

NordQuake kick off meeting

OCT 2011

Held at, Orkugarður, Grensásvegur 9, Reykjavik, Iceland

Friday, OCT 7th and Saturday Oct 8th 2011

In prolongation of the 42nd Nordic Seismology Seminar

LIST OF PARTICIPANTS

Department of Earth Science, University of Bergen, Norway

Kuvvet Atakan	atakan@geo.uib.no
Mathilde B. Sørensen	Mathilde.Sorensen@geo.uib.no
Lars Ottemøller	lot081@geo.uib.no
Jens Havskov	njojh@uib.no

Latvian Environment, Geology and Meteorology Center/University of Latvia

Valerijs Nikulins	valerijs.nikulins@lvgmc.lv
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Lithuanian Geological Survey

Andrius Pacesa	andrius.pacesa@lgt.lt
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Institute of Seismology, Department of Geosciences and Geography, University of Helsinki, Finland

Päivi Mäntyniemi	paivi.mantyniemi@helsinki.fi
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University of Oulu, Finland

Elena Kozlovskaya	elena.kozlovskaya@oulu.fi
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Icelandic Meteorological Office, Iceland

Kristín S. Vogfjörð	vogfjord@vedur.is
Steinunn S. Jakobsdóttir	ssj@vedur.is

Reykjavík University, Iceland and University of Uppsala, Sweden

Ólafur Guðmundsson	ogud@hr.is
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Geological Survey of Denmark and Greenland – GEUS, Denmark

Peter Voss	pv@geus.dk
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Department of Earth Sciences, University of Uppsala, Sweden

Reynir Böðvarsson	Reynir.Bodvarsson@geo.uu.se
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The Minutes of NordQuake kick off meeting

The NordQuake kick off meeting was opened with a presentation by Peter Voss, where the background, the structure and the goals of the NordQuake Researcher Network was described (see abstract attached). This presentation was given to the participants of the Nordic Seismology Seminar who were also invited to take part in the kick off meeting. All the national represents in NordQuake were invited prior to the meeting.

The meeting was held as a round table discussion, where the broader aspects of the Researcher Network were discussed on Friday, and details on the coming research training course and researcher network meeting was planned on Saturday.

It was decided that a NordQuake that the national represents will make up the steering committee.

Friday 7th

Topics to be covered during the research training course and researcher network meeting

To reach the objectives to be archived during the operation period of the network and beyond, a number of research topics were suggested and discussed. To obtain the best result it was decided to structure the research training course and researcher network meeting in thematic form, focusing on specific research areas.

As main topics for the research training course the following topics were suggested:

- Earthquake hazard
- Source data
- Meta data
- Analyzing data from networks in our region
- Fault plane solutions
- Macroseismic analyses
- Teleseismic earthquakes
- Discrimination between earthquake and explosions
- Site response
- Virtual networks
- Structure and 3D models

For the first research training course it was decided to use recordings of major earthquakes in our region as a basis for the course.

For the first researcher network meeting new topics should be invited, since the best result will be achieved with active participants. An example of a topic is the virtual seismic network covering the Baltic Sea suggested by Valerijs Nikulins and Reynir Böðvarsson.

University of Bergen offered to host a mailing list for the participants. (This has since been established, nordquake@uib.no. Subscribe at <http://mailman.uib.no/listinfo/nordquake>)

It was planned that homepage <http://nordquake.net> also should list:

- Courses related to earthquake risk at Nordic universities.
- Promote external research training courses like e.g. the SeiscomP training courses
- Link to QUEST a European system for streaming courses.
- The webpage should host a wiki-type page

Use of EPOS

It was suggested to request a session at the ESC General Assemble, dedicated to Nordic+Arctic Earthquake research. 33rd General Assembly of the European Seismological Commission (GA ESC) that will be held 19-24 August, 2012 in Moscow, Russia
Deadline for submission of sessions to ESC is DEC 1st, 2011

NordQuake offers support to students and researchers that by short term visits at Nordic or Baltic universities or research institutions can improve their skills and strengthen the quality in their research. The status of this initiative is that NordQuake will support a research visit of a phd student from Lithuanian (Ms. Ilma Janutytė) at University of Oulu, Finland and a phd student from Iceland (Ms. Ásdís Benediktsdóttir) at University of Uppsala, Sweden, in the coming months.

Saturday 8th:

The research training course

For the training course it was decided to select recordings of major earthquakes in our region. These data should then be used during the training course. These earthquakes should be recorded in the entire region by modern instruments. And the data and metadata from these earthquakes should be provided by the national networks.

The selected earthquakes:

2000 Iceland
2004 Kaliningrad
2008 Iceland
2008 Svalbard
2008 Lund
2009 Skagarak
2011 Jan Mayen

The University of Bergen offered to host the first research training course. They suggested to hold the course in June 2012, and it was planned to have a final timeline for the five day course before the end of 2011. Peter Voss will then send out an invitation for the training course with a registration deadline.

Peter Voss will do the initial review of the applicants to the research training course. If there is larger number of applicants than 20, Peter Voss will send his recommendations on whom to select to the NordQuake steering committee, who will then do the final selection. An overall goal is to have participants from all eight countries.

Two lecturers from University of Bergen will participate and there one or two other lectures will be invited.

Each day during the research training course will start with a presentation related to the current topic by the lecturers or participants.

The participants will then by analyzing the selected earthquakes get hands on experience with modern analyzing methods.

For participants with a basic knowledge in earthquake analyzing, training material including software, exercises and a training dataset is provided.

In addition the participants are invited to bring data and software from their own research project, to work on and to present to the other participants.

After first research training course the result of the participants research of the selected earthquakes will be posted on the <http://nordquake.net> webpage.

The first researcher network meeting

University on Helsinki offered to organize the first researcher network meeting. The time of the meeting will be determined in the beginning of 2012.

It was decided to split the three day meeting in two parts under thematic sessions, where part one is a morning session with presentations by the participants and the afternoon session is dedicated to different tasks. A small number of task forces will be formed with a leader, and the participants join a task force with colleagues to share knowledge and experience and to work on research topics.

The task leader will at the end of the day present the outcome for the task force work.

Discrimination between measurements of earthquake and explosions and a Baltic Sea Virtual Network are examples of two tasks. The participants will be invited to suggest additional tasks prior to the meeting.

It was decided that at the end of the researcher network meeting in 2012, an open meeting will help by the steering committee, with a similar round table discussion. The meeting will involve a review of the first research training course and the researcher network meeting, the status of individual research visits, the status of the www.nordquake.net webpage and the goals and structure of the future research training course and the researcher network meeting.'

The meeting was closed at noon Saturday.

Abstract of opening presentation:

The Nordic Earthquake Researcher Network – NordQuake

P.H. Voss

Geological Survey of Denmark and Greenland – GEUS

Earthquake monitoring is today performed in all of the Nordic and Baltic countries. The technical development in earthquake monitoring has over recent years evolved to a system of real time data transmission through the Internet. These data are a key component in both earthquake research and in research training at many Nordic and Baltic universities and research institutions. Through the Nordic Earthquake Researcher Network – NordQuake, the quality of the earthquake research and research training in the Nordic and Baltic countries, will be strengthened and increased.

Cooperation, networking and joint use of research infrastructure is necessary to consolidate and develop the competence and experience that exist within the Nordic and Baltic countries.

Earthquake risk is relevant in the Nordic and Baltic countries to infrastructure such as nuclear power plants, hydrocarbon industry and nuclear waste storage. Understanding of earthquake risk overseas is also of great importance to the public and industry in the Nordic region, which has been expressed by the recent devastating earthquakes in e.g. Sumatra 2004, Haiti 2010 and Japan 2011. Earthquake risk is a key topic for NordQuake.

Furthermore, recent earthquakes such as Kaliningrad in SEP 2004 and Sweden in DEC 2008, clearly illustrate that earthquakes are not bounded by national borders and that the public does and will benefit tremendously, by a joint use of the Nordic infrastructure in this field. The Kaliningrad earthquakes were a remarkable manifestation of seismicity in an area whose seismological record is devoid of any seismicity throughout centuries. The largest earthquake was felt in all the countries surrounding the Baltic.

This network of Nordic researchers will provide a link between the researchers in Nordic and Baltic countries and the EPOS project on plate observing systems founded by the European Commission, and constitute a forum for earthquake research topic in relation the Comprehensive Nuclear-Test-Ban Treaty, a UN treaty ratified by all the countries in the Nordic-Baltic region.

Earthquake engineering is an increasing business field in the Nordic and Baltic countries, NordQuake will provide information on industry with job opportunities to students in the network.

For all involved scientists this network of Nordic researchers goal is to widen their perspective in the earthquake research field, to introduce them to new scientific problems and to give them the tools and the network to solve these.