

ICELAND

National Land Survey of Iceland continues focus on collection and sharing of spatial data

Plates under Iceland continue to drift apart in each direction the re-measurement of the Geodetic Reference System by National Land Survey (NLSI) has found.

The system has been measured twice before using GPS technology – in 1993 and 2004. In 2016, around 150 benchmarks and pillars were measured, and measurement data gathered from about 100 permanent stations. Preliminary findings conclude that the plates under Iceland continue to drift apart at steady speed of one centimetre per year in each direction. The movement, however is not as decisive in speed or direction in the areas where earthquakes and volcanic

eruptions are most common; the southwestern area where the 2008 earthquake took place and north of the Vatnajökull glacier; scene of the 2014-15 volcanic eruption.

The re-measurement exercise also revealed changes in vertical movements since 2004. Again, significant movements were seen in Vatnajökull and its surrounding areas due to the glacier's retreat and thinning, and increased magma formation underneath. Changes have also occurred in areas around major geothermal power plants in the Hengill area and Reykjanes peninsula, with negative vertical movements of more than one centimetre per year – around 18cm since 2004 – one reason for which could be the extensive pumping of geothermal steam for household heating and power generation.

As part of its increasing focus on sharing information and data with the public, NLSI opened a new map and place name viewer as well as a new Icelandic geoportal and a web map application in 2016. The aim is to switch to open source software when suitable and NLSI is now using OSKARI and GeoNetwork for its web map application and geoportal.

OSKARI is an open source software designed and developed by the National Land Survey of Finland. In the new web map application users are granted access to geographic information, not only from NLSI but also other governmental agencies, enabling the use of this data in one place. The benefits have been of great interest to users and demonstrates the importance of open access to public geographic information.

