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EGS receives high level support from the European Commission and European Parliament at its 34th General Meeting in Brussels

Relations strengthened with Russian Federation and the Joint Research Centre

The 34th EuroGeoSurveys General Meeting took place from the 18th to the 21st of March 2013 at various locations around Brussels. This event brought together the Directors of the Geological Surveys of Europe to discuss key strategic plans for the future of EGS and included a high-level Directors Workshop with numerous distinguished guest speakers which was seen as a resounding success.

Two important milestones were reached during the General Meeting with the signing of a Memorandum of Understanding between EGS and Rosnedra, the Russian Federal Agency on Mineral Resources, along with the signing of a Cooperation Agreement between EGS and the European Commission Directorate-General Joint Research Centre (JRC), the EC's in-house science service. A keynote speech by the head of Rosnedra, Mr. Alexander Popov, preceded the signing of the MoU between EGS and Rosnedra which took place in the prestigious surroundings of the Palais des Académies. The cooperation that will result from the MoU is seen as a significant development in the policy dialogue between the European Commission and their Russian counterparts in the area of raw materials.

EGS now hopes to build further on the strong relationship that already exists between their members and the Russian Federation in the area of geosciences. In fact, the next EGS General Meeting will be hosted by the A.P. Karpinski All-Russia Geological Research Institute (VSEGEI) in St. Petersburg in October 2013.

As part of the General Assembly events, a high-level Directors' Workshop discussing "Scope for further international research on the energy and non-energy minerals sectors" was organised

and kindly hosted by the Geological Survey of Belgium at the Royal Belgian Institute of Natural Sciences. The level of interest in EGS activities in this area was reflected by the eminent speakers in attendance: MEP Amalia Sartori (Chair of the ITRE Committee), Dominique Ristori (Director-General of DG JRC), Philip Lowe (Director-General of DG Energy), David Harmon (Member of the Cabinet of Commissioner for Research, Innovation and Science Máire Geoghegan-Quinn), Mattia Pellegrini (Head of Metals, Minerals, Raw Materials Unit, DG Enterprise and Industry), Roland Oberhansli (President of the International Union of Geological Sciences), Corina Hebestreit (President of the European Technology Platform on Sustainable Mineral Resources and Director of Euromines) and Michelle Wyart-Remy (Secretary General of the European Industrial Minerals Association).

There was also a surprise address by MEP Victor Boştinaru who discussed the impending revision of the Environmental Impact Assessment Directive modifications by the Petitions Committee.



Amalia Sartori - MEP and Chair of Industry, Research and Energy (ITRE) Committee, **Mart van Bracht** - EGS President and **Luca Demicheli** - EGS Secretary General

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The workshop saw the launch of the latest EGS publication "Geology at the table – Cooking without borders" – an original new concept of communicating the variety of Europe's geology while linking it to something we all love: good food! Each speaker at the event received a copy of the book, which will soon be re-printed and go on sale to the general public. The signing of a Cooperation Agreement between EGS and the JRC also took place during the workshop, more about which can be read in the following article.

The main message heard throughout the workshop was of the good progress that EGS has made these past years and months in becoming a real partner of the European Institutions. There was a keen interest to help EGS develop further and support for the establishment of an ERA-NET on geosciences. Significantly, MEP Amalia Sartori, who chairs the Industry, Research and Energy Committee of the European Parliament, gave her full support to the strategic ambitions of EGS. Philip Lowe also portrayed the energy demands that Europe will face in the future and emphasised the important role of the geological surveys in meeting those demands.

The workshop finished off with an invitation to all participants to take part in the S-Bridge Warsaw Conference "From Fossil Fuels to Green Energy: Shale Gas as a Bridge Energy Carrier" being co-organised by EGS and PGI-NRI, to be held in Warsaw on the 12-13 November 2013. This conference is being organised as a side-event to the Climate Change Conference of the Parties (CCCOP-19), the annual UN summit which addresses global climate protection.

The week of successful events was rounded off by a field trip, organised by the Geological Survey of Belgium, to discover some of the geological characteristics of the Ardennes.

The geological excursion was organised along the Meuse river between Namur and Dinant.

Along the Meuse river basin is the geological history can be read by a geologist exactly like going through the pages of a book. In this peculiar area several chronostratigraphic units were defined and now belong to the world geological heritage. Its natural resources, mineral and water, contributed to start the industrial revolution on mainland Europe and created a rich industrial and architectural heritage. The central section, from Namur to Dinant, constitutes the classical Meuse river geological section of Upper Devonian and Carboniferous rocks.

The few highlights that the participants in this one-day trip could enjoy, intended to serve as an introduction for more comprehensive visits to this geological paradise.



Luca Demicheli - EGS Secretary General



David Harmon - Member of Cabinet of Ms Máire Geoghegan-Quinn, European Commissioner for Research, Innovation and Science



Alexander Popov - ROSNEDRA Director General, Mart van Bracht, EGS President

Cooperation agreement between the Joint Research Center of the European Commission and EuroGeoSurveys, the Geological Surveys of Europe.

A Collaboration Agreement (CA) between Joint Research Center of the European Commission (JRC), represented by the JRC General Director Mr **Dominique Ristori** and EuroGeosurveys (EGS), represented by the EGS President Mr **Mart J. van Bracht**, was signed in Brussels during the EGS General Meeting and Director's workshop on the 20th of March.

The general objective of this CA is to ensure a long term cooperation in sharing geo-scientific information and knowledge.

EGS and JRC signed a previous MoU on 2006 which was expired on 2009.

While successful cooperation especially in the area of ISPIRE has been established until now, this new CA will largely extend the original scope towards a wider range of geo-scientific (policy) areas such as geohazards, soil related aspects, including geochemistry and groundwater, raw material or geoenergy or data information infrastructures among others.

Through joint efforts of the Parties, new approaches can be identified and developed in the areas of geoscientific information and knowledge exchange, thus working to the mutual benefit of both organizations in the achievement of their objectives.



Mart van Bracht - EGS President and **Dominique Ristori** - Director-General, DG Joint Research Centre of the European Commission

New Director of the Geological Survey of Ireland

Mr. Koen Verbruggen has been appointed as the new Director of the Geological Survey of Ireland (GSI).

EuroGeoSurveys congratulates Koen on his new appointment and welcomes him to the EGS Board of Directors.



Mr. Marincea appointed Director General of the Geological Institute of Romania for a second time.

EuroGeoSurveys congratulates Stefan on his re-appointment and welcomes him back to the EGS Board of Directors.



The PanGeo project for Rome



In the framework of the **PanGeo** (Enabling Access to Geological Information in Support of GMES) EC 7FP Project, started on February 2011 with the aim of enabling free and open access to geohazard information in support of the program Copernicus (former GMES - Global Monitoring for Environment and Security), the Geological Survey of Italy, together with the Urban Planning Department of Roma Capitale, have elaborated a geohazard map for Rome, combining PSInSAR data (measurements of terrain-motion) with geological and geothematic data. Rome is one of the 52 most populated towns in Europe for which PanGeo has intended to provide INSPIRE-compliant, free, online geohazard information.

To produce the geohazard map (named Ground Stability Layer - GSL), 31 different thematic layers concerning infrastructures, geological, hydrological and geothematic data were collected, such as topographic maps, geological maps, maps and inventories of specific hazards (landslides, sinkholes, cavities), hydrogeological data and information on the historical and recent urbanization and human activities (thickness of artificial fill, distribution of quarries and mines, road and railway networks, tunnels).

In the GSL, geohazards are firstly divided in two classes: observed and potential. In the observed class, 18 layers represent areas where ground movements have been recognized by means of PS data interpretation (Fig. 1), or areas where landslides and sinkholes are known to have occurred. The other 13 layers concern areas where the potential occurrence of geohazards has been inferred by combining geological and/or geothematic data with other municipality information, like the presence of underground constructions or mining, compressible grounds or tectonic lineaments.

Each geohazard multi-polygon is associated to a descriptive document completed with pictures (Fig. 2), air photos and geological schemes.

Observed ground movements, revealed by PSI, cover a surface of 584 km² (30.1 % of GSL); only 3.2 km² are affected by geohazards observed during field campaigns, supported by air-photo interpretation; the polygons where ground movements are suspected to occur (potential) cover the largest portion of the area, i.e. ~888 km² (corresponding to 45.8% of GSL). The largest polygon (518 km²) corresponds to the observed (by means of PSI data analysis) volcanic inflation (uplift) of the Latium Volcano, followed by the potentially compressible ground of the most recent and soft alluvial deposits of the Tiber River and its tributaries (288 km²); including also the observed subsidence polygon, the whole surface reaches 451 km². The other geohazards (topographic scarps susceptible to slide, groundwater abstraction, underground excavation, seismic amplification, made ground and mining zones) cover smaller areas.

All this information (in INSPIRE compliant format) is available on the PanGeo website (www.pangeoproject.eu) that allows the user to merge and compare territorial information, like high resolution land-cover data (e.g., Urban Atlas), with geological basic data (e.g., OneGeology-Europe geological map).

The main objective of this service is to monitor the existing natural hazards and the potential ground instability zones within the Roma territorial municipality. The knowledge of the geohazards is mandatory to establish appropriate mitigation measures both for existing man-made structures and for urban planning purposes.

Comerci V., Cipolloni C., Di Manna P., Guerrieri L., Vittori E.
- Geological Survey of Italy - ISPRA, Rome, Italy

Bertoletti E., Ciuffreda M., Succhiarelli C. - Department of Urban Planning - Roma Capitale, Rome, Italy

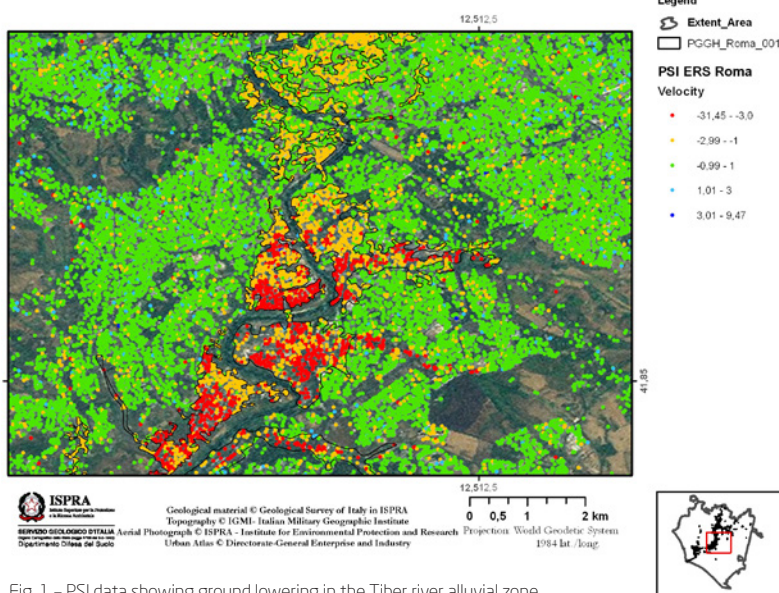


Fig. 1 - PSI data showing ground lowering in the Tiber river alluvial zone.



Fig. 2 - A sinkhole opened in a street of Rome (www.roma.repubblica.it).

EuroGeoSource: INSPIRE compliant information on energy and mineral resources a success!

At present the world population is about 7 billion people, expecting to grow to 8,5 billion in 2030. With this growth the gross domestic product is expected to double from 65 to 130 trillion US dollar. Meaning the demand on energy and mineral resources will continue to grow also. In this respect, Europe needs to secure its energy and non-energetic minerals supply. Since disruptions and shortages are immediately felt by the citizens and can have large impact on economy as well as repercussions on foreign relations, energy security is today very high in the political agendas across Europe and at the Commission.

EU authorities currently compile their long-term policies regarding the need for oil, gas and minerals, including estimates of the required import, from national reports contributed by the member countries. These reports contain only generalized information regarding reserves and production forecasts for a country as a whole. The high level of generalization of the hydrocarbon reserve information available at EU level and the lack of easily accessible, reliable and detailed data that could support decision making do not allow a fast response to crisis situations and significantly reduce the accuracy of the long-term planning of the geo-energy supply of Europe.

EuroGeoSource Portal

In three years (April 2010 to April 2013) the EuroGeoSource project has developed a multilingual web GIS system that allows users to identify access, use and reuse aggregated geographical information on geo energy and mineral resources, including harmonised data provided by 9 geological surveys, over 200 existing national datasets from 11 countries, data from existing - EU funded-services (OneGeology Europe, Emodned, Promine, Corine 2000, Natura 2000) and 92 maps from the petroleum geological atlas of the Southern Permian Basin Area.

The system supports searching for occurrences of commodities throughout Europe. calculates summary statistics on the fly and has incorporated tiled maps from existing services. To meet present requirements on performance, availability and scalability the EuroGeoSource system is implemented in the cloud, resulting in satisfactory performance even on a 3G network. In addition to the web client, the project delivered a client for Android and Microsoft Touchtable.

The EuroGeoSource system can easily be expanded to cover data from other countries and support additional languages. To facilitate this, tools used in the project to map existing data to the EuroGeoSource data model and create web services from this are freely available, together with a detailed cookbook.

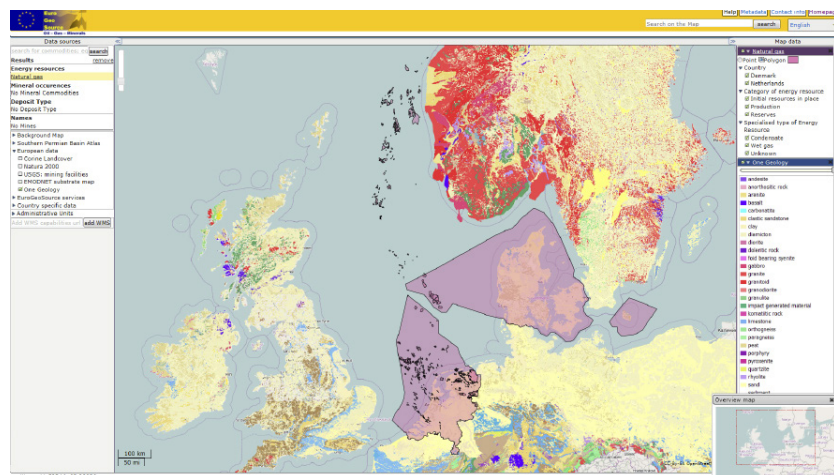
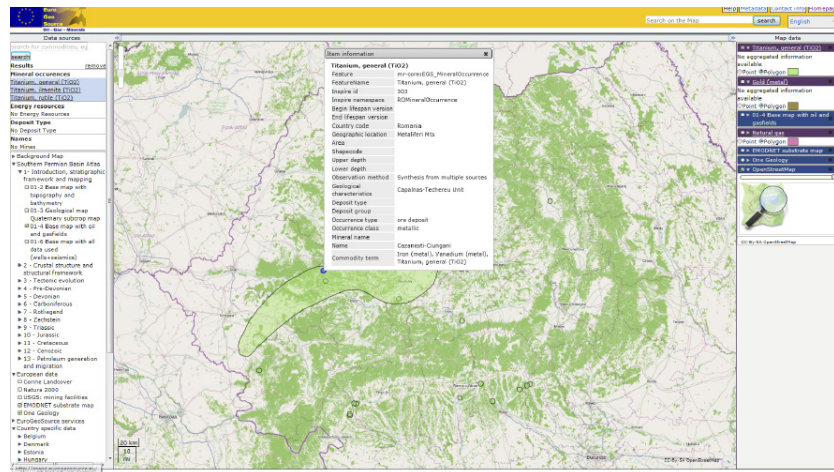


Figure 1: screenshots of the EuroGeoSource portal showing detailed information on mineral/energy occurrences and mines (upper panel) and combining them with existing EU funded harmonized data like OneGeology Europe

Collaborative framework

The project has built a collaborative framework between the major stakeholders in the energy and mineral resources sectors of the EU economy, including the corresponding directorates of EC, national ministries, the key market players, such as production and transportation companies, also outside the EU. At three international public workshops (Budapest - March 2011, Rotterdam - March 2012, Brussels - March 2013; hosting about 80 delegates each) the project results were discussed to improve the EU and International cooperation in harmonization and interoperability of energy and mineral resources data availability. The three events increased the project visibility, and encouraged the discussion on the management of (data on) energy and mineral resources.



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INSPIRE

The EuroGeoSource data model is mapped to the INSPIRE data specifications (version 2.0) for the themes geology, minerals, energy and administrative units. Project representatives were members of the thematic working groups 'geology and minerals' and 'energy', and we tested the INSPIRE data specifications intensively. We learned that the connection between the different data themes and the rationale within each theme in INSPIRE is not yet optimal, resulting in multiple references or redundancy when entering data. The detailed feedback we reported to JRC was very much appreciated, and used to improve the final data specifications and implementing rules. During the final seminar the question on updating the INSPIRE specifications was debated. The delegates saw the need for improvements, now more and more people are trying to use the INSPIRE specifications and fill the model with actual data. The updating of the specifications however will not be guided by the European Commission, but is viewed as the responsibility of the member states themselves and existing international (geological) networks.

Future

To make INSPIRE work, three levels of sustainability can be distinguished. In the first place, the institutions managing the data need to be sustainable: no data means no harmonised web service, resulting in an empty data portal! Secondly, the mapping of the data to the INSPIRE data specifications needs to be

dynamic, supporting changes in either the data itself, or the INSPIRE specifications. Thirdly, the web services need to be online 24/7. When these three aspects are not managed, the web services may be off-line, and even on line may provide outdated or non-compatible data. An additional sustainability issue exists for portals like EuroGeoSource. The system needs to be managed, software updated, new data providers accommodated etc.

During the final seminar in Brussels all four sustainability issues were discussed with the delegates. They underlined the added value of data portals like EuroGeoSource, as a first step in providing access to harmonised data, and providing (sophisticated) GIS functionality and analysis for a wide user group. An increase in the number of countries online, will definitely increase the value of the portal, facilitating real pan European analysis when all member states share their data. However, the sustainability of the EuroGeoSource portal itself, like most other portal products from EU funded projects, is not easily achieved. The delegates underlined the importance of the scoping study for the European Geological Data Infrastructure, that is expected to find a solutions for this.

Stephan H.L.L. Gruijters

Project Manager, TNO - Geological Survey of the Netherlands



Figure 2: Impression of the final EuroGeoSource seminar, March 12th 2013, Brussels

European Innovation Partnership on Raw Materials: Commission chooses European Minerals Day as communication platform!

This year the EuroGeoSurveys will be one of the organisers of the European Minerals Day among the trade federations from the mineral raw material industry and related organisations.

The European Minerals Day aims to raise awareness about the importance of the minerals sector in providing raw materials that are essential for the development of modern, environmentally-friendly technologies and downstream products, thereby reaching out to a wide range of stakeholders, from policy makers at EU and national levels to the general public. To this end, the sector invites local communities to explore the world of minerals at open day events at quarries, mines and plants across the EU that take place on 24 to 26 May 2013. Special focus is hereby on children (see www.mineralsday.eu).

Due to its strong outreaching potential, the European Minerals Day has been chosen by the European Commission as its primary platform to communicate about the European Innovation Partnership on Raw Materials.

The European Innovation Partnership (EIP) on raw materials was launched on 12 February by European Commission Vice-President Antonio Tajani, responsible for Industry and Entrepreneurship, together with Maire Geoghegan Quinn, European Commissioner for Research, Innovation and Science, and Janez Potočnik, European Commissioner for the Environment.

The EIP on Raw Materials will help make Europe a world leader in sustainable and resource efficient exploration, extraction, processing, product use, reuse and recycling of raw materials by 2020 and beyond. Acknowledging that raw materials are the lifeblood of EU industry, with at least 30 million jobs in the EU and 70% of EU manufacturing production depending upon them, the Commission proposes concrete targets to be achieved by 2020 to reduce Europe's dependency on imported raw materials.

This biannual event welcomed more than 30,000 visitors in over 100 sites in 17 European countries during its first edition in 2007. The European Minerals day 2009 engaged children and adults at more than 160 sites in 27 Countries. In the 2011 edition, more than 180 sites in 21 European countries and 11 in the rest of the world have taken part – good more than 200 events.

European Commission Vice-President Antonio Tajani will personally attend the Launch Event of the European Minerals Day on 23-24 May at an underground mine site in Italy. A couple of weeks before the official launch, Members of European Parliament will host an exhibition in the European Parliament entitled "The European minerals sector – an essential, innovative industry, throughout the value chain", telling the story of the life cycle of minerals with special focus on their role in innovation.

In this framework, I2Mine (Innovative Technologies and Concepts for the Intelligent Deep Mine of the Future), one of the most important projects in which EuroGeoSurveys are taking part will organise a dedicated workshop. The workshop will focus on the projects achievements during the initial 2 years and on the activities designed to realise the concept of an invisible, zero-impact mine showing the development of technologies suitable for deep mining activities.

European Innovation Partnership on Raw Materials: First High Level Steering Group and Operational Groups Meeting.

The European Innovation Partnership on Raw Materials (EIP-RM) has now officially launched and the first High Level Steering Group meeting was organized on the 12th of February in Brussels. The meeting was chaired by Vice-President of the European Commission, Mr Antonio Tajani. EGS was represented in the meeting by the EGS president Mr Mart van Bracht.

The main aim of the EIP-RM is to make Europe the world leader in the capabilities related to exploration, extraction, processing, recycling and substitution of non-energy raw materials by 2020. To reach this goal EIP-RM is currently drafting a Strategic Implementation Plan (SIP) describing the methods to reach the goal.

One of the aims of the EIP-RM is to promote coordination and integration among the EU's Geological Surveys (http://ec.europa.eu/enterprise/policies/raw-materials/innovation-partnership/about/index_en.htm). The commission has identified a need to have European standardised statistical instruments for the survey of resources and reserves. To respond this, Mr Mart van Bracht gave a following statement in the first High Level Steering Group meeting: "EuroGeoSurveys welcomes the EIP-RM and expects the EIP will contribute to a more efficient and sustainable exploration, production, recycling and substitution of raw materials in Europe. In that respect geological information and knowledge is of vital importance. The joint Geological Services of Europe,

united in EuroGeoSurveys, can provide these information and knowledge. That is why we are pleased that the EIP-RM recognizes the establishment of a Knowledge Base on raw materials. However, we propose to make explicit in the SIP, that geological information and knowledge is a basic layer of this Knowledge Base. This EU geological knowledge base should contain seamless, high quality data and information.

To maintain and update this system a permanent structure is necessary. We think that this structure should be part of the SIP. EuroGeoSurveys is more than willing, with help of all their stakeholders, to establish such a permanent structure." The Operational Groups conveyed for the first time in 19th - 21st of February in Brussels (for composition of the groups please visit: http://ec.europa.eu/enterprise/policies/raw-materials/innovation-partnership/index_en.htm).

After the meeting the participants had one week time to prepare their written contributions and the rapporteurs of the groups compiled the contributions of their respective professional areas. The Technical Coordinator will then draft the first version of the SIP on the basis of the compilations from the rapporteurs. The second round of the preparation of the SIP commence on 16th - 18th of April when operational groups will convey to discuss first version of the SIP. After the second revision round the High Level Steering Group will convey in July when the acceptance of the SIP is expected.

Eye on Earth First User Conference: A real eye opener

The city of Dublin was the setting for the first Eye on Earth User Conference, organised by the European Environment Agency (EEA) in association with the Irish Presidency of the Council of the European Union.

Over three days (4-6 March), the conference brought together more than 230 participants representing communities in 77 countries. They exchanged views and ideas on how to expand the Eye on Earth community to support sharing of environmental, societal and economic data and information from a wide diversity of knowledge communities.

The aim of the conference is to create a widespread understanding among data providers and users about the concept of data and information sharing through the Eye on Earth Network and to have agreed the text of the Dublin Statement. The Network aligns existing and planned local, national and global networks including Eionet (European Environment Information and Observation Network), Sustained Arctic Observing Network and AfricaEIN.

The conference were attended by several high level speakers as Phil Hogan, Minister for the Environment, Community and Local Government for Ireland, who opened the proceedings.

Several messages have come out from the conference but all of them have highlighted how "inclusive sharing of information can improve our understanding of how the environment affects us and can help us to develop new responses to environmental challenges. Critically, it democratises environmental information by making it available to anyone with access to an internet connection and a computer. The citizens should be involved in environmental monitoring and smartphones are key to empowering people to share their information. If you keep information to yourself, the benefits are minimal. Share that information and the benefits are innumerable.

For H.E. Razan Khalifa al Mubarak, Secretary General of the Abu Dhabi Environment Agency is necessary to reverse the trend. Where traditionally data have been driven from a supply perspective now is time to provide data on the base of the needs of demand.

In this framework, EuroGeoSurveys was invited to explain what the Geological Surveys of Europe are doing to match the user needs and to create a widespread understanding among data providers and users about the concept of data and information sharing. In particular the EuroGeoSurveys Secretary General, Luca Demicheli, highlighted in his speech the advantages of conceiving a European Geological Data Infrastructure and in making geoscience data sharable and freely available to all. The Geological Surveys of Europe are now a year into the EGDI-Scope project to prepare the ground for a "European Geological Data Infrastructure (EGDI)".

The EGDI will provide the backbone for serving interoperable, pan-European geological data currently held by the national geological surveys, and data from past, ongoing and future European projects. Data integration will build on the experience acquired mainly during the development of the OneGeology-Europe project and it will also build on the experience acquired within the INSPIRE Directive Drafting Teams.

The conference outcome covers a series of special initiatives on oceans, water, biodiversity, cities and disasters as well as technical development of the platform, citizen science as an important source of knowledge, building capacities across the network and empowerment of Eye on Earth communities.

The main conclusion of the conference has been that many of exciting and eye opening ideas would not become reality without the structures in place to ensure the future of Eye on Earth. For that reason, it is great news that the Dublin Statement, a text that established the Eye on Earth Alliance to help foster participation and networking across the Eye on Earth Network, was agreed by the communities participating in the conference.

Plenary speakers included Phil Hogan, Minister for the Environment, Community and Local Government for Ireland, Jacqueline McGlade, Executive Director of the European Environment Agency, H.E. Razan Khalifa al Mubarak, Secretary General of the Abu Dhabi Environment Agency, Monika MacDevette, Chief of Capacity Development Branch at the United Nations Environment Programme,

Barbara Ryan, Secretariat Director of the Group on Earth Observations, Alan Edwards from the European Commission, Volker Liebig, Director of Earth Observation at the European Space Agency, Harvey Simon from the US Environment Protection Agency, Costis Torigas from the George Washington University, Eric van Praag from GeoSUR, Frank McCosker, Managing Director of Global Strategic Accounts at Microsoft and Dean Agelides, Corporate Director of Esri.



Jacqueline McGlade - EEA Executive Director and **Phil Hogan**, Minister for the Environment, Community and Local Government for Ireland



Luca Demicheli - EGS Secretary General



InGeoCloudS
Inspired GEOdata CLOUD Services

The Inspired Geodata Cloud Services Project

What is InGeoCloudS?

Many legal obligations make it mandatory to publish and share environmental information, yet few services are currently available to enhance the production of public records. The Inspired Geodata Cloud Services project (InGeoCloudS) kicked off in February 2012 to establish the feasibility of using a cloud approach for the publication and usage of geodata across Europe, seeking to leverage the economies of scale achievable for a multi-consumer consortium and its ubiquitous availability of access for the geographically distributed end-users of the European institutions in the environmental field.

The 2007 Infrastructure for Spatial Information in the EC (INSPIRE) Directive established rules for geographic and environmental data (geodata) supporting environmental policies or relating to any activities which might have an impact on the European environment, to ensure that the geodata were consistently available, interpretable and usable across European regional and state boundaries. The consequence of the Directive is a requirement that geodata definitions follow agreed and established norms standards and that the data be readily available online. InGeoCloudS services intend to support data providers in fulfilling their obligations with regards to INSPIRE.

The project is partially funded by the European Commission under the CIP-Pilot actions program.

Why cloud computing?

From an IT resource management point of view, hardware and network resources have become a critical bottleneck and major cost item. Of the main characteristics of the Cloud, perhaps the most essential from the user viewpoint are unlimited resources in terms of storage and computing power – it scales transparently and in a semi-automated manner, while offering up-to-date underlying technology – and its pay-as-you-go/pay-per-use delivery model with potential reduction of traditional IT infrastructure costs.

From a scientific point of view, rising data quantity and quality has not been accompanied by an equivalent increase in visibility, accessibility and sharing or better formal descriptions and standards. With its services for smooth data publication in line with Open Geospatial Consortium (OGC)/INSPIRE recommendations and integrating formalised conceptual models, InGeoCloudS provides a solution.

What is the project's partnership?

InGeoCloudS groups eight partner institutions from five different countries; some partners are IT enterprises and there are six pilot user scenarios – and so use cases for testing the cloud hosting arrangement and project facilities – spanning hydrogeology and natural hazards applications and therefore a wide range of geodata. Pilot 1 features the initial implementation of four (4) of these use cases.

The consortium is composed of following institutions:

- AKKA Informatique et systèmes (AKKA, France): Coordinator of the project
- BUREAU DE RECHERCHES GEOLOGIQUES ET MINIERES (BRGM, France)
- FOUNDATION FOR RESEARCH AND TECHNOLOGY HELLAS (FORTH, Greece)
- GEOLOSKI ZAVOD SLOVENIJE (GeoZS, Slovenia)
- The Geological Survey of Denmark and Greenland (GEUS, Denmark),
- ETHNIKO KENTRO VIOSIMIS KAI AEIFOROU ANAPTYXIS (EKBA, Greece)
- CONSIGLIO NAZIONALE DELLE RICERCHE (CNR, Italy),
- ORGANISMOS ANTISEISMIKOU SXEDIASMOUKAI PROSTASIAS (OASP EPPO EARTHQUAKE PLANNING AND PROTECTION ORGANIZATION, Greece)

InGeoCloudS 2012 achievements

The heterogeneity of use cases and of their "IT-maturity" provides an interesting mix and illustrates the diversity of data providers requirements InGeoCloudS will meet in the future; it is also a very useful collection of diverse experiences that will be documented for those who want to use the cloud infrastructure to publish public data, regardless whether they rely on the InGeoCloudS infrastructure or not

From the technical side, the InGeoCloudS project reaches a major milestone by opening its Pilot 1 services on the Internet. These services are the materialization of the design and development of a cloud-enabled hosting infrastructure for main use case applications of consortium's data providers. Logical partitioning and ownership of data between providers is ensured.

The main use cases currently being integrated in Pilot 1 of the project concern on one hand smooth services for GeoData publication: definition and creation of a simple-to-use end-user service to publish and disseminate maps and different design interfaces to simplify the process of transforming a (web-) map in a INSPIRE service. On the other hand, highlight is put on the exploitation of geosurveys of groundwater management (pesticides in groundwater, groundwater resources management in granular aquifers), landslides susceptibility mapping and earthquake-related Shake-Maps services.

2013 Perspectives

Decisions about what and how data and datasets are included rest entirely with the scientific experts, who devise the use cases, standardise data definitions to align with OGC guidelines and comply with INSPIRE rules, and develop and specify formal conceptual models for semantically linking the data (Linked Open Data approach). This not only leads to simplified technical integration workflows, but also will foster the emergence of new and efficient services: «Embedded linked data facilities and examples will help to facilitate new scientific knowledge through the discovery of correlation patterns.

The full implementation in Pilot 2 (summer 2013) shall permit exploring and navigating through foreign data, and consequently being able to create new search and display services, enables scientists to make use of data coming from different domains.

Benoit BAURENS (AKKA Informatique et Systèmes) - InGeoCloudS Project Coordinator

Superficial deposits mapping kicks off for Europe

During 29./30. January 2013, the EGS-Task Force 'Superficial Deposits' held its kick-off meeting in Hannover, Germany.

The task force supersedes the former expert group on soils which was initially founded in support of the European Commission's Soil Thematic Strategy (http://ec.europa.eu/environment/soil/index_en.htm). Because there is a tremendous need for information about the surface-close geology of Europe in many policy areas, especially related to EU2020 on resource efficiency (<http://ec.europa.eu/resource-efficient-europe/>), EGS has decided to widen its scope on soils as a resource by improving and further developing information about the geology in-between the hard rock and the terrestrial surface. This layer is also called "regolith", and it not only represents the parent material for soils at its uppermost top, it stores and filters water in contact with groundwater bodies, and releases nutrients from weathering and thus feeds back into ecosystem-level terrestrial processes. Many geo-engineering projects rely on superficial deposits data as well, such as pipeline construction and ground stability assessments. Various regional applications are already in place, even in high resolution; however, at European level, the information is patchy and inconsistent.

The new EGS Task Force on Superficial Deposits now seeks to collect and harmonize information about the surface-close geology/regolith. For that the representation of superficial deposits in existing maps and data bases must be analysed: this includes a deep insight into existing high-resolution data bases. Currently, the task force consists of 32 members from 21 countries. Expertise mainly focuses on Quaternary geology, but also soil mapping and hazard assessment (landslides).

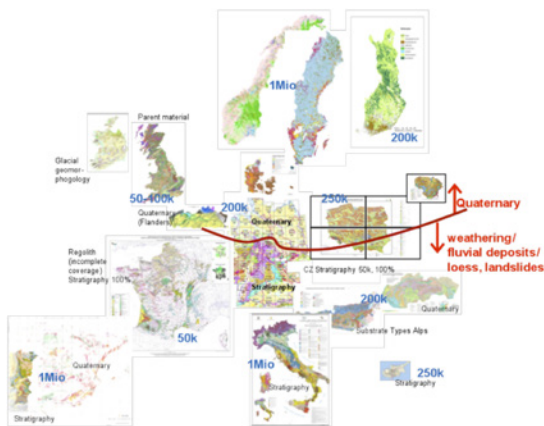


Figure: National data bases which contain relevant features characterizing superficial deposits. In several cases, additional high-resolution geology maps exist which are not represented here. All these maps and data bases have different coverage of rock type (lithology and petrography), representativity of geomorphological features, unconsolidated material close to the surface, loess coverage, Quaternary layers, depth to hard rock, etc.

During the kick-off meeting, national reports about existing data bases, concepts and projects were presented. It was found that the availability of high-resolution mapping data 1:50,000 to 1:250,000 already cover a large part of Europe. However, unconsolidated material is covered quite differently in different mappings. In northern Europe, Quaternary geology maps exist (Finland) (or under development: Norway, Sweden), while in southern Europe, the surface-close unconsolidated material is treated heterogeneously: its coverage and definitions must be investigated separately for each mapping project. This actually holds for most of the countries lacking glacial coverage. In France and Slovakia, superficial deposits are mapped for mountainous areas as well, but defined differently. In Germany, a landscape evolution model is currently being developed for regolith mapping in mountainous areas.

The first of two keynote presentations addressed UK's parent material map (Russel Lawley). The data base covers the uppermost 2m of geological deposits (bedrock and Quaternary). A wide variety of applications accompanies the product, which is being used nation-wide for science, policy-support and the interested public (app for i-phone), e.g. energy network earthing analysis, assessment of earthquake damage, transport infrastructure resilience to climate change, geogenic contaminants in soils. The second key note presented the current status of geology mapping in The Netherlands (Jeroen Schokker). There, traditional mapping has been suspended around 2000, and 2D layer-based modelling with a new litho-stratigraphical framework was introduced. Since 2006, mapping has progressed using 3D voxel modelling which predicts the geometry and properties of the subsurface (upper 30 m). More than 1/3 of the country is already modelled in that way. Similar to Lawley's presentation, Schokker stressed the wide variety of applications, for example towards hydrological and geochemical characteristics of the shallow terrestrial subsurface, importance for planning underground infrastructure (e.g. pipelines) and soil applications.

At the European level, two important new digital map products are currently in development, which are highly relevant to parent material mapping, and which are supplemented with additional information and quality checked by members of the task force:

- the lithology layer of the International Hydrogeological Map of Europe 1:1,500,000 (IHME) www.bgr.bund.de/EN/Themen/Wasser/Projekte/laufend/Beratung/Ihme1500/ihme1500_projektbeschr_en.html?nn=1557832
- the International Quaternary Map of Europe 1:2,500,000 (INQUME) www.bgr.bund.de/EN/Themen/Sammlungen-Grundlagen/GG_geol_Info/Europa/IQuaME2500/IQuaME_node_en.html

The core activity after the kick-off meeting is the improvement of the Terms of Reference (ToR). In that context, the status and content of existing data sets will be analysed in order to agree over a harmonized terminology for Europe; this is important for defining a new homogenous product for Europe (such as a parent material map). In addition, the data requirements from the viewpoint of applications are analysed.



Rainer Baritz
EGS Superficial Deposits
Task Force Chairman

Interview with Jorge Civis Llovera

New Director of the Geological Survey of Spain - IGME

You have been recently appointed director of the Geological Survey of Spain (IGME). Could you briefly explain the main aims and tasks of IGME?

The IGME is a Public Research Institution attached to the Ministry of Economy and Competitiveness and National Geological Survey. Since 1849 the Survey produces basic infrastructural knowledge of the territory including its resources, and provides web access to the databases and geo-scientific information systems that it develops. The Institute is also the national reference centre for natural hazards.

Its main mission is to provide the public administrations, the economic agents and the society at large, with information, technical-scientific assistance and advice, concerning the Earth sciences and technologies to be used in land-use planning.

What will be the main strategies and approaches of IGME during your mandate?

IGME has two main roles, one is basically scientific and another is as a public service, both are relevant but up to now they were sometimes working in different directions, it is my intention to collate both activities in a single path. Another of my strategies will be to strengthen the international activities of the Survey involving personnel and resources in projects abroad.

Could you describe some of the more recent activities being conducted by IGME that have been relevant to the Spanish or Global Earth Sciences?

We have in the last few years, developed a very modern and interactive data system, to provide all our users with updated and realizable data sets through our web site.

IGME has also drastically increased its scientific research presence in the international arena through many high level papers in top level scientific magazines.

Our international presence has also been another key action in recent times, with activities in South America and Africa.

Water and minerals are major issues now at European level (European Water Directive & Raw Materials Initiative), will IGME be very active in these subjects at national and EU level, and how?

IGME will continue to develop activities in those fields as has been in the past. IGME has an wide expertise on groundwater. We can't forget that Spain is a semi-arid country. Regarding mineral resources we plan to increase our activity due to the fact that Spain has a role to play in the European scene as a main raw materials producer.

Could you highlight a subject or theme where you think IGME is the main or leading research institution in Spain?

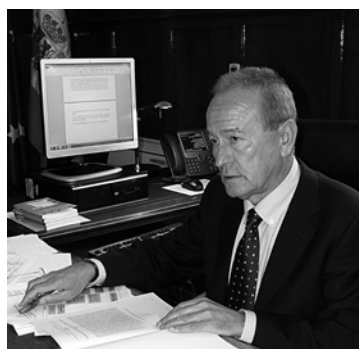
I believe that IGME is the leading research center in Spain in subjects such as geological hazards, geological heritage, mineral exploration, groundwater management, CO₂ sequestration, earth sciences outreach and many other issues.

What is the situation of mining in Spain today, and what will be the role of IGME in this subject?

IGME should be the main data supplier, as we have in our databases most of the information about mineral resources in Spain, and such information is crucial in mineral exploration. But we also have a role in exploration itself.

What geological singularities does Spain have with respect to the rest of Europe?

Geologically speaking, the Iberian Peninsula is like a microcontinent with a Variscan basement surrounded by three alpine ranges with a hazardous geological history behind. The volcanic Canary Islands adds value to that singularity. All these materials are well know thanks to 1:50.000 scale geological map covering the whole national territory. Since 1849 IGME has provided geological and mining knowledge making available an impressive amount of data of subsoil which, for instance, has helped in the interpretation of the deep crust of the Alpine and Variscian orogens.



IGME has in the last few years increased its international activities, do you have a plan to promote the international presence of IGME, and if so, in which regions ?

Yes as I said before, one of my lines of action will be to promote the international activity of IGME. As with respect to new regions for instance we have been appointed, among other geological surveys, to participate in the National Geologic Map of Angola (PLANAGEO).

IGME is one of the main national geological surveys of EuroGeosurveys, how do you see the future role of IGME in the organization?

IGME is one of the largest surveys in Europe, and thus our commitment with EGS will continue and probably increase in the future.

IGME has a well-defined communication strategy and has participated actively in EGS communication efforts. How do you see the development of this activity within IGME and EGS in the coming future?

I believe outreach is crucial for surveys, so both in Spain and in Europe, IGME will maintain its efforts as has been doing in the last few years.

It is well-known that Spain is facing economic difficulties, how are this difficulties affecting IGME and how will you plan to overcome such problems and maintain the research quality level of the Survey?

The lack of national funding for IGME is a reality, but at the same time is an excellent incentive to promote our international activities in order to obtain external funds.

IGME profile

The Instituto Geológico y Minero de España (Geological Survey of Spain. IGME) is a Public Research Institution attached to the Ministry of Economy and Competitiveness and National Geological Survey.

Since 1849 the Survey produces basic infrastructural knowledge of the territory including its resources, and provides web access to the databases and geo-scientific information systems that it develops. The Institute is also the national reference centre for natural hazards and soils.

Its main mission is to provide the public administrations, the economic agents and the society at large, with information, technical-scientific assistance and advice, concerning the Earth sciences and technologies to be used in land-use planning.

All IGME's premises, including the headquarters in Madrid, 12 regional offices in several places around the country, laboratories, warehouses, library and museum, have advanced equipment and technical resources. Its drill-core repository in Córdoba is a unique and spectacular facility, where drill core and geochemical samples are stored, handled and managed. The institution has also diverse scientific-technical outreach tools, such as the Bureau of Transference of Research Results (OTRI), the Documents Centre, the Publication Centre, the Geominero Museum and the best national specialized library.

Its main scientific-technological activity may be summarized in the following strategic research programmes:

Subsoil geology and CO₂ geological storage

One of the main activities in support of the mitigation of the effects of the Climatic Change. It aims to deepening in the knowledge of the structure and physical properties of the subsoil of the country by integrating multidisciplinary information on geology, hydrogeology, geophysics, boreholes etc.

Geo-scientific information systems

Creation of geo-scientific data models in updated computerized platforms and development and implementation of systems to release those models via internet, facilitating user's access and download.

Geological Hazards, active processes and global change

Study and characterization of the physical processes and geological hazards affecting Spain both inland and in the coastal and submarine areas. Floods, earthquakes, volcanism, landslides and coastal erosion are, due to their social and economic significance, the main natural phenomena studied by this program.

Hydrogeology and environmental quality

Study of the quality and quantity of the available underground water resources for a rational exploitation and of the impacts and stresses they are subjected to.



Instituto Geológico
y Minero de España

Geo-scientific mapping

This programme is a basic reference of the Survey since its creation in 1849. Production of the geo-scientific maps of the country –in a systematic way or by user's demand- using new technologies and integrating associated geo-referenced databases.

Mineral resources and environmental impact of mining

Study and research of mineral resources, from the geological processes conditioning their existence to environmental-mining planning and recovery and reclaiming of mining sites using sustainability criteria.

Geodiversity, geological and mining heritage and scientific culture.

Mineralogical, palaeontological and geological research projects to maintain, update and raise awareness of the moveable heritage of the Museo Geominero (Geo-Mining Museum). Creation and dissemination of scientific culture in its widest sense, especially in relation to the conservation and publicizing of its important geological and cultural resources, including historic bibliographic and cartographic collections on earth science topics.

The implementation and diffusion of all these programmes intends to strengthen the research carried out by IGME and its capacity as a scientific and technical advisor to the various administrations and to the industry. In order to accomplish that goal and in agreement with international standards, due attention has been paid, to the growing sensibility of the society on matters such as geological hazards, sustainable use of underground waters, soil pollution, environmental impact of mining and the mitigation of climate change. The essential goal is to increase IGME's scientific and technical productivity, by arranging multidisciplinary teams in a more efficient manner and in response to those new challenges.



GEUS 125 years

On April 4th 2013, it was 125 years ago that first geological survey in the Kingdom of Denmark was born. And that survey is part of the Geological Survey of Denmark and Greenland - GEUS - today.

The Geological Survey of Denmark - DGU - was established in 1888. In Greenland the geological exploration was done through interdisciplinary expeditions, and not until 1946 The Geological Survey of Greenland - GGU - was established. In 1992 Faroe Islands got its own geological survey, Jarðfeingi. In 1995 the DGU and GGU were merged together to The Geological Survey of Denmark and Greenland under The Geological Survey of Denmark and Greenland Act (latest from 2007).

Subsurface changes slowly

In contrast to the big changes that may take place in the society, the subsurface only changes slowly. And contrasting to what we can see and hear above the Earth's surface, the subsurface is outside the reach of our senses. Only through costly geological surveys we may get scattered insight into the subsurface, its resources and potential such as energy, raw materials and water.

While the subsurface remains somewhat constant, the technological possibilities and the need of society change continuously. In the childhood of the organisation raw materials as marl, lignite and peat, clay and gravel were important. Today it is drinking water, energy resources and industrial minerals that set the agenda. In the meantime we have become aware of the threats towards the subsurface resources. How can we store natural gas, heat and CO₂ or dispose of the radioactive waste from the hospitals with no negative effects on the environment. How are the pesticides dispersed and transformed in the subsurface? To which degree may agriculture influence the quality of our drinking water?

Irrespectively the changes in work tasks the challenges for GEUS are the same. As national survey it is the duty of the organisation to search for answers to geological issues that society has a major need for.



Stevns Klint, the global type locality for the transition between Cretaceous and Tertiary, nominated for the UNESCO World Heritage List.

GEUS was established in Denmark and Greenland to map the geology of the country, but many other tasks have been added since.

Geological exploration takes time and money. When an international oil or mining company spends a lot of money to get

information about the subsurface, GEUS shall not only be governmental representative or act as consultant for the company. It is also important to make sure that new gathered knowledge can be put to good use for society in other cases, where there is less possibility to invest in geological knowledge.



GEUS constructed and manage a network of **climate stations** to monitor the ice sheet.

GEUS cannot solve its tasks the moment society demands knowledge on a certain topic because then it will normally be too late and typically too expensive to solve the problem. GEUS must use the employees' experience from cooperation with investment capable companies, secure the knowledge in GEUS' great data banks, and have a good feeling for society's need for future information. The sum of 125 years work makes GEUS capable to offer its expertise in a series of themes that are of great immediate interest.

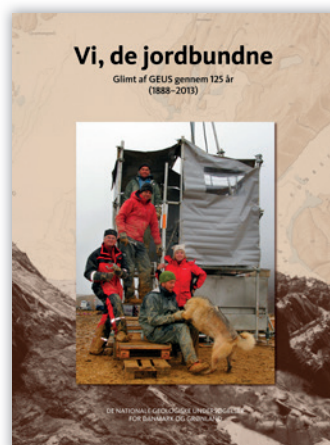
Water, oil and minerals

Denmark is privileged with drinking water produced 100% from groundwater after aeration and filtration. But the threats are numerous, overexploitation, nitrate and pesticides, and monitoring, so and good water management is important. Oil and gas production still covers the Danish demand, and gives billions to Danish society. In Greenland exploration for oil and gas also involves GEUS together with rare earth elements and other industrial minerals. Future investment in Denmark may go to geothermal resources and maybe shale gas.

In 2012 GEUS had 342 employees and an income of 48 M€, of which 19 M€ was state appropriation.



The Russian 50 Let Pobedy and the Swedish Oden, hired by GEUS, breaking the ice of the Polar Basin



Johnny Fredericia - Managing Director, Geological Survey of Denmark and Greenland, GEUS

ETP SMR in the European Innovation Partnership on Raw Materials

The European Innovation Partnership on Raw Materials was officially launched in February 2013 at a meeting of the EIP High Level Steering Group, on which Corina Hebestreit is representing the ETP SMR.

It was impressive to see three European Commissioners and six Ministers of Member States as well as a large number of CEOs represented at the first meeting of the HLSG of the EIP on Raw Materials. Along with the presence of the ETP SMR

HLG Chairwoman, Corina Hebestreit was joined by the ERA-MIN network Chair Patrice Christmann.

As expected, this first meeting was more about setting the scene, expressing expectations and laying down time lines and a work plan. The guidance for the Strategic Implementation Plan (SIP) was adopted with a few changes in advance of the Operational Groups meeting held a week later. It is mainly in these Operational

Groups consisting of experts from around Europe that the proposals for action will have to be laid down. Following this the Commission will request commitments from all players towards the implementation of the SIP.

The report will be made available during the summer of 2013, with the last and final meeting of the HLSG being held on 17 July 2013.

Secretariat's agenda

- **4 April** **Mart van Bracht**, EGS President, at Geological Survey of Denmark and Finland (GEUS) 125th Anniversary Celebration in Copenhagen
- **10-11 April** EGS GeoEnergy Expert Group (GEEG) meeting in Warsaw
- **10-11 April** **Stuart Marsh**, EGS Earth Observation Expert Group (EOEG) Chair at EEA 'Monitoring Matters workshop on in-situ coordination supporting GMES/ Copernicus' in Copenhagen
- **15-16 April** **Luca Demicheli** at GEO European Projects' Workshop (GEPW7) in Barcelona
- **16-17 April** **Hans Peter Broers**, Chair of the EGS Water Resources Expert Group (WREG) at WG C of the Groundwater Directive meeting in Dublin
- **18 April** **Nikos Arvanitidis**, Chair of the EGS Mineral Resources Expert Group (MREG) at European Innovation Partnership on Raw Materials (EIP RM) Operational Groups meeting in Brussels
- **19 April** Meeting of the EGS Mineral Resources Expert Group (MREG) in Brussels
- **23-25 April** **Nikos Arvanitidis**, Chair of the EGS Mineral Resources Expert Group (MREG) at ProMine project final event in Helsinki
- **24-26 April** **Peter Britze**, Chair of the EGS GeoEnergy Expert Group (GEEG) UNECE Expert Group on Resource Classification meeting in Geneva
- **12 May** **Mart van Bracht**, EGS President, at Geospatial World Forum 2013 in Rotterdam
- **23 May** **Luca Demicheli** at launch of the European Minerals Day in Vipiteno, Italy
- **29-30 May** **Nikos Arvanitidis**, Chair of the EGS Mineral Resources Expert Group (MREG) at Third EU-US-Japan Trilateral Conference on Critical Materials in Brussels
- **30 May - 2 June** **Luca Demicheli** at European Federation of Geologists (EFG) Workshop and Council meeting in Stockholm
- **5 June** **Asko Kapyaho**, EGS European Innovation Partnership on Raw Materials (EIP RM) Sherpa, at EIP RM Sherpas meeting in Brussels
- **6-7 June** **Luca Demicheli** at Geology and Tourism Society anniversary celebration in Bologna
- **13-14 June** **Luca Demicheli** at EGDI-Scope project Executive Committee meeting in Copenhagen
- **24 June** **Luca Demicheli** at INSPIRE Conference in Florence
- **25 June** **Luca Demicheli** at EUROMINES General Meeting in Stockholm

➤ 2013 LIFE+ Call for Proposals

The seventh LIFE+ call for proposals was published on 19 February 2013, with up to €278 million available for co-financing of projects under three headings: Nature and Biodiversity (NAT), Environment Policy and Governance (ENV) and Information and Communication (INF). Although the call is launched at European level, it addresses national initiatives and could be relevant to national associations working on one of the objectives mentioned within "Environmental Policy and Governance" such as 'Climate change, 'Water', 'Soil' and 'Natural Resources and Waste'. The deadline for submitting proposals to the relevant national authorities is 25 June 2013.

<http://ec.europa.eu/environment>

Source: www.eurogeologists.eu

➤ CCS loses out on EU funding

A first tranche of European Union funding initially intended to support the development of carbon capture and storage (CCS) is to be switched entirely to finance renewable energy.

Profits of €1.2 billion from the auctioning of carbon allowances under the emissions trading scheme (ETS) were to be allocated to the development of CCS. Instead, 23 renewable energy projects will be the beneficiaries of this first pay-out.

The European Commission said this decision does not represent a policy shift.

CCS is an unproven technology that offers the prospect of low-carbon energy, because it uses fossil fuels but captures the carbon, which is then stored underground. The reason that not a single CCS demonstration plant will receive funding at this stage is because no member state was able to guarantee the required co-financing.

Source: www.europeanvoice.com

➤ Commission ready to suspend emissions target for 2030

The European Commission is to publish a strategy paper on Wednesday 27 March that will indicate a readiness to move quickly towards setting a new greenhouse-gas emissions target for 2030.

The green paper is meant to gauge the opinion of

stakeholders about the new targets. The EU's existing targets are a 20% reduction in emissions, a 20% increase in renewable energy and a 20% increase in energy efficiency by 2020.

Both the paper and the minutes of a debate on the subject by European commissioners in February indicate that the Commission is leaning towards going ahead with setting a 2030 target for emissions reduction, but postponing a decision on setting new targets for renewables or efficiency until after the next college of commissioners has taken up office at the end of 2014.

The green paper on post-2020 targets will be released along with three other documents: a consultation on a new international climate deal, a progress report on renewable energy and a communication on carbon capture and storage (CCS).

Source: www.europeanvoice.com

➤ World Water Day 2013 International Year of Water Cooperation

Friday 22 March 2013 was World Water Day. Half of humans lack safe drinking water, while competition for water from agriculture and industry could put more people at risk in years to come

The European Union is the biggest funder of water and sanitation works in developing countries, providing an estimated €1.5 billion annually, and Brussels is calling for further support for water and sanitary toilets in global talks on a future anti-poverty framework. A grassroots effort to declare water a fundamental right in Europe and exempt water supply and management from European Commission liberalisation policies recently became the first European Citizen Initiative to reach 1 million signatures.

Source: www.euractiv.com

➤ EC Consultations

Unconventional fossil fuels (e.g. shale gas) in Europe

Exploration and production of natural gas and oil within Europe has in the past been mainly focused on conventional resources. Whilst opportunities for this type of domestic extraction are becoming increasingly limited, technological progress is opening up new

possibilities to extract unconventional fossil fuels such as shale gas, tight gas, coal bed methane, tight oil or shale oil, from geological formations which were previously too complex or too expensive to extract. The European Commission aims to ensure that developments of unconventional fossil fuels are carried out with proper health, climate and environmental safeguards in place and under maximum legal clarity and predictability for both citizens and operators, as well as to ensure that the potential economic and energy security benefits of such developments can be reaped. Building on analytical work it has conducted since the end of 2011, the Commission has included in its Work Programme for 2013 the development of an «Environmental, Climate and Energy Assessment Framework to Enable Safe and Secure Unconventional Hydrocarbon Extraction» (http://ec.europa.eu/atwork/pdf/cwp2013_annex_en.pdf).

Open from 20 December 2012 to 23 March 2013
http://ec.europa.eu/environment/consultations/uff_en.htm

Communication on energy technologies and innovation

The European Commission has foreseen a Communication on energy technologies and innovation for the first half of 2013. It intends to give a European energy technology policy perspective in the follow-up to the Energy Roadmap 2050.

As part of the preparation of this Communication, the present consultation seeks the opinion from all relevant stakeholders. Its purpose is to consult on possible options for a European energy technologies policy and to receive feedback and additional ideas on this proposal. A public consultation by means of this online questionnaire offers the opportunity to all interested stakeholders to express their views in the preparation stage of the Communication.

Open from 20 December 2012 to 15 March 2013
http://ec.europa.eu/energy/technology/consultations/20130315_technology_innovation_en.htm

Upcoming Events

➤ **European Geosciences Union General Assembly 2013**

From : 07.04.2013 Till : 12.04.2013

Location : Vienna, Austria

The EGU General Assembly 2013 will bring together geoscientists from all over the world into one meeting covering all disciplines of the Earth, Planetary and Space Sciences. Especially for young scientists, it is the aim of the EGU to provide a forum where they can present their work and discuss their ideas with experts in all fields of geosciences. The EGU is looking forward to cordially welcoming you in Vienna.

www.egu2013.eu

➤ **Water in the Urban Environment - Bringing Research to the Market**

From : 16.04.2013 Till : 18.04.2013

Location : Brussels, Belgium

The key to successful water governance is to find the right balance between science and policy. Water is not only a resource because it has now become a serious political issue. COST, in collaboration with Water Supply and Sanitation Technology Platform (WssTP), are bringing together scientists and decision-makers to an event that will focus on water in the urban environment,

discuss the key issue of better water governance and create a market for research.

www.cost.eu/events/waterurbanresearch

➤ **Basalt 2013**

From : 24.04.2013 Till : 29.04.2013

Location : Görlitz, Germany

This Conference will focus on Cenozoic magmatism in central Europe dealing with multifarious aspects of igneous systems. The meeting should highlight the process-oriented and material aspects of within-plate magmatism in Central Europe and adjacent areas from Spain to Ukraine and from Greece to Great Britain. All disciplines of geosciences ranging from geology and physical volcanology to petrology, mineralogy, geochemistry and geophysics will be employed.

www.senckenberg.de/root/index.php?page_id=15387

➤ **Fostering Innovation and Strengthening Synergies within the EU**

From : 29.04.2013 Till : 30.04.2013

Location : Trinity College, Dublin, Ireland

What makes a KIC a KIC? How have the different EIT Knowledge and Innovation Communities (KICs) found unique ways to best organise the knowledge triangle

Upcoming Events

in order to achieve impact on the European Innovation landscape through excellent partnerships, innovative funding models and project portfolio? How can these impacts be measured? How will the future of the EIT capitalise on the multiplier capacity of individuals in spreading the expertise gained throughout their relation with the EIT and its KICs? What is the current engagement with regions, other national and EU instruments succeeding? How can synergies be created and further explored? And what specific future measures can be taken?

Key questions not only for the EIT to learn from and to use as a basis for developing and preparing for its next wave of Knowledge & Innovation Communities (KICs) and its innovation agenda, but also for the wider innovation community. This conference will serve as a forum to answer precisely these questions, within the framework of a wider discussion on the future of EU innovation policies and the integration of the so called Knowledge Triangle (business, research, higher education) both within the EU and globally.

<http://eit.europa.eu/events/event-information/fostering-innovation-and-strengthening-synergies-within-the-eu/>

➤ 6TH International Symposium on gully erosion in a changing world

From : 06.05.2013 Till : 12.05.2013

Location : University Al. I. Cuza Iasi, Romania

This symposium targets all scientists undertaking research on gully erosion and embraces national and international studies and established newly initiated investigations. The objectives of the Symposium are to communicate exciting scientific developments, to identify current gaps in knowledge and to discuss ways in which soils and land can be better managed to meet the challenge of protecting environment against the impacts of climate change and increased human induced pressure. The symposium 2013 continues the sequence of successful meetings held in Leuven (Belgium, 2000), Chengdu (China, 2002), Oxford (USA, 2004), Pamplona (Spain, 2007) and Lublin (Poland, 2010).

www.gullyerosion2013.com

➤ ProMine Final Conference with Mineral Marketplace 23-25 April 2013

ProMine is the European Commission's leading project committed to the revitalisation of the European Mineral Mining and Manufacturing Industry. This cutting edge research project, made up of a multidisciplinary team of 30 partners from 11 EU countries, has achieved remarkable results. At our final conference, organized by Geological Survey of Finland (GTK) and Integrated

Resources Management (IRMCo) together with ProMine partners, we present the ProMine results and new products to stakeholders and the wider public.

We expect a wave of participants from industry, academia, government, European Commission and ETP's to attend this conference.

The final conference does not mark the end of our journey. We are developing the ProMine Message; a vision for Green Mining in Europe. A future in which the Mineral Mining and Manufacturing Industry has a reduced environmental footprint, is regulated by good governance practices, has a positive image with local communities and end-users, and is back in the economic limelight.

The hub of this international event will be the Mineral Marketplace, a unique opportunity for networking and exchanging experiences and ideas with leading European experts in research, geological surveys, mining and related manufacturing industry from across Europe.

➤ Geospatial World Forum (GWF) 2013

From : 13.05.2013 Till : 16.05.2013

Location : Beurs World Trade Center, Rotterdam, The Netherlands

Geospatial World Forum is a premier event for the global geospatial community showcasing state-of-the-art technology and its utility in the world economy.

The conference aims at enriching the geospatial ecosystem, which comprises of the geospatial technology providers, users, policy makers and the academia with market intelligence, latest technology knowledge, success stories and capacity building. It is a confluence of a variety of activities in the form of plenary, symposia, seminars, workshops, panel discussions, dialogue and exchange forums – covering the vast gamut of technology, application, policy, use cases from across the world.

www.geospatialworldforum.org

➤ 5th Carbon Capture & Storage Conference 2013

From : 15.05.2013 Till : 16.05.2013

Location : Rotterdam, The Netherlands

ACI's 5th Carbon Capture & Storage Summit will take place in Rotterdam, The Netherlands, arguably the European centre for CCS. In fact, a limited number of conference attendees will receive the unique opportunity to attend a site visit to the CATO pilot during the afternoon of Tuesday 14th May 2013. Bringing together 60-80 of the industry's leading experts and executives from across the entire value chain (power production & energy intensive industry,

Upcoming Events

capture technology, chemical process, transportation, storage, utilisation & EOR) for two days of interactive discussion, excellent networking opportunities and the very latest updates from CCS projects around the globe, ACI's 5th Carbon Capture & Storage will present you with the knowledge, experience & contacts you need to drive your business forward.

www.wplgroup.com

➤ **Aachen International Mining Symposia (AIMS 2013)**

From : 22.05.2013 Till : 23.05.2013

Location : Aachen, Germany

The Institute of Mining Engineering I of RWTH Aachen University is pleased to announce the next symposium «Mineral Resources and Mine Development», 22-23 May, 2013 in Aachen, Germany and call for abstracts of papers from intending authors for consideration in the symposium program. Since the first AIMS conference on Rockbolting in Mining in the year 1987, the symposium has become a regular meeting of international ground control and rockbolting experts. Against the background of the imperial city of Aachen, both the exhibition at the conference venue and the dinner party in the historical Aula Carolina will offer ample opportunity to make new contacts and renew old ones.

www.aims.rwth-aachen.de

➤ **European Mineral's Day 2013**

From : 24.05.2013 Till : 26.05.2013

Location : All across Europe

The European Minerals Day is a great opportunity to jointly promote the importance of the sector and products we supply. Within the angle of the EU debates on resource efficiency and biodiversity, this event will help to demonstrate the contribution of our sectors to green growth and the European Roadmap 2050.

www.mineralsday.eu

➤ **International Conference Contaminated Sites 2013**

From : 29.05.2013 Till : 31.05.2013

Location : Bratislava, Slovak Republic

The conference will be organized by the Slovak Environmental Agency under the auspices of the Ministry of Environment of the Slovak Republic and aims to provide a unique possibility to share experiences and perspectives in the field of contaminated sites internationally. We expect participants from at least 3 continents and 30 countries: Experts from governmental organizations, private businesses as well as scientific and research companies dealing with contaminated sites with the focus on legislation, strategies, inventory, investigation, survey, risk assessment, remediation methods and technologies and sustainable remediation.

<http://contaminated-sites.sazp.sk>

➤ **European Federation of Geologists Workshop on Radioactive Waste Disposal (RWD) 2013**

From : 30.05.2013 Till : 31.05.2013

Location : Stockholm, Sweden

This workshop on Radioactive Waste Disposal (RWD) organized by EFG's Swedish membership organization Geosektionen/Naturvetarna will be held on 30 May at the Department of Geological Sciences, Stockholm University. On Friday, 31 May, a fieldtrip is planned to Forsmark, the site of the Swedish Final repository for radioactive operational waste. The cost for participating in this two-day event is 70€. You can register by sending an e-mail to info.efg@eurogeologists.eu

www.eurogeologists.eu



Welcome to the 12th Society for Geology Applied to Mineral Resources Biennial Meeting

The Geological Survey of Sweden and the local organizing committee are proud to announce the 12th SGA Biennial Meeting which will be held in the university city of Uppsala.

Society for Geology Applied to Mineral Resources Biennial Meeting, SGA, will provide excellent opportunities to present and exchange knowledge within the field of mineral deposit research.

Sweden has a history of mining and metals refining stretching back more than a thousand years. Its metal ores and other mineral resources, and the knowledge about how to use them, have been key elements in building the prosperity of the country.

There will be a wide variety of activities available to both delegates and accompanying persons, in terms of excursions and of all the interesting social activities that Uppsala and nearby Stockholm have to offer.

It is my pleasure to warmly invite you to Sweden and Uppsala. We look forward to seeing you at the 12th SGA Biennial Meeting.

Dr. Per Klingbjer

Chairman of the local organizing committee, Head of Research and Operational Support, the Geological Survey of Sweden.

For more information and registration:

www.akademikonferens.uu.se/sga2013



SGU
Sveriges geologiska undersökning
Geological Survey of Sweden



Geospatial World Forum

13-16 May, 2013 , Rotterdam World Trade Centre, The Netherlands.

EuroGeoSurveys is pleased to be a part of the Premier Geospatial Industry Event - Geospatial World Forum as a Supporting Organisation. Geospatial World Forum is scheduled to be held from 13-16 May, 2013 at Rotterdam World Trade Centre, The Netherlands.

On 15th May, EuroGeoSurveys is also partnering and presenting at a **Symposium on Mining and Exploration** that will include deliberations from experts from the domain deliberating upon Geospatial tools for mining and oil & gas exploration and distribution, Geospatial technologies for area selection, subsurface investigation and spatial modelling, Role of geospatial technology to play in the future of the mining and exploration industry, Latest technology trends, success stories, challenges and future prospects.

There are a number of other sessions that are a part of the conference agenda, which are of direct relevance and value to you, e.g. Symposium on Environment co-organised by IEEE, Symposium on Land Administration co-organised by Dutch Kadaster and Thomson Reuters, Symposium on Construction and Infrastructure, Symposium on Earth Observation Systems for Economic Development co-organised by ISPRS, GEO, EARSC and EARSeL and many more.

What makes Geospatial World Forum a must-attend event of 2013 is the fact that this is a key conference which aims at bringing together key stakeholders of the geospatial eco-system including technology developers, policy makers and most importantly end-users of the technology to facilitate interactions and growth of the industry. Since 2007, the conference has played the role of a facilitative platform for harnessing growth of the geospatial sector and establishing its vital role in several vertical domains like mining and exploration, governance, construction, utilities, environment, disaster management and the like. The deliberations at this year's forum will revolve around the central theme - **Monetising Geospatial Value and Practices** which will highlight the return of investment and social value that geospatial helps businesses and governments to create in their work process and output.

We welcome all our members to take advantage of this international platform to network with the industry experts, learn from innovative end-users, discuss policy issues with senior decision makers and understand the upcoming technology trends from the research community at Geospatial World Forum. As a partner organisation, **EuroGeoSurveys has secured a discount of 10% on the registration fee of the conference for its members.**

Please register for the conference using this link to avail the discounted registration fee: http://geospatialworldforum.org/2013/reg/registrationonline_Eurogeosurveys.asp

Some key highlights of Geospatial World Forum:

- **Ministerial level participation** from different countries
- Single platform that brings Industry leaders of the domain under same roof providing a varied perspective on the current scenario and future directions of this industry
- Expected participation of **1500 delegates** from **80 countries**
- Conference organised in partnership with **40 leading international agencies, institutions and private companies**
- More than **400 presentations** covering application verticals, technology domains and policy framework (please view current speaker line up at www.geospatialworldforum.org/2013/speakers.htm)
- **Technology Coverage** - Earth Observation Systems, 3D, Sensor Web, LiDAR, Photogrammetry, Cartography, Big Data, Enterprise GIS, Open Source, Cloud Computing and many more
- **End-User Verticals** - Environment, Land Administration, City Management, Construction and Infrastructure, Mining and Exploration, Electricity and Gas, Water, Agriculture, Public Safety and many more
- **Policy Issues** - Open Data, INSPIRE, Spatial Data Infrastructure, Crowd Sourcing Vs Field Sourcing, Standards and Interoperability, European Location Framework and many more
- Over 150 Top level management from end-user organisations from various sectors and governmental agencies involved with planning
- Exhibition (covering 2100 sq mtrs area) showcasing the potential and future directions the technology

We look forward to welcoming you in Rotterdam in May.



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