

Polish Geological Institute  
National Research Institute  
Strategy 2010-2015

Geology serving people  
and environment



### **Energy security**

– the Institute aims at securing domestic fuels which are necessary for the state to function and develop properly



### **Energy and climate**

– the Institute makes efforts to define suitable geological structures for safe storage of carbon dioxide



### **Safe infrastructure**

– determining geological and environmental conditions for safe location of infrastructure



### **Geology and health**

– the Institute's aim is to curb negative quantitative and qualitative changes of groundwater which are mainly used for consumption

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Building of the PGI-NRI Geological Museum  
Photo: PGI-NRI Archives

*Ladies and Gentlemen,*



*In the years 2010-2015, the mission of the Polish Geological Institute – National Research Institute will remain to serve people and environment. The Institute will continue to create a substantial basis for managing the natural environment, and in particular its geological resources. This will be achieved by various types of monitoring, cartographic studies and applied research in order to meet the needs of modern information society. Apart from continuation of assignments from the previous years, the Institute will develop a number of new studies, research and expert opinions connected with, first of all, the progress of the programme of nuclear power engineering, the exploration of geological structures for safe storage of various substances, the exploration of geological conditions with respect to the development of unconventional power industry, the implementation and practical application of 3D and 4D geological mapping, or with the actions supporting the programme of adaptation to climatic changes.*

*In the context of these actions, the new monitoring programmes – the programme of GPS monitoring of movements of the earth's crust, the programme of monitoring of sea coast erosion, the programme of monitoring of mass movements and the programme of monitoring of the content of carbon dioxide in the atmosphere and geological structures will be extremely essential elements of the Institute's activity. Hydrogeological monitoring will be still conducted and improved. Popularization and promotion of the knowledge about the natural environment, including in particular the aid to different entities in organizing geotourist and geoeducational undertakings will remain an important component of activities of the Institute. As regards the geology of mineral deposits, the Institute will continue to give substantial assistance to the geological administration of different levels, as well as to the private sector of exploration and mining.*

*Associate Professor Jerzy Nawrocki*

*Director of the Polish Geological Institute  
National Research Institute*

The systematic development of the Poland's society and economy which has been taking place in the recent years is a real challenge for our Institute. In order to meet the new needs, we are planning to expand our activity into some new areas in the years 2010-2015. Acquisition of geological information and making it available will still get the top priority. We will continue to rely on wide cooperation with other entities who carry out geological work and studies.

## Key challenges to be now faced by the Institute include »

- 1 Improving the economic and social usefulness of the work carried out.
- 2 Systematic acquisition and processing of geological information through the development of monitoring programmes and the development of the methodology of constructing digital models.
- 3 Fundamental improvement of the quality and forms of making the geological information available in order to live up to the users' expectations.
- 4 Strengthening the domestic and international cooperation with a view to improving the methodology and raising the substantial level of the work carried out.
- 5 Understanding, defining and forecasting the influence of the man's activity on potential changes of the natural environment in future, by analogy with similar processes that have existed in geological history of the earth.
- 6 Understanding, defining and forecasting the influence of geohazards on the development of society.
- 7 Determining and predicting the effects of a compromise between the exploitation and protection of the natural environment which is essential for the sustainable development of the society and the country's economy.
- 8 Implementation of projects in the areas of great social usefulness with reference made to the basic policies of leading world geological surveys.



Quarry of igneous rocks at Gęsiniec  
near Strzelin (Eastern Sudety Mts.)  
Photo: B. Bagiński

The Institute belongs to the association of European geological surveys EuroGeoSurveys (EGS) with its seat in Brussels. The strategy of the association assumes creating a common geological survey research infrastructure to be gathered in centres of excellence and related to the common, main trends in the activities of these surveys. The strategies shown below draw on the current trends in the development of foremost geological surveys in UE countries, US geological survey (USGS), as well as the policy of the EGS association.



Satellite image of Europe, northern Africa and western Asia at night (from NASA)



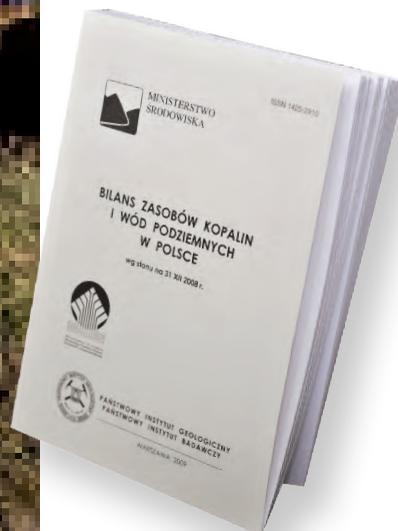
# ENERGY SECURITY

# Raw materials base for conventional power industry »

The Institute's responsibility is to secure the supply of domestic energy raw materials which are necessary for proper functioning and development of the country. This includes both determining the perspectives of occurrence, documentation, exploration and storage of raw materials to serve the needs of conventional power engineering, and especially the research on alternative methods of their exploitation, and the development of power industry based on renewable sources.

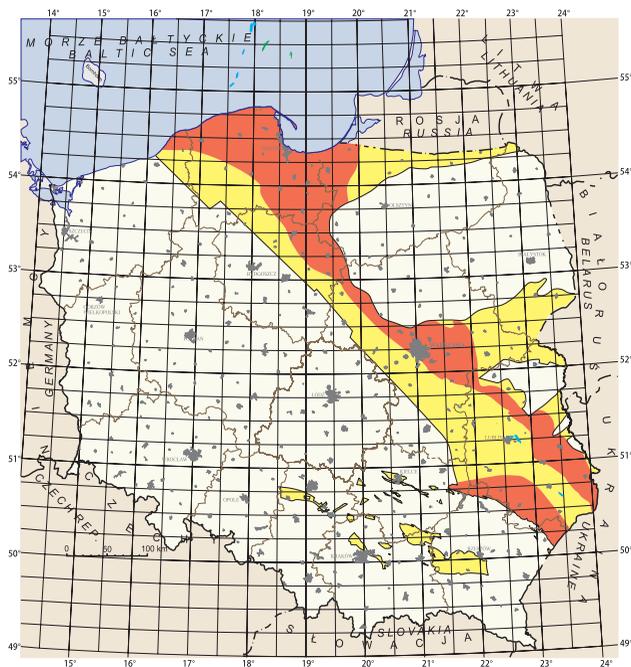
## Our activities will first of all include the following:

- » **Balancing and inventorying the energy raw material deposits**, including an analysis of domestic and world resources, and of markets and macroeconomics trends.
- » **Compilation of geological and raw material atlases of the deposits and prospective areas** of energy raw materials.
- » **Projects to protect the deposits of energy raw materials** in the aspect of planning and spatial development, with special consideration given to the EU Natura 2000 Programme as well as to domestic and international legal instruments and legislative procedures.
- » **Carrying out the tasks to ensure the development of raw material base for conventional power industry:**
  - verification, exploration and documentation of coal and lignite resources and their valorization;
  - analyzing the geological and environmental conditions of coal deposit management and the development of clean coal technologies, in particular underground gasifying and liquefaction.



» Studying the geological conditioning of occurrence and acquiring hydrocarbons from conventional and unconventional sources, aimed at:

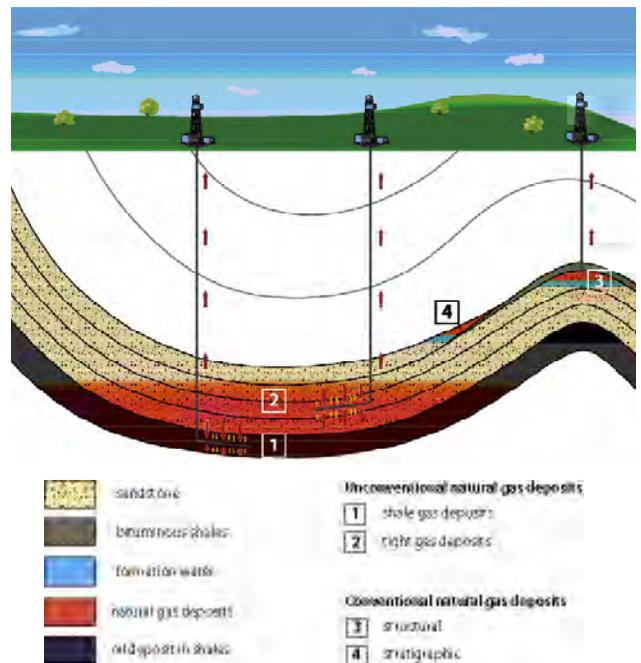
- development of the methodology of exploration of liquid and gas hydrocarbons;
- evaluation of the geological conditions of their occurrence and exploitation;
- development of the methodology of prospecting for and evaluation of resources of unconventional gas deposits, i.e. coal-bed methane, shale gas and tight gas;
- assessment of the possibilities of acquiring methane from landfill sites.



The area of occurrence of the Lower Paleozoic shales potentially containing the unconventional natural gas (orange colour: areas of initially measured potential of shale gas in the Lower Paleozoic; yellow colour: areas of indefinite or lower potential of shale gas in the Lower Paleozoic)

» Geological studies for the implementation of nuclear power technologies including:

- geological and environmental aspects of a nuclear power plant location;
- recommending the location and monitoring of radioactive waste repositories with special consideration given to hydrogeological conditions;
- evaluation of the prospective resources of uranium deposits and development of the methodology of prospecting for them.



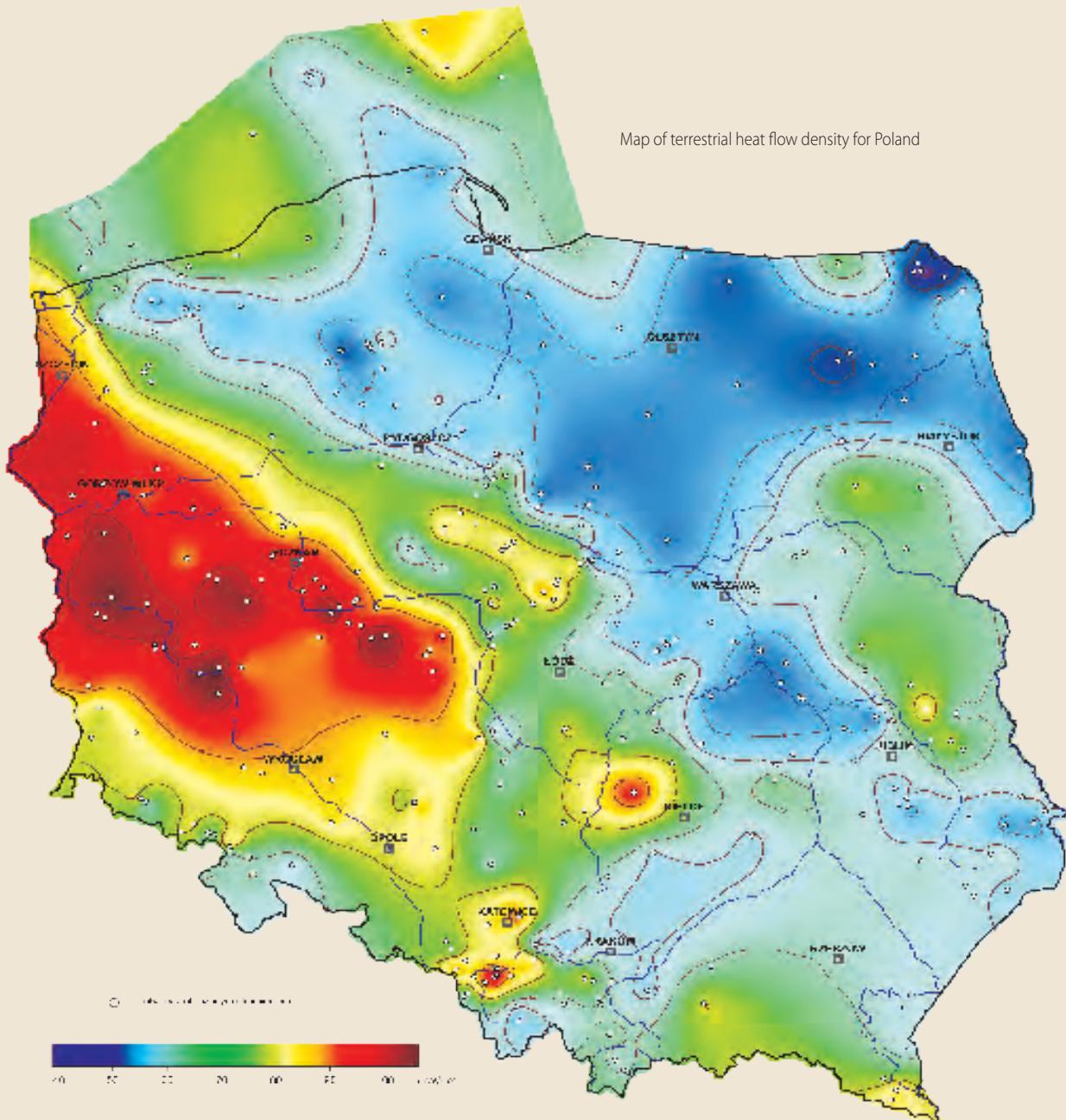
Cross-sectional diagram illustrating, in a simplified form, the main differences between conventional natural gas deposits and unconventional deposits of shale gas

» Drawing up a digital 3D model of deep geological structure of Poland at a regional scale, together with the sea area of the Republic of Poland, as a base for deposit documentation, thermal models, and geological structure documentation for storage.

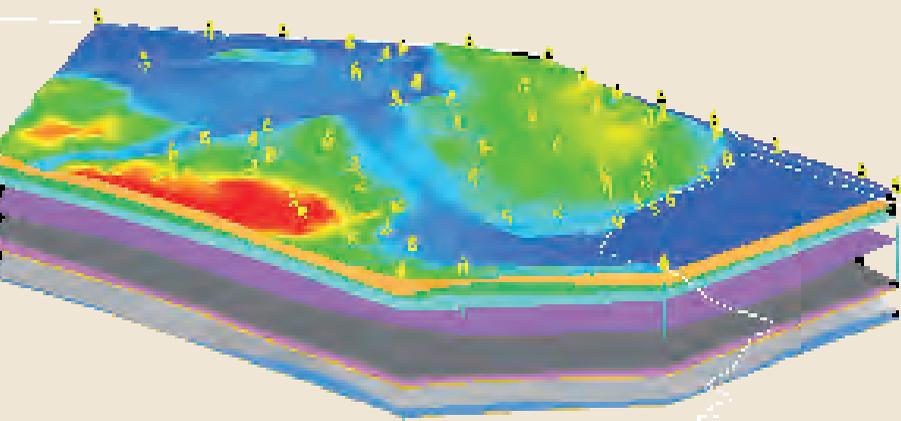


» Creating a substantial basis for using the renewable sources of energy, with particular focus on:

- drawing up thermal models in a regional scale for the needs of the high-temperature geothermal power of hot dry rocks (HDR);
- drawing up scientific and technical guidelines for the development of average- and low-temperature geothermal power, including low-enthalpy geothermal power in Poland;
- drawing up thermal models to serve the needs of the above mentioned issues and an analysis of data from existing boreholes with the view to using them for geothermal power projects;
- substantial support and promotion of the development of networks of geothermal stations and exploiting the energy in the industry, farming, tourism, in cooperation with appropriate partners;
- disseminating the knowledge about the resources of geothermal energy and possibilities of using it;
- making analyses of the conditioning of geological and environmental locations of hydroelectric and wind power stations.



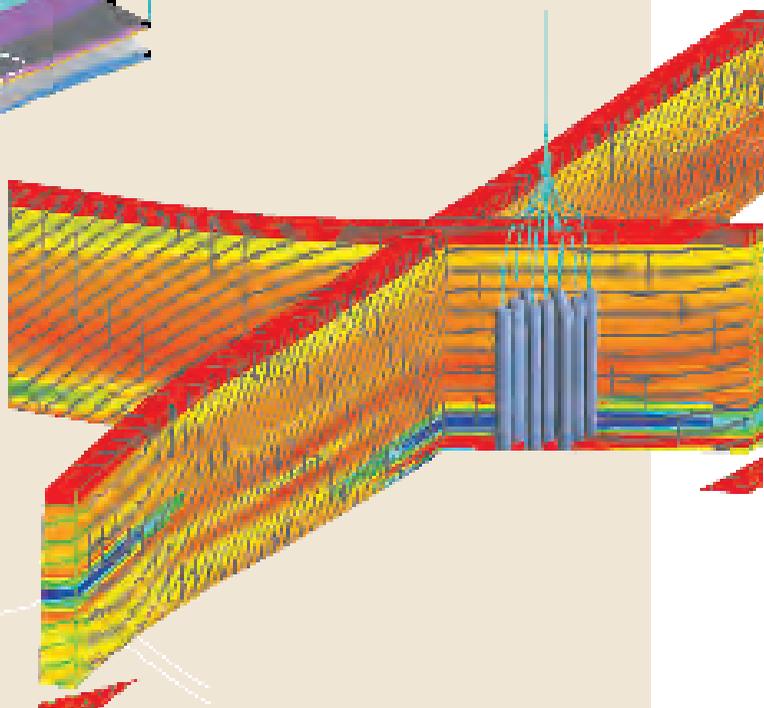
Map of terrestrial heat flow density for Poland



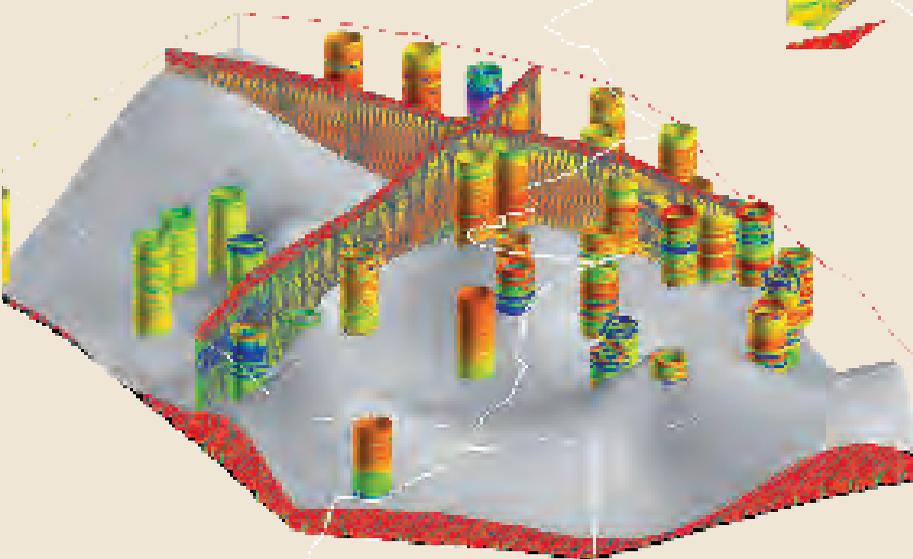
Model of the geological structure of a fragment of Łeba Elevation and the location of boreholes

» Projects to determine the storage capacity in geological structures which consist in:

- evaluation of the geological conditions and possibilities of storing fuels in geological structures;
- indicating the location of potential underground hydrocarbon storage sites in geological structures and their integrated monitoring.



Project of the arrangement of caverns within the selected parts of Na1 salt series of the Zechstein (Permian) together with a model of NaCl content



3D model of the geochemical parameters distribution in the oldest Na1 salt series of the Zechstein (Permian)

Depending on future logistic possibilities, we may join in the work of identifying conditions of the occurrence of fuels also outside the borders of Poland, in shelf areas being under international jurisdiction. In this aspect of our activity, the perspective policy here will be **exploration of gas hydrate accumulation.**



Jokulsarlon – a lake at the front of an ice-sheet, Iceland  
Photo: B. Jaranowska

# ENERGY AND CLIMATE

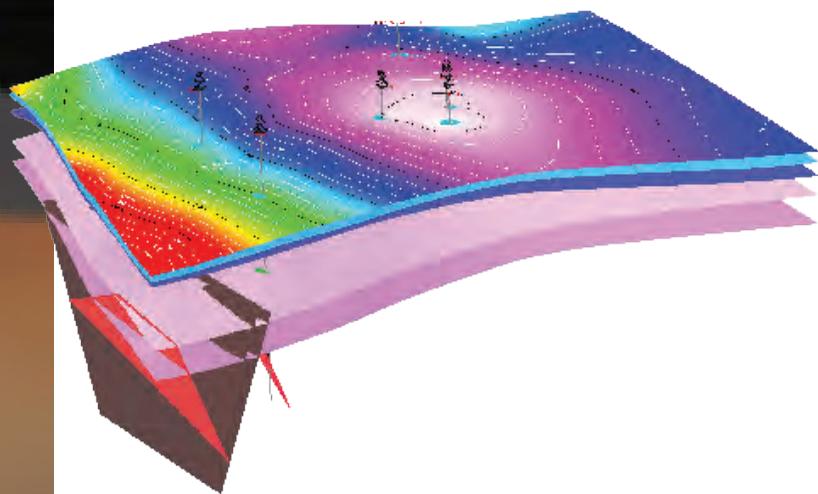


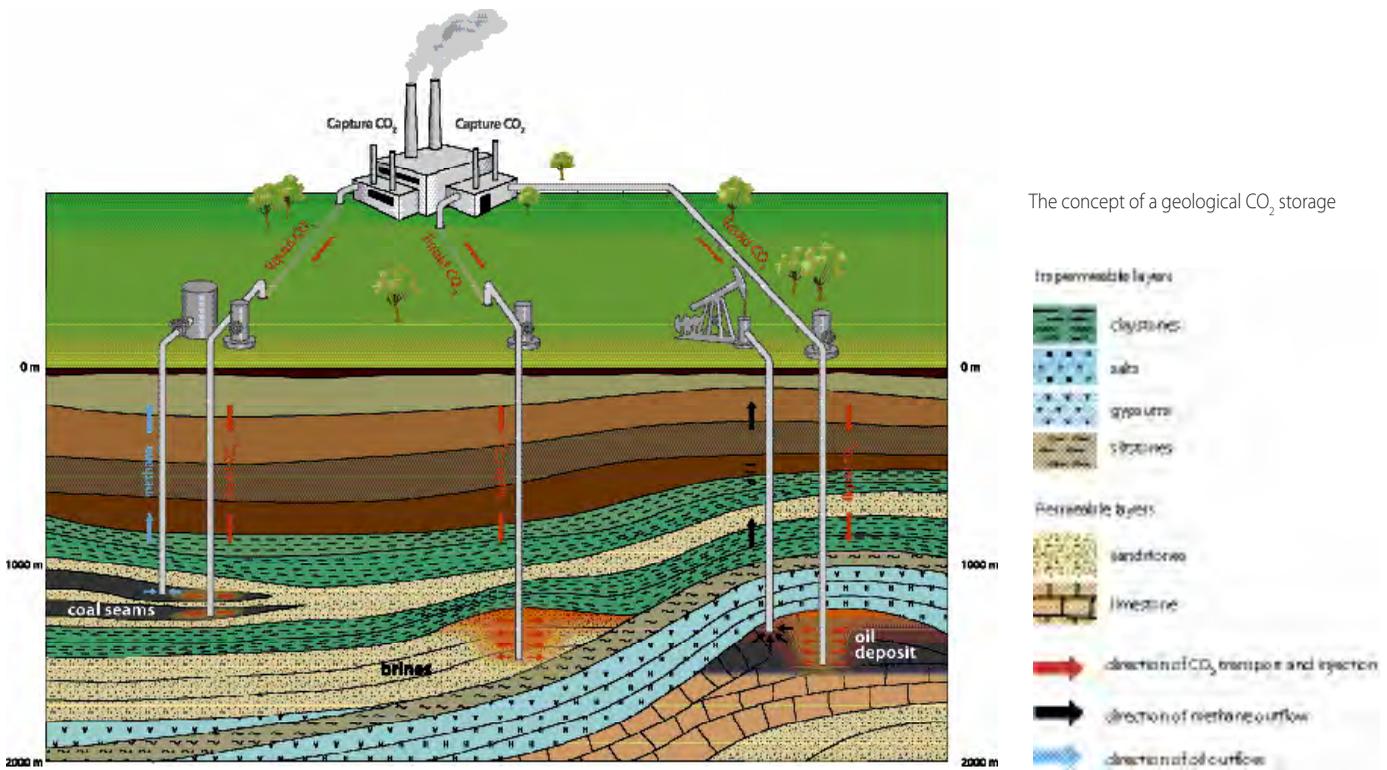
# Geological structures for safe storing of carbon dioxide »

The Polish Geological Institute – National Research Institute will be continuing projects aimed at defining adequate structures carbon dioxide to be stored safely. They are to be carried out as a part of the Project commissioned by the Minister of the Environment *Assessment of Formations and Structures for Safe CO<sub>2</sub> Geological Storage Including Programme of Their Monitoring* while working together with domestic emitters of the gas, and as a part of international projects.

Also, through our studies we want to reduce indirectly the potential impact of an energy generating process on climatic changes. With this end in view, we will continue to study geological conditions in order to increase the domestic gas production, and in particular the gas from unconventional gas fields. Moreover, we will carry out research into possible use of geothermal heat.

In the near future, we will establish an integrated system of the monitoring of anthropogenic and geogenic hazards which will embrace extremely essential, on account of the protection of climate, monitoring of CO<sub>2</sub> storage sites and monitoring of the content of this gas in the atmosphere.





Studies of the reasons and effects of climate changes will enable it to forecast climatic changes and evaluate the threat they pose to the society and infrastructure. The purpose of these studies will be to minimize possible disadvantageous effects of climatic changes.

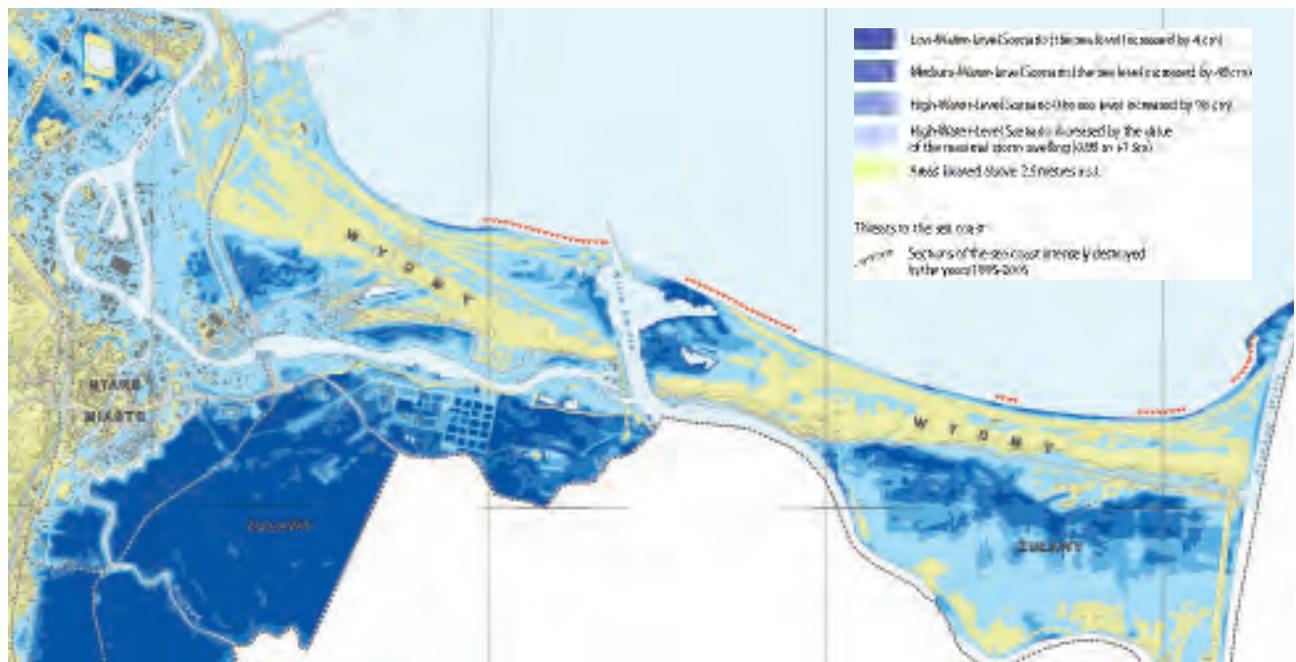
**In this respect, we will focus on the following:**

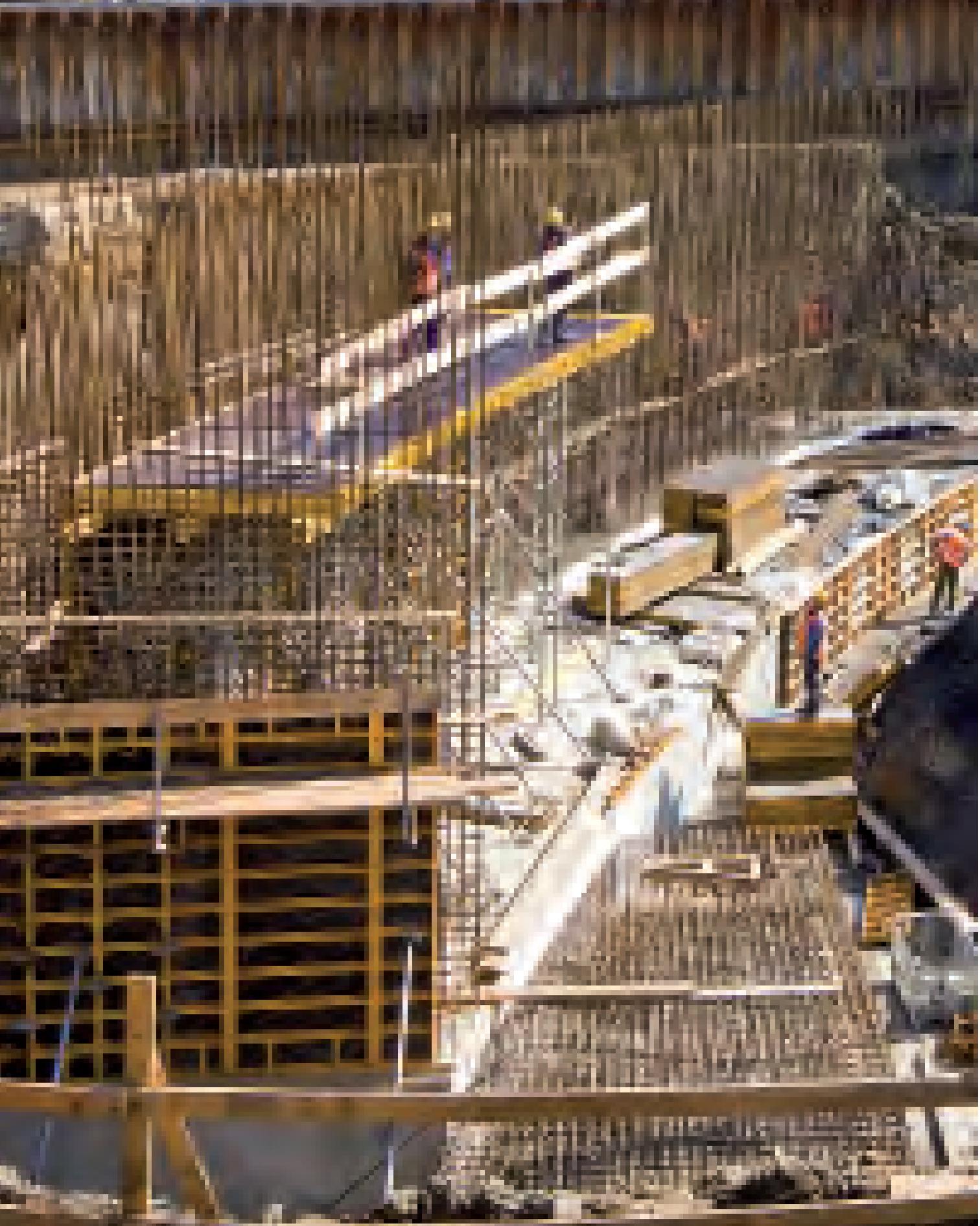
- » Studies of climate changes in the geological history of the Earth and creating models of climatic changes for the period of the recent 200, 2000 and 20 000 years.
- » Geological diagnostics to test the changes of sea level.

Our activities to support the decisions concerning the adaptation to changes of climate and to extreme phenomena caused by these changes will, in particular, include as follows:

- » Monitoring of the Baltic Sea coastal erosion rate and analyzing its dependence on the geological structure of the bank zone.
- » Monitoring of the landslide hazard as a part of the Programme SOPO (Landslide Counteracting System) coordinated by the Institute.
- » Monitoring of the groundwater state in view of a threat of both long-lasting droughts and floodings and/or inundations.

Gdansk – the areas susceptible to floods and inundation determined on the basis of the scenarios of sea level changes in accordance with the SEAREG Project





Development of the Murcowska Junction on A4 Motorway  
Photo: General Directorate of National Roads and Motorways



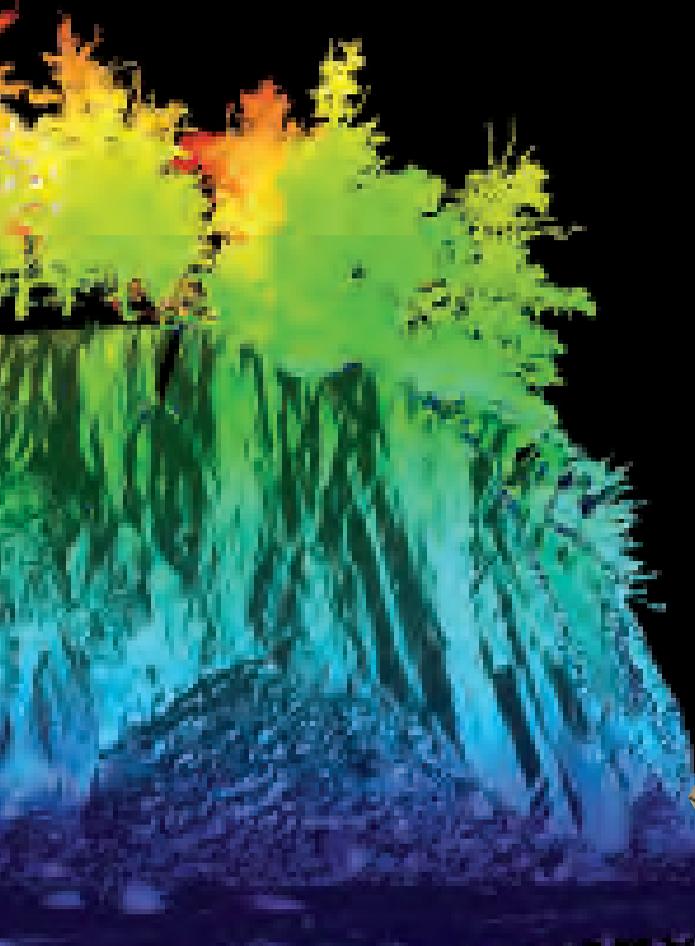
# SAFE INFRASTRUCTURE

# Safety of infrastructure investment projects »

The Institute's activities in this area will include, above all, determining the geological and environmental conditions for safe locating of infrastructure, as well as the evaluation of its exploitation in the context of possible threats of anthropogenic and geogenic factors. Consequently, this policy of geological studies and work serves the proper planning and spatial development, providing very essential tools for managing the investment risk.

## We will take the following steps to ensure that the infrastructure investments are safe:

- » Plan and supervise studies and surveys necessary to determine geological and engineering conditions for new infrastructure investment projects.
- » Evaluate the location and operation of infrastructure objects with a view to their geological and engineering conditions, e.g. of buildings, roads, bridges, waste disposal sites and others.
- » Document geodynamical phenomena, including natural hazards, with the evaluation of their threat to the society, environment and construction.
- » Explore post-mining areas, with special attention paid to threats of mining damage, making inventory of abandoned drifts and excavations, neutralization of effluences from post-mining waste disposal sites, monitoring of groundwater, monitoring of concentration of methane and other gasses and monitoring of subsidence in the areas of the current and abandoned mining.



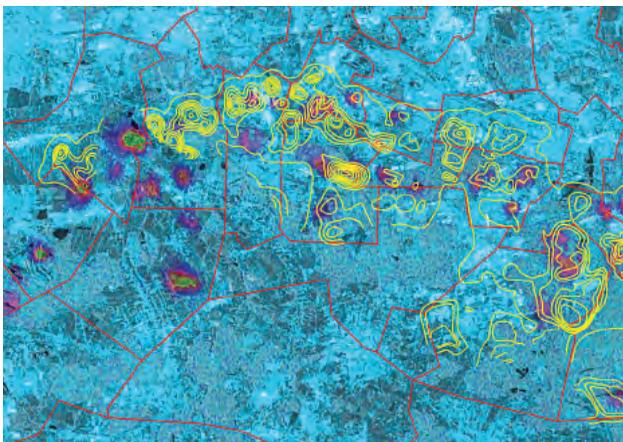
Scenes from a laser scanning – 3D model of the cliff in Gdynia-Orłowo



**Our further activities with this respect will concentrate on the following:**

- » Digital cartographic studies, including geological and engineering atlases of urban agglomerations.
- » Creating geological and engineering databases.
- » Constructing a 3D digital model of the Poland's geological structure to the depth of 30 metres.
- » Developing new information layers, at different scales, to cover geohazards, environmental risk, features of the first water-bearing horizon (hydrodynamics, sensitivity to pollution, quality).
- » Building an integrated system of geological monitoring to evaluate the state of environment and anthropogenic and geogenic hazards which will encompass the following:
  - deep and surface monitoring of mass movements using the laser scanning;
  - GPS monitoring of contemporary movements of the lithosphere with reference to the location of nuclear power plants and underground storage sites;
  - monitoring of coastal erosion with a view to its geological conditioning with the use of laser scanning – both ground and airborne to help build 3D models and 4D prognostic models;
- » Constructing models of paleohydrological and paleogeographical changes, including the changes of sea level and location of coastline in the Late Glacial and in Holocene with respect to the older periods of climate warming.

Comparison of the maps of deformations in the period from 10 July 2007 to 25 August 2007 and isolines of land subsidence as forecast for the Katowice conurbation



Subsidence registered using the Persistent Scatterer Interferometry (PSI) method in the area of the Wieliczka Salt Mine; in the background, a high resolution satellite image from QuickBird

Landslide in the village of Muszyna-Leluchów (Małopolska Province)





A close-up photograph of a young child with light-colored hair, wearing a light blue baseball cap and a bright yellow t-shirt. The child is holding a blue, textured plastic water bottle to their mouth and drinking. The background is a soft-focus green, suggesting an outdoor setting. The text 'GEOLOGY AND HEALTH' is overlaid in the upper right quadrant of the image.

# GEOLOGY AND HEALTH

# Protection of the quality and resources of groundwater »

An access to clean water and uncontaminated soil is the precondition for the public health. Actions aimed at exploration, balancing and effective protection of groundwater – so that they can be rationally exploited by the society and economy – constitute the basic task of the state hydrogeological survey. The reserves of groundwater are the basic source of supply of potable water for the majority – even for above 68% – of the population in Poland in accordance with the data of 2009 provided by the Central Statistical Office.

**It is the Institute's responsibility to limit any negative quantitative and qualitative changes of groundwater which are mainly allocated for consumption and to make sure that their resources are managed properly.** These tasks can be carried out through using the results of long-term tests, measurements and hydrogeological observations, including the monitoring of groundwater, as well as research and development work and analyses of the hydrogeological data which are collected and processed.

## We are going to:

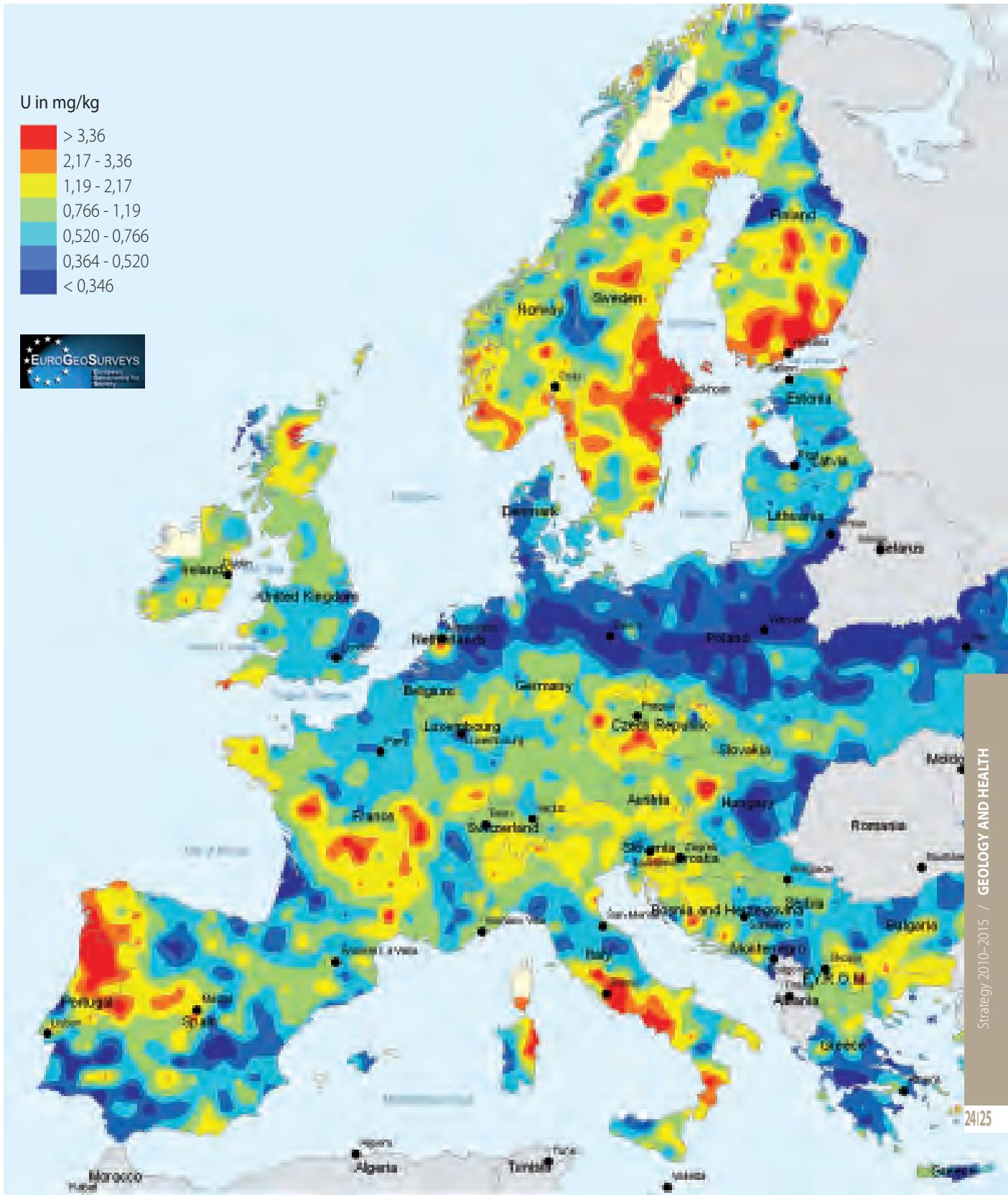
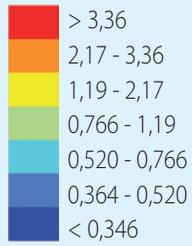
- » Create an assessment system to measure the degree of the use of groundwater resources, including mineral, therapeutic and thermal waters, by drawing up water-economic balance sheets for the whole country, to define deficit areas and determine reserves of groundwater resources.
- » Reorganise and to develop the monitoring-test networks of groundwater, in particular in the areas of intense anthropopressure, according to the requirements of the EU Water Framework Directive.
- » Automatize the groundwater monitoring networks.
- » Develop the groundwater monitoring in the Poland's border zones.
- » Organize local groundwater monitoring networks in the areas where objects are located which have a strong impact on groundwater, such as mines, large industrial plants, fuel storages, etc.

## We are going to:

- » Make assessment of the groundwater quantity and quality.
- » Monitor the spatial and quantitative structure of the registered water consumption in Poland as well as its variation over time.
- » Document Main Groundwater Reservoirs together with their protective areas being determined.
- » Appoint a team to study the effects of possible pollution due to some incidental events, breakdowns or disasters.
- » Analyze and evaluate the anthropogenic impact on the groundwater and the resulting changes in the ecosystems dependent on the groundwater.



U in mg/kg



Map of uranium content in arable land in Europe

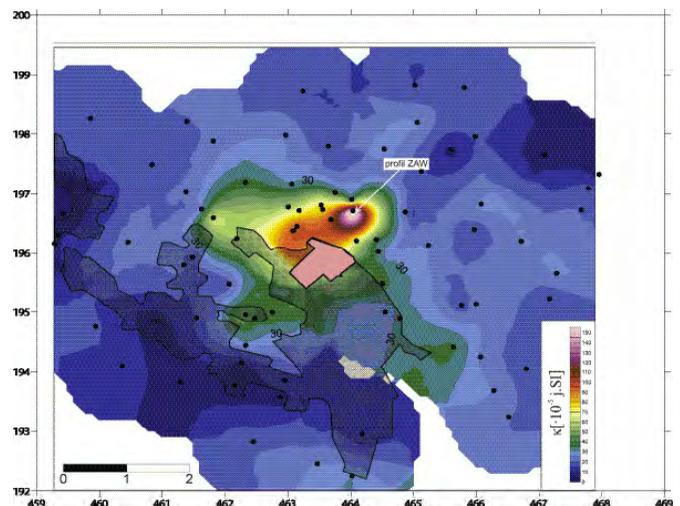
# Investigations of the state of natural » environment

Uncontaminated and fertile soil forms a basis for the development of agriculture, whereas clean grounds are necessary for safe functioning and expansion of cities. Investigations of the soil condition will be conducted by the Institute under a contract with the Minister of the Environment together with the Institute of Soil Sciences and Plant Cultivation in Puławy as a part of the **The National Soil Information System**. The system will form a basis for geological and soil maps to be constructed. One of the information layers of the system will be based on geochemical data concerning the accumulation of pollutants in soil that are acquired by our Institute and then processed and made available in the form of atlases and geochemical maps which has taken place for many years.

These publications cover both the entire country and individual urban agglomerations or some selected regions as well. The Institute will continue to make geochemical analyses of soil, rocks, deposits and waters, also as a part of the monitoring on a systematic basis.

## Our main activities will be targeted at the following:

- » Environment and health risk evaluation of urbanized areas.
- » Indicating locations for waste disposal sites, including analyses and evaluation of geological, hydrogeological conditions and producing environmental impact assessments and exploitation monitoring.
- » Cleaning up polluted ground and water environment with the use of self-purification processes and man-assisted cleaning.
- » Rehabilitation and revitalization of post-industrial and post-mining areas.



Map of magnetic susceptibility of soils in the area of the village of Huta Zawadzkie (Opole Province)

The contemporary man lives in the world which is largely built of synthetic materials. However, no material is healthier than the natural stone or ceramics made of clay. Poland has rich resources of these mineral raw materials. We will continue to verify the existing ones and explore new deposits of building stone and ceramic raw materials. However, their exploitation can often collide with the areas of protected nature, and therefore the Institute will be analyzing the occurrence of rock raw materials with respect to the possibility of their underground exploitation.



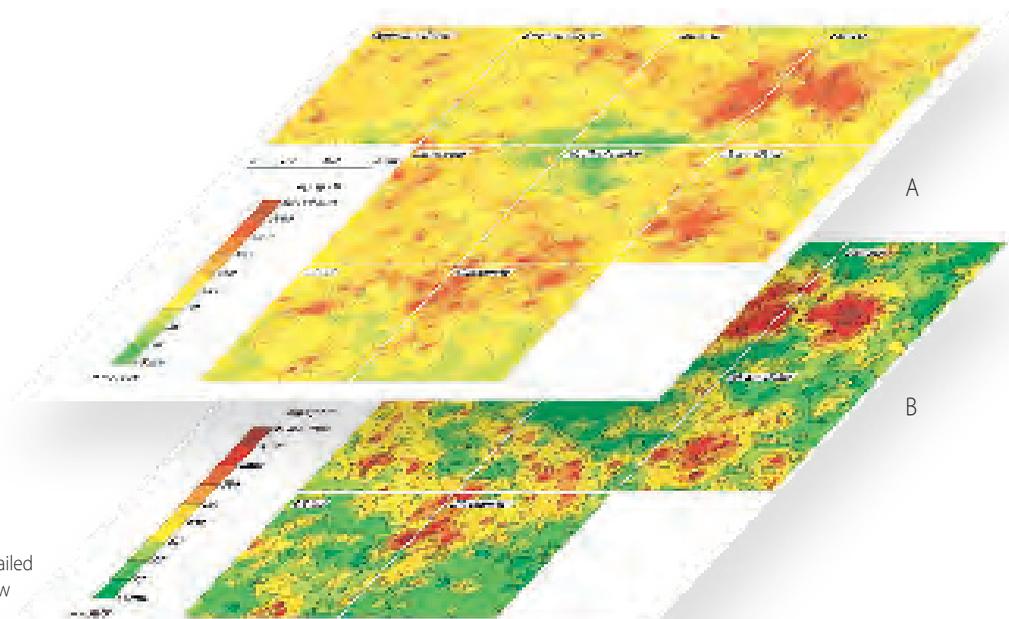
Fibers of chrysotile asbestos on the surface of an asbestos-cement roofing plate  
Photo: L. Giro



CAMECA SX-100 electron microprobe (made by CAMECA, France); the most modern electron microprobe in Europe for chemical analysis of solid matters and for geochronological studies  
Photo: B. Ruszkiewicz



Underground exploitation of limestone on the Istria Peninsula (Croatia)



Content of lead in soils from the depth of 0.0-0.3 m (A) and 0.8-1.0 m (B) – Detailed geochemical map of the Silesia-Cracow Region at a scale of 1:25, 000



Zachelmie Quarry near Kielce – here, Polish and Swedish scientists discovered the oldest in world tracks of tetrapods  
Photo: M. Hodbot



# GEOTOURISM AS A CHANCE FOR REGIONS TO DEVELOP

# Professional assistance in organizing geotourism »

Examples of many countries show that in seemingly unattractive regions the geological knowledge helps to create a fascinating recreational offer which attracts crowds of tourists and brings considerable economic effects. There are already 34 geoparks in Europe and none of them is deserted. They give employment to local people, bring joy and knowledge to thousands of tourists. Actually, there is no need to look for some examples abroad. It will be enough to visit the Jurassic Park in Bałtów, Holly Cross Mts. What gave rise to its establishment was some inconspicuous dinosaurs footprints in the rock discovered by scientists of the Polish Geological Institute – National Research Institute. Today, it is a real geotourism conglomerate visited by several thousand of tourists each year. It owes its origin equally to the tracks – i.e. science and to a great sense of commitment shown by the local investors and self-government and ecological activists as well.

For the development of geotourism, a cooperation of scientists and leaders of local communities is essential. Without the synergy of action, no geotourist undertaking – a geopark, geological educational trail, geotouristic site – does not have a chance to be fully successful. We can offer all our geological knowledge and experience in designing and organizing geotouristic projects of various types.



Geological educational trail at Kielniki Quarry in Olsztyn near Częstochowa  
Photo: J. Kaczmarzyk



Germany





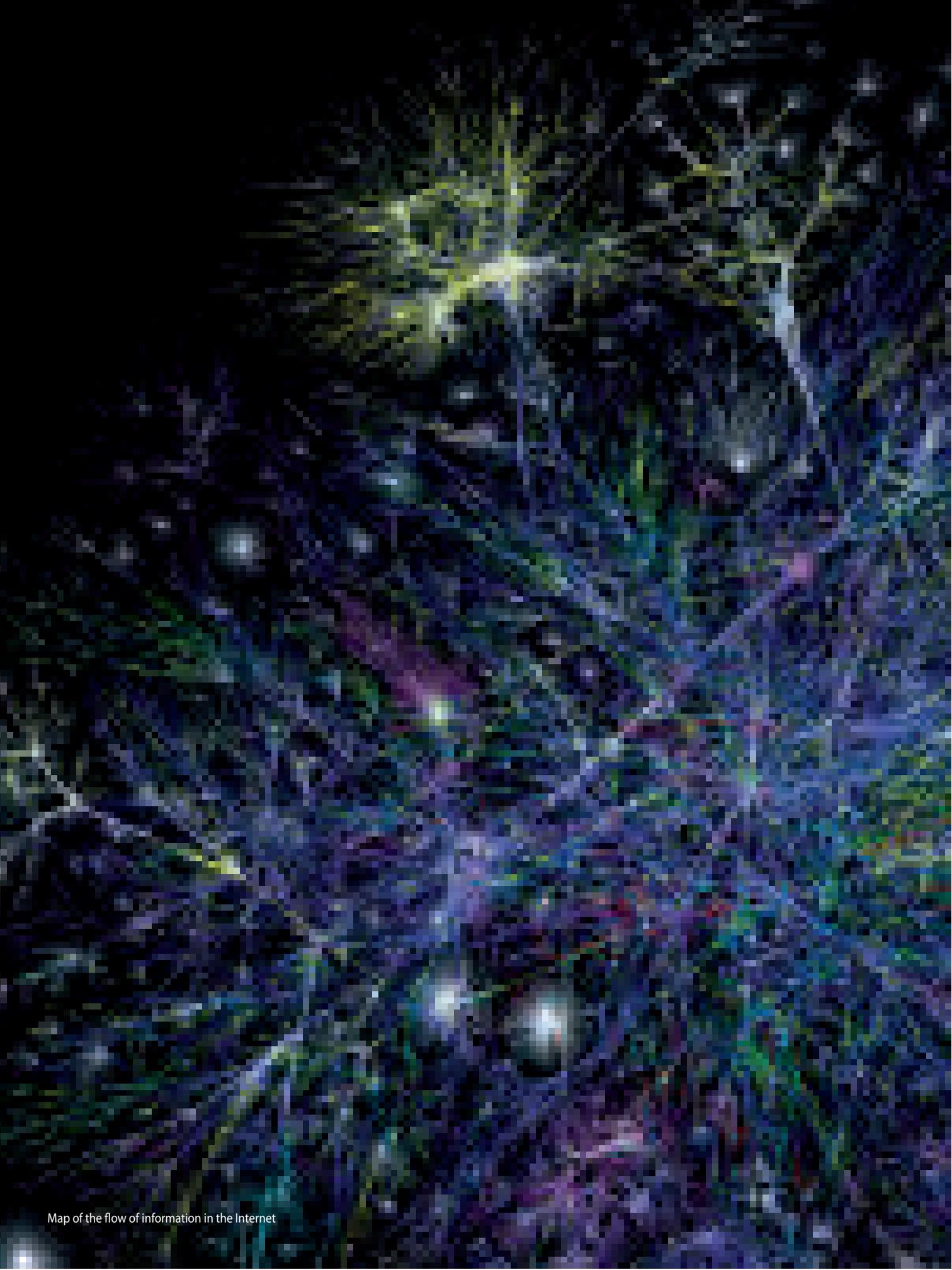
Pond formed in the place of a previous lignite excavation – Łuk Mużakowa Geopark (Muskauer Faltenboden Geopark)  
 Photo: P. Karamański

Łuk Mużakowa Geopark: a range of hills in the shape of a gigantic horseshoe cut in two by the Nysa Łużycka River valley represents one of the most beautiful terminal moraines in the world. The pressure of the glacier tongue caused plastic deformations of the rocky bed among which deposits of brown coal were to be found. This is a land of colourful lakes, old mills, brickyards and mining excavations getting overgrown with luxuriant vegetation

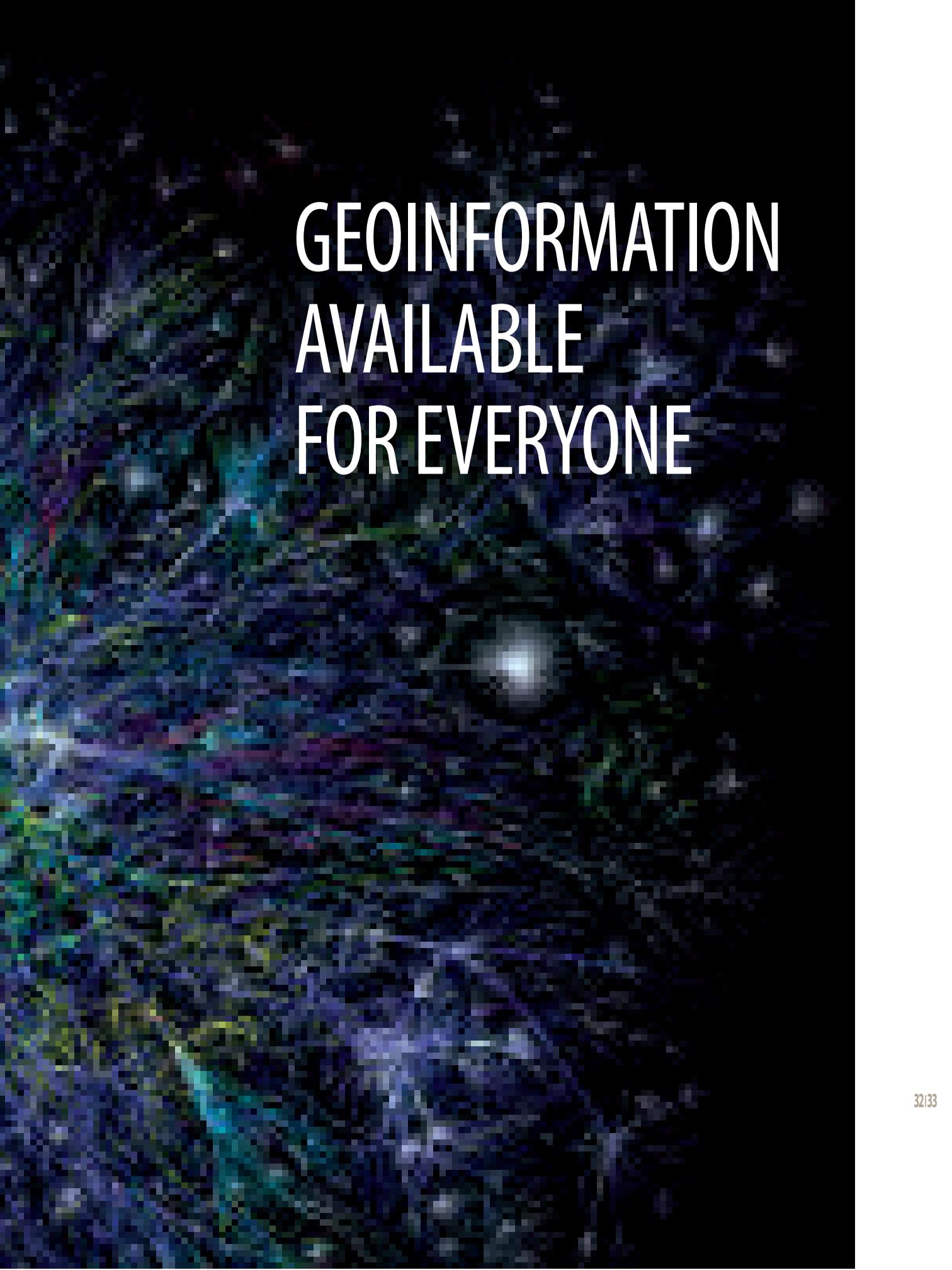


**As a part of its activities related to the promotion and development of geotourism, the Institute will do as follows:**

- » Prepare geotouristic guides and information layers for different maps.
- » Make new geotouristic offers, make suitable information available through an Internet portal and mark out new geotouristic trails.
- » Draw up proposals of parks of geological attractions, e.g. focussed on one subject, associated with the specific site (e.g. Carboniferous Park) or of hands-on type to visualize various geological processes (e.g. Pleistocene postglacial parks).
- » Develop geotouristic undertakings in the areas where potential tourist attractions are poorly emphasized, and in particular in the Polish Lowlands.
- » Protect and to make the geological heritage of Poland available, and especially to protect the most important geological sites in the country.
- » Elaborate proposals and projects of new geoparks, reserves and geological sites.
- » Outline sea-bed areas to be protected due to their unique geological values such as underwater landscapes or key paleogeographic sites.



Map of the flow of information in the Internet



# GEOINFORMATION AVAILABLE FOR EVERYONE

# Acquiring and making the geological information available »

The Institute is the main depository of the Polish geological information. It is our intention to make it available to the government and self-government administration, to the business, as well as pupils, students and every citizen who would like to know more about geology. Information is collected and made available according to the highest national and international standards and requirements.

**Further facilitating the access to the geological information mainly through the Internet and its updating on a constant basis is our main challenge with respect to geoinformation.**

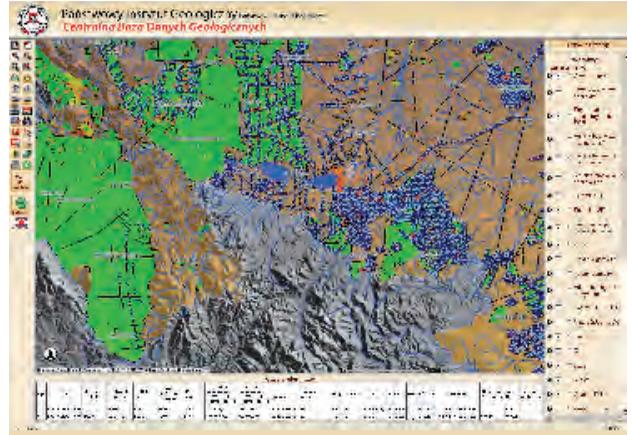
## To this purpose, we will do the following:

- » Continue to implement the INSPIRE Directive, with focus on geological data;
- » Continue to develop the IKAR Geoportal and the catalogue of metadata of the main elements of the spatial information infrastructure which were created under the INSPIRE Directive.
- » Update and upgrade the Central Geological Database, including data sets related to: documentation, boreholes, observation points, mineral raw materials; cartographic, geophysical, paleontological and petrological data sets as well as hydrogeological and geochemical ones.
- » Update and develop the deposits databases.
- » Continue to integrate geological, hydrogeological and geo-environmental databases.
- » Create new systems of information on the environment to include landslides, soils and water cadastral survey.
- » Streamline the processes of disclosing data through the Institute's domains.
- » Modernize the Institute's service in the Internet.
- » Build a new One Earth domain portal which will make it possible to have access to scientific knowledge for the general public to promote geology in the context of widely understood environmental sciences.
- » Secure and make inventory in the borehole core archives and geological samples of the Central Geological Archives.
- » Extend and modernize the storage facilities for keeping geological documents and borehole cores.



CBDG <http://baza.pgi.gov.pl>

It is possible to access most of the data collected in the Central Geological Data Base which are made available free of charge via a standard Internet browser, without having to install a special software. The Central Geological Data Base website offers several tools to enable it to retrieve both descriptive and spatial data.



Geoportal IKAR <http://ikar.pgi.gov.pl/>

The IKAR Project is thought to help standardize and harmonize the geological spatial information stored in the Institute. As a part of developing the IKAR Project, a uniform cartographic system which would integrate the existing systems in geological, hydro-geological, geoenvironmental cartography as well as the geology of mineral deposits is to be created.

eEarth <http://earth.eu/>

The eEarth System makes it possible to browse through the borehole data collected by six European geological surveys. It provides a multilingual website with a GIS functionality and the borehole data can be displayed in seven languages.



GEOMIND <http://geomind.eu/>

Multilingual portal which integrates geophysical data from the resources of 12 institutions of nine European states. Also, international standards have been prepared for the representation of both metadata and detailed data which will support a further integration and spreading the European and global resources of geoinformation.



Team of glaciologists drifting on an ice floe in Bellsund, Spitsbergen  
Photo: W. Morawski

An aerial photograph of a coastal town and bay. The town is built on a hillside overlooking a large body of water. The water is a deep blue, and there are several small islands or peninsulas in the foreground. In the background, there are large, dark mountains under a clear blue sky. The text "INTERNATIONAL COOPERATION" is overlaid in white, bold, sans-serif font in the upper center of the image.

# INTERNATIONAL COOPERATION

# Expansion of international cooperation »

The Association of the Geological Surveys of Europe, EuroGeoSurveys, will remain the basic platform of international cooperation for the Institute.



We will take part in studies under auspices of this organization and also we will actively participate in the work of expert groups whose purpose is to advise adequate structures of the European Commission. Moreover, bilateral cooperation with individual national geological surveys will be developed in many fields.

## We will be active in international cooperation through:

- » Pursuing new international projects.
- » Active participation in international associations and their working groups.
- » Developing studies in borderland and transboundary areas through the participation in regional and local projects, first of all of utilitarian character which contribute towards regional development.
- » Taking part in the EU Eastern Partnership Programme.
- » Participating in the European Territorial Cooperation Programme.
- » Designing and implementing new aid projects to support the developing countries.
- » Joining the International Continental Scientific Drilling Program (ICDP).
- » Creating a team which can ensure an active participation in the international undertaking, European Consortium for Ocean Research Drilling (ECORD), and also participating in another marine project - Integrated Ocean Drilling Program (IODP).
- » Scientific cooperation with the Interoceanmetal Joint Organization.



MONGOLIA



NICARAGUA



We work together with more than **30 countries** all over the world.



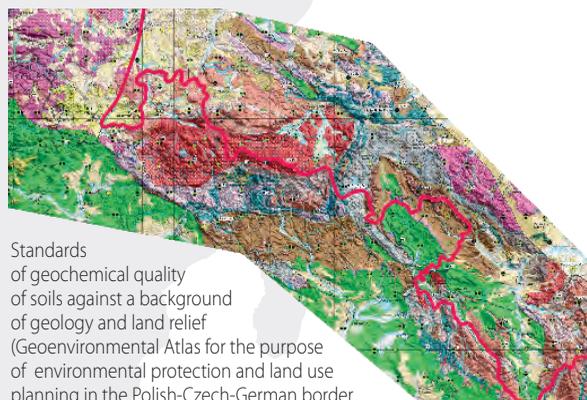
ANTARCTICA



ANGOLA



AFGHANISTAN



Standards of geochemical quality of soils against a background of geology and land relief (Geoenvironmental Atlas for the purpose of environmental protection and land use planning in the Polish-Czech-German border zone at the scale of 1:25,0 000)

We take active part in **international associations** and working groups.

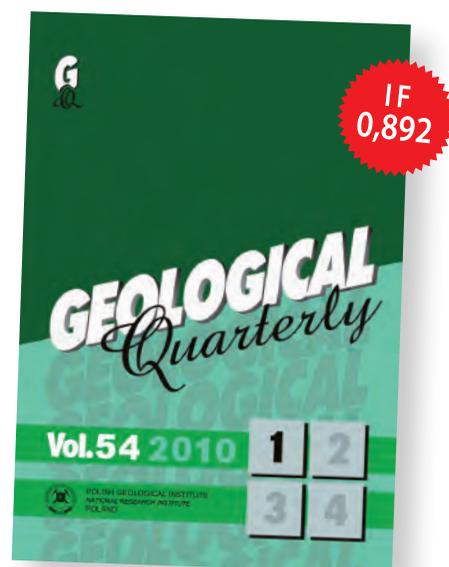
# WE LEAD THE FIELD IN GEOLOGICAL PUBLICATIONS

The Institute leads the field in publishing geological maps, atlases, books and periodicals. Our publications include *Geological Quarterly* indexed in the data basis of the Institute for Scientific Information in Philadelphia (the so called Philadelphia list) and which can boast a significant impact factor (IF).

We wish our publishing activity to be continued.

We will compile and publish, in particular:

- » Monographs summarizing knowledge of various elements of the geological structure of Poland.
- » Natural resources reference books, e.g. *Report on Mineral Reserves/Resources and Groundwater Resources in Poland*.
- » Methodological instructions and guides that wrap up practical knowledge from different fields of the applied geology.
- » Geological maps and guide-books.
- » Publications to disseminate the knowledge about environment.
- » Conference publications.



# WE ARE ECO-FRIENDLY



Among our investment projects, eco-friendly investments constitute a special section to emphasize our concern over the state of the natural environment.

We have already completed the replacement of ordinary light bulbs with energy-efficient ones. **Moreover, we are planning to:**

- » Provide parking sheds appropriately equipped for 50 bicycles.
- » Continue to implement the programme of the rational management of paper and printing materials through, among others, the development of networks of printing rooms with equipment for a large-format printout and with multifunctional devices as well as small typography equipment.
- » Improve mechanisms of the waste segregation.
- » Continue to rationalize the use of electric and thermal energy and water through modernizing, among others, the heating devices, windows, ventilation systems and by insulating the walls of the buildings.
- » Provide our field stations with sewage treatment plants.
- » Promote natural building materials.
- » Introduce telecommuting on an increasingly wider basis.



# GEOLOGY FOR THE KIDS



Life of people on the Earth, in harmony with the nature, and sustainable management of its resources, is all the simpler for them the sooner they get to know the interdependence among the correct functioning of the society, the economic development, and the protection of the entire natural system, including also of its inanimate part.

## The Institute will introduce kids to the world of geological phenomena, through:

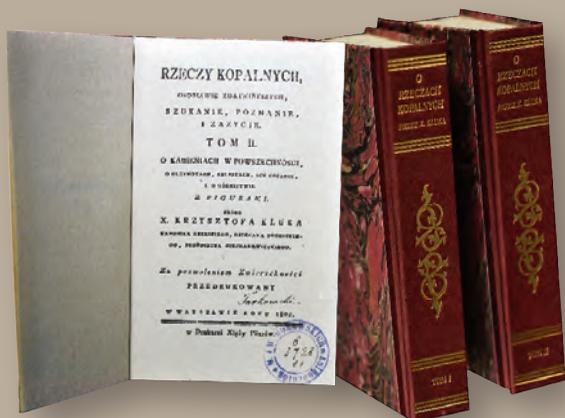
- » Drawing up thematic sections for the youngest as a part of the new domain portal *One Earth* which will enable it to access popular-scientific knowledge promoting geology in the context of widely understood environmental sciences.
- » Organizing geological knowledge competitions, thematic fine arts and photographic competitions for children of different age groups.
- » Working out scenarios of museum lessons and open class programmes for children and young people.
- » Preparing interactive online museum lessons for children.

# WE RESPECT OUR LEGACY



Research Staff of the Institute in 1933  
Photo: PGI-NRI Archives

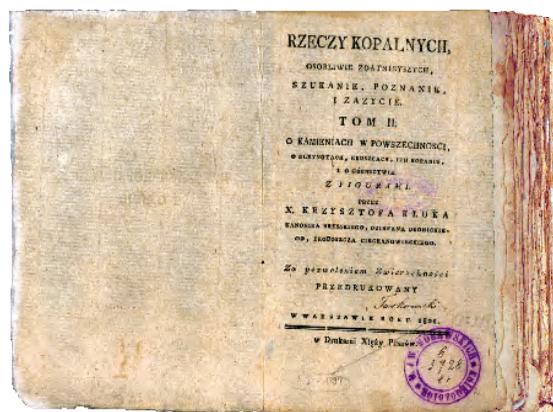
In 2009, a reprint of the work 'About Fossil Things' by Rev. Krzysztof Kluk 1802 was made



Historic interiors of the building of the Polish Geological Institute – National Research Institute house rich and valuable collections of geological publications among which both unique books and cartographic studies can be found. We want to improve the conditions in which they are stored and made them available. Successively, we will also make reprints and organize exhibitions of the past geological output. For 90 years of its activity, the Institute has been a place of employment of many eminent scholars, and we should commemorate them.

## What we plan with a view to preserving our legacy is:

- » To have the main hall of the Institute's library modernized for the purpose of exhibition and making the unique geological publications available.
- » To restore the original shape of other rooms of the historic part of the Institute's building, in order to present in them the rich legacy of Polish geology.
- » To organize exhibitions and scientific conferences promoting the tradition of our geology.





Polish Geological Institute  
National Research Institute

The Polish Geological Institute is a research and development entity, having the status of a National Research Institute, established in 1919 and it is supervised by the Minister of the Environment. The Polish Hydrogeological Survey which has its seat in the Institute is directly responsible to the President of the National Water Management Authority. The Institute's activities pursued under its mission of the Polish Geological Survey and the Polish Hydrogeological Survey correspond to the current needs of the Polish state and the development of its society. The Institute performs its mission through intense activities in all fields of earth sciences all over Poland. It is the main depository and a source of knowledge, information and geological, hydrogeological and geoenvironmental data in Poland.

### The following activities are fundamental for the Institute:

- To fulfil the statutory tasks of the Polish Geological and Hydrogeological Surveys
- To provide scientific basis for the activities associated with performing the duties of the survey
- To develop pure research within the range related to the tasks of the survey, the statutory tasks and these which result from the status of a National Research Institute.

It is of extreme importance to work out an appropriate balance between the above mentioned developments of Institute's activities and to keep on adapting them to the current needs of the country and society.

Major institutions that commission and finance projects of the Polish Geological Institute – National Research Institute



The operations of the Institute are mainly focused on performing the statutory tasks of the survey which result from the adequate regulations. The tasks of the **Polish Geological Survey** are carried out pursuant to the *Act on Geological and Mining Law* (Journal of Laws of 4 February 1994 No 27, Item 96, as amended).

They, in particular, include:

- Handling the Central Geological Archives.
- Keeping the Central Geological and Hydrogeological Database.
- Preparing materials for the *Report on Mineral Reserves/Resources and Groundwater* and handling the register of the resources.
- Coordination of carrying out the geological cartography projects and pilot studies.
- Keeping the mining area register.
- Coordination of projects concerning the protection of geodiversity.

The **Polish Hydrogeological Survey**, under the *Act on Water Law* (Journal of Laws of 11 October 2001 No 115, Item 1229, as amended), is responsible for:

- Making hydrogeological measurements and observations.
- Collecting, processing, archiving and making information available, especially this related to the resources and chemical and quantitative state of groundwater.
- Keeping and updating hydrogeological databases.
- Making current analyses and evaluating hydrogeological conditions.
- Drawing up and handing over forecasts of changes of the groundwater resources, their conditions and threats.
- Drawing up and handing over to the bodies of public authority warnings against dangerous phenomena occurring in groundwater recharge and intake zones.