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National Geological Surveys supporting European raw materials strategy

European Minerals Day Conference: EC Vice-President Tajani explains the importance of European raw materials strategy

"National Geological Surveys' efforts in the collection of data on the resources and reserves of raw materials is essential for supporting one of the most important pillars of the European raw materials strategy".

This is the strong message launched by Antonio Tajani, Vice-President of the European Commission and Commissioner for Industry and Entrepreneurship during the European Minerals Day Launch Conference, held in Vipiteno, Italy, on the 24th of June 2013.

"Raw materials are vital for the European economy and for society – he explains – and this is one of the main reasons for setting up a new approach to secure access to non-energy and non-agricultural raw materials. Vice-President Tajani focused his speech on sustainable supply of raw materials from European sources, one of the three pillars of the strategy. Three steps to reach the target are: to facilitate the exchange of best practices, to enrich the knowledge base of the EU and to promote research and the acquisition of qualifications. In this framework the work carried out by the National Geological Surveys becomes essential in collecting data on the resources and reserves of raw materials, together with research and development activity, which has benefited from 200 million euro under the 7th Framework Programme .

The European Minerals Day in many ways reflects the spirit of the European Commission's "Raw Materials Initiative", launched in 2008. This year, the Minerals Day focuses on innovation, resource efficiency, biodiversity and regional development. The European Innovation Partnership on raw materials, set up in October 2012, is addressing its efforts to bring to 20% the contribution of industry to GDP and to increase energy efficiency in the sector by 20%, ensuring the sustainable supply of raw materials to the economy and European industries. Reducing dependence

on imports by improving the conditions of EU supply is the main task. In order to achieve this there must be an increase in resource efficiency, creation of alternative sources of supply and improved substitution and recycling activities.

By 2020 the European Innovation Partnership will launch 10 pilot projects through the Strategic Implementation Plan, in the exploration, mining and processing, collection and recycling of raw materials and development of substitutes for at least 3 main applications of critical and rare materials.

"In Italy the European policy on raw materials takes a very strategic role" - Franco Terlizze, Director-General for Minerals and Energy Resources, Italian Ministry for Economic Development, declares: "The creation of zero impact mines could be one of the ways to gain their acceptance by the public and innovation could be a beacon towards possible solutions to the problem of national employment."



Antonio TAJANI - European Commission Vice-President, **Daniel Reuss** - IMA-Europe President, CEO OMYA-Europe

Interview with Koen Verbruggen

New Director of the Geological Survey of Ireland (GSI)

You have been recently appointed Director of the Geological Survey of Ireland (GSI). Could you briefly explain the main aims and tasks of GSI?

GSI was founded in 1845, which makes it one of the world's oldest Geological Surveys, however it has changed a lot in the 168 years since! Today, as a relatively small organisation with c.65 staff, we act as Ireland's Geoscience Agency, providing geological data, converting it into more usable reports and maps and acting as the project partner of choice in this sector.

We are part of the Irish government Department of Communications, Energy and Natural Resources, and as such provide expert independent advice to government in all the areas that geoscience impacts on. Much of our work is undertaken with Irish Local Authorities and State Agencies, while we also try to work closely with the research sector where possible.

Can you tell us something about how GSI operate and what will be the main strategies and approaches of GSI during your mandate?

Over the last ten years GSI has undergone considerable change, with the development of a more flexible, stakeholder driven approach to our work. This strategy is working well and for us and our operational programmes can be divided into four areas:

- **Nationally Funded Programmes:** This is where in certain areas there is key geoscience data required to fulfil a societal or stakeholder need, and these longer term projects are often funded directly through the GSI Budget allocation. Examples include our seabed mapping programme (INFOMAR) and National Mapping (our Geoscience Initiatives) in areas such as Aggregate Potential and Groundwater Susceptibility.
- **Cost Sharing Projects/GSI Public Projects:** This is the model for many of our activities, which was particularly developed for the area of Groundwater Protection, and remains critical to our activities. In this way we can leverage our resources by engaging in work that is specifically needed by an Irish Agency, authority or government department, where they will often share costs with us. Our permanent staff can provide technical and management supervision of specifically hired contractors or consultants as needed. Examples include work on Groundwater Source Protection and Geological Heritage Plans for Local Authorities.
- **European Projects:** While we have a mandate as the Irish Geological Survey, we also participate in many European Projects, as data providers, partners and experts. This includes activities such as EU funded EMODNET, GEOSEAS and INIS-HYDRO Projects (marine sector), InterReg funded activities such as Atlanterra (Mining Heritage) and projects part funded by the private sector such as NAG-TEC (Hydrocarbons).

- **Research:** GSI is not a research organisation per se, however we collaborate with many research organisations in all the areas in which we are active. One of GSI's main role in this area is as the manager of the Griffith Research Awards, a national geoscience programme of capacity building among institutes on an all island basis. Many of our programmes also include a research component, such as short (one year) focussed calls, on applied topics, and this has proved both popular and effective in developing expertise and increasing data use.

Could you describe some of your main projects, which highlight GSI strengths?

INFOMAR, is Ireland's national marine mapping programme, is a joint venture between the GSI and the Marine Institute and is the successor to the Irish National Seabed Survey (INSS). This flagship programme is Ireland's largest Geoscience endeavour, which has invested over €80m to date in mapping Irish waters, which are among the largest in Europe at ten times our landmass. The project is also the de-facto Hydrographic Survey of Ireland, providing updated charts via the UK Hydrographic Office and the project is listed as a Key Enabler in Ireland's Maritime Strategy. As part of GSI's participation in the programme we now manage 3 inshore launches, fitted with state-of-the-art mapping equipment. This work, which commenced in 1999 and is scheduled until 2026, has resulted in GSI developing strong expertise and an international reputation in this area.

Tellus Border is a c.€5 m airborne geophysics and geochemical mapping project, which is collecting scientific data on soils, water and rocks across the six ROI border counties. The programme consists of both airborne geophysics (magnetics, radiometrics and EM) and ground geochemistry (soils, stream sediments and waters), being undertaken over Ireland's 6 counties that border Northern Ireland. It follows on from the successful Tellus Project, undertaken by the Geological Survey of Northern Ireland, who are also leading on this project. The project is funded by EU under InterReg and will complete in 2013.

It is well-known that Ireland is facing economic difficulties, how are these difficulties affecting GSI and how will you plan to overcome such problems and maintain the quality of the work being carried out by the Survey?

Ireland is in a very difficult financial situation, where a global downturn in the economy which greatly affects a small open economy like ours, has been compounded by a property crash and banking crisis, resulting in an international bailout and a series of austerity budgets. The impact on GSI has been three fold really; firstly there have been significant changes to staff terms and conditions with longer hours and lower net salaries, secondly changes in the retirement terms have resulted in a lot of senior staff retiring earlier than they might have and not



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being replaced, and finally there is a lack of project funding available from our normal partners such as Local Authorities and at central government level. However I think GSI have responded well to this situation, as we have a flexible project model, our remaining staff have embraced greater responsibility and we have initiated a particular project targeted at job creation.

Geoscience Ireland, is a business cluster we have set up with Enterprise Ireland (the state agency for business development overseas), which has brought together c.20 companies across the Irish geoscience services sector to try and collaborate to win more work outside Ireland. To date the group has 1,078 employees, with a total gross turnover of €145m, with c30% of that overseas. By funding initial meetings, a marketing strategy and now a business development manager, GSI have helped these companies win business and retain and hopefully expand their staff numbers. It is an interesting model as GSI ourselves are not an international player in the consultancy or services business, unlike the larger surveys, but can advise and assist our local based companies.

How important is EuroGeoSurveys to GSI?

EGS is very important to GSI and becoming more so. It is a well-known fact that as Ireland is a small country at the western end of Europe, it has always enthusiastically embraced European participation and this has been seen with our recently completed Presidency of the Council of Europe and progress made there on several fronts. Similarly for GSI, as a smaller survey, we hugely benefit from participation in EGS, both at the Working and Expert Group level and with the Brussels office at National Delegate and Director level. EGS provides us with "eyes and ears" in Brussels, keeps us alert to opportunities, challenges and vital information that impacts directly on our operations here. A good example is the Marine Expert group, which has come together to repeatedly win major EU funding in projects such as EMODNET, which directly funds contract staff here in GSI, resulting in upskilling and job creation here.

Finally, we have to ask a small obvious question, surely yours is not an Irish name, can you tell us a little of your own background?

Well spotted, that is correct, my father was Flemish from Antwerpen, Belgium but my mother is Irish and I was born in Ireland. Sadly I don't speak Flemish but can badly attempt Gaelic, French, Spanish and some Swahili! I am a graduate with BSc Geology and MSc in Petroleum Geology from University College Dublin, I then worked for 15 years in the resource industry internationally, mainly in mineral exploration, including living and working in Canada, Australia and Africa. I joined the GSI in 2000, initially working as a Minerals Geologist, then managed the Information Management Programme and joined GSI Senior Management in 2005, where one of my main tasks was managing INFOMAR our marine programme. I was Acting Director for most of 2012 and appointed Director in January this year.



Koen Verbruggen - Director of the Geological Survey of Ireland (GSI).

European Parliament Intergroup meeting on 'Boosting resource-efficiency: maintaining competitiveness and ensuring green growth in Europe'

On 15th May 2013 Mr. Paul Rübig, MEP and co-Chair of the "Business and Raw Materials" Working Group of the European Parliament Intergroup "Climate Change, Biodiversity and Sustainable Development", organised a meeting at the European Parliament on 'Boosting resource-efficiency: maintaining competitiveness and ensuring green growth in Europe'.

This meeting was part of an initiative in the European Parliament raising awareness on the **European Minerals Days 2013**.

The participants could listen invited keynote speakers and got afterwards engaged into an interesting debate. Speakers included the EGS Secretary General, Luca Demicheli.

The basis of the meeting lied in the acknowledgement that the EU is highly dependent on imports of raw materials, particularly

critical ones such as rare earth elements. Increasing global demand coupled with a lack of supply due to export restrictions and long lead-times in the mining industry are pushing prices to record heights and leading to potential supply shortages. In times of economic crisis, high unemployment rates, and threat of supply shortage of raw materials competitiveness of European industries is at the heart of European policies and strategies to boost economic growth and jobs. Furthermore, resource-efficiency is also at the heart of key European initiatives. Economic productivity and resource-efficiency considerations need to be reconciled along the sustainable development agenda. This meeting will seek to demonstrate that there are untapped resources in Europe that should be used as an opportunity to stimulate Europe's industrial power and ensure that other regions of the world do not surpass Europe in the race to being resource-efficient and competitive.

OneGeology-Europe Plus Initiative

OneGeology-Europe Background

The Geological Survey of each European country holds valuable resources of geological data but, if they are not standardized, it may be difficult to discover, understand and use this data efficiently to answer critical questions and develop appropriate strategies.

The **OneGeology-Europe** project (1G-E) had the aim of creating a unified digital geological map of Europe. It was a two-year project of the European Commission (eContentPlus programme) and from 1st September 2008 to 31st August 2010 by 30 organizations cooperated in this project (of these, 20 were European geological surveys). The aim was to make geological spatial data from Europe discoverable so that a unified geological map of Europe at a scale 1:1M would be available under a common data license. This also provided an opportunity to test the guidelines for generating an interoperable environmental information infrastructure (www.geology.cz/extranet-eng/science/information-systems/inspire INSPIRE, SEIS, GMES and others). Under the terms of this project, a multi-lingual information system based on a newly defined geological profile was developed. It gives access to information about relevant data from 26 European countries, including a harmonized surface geological map at a scale 1:1M.

Standardized map services were created to provide access to the maps through a OneGeology-Europe geoportal. The project also accelerated the development and deployment of an international interchange standard for geology, GeoSciML, which enables data to be shared within and beyond the geological community. The harmonized specification for basic geological map data that has been developed is an essential first step in addressing harmonization at higher data resolutions for use in the future. It is an example of operating federated standard-compliant web service architecture that can serve as a model for many other European initiatives and projects concerned with geographical data.

The management of the OneGeology-Europe portal is now the responsibility of EuroGeoSurveys. It has contracted BRGM to maintain the Geoportal and CGS to maintain the Metadata catalogue.

OneGeology-Europe Plus initiative

Of the 34 members of EuroGeoSurveys (EGS), for various reasons, only 20 participated in the OneGeology-Europe project (Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Sweden, Spain, United Kingdom), so the European area has not been completely covered.



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At the 33rd General Meeting and Directors Workshop (18th – 19th September 2012) it was therefore decided to establish a successor initiative **OneGeology-Europe Plus (1G-E+)** with the purpose of extending the coverage by geological maps at a scale of 1:1 M to all the EGS member countries (including Albania, Austria, Bulgaria, Croatia, Cyprus, Greece, Iceland, Lithuania, Malta, Romania, Russia, Switzerland, Turkey, Ukraine) and also, if possible, to the other European countries (Belorussia, Bosnia and Herzegovina, Faeroe Islands, Kosovo, Latvia, Macedonia, Moldova, Montenegro, Serbia).

The 1G-E+ initiative has no external funding. In order to achieve the desired result, it is necessary for the new GSOs who intend to supply the additional 1G-E standardized services to carry out the work using their own staff and resources. Technical guidance and other support are being provided by the **1G-E+ Technical Support Team**. This team is coordinated by the Czech Geological Survey (CGS) working in cooperation with the Bureau de Recherches Géologiques et Minières (BRGM), the British Geological Survey (BGS), the Geological Survey of Denmark and Greenland (GEUS), the Geological Survey of Slovenia (GeoZS), the Geological Survey of the Netherlands (TNO), the Italian Institute for Environmental Protection and Research (ISPRA) and the German Federal Institute for Geosciences and Natural Resources (BGR). The Technical Support Team is funded from the internal budgets of the respective surveys and the resources allocated by the participating GSOs are only enough to cover a limited amount of time spent by expert staff and minimal travel expenses.

All new participants must agree to the existing common license that has been created for downloading the 1G-E data. It should be emphasized that the results will be presented as part of the 1G-E project on the metadata and portal infrastructures. It has been agreed that the results of the 1G-E+ project should be completed preferably before the end of December 2013.

Recent activities

The Technical Support Team has been established to provide information, guidance and support at all stages of the technical work required to enable the inclusion of a geological map from a new country in the 1G-E Portal using the standards, developed and accepted for 1G-E.

The first step was to confirm which countries are willing to contribute to the 1G-E+ initiative and learn more about the technical status of their map data. An introductory letter was prepared and approved by EGS and sent to directors of GSOs in all candidate countries. Of the 23 countries 14 replied positively (10 of them being EGS member countries) and expressed their willingness to join the initiative. These are: Albania, Austria, Bosnia and Herzegovina, Croatia, Cyprus, Greece, Iceland, Lithuania, Kosovo, Moldova, Romania, Serbia, Switzerland, Ukraine.

The progress of the 1G-E+ Initiative is being reported and discussed at the meetings of EGS SIEG (Spatial Information Expert Group), at EGS Directors meetings, at National contacts meetings and also at the GIC (Geoscience Information Consortium) meeting.

Priority has been given to setting up a support infrastructure. The project web-pages were compiled by the Czech Geological Survey at www.geology.cz/1geplus. A new section relating to the 1G-E+ was added to the English version of the official 1G-E web page www.onegeology-europe.org/categoria/1geplus_1. This includes a simple introduction to the initiative and the reasons for extending coverage to the whole of Europe. This serves as an entry point to the Metadata catalogue, the 1G-E Geoportal, and all the essential documents, including some of the 1G-E project deliverables and the text of the license agreement. The 1G-E cookbooks have been updated so that the technical information is easy to find. Details of the common data model, the procedure for setting up the map services and entering metadata are also provided.



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A Helpdesk was established so that experts from the Technical Support Team can be available to give advice about different problems at each stage of the work (entering metadata, translation of technical language, matching data to the common model, setting up map services, validation of services and integration within the 1G-E portal).

To ensure that there is a good understanding of the principles and the technical procedures involved, technical workshops are being organized. The first workshop was organized in Ljubljana (Slovenia) on 30th-31st May 2013. 18 nominated national experts from the geological surveys of 11 new countries (Austria, Bosnia and Herzegovina, Croatia, Greece, Kosovo, Moldova, Romania, Serbia, Ukraine; also Cyprus and Lithuania remotely via Skype) and 11 members of the Technical Support Team from 7 countries (Czech Republic, Slovenia, UK, Italy, Denmark, France and also Poland) participated in a fruitful meeting spread over two half days. The main purpose of the workshop was to provide an introduction to the results of the OneGeology-Europe project and the objectives of the OneGeology-Europe Plus initiative (metadata catalogue, portal and web services, GeoSciML, data harmonization and dictionaries etc.).

The technical part of the workshop was devoted to training in how to supply the 1G-E standardized metadata and web services, harmonization of data with practical examples of mapping from internal data models to GeoSciML and 1G-E vocabularies. The participants were led through the procedures described in the cookbooks so that potential difficulties could be explained.

The workflow and timing for delivery of the OneGeology-Europe Plus results were discussed and feedback was given by the participants.

The outcome of this meeting was very positive; the new participants obviously appreciated the opportunity to learn about the concepts and principles of the initiative face-to-face. Basic training in how to do the job and how to use the cookbooks was given, and the networking required to ease the cooperation and the teamwork was established.

We hope that during the autumn it will be possible to report on progress. The next important step will be to try to contact the remaining countries that have not, so far, responded and widen awareness of the 1G-E+ initiative.

Prof. Jerzy Nawrocki re-appointed as Director of Polish Geological Institute - National Research Institute

On the 15th of April 2013 The Polish Minister of the Environment Mr. Marcin Korolec re-appointed Prof. **Jerzy Nawrocki** to the post of Director of the Polish Geological Institute - National Research Institute. Prof. Nawrocki's second term will be for four more years from 2013 to 2017.



Geology for the Society - Geological maps for planning, resources and safety

Dr. **Olivier Lateltin**, Director of SWISSTOPO, recently published an article in the 2013 Spring edition of the Journal GlobalScientia entitled Geology for the Society - Geological maps for planning, resources and safety. The article focuses on the increasingly important role geological mapping has on

the sustainable use, planning, and design of our environment.

The article is available on the follow link (page 78): http://issuu.com/jswhitelaw/docs/global_scientia_issue_3

Geoheritage in Europe and its Conservation

The European Association for the Conservation of the Geological Heritage (ProGEO) works since 1993 to promote proper management of Europe's rich diversity of rocks, landforms, fossils, minerals through international cooperation, exchanges of ideas and experiences.

ProGEO is an open association based on personal and institutional memberships and communicates through its web site (www.progeo.se), an electronic newsletter (ProGEO NEWS) and through social media (www.facebook.com/progeo.geoheritage). ProGEO does also participate on a global level as an affiliated organisation to IUGS, as a member of IUCN and as convener of conferences and workshops.

The geoheritage of Europe and its conservation has now been the main theme of a new book published by ProGEO. The book gives for the first time an overview of the status of geoconservation with contributions from 37 countries. The geoheritage of Europe have links to geology, landscapes and landforms and history. Geoconservation strategies through legislation, conservation and management practices vary from country to country, as does the very acceptance of management of the geological heritage as an important nature conservation task.

The book gives an update of these differences and provides an overview of results and challenges for the different countries as well as new trends to overcome these challenges. Among the latter is the strong development of geoparks as well as integration of geodiversity and geoheritage in land-use planning.

Gerard Gonggrijp from The Netherlands got the idea of such a book in the 1990s. His idea was that such a book would be a national inspiration and would also contribute to future international cooperation. Gerard, who died few years later, was central in establishing the "Working Group for Earth Science Conservation" (as ProGEO was called in its early years) and was its first executive secretary. The book is dedicated to him and to the first ProGEO president, George Black.

The book clearly demonstrates the need for the existence of ProGEO. It shows a variation of status and acceptance of geoconservation in the European countries as well as major challenges on the international level. Scientific cooperation produce a better basis for nature conservation and management where abiotic elements have their natural role.

The aim of the book is to disseminate this information as broadly as possible, not only to ProGEO members, but also to the general geological and nature conservation community. The book is also distributed to central political and management institutions in the different countries and is available for sale on the ProGEO website (www.progeo.se).



Wimbledon, W.A.P. & Smith-Meyer, S. (eds). 2012. **Geoheritage in Europe and its Conservation.** ProGEO, 405p, ISBN: 978-82-426-2476-5.

The 4th Session of UNECE Expert Group on Resource Classification, Geneva

On April 23-26, 2013, representatives of the EGS Mineral Resources Expert Group – Peter Balaz (SGUDS) and Boris Malyuk (SGSSU) – participated in the 4th Session of the UNECE Expert Group on Resource Classification (EGRC), as far as EuroGeoSurveys is an EGRC member and because the issue of mineral resources classification is very important for the minerals activities on the whole and for the certain EGS-initiated projects underway (EGDI-Scope, Minerals4EU).

The meeting was attended by experts from the UNECE member countries (Denmark, Georgia, Hungary, USA, etc., 14 in total), other countries of the world (Argentina, Australia, Brazil, etc., 14 in total), as well as by representatives from the European Commission (DG Enterprise and Industry, DG Eurostat and DG Joint Research Centre), international organizations (IAEA, IEA, CCOP), non-governmental organizations (AAPG, CRIRSCO, EFG, etc., 8 in total) and experts from the private sector and academia.

The meeting representation reflects the current high interest in the issue of mineral resources classification and EGS feels it is vital to be aware of the developments in this field as well.

To date, it can be concluded that the main EGRC product – the United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources of 2009 (UNFC or UNFC-2009) – is a strong enough system of mineral inventory and reporting. The EGRC presented the Technical Specifications and Terms of Reference documents at the meeting, providing the practical ground to the UNFC application in the interested countries. Respective case studies were presented (China, Ukraine, Mexico, etc., 7 in total) at the meeting while the session itself was preceded by a workshop organized for the exchange of experiences in UNFC application.

All contributions to the workshop and meetings are already available on the UNECE Expert Group webpage:

www.unece.org/index.php?id=31719

The UNFC-2009 looks comprehensive, well argued and reasonable through the bridging documents to the CRIRSCO (Committee for Mineral Reserves International Reporting Standards) and PRMS (Petroleum Reserves Management System). In this way, UNFC provides the common basis for the energy and non-energy mineral resources classification, and it is further extended

towards the renewable energy resources and gas injection (CCS field). These are the main reasons behind the continuing interest of EGS and its Mineral Resources Expert Group into the issue and for further interaction with the EGRC.

EGEC paper sets out how to finance Geothermal Energy with innovative financial tools and smart support themes

Within the framework of the current debate on financing renewable energy, EGEC published a Policy Paper "Financing Geothermal Energy" with key recommendations for policy-makers. Geothermal energy will play a key role in the future European energy mix as it provides renewable base-load and

flexible electricity and continuous heat/cold production everywhere. From a system-approach perspective, it can therefore genuinely increase the sustainability, affordability as well as security of energy supply at regional, national and European level.

Policy Paper "Financing Geothermal Energy": http://egec.info/wp-content/uploads/2013/07/EGEC-policy-paper-on-financing-geothermal_.pdf

The European Needs for Geological Data in support of Environmental Protection

For many years the geological surveys in Europe have supplied data and information for the European Environment Agency (EEA), either through the Topic Centres, the EIONet, or in their obligations towards various European Directives.

During the recent Eye-on-Earth Conference organised in March 2013 in Dublin by the EEA, Secretary General Luca Demicheli discussed with high level members of the EEA and other international bodies about the possibility of extending the cooperation to comprise pan-European geological data – well in line with the ideas behind the future European Geological Data Infrastructure (EGDI) which is at the moment is being planned for by the EGDI-Scope project.

EGS/EEA workshop

On 13th of June, members of EGS met with members of the EEA in Copenhagen to elucidate the needs for geological data in support of EEA's line of business. EGS was represented by parts of the EGDI-Scope core team together with the Chairs of the Superficial Deposits Task Force (Rainer Baritz) and the Geochemistry Expert Group (Clemens Reimann). The EEA participants covered a wide range of thematic areas including ecosystem mapping and -assessment, soils, water, forests and spatial analysis.

The workshop was scheduled to allow EEA to present their current needs for geological data and EGS representatives to present the general ideas behind the European Geological Data Infrastructure (EGDI) as well as disseminate knowledge about already existing European geological data products including the new geochemical atlas of European agricultural soils that will be published by the GEMAS project within a few months.

The workshop was successful in increasing the mutual awareness of the complementary activities undertaken by the two institutions, and it was decided amongst the participants to continue the joint work towards a better future utilization of geological knowledge in the field of environmental protection.

The follow-up process

The workshop has subsequently been followed up by the establishment of a small working group initially consisting of Geertrui Louwagie (EEA) and Mikael Pedersen (GEUS). The aim of this group is to more concretely assess the role that geological data play in the environmental issues dealt with by the EEA.

This work should in the end lead to one or more joint EEA/EGS publications identifying

- a) how an EGDI serving the presently existing pan-European datasets can support the work of the EEA and
- b) the EEA's need for geological data that do not yet exist and what research projects are needed in order to produce such data.

A list of environmental use cases in which geological data play an important role has so far been developed, and points of contact from both sides have been identified for each such case. EGS will in this work be represented by relevant Expert Group Chairs that can choose to delegate practical tasks to other members of the Groups.

How it works in practice

The EEA/EGS working group will in the coming months continue the effort towards the production of a comprehensive description of joint use cases. For each use case, the identified EEA responsible will be asked to give a short description of the relevant EEA product, how it is developed, and how geological data could benefit to its improvement. From this description, the corresponding EGS experts will be asked to describe what data already exist to support these needs and what data do not exist. Furthermore, in-depth analysis of the tasks required to produce, improve and include relevant data in a future EGDI will be performed by the EGDI-Scope team, and will provide valuable input to the implementation plan, which will be the most important end product of the EGDI-Scope project.

Hans Bruyninckx biography

Hans Bruyninckx is the Executive Director of the European Environment Agency, taking office on 1 June, 2013.

He was born in Schoten, Belgium in 1964. Dr Bruyninckx studied undergraduate and master's degrees in political science specialising in international relations at Antwerp and Leuven Universities. He also completed an additional programme in development studies at the University Catholique de Louvain-la-Neuve.

He completed a PhD degree in 1996 at Colorado State University on the topic of international environmental politics, subsequently teaching at several other universities in the United States and Europe, including Colorado State University, Canisius College and Wageningen University.

From 2010 until his appointment at the EEA, he was head of the HIVA Research Institute in Leuven, Belgium, a policy-oriented research institute associated with the Katholieke Universiteit Leuven, where he was also head of the Political Science department from 2007 to 2010. Dr Bruyninckx has also been a senior member of the interdisciplinary Leuven Centre for Global Governance Studies and promoter-coordinator of the Flemish Policy Research Centre on Transitions for Sustainable Development (TRADO).

Over the last 20 years, he has conducted and managed policy-oriented research in the areas of environmental politics, climate change, and sustainable development. He was responsible for research in the domains of policy evaluation, monitoring and reporting, methodology development, environmental policy integration, and more recently also on long-term transition policies. His experience pertains to the level of the regions (Flanders in a comparative European perspective), the EU Member States, the EU level, the Organisation for Economic Co-operation and Development (OECD), and processes of global environmental governance (climate change in particular).

His academic expertise lies primarily in the field of European and international environmental policy, studying the effects of globalisation on the global governance of environmental issues and sustainable development. From this perspective he has also studied global production and consumption systems, as well as issues relating to distribution and justice. He has taught courses on the topics of global environmental politics and global environmental governance in relation to the European Union (EU), publishing extensively on EU environmental policies and its role as an actor in global environmental governance.

Dr Bruyninckx was involved in numerous policy processes as an advisory board member, involved in steering groups of government agencies, and as academic policy advisor to governmental agencies and other key actors. In addition, he has worked intensely with civil society and business actors, in support of public-private initiatives or private regulatory approaches to environmental, climate change and sustainability issues. Furthermore, he was president of the board of Bond Beter Leefmilieu (The Association for a Better Environment), a Flemish umbrella organisation bringing together many different environmental groups.

Dr Bruyninckx speaks fluent English, French and German in addition to his native Flemish. During his career he has conducted research in more than a dozen different countries.

He is a keen sailor as well as an outdoor and sports enthusiast.



The European Marine Observation and Data Network (EMODnet)

In its Green Paper on maritime policy published in 2006, the EC described how a better understanding of the competing uses of Europe's seas was limited by insufficient information about the marine environment and so proposed the establishment of a European Marine Observation and Data Network (EMODnet) to provide a focus for dissemination of marine data.

In 2007, building on the responses to a comprehensive stakeholder consultation about how Europe relates to its seas, the EC proposed an Integrated Maritime Policy for the European Union in which it set out the foundations for the governance framework that would be necessary to achieve good environmental status in Europe's marine areas. The proposal recognised that all matters related to its oceans and seas are interlinked and that the policy would rely on a co-ordinated approach to all marine activities. Stakeholders confirmed the need for better access to marine information and the barrier that the lack of information placed on decision making, the expansion of public and commercial services and the assessment of human impacts on the marine environment. The proposal was welcomed by the European Parliament and so the EC took steps to create the EMODnet Programme by 2009, to bring together the high-quality marine information that would address these issues and to promote multi-dimensional mapping of Member States' marine sectors.

Led by the EC's Directorate General for Maritime Affairs and Fisheries (DG MARE), the overall objective of EMODnet was to create pilot studies that brought together information that was held by numerous marine organisations, and which was often inaccessible. For the preparatory phase of the programme (2009-2012) the EC issued calls to compile information for marine biology, chemistry, physical parameters, hydrography (bathymetry), sea-bed

habitats and geology for parts of the European seas to test the processes, technologies and costs associated with implementing a full EMODnet programme. Led by the British Geological Survey (BGS), a group of 14 marine geology departments, including 12 EuroGeoSurvey members, won the contract to provide marine geological information for the Baltic Sea, North Sea and Celtic seas.

The design principles of EMODnet aim to build on existing efforts where the science community has already organised itself to share information based on the principle of collecting data once and using many times and by developing standards for dissemination of information. As such, the well-established Marine Geology Expert Group of EuroGeoSurveys provided an ideal platform for bringing together the EMODnet-Geology consortium, having collaborated previously in EC-funded projects such as EUMARSIN (European Marine Sediment Information Network) and EUROSEISMIC (European Marine Seismic Metadata and Information Centre) which from 1998-2004 compiled information on sediment and acoustic data held by the European geological survey organisations. The EMODnet programme also aims to develop close relationships with the users of marine information so that the programme outputs are driven by decision-making organisations in the European community. To guide this aspect the EC formed the Marine Observation Data Expert Group (MODEG) consisting of members from both the public and private sectors.

During the preparatory phase of the EMODnet programme, the geological organisations were asked to compile information at 1:1 million scale for a range of parameters such as sea-bed sediments, bedrock geology, coastal behaviour, geological events such as submarine landslides and earthquakes, and minerals including oil, gas and marine aggregates. Working on the basis of building on existing infrastructures, the group decided to make their compilations available within



Alan Stevenson
British Geological Survey EMODnet-Geology Project Co-ordinator, Deputy Chairman of the EGS Marine Geology Expert Group

the OneGeology-Europe portal which previously did not include marine information. By making use of the 1GE portal, the marine information was able to take advantage of compliance with international standards such as OGC and INSPIRE.

The project also made use of Web Map Services (WMS) to bring together information that is not held by all of the geological survey partners. An example of this was earthquake data, which in Europe is compiled by the European Mediterranean Earthquake Information Centre. Using WMS, the data held by the EMEIC formed the information layer for the geological events component of the project. This particular dataset highlighted the need to present information that is maintained at source and not just present a snapshot of information at any particular time. The use of WMS opens up the possibility to link map information from a wide range of sources to provide the users of marine information with the best available data that is kept up to date on a regular basis. Other information that was brought into the EMODnet-Geology project includes metadata marine information that was being compiled by the Geo-Seas project, also funded by the EC and including a number of EuroGeoSurveys members.



Message from Expert Groups

In addition to compiling marine geological map information, the project was asked to provide recommendations for the full EMODnet programme. The proposal put forward included the compilation of information at a more detailed scale at which most of the project partners could deliver geological interpretations that could be harmonised across national boundaries. Other recommendations included the need for sub-seabed information such as Quaternary geology to be included in the outputs and more detailed information in the coastal zone. The project recognised that the need to build on national infrastructures is important as major mapping programmes are underway in many European countries (e.g INFOMAR in Ireland; MAREANO in Norway and MAREMAP in the UK) which are delivering very detailed marine geological information that is of value at both national and international level.

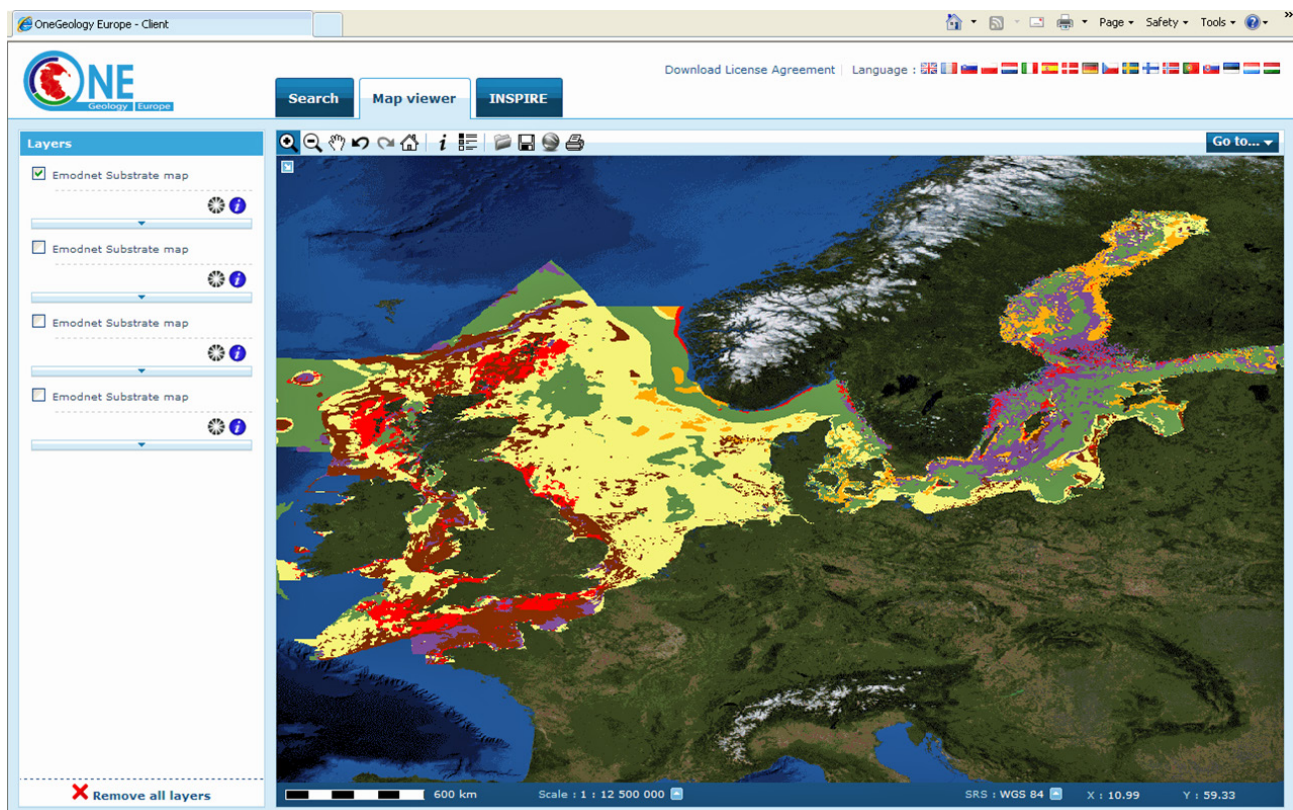
The preparatory phase of EMODnet ended in 2012. In the same year, the EC issued further calls to develop the full EMODnet programme, expanding the information to include all European seas from the North Atlantic and Barents Sea, the Mediterranean and the Black Sea. In response to this call, the existing consortium increased its partnership to include a further 16 countries, increasing the number to 36 partners. Once again, the EuroGeoSurveys members formed the basis for this group with a total of 25 geological survey organisations involved in

the bid. In April 2013, the consortium was notified that their proposal had been successful and the group are working towards starting the next phase of the project during the summer of 2013. Funding has been agreed until 2016, but indications are that the programme will receive further finances through until 2020 as the European Union member states aim to achieve good environmental status in their marine areas by the end of the decade.

In the next phase of the programme, the EMODnet-Geology partners will not only continue to compile information for marine geological parameters in the countries that have joined the consortium, but will also compile more detailed information at 1:250,000 scale for those involved in the preparatory phase. Maintaining this pan-European group of geological organisations will provide access to their marine information as required by the EC, but will also help the organisations to share methods for data collection, storage and interpretation such that the platform for long-term collaboration can be maintained.

Alan Stevenson

British Geological Survey
EMODnet-Geology Project Co-ordinator
Deputy Chairman of the EGS Marine Geology Expert Group



ETP SMR officially established as a non-profit international association

The ETP SMR is now registered as a non-profit international association under Belgian law (A.I.S.B.L.). With its new status as a legal entity, the ETP SMR hopes to build on its existing relationships with the European Commission and other European Technology Platforms through official agreements and potential project partnerships arising from the numerous ongoing initiatives in the raw materials sector.

The first General Meeting of the newly established entity took place on the 19th June 2013 in Brussels. The meeting saw two new members join the Platform: the Norwegian University of Science and Technology (NTNU) and the Spanish copper mining company Cobre Las Cruces.

A significant moment of the General Meeting was the adoption of the newly updated ETP SMR Strategic Research Agenda (SRA), which will now be available

to the public via the ETP SMR website. The SRA takes into account the latest developments in the European mineral resources sector and highlights the research needs for Europe, bringing the vision and strategy of the ETP SMR in line with the EU policies on raw materials, including the European Innovation Partnership on Raw Materials and the Horizon 2020 framework programme for research and innovation.

I²Mine participates in the European Minerals Day 2013 events

As one of the official partners of the European Minerals Day 2013 (EMD), the ETP SMR showcased the I²Mine project at various events around Europe.

Information on the project, and the platform in general, was distributed during a three day EMD exhibition in the European Parliament in Brussels from the 6th to 8th of May 2013. The exhibition attracted MEPs, European Commission officials, raw materials stakeholders and visiting groups touring the Parliament, and included a cocktail reception hosted by Prof. Panayotov, MEP.

A seminar on I²Mine was also organised as part of the EMD Launch Event in Vipiteno, Italy, on the 23rd May 2013. Entitled "Innovative Technologies and Concepts for the Intelligent Deep Mine of the Future – I²Mine", the aim of the seminar was to achieve a wider dissemination of the I²Mine concepts, its potential societal benefits and to establish meaningful dialogue with the participants of the EMD Launch Event, mainly from the mining and supporting industry and governmental bodies.

Secretariat's agenda

- **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
- **7 June** Peter Britze, Chair of the EGS GeoEnergy Expert Group (GEEG), at DG ENV stakeholders event «Unconventional fossil fuels (e.g. shale gas) in Europe» in Brussels
- **10-11 June** Stuart Marsh, Chair of the EGS Earth Observation Expert Group (EOEG), at EC European Supersite Coordination Workshop in Brussels
- **13 June** Luca Demicheli meeting new EEA Executive Director, Hans Bruyninckx, in Copenhagen
- **14 June** Luca Demicheli at EGDI-Scope project Executive Committee meeting in Copenhagen
- **17 June** Luca Demicheli at FAO Headquarter in Rome
- **17-18 June** Luca Demicheli at Terrafirma project Final Meeting in Frascati (Rome)



Secretariat's agenda

- **20 June** Luca Demicheli meeting Aldo Patriciello (MEP) and delegation of Italian geologists in Brussels
- **24 June** Luca Demicheli at Geological Survey of Italy 140th Anniversary Open Day in Rome
- **25 June** Luca Demicheli at EUROMINES General Meeting in Stockholm
- **26-27 June** Luca Demicheli at INSPIRE Conference in Florence
- **27 June** Peter Britze, Chair of the EGS GeoEnergy Expert Group (GEEG), at DG RTD 'Expert consultation meeting on shale gas research priorities for Europe' in Brussels
- **28 June** Luca Demicheli at Geological Survey of China - Geological Survey of Italy formal meeting in Rome
- **9 July** Luca Demicheli at GEO High Level Working Group meeting in Brussels
- **9-10 July** Patrick Wall, EGS Scientific Policy Officer, at PanGeo Progress Meeting in Barcelona
- **17 July** Mart van Bracht, EGS President, at European Innovation Partnership on Raw Materials (EIP RM) High Level Group meeting in Brussels
- **23-24 August** Luca Demicheli at BGR's International Workshop on Groundwater Systems in Europe in Berlin
- **4 September** Luca Demicheli at 12th European Geoparks Conference, in Ascea Marina (Salerno)
- **5-6 September** EGS National Delegates Forum in Malta
- **9 September** Luca Demicheli at EGDI-Scope project Executive Committee meeting in Malta
- **10 September** Luca Demicheli at EGDI-Scope Stakeholder Forum in Malta
- **16-17 September** Luca Demicheli at Minerals4EU Kick Off meeting in Helsinki
- **18-19 September** Luca Demicheli and Stuart Marsh, Chair of the EGS Earth Observation Expert Group (EOEG), at EO-MINERS project Workshop on Minerals and Society in Brussels
- **23-27 September** Luca Demicheli and Marek Graniczny, Chair of the EGS International Cooperation and Development Task Force (ICDTF), at Organisation of Geological Surveys of Africa (OAGS) General Meeting in Accra

EU agenda

➤ **European water resources: current status and future challenges**

In 2012 a series of policy reviews, namely the first review of the implementation of the Water Framework Directive, the review of the water scarcity and drought policy and the review of the climate change adaptation and vulnerability policy with respect to water, led to the publication of the Blueprint to Safeguard Europe's Water Resources by the Commission in November 2012.

To support this policy process, the European Environment Agency presented throughout the year 2012 a series of reports to assess the state of Europe's waters and future challenges. These reports can be found using the following link.

www.eea.europa.eu/themes/water/waterassessments-2012/water-assessments-2012
Source: www.eurogeologists.eu

➤ **EU pushes to enhance international cooperation in research and innovation**

The Competitiveness Council by means of conclusions, at a meeting held 29-30 May 2013 in Brussels, endorsed a new EU strategy for enhancing international cooperation in research and innovation. The conclusions call on for its implementation by, inter alia, developing strategic roadmaps for cooperation with third countries and regions and associating those roadmaps with the implementation of the Horizon 2020 research framework programme. Europe's efforts in the field of international cooperation need to be intensified and more strategically focused. For this reason, many delegations underlined the need to apply a more strategic vision for the future development of international partnerships under the next framework programme Horizon 2020.



➤ Commission proposes new Copernicus funding programme

At a recent Competitiveness Council meeting held 29-30 May 2013 in Brussels the Commission presented a proposal for the funding and operation of the European Earth Monitoring Programme Copernicus for the period 2014-2020. Copernicus is the new name of the GMES (Global Monitoring for Environment and Security programme). Copernicus aims at providing Europe with a continuous, independent and reliable access to observation data and information. It is structured in six Services: Marine, Atmosphere, Land and Climate change monitoring as well as support to Emergency and Security.

➤ EU's 7th Green Masterplan

Negotiators representing the EU's three institutions have backed the 7th Environment Action Programme that includes a call to consider legislation governing soil quality throughout Europe. On Wednesday 19 June the parties signed off on a deal for the post-2013 EAP, a basket of environmental initiatives, including pledges to improve energy efficiency, reduce carbon emissions and protect water resources and biodiversity. The deal between the European Commission, Parliament and Irish presidency of the EU Council also calls for protecting soil quality in the 27 EU states plus Croatia. Though it falls short of a binding legislative commitment, the EAP opens the door to a long-sought Soil Quality Directive. The EAP offers a framework for action rather than legal obligations and still faces a final vote in the Parliament.

Source: www.euractiv.com

➤ EC Consultations

Green Paper on a 2030 framework for climate and energy policies

The EU has a clear framework to steer its energy and climate policies up to 2020 and is making good progress towards meeting its climate and energy targets for 2020.

But providing clarity on a policy framework for 2030 is also needed, giving more certainty to investors, stimulate innovation and demand for low-carbon technologies and allow the EU to engage actively in the international negotiations for a new climate agreement.

The 2030 framework should build on the experience and lessons from the current framework. It should also take into account the longer term perspective set out by the Commission in the Roadmap for moving to a competitive low carbon economy in 2050, the Energy Roadmap 2050 and the Transport White Paper.

The Green Paper raises a set of questions e.g. relating to the main lessons from the 2020 framework; type, nature and level of climate and energy targets for 2030; coherence between different policy instruments; competitiveness and security of energy supply; and distribution of efforts between Member States.

This public consultation asks for insights and viewpoints on the basis of the questions included in the Green Paper with a view of informing the on-going work within the Commission of developing a 2030 framework for climate and energy policies. The EU has a clear framework to steer its energy and climate policies up to 2020 and is making good progress towards meeting its climate and energy targets for 2020.

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Open from 28/03/2013 to 02/07/2013

http://ec.europa.eu/energy/consultations/20130702_green_paper_2030_en.htm

Consultation on applications of EU satellite navigation programmes (Galileo and EGNOS)

The objective of this public consultation is to obtain input and a broader range of views on the way the European Commission should maximise and ensure the market uptake of GNSS downstream applications and of the European GNSS downstream applications in particular.

Open from 22.04.2013 to 14.07.2013

http://ec.europa.eu/enterprise/policies/satnav/pubconsult/index_en.htm



Consultative Communication on the Sustainable Use of Phosphorus

The Commission is launching a consultation on how to use phosphorus in a more sustainable way. Phosphorus is widely used in agriculture and is an essential component in fertiliser and feed, but it is a non-renewable resource. Supplies are limited and much phosphorus is currently wasted, creating concerns about future supplies in the EU and worldwide.

The consultation asks how to ensure that reserves are available for future generations, and about ways to minimise the undesirable side effects phosphorus use can have on the environment. The consultation aims to launch a debate on phosphorus use and ways to make it more resource-efficient. The Communication invites the European Institutions and all interested stakeholders to comment on the issue.

Open from 08.07.2013 to 01.12.2013

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

Upcoming Events

➤ Sustainable Development in the Minerals Industry 2013

Milos Island, Greece 30 June - 3 July 2013

The objective of this Conference is to assist the minerals industries in their global transition to sustainable development. At present, the focus of public perception is placed on environmental and social consequences of mining. Growing environmental and social concerns, supply chain procurement standards, as well as public pressure and regulatory measures, will profoundly shape the global mineral business in the near future. In order to cope with these challenges, the minerals community must integrate sustainable development concepts, best-practices and stakeholders participation into the technical considerations, business strategies and performance goals that are associated with all facets of mineral exploitation, from exploration to mine closure. The main theme of the meeting, therefore, is the development, monitoring and assessment of sustainable development criteria for mineral operations.

The Conference also aims to conclude with a consensus plan and a process, representing a variety of stakeholders, which can provide guidance and direction to the minerals community on the path to sustainable development.

<http://sdimi2013.conferences.gr>

➤ 1st International Congress on Stratigraphy (STRATI 2013)

Lisbon, Portugal 1 July - 7 July 2013

This congress follows the decision to internationalize the conferences previously organized by the French Committee of Stratigraphy (STRATI), the last one of which was held in Paris in 2010. Thus, the congress possesses both the momentum gained from an established conference event and the excitement of being the first International Congress on Stratigraphy.

It is being held under the auspices of the International Commission on Stratigraphy (IUGS), and it is envisaged that this first congress will lead to others being held in the future.

www.strati2013.org

➤ 23rd World Mining Congress

Palais des congrès de Montréal, Montréal, Québec, Canada 11 August - 15 August 2013

The theme for WMC 2013 is Mapping the Future: Advances in Mining Engineering, and an extensive technical program of leading-edge, peer-reviewed papers will provide the opportunity for high level knowledge sharing with peers. Over 1,500 people are expected to attend, enabling outstanding networking and the development of new business relationships. What's more, the Mining Expo will showcase the very best suppliers and service providers supporting the global minerals industry, creating an unparalleled opportunity to hunt down the solutions to drive your business forward.

www.wmc-expo2013.org/Page/PageContent/Welcome

➤ DORIS: an advanced downstream service for the detection, mapping, monitoring and forecasting of ground deformations

Madrid, Spain 3 September 2013

We are pleased to invite you to the workshop: "DORIS: an advanced downstream service for the detection, mapping, monitoring and forecasting of ground deformations", which will take place in Madrid on the 3rd of September 2013.

DORIS is an advanced downstream service for the detection, mapping, monitoring and forecasting of ground deformations, including landslides and ground subsidence.



Upcoming Events

DORIS integrates traditional and innovative Earth Observation (EO) and ground based (non-EO) data and technologies to improve our understanding of the complex phenomena that result in ground deformations, and to foster the ability of Environmental and Civil Protection authorities to manage the risks posed by ground deformations.

www.doris-project.eu

➤ **12th European Geopark Conference** **Cilento and Vallo di Diano Geopark, Italy** **4 September - 6 September 2013**

As the global development strategies of the Earth Sciences assume more and more of an important role in the world Cilento and Vallo di Diano Geopark has the honor of hosting the 12th European Geoparks Conference. The geo' hazards and climate change affect all human activities and can strongly condition the future of humanity. In fact, life, property, economic and financial losses due to natural hazards and the impact of disasters on society have both increased dramatically over the last couple of decades. Scientists' both physical and social', policy makers, insurance companies, disaster managers, and the public themselves, have different ways for understanding natural geo' hazards and sustainable use of natural resources.

This conference aims to: verify how Geoparks can direct the scientific knowledge of the academic community on these items, understand how the Geoparks address these issues in the educational system, and disseminate the role of Geoparks on the public awareness and sustainable use of natural resources.

<http://egnconference2013.cilentoediano.it>

➤ **Migration Conference 2013** **Brighton Conference Centre, Brighton,** **United Kingdom** **8 September - 13 September 2013**

The Migration conferences provide an international forum for the timely exchange of scientific information on chemical processes controlling the migration behaviour of actinides and fission products in natural aquifer systems. Experimental investigations and predictive modelling of these processes are the main topics of the conferences. The information generated from the Migration conferences is the basis for the mechanistic understanding of the migration behaviour of long-lived radionuclides in the geosphere, which is essential for the long-term performance assessment of nuclear waste disposal.

www.lboro.ac.uk/departments/chemistry/migrationconference2013

➤ **The European Space Agency Living Planet Symposium 2013**

Edinburgh, Scotland

9 September - 13 September 2013

The objective of the Living Planet Symposium is to present the results of ESA EO missions in exploitation by:

- providing a forum for investigators to report and discuss results of on-going science activities using ERS, ENVISAT, GOCE, SMOS, CRYOSAT, Swarm and ESA Third Party missions data
- gathering the Sentinels R&D community
- reviewing the development of applications
- introducing operational services including GMES
- reporting on ESA Exploitation Programmes (DUE, VAE, STSE)
- reporting on ESA Climate Change Initiative and international cooperation and providing dedicated thematic tutorials and short training courses (ESA toolboxes).

In addition, the Symposium will provide an opportunity to introduce ESA missions in development (Sentinels, Earth Explorers and meteorological missions) and national EO missions.

<http://lp2013.congrexprojects.com/index.asp>

➤ **2013 China International Exhibition & Forum on Geological & Mining Technology, Machinery and Instruments**

National Agriculture Exhibition Center,
Beijing, China

10 September - 12 September 2013

The 2013 China International Exhibition & Forum on Geological & Mining Technology, Machinery and Instruments will be hosted in Beijing September 10-12. China Geology supports China's new initiatives to create new economic growth engines to replace those that the country traditionally relied on - exports and state-led construction - as China's main economic growth drivers. In the coming years, China will see some of the biggest structural changes in recent times, propelled by the country's USD 6.4 trillion, decade-long campaign to urbanize another 400 million people. China Geology will continue to serve as the window to advance the geological and mining exploration capabilities necessary to boost the efficiency of national, provincial and local geotechnical works. The resulting increased productivities will be important contributors to China's economic transformation, future growth and development. China Geology also serves as the window from which Chinese enterprises can explore the international market, armed with their own advanced technologies and sophisticated designs. China Geology, the industry's platform for showcasing the latest developments in products, technologies and know-how,



Upcoming Events

has become the «must attend» event for local, national and international geological and mining communities.

www.chinageotech.net

➤ 9th European Coal Conference 2013 Gliwice, Poland 10-14 September 2013

The 9th ECC is being organised on behalf of the European Coal Geology Group, an informal association uniting academics and applied scientists and technicians. Their interests are concerned with the geology of European coal deposits, with special attention being paid to environmental issues. As the hard coal mining industry has closed in some countries, special emphasis will be placed on the problems and opportunities related to mine closures as well as the continuing importance of coal for the energy supply in Europe.

www.polsl.pl

➤ Geofluids: Lubricants of the Dynamic Earth Tübingen, Germany 16 September - 19 September 2013

We invite you to the joint meeting of the Deutsche Mineralogische Gesellschaft (DMG, German Mineralogical Society), the Geologische Vereinigung e.V. (GV, German Geological Union), and SEDIMENT held during the 16-19th September 2013 in Tübingen. We look forward to your attendance and contributions from all fields of mineralogical, geological and sedimentological research.

www.dmg-gv2013.de

➤ 4th Annual Global Mining Technology Forum 2013 Johannesburg, South Africa 18 September - 19 September 2013

With the theme - A Bang for the Buck: Innovation as the Key to the Future of Mining, the 4th edition of Fleming Gulf's highly acclaimed Global Mining Technology Forum series will take place in Johannesburg, South Africa on 18-19 September 2013.

Mining companies are focusing on bringing in the right technology to mechanize and balance it with labor. Mechanization not only increases efficiency, it also boosts mine safety through technologies that take workers away from the most dangerous areas.

Innovation is key and mining automation is a growing trend within the industry, from remotely controlled equipment to driverless trucks. The only way to improve productivity is through mechanization of all processes and optimal automation of mining equipment.

An iconic group of industry experts, over 40 international speakers, more than 20 exhibition stands and 4 action packed streams make this an event not to be missed. The conference will provide an insight into state of the art technologies implemented by the industry that go even beyond automation to optimizing your business processes and increasing value for your investments.

www.fleminggulf.com

➤ 22nd International Symposium Soil Farming Factors and Processes from the Temperate Zone 2013

Iasi, Romania

19 September - 22 September 2013

This symposium will deal with soil forming factors and processes. The first day will be focused on communication sessions by the Faculty of Geography and Geology while on the last two days there will be field applications carried out in eastern Romania and the Republic of Moldova.

<http://factori.soilscience.ro/index.php/fspdzt/announcement/view/2>

➤ Euradwaste Conference 2013 Vilnius, Lithuania 14 October - 16 October 2013

The objective of Euradwaste'13 will be to present an overview of all recent EC activities in the field of radioactive waste management with the focus on geological disposal(GD) as the main challenge, including RD&D, policy, strategic, legislative and socio-political aspects. Euradwaste'13 will address the main aspects of the Waste Directive which has to be transposed into national legislation, due by August 2013, and the establishment and/or implementation of the respective national programmes, to be effective by August 2015.

<http://cordis.europa.eu/fp7/euratom-fission/docs/finalleaflet-euradwaste2013-web.pdf>

The EuroGeoSurveys Newsletter is a three-monthly publication of:

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FÉDÉRATION EUROPÉEN DES GÉOLOGUES
EUROPEAN FEDERATION OF GEOLOGISTS
FEDERACIÓN EUROPEA DE GEÓLOGOS

EUROPEAN FEDERATION OF GEOLOGISTS WORKSHOP

European water policy: challenges for Hydrogeologists

Date 22-23 November 2013

Venue Royal Belgian Institute of Natural Sciences, Rue Vautier 29, B-1000 Brussels

Organizer EFG Panel of Experts on Hydrogeology, in collaboration with IAH

Speakers Keynote speakers and groundwater experts

Audience Hydrogeologists, companies and associations active on Groundwater in Europe

WORKSHOP AIM

This workshop will highlight those areas where hydrogeologists are playing an important role in the implementation of the Water Framework Directive and the new business opportunities now opening to firms in hydrogeology with the publication of the Blueprint. The Workshop will also provide a unique opportunity to obtain a corresponding official acknowledgement of this role by the European Commission.

BACKGROUND

The publication of the EU Commission's Blueprint to Safeguard Europe's Water Resources policy document introduces a new strategy to reinforce **water management** within the EU.

The "Blueprint" outlines actions that concentrate on better implementation of current **water legislation**, integration of water policy objectives into other policies, and filling the gaps in particular as regards **water quantity and efficiency**. The objective is to ensure that a sufficient quantity of good **quality water** is available for people's needs, the economy and the environment throughout the EU.

As with surface waters, **groundwater** has to be evaluated, monitored and protected, to ensure human needs and also environmental requirements. Hydrogeology has a crucial role in this process, because groundwater is the "hidden" component of the water cycle, and is not easy to analyse.

An in-depth and first-hand knowledge of this new European policy is essential for firms and professionals in Hydrogeology. **Hydrogeologists** must be involved in this process, offering their **irreplaceable knowledge** and ability in several topics of great importance such as, the identification of groundwater flow to wetlands, the reduction of over-abstraction, the calculation of water accounts in river basins, the effect of climate changes, and others. The hydrogeological community, adopting a modern multidisciplinary approach, has the capacity to investigate and **develop innovative solutions** to these issues and challenges.

WORKSHOP CONTENT

The conference will be divided into 4 sections: Land use and ecological status; Chemical status and pollution; Water efficiency; Vulnerability.

The workshop will finish with a Final Declaration prepared by EFG Panel of Experts on Hydrogeology.

Photo: Roberto Pinedo 2011.

More information on registration and cost for this workshop will soon be available at www.eurogeologists.eu.
If you are interested in registering or sponsoring this event please send a short message to info.efg@eurogeologist.eu

EFG
The voice of European Geologists
Rue Jenner 13, B-1000 Brussels
www.eurogeologists.eu

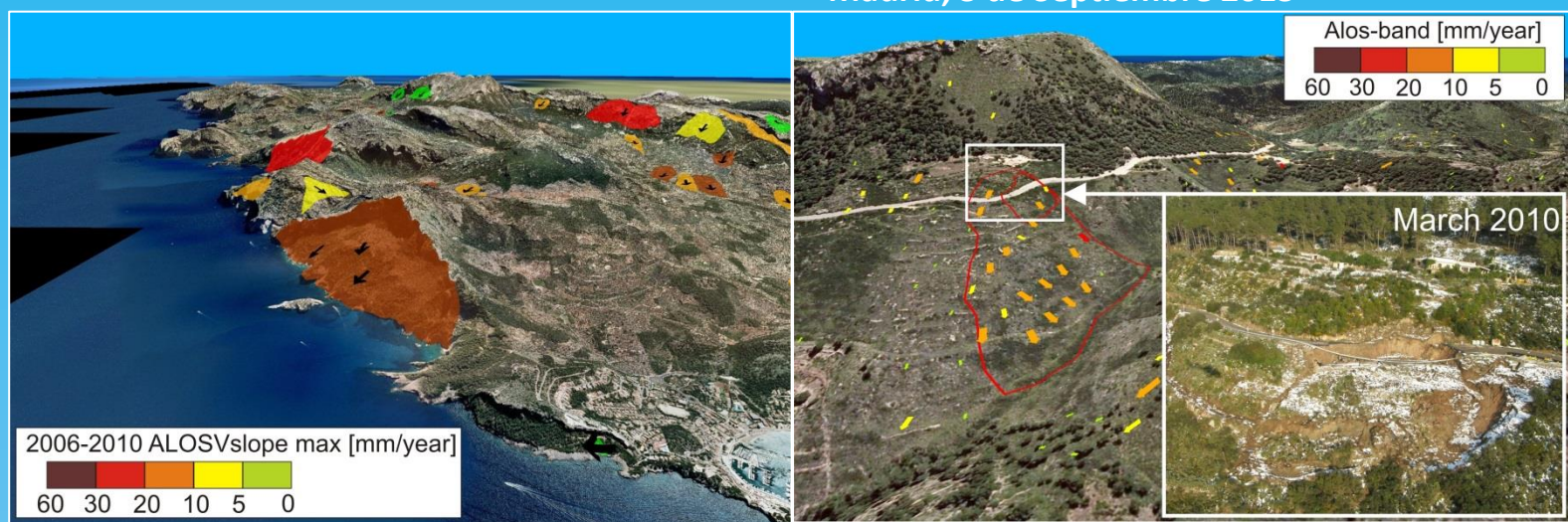




DORIS: un servicio para la detección, cartografía, monitorización y predicción de movimientos del terreno

DORIS: an advanced downstream service for the detection, mapping, monitoring and forecasting of ground deformations

Madrid, 3 de Septiembre 2013



Invitación

Tenemos el placer de invitarle a la jornada: **“DORIS: un servicio para la detección, cartografía, monitorización y predicción de movimientos del terreno”**, que tendrá lugar en Madrid el 3 de Septiembre de 2013.

DORIS es un servicio innovador creado para la detección, cartografía, monitorización y predicción de movimientos del terreno a partir de datos satélite proporcionados por la Unión Europea. DORIS integra datos satélite con capas geo-temáticas y desarrollos tecnológicos, para mejorar el conocimiento de estos fenómenos complejos, e incrementar la capacidad de las Administraciones Públicas en la gestión del riesgo por movimientos del terreno.

Invitation

We are pleased to invite you to the workshop: **“DORIS: an advanced downstream service for the detection, mapping, monitoring and forecasting of ground deformations”**, which will take place in Madrid on the 3rd of September 2013.

DORIS is an advanced downstream service for the detection, mapping, monitoring and forecasting of ground deformations, including landslides and ground subsidence. DORIS integrates traditional and innovative Earth Observation (EO) and ground based (non-EO) data and technologies to improve our understanding of the complex phenomena that result in ground deformations, and to foster the ability of Environmental and Civil Protection authorities to manage the risks posed by ground deformations.

Se ruega enviar solicitud de inscripción antes del 31 de julio de 2013 a la Escuela Nacional de Protección Civil (ver detalles final de este documento). Incluye alojamiento gratuito.

The participation is free. Registration will be possible before the 31st of July 2013 through National School of Civil Protection (Spain) (Registration info & details at end of this document). Free accommodation provided.

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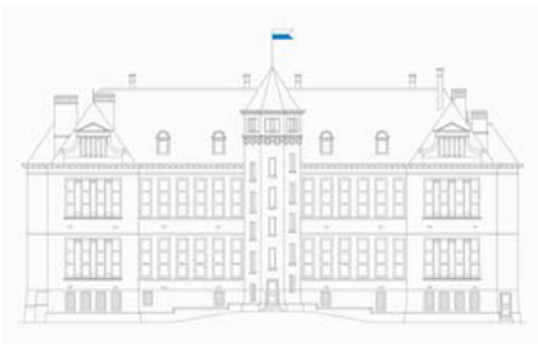
GeoMol



Assessing subsurface potentials of the Alpine Foreland Basins for sustainable planning and use of natural resources



Invitation to the GeoMol Brussels Information Day September 23rd, 2013



Kindly hosted by the Representation of the
Free State of Bavaria to the European Union
Rue Wiertz 77, 1000 Brussels,

The GeoMol Information Day is free of charge, for providing catering we kindly ask you to register at http://geomol.eu/events/brussels_information_day where you can find also further details on the venue. For a concise project flyer please refer to <http://geomol.eu/home/index.html>.



GeoMol integrates partners from Austria, France, Germany, Italy, Slovenia and Switzerland and runs from September 2012 until June 2015. The project is funded by the Alpine Space Programme as part of the European Territorial Cooperation 2007–2013.