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## 5<sup>th</sup> EU Africa Business Forum "Engaging the private sector in sustainable and inclusive growth"

**The European Union - African Business Forum in "Engaging the private sector in sustainable and inclusive growth" has been a great success for the Geological Surveys of Africa and Europe engaged at the roundtable on 'Raw materials and governance: Managing natural resources for inclusive development in Africa'.**

The 5th EU-Africa Business Forum took place on the eve of the EU-Africa Summit, with the intention to give inputs and prepare the Summit 2 days-discussions (31 March-1 April). The Forum brought together more than 500 high-level representatives from European and African business, politics and public institutions. It developed through 12 Roundtables on various topics that focused on common challenges such as young people in today's economies, the role of banks inclusive growth and financing issues for Small and Medium Enterprises (SMEs) and on specific issues such as raw material, risk capital, sustainable energy or space cooperation.

During the Business Forum opening ceremony, the European Commission Vice President, Antonio Tajani, expressed his commitment to foster geological collaboration, in accordance with the EU Raw Material Diplomacy. This should benefit local populations and European companies that adopt a business model ethic compatible with the EU legislation. The President of European Commission, José Manuel Barroso, and the chairperson of the African Union Commission, Nkosazana Dlamini Zuma, reaffirmed the strategy to strengthen African sustainable development (infrastructure, agriculture, tourism, raw materials, young education) while enhancing EU business and trade with Africa.

EuroGeoSurveys was invited at the Roundtable on Raw Materials, which was chaired in

cooperation with the Organization of African Geological Surveys (OAGS), represented by the OAGS President Mrs Gabi Schneider. The participants, that included Euromines, Business Europe and other industrial players and institutions, discussed how to enhance a sustainable exploitation of the minerals wealth of the continent leading to a sustainable economic growth, along four axes: governance, infrastructure, knowledge base and waste management.

Mrs Fatima Haram Acyl, African Commissioner for Trade and Industry, and Mr Karel De Gucht, European Commissioner for Trade were present at the debate. Mrs Acyl expressed full support to the geological cooperation, considered one of the most important and urgent needs to understand minerals resources potential in Africa and its sustainable development.

It has emerged that geological knowledge and information should be increased by strengthening Geological Surveys capacity and geological cooperation, as indeed stated by Mrs Acyl.

The roundtable stressed the importance of developing a good policy framework to attract investments, promote skills development and business education in the sector. This process should ensure environmental protection and the participation of local population in all part of the processes, also in the form of consultation.

Geological Surveys data production and access has a remarkable impact, especially for business and development opportunities and to enable African countries to take informed decisions.

In fact, the debate highlighted the importance of information in all areas, including geological knowledge, information on trade, education and business schools development, ownership of data, information access, access to data and related pricing policies.



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The Organisation of African Geological Surveys (OAGS) was pointed as the most suited body to coordinate common actions and synergies of individual African Geological Surveys, and to propose solutions and actions to improve the capacity of African countries to develop and control geological information. However, decisions in this direction, including the further empowerment of OAGS, should be taken at African Union level.

Particular importance was also paid to the development of the artisanal and small scale mining and also to address the issue of conflict minerals.

In line with the Forum purposes, the roundtable also engaged in the topics of education and development of skills for young people in Geology, not only during University but also through business schools. They have been considered key assets that require the coordination at continental level

The policy framework should support and facilitate public-private partnerships, which must lead to exploit sustainably the resources offered by the African continent. The public and private sectors should partner together, overcoming possible conflicts like in the case of infrastructure development.



Last but not least, everybody agreed that Africa needs a structural transformation that requires time and that is unfortunately long overdue. This is the main reason to consider the key of success establishing long term integrated strategies that will not let such a transformation awaited any longer.

## EU-Africa Summit 2014

The 4th EU-Africa Summit brought together more than 60 EU and African leaders, and a total of 90 delegations, to discuss the future of EU-Africa relations and reinforce links between the two continents.

The meeting was held in Brussels on 2-3 April 2014, on the theme of «Investing in People, Prosperity and Peace», committed to enhance Africa-EU cooperation for the years to come. They confirmed that the Joint Africa-EU Strategy (JAES), adopted at the Lisbon summit in 2007, setting out the vision, values and principles to which we are committed, remains the strategic political reference for EU-Africa relations.

The summit decided on actions in priority areas where cooperation between the two continents is essential, has high potential in the framework of the Joint Strategy and where substantial added-value can be expected.

The Roadmap 2014-2017 document following the Summit reports all the priority areas. European and African Geological Surveys cooperation is explicitly mentioned to address the priority area Sustainable and inclusive development and growth and continental integration, in the cooperation area Private investment, infrastructure and continental integration.

Specifically «the EU recalls its approach to responsible mineral sourcing and proposes a dialogue on these issues. We will endeavour to cooperate in such fields as geological surveys, mineral resources governance, investments, infrastructures, skills development and waste management».

Besides the explicit acknowledgment of geological surveys cooperation to support the transformation of raw material at the source and for a transparent management of respective natural resources in the interest of our populations, interesting outcomes have been pointed in the priority area of Human development, cooperation area Science, technology and innovation. In particular: «We will work towards reinforcing cooperation between research communities and the creation of joint academic research programmes, with a special focus on innovation and the productive sector including research infrastructures».

Finally, the priority area of Global and emerging issues, cooperation area Climate change and environment, states that «Our cooperation will be in line with the priorities of the Africa Space Policy and Strategy and AfriGEOSS, the African segment of the Group on Earth Observation (GEO), in order to deliver services in priority domains for Africa such as food security and health».

## Sharing and making geoscientific information available - Directors Workshop

The EuroGeoSurveys Director's Workshop 2014 was dedicated to the theme «Sharing and making geoscientific information available». For the first time, the world continents North America, South America, Asia, Europe and Africa plus international organization representatives from World Bank, UNESCO, UNECA came together and discussed cooperatively about sharing geoscientific information for a sustainable world economy. This dialogue followed what emerged during the 35th EGS General Meeting held in St. Petersburg (Russia) in 2013, in which participants expressed the need to explore new ways for sharing geoscientific data at global scale.

During the panel discussion, participants debated on how overcoming barriers in sharing data and tried to identify current obstacles to free open data. Despite participants showed the availability to share data, two main business models of data access came into light: Anglo-Saxon and Mediterranean, the former emphasizing that data production cost needs to be underpinned by pay-for-data to fund cutting-edge research, and the latter fostering more free open data and counting on economic benefits through business and jobs opportunity generated from it.

The workshop can be considered the first step of further cooperation among Geological Surveys worldwide, of which the results might be presented during the 35th International Geological Congress (27 August - 4 September 2016, Cape Town, South Africa). In this occasion, it was proposed that the Geological Surveys from all around the globe could join in one single point of the Exhibition area that highlights their unique role in society as well as the strengths of each singular Survey.



## Minerals in your life

**A new book unveiling the secrets of minerals, from the Earth to your daily life**

On March 25, at the Académie Royale des Sciences, des Lettres et des Beaux-Arts de Belgique, Fabrizia Benini, member of the Cabinet of the European Commission Vice-President Antonio Tajani, launched the new EuroGeoSurveys book entitled **"Minerals in your life"**, during the EuroGeoSurveys General Meeting – an event that brings together the Directors General of the National Geological Surveys from around Europe as well as distinguished international guests.

After a short introduction of what the minerals are and an overview on the importance of the minerals for European economy, the book leads the reader through one adventurous day of the cartoon protagonist, Norman, while showing the minerals used in very common objects of our everyday life, from paper to shampoo, from a bike to a television. Simple actions such as turning on the light or brushing our teeth require minerals: copper and aluminium for our electricity cables, calcium carbonate in our toothpaste.

But what is surprising is that many of the uses and properties of the minerals are not well known. Everyone knows that gold is used for ornamental objects, but many people may ignore that gold is also used in recent high-tech medical instruments. Likewise, amber is used not only in jewelry but also for respiratory disease care, as well as for repelling pesky insects. There is no end to the list.

Many people will know that minerals are important to us, but probably not exactly how and certainly not to what extent. A person consumes and uses on average 16 tons of minerals every year.

Our modern society is totally dependent on minerals. They are essential for renewable «green» energy and the infrastructures needed for sustainable communities. By 2050, the world population is predicted to reach almost 10 billion and the demand for natural resources will also increase from 45 billion tonnes to 140 billion tonnes.

This educational and entertaining book is the result of a collaboration of an international pool of Europe's top geologists, from 29 different European countries. Each National Geological Survey described one mineral that is typical in their country. There is a whole world behind minerals that the book will introduce to you. Whatever curiosities you may have on minerals, **"Minerals in your life"** satisfies them with an approach that it is as scientifically precise as entertaining.



Fabrizia Benini, member of the Cabinet of the European Commission Vice-President Antonio Tajani

## Earth observation: Copernicus satellite lifts off successfully



Sentinel 1A, the first satellite dedicated to the Copernicus programme, was successfully launched on Thursday 3 April from Europe's spaceport at Kourou, French Guiana and is now in orbit. Sentinel-1 is the first of the six missions in the framework of the Copernicus initiative.

Copernicus (formerly known as GMES, Global Monitoring for Environment and Security) is the European Union's Earth observation and monitoring programme, a user driven programme, building on the existing national and European capacities and establishing new infrastructure and services. These systems will collect data from multiple sources such as Earth Observation satellites, in situ sensors, etc. The data will support a wide range of applications, including

environmental protection, management of urban areas, regional and local planning, agriculture, forestry, fisheries, health, transport, climate change, sustainable development, civil protection and tourism.

Some key users of Copernicus services include policymakers and public authorities at European, national and regional level who need the information to develop environmental legislation and policies or to take critical decisions in the event of an emergency, such as a natural disaster or a humanitarian crisis.

The launch of Sentinel 1A represents a significant achievement for the Copernicus programme and, at a wider level, for the involvement of European Union in space activities. In fact, the European Space Policy is at the heart of the European Union Strategy for smart, sustainable and inclusive growth (Europe 2020 Strategy). The Vice President of the European Commission Antonio Tajani declared to the press that almost €12 billion will be invested in the next seven years in space technologies for the benefit of European citizens.

## Interview with Mr Mauro Facchini

Head of Unit, Copernicus: Services, DG Enterprise

**Copernicus, the European programme for monitoring the Earth system will use a combination of remote sensing and in situ observations, to provide information services. Could you give some details on these services?**

The Copernicus information services aim to provide data, information and service products for Land monitoring, Marine environment monitoring, Atmosphere monitoring, Security, Emergency management and Climate Change. The Copernicus in situ component is providing a coordinated access to non-space-borne data with a geographic dimension (ground-based, airborne, seaborne earth observation data). Space component is relying at the moment on a number of contributing satellite missions, however dedicated ESA Sentinel missions will be launched in following few years, starting with the first one at the beginning of April.

Two Copernicus services, Land monitoring service and the Emergency management service, are in the operational mode. Marine Environment Monitoring service and Atmosphere monitoring service are in preoperational phase and will become fully operational in a near future, while the Climate change service and the Security service are in a less mature stage of development but foreseen to become fully operational in two to three years. There are many potential applications arising from the provision of the information from all these services.

The Land monitoring service provides geographical information on, inter alia, land use, land cover, vegetation state and water cycle. The global component produces biophysical parameters on a worldwide scale that describe the state of the water, the energy budget and the vegetation.

The pan-European component foresees high resolution information sets on the main land cover types like artificial surfaces, forest areas, agricultural areas and small water bodies.

The local component focuses on 'hotspots', small areas that are in risk of flooding or drought. The Emergency management service provides information for emergency response in relation to different types of disasters like meteorological hazards, geophysical hazards, deliberate and accidental man-made disasters and other humanitarian disasters, as well as the prevention, preparedness, response and recovery activities. The Marine monitoring service provides regular and systematic reference information on physical oceans and regional seas, like data on currents, winds, sea surface temperatures, sea ice status, but also marine biogeochemical components.

Service contributes to the knowledge of the status of marine environment, to marine safety and also to the sustainable management of living marine resources, in particular for aquaculture, fishery research or regional fishery organisations. The Atmosphere monitoring service provides information on the current situation, forecasts and analyses of atmospheric composition. Activities of the service include monitoring and forecasting of constituents such as greenhouse gases (carbon dioxide and methane), reactive gases (e.g. carbon monoxide, oxidised nitrogen compounds, sulphur dioxide), ozone and aerosols. The pre-operational phase of the Climate change service was until now supported by a series of projects launched under the 2013 FP7 Space call related to climate modelling and observation analyses. It will be developed further in the following years,



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with the aim to respond to environmental and societal challenges associated with human-induced climate changes. The Security service applications aim to support the related European Union policies in the Border surveillance, Maritime surveillance and Support to EU External Action. Objectives of this service will be related to reduce the number of illegal immigrants entering the EU undetected, to reduce the death toll of illegal immigrants by rescuing more lives at sea and to increase internal security of the European Union as a whole by contributing to the prevention of cross-border crime to ensure the safe use of the sea and to secure Europe's maritime borders.

**The main users of the Copernicus services are policymakers and public authorities who may use this information to develop environmental legislation and policies or to take critical decisions in the event of an emergency, such as a natural disaster or a humanitarian crisis. In this framework geological data plays an important role. How EuroGeoSurveys could better support Copernicus ?**

As emergency events and natural disasters are mentioned, I can only confirm that this is one particular area where geological information is extremely important and useful. Different kinds of geohazards, such as earthquakes, volcanoes, subsidences and landslides, but also those slower geological processes, cause significant damages of property and sometimes even result in loss of human lives. We can cope with geohazards using geological data and information, complemented by the satellite observation of the ground. For example, using a combination of these two sets of information, experts can extract information on the motion history of the ground, type of the ground prone to movements and sliding etc. This can help in assessing potential risk areas, in certain cases even forecast some geohazards.

During the last few years, there were several EU funded R&D projects implemented with the aim of developing potential GMES/Copernicus services and making use of geological data in combination with satellite imaging, like Subcoast, TerraFirma, Doris and PanGEO. They are dealing with detecting, mapping, monitoring and sometimes forecasting of geohazards across the Europe. EO-Miners is monitoring mineral resources exploration and mining, observing their impact on the environment and society. All these examples show the potentials of geological information to be used in a conjunction with a space component. Although not operational yet, these projects show us the way how to develop the services further.

**The geoscientific community is probably the world's biggest provider of in-situ data, and one of the key objectives of EuroGeoSurveys is the set up of a European Geological Data Infrastructure (EGDI), which would make freely available an immense quantity of in-situ data. How do you consider the use of these data in the frame of the land service?**

Geological information is based mainly on a big amount of in-situ data that were collected by different services and surveys for many years. These data represent a special type of reference data which have an important value also in a combination with space based earth observations. Land monitoring core and downstream services can benefit a lot from geological and geochemical data when integrated information needs to be provided. Surface and sub-surface exploitation of non-energy raw materials and fossil fuels, soil erosion management, geothermal

energy applications, waste deposition and carbon storage are only few existing or potential examples. Urban atlas, the Copernicus Land Monitoring component, is used in a combination with a geological information to analyse geohazards' impacts in the scope of the aforementioned PanGEO project.

We therefore welcome and support the idea and the vision to build European Geological Data Infrastructure (EGDI) to make these important datasets freely available. Through this action, EuroGeoSurveys is clearly implementing the GEOSS data sharing principles and following the Copernicus free and open data policy, transposed in a legal act end of last year. I'd like to mention that the Copernicus Land Monitoring also has a potential to help in geological surveying processes, in particular in remote areas. On the basis of the topography, vegetation and visual structure, geologists can extrapolate information on geological structure from spots to the wider area.

In relation to the Land Monitoring Service and ancillary geological data I would also like to emphasize, that it is well recognized and proven how useful remote sensing can be to the sustainable development of mining, from the exploration to rehabilitation phase. Several EU funded projects in this area clearly showed the benefits of remote sensing applied to mining. We are therefore also exploring possibilities and modalities to include mining within the Land monitoring services.

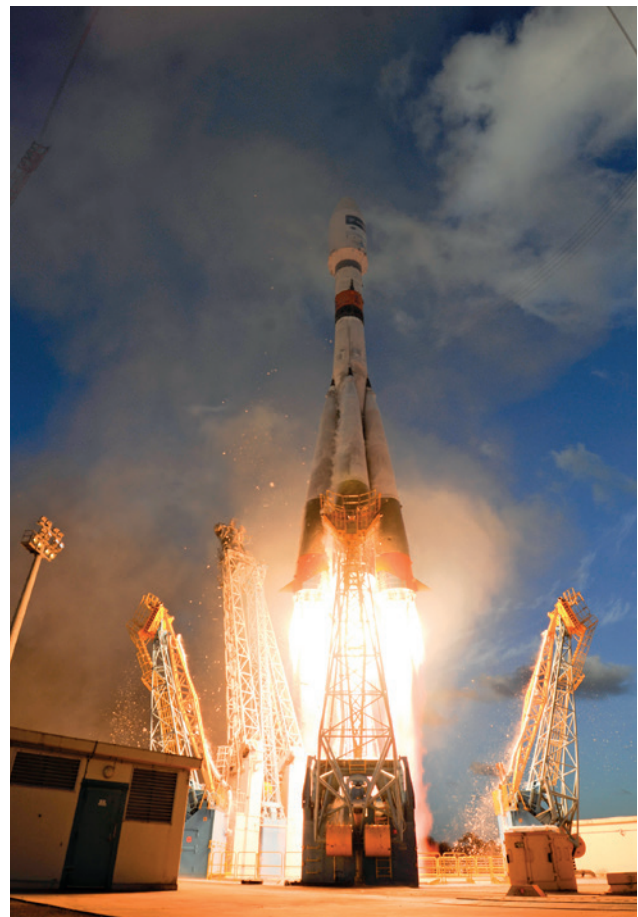
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## The Role of Geoscientists in Public Policy

EG1, Tuesday, 29 April, 10:30-12:00 | Room R1

Geoscientific research has major policy implications, from resource management and energy development to tackling climate change and dealing with natural hazards. This session will bring together scientists, policymakers and special guests, and will equip attendees with the skills needed to communicate science with policymakers and transfer their knowledge to the policy domain.

This round-table session will start with the participants addressing the audience, followed by a short debate amongst the panelists. The audience will then have the opportunity to query the panel, before the participants round up the discussion at the end of the session.



### Speakers

- Richard Seeber, MEP (Member of the European Parliament Environment, Public Health and Food Safety Committee; Chair of the Intergroup on Water of the European Parliament)
- Vladko Todorov Panayotov, MEP (Member of the European Parliament Environment, Public Health and Food Safety Committee; Deputy Chair of the Intergroup on Raw Materials of the European Parliament) [to be confirmed]
- Lydia Harriss (Scientific Advisor in the Parliamentary Office of Science and Technology, London, UK)
- Pascale Ehrenfreund (Research Professor of Space Policy and International Affairs, The George Washington University, Washington DC, US; President of the Austrian Science Fund)
- Don Dingwell (EGU Past President and Former Secretary General of the European Research Council)
- Mart van Bracht (President of EuroGeoSurveys – The Geological Surveys of Europe)
- Reinhard Hüttel (Scientific Director of the GFZ German Research Centre for Geosciences, Potsdam)

### Moderator

- Iain Stewart (Professor of Geoscience Communication at the University of Plymouth)



## Tenth Plenary Session of the Group on Earth Observation

**The Tenth Plenary Session of the Group on Earth Observation, held in Geneva, Switzerland from 15 to 17 January 2014, has seen the participation of 700 delegates, representing over 50 countries and more than 45 organizations.**

The Group on Earth Observations (GEO) has received a unanimous endorsement to unleash the data for a second decade. There was an agreement to continue building on the organization's first 10 years of pioneering environmental advances, which are designed to improve the quality of life of people everywhere.

GEO's mandate is to drive the interoperability of the many thousands of space-based, airborne and in situ Earth observations around the globe. GEO aims to prove a comprehensive, more integrated picture of our changing Earth. GEO is accomplishing this by establishing a Global Earth Observation System of Systems, known as GEOSS, and a Portal through which data and other information can be easily accessed at little or no cost. In this framework and in line with the EuroGeoSurveys strategy, Luca Demicheli, the Secretary General of EuroGeoSurveys, during the plenary, has highlighted how the organisation can fully support GEO in reaching its aim.

The geosciences community is one of the world's largest in-situ data providers. The huge data sets held by the geological surveys include several hundred thousands of records in areas like geohazards mapping, groundwater, soil geochemistry or mineral resources. Moreover the Geological Surveys of Europe operate in various fields relevant to the development of GEOSS, directly addressing issues of concern for society, such as natural disasters, agriculture, health, energy, mineral resources, water and climate. To confirm how EuroGeoSurveys can support GEO, the Secretary General has listed several activities, such as scoping study which is assessing the functional, legal and technical requirements needed to develop a European Geological Data Infrastructure, and where geological data sets and derived information services will be integrated.

The European Geological Data Infrastructure, building on OneGeology-Europe, will bring together a huge amount of

federated European geological data on marine geology, geohazards, geochemistry, mineral resources, geo-energy and groundwater, which will be served under one single portal.

Examples of such data sets include the PanGeo project deliverables - a free geohazards information service for Europe, which shows a comprehensive ground stability layer and a geohazards summary on natural hazards of geological origin, such as earthquakes, landslides, volcanism or floods; the European Geochemical Atlas of Agricultural and Grazing Land Soils (GEMAS); the ProMine database that contains almost 13,000 records on mineral deposits in Europe; a complete coverage of the geological mapping of the European seas (EMODnet-Geology), or the data catalogue of the forthcoming European Minerals Yearbook, which is currently being developed by the Minerals4EU project.

During the Summit the importance of the in situ data had also been highlighted by the European Commissioner for the Environment, Janez Potočnik, who has suggested an increased focus on in situ data, big data and modeling; and a strengthened mechanism for resource commitments. Jacqueline McGlade, Senior Advisor, UNEP also stressed that GEO-X's focus on strengthening the link between in situ and satellite data is particularly crucial for UNEP's core mandate to keep the environment under review.



Mr Potočnik, European Commissioner for the Environment

## New Director of the Geological Survey of Sweden (SGU)

Ms. Lena Söderberg has been appointed as the new Head of the Geological Survey of Sweden (SGU). EuroGeoSurveys congratulates Lena on her new appointment and welcomes her to the EGS Board of Directors.





## Commission of Geological Map of the World (1913-2013)

### One century of experience in geological syntheses

The CGMW was created in 1913 during the 12th International Geological Congress (IGC) of Toronto and was rooted in the Commission for the Geological Map of Europe created in 1881 (IGC 2, Bologna).

The CGMW is responsible for promoting and coordinating the preparation and publication of solid Earth Sciences maps of continents, oceans, major regions of the planet at scales ranging from 1:1,5M to 1:50M. As a truly international and scientific organization, geologists of all nations participate, under the guidance of CGMW Bureau, in projects that encompass the many facets of Earth Science. The published documents are distributed worldwide thanks to presentations and participations in international meetings, e.g. EGU, AGU, IGC, and through CGMW website.

CGMW Executive office, based in Paris, is managed by a President, a Secretary General, a Deputy Secretary General, a Treasurer and a managing Assistant, and ensures the coordination with CGMW Bureau. The Bureau is composed of Vice-presidents of each of the 9 continental Sub-commissions (Europe, South America, North & Central America Africa, Middle East, South and East Asia, North Eurasia, Australia-Oceania and Antarctica) and Chairmans of each of the Thematic Sub-commissions (Tectonics, Geophysics, Metallogeny, Hydrogeology, Magmatism & Metamorphism, Hazards, Oceans). About thirty scientists (academics, researchers) specialized in the different Earth Science fields and the most diverse geographical origins are currently members of the CGMW Bureau.

CGMW is an independent body and a member of ICSU. Statutory members of CGMW are the Geological Surveys of all countries or territories of the World. Associate membership is open to other scientific organizations. The CGMW seeks to obtain scientific input of experts whatever their affiliation and therefore cooperation with university departments, oceanographic institutes and industrial firms is actively sought. The CGMW is affiliated to the International Union of Geological Sciences (IUGS) and the International Union of Geodesy and Geophysics (IUGG), and is thus an active member of the family of Scientific Unions and non-governmental organizations (NGO). It was recognized as such by UNESCO.

The basic and ongoing financing is provided by annual contributions of statutory members (mainly Geological Surveys) and associate members, grants from IUGS and UNESCO, and sponsoring from private firms or Surveys on specific projects. The sales of CGMW production (maps -printed and/or digital- and booklets) contribute to the financing of the mapping activity.

As the volume of mapping syntheses increases in order to comply with the requirement of more specialized and detailed information, digital databases are associated to the printed maps. CGMW makes its best to meet this growing demand without jeopardizing the quality and legibility of paper maps. The close collaboration with the OneGeology project is also part of the outreach effort of CGMW to spread the knowledge of validated data such as the Geological Map of the World, oceanic maps, or geological maps at the 1:5 million scale.

[www.ccgw.org](http://www.ccgw.org)

## Signature of MoU with ProGeo

At the 36th EGS General Assembly meeting, held in Brussels on Tuesday March 25th, EGS signed a Memorandum of Understanding (MoU) with ProGEO. ProGEO's Executive Secretary, Mr. Lars Erikstad, was on hand for the signature ceremony which was witnessed by all EGS members as well as the invited special guests from all around the world.

The aim of the agreement is to promote a co-ordinated European policy for Geoconservation, the recognition, categorisation and documentation of sites of geological interest (geosites).



## Interview with Johnny Fredericia

Managing Director, Geological Survey of Denmark and Greenland

### Introduction

European Geological Data Infrastructure scope study (EGDI-Scope) has prepared the way towards easier access to digital geological data at European scale. It has proposed the creation of an e-infrastructure, a single sustainable, permanent and repository of shared knowledge (in the form of primary and derived data) of the Geological Surveys of Europe. This will be called EGDI. The aim is to obtain an efficient and comprehensive multidisciplinary research platform in Europe.

EGDI will coordinate, collect and archive high-quality data from geo-science disciplines across Europe. EGDI will integrate this data and information and make it available in a variety of formats, including multidisciplinary products, resources and services. It will make data available for free and as accessible as possible for everyone. All data and services will be available through a portal where the different data types can be overlaid and interrogated.

### Why is EGDI-Scope so important?

It is important because it is a backbone of our strategy and if we succeed we will meet the expectations that EU has for us. One point is delivering useful information in a harmonized way and another point in the future is to make the investments in EU projects alive and useful after the finalization of the projects through EGDI.

There has been a quite large investment in a number of EU-projects, but unfortunately many projects are often «stuck» when they are finished. Keeping the results alive is a task that we can take on better than anybody else.

### Which are the main benefits for your Geological Survey?

The primary benefits are not for my Survey, but for the society. The benefits for the Surveys in Europe as a whole will be that the surveys – including my own - is chosen to perform EU Project in our working field as a first choice, because we are not only making the actual projects, we are also building stone by stone an infrastructure the Commission and other stakeholders, like our national governments, need for cross-boundary applications and assessments.

### EGDI-Scope is coming to the end.

#### Do you think it is meeting the European Commission main expectations?

Yes in this sense it is a Scoping study, and not the implementation of a system. That is why we need to make an effort to convince the EU that now we are ready to build the system. We do have to demonstrate it now, until we can apply and hopefully get the funding to help us to do it, but we need also to put our own efforts in this process to get in going.

#### So we are moving in the right direction?

I think we are moving in the right direction. I think it is the backbone of our strategy and our mission as National Geological Surveys joining together to make our European Geological Service.

#### If the results reached by EGDI-Scope will satisfy the expectations, what might the next step be?

I think the next step is to apply for getting the funding but until we succeed we have to begin on our own resources. We need to prepare a truly targeted proposal in our application and I think we still probably need to tailor it a bit at the end of the Scoping study.

#### Do you have any suggestions to be successful in the final part of the project?

I think we are in front of the challenges to reach our main stakeholders and this is a building process: funding the infrastructure that is useful for politicians, for the Commission and for other stakeholders. What is a bit different compared to traditional research projects is that the result is also an infrastructure. I think we need to stay in contact with the stakeholders which include the Commission but also our national governments, so that we can have support from our Ministers.



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

# Message from Expert Groups

## News from the Marine Geology Expert Group

### EMODnet-Geology Project Meeting in Lisbon, Portugal

Members of the Marine Geology Expert Group are contributing to the objectives of the European Commission's EMODnet Programme (European Marine Observation and Data Network) by compiling geological information for the European Regional Seas from the seas around Iceland in the west, the Barents and White seas in the north, the Mediterranean Sea to the south and the Black Sea to the east. The EMODnet-Geology Project started its second phase in October 2013, following a successful preparatory project that ran from 2009-2012 during which the group compiled marine geological information from the Baltic, North and Celtic seas.

The current project will run until October 2016 and to start the process of bringing together information on sea-bed substrate, bedrock geology, Quaternary geology, coastal behaviour, events such as earthquakes and submarine landslides and the distribution of marine minerals, the project team met at the office of EuroGeoSurveys member, the Instituto Português do Mar e da Atmosfera (IPMA) in Lisbon, Portugal on 21-22 January 2014. The meeting was hosted by Dr Fatima Abrantes and her team at IPMA and attended by 56 participants from 27 countries including representatives from 22 EuroGeoSurveys member organisations.

The meeting consisted of an introduction to the project objectives by Alan Stevenson of the British Geological Survey, the Project Co-ordinator, followed by overviews by each Workpackage leaders of their experiences during the preparatory phase and a description of the processes for compiling geological information for the benefit of the 22 new project members, mainly from the Mediterranean and Black Sea countries. The Workpackages are led by representatives from the geological surveys of Finland, Germany, the Netherlands, Italy, Ireland and the United Kingdom.

As the EMODnet programme is a multidisciplinary initiative aimed at compiling information and maps for a range of marine science disciplines, including bathymetry, chemistry, physics, biology, physical habitats and human activities, the meetings are open to collaborators from the different projects. Members of the Marine Geology Expert Group also contribute to the EMODnet bathymetry project as the information required to map the water depths of the European seas is the same as that used by many EuroGeoSurveys members to carry out geological mapping (ie multibeam echosounder data that images the seafloor).

### MGEG Annual Meeting

As many of the MGEG members were present at the EMODnet meeting in Lisbon, the group took the opportunity to spend an extra day to hold their Annual Meeting at which each organisation presented their marine geology activities. The group also discussed issues of common interest such as marine technology developments, the potential to exchange staff, and opportunities for new proposals to the EC's Horizon2020 programme. Many of the group members are actively involved in leading or participating in proposals for EC funding.



### Inauguration of the EMODnet Secretariat in Ostend, Belgium

Members of the MGEG, including the Chair and Deputy Chair as well as representatives from the EuroGeoSurveys office in Brussels, attended the inauguration of the EMODnet Secretariat in Ostend, Belgium in February 2014. The meeting was attended by guests from the European Commission, the Flemish Government, the International Hydrographic Organization (IHO), UNESCO's Intergovernmental Oceanographic Commission (IOC) and the European Marine Board. In her speech to the 100 participants, Lowri Evans, Director-General of DG Maritime Affairs

and Fisheries (DG-Mare) of said, 'this initiative [EMODnet], which is recovering the collected data and information as much as possible and is making them readily available, is groundbreaking. It is a fine example of how the whole is more than the sum of the parts. It is an essential step towards a 'blue growth' - all starting from observations of Europe's seas and coasts'.

# Message from Expert Groups

## Contributing to international programmes: the International Ocean Discovery Program (IODP)

In addition to their national activities, members of the MGEN contribute to several international programmes. One such programme is the International Ocean Discovery Program (IODP). The new funding phase of IODP started in October 2013 and is anticipated to run until 2023, building on legacy ocean drilling programmes such as the Ocean Drilling Program (ODP), Deep Sea Drilling Program (DSDP) and the Integrated Ocean Drilling Program (also IODP), which ended its 10-year funding phase in 2013. IODP is one of the largest geoscience programmes in the world, bringing together funds and scientific expertise from the USA, Japan, China, India, Australia, New Zealand, India and South Korea. Europe and Canada contribute to the programme through the European Consortium for Ocean Research Drilling (ECORD), which includes 18 European countries.

MGEN members contribute to ECORD and the IODP in a number of roles. Some, such as the MGEN members from Ireland and Poland participate at all levels from providing national funding to science

support and participation in IODP expeditions. The British Geological Survey leads the ECORD Science Operator, a consortium of organisations that are responsible for managing the programme's mission-specific platform (MSP) operations, which complements the capability provided by US and Japanese drilling vessels by organising expeditions to shallow seas, ice-covered waters and environmentally sensitive areas such as coral seas.

The most recent MSP expedition (and final expedition of the Integrated Ocean Drilling Program) was to the Baltic Sea from September-November 2013. Prof. Aarno Kotilainen from GTK (the Geological Survey of Finland) took part in the offshore phase of the expedition and was joined by geologists from the geological survey organisations of Denmark and Poland during the sampling and science party held at the IODP Bremen Core Repository in January/February 2014. Scientists from MGEN members are active in preparing proposals to the new programme and some, such as the MGEN's Russian representatives have been involved in discussions to join ECORD.



## TransAtlantic Ocean Research Alliance

MGEN members are also active in the European Commission's TransAtlantic Ocean Research Alliance. Representatives from the British, Irish and Portuguese geological surveys took part in 'The Atlantic – a Shared Resource' meeting held in Galway, Ireland in 2013 at which the 'Galway Statement' was signed by government officials from the European Union, the United States and Canada. The statement sets out the intention of the governments 'to advance a shared vision of an Atlantic Ocean that is healthy, safe, resilient, productive, understood and treasured so as to promote the well-being, prosperity and security of present and future generations'. The Deputy Chair of the MGEN presented the status of marine geological and habitat mapping in Europe's seas at the Galway meeting and has been invited to participate in a meeting in April organised by Sieglende Gruber, Head of the Marine Resources Unit at DG Research and Innovation, to reflect on how to make the Alliance operational, and to work on a shared vision for success in 5 years and the necessary paths to achieve this success. Discussions with counterparts in the Geological Survey of Canada to develop collaboration to meet the geological requirements of the Research Alliance have already taken place and it is hoped that

similar talks can be held with marine geologists from the US Geological Survey, which will further strengthen the links between the geological surveys of Europe and others around the world.



**Alan Stevenson**, Marine Geology and Operations Team Leader, British Geological Survey. Marine Geology Expert Group Deputy Chair and EMODnet-Geology Project Co-ordinator.

## Interview with Mr Hazim Hrvatovic

Director of the Geological Survey of Federation of Bosnia&Herzegovina



**Hazim Hrvatovic**, Director of the Geological Survey of Federation of Bosnia&Herzegovina

### In your capacity of Director of the Geological Survey of Federation of Bosnia&Herzegovina, could you briefly explain the main aims and tasks of Geological Survey of Bosnia&Herzegovina?

Geological Survey is independent institution under direct jurisdiction of Government of Federation of Bosnia and Herzegovina. Geological Survey has 32 permanent staff, of which 21 are geologists. Planned total number of staff is 45. Source of financing Geological Survey is 100% from the state budget. Total budget for 2014 is 0,65 million EUR

Geological Survey is divided into following sectors: sector for Geological maps, sector for Mineral Resources, sector for Hydrogeology, sector for Engineering Geology, sector for Geological Information System and sector for Administrative work.

### The main tasks of the Geological Survey are:

- Development of geological, engineering geological, hydrogeological, seismotectonic, metallogenic and other geological maps
- Development of Federal mineral resources management program
- Exploration of mineral resources
- Supervision of geological research of oil and gas
- Identify and recommends to the Government a list of strategic mineral resources with a proposal for their use and recommending politics of geological research
- Preparation of geological maps for spatial planning, the construction of infrastructure facilities and mining operations, the development of forestry, agriculture, water supply, and the development of urbanization and infrastructure
- Develops guidelines, standards and norms in geological research
- Formed central archive of geological research
- International cooperation

### Can you tell us something about how your Survey operates and what are and will be the main strategies and approaches during your mandate?

The main strategic objectives of Geological Survey is.

- Support to Government and Ministries,
- Scientific research,
- Support to public and industry and
- International cooperation

The realization of these strategic objectives will be performed through:

- Development of a unified database of all deposits and occurrences of minerals, waters and landslides
- Analysis of the reserves of mineral resources
- Giving the suggestions to FB&H Government and ministries of the potential areas for exploration of mineral resources
- Development of geological maps
- Exploration of mineral resources
- Attracting foreign direct investment in geological exploration of mineral resources
- Improving conditions for exploration, use and protection of mineral resources and groundwater,

- Improving standards and norms in the field of geological research
- Continuously improve the effectiveness of Geological Survey
- Provide competent employees
- Improve cooperation with other research education ministry and the economy
- Harmonize the standards and technical regulations for geological research with EU legislation.

### In the future, for Geological Survey a very important project is oil and gas exploration.

According to the law, administrative and professional tasks within oil and gas exploration are:

- Keeping a database of oil and gas exploration (Data Room)
- Control of the implementation of concession contracts in the exploration, verification, deposit preparation/development, restoration and rehabilitation of exploration areas and other duties in accordance with their jurisdiction
- Definition of oil and gas exploration and exploitation blocks.



Prokoško Lake (Central Bosnia)



Quartz vein

# National Geological Surveys

## Could you describe the main strengths of your Survey?

Geological Survey is the successor of the Geological Institute, which was established 102 years ago. In this long period of time there have been changes in the name and organizational structure, number of staff, but the main tasks have always stayed the same. Now, the Geological Survey is the biggest institution for geological research in Bosnia and Herzegovina, which continuously develops geological maps and performs research of mineral resources.

Law on the Government, ministries and institutions, Law on Geological Research, Law on oil and gas exploration and different regulations clearly defined tasks (projects) for which Geological Survey is responsible.

## The Geological Survey of Bosnia&Herzegovina has participated in EGS meetings as an observer for several years, before finally deciding to apply for membership.

### What benefits do you expect from this new status?

- EGS as associations Geological Survey of Europe represents a major strength of the human potential that gives it a significant contribution to sustainable development, environmental protection, human health and a better life for all.
- For us it was very important to participate as an observer at meetings of the EGS. We were informed with the goals and objectives of EGS, we met with the work of other Geological Surveys in Europe, and participated in several projects
- We expect that the new status in the EGS provide participation in different scientific projects, which are of importance for the prosperity and development of our society.



The Buna spring

## Today, the CGS is a reliable partner working with other national geological surveys and commanding international respect

Interview with the Director of the Czech Geological Survey, Zdeněk Venera



Zdeněk Venera, Director of the Czech Geological Survey

**Dr Venera, you have been the head of the Czech Geological Survey for 10 years now. What vision did you have when you took charge and to what extent have your plans come true?**

I took the Director's position in 2004. My vision was that the CGS must strengthen and develop its reputation as a leading geoscientific institution within the international community. At the same time it was necessary to ensure that we continued to provide the scientific support and information required by the State Administration to enable effective decisions about crucial strategic, environmental and economic issues. In many cases, only the Earth sciences can provide that information. I also knew that we would need to be proactive in keeping up with global trends, both in thinking and technology, so that an attractive working environment would be created for the best experts in our field. One way of achieving this is to become a partner in international projects, which, in addition to boosting our budget, provides interesting work for our researchers and also promotes the good name of the Czech Republic and the Czech Geological Survey in all those countries where we operate.

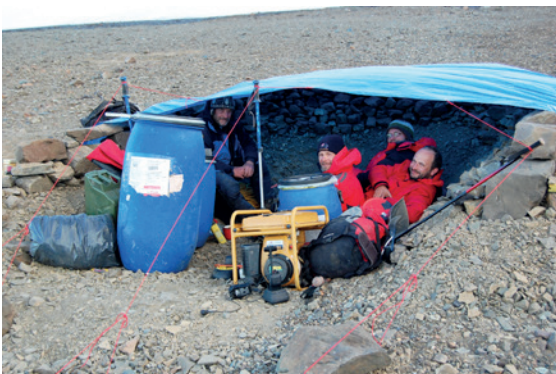
Moreover, I wanted the CGS to develop a geographical information system that could be used as a modern tool for displaying the spatial distribution of geological features in areas that were being mapped and investigated. My aim was to encourage closer collaboration between geologists and GIS specialists, so that field geologists could begin using GIS as a standard procedure. I believe that we are proceeding in the right direction and we have had many a success during these past years. Especially thanks to project funding, we continue to improve the quality of our laboratory equipment and we are increasingly productive in providing the state geological service as well as in the field of scientific research. This has recently gained us the first place among research organizations in the resort of the Ministry of the Environment, the first place out

of all the 49 assessed national contributory organizations and the 22nd place among 508 assessed scientific institutions, including universities and the institutes of the Academy of Sciences of the Czech Republic. However, the search for excellence is a never-ending mission and there are always a lot of things that can be improved.

My chief personal motivation is to ensure that our organization works efficiently and in a modern way, so that the staff can take pride in what they do. Personally, I am proud that several leading Czech geoscientists work for the CGS, together with a number of acknowledged experts who guarantee the professional delivery of the state geological service and who could easily find senior jobs in commercial geological companies.

**In your opinion, what are the most important milestones that have reached your institution in the last years?**

We have succeeded in applications for two new international projects. One of them is the mapping of geological hazards and hydrogeological conditions in the East African Rift in Ethiopia and transferring our experience and methods to the members of the Geological Survey of Ethiopia. The other project will take place in Mongolia and will involve systematic geological mapping at a scale of 1:50,000 and the evaluation of the mineral resource potential in the western part of the Mongolian Altai Mountains. In addition, we have been working hard on the Review of Groundwater Resources project, which was approved under the terms of the Operational Programme "Environment" and is scheduled to last for the period 2010–2015. Moreover, at the request of the Minister of the Environment, we prepared an expert report to guide government policy on the potential for unconventional extraction of shale gas and underground gasification of coal. These were, in my opinion, the most important activities in last years.



Emergency accommodation during fieldwork on the Antarctic Peninsula (photo by J. Žák).



Geological mapping in East Azerbaijan Province, Iran (photo by R. Vodrážka).

# National Geological Surveys

## Recently, the budget allocated by the state to run the CGS has been steadily decreasing. How do you cope with this?

The trend in underfunding of the State Geological Service is indeed becoming worse each year. One of the measures we took in response to this situation was to decrease the operational cost by merging two organizations into one (the Czech Geological Institute and Geofond ČR). We have also worked hard to secure external project funding from various sources: The Grant Agency of the Czech Republic, Technological Agency of the Czech Republic, Operational Programme "Environment", the Ministry of Education, Youth and Sport (MŠMT), the Ministry of Industry and Trade (MPO), Operational Programme "Cross-border Co-operation", the European 7th Framework Programme, the Czech Development Agency and Norway Grants. Our aim is to ensure that the proportion of the budget from the founder is adequate, especially to sustain the staff and expertise necessary to carry out basic research on the regional geology of the CR. Geological mapping and the compilation of a comprehensive geoscientific information system in 4D (3D + evolution in time) together with all aspects of interpretation remain central tasks of the CGS.

## Can we say that twenty-five years after the revolution, the CGS is more or less on the same level as other western European geological surveys? Or do we still need to catch up with them? If so, in which areas?

It should be remembered that, even in 1989, the Central Geological Institute, the precursor of the CGS, had a worldwide reputation for the quality of its work. Today, we are a reliable partner working with other geological surveys and commanding international respect. This is evident from our membership of EuroGeoSurveys in which we play an active and important role. However, it is true that we still look to wealthier geological surveys in Western Europe and overseas, for guidance in state-of-the-art 3D modelling of geological structures and for expertise in managing large international projects. There is a vast difference between the investments they have made in infrastructure, equipment and operational costs and those that we are able to make. On the other hand, we have the advantage that our field geologists have an excellent practical and theoretical background, which enables them to undertake regional mapping and geological synthesis anywhere in the world. Unlike, for instance, Scandinavian geological surveys or the Polish Geological Institute, the CGS suffers from an ongoing problem of underfunding for research on natural resources.



Field kitchen on the edge of the Victory Glacier, Antarctic Peninsula (photo by N. Halls).

This field has been neglected during the last 20 years at all levels, including that of university education. Only recently has the European Commission begun to realize the importance of re-evaluating its own resources to ensure the continued development of the European economy. A revival of interest is now slowly taking place and funding from both European and national sources is being released for research on energy supplies and natural resources.

Interview by Petr Maděra



Under Mt. Reece above the Prince Gustav Channel, Antarctic Peninsula (photo by I. Soejono)



## The first pan-European network on raw materials management

**The first Minerals4EU progress meeting organised in Cyprus by the Geological Survey Department of the Ministry of Agriculture, Natural Resources and Environment was attended by over 60 high-level geoscientists and raw materials experts.**

The Minerals4EU project, based on the recommendations of the Raw Materials Initiative, makes a fundamental contribution to the European Innovation Partnership on Raw Materials (EIP RM) and represents the first step for the successful implementation of the major EU2020 policies.

The need for better understanding of mineral and metal resources within the EU is fuelled by the need to reduce the risks of dependence on imports of raw materials from outside the EU. The decision makers require mineral information data and products, based on authoritative information sources, to develop strategies for supporting economic growth

Europe has a rich endowment of different kinds of economic minerals. Historically, the economic development of individual European countries has been built on the resources contained within their own borders but increasingly in the twentieth and twenty-first centuries the demand within Europe has exceeded its capacity to supply. As a consequence, many European countries are dependent on imports for the majority of the minerals needed to support the standards of living demanded by society. As global demand for, and production of, minerals has grown, the share of the total production held by many European countries has generally declined.

To meet these challenges, the project will create the first operational raw material management network across Europe. This network will maintain a pan-European "Minerals Knowledge Data Platform" compliant to INSPIRE that will enable the EU geological surveys and other partners to make available their geological data covering mineral resources on land, down to 4 km depth, and in the marine environment. This knowledge base will constitute a unique tool to help users to develop up-to-date estimations of the resources availability of primary and secondary raw materials, including urban mines (landfills and mining waste, stockpiles in use) across Europe. Along with this knowledge base, Minerals4EU will produce a "European Mineral Raw Materials Yearbook" covering for the first time primary and secondary resource data, from continental and offshore extraction sites in Europe. Finally, to develop a forward-looking analysis on the minerals supply and demand situation in Europe, Minerals4EU will provide supply and demand foresight studies on Raw Materials. These studies will support robust policy making to ensure an adequate access to raw materials for the European industry sector and to de-risk dependence on imports.

The main outcomes of the progress meeting have been based on the statistics and on the Foresight Study.

## Mineral Statistics - Work Package 4

**As mentioned above the European Minerals Yearbook, containing statistical data and related information for each country of Europe, will be one of the main products delivered by the project.**

For the purposes of the Yearbook, the term 'Europe' includes all Project Partner countries, EU Member States and EU candidate or potential candidate countries; a total of 40 nations. Progress during the first months of the project has concentrated on defining the scope of the Yearbook and preparing all the materials needed for the required data gathering survey.

The WP Partners have also considered the commodities to be covered and discussed the methodologies to be used for each data type. The data types to be included in the Yearbook, in the case of primary minerals are: production, trade (imports and exports),

exploration, resources and reserves. While for secondary materials they are: mining waste and landfill, recyclates and materials in use.

The commodities included in the Yearbook will vary slightly by data type. For primary minerals, most of the non-energy, non-agricultural minerals which are extracted, traded or used in Europe will be included, amounting to approximately 70 commodities.

For secondary materials the commodity list will have to be reduced due to issues surrounding data availability.

The British Geological Survey (BGS), that lead the work package, has collected production and trade statistics for primary minerals annually for many years. It has been agreed that the existing BGS procedures should be used to collect the production and trade data for the new Yearbook. Exploration, resources and reserves of primary minerals are completely new datasets and all the WP



Partners will share in the task of collecting these data. BGS has drafted questionnaires to be used for this purpose and all WP partners are providing their comments and suggestions before the survey begins.

It has also been agreed that a third questionnaire will be used to collect data relating to mining waste and landfill sites. The Wuppertal Institute, one of the WP Partners, will take the lead with regards to recyclates and materials in use and will provide information on a much smaller group of commodities.

For most of the data types the data to be collected will be a quantity in tonnes, but for exploration different metrics are required. Five possible options have been identified: annual expenditure, area involved, number of licences issues and/or active, number of companies involved, activity summary (a paragraph of text)

Most countries are likely to have data relating to one or more of these metrics and as a starting point all of them will be requested.

Good progress has been made in preparing all the materials needed for the survey, i.e. the questionnaires and accompanying documentation. We are nearing the end of the preparation phase of the Work Package and will soon move to the next phase: the actual data gathering survey itself.

While we do not anticipate that it will be possible to acquire high quality data for all the data types for all countries, we are confident that the new data we are able to collect will be a major advance on what is currently available and will provide a sound basis for the delivery of the European Minerals Yearbook.

The production of the European Minerals Yearbook is being led by the British Geological Survey (BGS), working with partners from the geological surveys of Portugal, Czech Republic, Greece, Spain, Norway, Slovakia, Finland, Austria, Denmark & Greenland, Sweden, Croatia, Switzerland and with the Wuppertal Institute of Germany.

## “Foresight Study” (WP6)

In addition to the establishment of the European Minerals Yearbook, the Minerals4EU Knowledge Data Platform, and the EU minerals intelligence network structure, an important aim of the project is to contribute to and support decision making on the policy and adaptation strategies of the European Commission by a Foresight Study. The Foresight Study addresses key questions with regard to future mineral supply and demand. It will be based on mineral statistics and other mineral knowledge data to allow the detection of trends. Beside such statistical analyses, public policy also depends on estimates on what is to be expected and what is feasible in future. Such long-term examination and consideration of alternative futures are the key purpose of the “Foresight Study” that is developed within work package 6.

The approach taken builds on the plurality of project partners with a variety of backgrounds: the National Geological Surveys of Croatia, Czech Republic, Denmark and Greenland, Finland, Germany, Hungary, Poland, Portugal, Sweden, plus EuroGeoSurveys, complemented by the Raw Materials Group, the Fraunhofer Institute for Systems and Innovation Research, and the Wuppertal Institute. They all provide in-depth knowledge on the management of primary and secondary mineral resources, thus the variety of partners supports the coherence of this activity. The Foresight Study explores systematically future developments of the supply and demand of mineral resources. Relevant topics were selected by the Foresight team. These will be investigated by distinct working groups, preparing a concise report for each topic, which is likely to have a significant impact on Europe’s demand for or supply with mineral raw materials.

About 15 topics on global markets, conventional and unconventional supply potential of mineral raw materials by the EU, societal and legal challenges in the sector, technological trends in the management of secondary resources, and trends in demand will be addressed by the work package team. In doing so, use is made of structured data like statistical trends where data is available from the Minerals Yearbook, from the Knowledge Data Platform, etc., and of unstructured data. Finally, a concept for medium-term updates of the Foresight Study will be developed that enables the perpetuated maintenance of the Foresight activities beyond Minerals4EU, and a stakeholder workshop will be arranged in order to discuss the future of the European mineral raw material supply.

The next progress meeting will take place in Dublin, next September.

## Raw Materials as a driving force for social change in Europe

The Industrial Technologies 2014 Conference, an important event bringing together various sectors in society, took place in Athens from 9th to 11th April.

The importance of securing sustainable Raw Materials supply in Europe is becoming ever more important and this is being reflected both politically and within the research community. Industrial Technologies 2014 presented its Best Projects Award to the ProMine Project, which developed the first pan-European GIS-based database containing the known and predicted metalliferous and non-metalliferous resources, which together define the strategic reserves (including secondary resources) of the EU. The award was gratefully accepted by Juha Kaija, Project Coordinator from GTK, on behalf of the project consortium that included 26 other partners from industry, academia and geological surveys.

Also, the European Technology Platform on Sustainable Mineral Resources (ETP SMR) hosted a workshop on Raw Materials as part of the official programme. The speakers included representatives of Euromines (European Association of Mining Industries, Metal Ores & Industrial Minerals), the European Technology Platforms on Construction and Steel, the Geological Survey of Denmark and Greenland and Umicore, a global materials technology company.

Discussions focused on the mineral resources value chain, from exploration through to recycling of products, and the link or need of Raw Materials in downstream sectors like construction, chemistry, green energies, infrastructure and so on – each with their own supply needs and varying supply chains.

The main outcomes showed that Europe has a viable resource of Raw Materials to provide much of our own supply needs. Education in our society is necessary to raise awareness on the long chain that is required from the exploration of the specific elements on the Earth through to the manufactured product in our hands without forgetting to take into account recycling necessities. As consumers we have to be consistent with our values and promote a sustainable use of the mineral resources in our own territories.



Juha Kaija and Pekka Nurmi receiving the Best Project Award for ProMine at Industrial Technologies 2014

# Secretariat's agenda

- **31 March - 1 April** Luca Demicheli at 5th EU-AU Business Forum in Brussels.
- **31 March - 1 April** Eleftheria Poyiadji, Deputy Chair of the EGS Earth Observation Expert Group (EOEG), at TerraFirma Workshop in Cologne.
- **2-3 April** Jerzy Nawrocki, EGS Executive Committee member, and François Robida, Chair of the EGS Spatial Information Expert Group (SIEG), at Earth Science Europe Roadmap meeting in Paris.
- **9-11 April** Patrick Wall, EGS Scientific Policy Officer, at Industrial Technologies 2014 Conference and European Technology Platform on Sustainable Mineral Resources (ETP SMR) in Athens.
- **23-25 April** Josip Halamić, EGS Executive Committee member, and Luca Demicheli meeting Geological Surveys Directors of Bosnia and Herzegovina and Serbia in Sarajevo.
- **28 April - 1 May** Mart van Bracht, EGS President, Luca Demicheli and EGS Expert Groups at European Geoscience Union (EGU) General assembly in Vienna.
- **2 May** Mart van Bracht, EGS President, and Luca Demicheli meeting Mr Karl Falkenberg, Director General of the European Commission's DG Environment, in Brussels.
- **8 May** Luca Demicheli European GEO High Level Working Group in Brussels.
- **20 May** EGDI-Scope Project Final Event in Brussels.
- **29-31 May** Luca Demicheli at European Federation of Geologists (EFG) General Meeting in Palermo.
- **2-3 June** Luca Demicheli at Minerals4EU Project meeting in Copenhagen.
- **3-5 June** EGS Superficial Deposits task Force meeting in Vilnius.
- **12-13 June** Luca Demicheli, Gerardo Herrera, Chair of the EGS Earth Observation Expert Group (EOEG), and EGS delegation at Eighth Annual «GEO European Projects' Workshop in Athens.
- **17-19 June** Luca Demicheli at Organisation of Latin America Geological Surveys (ASGMI) General Assembly in Arequipa, Peru.

## EU agenda

### ➤ Commission sets out an action plan to support the development of blue energy

Commissioners Maria Damanaki and Günther Oettinger presented a new action plan to facilitate the further development of the renewable ocean energy sector in Europe. A central element in this action plan will be to establish an Ocean Energy Forum, bringing together stakeholders to build capacity and foster cooperation. The action plan should help drive forward this nascent 'blue energy' sector towards full industrialisation. Ocean energy covers all technologies to harvest the renewable energy of our seas and oceans other than offshore wind. Its exploitation would contribute to the decarbonisation of the EU's economy and provide secure and reliable renewable energy to Europe. The ocean energy resource available globally exceeds our present and projected future energy needs. It could be harvested in many forms,

for example through wave energy and tidal stream energy. Exploiting ocean energy would set the EU further on track to becoming a low-carbon economy and, by cutting EU dependence on fossil fuels, would enhance energy security. Moreover, ocean energy could help to balance out the output of other renewable energy sources such as wind energy and solar energy to ensure a steady aggregate supply of renewable energy to the grid.

Source: [www.europa.eu/newsroom](http://www.europa.eu/newsroom)

### ➤ Launch of call for news Knowledge and Innovation Community in Raw Materials

The European Institute of Innovation and Technology has launched a call for a Knowledge and Innovation Communities (KIC) in the area of raw material.



KICs combine all three sides of the so-called 'knowledge triangle': higher education, research and business, and carry out a wide range of activities, covering the entire innovation chain. Therefore, the new KICs are expected to significantly improve Europe's innovation capacity in the areas of health and raw materials. To assist potential applicants with the preparation of proposals, the EIT had published a number of documents earlier this year, including Selection Criteria for new KICs, Framework of Guidance for the current call and the EIT Financial Regulation. Furthermore, an Information Day will be held in Budapest on 14 March 2014 where further support will be available to applicants willing to submit their proposals before the call deadline on 10 September 2014.

More information about the call for new KICs and all relevant documents are available at: <http://eit.europa.eu/kics/2014-call-for-kics>  
Source: [www.criticalrawmaterials.eu](http://www.criticalrawmaterials.eu)

## ➤ EU Proposes Regulation Regarding Voluntary Conflict Mineral Disclosure Scheme

On March 5, 2014, the European Commission announced its proposed strategy for transparency in the trading of conflict minerals (minerals from regions affected by conflict and instability, such as the Democratic Republic of Congo [DRC]) – its effort to address issues similar to those targeted by the United States' Dodd-Frank Act section 1502. However, unlike the Dodd-Frank Act's mandatory reporting requirements, the draft EU Regulation proposes a voluntary certification scheme for EU importers of conflict minerals, which would rely on reputational pressures from competitors and consumers to be effective.

The draft Regulation sets up a self-certification due diligence system for those who choose to sign up as "responsible importers" of tin, tantalum, tungsten, their ores, and gold. According to the scheme, EU importers of these metals would have to abide by the Organisation for Economic Cooperation and Development (OECD) Due Diligence Guidance.

The draft Regulation focuses on "conflict-affected and high risk areas" which are defined as "areas in a state of armed conflict, fragile post-conflict as well as areas witnessing weak or non-existent governance and security, such as failed states, and widespread

and systematic violations of international law, including human rights abuses".

Importers who sign on to the scheme would be required to adopt a supply chain policy for conflict minerals; establish management systems to support supply chain due diligence; incorporate supply chain policies into contracts with suppliers; establish grievance mechanisms as an early-warning risk-awareness system; operate a supply chain traceability system for the minerals and metals; and identify risks and implement a strategy to prevent or mitigate adverse impacts. Responsible importers must also carry out independent third-party audits.

Source: [www.euractive.com](http://www.euractive.com)

## ➤ EU commission to rewrite water laws

The EU is set to re-write its legislation on access to drinking water, the European Commission said Wednesday 19 March in response to a pan-EU campaign backed by 1.8 million people. An EU-wide public consultation on drinking water legislation will be launched in view of improving access to quality water in the EU. This will lead to a revision of the existing legislation which will aim to set a 100 percent target for good quality water and sanitation across the EU by 2016.

Source: Benjamin Fox, [www.euobserver.com](http://www.euobserver.com), 20/03/2014

## ➤ A stronger environmental impact assessment directive backed by MEPs

A proposed update of EU law to make environmental impact assessments clearer, ensure they take account of biodiversity and climate change and involve the public was backed by the European Parliament on 12 March 2014. This update, already informally agreed with the Council of Ministers, also aims to ensure that development project authorisations are not influenced by conflicts of interest.

More information: [www.europarl.europa.eu](http://www.europarl.europa.eu)  
Source: [www.eurogeologists.eu](http://www.eurogeologists.eu)



## ➤ **Open consultation 'Progress towards the 2020 energy efficiency objective and a 2030 energy efficiency policy framework'**

The aim of this public consultation launched by the European Commission is to seek the opinions of the general public and all stakeholders on the issues related to energy efficiency policies and measures for 2020 and 2030. Particularly, the replies submitted to this consultation will provide an important input to

the review of progress towards the 2020 energy efficiency target under Article 3(2) of the Energy Efficiency Directive 2012/27/EU. They will also be taken into consideration for the follow-up of the Communication "A policy framework for climate and energy in the period from 2020 to 2030" to establish the exact ambition of future energy savings policy and the measures necessary to deliver it.

Open from 07.02.2014 to 28.04.2014

[http://ec.europa.eu/energy/efficiency/consultations/20140428\\_eed\\_2020\\_2030\\_en.htm](http://ec.europa.eu/energy/efficiency/consultations/20140428_eed_2020_2030_en.htm)

## Upcoming Events

### ➤ **International Brown Coal Mining Congress 2014**

**Bełchatów, Poland 7-9 April 2014**

The eighth edition of the Congress will be held from 7 to 9 April 2014, in Bełchatów in Sport Hotel and in Sports and Recreation Centre, under the theme: "Brown coal – opportunities and threats". It is the next time we face the challenge to organize the International Brown Coal Mining Congress. During these days Bełchatów will be again the capital not only of Polish but also world brown coal mining. It will be the place of integration of people from mining and energy environment.

We believe that during the VIII International Brown Coal Mining Congress issues related to an important sector of Polish mining industry, which is the mining of brown coal will be taken into account. Scientists, specialists and those directly associated with the mining industry will enter into the topics of high importance for the economy, related to the future of the cheapest sources of energy which is brown coal as an important element stabilizing Poland's energy security.

[www.sitgbelchatow.pl](http://www.sitgbelchatow.pl)

### ➤ **Industrial Technologies Conference 2014**

**Athens, Greece 9-11 April 2014**

The Industrial Technologies 2014 conference integrates nanotechnology, biotechnology, advanced materials and new production technologies. The event offers opportunities for developing valuable research and industry collaborations, and showcases cutting-edge

research, latest innovations and rising companies from all around Europe. The main topics include:

- European and global developments in the high-tech arena
- Re-industrialisation and regional development in Europe
- Technological and entrepreneurial opportunities especially for the Balkan and Mediterranean states
- Opportunities in Horizon 2020 in the field of enabling technologies.

The event takes place during the Greek Presidency of the European Council and has received funding from European Union Seventh Framework Programme.

[www.industrialtechnologies2014.eu](http://www.industrialtechnologies2014.eu)

### ➤ **2<sup>nd</sup> International Conference "New technologies of processing and utilization of the Earth's remote sensing data in exploration and monitoring of hazardous geological processes"**

**Saint Petersburg, Russia 22-24 April 2014**

The Federal Agency on Mineral Resources and the A.P. Karpinsky Russian Geological Research Institute (VSEGEI) organise the 2nd International Conference «New technologies of processing and utilization of the Earth's remote sensing data in exploration and monitoring of hazardous geological processes». The aim of the Conference is to discuss the current state and future developments of using remote sensing methods in geological studies. Specifically, research results in the following areas will be presented: (1) GIS technologies and processing and utilisation of Remote Sensing Data



# Upcoming Events

(RDS) in geological mapping; (2) new processing and utilization technologies of RSD in geological exploration and (3) methods of using RSD in monitoring of hazardous geological processes.

More information about the events deadlines and key dates can be found at:

[www.vsegei.ru/en/conferences/ddz-2014](http://www.vsegei.ru/en/conferences/ddz-2014)

## ➤ **Mineral resources On the Mid-Atlantic ridge - status and perspectives, 2<sup>nd</sup> Norwegian "Lunch-to-lunch" workshop on ocean floor mineral deposits**

**Trondheim, Norway 24-25 April 2014**

[www.ngu.no/no/tm/Hva-skjer/NGU-arrangerer/Ocean-Mining---workshop](http://www.ngu.no/no/tm/Hva-skjer/NGU-arrangerer/Ocean-Mining---workshop)

## ➤ **European Geosciences Union General Assembly (EGU) 2014**

**Vienna, Austria 27 April - 2 May 2014**

The EGU General Assembly 2014 will bring together geoscientists from all over the world to one meeting covering all disciplines of the Earth, planetary and space sciences. The EGU aims to provide a forum where scientists, especially early career researchers, can present their work and discuss their ideas with experts in all fields of geosciences. For the first time, in 2014, the EGU General Assembly will have a theme which is The Face of the Earth – Process and Form.

[www.egu2014.eu](http://www.egu2014.eu)

## ➤ **Geospatial World Forum 2014**

**Geneva, Switzerland 5-9 May 2014**

Geospatial Media and Communications in partnership with Swisstopo (Swiss National Mapping Agency), GEO secretariat and other key organisations like UN ECE, UNITAR, JRC of European Commission is organizing the most premier geospatial event- Geospatial World Forum. The forum is scheduled from 5-9 May, 2014 in Geneva International Convention Centre, Geneva, Switzerland.

Having the theme 'geoSMART Planet: Resources, Infrastructure and YOU!', Geospatial World Forum shall demonstrate the value and credentials of geospatial technologies as enabling tool for undertaking activities and programmes towards development of smarter planet helping managing its resources, infrastructure

and people in more efficient and effective manner. It is likely to be attended by over 1200 high level delegates from close to 100 countries representing several important stakeholders of geospatial industry. The forum will provide opportunities for geospatial users, policy-makers, technology providers, researchers, academicians and students, to present technology trends, case studies, research work and technical papers to the global audience.

[www.geospatialworldforum.org/](http://www.geospatialworldforum.org/)

## ➤ **GEO Business 2014**

**London, UK 28-29 May 2014**

GEO Business, is a major new geospatial event for everyone involved in the gathering, storing, processing and delivering of geospatial information. A hands-on geospatial event that not only incorporates an international trade exhibition and a cutting edge conference, but also a programme of live workshops and demonstrations featuring the technology and services used by those working with spatial data.

[www.GeoBusinessShow.com](http://www.GeoBusinessShow.com)

## ➤ **Global Space Application Conference (GLAC) 2014**

**UNESCO Headquarters, Paris 2-4 June 2014**

This Conference provides an excellent opportunity to review cutting-edge satellite-based applications from a holistic perspective. The Conference will bring together the global satellite-based services stakeholder community, including senior representatives of the major space agencies, industry, governments, academia and NGOs. These leaders in the field will converge in Paris to present results, exchange ideas, debate roadmaps, and discuss the future opportunities provided by satellite-based applications. The comprehensive programme will include high-level round tables and technical sessions that will address the most recent achievements in satellite-based applications and explore how industry, politics, and law will help shape the future environment for this exciting domain of astronautics. The conference will start with a dedicated session for the representatives of Member States to UNESCO.

[www.iafastro.org/index.php/events/global-series-conferences/glac-2014](http://www.iafastro.org/index.php/events/global-series-conferences/glac-2014)



# Upcoming Events

## 7th World Landslide Forum 3 Beijing, China 2-6 June 2014

World Landslide Forums bring together government officials, scholars, international research and development communities, NGO representatives and numerous segments of the private industries to present their latest results on geo-hazard mitigation, especially, on landslide disaster risk reduction and to exchange ideas on how to improve geoenvironment safety around the world. It will become a phenomenal event for geo-hazard prevention because of its unique opportunity for professionals from all over the world to learn from each other on geohazard

mitigation. The post-forum field trips offer participants three choices. Each choice is designed to enable its participants to better understand landslide disasters and disaster-mitigation efforts in China, and to enjoy the oriental scenery and the harmonious coexistence of ancient civilization and modern culture.

[www.wlf3.org](http://www.wlf3.org)

## 7th WSEAS International Conference on Engineering Mechanics, Structures, Engineering Geology Salerno, Italy 3-5 June 2014

The WSEAS session "Analysis and modelling of fast-moving flow-like phenomena" is organized under the 7th WSEAS International Conference on Engineering Mechanics, Structures, Engineering Geology (EMESEG '14). The session represents a fair opportunity to promote interesting exchanges among researchers in the field. Fast-moving flow-like phenomena are natural hazards often associated to huge consequences in terms of property and life losses. These phenomena - such as slamming water waves, debris, mud and hyper-concentrated flows - may affect both coastal and inland areas, protected beaches and harbors as well as residential urban communities, particularly in river basins and mountainous areas. Understanding the related dynamics is fundamental for preventing them as well as for hazard assessment and mitigation control through sustainable works. The paper submission deadline is the 3rd of April 2014.

[www.fmf.unisa.it](http://www.fmf.unisa.it)

## International School on Foraminifera 2014 Urbino, Italy 3-21 June 2014

This eighteen-day intensive course is specifically designed to provide an overview of the Taxonomy, Ecology, Biodiversity, and Geological History of Benthic and Planktonic Foraminifera. The course is intended for students interested in Micropalaeontology, Paleocyanography, Paleoecology, Climate History, Biology, and Environmental and industrial applications. The course consists of lectures and practical classes covering the taxonomy, distribution, ecology, and paleoecology of foraminifera. Microscope lab sessions provide the opportunity for participants to learn the foraminiferal genera and species, and view Cretaceous to Neogene foraminiferal assemblages from Petroleum Exploration areas and ODP sites as well as Quaternary and modern assemblages. At the end of each lecture session, different tasks will be assigned to participants to reinforce the knowledge learned. Course materials include the lecture powerpoints and numerous pdf reprints of classic papers.

[www.isf.tmsoc.org/](http://www.isf.tmsoc.org/)

## INSPIRE Conference 2014: INSPIRE for good governance Aalborg, Denmark 16-20 June 2014

Seven years have passed since INSPIRE was adopted as the EU's legal framework establishing the infrastructure for spatial information in Europe serving policies and activities having an impact on the environment. During this period the framework of technical specifications necessary to underpin an interoperable infrastructure has been completed, and a major effort has taken place to implement the Directive in the Member States. It is now time for the mid-term evaluation to assess how well we are doing, and whether we are still on the right track. This conference comes therefore at a crucial stage to report on progress and get feedback from all the stakeholders involved.

[http://inspire.jrc.ec.europa.eu/events/conferences/inspire\\_2014](http://inspire.jrc.ec.europa.eu/events/conferences/inspire_2014)





# Upcoming Events

## ➤ 14<sup>th</sup> International Multidisciplinary Scientific GeoConference & EXPO SGEM2014

Flamingo Grand Congress Center, Albena Resort & SPA, Bulgaria 17-26 June 2014

It is an honor for us to invite you to the 14<sup>th</sup> International Multidisciplinary Scientific GeoConference & EXPO SGEM2014, where we bring together scientists, educators, and practitioners representing research and educational institutions, companies, government agencies and consulting organizations from all over the world to exchange of ideas, to define the research priorities in the above fields and to propose potential solutions of problems related to the global changes. The conference will be organized in Workshops and Invited Sessions that will be held as a parallel to the conference oral presentations sessions.

<http://sgem.org>

## ➤ 2014 Annual South East Asian Industrial Minerals Conference Bangkok, Thailand 18-20 June

The 2014 Annual South East Asian Industrial Minerals Conference will be taking place in Bangkok on the 18<sup>th</sup> & 19<sup>th</sup> June, with a field trip planned for the 20<sup>th</sup> June. With support from the Thai government and leading Thai producers, the 2014 program will be a key showcase for the enhanced opportunities in the industrial minerals sectors covering both upstream and downstream fields in key areas such as ceramics, cement and mineral sands. This is the only conference of its kind to give a unique analysis of key industrial minerals sectors in the region. The full agenda will be available over the coming weeks.

[www.indmin.com/events/seaim](http://www.indmin.com/events/seaim)

## ➤ International Conference in Biogeochemical Processes at Air-Soil-Water Interfaces and Environmental Protection Imola, Italy 23-26 June 2014

The general subject of the Conference is split into the four main areas: Concept, Factors, Processes, Techniques. The objective is to promote exchange and discussion on the complex processes occurring at the Air-Soil-Water interfaces in a perspective of environmental protection. The Conference is open for scientists, educators, policymakers, technicians and students. It will consist of invited lectures, scientific session with oral and poster presentation and a field and cultural excursion and will attempt to advocate interest on the importance of the knowledge of the biogeochemical processes for the environmental protection. Deadline for abstract submission has been postponed to March 31<sup>st</sup>.

<http://aswep-essc.unibo.it>

## ➤ 2<sup>nd</sup> International Symposium on Sustainable Materials Recycling Processes and Products Cancun, Mexico 29 June - 4 July 2014

The scope and topics of the symposium include but are not limited to: Recycling: Principles, technologies and Industrial Practice. This conference is a stand-alone one within the Shechtman International Symposium in honor of life-time achievement of Prof. Dan Shechtman - the 2011 Nobel Prize Laureate in Chemistry. This symposium will equally cover the important pillars of sustainability: (1) political and social framework (2) science, technology and industrial practice and (3) education in the entire cycle of existing and new industrial processes.

[www.flogen.org/conferences.php?page=1](http://www.flogen.org/conferences.php?page=1)

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**EuroGeoSurveys**, the Geological Surveys of Europe  
36-38, Rue Joseph II - 1000 Brussels (Belgium)  
Tel.: +32.2.888.75.53 - Fax: +32.2.503.50.25  
[info@eurogeosurveys.org](mailto:info@eurogeosurveys.org)  
[www.eurogeosurveys.org](http://www.eurogeosurveys.org) - [www.geology.eu](http://www.geology.eu)

**Editorial board:** Claudia Delfini (Editorial Coordination),  
Patrick Wall, Isabel Pino de Juana, Celine Andrien,  
Woody Hunter

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## *FIRST CIRCULAR*

### **The African Association of Women in Geosciences (AAWG)**

*Organise its seventh conference under the theme*



### **Earth Sciences and Climate Change: Challenges to Development in Africa**

Windhoek, Namibia, November 03-09, 2014

#### **PREAMBLE**

AAWG supports the development of Earth Scientists in Africa by providing opportunities for networking and applying science for the sustainable development challenges the continent is facing. Opportunities for earth scientists are great, extending from traditional mineral extraction to environmental management such as climate change adaptation, prevention of natural hazards, water scarcity, and ensuring access to quality earth science training. To assist African governments to realize opportunities, AAWG activities are developed through a participatory approach. International conferences have been organized to address various issues that affect the African continent, to which Earth Scientists can make a contribution. The 7th AAWG conference is being organized, taking into consideration the current challenges the continent is facing in view of the changing climatic conditions, which is threatening sustainable development agenda in Africa.

#### **CONFERENCE SUB-THEMES**

- Women and climate change
- Earth Science: History
- Earth and its Dynamics
- Earth and Life
- Pedology and Pedogenesis
- Global Warming and Climate Change
- Earth and Ecology
- Medical Geology
- Earth Science and Hydrology
- Applications of Earth Sciences
- Petrology
- Earth and Environmental Science
- Archaeology and paleontology
- Geoheritage, Geotourism and climate change
- Earth Sciences and local communities

#### **PROVISIONAL PROGRAMME**

1 day workshop, 3 days presentations of papers at Windhoek and 3 days post-conference field trip.

# **GeoShale** 2014

Recent advances in geology of fine-grained sediments

September 24-26, 2014

Warsaw, Poland

**THE 2<sup>nd</sup> INTERNATIONAL CONFERENCE  
DEDICATED TO MUDROCKS**

organized by

**POLISH GEOLOGICAL INSTITUTE  
NATIONAL RESEARCH INSTITUTE**

