

NKG Meeting 16th-19th March, Espoo, Finland

National Report Iceland 2001-2002

The status of the Icelandic height network until June 2001 has already been described in a report presented at the NKG meeting 16.-19. June 2001 in Akranes, Iceland.

During the year 2001 the efforts in completing the height network's highest order loop have been continued in collaboration of the Public Road Administration (Vegagerðin), the National Power Company (Landsvirkjun) and the National Land Survey of Iceland (Landmælingar Íslands LMÍ). During the 2001 summer season two or three levelling teams (depending on availability), using digital levels from Zeiss and Wild and in advance calibrated invar rods, closed the remaining southern gap (approx. 222km) of the highest order loop. Even though the western part (approx. 57km) of this gap had already been levelled in 1997 and 1998 had to be relevelled due to the impacts of the major earthquakes in 2000.

In order to secure the results in this permanent geodynamic active zone the GPS surveys from 2000 have been continued in this region. A selection of the 1-2km apart levelling points with distances of 6-10km between adjacent GPS points have been observed with respect to the Icelandic reference network ISN93. The data has not yet been processed. Major efforts in the reference network densification kept LMÍ from intensifying its effort on the height network. Hence no gravity campaigns were carried out in 2001.

In addition to the two existing GPS permanent tracking stations in Reykjavík and Höfn, a third one was installed in Akureyri (northern Iceland) in August 2001. Even though this is only secondary to the height network it will mean a considerable improvement for future GPS height determination applications.

After the completion of the ISN93 densification measurements in 2001, LMÍ intends to concentrate its 2002 field work on the height network. Unfortunately, considerable budget cutbacks of all major governmental institutions make it uncertain whether the extent of the field work can be continued with the desired intensity.

At the moment the plan is to close the northern gap (approx. 330km) in the highest order loop by employing three levelling teams of the above-mentioned institutions. Furthermore, the intention is to carry out several GPS campaigns on the levelling line in order to cover the longest possible distance. Assuming the above mentioned institutions will find it possible to participate in these campaigns, LMÍ is optimistic in completing the GPS surveys in the height network in 2002. Also relative gravity surveys are planned for 2002. However LMÍ's limited resources and the availability of the Scintrex gravimeter, which is just partially owned by LMÍ, will not allow the completion of these efforts in 2002.

