

National report Norway

Laila Løvhøiden



National geo-data strategy

«The ambition is that Norway shall be the most advanced user of geospatial information»

National geo-data strategy of 1.Nov.2018

Geodetic activities

Norwegian Mapping Authority

- National infrastructure
- Global contributions
- New height system
- Geoid improvements
- Positioning services
- Research in geodesy and earth sciences

Norwegian University of life sciences

- Physical geodesy
- GNSS activity

Norwegian University of Science and technology

- Recent research activities



Laila Løvhøiden and Frode Koppang, Ny-Ålesund, Svalbard

National infrastructure

- More than 200 operating GNSS stations
- An upgrade of all stations to receive signals from Galileo, BeiDou, QZSS, Glonass and GPS has been applied
- A densification project is now completed, and the distance between stations is about 35 km in densely populated areas and 70 km in other areas on the mainland
- Work to make GNSS accurate positioning a free service nationally
- Work with ITS Norway and national road and railroad authorities regarding infrastructure connected to automated vehicles



PGS station, Trysil, Norway

Global contribution

- Operation of a geodetic earth observatory in Ny-Ålesund
- Official opening of the geodetic observatory in Ny-Ålesund in June 2018
 - Plan to co-locate all four geodetic techniques, 2 VGOS and Doris in place, SLR planned operational in 2022
- Local committee for arranging the IVS general meeting in June 2018
- Active participation in the Subcommittee on Geodesy
- Contributing to the IGS with PGS-infrastructure



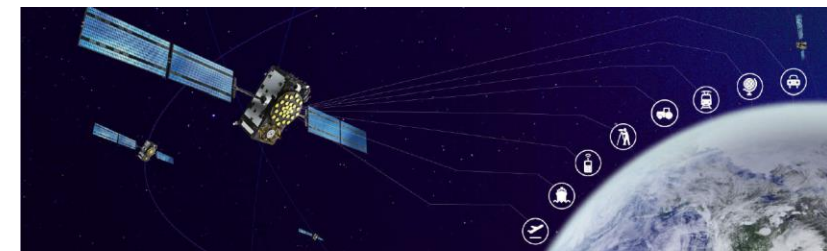
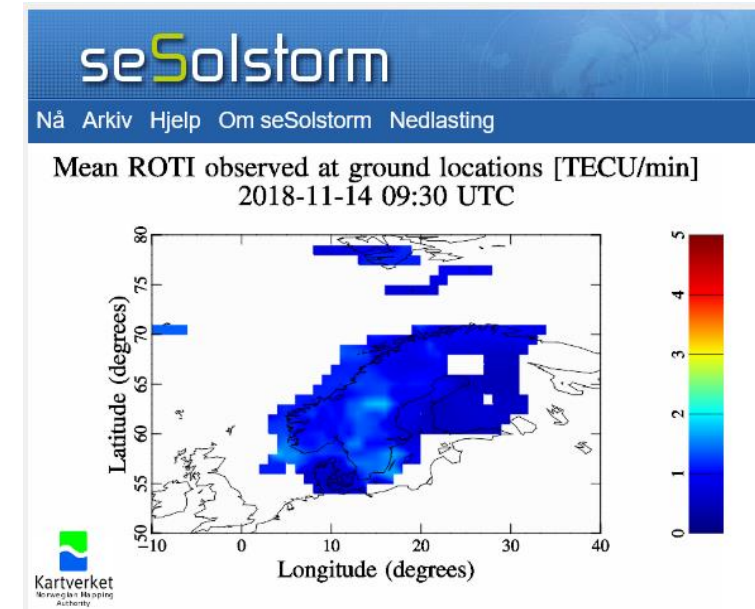
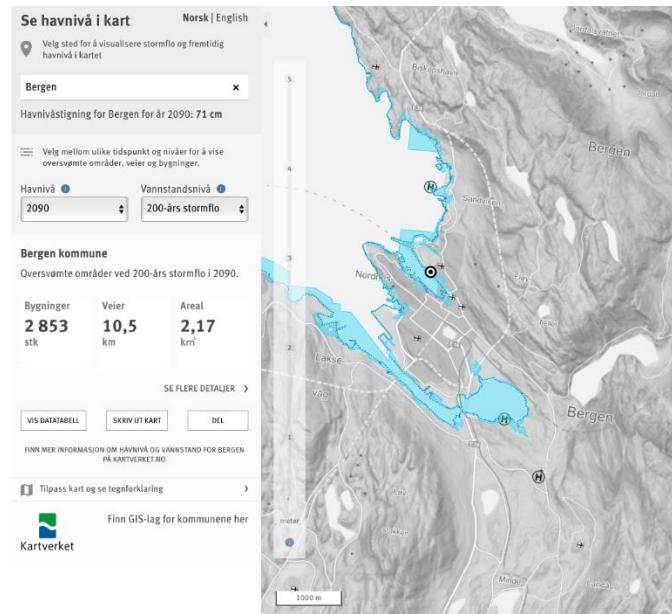
IVS GM 2018 Local organising Committee and Santa (Chris Jacobs)

Geoid and height

- New height system implemented nationally in 2018
- Prior to this a considerable effort in extending and improving the levelling network, recalculating the ellipsoidal heights in the GNSS network and creating a fitted geoid model - a height reference model, was necessary. As the levelling network have observations being more than 100 years old, the Nordic land uplift model has been a crucial part of the project.
- The new height system represents a huge improvement
- During the last four years we have aquired two new relative gravimeters, CG-5. More than 6000 new land gravity measurements have been made, with the main purpose of control of the old gravity data and to fill areas without data.
- We have started to remeasure all the base points of our gravity network using our own absolute gravimeter, A-10

Research

- Geophysics, land uplift and GIA
- Navigation and positioning
- Space weather
- Insar and GNSS
- Sea level changes



Overview of the GRC: Mission, Architecture and Operational Concept

ION GNSS+ 2017

Peter BUIST (GSA), Alvaro MOZO (GSA), Hillar TORK (EC)

September 25-29, 2017, Portland, Oregon



Concerns

- Contribute to the improvement of the GGRF
 - VGOS correlation
 - Radio silence
- Development and use of national geodetic infrastructure – societal needs



From the inauguration of (the new) Ny-Ålesund Geodetic Observatory, Photo: Bjørn Owe Holmberg