

NorthQuake 2022 - The 4th Workshop on Earthquakes in North Iceland

Fosshotel Húsavík, 18-20 October 2022

This year marks the 150th anniversary of two large earthquakes that struck Húsavík and surroundings, causing widespread damage, snow avalanches, and even tsunamis. While these were the last major earthquakes to occur on the Húsavík-Flatey fault system, first-hand accounts and a variety of data of other large earthquakes in North Iceland, e.g., near Kópasker village in 1976, in Skagafjörður in 1963 and near Dalvík in 1934, provide information about what we can expect in the coming decades. These past major earthquakes as well as the persistent seismic activity off the north coast of Iceland, in an area that is usually referred to as the Tjörnes Fracture Zone, show that the earthquake hazard in North Iceland is high and similar to the hazard in the South Iceland Seismic Zone.

Significant infrastructure build-up has taken place in North Iceland during the past several years. This includes the PCC silicon metal plant just north of Húsavík, a tunnel through Húsavík Cape, the Theistareykir geothermal power plant, and many new apartments and tourism-related constructions. In light of these new infrastructure projects and to increase preparedness in North Iceland it is important to regularly review recent research results on earthquake activity in the region, the associated hazards and risks for the population and infrastructure, as well as to discuss possible ways to reduce risks and review response plans in case of a major event.

A workshop is therefore planned in October 2022 on earthquake activity in North Iceland. The goal of the workshop is to review the status of knowledge and report new results in earthquake-related research in the area and to discuss possible use of these results for risk reduction. Workshop topics include earthquake geology, tectonics and geodesy, mapping of faults and fractures, current earthquake activity, strong-motion analysis, near-surface effects, earthquake monitoring, possible early warning, earthquake hazard and risk, design of structures, and urban planning. In addition, plans and actions to decrease earthquake risk will be discussed.

The workshop builds on similar workshops that were held in 2013, 2016 and 2019. The progress since then will be reviewed and the future needs in research and monitoring discussed. The hope is that many of the key scientists who have been conducting research in the area will participate in the workshop, as well as representatives from the local municipalities, the local civil protection units, the Civil Protection Department of the National Commissioner of the Icelandic police, as well as engineers, town planners, and other people who are working on relevant topics in the area related to the workshop.

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The 4th Workshop on Earthquakes in N-Iceland

Planned Schedule 18-20 October 2022

The workshop language will be English (unless otherwise stated) and the sessions will consist of 15-minute presentations.

17 October – Monday

21-22: Registration and icebreaker

18 October – Tuesday

09-10: Registration and coffee

10-12: Earthquake geology, past and present earthquake activity, fracture and fault mapping

13-17: Earthquake seismology, earthquake swarms, groundwater monitoring, deformation, landslides, tsunamis, etc.

19 October - Wednesday

09-12: Earthquake source modeling, earthquake strong-motion, local site effects, seismic hazard assessments

13-17: Earthquake effects on infrastructure and society, earthquake engineering, risk assessments, response plans, precautions

20 October – Thursday

09-12: Discussion

12-13: Information meeting open to the public (in Icelandic)

13-17: Excursion

Submission of contributions and abstracts:

If you would like to present at the workshop (talk or poster), please submit your contribution title and author list to the Húsavík Academic Centre (hac@hac.is) before **1 September 2022**. Long abstracts (3-4 pages with figures) should be submitted before **1 October 2022**.

Publication of Abstracts:

Long abstracts will be collected into a workshop volume and made available online about one month after the workshop to give authors some time to update their submitted abstracts.

Workshop Fee:

The participation fee for the workshop is 180 EUR (25.000 ISK) and it includes lunches, coffee and light snacks, and the planned excursion, among other things. No fee will be charged to students and senior participants.

Travel and Accommodation:

Húsavík Academic Centre (hac@hac.is) can provide information about possible travel options and about accommodation in Húsavík.

Organizing Committee:

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