

## • NATURAL AND TECHNOLOGICAL HAZARDS

### Key questions and key findings

What is the trend in the number of events that negatively impact the environment?

- Number of events of extraordinary deterioration of water quality (EDW) showed fluctuating characteristics with 2 388 events over the monitored period of 1993-2012. In the period of 2000-2012, the least number of reported EDW occurred in 2001 (71), and most in 2003 (176). In 2012 there was a slight increase compared to the previous year.
- 65 events of extraordinary deteriorations of air quality were detected in the period of 1993-2007. Over the last five years the Slovak Environmental Inspection Authority (SEI) has not detected any event leading to deteriorated air quality.
- In the period of 1993-2012, 216 800 fires were reported in Slovakia. The number of casualties over this period was 1 096, with 3 819 injured persons. In the period of 2000 - 2012, fires showed fluctuating characteristics and in none of these years the number dropped below 8 000. In 2012, there was a small increase compared to the previous year with the numbers copying those in 2007.

What is the trend in the consequences of events that negatively impact the environment?

- Total direct damage caused by fires in 2012 increased compared to the previous year. The extent of damage over the period of 1993-2012 reached the value of 551.129 mil. Eur with the most extensive damage detected in 2012 (69.148 mil. Eur). In the period of 2000-2012, the extent of damage caused by fires did not drop below 15.000 mil. Eur.
- Total costs and the damage relating to the floods of 2012 reached 3.27 mil. Eur, which is approximately the value recorded in 2007. Over the monitored period of 1998-2012, total costs and damage amounted to 1 111.2 mil. Eur with the least damage caused in 2003. The most devastating floods were reported in 2010.

### Accidental deterioration of water quality

In 2012, the Slovak State Environmental Inspection statistics showed slight increase in the number of events and recorded 117 emergency deteriorations or threats to water quality (EDW). Of all recorded events, 67 were cases relating to surface water, and 50 were cases of threats or contamination of ground water.

#### Special declination or quality menace of water of the SR in the years 1993, 2000-2012

Year	EDW recorded by SEI	Special deterioration of water					
		Total number	Surface Watercourses and basins	Water courses	Total number	Ground Pollution	Endangerment
1993	142	95	3	12	47	10	37
2000	82	55	2	9	27	3	24
2001	71	46	1	4	25	1	24
2002	127	87	1	6	40	5	35
2003	176	134	2	3	42	0	42
2004	137	89	1	10	48	11	37
2005	119	66	2	5	53	2	51
2006	151	94	0	3	57	6	51
2007	157	97	1	4	60	4	56
2008	102	49	0	6	53	4	49
2009	101	50	1	3	51	7	44

2010	100	42	0	2	58	2	56
2011	115	59	2	5	56	1	55
2012	117	67	0	7	50	2	48

Source: SEI

Compared to the previous year, the number of EDW caused by crude oil compounds and other compounds declined, with wastewater and other toxic substances staying at the level of last year. Caustic substances, insoluble substances, and the excrements of livestock caused increase in the number of EDW. In fourteen cases it was impossible to detect the type of the harmful or very harmful agent.

#### Progress in number of EDW according to the sort of WDS in the years 1993, 2000–2012

Sorts of water deteriorative Substances (WDS)	1993	2000	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Oil substances	70	33	64	59	70	63	69	76	65	65	60	76	66
Alkalis	5	2	5	3	1	0	3	4	2	0	3	0	1
Pesticides	2	0	1	0	3	0	2	0	0	0	0	0	0
Excrements of farm animals	8	5	9	21	15	14	14	12	7	2	10	10	13
Silage fluids	0	4	2	1	1	0	0	0	0	0	0	0	0
Industrial fertilisers	0	0	0	1	0	0	0	0	0	0	1	0	0
Other toxic substances	5	12	3	3	0	4	4	5	2	1	1	3	3
Insoluble substances	11	5	6	11	3	4	3	3	2	2	4	0	3
Waste water	8	10	17	35	20	10	28	24	15	17	12	14	14
Other substances	4	2	3	7	10	8	6	7	3	1	6	7	3
Water detrimental substances impossible to determine	29	9	17	35	14	10	22	24	6	1	3	5	14

Source: SEI

Besides, in 2012 most EDW were caused by humans (including traffic accidents caused by drivers) and inadequate technological state of equipment and facilities handling harmful or very harmful substances.

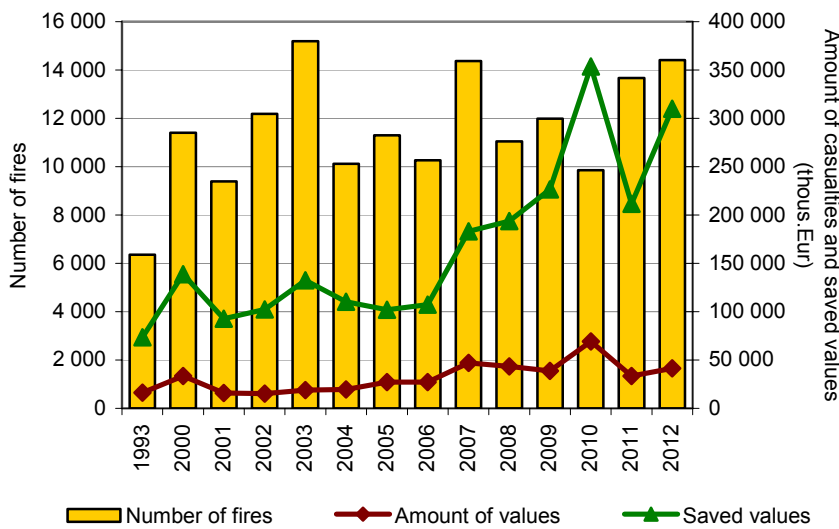
## Fire risk

In 2012, Slovakia reported 14 413 fires, which is 736 cases more than in the previous year. As a consequence of these fires, 44 persons died (12 less than in the year before) and 232 people sustained various types of injuries (which is 35 people less). Direct material damage reached 41 394.5 thous. Eur, while the volume of preserved values was calculated at 309 865.6 thous. Eur.

In terms of damage caused by fires in individual economic sectors, **most fires occurred in agriculture** – 2 129 with the damage amounting to 1 745.1 thous. Eur, two casualties, and 7 injured persons. 1 985 fires occurred in the sector of **household management**, killing 25 and injuring 138 persons. Direct material damage reached the value of 7 361.1 thous. Eur. In terms of fire statistics, **transport** shows the third greatest number of fires – 1 279, occasioning direct material damage at 6 027.1 thous. Eur, killing 9 persons and injuring 22.

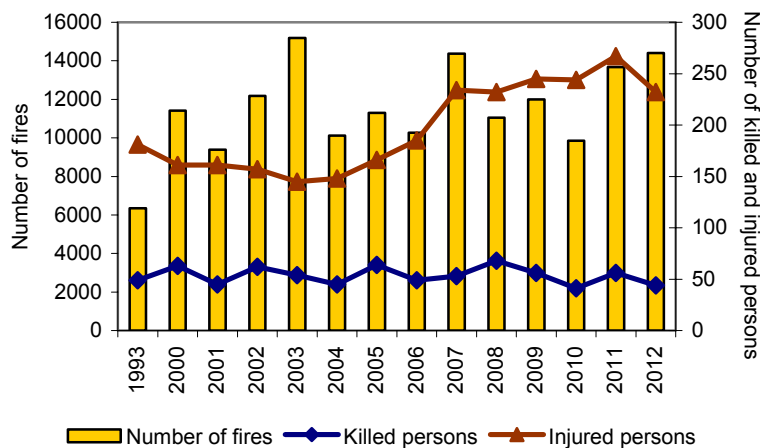
From the perspective of administrative distribution of territory, **most fires** occurred in 2012 in the Košice region (2 927), while **least** fires were recorded in the Trenčín region (1 172). **Greatest damage** due to the occurrence of fires was recorded in the Košice region (12 801.9 thous. Eur) and the **least** in the Nitra region (2 252.2 thous. Eur).

**Relationship between number of fires and number of casualties or amount of saved values in 1993, 2000-2012**



Source: FPRS Mol SR

**Relationship between number of fires and number of killed or injured persons in 1993, 2000-2012**



Source: FPRS Mol SR

**Floods**

In 2012, there were 146 municipalities afflicted with floods, with 269 houses flooded (cellars and basements), 64 non-residential premises flooded, 352.76 ha of flooded agricultural land, 24.00 ha of flooded forestland, and 161.12 ha of flooded municipal land. In total, 140 inhabitants suffered from the aftermath of the floods. There were no casualties reported.

Total cost and damages by floods in the SR in 2012 amounted to 3.27 mil. Eur, including the rescue costs of 0.46 mil. Eur, safety works of 0.37 mil. Eur, and material damage amounted to 2.44 mil. Eur.

Damage to state-owned property caused by floods totaled 0.59 mil. Eur, while damage to private property reached 0.05 mil. Eur. Damage to municipal property reached 0.69 mil. Eur and 0.90 mil. Eur in case of properties belonging to upper regional administrative areas. Damage to the property of legal and natural entities reached 0.21 mil. Eur.

As part of the legislation activities related to Act no. 7/2010 Coll. on flood protection, the Ministry of Environment's **Decree no. 112/2011 Coll.** was approved. This Decree defines details relating to the contents, revisions, and updates to the flood risk management plans. In total, 559 areas with the occurrence of a significant flood risk were defined in Slovakia. These include 378 geographical areas with existing potentially significant risk of floods, and 181 geographical areas with anticipated probable occurrence of a significance flood risk.

#### Floods aftermath over the period of 1998-2012

Year	Number of flood stricken residential	Flooded Territories (ha)	Damages by floods (mil. Eur)	Costs (mil. Eur)		Total costs and damages (mil. Eur)
				Rescue activities	Maintenance and safety activities	
1998	75	3 952	33,34	3,94	1,28	38,56
2000	220	76 494	40,97	0,30	1,84	43,11
2001	379	22 993	65,08	1,90	1,07	68,05
2002	156	8 678	50,64	2,13	1,66	54,43
2003	41	744	1,43	0,19	0,14	1,76
2004	333	13 717	34,91	1,23	3,42	39,56
2005	237	9 237	24,03	2,24	2,67	28,94
2006	512	30 730	47,90	5,98	6,42	60,30
2007	60	339	2,49	0,30	0,21	3,00
2008	188	3 570	39,75	3,59	2,51	45,85
2009	165	6 867	8,41	1,59	1,30	11,30
2010	1 100	103 006	480,85	17,93	27,53	526,31
2011	87	3 076	20,01	2,00	12,58	34,59
2012	146*	538	2,44	0,37	0,46	3,27

\* Number of municipalities with declared III. degree of flood activity

Source: WRI