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Staatliche Geologische Dienste Deutschlands

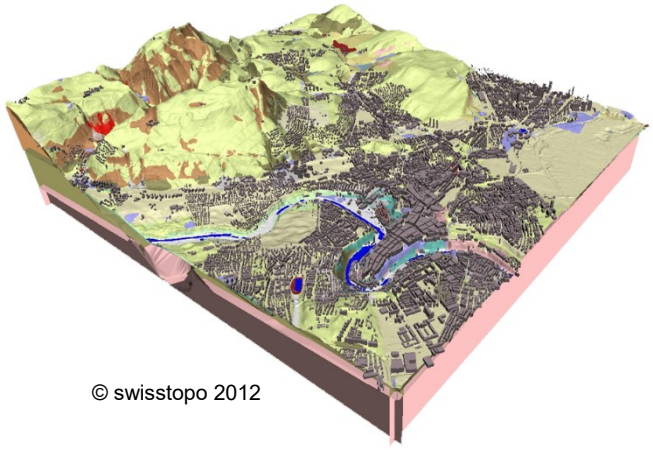
5th European Meeting on Geological 3D Modelling

"The role of 3D geology in spatial planning"

First call & Save the date

To continue the tradition of European workshops on 3D geological modelling that took place in the past years, the Swiss Geological Survey cordially invites you to join the community between

May 21st – 24th 2019
Berne - Switzerland



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The mistakes we make in the subsurface today can hardly be corrected in the future. First-come, first-serve mentalities have been dominating the usage of the underground in many countries for a long time now. It is widely accepted that increased usage of the underground will lead to conflicts without proper planning. Combined 3D representations of the surface and subsurface will be key to providing sustainability of one of our most important resources. This is especially true in the heavily utilized metropolitan areas throughout Europe.
However, in most cases, spatial planning has been dealing with issues above the surface up to now, only. Given the ideas mentioned above, real spatial planning should also comprise the subsurface and, therefore, must urgently incorporate 3D geological data, its abilities and capabilities into its concepts. On the other hand, geological 3D modelling performed a rapid rise from specialist's toys to highly relevant fundamentals in today's societies during the last decades.

The emerging role of 3D geological modelling with respect to spatial planning in the underground is the inspiration for this meeting. Besides the benefits of 3D geological modelling for society, the meeting shall also address case studies, advances in research and software development, trends, data dissemination, data infrastructure, application in resource management and demos related to the main topic.

The conference focus on European GSOs, their needs, practical solutions and open knowledge exchange. However, exchange with academia and industry is much appreciated. The meeting relies on your contribution! We invite you and/or your delegates to contribute to the conference with either a talk in one of the sessions described below, or a poster or demonstration. Thematic suggestions for the breakout sessions during the conference are also welcome.

PRE-REGISTRATION
Please pre-register here (without obligation): https://de.surveymonkey.com/r/LX5FX29

GOOD TO KNOW

Venue	"Kursaal Congress Center + Hotel"
Costs	The meeting is free of charge, as are the excursions, the Ice Breaker event and, presumably, the conference dinner.
Program	The program is divided into four conference blocks (slots for 30 talks of 15 min., poster sessions and two break-out sessions), accompanied by two excursions and two social events. Please refer to the preliminary program below.
Participants	The number of attendees is limited to 100 participants, which allows for three or at the most four participants per organization.
Travel	Closest international airports are Zurich, Basel-Mulhouse (F) and Geneva, from where you can reach Bern within 90 minutes and 120 minutes by train, respectively. Train tickets are available at the airport train stations. Train tickets cannot be purchased on the trains.
Accommodation	Please refer to your preferred booking website.
Public Transport	All meeting locations in the city of Berne are within walking distance of each other. Bern also features an excellent public transport network – check with your hotel for a free public transportation card.
Sports	The 3D Modelers Running Group (jointly led by Swiss Geological Survey and British Geological Survey) will organize daily pre-conference runs.

THE SESSIONS

3D geological modelling and the benefit for society

Recently, 3D geological modelling reached the Yellow Press in Switzerland, which underpins the importance of geological data for everyday life. Geological data is one of the foundations for the assurance of supply, civil protection, development of infrastructure or the supply of goods, where it plays a substantial role. Other topics such as waste disposal, georesource management, public health and hygiene, culture, civil engineering, etc. also heavily rely on geological data and information.

This session covers best practices within these topics, but also deals with the economic benefit of 3D geological modelling, data access, spatial planning, political and societal impacts. It also hosts the practical application of 3D geological modelling, modelling methodologies, workflows, collaborative modelling, Public Private Partnerships, data integration and data manipulation etc.

The 5th dimension: Model certainty and reliability

Certainty is the new uncertainty! How can certainty of a model be computed, visualized, delivered and conveyed to the client? Societal awareness of the underground (incl. 3D geological data) is steadily rising. Geologists play an important role as knowledge facilitators between their playground and the citizen's backyard. What are the newest and most promising approaches to act responsibly?

This session covers all the aspects, results and findings related to certainty modelling, predictive modelling approaches, workflows, instruments, tools etc. Despite these topics having been under debate for a long time, their recent developments are as important as never before.

Advances in research and software development

Research and industry push continuous advancements in 3D modelling. Recent improvements with respect to methodologies, processes, large scale modelling approaches, as well as practical software development continuously make their way into to practical application of 3D geological modelling.

This session allows insights into new results of fundamental or applied research, while covering methodologies, process modelling, field data acquisition, implicit and explicit modelling, back coupling between 2D and 3D data, etc.

Trends and innovation

Increasing demands, requirements that increase in complexity and technical progress constantly require a rethinking of our processes, enhancing our knowledge and upskilling our capabilities. BIM is poised to become one of the main drivers for innovation in the near future, including applied geology. Buzzwords such as Machine Learning, Neural Networks, Big Data etc. have been used in earth sciences for many years, their broad range of possible practical applications is, however, still being discovered.

What stands behind these terms, what are the most recent developments, how is geology affected and how can 3D geology benefit from their application? These are only few of the questions this session will cover.

Data dissemination, data infrastructure and data management

The emerging importance of 3D geological models parallels the need for innovative approaches and powerful solutions for data dissemination. In our role as earth science professionals in a public service or as a consultant, one of our most important tasks is to communicate our work and its results to clients or the general public. Convincing communication depends on reliable data and therefore standards, infrastructure, visualization and access possibilities. What are possible business models for effective communication? Which infrastructure do we really need? What is best practice in data management? Are there any further prerequisites for these topics? What can we learn from other disciplines?

Even though the conference will be taking place in over half a years' time, we are already looking forward to welcoming you to Bern. Please do not hesitate to contact us should you have any questions.

Sincerely, on behalf of the Swiss Geological Survey

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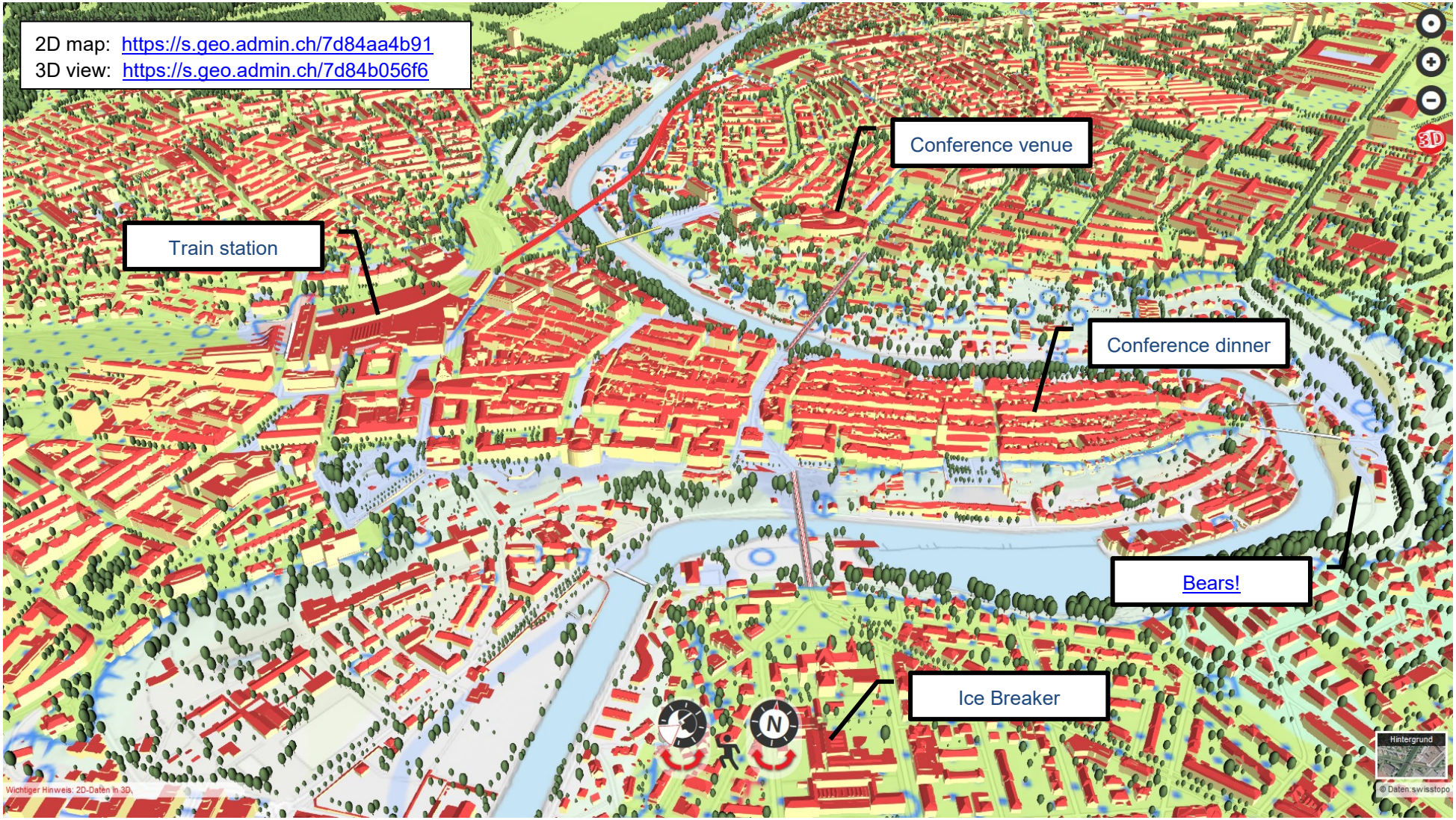
PRELIMINARY PROGRAM

	TUE 21/05/2019	WED 22/05/2019	THU 23/05/2019	FRI 24/05/2019
Early morning	**PRE-CONFERENCE RUN** – guided by Roland and Holger – 45 – 60 minutes	**PRE-CONFERENCE RUN** – guided by Roland and Holger – 45 – 60 minutes	**PRE-CONFERENCE RUN** – guided by Roland and Holger – 45 – 60 minutes	**PRE-CONFERENCE RUN** – guided by Roland and Holger – 45 – 60 minutes
Morning	**PRE-CONFERENCE** **Mont Terri** **Underground Rock Laboratory** **10:00/11:00 – 19:00h** – https://www.mont-terri.ch/en/homepage.html – guided visit – incl. transport and lunch – free of charge	**PRE-CONFERENCE** **9:00 – 12:00** – Historical-geological city tour – Guided by the University of Bern – free of charge	**CONFERENCE #2** **9:00 – 12:30** – Talks – Posters – Break-out session 1	**CONFERENCE #4** **9:00 – 12:30** – Talks – Posters
Afternoon		**CONFERENCE #1** **13:30 – 17:30** – Talks – Posters	**CONFERENCE #3** **13:30 – 17:30** – Talks – Posters – Break-out session 2	
Evening	**SPONTANEOUS PROGRAM**	**ICE BREAKER** **19:00 – 22:00** Museum of Natural History – https://www.nmbe.ch/en – free of charge	**CONFERENCE DINNER** **19:00 – 23:00** Restaurant "Zunft zu Webern" – http://www.restwebern.ch – presumably free of charge	

Legend: Pre-conference program | Conference program | Social program | Sports

MAP – THE CITY CENTRE OF BERN AND THE MEETING LOCATIONS