



8th EUREGEO

Barcelona | Catalonia | Spain | June 15th - 17th 2015

EUropean Congress on REgional GEOscientific Cartography and Information Systems



Geological 3D Modelling

and

Soils: functions and threats



2015
International
Year of Soils

Final conclusions



8th European Congress on REgional GEOscientific Cartography and Information Systems

Geological 3D Modelling and Soils: functions and threats

SUMMARY OF 3D GEOLOGICAL MODELLING SESSIONS

Geology by nature is a three-dimensional science. 3D geological models are the obvious extension of traditional 2D geological maps into the third dimension, portraying subsurface layers, structures, and properties within a 3D volumetric space. 3D models are created by combining geological data, a sound geological interpretational knowledge and mathematical methods, serving a vast variety of applications.

The three sessions on 3D geological modelling gave a review of the considerable advancements geological surveys and academia have made in applying existing technologies to create 3D models for a wide range of geoscientific issues and in bridging the gap for a cross-domain utilization of geoscientific knowledge. The 31 oral presentations and 36 poster presentations addressed multi-scale – from local to transnational – and multi-level issues – from the shallow to the deep subsurface – of all stages in model building – from data capture to model distribution. The use cases of innovative approaches and developments for interoperability, sophisticated dissemination and query tools, and the cross-domain merger of data, e.g. of the subsurface in urban areas, were highly appreciated.

A special highlight was a keynote by Keith Turner describing 30 years of developments in 3D geological modelling – a mission that is not complete but has come a long way from the painful beginnings towards solutions that are addressing the urgent societal and environmental issues that face us today. The attendees also took delight in practical examples of modelling across the world, from Canada, Japan, Russia and Romania, with special thanks to those who travelled from afar!

The conference, the sessions as well as the fringe events, have proved hugely beneficial to all attendees to continue the exchange of all our successes and importantly our challenges on our journey to develop a full 3D geological model of the ground beneath our feet. Euregeo 2015 has been another corner stone for our evolving European 3D geological modelling community looking forward to the next meeting in Bavaria in 2019 – meanwhile following the sessions farewell motto: “Keep on modelling”.

Gerold Diepolder
Coordinator Geological 3D Modelling Session
Bavarian Environment Agency, LfU



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SUMMARY OF SESSIONS SOILS: FUNCTIONS AND THREATS

Soil is a natural and non-renewable resource which provides the medium for food, fibre and essential ecosystem functions such as nutrient recycling, purification of water and carbon capture to mitigate greenhouse effects.

Two sessions have addressed the threats to these soil functions:

In the soil contamination session we have learnt how the indicator for the management of contaminated sites in Europe responds to key policy questions. It has been presented the assessment of soil quality restoration combining different investigation techniques, new screening methods to identify the severity of contamination in soils and its relationship with human health parameters like the concentration of metals in hair. Various regions (China, Emilia Romagna, Bavaria, Campania and Andalusia) have presented cartographic, remote sensing and GIS tools to support the management of contaminated sites.

In the session of soil erosion it has been presented an innovative technology using high resolution aerial images to model the erosion in agricultural soils and a very promising soil conservation project financed by the European programme LIFE which aims to design better agricultural management practices to prevent and remediate soil erosion and increase agricultural productivity.

These sessions have been an excellent forum for exchanging ideas and knowledge between scientists of different countries and to raise awareness on the importance of protecting this valuable resource that is the Soil.

Ana Payá Pérez
Coordinator Soils: Functions and threats Session
Joint Research Centre- European Commission

Session sponsored by





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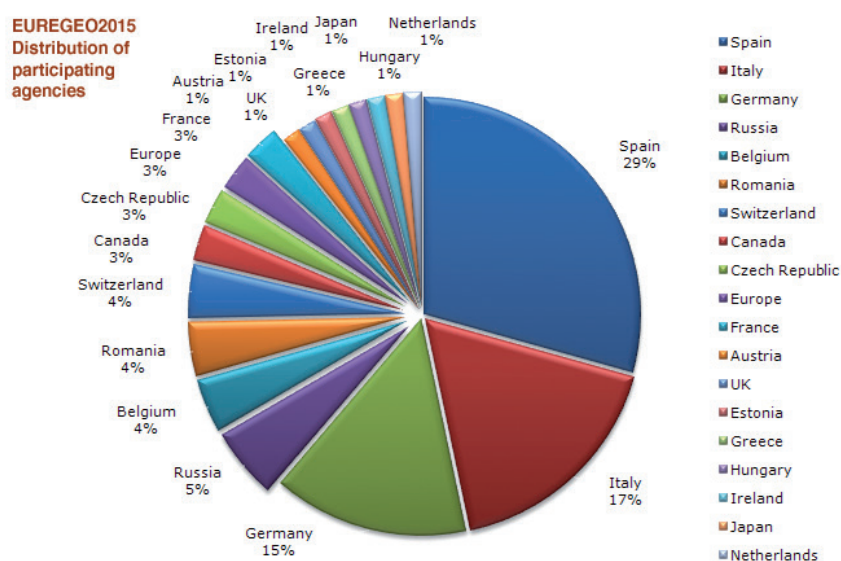
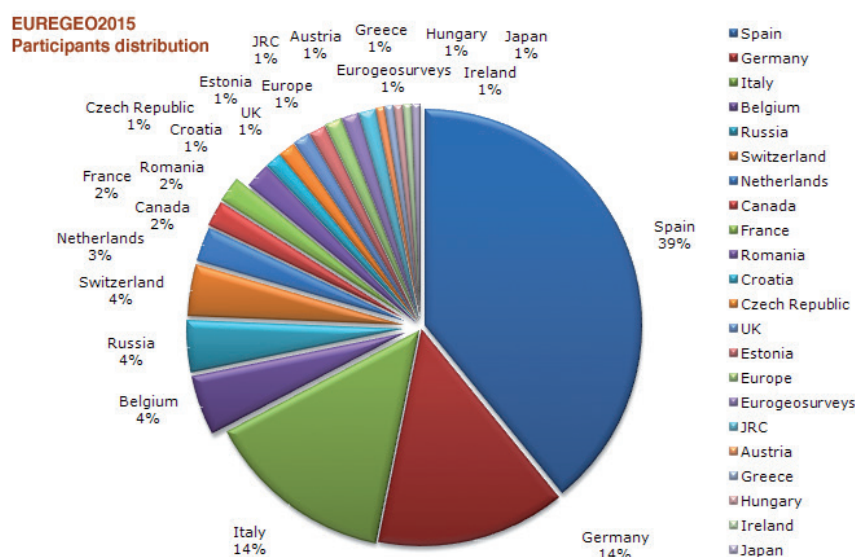
Geological 3D Modelling and Soils: functions and threats

CLOSING REMARKS

The Organising Committee want to express their gratitude to all the Chairpersons, conveners and participants. We wish that 8th EUREGEO in Barcelona has been a fruitful experience.

The format of this Congress, organised into two axes, namely Geological 3D Modelling and Soils, was very successful, as it is proven by the 112 presentations, all of them with an excellent level of contents. We also hosted a special session organised by EuroGeo-Surveys on Minerals 4EU.

There were excellent networking between participants so the 8th EUREGEO has not been just an issue of the Three Regions, but far beyond, as it is proved by the 20 countries taking part in this edition.



In the congress there have been 152 European participants, in addition to the presence of Canada and Japan, and 74 agencies. The weight of the congress organizer regions: Catalonia, Bavaria and Emilia-Romagna, is reflected in the 67% of participants and 61% of agencies.

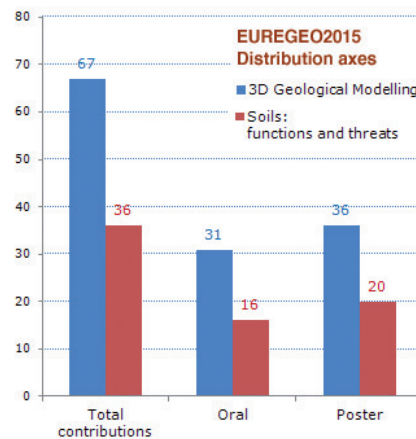


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On the Geological 3D Modelling sessions we have 30 oral presentations and 36 posters, ranging from model building interoperability to how to serve the users.

On the Soils sessions, we had 15 oral presentations and 31 posters, including soil contamination, soil mapping and soil erosion issues.



The distribution of the themes of the congress reached the 103 contributions, which corresponded to 47 oral presentations and 56 posters, with a greater presence of the theme of 3D geological modelling.

Ensuring the sustainability of the work we are doing and ensuring the exchange of ideas and concepts. It has not been just an issue of three Regions, but far beyond, as it is proved by the 20 countries taking part in this congress.

The Organising Committee



Freistaat Bayern



Bayerisches Landesamt für Umwelt



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