

**EuroGeoSurveys,  
 the Austrian Geological Survey  
 and the European Construction**

PATRICE CHRISTMANN\*)

2 Text-Figures

*Europäische Union  
 WEGS  
 FOREGS  
 EuroGeoSurveys*

**Contents**

Zusammenfassung ..... 47  
 Abstract ..... 47  
 1. EuroGeoSurveys, the Association of the European Geological Surveys ..... 47  
 2. EuroGeoSurveys, Support to the European Construction ..... 49  
 3. The Participation of the Geological Survey of Austria in EuroGeoSurveys ..... 50  
 4. The Future ..... 50  
 References ..... 52

**EuroGeoSurveys, die Geologische Bundesanstalt und die europäische Zusammenarbeit**

**Zusammenfassung**

Die Vereinigung der Europäischen Geologischen Dienste, EuroGeoSurveys, wurde 1995 gegründet. Die Wurzeln gehen auf die Vereinigung Westeuropäischer Geologischer Dienste (WEGS) zurück. Diese wurde später in FOREGS (Forum Europäischer Geologischer Dienste) umbenannt. Seit seiner Gründung vor 10 Jahren lieferte EuroGeoSurveys zahlreiche Beiträge für die Politik und auch für den ökonomischen Bereich in Europa. Österreich war, vertreten durch Hans P. SCHÖNLAUB, von 2000 bis 2003 Mitglied des Exekutivkomitees und hatte auch im Jahr 2001 die Präsidentschaft von EuroGeoSurveys inne.

Trotz aller Fortschritte, die seit der Gründung von EuroGeoSurveys erreicht werden konnten, steht die EU mit ihrer Politik der nachhaltigen Entwicklung erst am Beginn eines Prozesses, die geologische Dimension Europas zu erfassen und diese auch zu integrieren.

**Abstract**

The association of EuroGeoSurveys was founded in 1995. It originates from an informal group of Western European Geological Surveys (WEGS), which was later called Forum of European Geological Surveys (FOREGS). In it's 10 years of existence EuroGeoSurveys delivered several important inputs to European policy making and to the overall European economy. Austria, represented by Hans P. SCHÖNLAUB, has been member of the Executive Committee from 2000 to 2003 and held the Presidency in 2001.

Despite the progress made since the creation of EuroGeoSurveys, the EU Sustainable Development policy and its derived environmental policy are only beginning to integrate Europe's geological dimension.

**1. EuroGeoSurveys, the Association of European Geological Surveys**

EuroGeoSurveys a not for profit association registered under French law, is the latest development of a long tradition of cooperation between the European Geological Surveys, dating back to 1971, when the informal Western

European Geological Surveys (WEGS) informal network was created, linking 13 Geological Surveys following the proposal of the Directors of the British, French and German Geological Surveys. In 1979, the WEGS network 22 Sur-

\*) Dr. PATRICE CHRISTMANN, Secretary General, EuroGeoSurveys, 3 rue du Luxembourg, B 1000 Bruxelles.  
[patrice-christmann@eurogeosurveys.org](mailto:patrice-christmann@eurogeosurveys.org)

veys participated in its activities. Under its auspices, the Directors of the participating Geological Surveys periodically met to exchange experiences and discuss issues of common interest.

In 1992 the network name was changed into Forum of European Geological Surveys (FOREGS). It still was an informal, but very active network.

The same year, parallel with their continued participation to FOREGS, the Directors of the then 12 EU Member States<sup>1)</sup> Geological Surveys, encouraged by a letter (Box 1) of support from the European Commission Vice-President Martin Bangemann, decided to work on setting-up a formal, legally registered association.

**Box 1.**

Letter, dated 22. 07. 1993 from European Commission Vice-President Martin BANGEMANN to Pr. Martin KÜRSTEN, President of the German Federal Institute for Geoscience and Raw Materials. Translation from the original German text.

“During our discussion on 5/10/1992 you mentioned the intention to establish an Association of the Geological Surveys of the European Community. In your letter of 01/06/1993 you informed me that in the meantime this has been successfully accomplished.

I am pleased to congratulate you on your success since this provides the Commission of the European Community and other European institutions with a competent partner with whom initial discussions can be held on relevant issues in the field of the geosciences.

Since this association does not represent any business interests, it can make optimum uses of its contacts within the different spheres of responsibility within the Community and thus foster still closer cooperation between geological surveys, both within the Community and outside it.

I will gladly inform my colleagues and the individual European institutions about the founding of the Association of the Geological Surveys of the European Community.”

In September 1995, the EuroGeoSurveys statutes were signed by 15 members in a General Meeting that took place in Dublin. Hans-Peter SCHÖNLAUB represented the Austrian Geological Survey (The „Geologische Bundesanstalt“, GBA), one of the Geological Surveys that founded EuroGeoSurveys. Its formal registration as a not-for-profit association under French law was published in the French Official Journal on 21<sup>st</sup> February 1996. The objectives of the Association, defined in its Statutes, are shown in Box 2.

Peter COOK, then Director of the British Geological Survey (BGS) became its first President. EuroGeoSurveys established an office in Brussels, to work in close relation with the European institutions, particularly with the European Commission. The association is managed by a Secretary General, who implements the decision taken in the General Meetings of the Member Surveys Directors, under the supervision of an Executive Committee comprising four members. The Secretary General is elected by the Directors and seconded by one of the Member Surveys. Richard ANNELLS, from BGS, was its first Secretary General, up to 2001. The second Secretary General, Emile ELEWAUT, seconded by TNO-NITG (the Dutch Geological Survey) served from 2001 to 2004, when the author, seconded from BRGM (the French Geological Survey), became the third Secretary General.

<sup>1)</sup> Austria joined the EU in 1995, together with Finland and Sweden.

**Box 2.**

EuroGeoSurveys objectives.

- To jointly address European issues of common interest;
- To promote the contribution of geosciences to European Union affairs and action programs;
- To assist the European Union to obtain technical advice from the members of the Association;
- To provide a permanent network between the Geological Surveys and a common, but not unique, gateway to each of the Surveys and their national networks.

Parallel to EuroGeoSurveys, FOREGS continued to exist as a larger forum<sup>2)</sup>, closely cooperating with EuroGeoSurveys. Its European Union and European Free Trade Area members were also EuroGeoSurveys members. Each year a common meeting was held and the joint EuroGeoSurveys-FOREGS working groups delivered important contributions to European policy-making:

- The Contact group for European standards for digital geological<sup>3)</sup> cartography and computer modeling;
- The geochemistry working group;
- The marine geology working group;
- The natural hazards working/contact group;
- The nonmetallic minerals and industrial rocks working group;
- The remote sensing contact group;

EuroGeoSurveys grew regularly. The successive enlargements of the European Union (1995: + 3 Member States, 2004: +10 Member States) contributed to a progressive increase of its membership, from the initial 15 members up to 31 members by April 2006. Full membership is open to surveys from the EU-members states, from the European Free Trade Association countries and from EU accession candidate countries. Other European Council member countries can become network members, with no voting rights. As in several European countries regional Geological Surveys exist independently from the National Geological Surveys, these can participate too to the EuroGeoSurveys activities, in liaison with the relevant National Survey.

The decision to allow accession candidate countries from the former Eastern Bloc to become full EuroGeoSurveys members was taken at the general meeting in Orléans in 2001. As many FOREGS members progressively became members of EuroGeoSurveys, a consensus developed that its activities should be discontinued. FOREGS activities came to an end at the September 2005 joint FOREGS – EuroGeoSurveys meeting in Orléans. Nevertheless, the tradition is maintained to invite Geological Surveys from European<sup>4)</sup> countries that are not yet members of the association to attend the autumn general meeting, workshop and associated excursion, in order to continue the tradition of cooperation and networking.

<sup>2)</sup> For details on its past activities please visit the FOREGS web site:

<http://foregs.eurogeosurveys.org/>

<sup>3)</sup> “Geology” and “geological” used in this text include all the scientific domains and technologies that contribute to the understanding of the Earth’s subsurface nature, structure, dynamics, resources and related hazards in contrast to “Earth sciences”, that encompass all the sciences that have for object the knowledge and the management of the Earth, including the atmosphere, the biosphere, the oceans and the continental surface water bodies.

<sup>4)</sup> European being considered as any country that is member of the Council of Europe.

EuroGeoSurveys Brussels based bureau comprises the Secretary General, a full-time assistant and a part-time secretary. Its strength however lies with the scientific and technical capacities of its members. On the basis of 2004 figures, its 31 members represent a permanent work force of about 7500 persons, of which about 60% are either graduates or engineers.

## 2. EuroGeoSurveys – Support in the European Construction

Sustainable Development is enshrined as an overarching principle in the key European legal text, the “Treaty establishing the European Community” (Art. 2, see box 3 below).

Box 3.

Article 3 of the consolidated Treaty of the European Community.

The Community shall have as its task, by establishing a common market and an economic and monetary union and by implementing common policies or activities referred to in Articles 3 and 4, to promote throughout the Community a harmonious, balanced and **sustainable development of economic activities, a high level of employment and of social protection**, equality between men and women, sustainable and non-inflationary growth, a high degree of competitiveness and convergence of economic performance, **a high level of protection and improvement of the quality of the environment**, the raising of the standard of living and quality of life, and economic and social cohesion and solidarity among Member States.

In this context environmental issues received much attention from the European Commission through the development of European policies and legislation. For instance, the European Water Framework Directive not only sets the scene for better water resources management in Europe, but it is also used as a reference for policy development in some countries outside of Europe. The forthcoming Soil Framework Directive will be the first ever attempt to address the complexity of soil conservation and management issues at the scale of a region as large as Europe. Civil protection and the mitigation of the impacts of natural hazards also receive an increased attention, with the recent publication of a Directive proposal „on the assessment and management of floods“ ([http://ec.europa.eu/environment/water/flood\\_risk/index.htm](http://ec.europa.eu/environment/water/flood_risk/index.htm)) and through projects to improve the protection against specific hazards, such as the development of early warning systems such as tsunamis.

In its 10 years of existence, EuroGeoSurveys delivered several important inputs to European policy making and to the overall European economy. Some of the main EuroGeoSurveys achievements are:

- GEIXS, the first European web based digital onshore geological metadata base (<http://geixs.brgm.fr/>), with a geographic navigational interface. This project, launched in 1997, managed by the British Geological Survey was extremely innovative as it was the first attempt to provide unified access to metadata from the European Geological Surveys, developed according to the draft (at that time) CEN (Committee on European Standardization) standard on metadata. The website was opened in 1999;

- EU-SEASED8, the first European web based digital offshore metadata base (<http://www.eu-seased.net>), with a geographic navigational interface, on seabed core samples, marine sediments samples and seismic profiles held in European Geological Surveys, Universities and Research Centres.

- The Geochemical Atlas of Europe (<http://www.gtk.fi/publ/foregsatlas/>), to be officially presented to the European Commission in September 2006, is the first ever low-resolution, pan-European, harmonized description of the distribution of 55 major and trace elements in topsoil, surface waters and stream sediments. It represents a major achievement in developing sampling and laboratory procedures that allow comparability of analytical results between various laboratories.

The two first developments were made possible further to co-financing by the European Commission via specific research programs.

In addition to the delivery of such tangible products, EuroGeoSurveys contributes to the EU policy making and legislative process. This contribution materialises through the participation of experts from its member surveys to formal experts working groups set-up by the Commission. In the recent years EuroGeoSurveys contributed to:

- the preparatory stages of the Water Framework Directive ([http://ec.europa.eu/environment/water/water-framework/index\\_en.html](http://ec.europa.eu/environment/water/water-framework/index_en.html)) and of its daughter “on the protection of groundwater against pollution” Directive proposal;
- the preparatory stages of the future Soil Framework Directive (<http://ec.europa.eu/environment/soil/index.htm>);
- the preparatory stages of the “establishing an infrastructure for spatial information in the Community” Directive Proposal (INSPIRE; <http://www.ec-gis.org/inspire/>);
- the formulation of the “Thematic Strategy on the Sustainable Use of Natural Resources” policy proposal (<http://ec.europa.eu/environment/natres/index.htm>). EuroGeoSurveys is also likely to contribute to the implementation of that strategy;
- the preparatory stage of the Global Monitoring for Environment and Security program (GMES; <http://www.gmes.info/>);
- the preparatory stages of the “Global Earth Observation System of Systems” (GEOSS) 2005–2014 program (<http://www.earthobservations.org/index.html>);
- the revision process of the EU Sustainable Development policy (The revised EU Sustainable development policy can be downloaded following this link: <http://register.consilium.europa.eu/pdf/en/06/st10/st10117.en06.pdf>);
- the ongoing activities of the permanent “Raw Materials Supply Group” ([http://ec.europa.eu/enterprise/steel/index\\_en.htm](http://ec.europa.eu/enterprise/steel/index_en.htm)) set-up by the Directorate General with the European non-energy extractive industries stakeholder organisations to identify and address issues specifically related to the non-energy mineral resources sector.

In addition to being active in national scientific research programs, EuroGeoSurveys members are also important actors of the European Research Era, via their participation to the Framework programs of the European Community for research, technological development and demonstration activities in domains such as:

- natural resources exploration, use, management and conservation and the understanding of complex interactions between environmental media, such as soils and groundwater;
- waste characterisation, minimisation and safe storage;
- the characterization of natural hazards, the development of early warning systems and the mitigation of impacts;
- the development of geological/environmental data acquisition subsystems (such as sensors), data processing and modeling of complex environmental processes, the



contribution to the development of international geological/environmental data models and of metadata/data interoperability standards.

EuroGeoSurveys maintains and publishes on its website ([http://www.eurogeosurveys.org/\\_STUDIOEMMA\\_WWW/uploads/File/EGS%20RTD%20database%202005.xls](http://www.eurogeosurveys.org/_STUDIOEMMA_WWW/uploads/File/EGS%20RTD%20database%202005.xls)) a database of the European research activities of its member surveys. It currently includes information on 140 projects and links to project websites.

### 3. The Participation of the Geological Survey of Austria to EuroGeoSurveys

As mentioned above, GBA is one of the founding fathers of EuroGeoSurveys. Werner JANOSCHEK was a candidate for the position of first Secretary General. Austria brought to EuroGeoSurveys the benefits of its intensive ongoing cooperation with Central European countries that were parts of the former imperial and royal k.u.k. Austro-Hungarian dual monarchy (for details see: WELLMER, 2006). This experience and the well-established interpersonal links greatly contributed to the integration of the Central European countries into EuroGeoSurveys. The GBA always „thought“ in European dimensions; this is evident by the annual reports of the GBA. Recent activities of FOREGS, as well as EuroGeoSurveys, are documented there year by year in detail. We also find a foreword of Richard ANNELLS (General Secretary of EuroGeoSurveys) in the festival volume, which was published 1999 due to the occasion of the 150<sup>th</sup> anniversary of the founding of GBA (Geologische Bundesanstalt, 1999). In the same year the GBA hosted also the FOREGS-Meeting (MANDL, 1999).

The preparation of the last wave of enlargement of the EU from 15 member countries up to the current number of 25 members also required some careful planning for EuroGeoSurveys. The success of the enlargement of the EuroGeoSurveys membership owes much to Hans Peter SCHÖNLAUB'S personal contacts and dedication to the association's objectives. The success of the enlargement of EuroGeoSurveys is a practical result of his three years term as member of the Executive Committee from 2000 to 2003, and of his Presidency in 2001.

His skills in communicating geology to its – sometimes unsuspecting – end-users much contributed to forge the

current EuroGeoSurveys communication policy. He played an important role in putting the end-users, including the general public, at the centre of this policy. His role is also materialised by the widely distributed EuroGeoSurveys brochure “The Earth, a heritage, a future” (2004) that introduces, in a wording understandable by the non-geologist, the issues addressed by geological surveys and how geology serves society. Together with Switzerland (Bundesamt für Wasser und Geologie) and Germany (Bundesanstalt für Geowissenschaften und Rohstoffe) he edited (2005) a German version of the brochure named “DIE ERDE ... unsere Heimat, unsere Zukunft”.

He fully recognized the importance of geology for the future of mankind and its continued dependence on nature, including its geological resources and hazards. In May 2005, in his speech at the opening ceremony of the new building of the Austrian Geological Survey (Text-Fig. 1), he stated:

*“Geology conditions our daily life, it is not imaginable without Geological Sciences”.*

Yes, as the title of his recent and beautiful book on the Carinthian Alps Geopark nicely states: “The real hero is Nature” (SCHÖNLAUB, 2005).

In addition to his dedication to communicating geology to the general public, he also understood the necessity to demonstrate, in a scientific way, the benefits Geological Surveys deliver to a variety of end-users against their cost for public budgets under increasing pressure in many EU countries. This materialised by the organisation in the GBA office in Vienna, in 2005, of an EuroGeoSurveys workshop on cost-benefit analysis of the Geological Surveys services.

### 4. The Future

Since the XIX<sup>th</sup> century, when most of the European Geological Surveys, including GBA, were created the operational paradigm of Geological Surveys has drastically changed. At that time their operational paradigm was essentially:

*„Find the mineral resources to fuel the national industrial revolution and acquire fundamental knowledge about the subsurface“.*

Nowadays, with the rapidly growing sustainable development and globalisation issues, the many innovations in Earth observation technologies and in geological sciences that occurred over the last decades, and the advent of the digital information society, the remit of Geological Surveys much evolved. At the beginning of the XXI<sup>st</sup> century, this remit can be summarised as follows: „Acquire the data, provide the interoperable and harmonised information needed to develop policies, legislation and to address the multiple issues related to Sustainable Development, seamlessly at local, regional, national, European and global scales faced by diversified end-users.



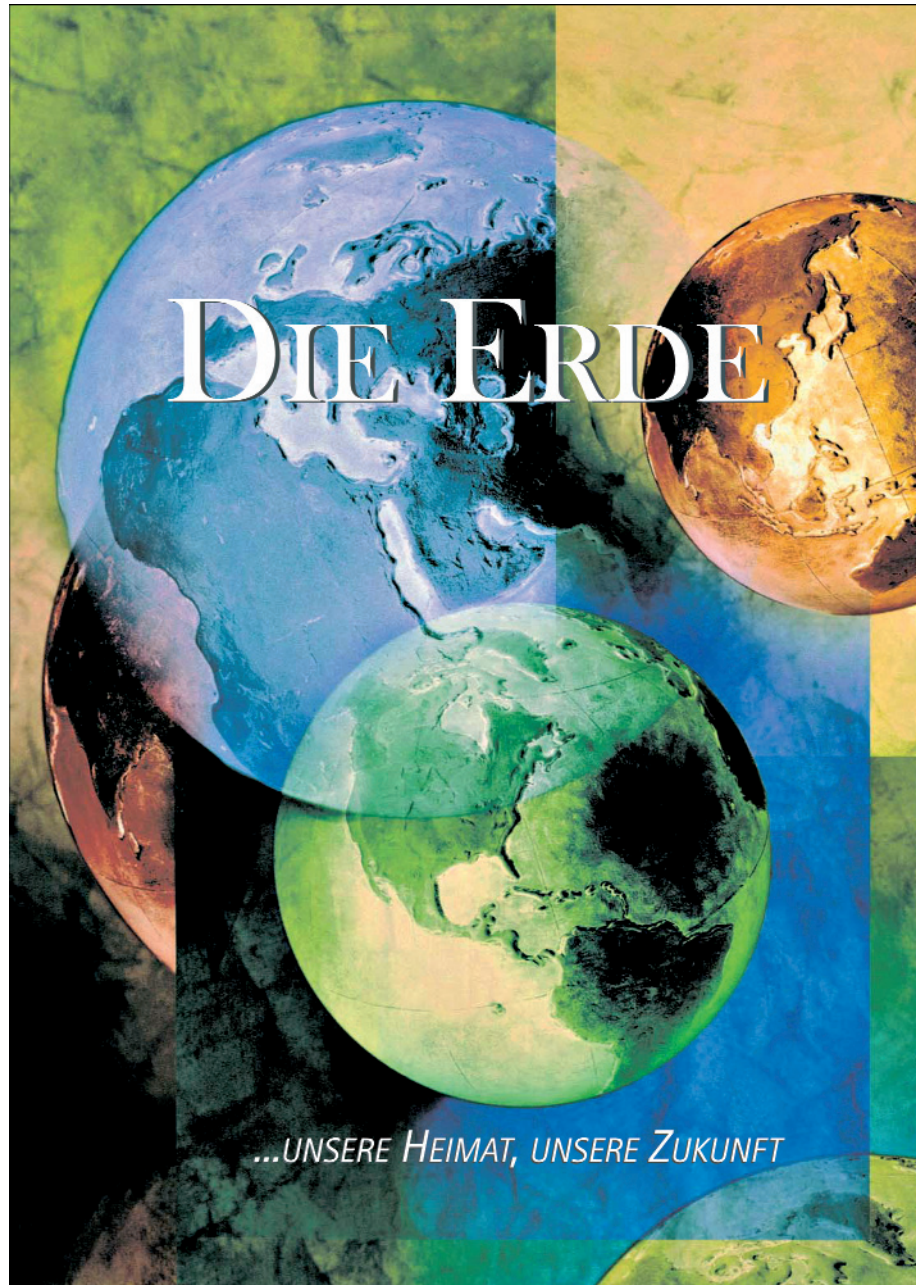
Text-Figure 1.  
Hans Peter SCHÖNLAUB at the GBA building inauguration ceremony on May 25<sup>th</sup> 2005.  
© Piotr LIPIARSKI.

Text-Fig. 2.

German version of the brochure "The Earth, our heritage, our future" – one of Hans P. SCHÖNLAUB'S merits for EuroGeoSurveys.

With humanity to grow up to 9.1 billion humans according to the UN Population Division medium variant (UN Population Division, 2004) and yet underdeveloped countries seeking to develop their economies and to access to the amenities that developed countries enjoy, natural resources and environmental issues will become of ever increasing importance. The current impacts on the world energy and minerals markets of the recent acceleration of China's and India's economic growth rates are already very noticeable, and this is likely to be just the beginning of an acceleration of the competition for access to vital resources, many of them being related to geology. This competition for resources is a powerful cause of conflicts. As a water-related example, the last edition of the Blue Plan (UNEP, 2006), a periodically updated outlook on the environment and the development of the Mediterranean region, recalls that the riparian countries of the Mediterranean sea account for 60% of the world's "water poor" populations<sup>\*)</sup>. Box 4 shows one of its findings, summarizing the water resources issues in this particular region.

Despite all the feats of modern technologies, human well-being will for the foreseeable future depend, as ever before, on the availability of natural resources such as



Box 4.

Water issues in the Mediterranean region, from the UNEP 2006 edition of the Blue Plan „A sustainable future for the Mediterranean“.

Water demands, i.e., cumulated withdrawals (95% of total), water imports and non-conventional water production (desalinization, reuse), doubled in the second half of the 20th century to reach 290 km<sup>3</sup>/year for all riparian countries, and 190 km<sup>3</sup>/year on the Mediterranean catchment basin. Irrigation accounts for 65% of total demand in the Mediterranean basin: 48% in the North and 82% in the South and East; irrigation is marginal only in the eastern Adriatic, from Slovenia to Serbia and Montenegro. By 2025, water demand could increase by another 25% in the South and East, particularly in Turkey and Syria.

\*) Population in countries where per capita water natural resources (which are not always 'available') are under 1000 m<sup>3</sup>/capita/year.

abundant and clean water, of fertile soils, of clean air, of affordable and ample energy and mineral supplies. As population densities will continue to grow, and the value of build-up assets will continue to increase, the importance of a proactive, knowledge based, mitigation of the impacts of natural hazards will also continue to increase.

There will be a need to much improve our Earth observation and management capacities, be they human (with the challenge of attracting talented young people towards the geological sciences) or material. New and better sensors are needed on board of satellites, aircraft, ship and in situ to locate the resources for the future, to understand the functioning of the global ecosystem and of its local subsets and to better manage our fragile environment. New, environmentally efficient technologies are needed to exploit and use natural resources with less negative impacts and less waste.

Much attention ought to be given to developing the capacities of developing countries as they are the ones where problems may cumulate and lead to uncontrollable situations. In many cases they already suffer from dire resources related constraints, rapid demographic growth



and the lack of resources to develop sustainable natural resources and use policies with long-term perspectives.

Despite the progress made since the creation of EuroGeoSurveys, the EU Sustainable Development policy and its derived environmental policy are only beginning to integrate Europe's geological dimension. The overall vision and understanding of the environment remains largely focused on what can be observed on the surface of the Earth and in its atmosphere. In the European Commission report prepared to establish the scientific and technical basis for a European capacity for Global Monitoring for Environment and Security (GMES), a major European program, WYATT B.K. et al. (2004) write:

*“Within the EU, consistent, high resolution inventories and maps are lacking for soils, geology, hydrography and topography. The only available EU-wide digital soil map, for example, is at a scale of 1:1 million, and based on a classification system that has limited relevance for many applications.”*

Geology is absent from the EU Development policy, and it is also absent in the recently created European Research Council.

EuroGeoSurveys and its members actively participate in the following European Commission driven or supported activities that all aim at bringing the benefits of the geological sciences to European policy making:

- The implementation of the Global Earth Observation System of Systems program. This program and the support it receives from the European Commission aims at the development of a distributed global digital spatial data infrastructure, the enhanced traceability and accessibility of metadata and data. It is expected to boost the development of a global geological model and the interoperability of currently disseminated, heterogeneous, multi-lingual metadata and data. Finally it will play a significant role in capacity building, a domain where much action is needed, especially in support of developing countries.
- The drafting of the implementing rules of the future INSPIRE Directive. This Directive, if and when in force, will be the driver for the much needed development of the European spatial data infrastructure.
- The drafting of the implementing guidelines of the future “On the Protection of Groundwater against Pollution” Directive.
- the development of the Water Information System for Europe (WISE) that will store and manage all the data the EU Member States have to provide within the implementation of the Water Framework Directive.

- The drafting of the INSPIRE implementing rules for the development of the European spatial data infrastructure.
- The conception and the promotion of the European Technology Platform for Sustainable Mineral Resources proposal (<http://www.etpsmr.org>), an European minerals industry initiative under the forthcoming 7<sup>th</sup> European Research Framework Programme to address via a coordinated European research effort a number of issues critical to the future of a sustainable mineral resources supply to the EU economy. This Technology Platform proposal did not yet achieve full formal recognition from the European Commission.
- Participation to the TerraFirma project (<http://www.terrafirma.eu.com/>) on the application of permanent scatterers interferometric synthetic aperture radar (PSINSAR) technology to the detection of slow ground motion phenomena. TerraFirma is one of the 10 services currently developed with the support of the European Space Agency within the framework of the initial phase of the deployment of the GMES programme.

All these activities would not develop without the commitment and the coordinated support of the EuroGeoSurveys member surveys.

## References

- BENOIT, G. & COMEAU, A. (Eds.): A Sustainable Future for the Mediterranean. The Blue Plan's Environment and Development Outlook 2005. – UN Organisation for Environmental Protection, Mediterranean Action Plan, Earthscan, London.
- Geologische Bundesanstalt (Ed.): Die Geologische Bundesanstalt 150 Jahre Geologie im Dienste Österreichs (1849–1999). – 538 p., ill., Wien (Böhlau-Verlag) 1999.
- MANDL, G.W. (Ed.): Field trip guide Vienna – Dachstein – Hallstatt – Salzkammergut (UNESCO World Heritage Area), August 30<sup>th</sup> – September 2<sup>nd</sup>, 1999: 150 Years Geological Survey of Austria. – Ber. Geol. B.- A., **49**, 113 p., ill., Wien 1999.
- SCHÖNLAUB, H.P.: Der wahre Held ist die Natur – Geopark Karnische Region. – 259 pgs., ill., Wien (Geol. B.- A.) 2005.
- United Nations, Economic and Social Affairs Department, Population Division: World Population Prospects, the 2004 revision. – UN publication (accessed on 15/08/2006 at: [www.un.org/esa/population/publications/WPP2004/WPP2004\\_Volume3.htm](http://www.un.org/esa/population/publications/WPP2004/WPP2004_Volume3.htm))
- WELLMER, F.-W.: Die deutsch-österreichischen Beziehungen in den Geo- und Montanwissenschaften. – Jb. Geol. B.-A., **147/1+2**, 53–63, 8 Abb., 4 Tab., Wien 2007.
- WYATT, B.K., BRIGGS, D.J. & RYDER P.: Building a European information capacity for environment and security – A contribution to the initial period of the GMES Action Plan (2002–2003), 2004 – European Commission Directorate General for Research, report EUR 21109.