to 5	5-10	10-50	50-100	More than 100
Number of injured or sick people	Up to 10	10-50	50-200	200-1000	More than 1000
Number of injured or sick people (10 years)**	Up to 10	10-50	50-200	200-500	More than 500
Number of permanently displaced people	Up to 20	20-50	50-200	200-500	More than 500

1-5: Levels of impact.

\*For disasters with possible long-lasting impacts (e.g. up to 10 years), such as disasters involving dangerous substances and nuclear or radiological disasters, the long term values for fatalities and the injured or sick people (10 years) are defined separately or applied as stated above, if necessary.

\*\* The injured or sick people also include people who were exposed to radiation, contamination or poisoning. In risk analyses, such people can be addressed separately.

### 2.1.2 The Criteria for the Assessment of Economic and Environmental Risk Impacts and Risk Impacts on Cultural Heritage

The following impacts can be included among the economic and environmental risk impacts and risk impacts on cultural heritage with reference to risks: the number, the consequences and the amount of damage on facilities and in them; the costs of the operation of ministries and bodies which carry out activities within their realm of responsibility in difficult situations; the extent and the amount of damage on agricultural and forest surfaces and areas of cultural heritage; the costs of the limitation on the use of food and the long-term costs in the food supply chain; the extent and the amount of damage to water bodies; the number of and the damage to the damaged or destroyed means of transport; the number of, and the damage and costs resulting from, the dead or sick domestic or wild animals and animals which need to be treated or killed; the costs of the provision of medical care to people; the damage resulting from the termination of an economic activity; social and other similar costs; the costs of emergency response operations and potential international assistance; the costs of comprehensive long-term renovation (restoration) of facilities and equipment; the costs of comprehensive long-term restoration (rehabilitation) of agricultural and forest surfaces or areas of cultural heritage; the costs of comprehensive long-term restoration (rehabilitation) of water bodies; the costs of environmental restoration and other environmental damage; and additionally (not included in the calculation of the damage and costs), the extent of the affected area (in square kilometres and as the percentage of the country's surface), the height of insurance payments for disasters, the reduction of the GDP, the decrease in the visits of foreign tourists, and the increase of unemployment owing to the disaster.

The criteria for the assessment of economic and environmental risk impacts and the impacts of risk on cultural heritage are expressed through the amount of costs and damage caused by an individual risk. The boundary between class 2 and class 3 out of five is set at 0.6% of

the GDP. This is the basis for the establishment of limit values for the remaining classes. To a large extent, this baseline value refers to the value of the 0.6% of the GNI. If the damage resulting from a disaster exceeds the value of 0.6% of the GNP, a state may submit a request for a grant from the EU Solidarity Fund. In the Republic of Slovenia, the GNI and GDP values are very similar (GNI is slightly lower). For this reason, GDP is used for assessing risk impacts for a disaster. For risk assessments for individual disasters, prepared and amended in 2015 and 2016, and in all inspections related to damage and costs which were incurred, assessed or determined through risk analyses, the GDP value from 2014 was used, which stood at approximately EUR 36.2 billion, while the value of 0.6% of GDP was approximately EUR 220 million.

In 2017, the National Coordinating Body slightly changed these criteria. The key change is that greater importance is given to GDP, and less importance is attributed to absolute values of damage and costs arising from accidents. This allows for greater comparability of the consequences of disasters through risk scenarios and the associated risk analyses, regardless of when they were prepared, or regardless of which period was taken into account in individual risk scenarios and risk analyses. The boundary between level 1 and level 2 of the addressed risk impacts remains at EUR 100 million, regardless of the respective GDP value; this is the value proposed by the relevant European Guidelines as a milestone for classifying the addressed risk scenarios or addressed disaster risks in the relevant national risk matrices for disasters and other means for presenting national data. Nevertheless, in the Republic of Slovenia, disaster risk matrices include all disasters for which risk scenarios or risk assessments for individual disasters have been developed, including those in which the estimated economic and environmental impacts and impacts on cultural heritage do not exceed EUR 100 million (these are classified in level 1 of the relevant impact).

Table 3: Criteria for the assessment of economic and environmental risk impacts and risk impacts on cultural heritage

1	2	3	4	5
Up to EUR 100 million	Between EUR 100 million and 0.6% of GDP	Between 0.6 % and 1.2 % of GDP	Between 1.2% and 2.4% of GDP	More than 2.4% of GDP
	Between EUR 100 and 260 million	Between EUR 260 million and 520 million	Between EUR 520 and 1040 million	More than EUR 1040 million

1-5: Levels of impact. The table contains rounded values in EUR with regard to GDP from 2017 (EUR 43.3 billion)

Below is a comparison of the changes in the GDP percentage limit values between 2014 and 2017 owing to their increase. In 2014, the rounded GDP amounted to EUR 36.2 billion, in 2016 EUR 40.4 billion, and in 2017 EUR 43.3 billion, which is almost 20% more compared to 2014. In 2015, the boundary between level 1 and level 2 of those impacts amounted to 0.3% of GDP or the rounded amount of EUR 100 million. The value of EUR 100 million as the boundary between impact levels 1 and 2, as mentioned above, remains valid, as it is derived

from the European guidelines. In 2015, the boundary between impact level 2 and 3 amounted to EUR 220 million, and in 2017 as much as EUR 260 million. Further on, the differences are only increasing. In 2014, the boundary between impact level 2 and 3 amounted to EUR 440 million, and in 2018 to as much as EUR 520 million. The difference between levels 4 and 5 was even greater comparing the years 2015 and 2018, since in 2015, the boundary was EUR 880 million, while in 2018, it amounted to as much as EUR 1040 million.

In the National Disaster Risk Assessment, version 2.0, the above changes in the representation of the levels of economic and environmental risk impacts and risk impacts on cultural heritage were taken into account in the summaries of all risk assessments for individual disasters prepared so far, regardless of whether or not the responsible authorities changed or amended them in the present year. Regardless of the above, the situation related to individual risk scenarios or the risks themselves in the relevant risk matrices for disasters prepared or addressed before 2018 has not changed.

### 2.1.3 The Criteria for the Assessment of Political and Social Risk Impacts

The political and social risk impacts can, in reference to risk, include categories, such as risk impact on the functioning of state authorities, the impact of the non-functioning of important infrastructural systems on everyday life, psychosocial impacts, internal political stability and the impact on law and order, financial stability and foreign political or international stability (situation) of the country. The criteria for the assessment of political and social risk impacts are semi-qualitative. In comparison to the former impact groups, for which mostly concrete data and numbers were available, this group of impacts refers to the assessment of the order of extent of the considered impacts.

The final value or the level of political and social risk impacts is defined by adding up the final values or the values of all groups of political and social risk impacts and dividing the sum with the number of impact groups, as a rule by 6. The risk impacts which were not assessed are not taken into consideration.

#### 2.1.3.1 The Criteria for the Assessment of Risk Impacts on the Functioning of State Authorities

The criteria for the assessment of risk impacts on the functioning of state authorities are presented in Tables 4 and 5.

Table 4: The ability of state authorities (Government, ministries, constituent bodies, administrative units) to carry out functions within their realm of responsibility in the affected area

<b>Duration</b>	<b>Limited</b>	<b>Strongly impaired</b>	<b>Disabled</b>
Up to 2 days	1	1	2
Up to 7 days	1	1	2
Up to 15 days	2	2	3

<b>Duration</b>	<b>Limited</b>	<b>Strongly impaired</b>	<b>Disabled</b>
Up to 30 days	2	3	4
More than 30 days	3	4	5

1-5: Levels of impact.

The impact which causes the greatest consequences and lasts the longest is taken into account. If the impacts of a disaster do not refer to the content assessed, such impacts are not assessed in reference to this content (NA). The impacts which refer to the content assessed but were not assessed for various reasons are also not taken into account.

Table 5: The number of people affected by hindered or disrupted provision of services of state authorities (either physically or functionally)

<b>Number of people/ duration</b>	<b>Up to 500</b>	<b>Between 500 and 5,000</b>	<b>Between 5,000 and 50,000</b>	<b>More than 50,000</b>
Up to 2 days	1	1	1	2
Up to 7 days	1	2	2	3
Up to 15 days	2	3	3	4
Up to 30 days	3	4	4	5
More than 30 days	4	5	5	5

1-5: Levels of impact.

If the impacts of a disaster do not refer to the content assessed, such impacts are not assessed in reference to this content (NA). The impacts which refer to the content assessed but were not assessed for various reasons are also not taken into account.

The final level or value of risk impacts on the functioning of state authorities is defined by dividing the sum of individual values from tables 4 and 5 with the number of impacts taken into account. The value can be a whole number or a decimal.

### *2.1.3.2 The Criteria for the Assessment of Risk Impacts on the Functioning of Major Infrastructure Systems*

The criteria for the assessment of risk impacts on the functioning of major infrastructure systems are presented Tables 6 and 7.

Table 6: The lack of or difficult access to drinking water, food and energy products (electricity, heating, fuel)

<b>Number of people/duration</b>	<b>Up to 500</b>	<b>Between 500 and 5,000</b>	<b>Between 5,000 and 50,000</b>	<b>More than 50,000</b>
Up to 2 days	1	1	1	2
Up to 7 days	1	2	2	3
Up to 15 days	2	3	3	4
Up to 30 days	3	4	4	5
More than 30 days	4	5	5	5

1-5: Levels of impact.

The impact which causes the greatest consequences and lasts the longest is taken into account. If there are several pieces of content with the same level of impact, the one affecting the largest number of people is used. If, in a minimum of two cases, the same number of people is affected, the impact which lasts longer is taken into consideration.

If the impacts of a disaster do not refer to the content assessed, such impacts are not assessed with reference to this content (NA). The impacts which refer to the content assessed but were not assessed for various reasons are also not taken into account.

Table 7: Strongly impaired or disabled use of the internet and telecommunications systems; arrival to work and in educational institutions; use of public services (access to the media, health services, banking services, etc.); use of public transport; supply or purchase of basic necessities

<b>Number of people/duration</b>	<b>Up to 500</b>	<b>Between 500 and 5,000</b>	<b>Between 5,000 and 50,000</b>	<b>More than 50,000</b>
Up to 2 days	1	1	1	2
Up to 7 days	1	2	2	3
Up to 15 days	2	3	3	4
Up to 30 days	3	4	4	5
More than 30 days	4	5	5	5

1-5: Levels of impact.

The impact which causes the greatest consequences and lasts the longest is taken into account. If there are several pieces of content with the same level of impact, the one affecting the largest number of people is used. If, in a minimum of two cases, the same number of people is affected, the impact which lasts longer is taken into consideration.

If the impacts of a disaster cannot refer to the content assessed, such impacts are not assessed in reference to this content (NA). The impacts which refer to the content assessed but were not assessed for various reasons are also not taken into account.

The final level or value of risk impact on the functioning of major infrastructure systems is defined by dividing the sum of values from the previous two tables with the number of impacts taken into account. The value of this group of impacts can be a whole number or a decimal.

### 2.1.3.3 The Criteria for the Assessment of the Psychosocial Risk Impact

The criteria for the assessment of the psychosocial risk impact can be found in Tables 8, 9 and 10.

Table 8: The number of people showing an unusual or undesired behavioural reaction to the disaster, such as avoiding attending school or kindergarten; deliberate absence from work; deliberate avoidance of public transport; desire to move to another location; irrational financial operations (mass cash withdrawals, etc.); accumulation and appropriation of stocks of basic necessities; and similar reactions

Number of people/ duration	Up to 500	Between 500 and 5,000	Between 5,000 and 50,000	More than 50,000
Up to 2 days	1	1	1	2
Up to 7 days	1	2	2	3
Up to 15 days	2	3	3	4
Up to 30 days	3	4	4	5
More than 30 days	4	5	5	5

1-5: Levels of impact.

The impact which causes the greatest consequences and lasts the longest is taken into account. If there are several pieces of content with the same level of impact, the one affecting the largest number of people is used, followed by the one which lasts longer. If the impacts of a disaster cannot refer to the content assessed, such impacts are not assessed in reference to this content (NA). The impacts which refer to the content assessed but were not assessed for various reasons are also not taken into account.

Table 9: Social impacts

Types of social impacts	Level of impact
Disaster impacts cannot refer to the assessed content.	Not assessed (NA)
Small/insignificant impact.	1
The poor segments of the population find themselves in severe social distress; the number of applications for extraordinary social assistance benefits in cash is increasing.	2
The consequences of the disaster are also felt by the middle-class population, which is reflected in the increased number of applications for extraordinary social assistance benefits in cash.	3
The consequences of the disaster are felt by the majority of the population, which is reflected in a large increase in the number of applications for social assistance benefits.	4
The consequences are felt by the entire population, which is reflected mainly in new applications for social assistance benefits and renewed applications for the allocation of assistance.	5

If the impacts of a disaster cannot be covered by the content assessed, such impacts are not assessed in reference to this content (NA). The impacts which refer to the content assessed but were not assessed for various reasons are also not taken into account.

Table 10: Psychological impacts

<b>Types of psychological impacts</b>	<b>Level of impact</b>
Disaster impacts cannot refer to the assessed content.	Not assessed (NA)
Small/insignificant impact.	1
Individual cases of fear among the population owing to the lack of information regarding the causes of the disaster and its characteristics and consequences.	2
Increased level of fear among the population, especially of a new disaster and its consequences.	3
The population fear for their lives; decreased confidence in the responsible authorities regarding the response and mitigation and elimination of disaster consequences; increased desire to relocate.	4
Due to the negative events or consequences of a disaster, the majority of people cease to believe that life in the affected area could return to a normal state; mass relocation takes place.	5

If the impacts of a disaster cannot refer to the content assessed, such impacts are not assessed in reference to this content (NA). The impacts which refer to the content assessed but were not assessed for various reasons are also not taken into account.

The final level or value of psychosocial risk impacts is defined by dividing the sum of the values from Tables 8, 9 and 10 with the number of impacts taken into account. The value of this group of impacts can be a whole number or a decimal.

#### 2.1.3.4 The Criteria for the Assessment of Risk Impacts on Internal Political Stability

Table 11: Risk impacts on internal political stability and the law and order

<b>Types of impacts</b>	<b>Level of impact</b>
Disaster impacts cannot refer to the assessed content.	Not assessed (NA)
Small/insignificant impact.	1
Individual cases of public expression of disagreement with the actions taken by the responsible institutions; individual disruptions in the functioning of political institutions (the Government, the Parliament, etc.); individual occurrences of hostile campaigns.	2
Individual cases of violation of law and order and criminal offences resulting from the disaster; observed expressions of fear for one's own safety and property; individuals or groups are trying to undermine the internal political situation; reduced trust of the population in the functioning of political institutions.	3
Increased number of violations of law and order and of organised criminal offences; increased fear among the population; political parties and other interest groups are trying to undermine the internal political stability and obtain political benefits by "imposing" their own programmes for improving the situation; reduced trust in the functioning of state institutions.	4

<b>Types of impacts</b>	<b>Level of impact</b>
Massive violations of law and order including violent demonstrations; significant increase in the number of criminal offences; the internal security of the country is at risk. The internal political stability of the country is undermined; the basic rights provided for in the Constitution are undermined and at risk.	5

If it is assessed that the impacts of a disaster cannot refer to the content assessed, the level of impact is not assessed (NA). The impacts which refer to the content assessed but were not assessed for various reasons are also not taken into account. The value of this group of impacts can only be a whole number.

### 2.1.3.5 The Criteria for the Assessment of Risk Impacts on Financial Stability

The criteria for the assessment of risk impacts on financial stability are presented in Tables 12, 13 and 14.

Table 12: Impact on legal and natural persons' capacity to pay owing to payment system failures

<b>Settlement failure value</b>	<b>Payment settlement failure in an amount lower than 10% of the planned value of the payment system during disruptions</b>	<b>Payment settlement failure in an amount between 10% and 20% of the planned value of the payment system during disruptions</b>	<b>Payment settlement failure in an amount between 20% and 50% of the planned value of the payment system during disruptions</b>	<b>Payment settlement failure in an amount between 50% and 80% of the planned value of the payment system during disruptions</b>	<b>Payment settlement failure in an amount higher than 80% of the planned value of the payment system during disruptions</b>
<b>Duration of the failure</b>					
No impact, because disaster impacts cannot refer to the assessed content.	Not assessed (NA)	Not assessed (NA)	Not assessed (NA)	Not assessed (NA)	Not assessed (NA)
Disruptions in the payment system lasting up to 2 hours.	1	1	2	3	3
Disruptions in the payment system lasting up to 4 hours.	1	2	2	3	4
Disruptions in the payment system lasting up to 8 hours.	2	3	3	4	4

<b>Settlement failure value</b>	<b>Payment settlement failure in an amount lower than 10% of the planned value of the payment system during disruptions</b>	<b>Payment settlement failure in an amount between 10% and 20% of the planned value of the payment system during disruptions</b>	<b>Payment settlement failure in an amount between 20% and 50% of the planned value of the payment system during disruptions</b>	<b>Payment settlement failure in an amount between 50% and 80% of the planned value of the payment system during disruptions</b>	<b>Payment settlement failure in an amount higher than 80% of the planned value of the payment system during disruptions</b>
<b>Duration of the failure</b>					
Disruptions in the payment system lasting the entire business day, or disruptions which are not eliminated by the end of the business day.*	3	4	4	5	5
Disruptions in the payment system lasting more than one business day.	4	5	5	5	5

1-5: Levels of impact.

\*Disruptions at the end of a business day, even if they only last a short time, can cause a one-day delay in the settlement of payments.

If the impacts of a disaster cannot refer to the content assessed, such impacts are not assessed in reference to this content (NA). The impacts which refer to the content assessed but were not assessed for various reasons are also not taken into account.

Table 13: Impact on the legal and natural persons' capacity to pay owing to lack of cash

<b>Number of affected people/duration</b>	<b>Up to 5000</b>	<b>Up to 50,000</b>	<b>More than 50,000</b>
Up to 2 days	1	2	3
Between 2 and 7 days	2	3	4
More than 7 days	3	4	5

If the impacts of a disaster cannot refer to the content assessed, such impacts are not assessed in reference to this content (NA). The impacts which refer to the content assessed but were not assessed for various reasons are also not taken into account.

Legend:

- 1 – No or small impact.
- 2 – Legal and natural persons have difficulties accessing cash in their place of residence.
- 3 – Legal and natural persons can access cash in neighbouring areas.
- 4 – Legal and natural persons can access cash in bigger cities or individual areas.
- 5 – Cash cannot be accessed.

Table 14: Changes in GDP growth owing to a disaster in the year of the disaster or in the following year

<b>Changes in GDP growth</b>	<b>Level of impact</b>
No impact because disaster impacts do not refer to the content/no consequences	Not assessed (NA)
Between 0 and –0.5 percentage points	1
Up to -1 percentage points	2
Up to –1.5 percentage points	3
Up to –2 percentage points	4
More than –2 percentage points	5

If it is estimated that a disaster will not have a negative impact on the growth in GDP, or if the impacts of a disaster cannot refer to the content assessed, the level of impact is not assessed (NA). The impacts which refer to the content assessed but were not assessed for various reasons are not taken into account.

The final level or value of risk impact on financial stability is determined by dividing the sum of individual values from tables 12, 13 and 14 with the number of impacts taken into account. The value of this group of impacts can be a whole number or a decimal.

#### *2.1.3.6 The Criteria for the Assessment of Risk Impacts on Foreign Policy and International Stability*

The criteria for the assessment of risk impacts on foreign policy and international stability are shown in Table 15.

Table 15: Foreign policy (international) risk impacts

<b>Type of foreign policy or international impact</b>	<b>Level of impact</b>
Disaster impacts cannot refer to the assessed content.	Not assessed (NA)
Small/insignificant impact.	1
No significant detected direct impact on the international position of the country; individual foreign countries are following the developments in the RS.	2
Individual (neighbouring) countries and some regional and international organisations are responding to the event through diplomatic channels by expressing their support and concerns about the situation.	3
A part of the international community (countries, international organisations) is responding to the event by expressing strong support or concerns about the situation. The Republic of Slovenia is receiving international assistance, especially in equipment and human resources. Despite the international assistance, Slovenia remains a stable country. Foreign diplomatic missions and consular posts in the Republic of Slovenia are advising their citizens against travelling to certain areas of the Republic of Slovenia.	4

Type of foreign policy or international impact	Level of impact
<p>A major part of the international community is responding strongly to the events in the country, since the events are greatly impacting the security of other countries.</p> <p>The Republic of Slovenia is receiving significant international assistance (equipment, money, human resources). The Republic of Slovenia urgently needs assistance to ensure a normal functioning of its entire system.</p> <p>Foreign diplomatic missions and consular posts are advising their citizens against travelling to the RS and are decreasing or increasing the number of staff at the missions and posts owing to the situation in the country.</p> <p>International events whose main topic is the position of or the situation in the Republic of Slovenia.</p>	5

If it is assessed that the impacts of a disaster cannot refer to the content assessed, the level of impact is not assessed (NA). The impacts which refer to the content assessed but were not assessed for various reasons are also not taken into account.

The value of this group of impacts can only be a whole number.

#### 2.1.3.7 The Final Value or the Level of Political or Social Risk Impacts

The final value or the level of political and social risk impacts is determined by adding together the final values or the levels of all groups of political and social risk impacts and dividing this sum by the number of impact groups, that is, by 6. If a certain group of political or social risk impacts was not assessed because these risk impacts do not refer to the assessed content (NA), this group is not taken into account in the final calculation. The impacts which refer to the content assessed but were not assessed for various reasons are also not taken into account. The final calculation of the value of political and social risk impacts can also be a decimal number between 1 and 5. In this case, the final level of political and social risk impacts, which must be a whole number, is calculated based on the table below.

Table 16: The conversion of the value of political and social impacts into the level of political and social risk impacts

Average value of political and social risk impacts	The level of political and social risk impact
1.00-1.49	1
Between 1.50 and 2.49	2
Between 2.50 and 3.49	3
Between 3.50 and 4.49	4
Between 4.50 and 5.00	5

### 2.1.4 The Criteria for the Assessment of the Likelihood of Disasters

The likelihood of the occurrence of a disaster can be defined using a number, percentage or description, which is evident from Table 17.

Table 17: Criteria for the assessment of the likelihood of a disaster

1	2	3	4	5
Once in more than every 250 years (yearly likelihood of up to 0.4%)	Once in every 100 to 250 years (yearly likelihood of between 0.4 and 1%)	Once every 25 to 100 years (yearly likelihood of between 1 and 4%)	Once every 5 to 25 years (yearly likelihood of between 4 and 20%)	Once or more every 5 years (yearly likelihood of more than 20%)
Hardly any risk (threat)	Possible but less likely risk (threat)	Possible risk (threat)	General risk (threat)	Special and imminent (permanent) risk (threat)

The descriptive definition is used especially for disasters which do not follow a natural cycle of occurrence or for intentional acts which cannot be predicted due to the specifics of their occurrence (e.g. terrorism). For other disasters, the time periods listed in the upper part of the table are taken into account.

## 3 Summary of Important Elements of the National Disaster Risk Assessment, Version 2.0

This chapter provides a synthesis and comparison of all the risks addressed in risk assessments for individual disasters which have the same or unified criteria for assessing risk impacts and likelihood for a disaster with those used in assessing the risk in risk assessments for individual disasters. In 2015, 12 risk assessments for individual disasters were prepared, and in 2016, a half of them were amended, to a large extent with content related to climate change and the impact of that change on the occurrence of disasters, their frequency and the extent of their impacts. In 2018, three new risk assessments for individual disasters were produced, and an existing one was amended. As a result, the National Disaster Risk Assessment, version 2.0, consists of 15 disasters in terms of the assessed disaster risk, or 16 disasters if separating the nuclear and radiological accidents described in a single assessment.

Disasters included in the national Disaster Risk Assessment differ a lot from one another in terms of their characteristics and consequences. Some of them last a very short time (e.g. an earthquake), while others either last longer (influenza pandemic as a representative disease within the framework of hazards of biological, chemical, environmental and unknown origin to human health), or the elimination of their consequences takes a long time (e.g. after a nuclear accident or an earthquake). Some disasters affect a relatively very small area (e.g. a large wildfire, railway accident, aircraft accident, radiological accident), and others affect

greater parts of the country (ice storm, earthquake, floods), or even the entire country or more (e.g. a drought, nuclear accident, diseases and pests affecting forest trees, possibly also cyber risks or threats). This can also result in greater differences between individual impacts. Disasters affecting relatively small areas usually cause lesser impacts than disasters covering larger areas, especially in terms of economic and environmental impacts and impacts on cultural heritage, and also political and social impacts. Some disasters can be well predicted in advance and enough experience has been gathered with them, both in terms of knowledge about them and in terms of their prediction and response to them. This is why even intense events of that type, at least in recent years, did not cause many fatalities (e.g. floods). Some disasters cannot be predicted. This is true for example for earthquakes. However, in the event of a possible earthquake of EMS intensity VII or higher, the scope of consequences, especially economic and environmental, and also impacts on cultural heritage and on people, can be largely reduced. As far as “predictability” is concerned, the same applies to a terrorist attack or cyber threats. Taking into account risk scenarios (but not necessarily also otherwise), some accidents have all types of impacts (nuclear accident, earthquake), while others, as a rule, have only a certain group of impacts, for example impacts on people (terrorism, aircraft accident, railway accident, hazards of biological, chemical, environmental or unknown origin to human health), or have some impacts which are negligible or non-existent (e.g. a drought, which has a perceivable impact only on economic and environmental impacts and impacts on cultural heritage, and within that impact almost exclusively on agricultural surfaces).

The responsible authorities chose different methods for the production of risk assessments. The majority of them chose methods regarded as good practice, which is the brainstorming method, but also the historical method, case studies, methods of prediction, descriptive method, methods of analysis and synthesis, comparative method, theoretical method, inductive method, deductive method, multiple-criteria analysis, risk indices technique, PHA method (Preliminary Hazard Analysis) and others. These are mostly methods and techniques from the standard SIST/ISO/IEC 31010, which is also mentioned in the European Guidelines.

The responsible authorities mostly included the participating authorities and other participants. Despite financial and temporal restrictions, some responsible authorities also included public institutes and also professional and scientific institutions, which is very important. The responsible authorities mostly also included the public when preparing the content of risk assessments for individual disasters. The inclusion of the public primarily took place through publishing draft risk assessments for individual disasters on the websites of the responsible ministries, and the interested public had the chance to submit possible comments and proposals. However, the response by the public was weak. On the other hand, the preparation of the content of the Risk Assessment for Terrorism did not include the public, which is understandable taking into consideration its sensitive content, and the document was prepared by the Ministry of the Interior. In November 2015, risk assessments prepared in that year and also the proposal of the National Disaster Risk Assessment were presented to the public at the consultation at the Training Centre for Civil Protection and Disaster Relief of the Administration for Civil Protection and Disaster Relief in Ig near Ljubljana. The invited participants of the consultation were mostly the ministries and municipalities.

For the purpose of preparing 12 risk assessments, 37 risk scenarios for individual disasters were produced in 2015. Upon the amendment of some risk assessments of individual disasters, their number increased to 48 in 2016. One new scenario was prepared for ice storm, four for floods, and six for drought. All new risk scenarios were produced based on the original risk scenarios prepared in 2015, taking into account the consequences of future climate change, known and predicted by that time, on the occurrence of certain disasters, and also their impacts and likelihood (10). Nevertheless, the majority of these 11 risk scenarios show somewhat greater impacts of disasters compared to original scenarios, especially greater likelihood. In 2018, three new risk assessments for individual disasters were prepared, including 10 general scenarios for accidents at sea, three risk scenarios for cyber threats, and two scenarios for diseases and pests affecting forest trees. Additionally, one new risk scenario was prepared as part of the new Risk Assessment for Nuclear and Radiological Accidents. Thus, in 2018, the total number of risk scenarios was 64.

For nuclear and radiological disasters, until now, a total of 11 general risk scenarios were prepared, and 10 risk scenarios were produced for accidents at sea. The Risk Assessment for Drought contains 9 risk scenarios, and the Risk Assessment for Floods has 6 risk scenarios. The Risk Scenario for Ice Storms contains 4 risk scenarios. There are 5 risk assessments for individual disasters which contain 3 risk scenarios each (risk assessments for earthquakes, highly contagious animal diseases, accidents involving dangerous substances, large wildfires, diseases and pests affecting forest trees, cyber threats). Then there are 4 such risk assessments which contain 2 risk scenarios (risk assessments for terrorism, diseases and pests affecting forest trees, aircraft accident and railway accident). One such risk assessment contains only one risk scenario (risk assessment for hazards of biological, chemical, environmental or unknown origin for human health). In the Risk Assessment for Highly Contagious Animal Diseases, two risk scenarios include the disaster crossing the national border (purchase and transport of sick animals from a distant country to the Republic of Slovenia, the outbreak of the disease in a neighbouring country near the national border). The same is true for one of the real risk scenarios for large wildfires (the fire spreading from Italy to the territory of the Republic of Slovenia). A nuclear accident in the Krško Nuclear Power Plant, which is defined as a representative risk scenario for a nuclear accident, would almost certainly result in consequences for Croatia, too. All three risk scenarios for cyber threats within the Risk Assessment for Cyber Threats are “international”, either in part or in full, which is especially true for the representative risk scenario. The same applies for some risk scenarios for accidents at sea. All the risk scenarios and risk analyses mentioned address only disasters and their consequences in the territory of the Republic of Slovenia.

All risk scenarios for cyber risks or threats, ice storms, large wildfires, and also two risk scenarios for drought and the representative risk scenario for a railway accident describe real events taking place in recent decades. The risk scenarios for other disasters (floods, hazards of biological, chemical, environmental and unknown origin to human health, highly contagious animal diseases, nuclear accident, radiological accident, terrorism, aircraft accident, accidents involving dangerous substances; one risk scenario for a railway accident and drought) are based on events which are real or possible. Some risk scenarios consist entirely of real events, whereas the consequences expressed through risk analyses are either real (e.g. in two risk scenarios for drought), possible (e.g. all three risk scenarios for an earthquake) or real and possible (all risk scenarios for large wildfires, three risk scenarios for

ice storm, both risk scenarios for floods). Special mention should be made of earthquakes, especially their representative risk scenarios. The actual consequences of the earthquake which already happened in the addressed area in 1895 cannot be “transposed” to the present-day situation. Some risk scenarios and also the associated risk analyses are entirely hypothetical (e.g. both risk scenarios for terrorism, all risk scenarios for a radiological accident and nuclear accident, one risk scenario for a railway accident, seven risk scenarios for drought and three for floods, and so on). The risk scenarios for accidents at sea comprise both accidents which occurred in the Slovenian sea and also fictional risk scenarios. With regard to the risk scenarios for diseases and pests affecting forest trees, one scenario contains the summary of an actual disease, although it also includes its potential spread; another risk scenario describes actual events taking place in Portugal, and such an event is possible in the future.

The table below presents the representative risk scenarios for each of the 15 or 16 disasters. The most representative risk scenarios for individual disasters represent the worst still acceptable developments, but some also present the worst possible events.

Table 18: Representative risk scenarios

<b>RISK ASSESSMENTS FOR INDIVIDUAL DISASTERS</b>	<b>Representative risk scenarios</b>	<b>Status of the representative risk scenario</b>
Earthquake	Earthquake of level VII-VIII on the EMS scale in the central part of the state (Ljubljana)	The reasonable worst-case
Flood	Floods on the basis of flood events in 1990 and 2012	The worst possible (perhaps this risk scenario will be the reasonable worst-case in the future due to the consequences of climate change and consequently of the impacts and likelihood of floods)
Hazards of biological, chemical, environmental or unknown origin to human health	Influenza pandemic	The reasonable worst-case
Highly contagious animal diseases	The occurrence of the foot-and-mouth disease in the northeast part of the country	The reasonable worst-case
Nuclear or radiological accident	Accident in the Krško Nuclear Power Plant Accident involving radioactive sources	The worst case scenario The reasonable worst-case
Railway accident	Collision between a freight train and a passenger train at the Jesenice Railway Station, August 2011	The reasonable worst-case

<b>RISK ASSESSMENTS FOR INDIVIDUAL DISASTERS</b>	<b>Representative risk scenarios</b>	<b>Status of the representative risk scenario</b>
Aircraft accident	Aircraft accident in a populated area (Ljubljana)	The reasonable worst-case
Large wildfire	Šumka–Železna vrata–Trstelj fire, July 2006	The worst possible
Terrorism	exists*	The reasonable worst-case
Drought	Drought in 2003 and 2013	The reasonable worst-case
Ice storm	Ice storm in February 2014	The reasonable worst-case
Accidents involving dangerous substances	Accident involving liquefied petroleum gas	The reasonable worst-case
Accidents at sea	Accident along a navigable waterway (entrance to the berth)	The reasonable worst-case
Cyber risks	Ransomware attack	The reasonable worst-case
Diseases and pests affecting forest trees	Pine wilt owing to pine wood nematode	The worst possible

\* Since the risk assessment for terrorism is classified as restricted, the details of the representative risk scenario of a terrorist attack are not published.

The following data on consequences, collected in these three tables, were established based on the risk analyses of representative risk scenarios:

Table 19: Consequences based on the representative risk scenarios - impacts on people

<b>Disaster</b>	<b>Number of fatalities</b>	<b>Number injured or sick people</b>	<b>Number of permanently displaced people</b>	<b>Level of impact</b>	<b>Likelihood</b>	<b>Level of impact</b>
Earthquake	60	600	<b>5188</b>	5	2	3 (high)
Floods	Between 10 and 50	<b>More than 200</b>	0	4	3	4 (very high)
Hazards of biological, chemical, environmental or unknown origin to human health	1850	<b>500,000</b>	0	5	3	4 (very high)
Highly contagious animal diseases	/	/	/	/	/	/
Nuclear accident	Up to 1000	Up to several thousand	<b>Up to 100,000</b>	5	1	3 (medium)
Radiological accident	Up to 1	<b>Up to several</b>	0	1	3	1 (low)

Disaster	Number of fatalities	Number injured or sick people	Number of permanently displaced people	Level of impact	Likelihood	Level of impact
Railway accident	0	<b>33</b>	0	2	4	2 (medium)
Aircraft accident	<b>166</b>	0		4	3	4 (very high)
Large wildfire	<b>Up to 7</b>	Up to 40	0	2	5	2 (medium)
Terrorism	50	<b>300</b>	0	4	3	4 (very high)
Drought	/	/	/	/	/	/
Ice storm	16	<b>190</b>	0	3	2	3 (high)
Accidents involving dangerous substances	Up to 5	<b>Up to 200</b>	0	3	1	2 (medium)
Accidents at sea	1	<b>10</b>	0	2	4	2 (medium)
Cyber risks	0	<b>Up to 50</b>	0	2	5	2 (medium)
Diseases and pests affecting forest trees	Has not been exactly assessed	Has not been exactly assessed	0	2	4	2 (medium)

The value written in bold letters presents the representative value of the impact on people and the value included in the risk matrices for the impact on people.

The worst consequences of the impact on people would most likely be caused by the Krško Nuclear Power Plant. The worst effects would be seen in the wider power plant area; up to 1.000 people could die and several thousand could be injured (or in this case, mostly exposed to radiation). Between 40.000 and 100.000 people would have to be permanently displaced (relocated). Consequences would also be extremely severe in the event of an influenza pandemic, which represents a hazard of biological, chemical, environmental or unknown origin to human health. Approximately 1.850 people could die and more than half a million could fall ill (perhaps even up to 45% of the population). The fact that not all people would fall ill or die in a couple of days is the sole positive side of the influenza pandemic, which is most likely to last from a couple of months to almost a year. An earthquake in the central part of the country, where the situation would turn from normal to chaotic in a matter of seconds, could, based on the findings of the analysis, also have serious consequences: 60 dead, 600 injured and 5,000 people to be permanently displaced. There are a number of other disasters where the impact of the disaster on people could be significant, above all an aircraft accident (plane crash over a city), a terrorist attack and floods. Based on their representative risk scenarios, some disasters would have no impact on people (drought and highly contagious animal diseases). In terms of likelihood, the most problematic disasters are cyber threats (the consequences of the representative risk scenario would not be very severe - up to 50 sick people), accidents at sea, large wildfires, railway accidents and diseases and pests affecting forest trees, while nuclear accidents and accidents involving dangerous substances are the least problematic. Taking into account the impacts on people and the level of likelihood, the hazards of biological, chemical, environmental or unknown origin to human health (influenza pandemic), aircraft accidents and terrorist attacks present the

highest – very high risk, while disasters such as earthquake, ice storm and floods, present a high risk. From this viewpoint, far less problematic are nuclear accidents, accidents involving dangerous substances, railway accidents, cyber threats, diseases and pests affecting forest trees, accidents at sea, large wildfires and radiological accidents.

The average value of the impacts of all disasters on people (included are only those disasters for which representative scenarios also cause impacts on people) is 3.14.

Table 20: Consequences according to the representative risk scenarios – economic and environmental impacts and impacts on cultural heritage

Disaster	Amount of damage and costs in EUR	Level of impacts	Likelihood	Risk level
Earthquake	At least 8.35% of GDP in 2014 (EUR 3,024,575,073.00)	5	2	3 (high)
Floods	1.52% of GDP in 2014 (EUR 551,000,000.00)	4	3	4 (very high)
Hazards of biological, chemical, environmental or unknown origin to human health	Not assessed in detail, but more than EUR 100 million	2	3	2 (medium)
Highly contagious animal diseases	At least 0.008% of GDP in 2014 (at least EUR 3,023,328.00)	1	4	1 (low)
Nuclear accident	Not assessed in detail, but more than 2.4% of GDP in 2014	5	1	2 (medium)
Radiological accident	Not assessed in detail, but less than EUR 100 million	1	3	1 (low)
Railway accident	0.004% of GDP in 2014 (EUR 1,577,000.00)	1	4	1 (low)
Aircraft accident	0.79% of GDP in 2014 (EUR 288,926,206.50)	3	3	3 (high)
Large wildfire	0.011% of GDP in 2006 (EUR 3,901,028.00)	1	5	1 (low)
Terrorism	0.31% of GDP in 2014 (EUR 113,154,271.00)	2	3	2 (medium)
Drought	0.36% of GDP in 2014 (EUR 128,400,000.00)	2	3	2 (medium)
Ice storm	1.31% of GDP in 2014 (EUR 475,601,800.00)	4	2	3 (high)
Accidents involving dangerous substances	Not assessed in detail, but more than 0.6% of GDP in 2014	3	1	2 (medium)
Accidents at sea	0.28% of GDP in 2017 (EUR 120,000,000.00)	2	4	2 (medium)
Cyber risks	0.14% of GDP in 2016 (EUR 57,820,000.00)	1	5	1 (low)
Diseases and pests affecting forest trees	Not assessed in detail, but more than 0.6% of GDP in 2017	3	4	3 (high)

The economic and environmental impacts on cultural heritage encompass a long list of impacts (described in Chapter 2 of this assessment) which are all commonly assessed through the amount of damage and expenses. The differences in the quality of data on damage and expenses which represent the economic and environmental impacts and the impacts on cultural heritage are the greatest among individual risk assessments for individual disasters given the diversity of the consequences of individual disasters, the quality and the accessibility of the available data and also the experience with these disasters. Among the addressed accidents, a nuclear accident in the Krško Nuclear Power Plant would most likely have the greatest impacts. However, as these impacts are difficult to imagine and as they include all areas, they have not been assessed in detail. An earthquake in the central part of the country (in the area of Ljubljana) of EMS intensity VII-VIII would cause more than EUR 3 billion worth of damage (which is more than 8% of GDP from 2014), taking into account only damage to buildings and excluding all other impacts, for example the costs of medical treatment of injured people, costs of emergency response operations by protection, rescue and relief forces, economic damage resulting from the termination of economic activities of companies, damage to infrastructure and other facilities, social security costs, etc., and also damage due to possible chains of disasters (fires, explosions, etc.) which are likely to occur. In terms of impacts, these disasters fall within the group of disasters with the highest level of impacts. A considerable amount of expenses and damage were also incurred by the February 2014 ice storm — almost half a billion EUR. This classifies ice storms in level 4 of economic and environmental impacts and impacts on cultural heritage, next to floods, with the damage in the event of disastrous floods possibly even somewhat higher. Disasters with the medium level of impact include accidents involving dangerous substances (although the damage and expenses have not been assessed in detail), and aircraft accidents, which could cause the damage of almost EUR 300 million (0.79% of GDP from 2014), mostly due to the loss of an aircraft. Similar is true for diseases and pests affecting forest trees, for which the estimated costs and damage due to the large potential extent of the removed and attacked trees are relatively high, although the damage and costs were not accurately assessed. A terrorist attack and hazards of biological, chemical, environmental or unknown origin to human health (influenza pandemic), accident at sea and drought would cause less damage and expenses. Nevertheless, the damage would still exceed EUR 100 million. Cyber threats would cause less damage (approximately EUR 58 million, which is 0.14% of GDP from 2016), whereas a radiological accident, a railway accident, highly contagious animal diseases and wildfires would cause the least damage. In some of those cases, the damage would only just exceed one million EUR. This applies in particular to disasters affecting smaller areas, such as railway accidents and perhaps also radiological accidents.

In terms of likelihood or frequency of the addressed accidents, certain disasters for which the assessed likelihood is higher should be given greater attention. These principally include cyber threats, large wildfires, accidents at sea, railway accidents, diseases and pests affecting forest trees and highly contagious animal diseases. Taking into account the extent of economic and environmental impacts and impacts on cultural heritage and their likelihood, only floods present very high risk, while some disasters are categorised as high-risk disasters (earthquake, diseases and pests affecting forest trees, ice storm, aircraft accident). Even though the impacts of a nuclear accident are the most pronounced, such disaster, together with some other disasters, is categorised as a medium-risk disaster due to the very low likelihood of its occurrence. The following disasters have the lowest (low) level of risk: cyber threats, radiological accident, railway accident, highly contagious animal diseases and

large wildfires. The likelihood of the last three of them is relatively high, which applies in particular to large wildfires.

The average value of the impacts of all disasters in terms of economic and environmental impacts and impacts on cultural heritage is 2.50.

Due to their character alone, political and social impacts are much more difficult to assess. These impacts are evident from Chapter 2 of this assessment. Certain disasters cause all types of political and social impacts: these include a nuclear accident (it would cause impacts which are even difficult to imagine), and also an earthquake, floods and ice storm, and partly also cyber threats. Other disasters, on the other hand, cause only specific groups of impacts or even only individual impacts within groups of political and social impacts. The analysis of the representative risk scenario for the event of drought did not even detect these impacts.

Table 21: Consequences or representative risk scenarios – political and social impacts

Disaster	Value of impacts	Level of impacts	Likelihood	Risk level
Earthquake	3.67	4	2	3 (high)
Floods	3.86	4	3	4 (very high)
Hazards of biological, chemical, environmental or unknown origin to human health	3.00	3	3	3 (high)
Highly contagious animal diseases	1.58	2	4	2 (medium)
Nuclear accident	Were not assessed in detail	5	1	2 (medium)
Radiological accident	Were not assessed in detail	1	3	1 (low)
Railway accident	1.00	1	4	1 (low)
Aircraft accident	1.90	2	3	2 (medium)
Large wildfires	1.58	2	5	2 (medium)
Terrorism	2.16	2	3	2 (medium)
Drought	/	/	/	/
Ice storm	2.64	3	2	3 (high)
Accidents involving dangerous substances	2.50	3	2	2 (medium)
Accidents at sea	2.08	2	4	2 (medium)
Cyber risks	2.47	2	5	2 (medium)
Diseases and pests affecting forest trees	Were not assessed in detail	2	4	2 (medium)

As evident from the previous table, political and social impacts of accidents are somewhat lower in comparison to the impacts on people, economic and environmental impacts and impacts on cultural heritage. However, there are exceptions (for example cyber threats). The highest possible values and levels of those impacts were estimated for nuclear accidents, followed by floods and earthquakes. Four disasters were listed in impact level 2, three disasters in impact level 3, and two disasters in the lowest level of impacts (low risk).

In terms of the likelihood or frequency of the addressed disasters, more attention should be given to some disasters for which the assessed likelihood is higher; these are above all cyber threats, large wildfires, accidents at sea, railway accidents, diseases and pests affecting forest trees, and highly contagious animal diseases, all of which are disasters with mostly less pronounced political and social impacts. Taking into account both the height of political and social impacts and their likelihood, only floods present the highest risk (very high), while some disasters are classified as high-risk disasters (earthquake, ice storm, hazards of biological, chemical, environmental or unknown origin to human health). Even though the impacts of a nuclear accident are the most pronounced, its low likelihood classifies it as a medium-risk level disaster, together with eight other disasters. These also include cyber threats and large wildfires, the two risks with the highest assessed likelihood among all disasters. The lowest risk level (low) is attributed to radiological and railway accidents.

Based on the values established (without drought, diseases and pests affecting forest trees, nuclear and radiological accidents), the average value of political and social impacts of all disasters stands at 2.37, whereas according to the allocated impact levels (without drought), the average level stands at 2.53.

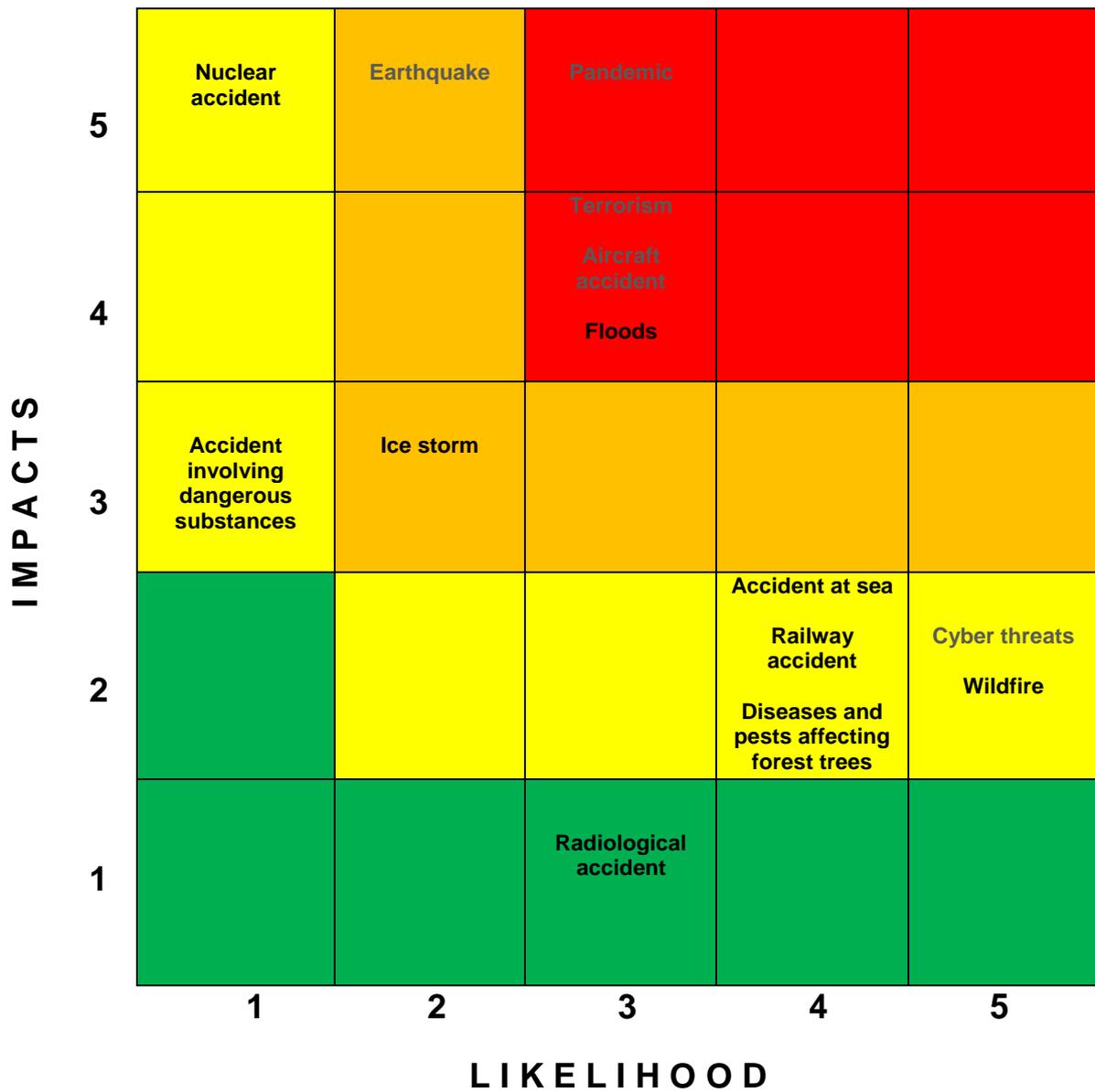
Responsible authorities assessed the reliability of both, risk scenarios and risk analyses. No quantitative criteria were prepared to this end, and each responsible authority assessed the reliability of risk scenarios or risk analyses subjectively. In principle, risk scenarios are as reliable as risk analyses. However, due to certain limitations (lack of experience with some severe disasters, especially those which either have not yet occurred in the Republic of Slovenia or which have not occurred in a long time; inappropriate or incomplete data for risk analyses, and the like), risk analyses can be less reliable than risk scenarios. The reliability of risk analyses usually depends above all on the knowledge of disasters, the correctness and reliability of risk scenarios, the frequency of occurrence of the addressed disasters, and the scope, relevance and quality of data used in risk analyses. The colour of the disaster record in risk matrices depends on the reliability of risk analyses. Responsible authorities attributed the medium level of reliability to eight representative risk scenarios and the associated risk analyses, and a relatively high level of reliability to eight others.

Table 22: Representative risk scenarios — the values and levels of impact, likelihood, risk and reliability

Disaster	Impacts on people	Economic and environmental impacts and impacts on cultural heritage	Political and social impacts	Average (overall) value of all three impacts	Average (overall) level of all three impacts	Likelihood	Risk level	Reliability of risk analysis
Earthquake	5	5	4	4.33	4	2	3 (high)	Moderately reliable
Floods	4	4	4	4.00	4	3	4 (very high)	Relatively reliable
Hazards of biological, chemical, environmental or unknown origin to human health	5	2	3	3.33	3	3	3 (high)	Moderately reliable
Highly contagious animal diseases	/	1	2	1.50	2	4	2 (medium)	Moderately reliable
Nuclear accident	5	5	5	5.00	5	1	2 (medium)	Relatively reliable
Radiological accident	1	1	1	1.00	1	3	1 (low)	Relatively reliable
Railway accident	2	1	1	1.33	1	4	1 (low)	Relatively reliable
Aircraft accident	4	3	2	3.00	3	3	3 (high)	Moderately reliable
Large wildfire	2	1	2	1.67	2	5	2 (medium)	Relatively reliable
Terrorism	4	2	2	2.67	3	3	3 (high)	Moderately reliable
Drought	/	2	/	2.00	2	3	2 (medium)	Moderately reliable
Ice storm	3	4	3	3.33	3	2	3 (high)	Relatively reliable
Accidents involving dangerous substances	3	3	3	3.00	3	1	2 (medium)	Relatively reliable
Accidents at sea	2	2	2	2.00	2	4	2 (medium)	Relatively reliable
Cyber risks	2	1	2	1.67	2	5	2 (medium)	Moderately reliable
Diseases and pests affecting forest trees	2	3	2	2.33	2	4	2 (medium)	Relatively reliable

All the addressed disasters, their separate and overall (average) impacts and the likelihood and reliability of the associated risk analyses, are graphically presented in four national disaster risk matrices.

Figure 1: NATIONAL DISASTER RISK MATRIX 2018 – IMPACTS ON PEOPLE

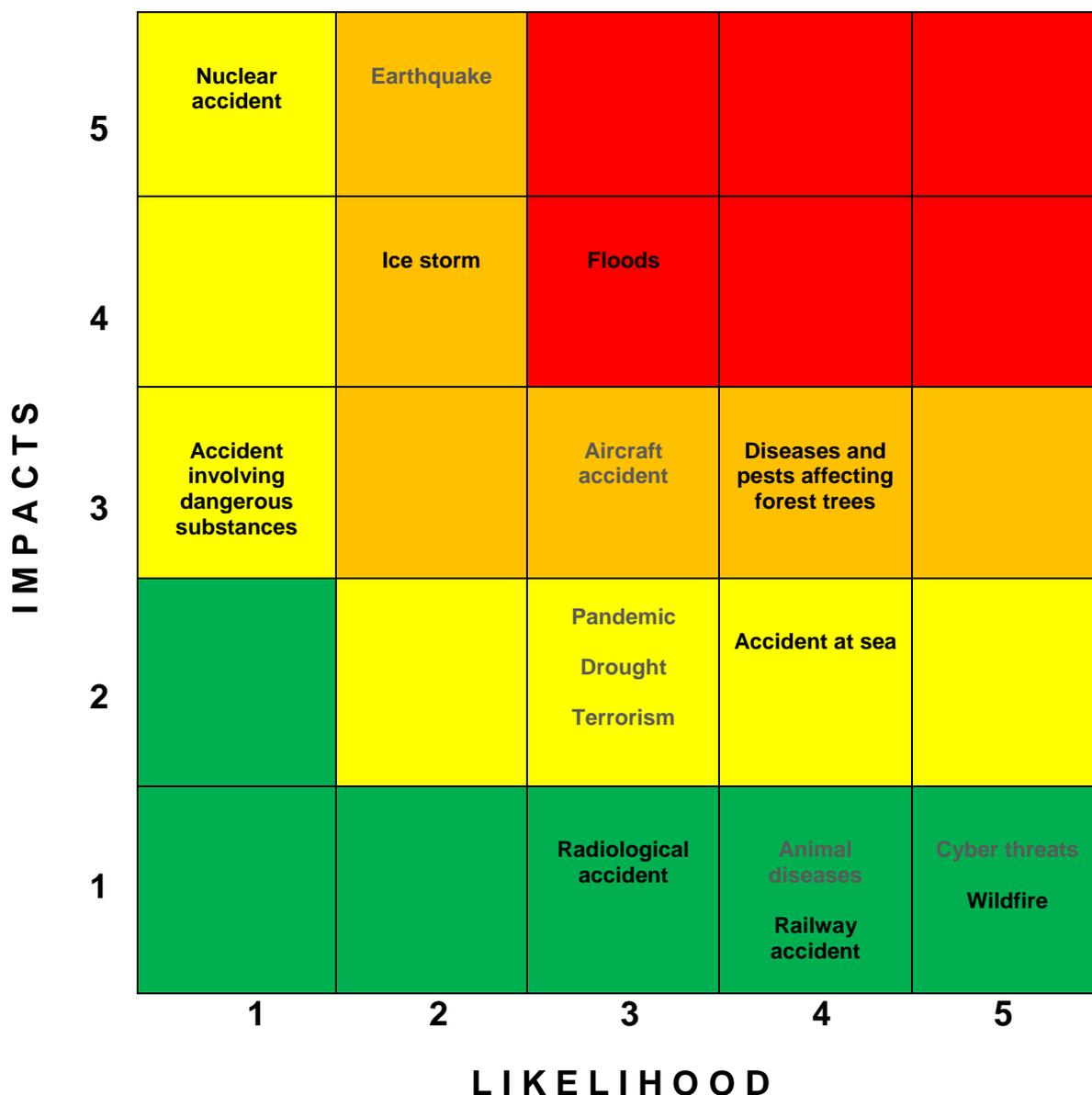


LEVELS OF IMPACT AND LIKELIHOOD	
5	Very high
4	High
3	Medium
2	Low
1	Very low

LEVELS OF RISK	
	Very high
	High
	Medium
	Low

RELIABILITY OF RESULTS OF RISK ANALYSES	THE COLOUR OF THE ENTRY IN RISK MATRIX
Relatively reliable	Black
Moderately reliable	Dark grey
Relatively unreliable	Light grey

Figure 2: NATIONAL DISASTER RISK MATRIX 2018 – ECONOMIC AND ENVIRONMENTAL IMPACTS AND IMPACTS ON CULTURAL HERITAGE

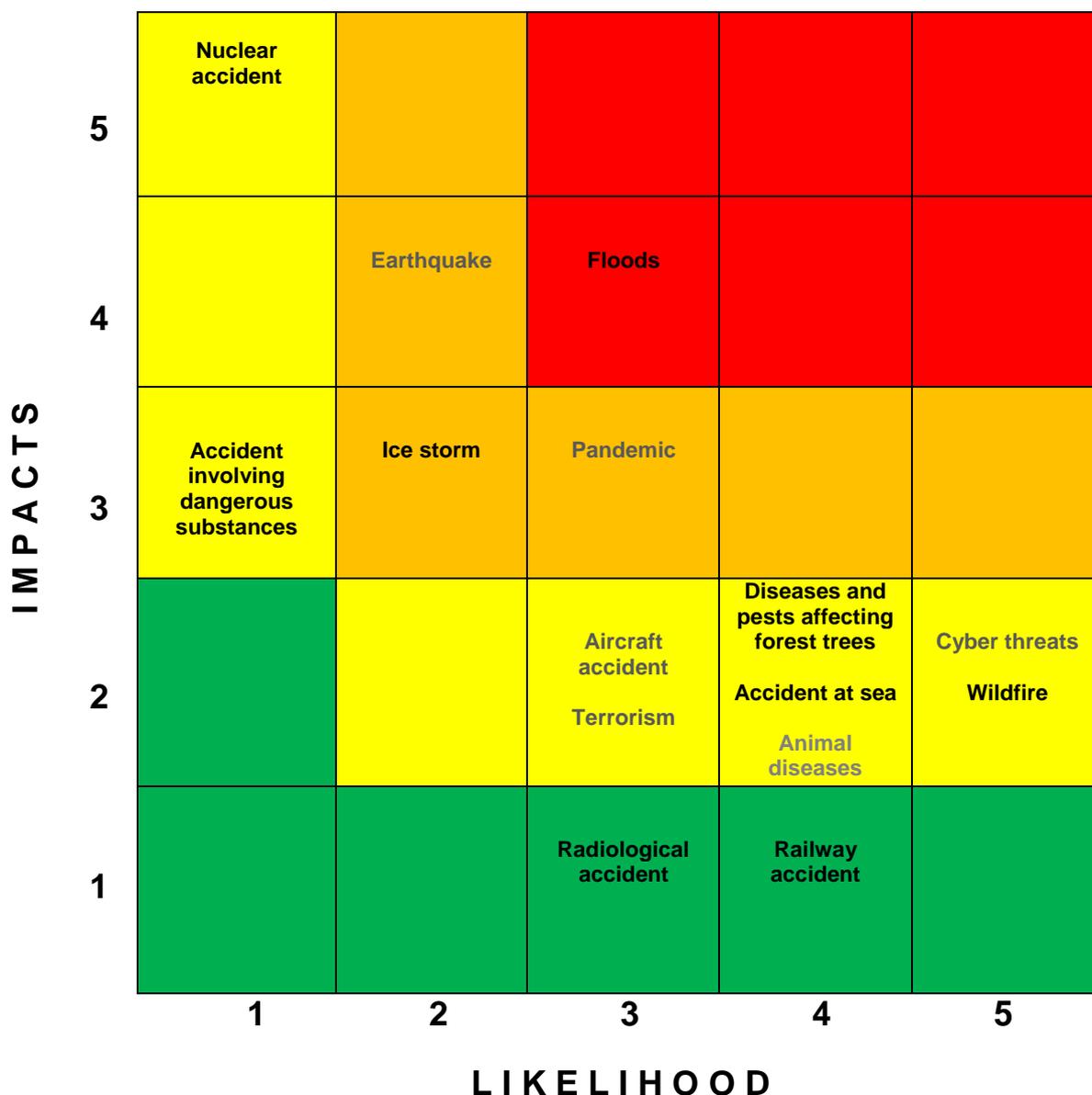


LEVELS OF IMPACT AND LIKELIHOOD	
5	Very high
4	High
3	Medium
2	Low
1	Very low

LEVELS OF RISK	
	Very high
	High
	Medium
	Low

RELIABILITY OF RESULTS OF RISK ANALYSES	THE COLOUR OF THE ENTRY IN RISK MATRIX
Relatively reliable	Black
Moderately reliable	Dark grey
Relatively unreliable	Light grey

Figure 3: NATIONAL DISASTER RISK MATRIX 2018 – POLITICAL AND SOCIAL IMPACTS

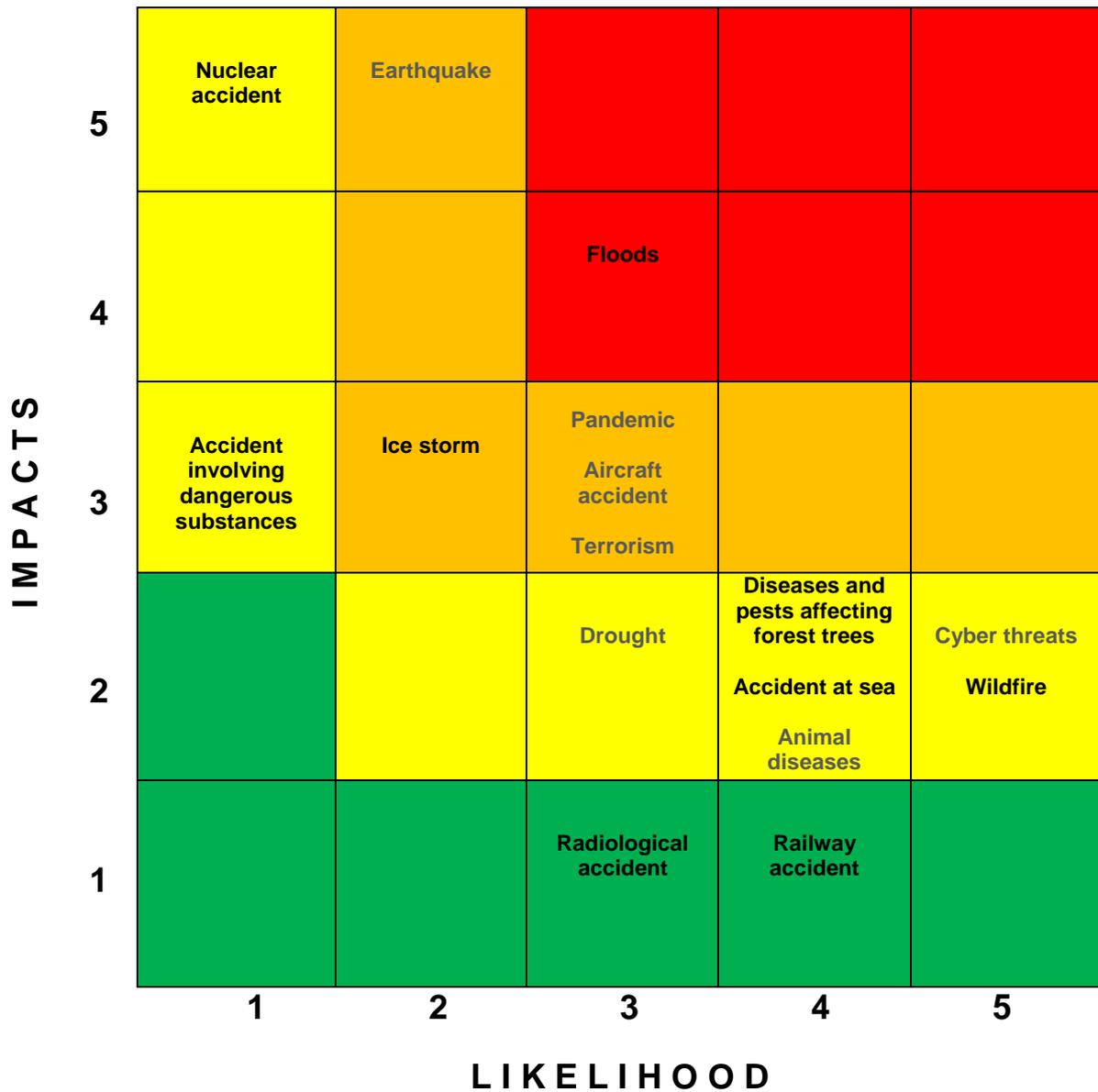


LEVELS OF IMPACT AND LIKELIHOOD	
5	Very high
4	High
3	Medium
2	Low
1	Very low

LEVELS OF RISK	
	Very high
	High
	Medium
	Low

RELIABILITY OF RESULTS OF RISK ANALYSES	THE COLOUR OF THE ENTRY IN RISK MATRIX
Relatively reliable	Black
Moderately reliable	Dark grey
Relatively unreliable	Light grey

Figure 4: NATIONAL DISASTER RISK MATRIX 2018 – OVERALL PRESENTATION OF IMPACTS



LEVELS OF IMPACT AND LIKELIHOOD	
5	Very high
4	High
3	Medium
2	Low
1	Very low

LEVELS OF RISK	
	Very high
	High
	Medium
	Low

RELIABILITY OF RESULTS OF RISK ANALYSES	THE COLOUR OF THE ENTRY IN RISK MATRIX
Relatively reliable	Black
Moderately reliable	Dark grey
Relatively unreliable	Light grey

In the previous tables in this chapter, the disasters were listed in the same order as on the list of disasters in Annex 2 of the Decree. However, in the table below, disasters are listed as regards the scope of impacts, their likelihood and level of risk.

Table 23: The classification of disasters in respect to their level of risk, the values and levels of impacts and likelihood of the disaster, taking into account the representative risk scenarios

Disaster	Impacts on people	Economic and environmental impacts and impacts on cultural heritage	Political and social impacts	Average (overall) value of all three impacts	Average (overall) level of all three impacts	Likelihood	Risk level	Reliability of risk analysis
Floods	4	4	4	4.00	4	3	4 (very high)	Relatively reliable
Earthquakes	5	5	4	4.33	4	2	3 (high)	Moderately reliable
Hazards of biological, chemical, environmental or unknown origin to human health	5	2	3	3.33	3	3	3 (high)	Moderately reliable
Aircraft accident	4	3	2	3.00	3	3	3 (high)	Moderately reliable
Terrorism	4	2	2	2.67	3	3	3 (high)	Moderately reliable
Ice storm	3	4	3	3.33	3	2	3 (high)	Relatively reliable
Nuclear accident	5	5	5	5.00	5	1	2 (medium)	Relatively reliable
Accidents involving dangerous substances	3	3	3	3.00	3	1	2 (medium)	Relatively reliable
Cyber risks	2	1	2	1.67	2	5	2 (medium)	Moderately reliable
Large wildfire	2	1	2	1.67	2	5	2 (medium)	Relatively reliable
Diseases and pests affecting forest trees	2	3	2	2.33	2	4	2 (medium)	Relatively reliable
Accidents at sea	2	2	2	2.00	2	4	2 (medium)	Relatively reliable
Highly contagious animal diseases	/	1	2	1.50	2	4	2 (medium)	Moderately reliable
Drought	/	2	/	2.00	2	3	2 (medium)	Moderately reliable

Disaster	Impacts on people	Economic and environmental impacts and impacts on cultural heritage	Political and social impacts	Average (overall) value of all three impacts	Average (overall) level of all three impacts	Likelihood	Risk level	Reliability of risk analysis
Railway accident	2	1	1	1.33	1	4	1 (low)	Relatively reliable
Radiological accident	1	1	1	1.00	1	3	1 (low)	Relatively reliable

The national disaster risk matrix representing a joint overview, i.e. an overview of all impacts and likelihoods of all assessed disasters, and also the table above, show that floods represent the highest risk in the Republic of Slovenia. With regard to the common and individual impacts and also with regard to likelihood, floods do not reach the highest, i.e. the fifth level. Nonetheless, the combination of the scope of the impacts of floods and their likelihood gives them a very high risk level, which is marked in the matrix by red fields. The impacts are even greater in the event of a nuclear accident or an earthquake, but the likelihood of their occurrence is much lower, which makes their level of risk lower than the level of risk for floods. The opposite applies to large wildfires, which have a high likelihood, but their impacts are less pronounced, which makes them less threatening than floods. Similar is true for cyber threats.

High risk indicated by the orange-coloured fields refers to disasters, such as hazards of biological, chemical, environmental or unknown origin to human health, aircraft accidents and terrorism. The first two are specific accidents which are difficult to manage and predict. In case of the third accident (terrorism) which, in terms of the occurrence or likelihood, does not follow a natural cycle or for which the likelihood of the occurrence also depends on external factors, not much can be done in terms of preventive measures and the reduction of the likelihood and the scope of impacts. Ice storm also represents high risk.

The medium-level risk indicated in risk matrices by yellow-coloured fields includes disasters such as nuclear accidents and accidents involving dangerous substances, primarily owing to the scope of the impacts that can result from such accidents. The same category also includes drought, diseases and pests affecting forest trees, highly contagious animal diseases, accidents at sea, large wildfires and cyber threats. With the exception of drought, greater focus in these accidents lies above all on the likelihood or the frequency of their occurrence.

The lowest (low) risk was established for a railway and radiological accident, even though the relatively high level of the assessed likelihood, especially for the first one, should not be neglected.

Risk assessments for individual disasters are public documents and are published on the websites of ministries which developed them. The only exception is the Risk Assessment for Terrorism, which is classified as restricted and is therefore not publicly available. It is only available for view at the Ministry of the Interior.

The National Disaster Risk Assessment is also publicly available, both at the seat of the ACPDR as the National Coordinating Body as on the ACPDR's website.

## 4 Conclusions

A unified and coordinated approach to disaster risk assessment is an important foundation for the understanding of disasters as a phenomenon, especially with regard to the assessment of the scope of their impacts and likelihood. The National Disaster Risk Assessment, Version 2.0, presents and compares the risks of 12 types of disasters (earthquake, flood, hazards of biological, chemical, environmental or unknown origin to human health, highly contagious animal diseases, nuclear or radiological accident, railway accident, aircraft accident, drought, large wildfire, terrorism, ice storm, accidents involving dangerous substances) which were identified in 2015 on the basis of risk assessments for individual disasters. In 2016, certain risk assessments for individual disasters were amended taking into consideration the impacts of future climate change (Risk Assessment for Floods, Risk Assessment for Drought, Risk Assessment for Large Wildfires, and to a lesser extent, Risk Assessment for the Outbreak of Highly Contagious Animal Diseases and Risk Assessment for the Hazards of Biological, Chemical, Environmental or Unknown Origin to Human Health). The Risk Assessment for Ice Storms was also amended, even though according to current knowledge in this area, future climate change will most likely have no significant negative or additional impact on the occurrence of ice storms. In 2018, three new risk assessments for individual disasters were prepared (Risk Assessment for Cyber Threats, Risk Assessment for Accidents at Sea, Risk Assessment for Diseases and Pests Affecting Forest Trees), whereas the Risk Assessment for Nuclear and Radiological Accidents was amended. Some minor amendments were also made to some other summaries of risk assessments for individual disasters, although the responsible authorities did not amend these assessments.

The national disaster risk matrix representing a joint overview, i.e. an overview of all impacts and likelihoods of all the assessed disasters, represent the highest risk in the Republic of Slovenia. Due to the combination of their impact levels and the likelihood of their occurrence, floods constitute a very high risk level. In the risk matrices, such risk is indicated by the red-coloured fields. The impact is also the reason for very high relevance of nuclear accidents and earthquakes, although their likelihood is much lower. In terms of their likelihood and frequency of occurrence, large wildfires and cyber risks represent a greater risk than floods. However, their impacts are much lower than those of the disasters with the highest impacts, at least with regard to representative risk scenarios. Similar is true for cyber risks or threats.

A high risk indicated in risk matrices by the orange-coloured fields refers to disasters such as hazards of biological, chemical, environmental or unknown origin to human health, aircraft accidents and terrorism. The first two types of disasters are specific and are difficult to manage or predict. With regard to the third type (terrorism), given its frequency or likelihood of its occurrence which lack a natural cycle, not much can be done in the area of preventive measures and the reduction of the likelihood of its occurrence and the scope of its impacts. Ice storm also represents high risk.

The medium-level risk indicated in risk matrices by yellow-coloured fields includes disasters such as nuclear accidents and accidents involving dangerous substances, primarily owing to the scope of the impacts that can result from such accidents. This group also includes drought, highly contagious animal diseases, and especially accidents at sea, large wildfires, diseases and pests affecting forest trees and cyber threats.

Disasters with the lowest identified risk level (low) are radiological and railway accidents, although the relatively high likelihood of their occurrence, especially for the latter, should not be neglected.

Risk assessments for disasters are constantly being amended. The National Disaster Risk Assessment should be amended every three years, which means that the next amendment is expected to take place in 2021, with the assessment version 2.0 serving as a basis. The amendments mostly include the findings of risk assessments for individual disasters, which will be developed after 2018, and later also the amendments of the existing risk assessments for individual disasters. During the preparation of this version of the National Disaster Risk Assessment, legislative procedures are under way at the level of EU with regard to changes to the EU Civil Protection mechanism. Consequently, certain changes are possible in the future, especially in terms of deadlines.

In carrying out the activities below, the greatest attention should be paid primarily to those disasters which have the highest impacts and likelihood or frequency of occurrence. They primarily represent very high and high risk and include disasters such as floods, hazards of biological, chemical, environmental or unknown origin to human health, terrorism, aircraft accidents, ice storms, and earthquakes. Attention should also be paid to disasters with either high impacts (which means that when such disasters occur, they cause serious consequences) or high likelihood (that is, such disasters cause frequent damage). Such disasters include for example large wildfires, railway accidents, accidents at sea, cyber threats, highly contagious animal diseases and nuclear accidents. However, this does not mean that the rest of the disasters presented in the National Disaster Risk Assessment, or other disasters which are not included in this assessment, should be neglected. Activities within the above areas should be adapted to each particular disaster, according to its characteristics and consequences caused. With certain disasters, this should also take into account the impacts and consequences of current and future climate change.

The disaster risk assessments can form the basis for activities in several areas, especially for the following:

- Planning of risk management for the purposes of prevention and preparedness;
- Implementation of appropriate measures for the prevention against risks and preparedness;
- Development of disaster risk management capability assessments;
- Development of financial strategies for preventive measures aimed at preventing or reducing the potential for the occurrence of disasters, and also at emergency response measures, relief and elimination of the disaster consequences (financial basis for disaster risk management);
- Identification of priority investments for reducing the possibility of disasters or their consequences;

- Public investments planning;
- Social protection planning;
- The development of threat assessments and disaster response plans;
- Identification of gaps in protection, rescue and relief forces and resources, and the planning of the manning and augmentation of protection, rescue and relief forces and resources.
- Spatial planning.

Risk assessments for individual disasters are public documents and are published on the websites of ministries which developed them. The only exception is Risk Assessment for Terrorism, which is classified as restricted and is therefore not publicly available. The National Disaster Risk Assessment can also be seen by the public, both at the seat of the Administration for Civil Protection and Disaster Relief as the National Coordinating Body and on their website.