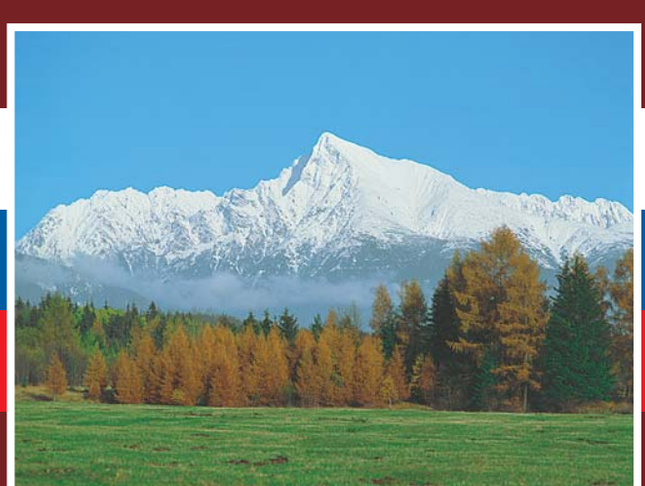
Ministry of the Environment
of the Slovak Republic

STATE OF THE ENVIRONMENT REPORT SLOVAK REPUBLIC 2007



Slovak Environmental Agency

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*Everybody has the right to get prompt and thorough **information on the condition of the environment** and on the reasons and consequences of this condition.*

Article 45 of the Constitution of the Slovak Republic

COMPLEX ENVIRONMENTAL MONITORING AND INFORMATION SYSTEM

• LEGAL OUTCOMES AND CONCEPTS

Environmental monitoring and information technology are built pursuant to Act No. 261/1995 Coll. on state information technology system, concept of the information system of the ministry and in the year 2000 on the resolution of the Slovak government No. 7/2000 on approved concepts of completion of the complex environmental monitoring information system. The goal is to ensure and make available environmental information on the state of environment and involve the public in decision-making processes. This is in line with Act No. 205/2004 Coll. on gathering, maintaining and disseminating information on environment.

• ENVIRONMENTAL MONITORING SYSTEM

The System of environmental monitoring is an indispensable tool to know the environment and ensure environmental care. The System contains partial monitoring systems (PMS) installed at selected centres. The Information monitoring system (IMS, www.enviroportal.sk/ism) with the goal to create a homogeneous, interconnected information unit consisting of partial IMSs. The unit is able to provide most objective report on the actual state of components of environment and due to interconnected databases is generally accessible through the Internet.

PMS	Guarantor	Centre	Monitored subsystem	
Air quality	MoE SR	Slovak Hydro Meteorological Institute	Level of pollution Ground atmospheric level – air above the whole Slovak territory is divided into 2 agglomerations and 8 zones.	
Meteorology and climatology	MoE SR	Slovak Hydro Meteorological Institute	Network of ground synoptic and air stations Network of meteorological radars Meteorological satellite measurements Network of stations with climatology observation programme Network of precipitation measuring stations Network of stations measuring solar radiation and total atmospheric ozone	Network of phenological stations Network of measuring soil temperature and soil humidity Network of measuring in the ground atmospheric level Aerologic station Storm detection station network
Water	MoE SR	Slovak Hydro Meteorological Institute	Surface water quantitative indicators Groundwater quantitative indicators Surface water quality Groundwater quality	Thermal and mineral water Irrigation water Recreational water bodies
Radioactivity	MoE SR	Slovak Hydro Meteorological Institute	Environmental radioactivity - Ground atmospheric level at monitoring sites	
Waste	MoE SR	Slovak Environmental Agency Banská Bystrica	Waste generation and disposal in Slovak Republic Waste reclamation facilities	Waste reclamation facilities Interstate transport of hazardous waste
Biota	MoE SR	SR State Nature Conservancy Banská Bystrica	Fauna Flora	
Geological factors	MoE SR	State Geological Institute of Dionýz Štúr in Bratislava	Landslides and other slope deformities Erosion processes Monitoring of erosion processes Soils of unstable volume Effect of mineral exploitation on environment Change to anthropogenic sediments Stability of rock massifs below historic objects	Anthropogenic sediments buried Tectonic seismic activity of territory Monitoring of snow cap chemical composition Monitoring of seismic phenomena Active alluvial sediments Volume activity of Radon in geological layers
Soil	MoA SR	Soil Science and Conservation Research Institute in Bratislava	Basic network Key locations Special network of sites	Spatial monitoring of agricultural lands Forest land monitoring
Forests	MoA SR	National Forest Centre in Zvolen	Extensive periodical monitoring - 112 permanent monitoring areas Intensive periodical and continuous monitoring – 7 permanent monitoring areas	
Xenobiotic substances	MoA SR	Food Research Institute in Bratislava	Coordinated focal monitoring Consumption pool monitoring	Monitoring of game and fish

Source: MoE SR

Funds invested in environmental monitoring (thous. SKK)

PMS	Year					
	2002	2003	2004	2005	2006	2007
Air quality	28 651	27 600	18 400	16 900	28 971	57 748
Meteorology and climatology	28 300	33 200	35 000	26 031	76 013	29 609
Water	44 434	35 330	24 192	43 717	**44 447**	100 440
Radioactivity	2 668	1 792	1 454	1 500	**2 545**	2 301
Waste	3 500	3 500	3 500	3 800	1 040	4 354
Biota	600	169	600	1 000	1 000	1 000
Geological factors	10 000	10 000	10 000	10 000	10 000	9 000
Soil	9 200	9 200	9 200	9 600	9 100	7 000
Forests	1 720	2 900	2 900	4 400	8 000	17 159
Xenobiotic substances	27 032	28 400	27 381	12 454.2	15 301	8 500
Total costs	**156 105**	**152 091**	**132 627**	**129 402.2**	**196 417**	**237 111**
MoESR costs	118 153	111 591	93 146	102 948	164 016	204 452

Source: MoE SR

• ENVIRONMENTAL INFORMATION SYSTEM

Environmental information system integrates information from environmental monitoring, information from environmental assessment, and spatial information on territory. Other generated information support activities of environment authorities and subjects that enforce legislation within environmental law. These include mainly the Ministry of Environment of the Slovak Republic (MoE SR) and its affiliated organisations, as well as other institutions under different ministries. MoE SR and its daughter organisations maintain other databases, information systems, and internet and intranet portals to support their activities and present their outcomes.

For more information on the organisational structure and pertinent responsibilities, see EnviroInfo meta-information system.

Enviroportal is the gateway to all the mentioned environmental information (www.enviroportal.sk) that gathers data sources through the Ministry's local computer network.

Overview of the major information systems and databases created and maintained at the SR Ministry of Environment, that contain environmental information

Name of Information System	Operator	Description of IS	In operation since*
Information Environmental System (IES)	SEA	Obtains information from the following systems, subsystems, and databases.	
Enviroportál	SEA	Gateway to environmental information with up-to-date reports including information on amendment procedures, together with discussion forums, and information on environment-related, address books, shortcuts, information on projects and other environmental information. See www.enviroportal.sk .	2005
EnviroInfo - metainformation on environment	SEA	Summary information on location of sources, organisation and competencies within the Ministry of Environment. More detailed classification into databases, documents, raster and vector layers of the geographic information systems.	new version since 2005
GEMET Database	SEA	Multi-lingual lexicon of environmental terminology	
Environmental videography	SEA	Internet-based accessible catalogue of films and video programmes featuring the topics of environment composed of the international Envirofilm films. After watching the trailer, it is possible to borrow the film over the internet at no cost.	2005
Information monitoring system (IMS)	SEA	Integrates information from ten partial monitoring subsystems. See the overview above.	1999, new version since 2005
Information system on territory (IST)	SEA	Ensures spatial data needed for decision making within the territory and for spatial interpretation of database-retrieved data. ISÚ as a geographically-based system is a cross-sectional information system that provides support for other information systems. A system-based approach besides the very technological solution comprises also a system of securing all functions and tasks that altogether create conditions for the creation and operation of the National infrastructure of spatial information. It further administers, processes and publishes spatial data on territory, both within the domain of the Ministry of Environment of SR, as well as for the public. The scope of spatial data is determined by the Catalogue of objects at the Ministry of Environment of the SR, while the available spatial data are described in form of standardised metainformation operated by a metainformation system. The IST architecture builds on the principle of mutual interchange of spatial data from distributed data storages within the Ministry of Environment domain, other ministries, as well as all suppliers of spatial data that allow access to their data storages. Within the IST further development, big emphasis is placed on harmonisation with parallel activities on the national as well as international levels, and compliance with the prepared EU Directive for INSPIRE, as well as supply of spatial data through a standardised way, emphasizing the support of interoperability (mutual functional sharing, not dependant on technological platform)	2004
Information system on the		ISS consists of information files, both in text and table formats that describe the state of environment	

state of environment (ISS)		over the recent time period. The information is categorised by environment components, indicators, and years. Some information is assessed in relation to impacts of economic activities. Institutions within and outside of the Ministry supply documentation that the SEA processes into summary reports or overviews of different classification.	
Information system of environment departments and offices (ISEDO)	SEA	ISEDO gradually ensures information support for state administration activities in the area of environmental creation and protection. Therefore, it consists of subsystems defined by duties of the state administration within the area of environment under Act No. 525/2003 Coll. on state administration of environmental protection. This means that regional and local Environment Offices have competencies within the state administration of environment protection and creation, in the following areas: a) water management, protection of water quality and volumes and it rational use, b) nature and landscape protection, c) protection and regulation of trading endangered species of wildlife animals and plants, d) fishing, excluding fisheries, e) air and Earth ozone layer protection, f) waste management, g) packages and packaging waste, h) prevention of major industrial accidents, i) environmental impact assessment There is a connection to specific information systems to support the implementation of individual legislation documents in the area of environment.	2004
Information system of the environmental impact assessment (IS EIA)	SEA	IS on the state, process, and outcomes of environmental impact assessment. Ensures information flow among participants to the EIA process (proponent, pertinent authority, permitting authority, impacted authority, impacted municipality, public, and qualified persons). At the same time is ensures compliance with the Ministry's obligations set forth by Sect. 38 of Act on environmental impact assessment, e.g. providing of information from documents and files. In its content, the information system includes input information on assessed activities within the EIA process, position statements to activities in the EIA process, and lists and information related to pertinent issues. Technically, the system has the form of a web application through which the impacted authorities connect onto the central database. After authorisation and verification steps, they may input their own data as well as retrieve information. The public can in a specific way access data that can be published.	Part dealing with impact assessment of strategic documents in operation since 2003/2006
IS of integrated pollution prevention and control (IPPC)	SEA	After completed, the system will provide information on the status, process, and outcomes of the IPPC permit process, as well as on closely relating activities, including the best available technologies. Creating an IS will secure information support for the execution of state administration activities within the specific area. Meanwhile, this will create a mechanism for collecting, assessment, and supply of information to the public. Pursuant to the IPPC law, state administration is carried out by the Ministry of Environment (MoE SR) and the Slovak Environmental Inspection. (SEI). Environmental authorities represent the affected bodies within the process of licensing as they are the administrative bodies in proceedings governed by individual norms (on air protection, water	first part since 2005

		protection, waste, etc.) merged into a system of integrated licensing. IS IPPC comprises the following parts: - Register of operators and IPPC operations, containing identification data on operations and operators that need the IPPC license - Register of issued integrated licenses - Integrated register of contamination containing data and information supplied every year by operators on their operations, emissions, and outcomes of monitoring. - Register of environmental quality norms for individual sites within the SR - BAT and BREF register containing the best available techniques for individual industrial sectors and types of operations - Register of authorised persons within IPPC Technically, the system has the form of a web application through which the impacted authorities connect onto the central database. After authorisation and verification steps, they may input their own data as well as retrieve information. The public can in a specific way access data that can be published.	
Information system of major industrial accidents (IS MIA)	SEA	Makes available documents relating to the whole process of major industrial accidents prevention, including preparation of their reports for JRC. Comprises 3 registers: - register of business (regulated by the MIA legislation) containing identification data of a company, operator, and a list of selected chemical substances present in the company - register of accidents that supplies information on occurred accidents, their causes, consequences and their troubleshooting - register of authorised persons that contains a list of emergency technicians, list of MIA specialists, and list of authorised personnel	2004
Regional Waste Information System (IS RISOnet)	SEA	Provides for system of gathering data on all areas of waste management activities in the SR, registers of waste generators and keepers, data on waste generation and disposal, as well as records of operators and waste reclamation and elimination facilities, records of landfills, and records of hazardous substances transport. The system has been expanded through creation of modules in order to access data to be used by SEI and Recycling funds. Also, a module for publishing specific information online has been created. RISOnet also contains a module for automatic input of digital data from individual obliged subjects into the information system.	2002
IS Packaging	SEA	IS Packaging constitutes an instrument that serves to monitor partial objectives in the area of waste reclamation and packaging waste recycling.	2005
IS POVAPSYS	SHMI	IS should help through: 1. Increasing the prior forecast and warning time, which will create conditions for better protection of property and lives against floods 2. Ensure more exact and more reliable forecasts and warnings, 3. Ensure a greater number of forecasts for specific time periods and for more sites, 4. Provide outcomes and data available through the Internet or directly by the user. 5. Interconnect information with Hungary, Ukraine, Poland, Czech Republic, Austria, and Germany.	first part since 2005

Hydrological Information System (HIS)	SHMI	Includes Slovak hydrological data by different modes of operation - long-term information on individual network of stations (catalogues), and detected or otherwise acquired hydrological data (registers). Central office is in Bratislava accessed by the SHMI users in Slovakia (Žilina, B. Bystrica, Košice) through user applications (uploads, updates, print administration, overturn administration). Ensures batch saving of sources, interactive update, verification, archiving, statistical processing, and distribution of data through professional data guarantors to the end user.	
Climatology and Meteorology Information System (CMIS)	SHMI	Addresses operational and research activities of all climatology and selected meteorology fields.	
Complex Water Register (CWR)	SHMI	Contains selected information and data on the state of surface and ground water, information on the volume and quality of water formations, data on surface water extraction, on the volume of discharged water, on produced and discharged waste water contamination, acquired from water users through their mandatory notification to SHMI, data on legal water registries, data on protected territories connected to water protection (water courses, major water management courses, etc.)) and annual data on emissions to surface water from operators under legislation on IPPC	
Database of single sources of water contamination	SHMI	Created to store information on location and character of potential sources of contamination of surface and groundwater. Also includes the risk assessment module that allows assigning a risk score to individual sites. The module forms the basis for identification of potential sites that are most hazardous to surface and ground water formations as the result of their non-compliance with environmental objectives.	
National Emission Inventory System (NEIS)	SHMI	Includes information on operators, emissions, and technologies of large and medium-size air pollution sources. Provides: collection of data, imposition of fees and creation of output sets for accredited institutions, including sets needed for international exchange of information on emissions. Included is also a module for the operators of air pollution sources, which allows automated calculation of emissions, supplies the needed data in compliance with legislation, and allows importing data directly into NEIS.	
State Register of Protected Areas	SMNPaS SNC SR	Includes data on graphical layers and databases from the area of spatial and individual protection of flora and fauna, and biotopes of European and national significance (State Register of Protected Areas, SSPA and LSPA, Protected Trees Catalogue, Natura 2000 SK) and their updates, catalogue of increments of Protected Areas (PA) and Protective Zones (PZ), Catalogue on PA and PZ.	gradually since 2002
Databases	SMOPaJ	Protected Bird Territories database (since 2004), Cave Database of Slovak Republic (since 2003), Journal Database System BACH.	
Information system of taxons and biotopes and other nature protection databases	SNC SR	Database of taxons and biotopes (since 2002), Database of Waterfalls (since 2004), database of bear monitoring (since 2003), CITES database (since 2004), Database of barrier components in landscape, Database of introduced and invasive taxons of plants and animals, Database of Europe's significant taxons of animals and plants.	
International species information system and other databases	ZOO Bojnice	International Species Information System Database - international inventory system of animals raised in ZOO, Yearbook of the Union of Czech and Slovak ZOOs.	

Databases	WRI	Water management plans of watersheds (surface and groundwater sources, water demand and regional water management strategies), Water management balance (data on balance assessment profiles, flows and impacts on water utilisation), Hydro-energy potential of watercourses (water bodies constructed, under construction, and planned, large and small aquatic power plants) Database of watercourses, Database of yields and extractions from water sources, Information Water Supplies and Sewerage Systems administered by water management companies and municipal offices, Geographical Information System on drinking water supply and sewerage system installation in Slovak villages in connection to Water Supply and Sewerage Database, Data on Water Management Construction funded from investments, and on operations in Slovakia, Drinking Water Quality Indicators Database, Database of production and qualitative composition of sludge from municipal wastewater treatment plants, its use and elimination, Database of water contamination dealing with organisations, technologies, substances, and their elimination, Database of technological and operation data of wastewater treatment plants, Database of technological and operation data of water treatment plants, Database of surface and groundwater sources, large and small water dams and water management protection zones.	
Databases and the GIS layers	SCA	DSPELEO National database of caves, Hydrological, climatic and bio-speleological monitoring, Geographical Information System of Cave Protection.	
Databases	SMM	BACH and AMIS Collection Database Systems.	
Databases	SEI	Databases from the activities of the inspection for waste, water, air, nature protection, and IPPC.	
Databases and registers	SGI DS	Register of bores (since 2000) and HG wells, abandoned mining sites, slides, Register of mapping (since 2002), Register of geological mapping (since 2002), Register of geo-physical mapping, Register of geo-chemical mapping, Register of surveillance and perspective surveillance areas, Landfill Register, Register of Exclusive Deposits (since 2002), Register of Physical Documents (since 2000), Register of old environmental loads on the rocks, Register of Digitalized Geological Maps, Digitalized Geological Map of the Slovak Republic (since 2006).	
Register of basic residential units (RBRU)	SEA	The BRU register is the basic numbering reference of the EIS components. It provides for spatial identification of information. Definite spatial identification (localisation) of elements is one of the basic conditions for mutual communication and interconnectedness of public administration information systems. Directive on spatial identification sets forth localisation of information by standard spatial units (cadastre territories, municipalities, districts,...) New element in the structure of spatial units (SU) under this directive includes basic residential units delineated within the territory on the basis of settlement structure as an element that is independent of relatively frequent changes within the structures of administrative layout. For each element of the spatial unit set, being the basic identifier has been assigned an independent identification number from a prior determined sequence of numbers that remains unchanged during the whole existence of the SU. Identification numbers and other characteristics of SU are listed in centrally operated computer registers. Their major data are published in numbering references of spatial units. Set of the ZSJ and spatial units with determined identifiers has been successfully implemented at creation and maintenance of different records and large-scale surveys (registers of municipalities, register of landfills, numerical reference of cadastre areas, registers of public utility equipments, etc.)	

* missing information *In operation since:* means that the operation began before 2002. Source: MoE SR