National Report of Sweden
— geodetic activities at Lantmäteriet

the Swedish mapping, cadastral
and land registration authority

EUREF 2017 Symposium
Wrocław, May 17-19, 2017

Tina Kempe, Lotti Jivall, Dan Norin, Holger Steffen, Jonas Ågren,
Andreas Engfeldt, Tong Ning, Linda Alm, Lars Jämtnäs,
Mikael Lilje, Martin Lidberg, Peter Wiklund

geodesi@lm.se

LANTMÄTERIET

NKG GNSS Analysis Centre

- Project declared fully operational in April
- Aims at a dense and consistent velocity field in the Nordic and Baltic area
- Almost 230 stations in total
- Operational analysis since GPS week 1795
- Reprocessing covering 1997-2016 is well underway
  - Processing setup consistent with EPN Repro2
- Next step: Time series analysis
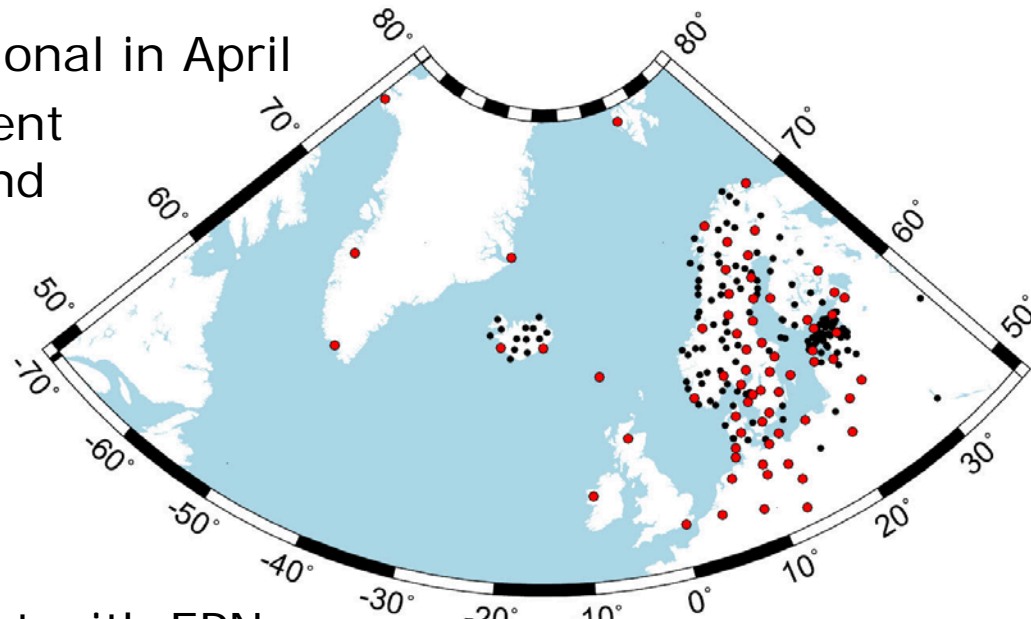
NKG = Nordic Geodetic Commission

LANTMÄTERIET

New national geoid model SWEN16

- Based on NKG2015 gravimetric model
- A smooth residual surface will be added, based on updated GNSS/levelling data set
- Reprocessing of GNSS measurements (1998-2015) of ~300 consolidation points
  - ~50 points re-surveyed every year (since 2008)
  - GAMIT processing finished
  - On-going with the Bernese GNSS Software
  - Using model of post-glacial land uplift
  - Repeatability is a few milimetres in the horizontal and at the half-centimetre level in the vertical

FAMOS – Marine gravimetry

- Lantmäteriet's role
  - Project leader of the *Improving vessel navigation for the future* activity
  - Evaluation of existing gravity data
  - Geoid computation
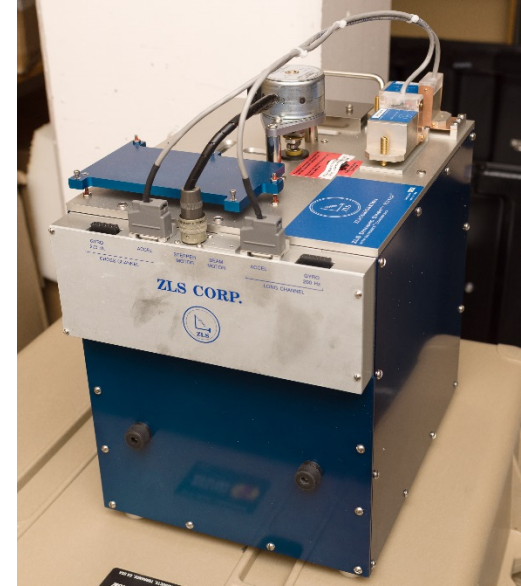
- To obtain an improved geoid model in 2020, new gravity measurements are done
  - Lantmäteriet recently procured a ZLS marine gravimeter

RTK for future mass market applications

- Up-coming interest for positioning based on GNSS and cellular network
- Ericsson has established contact with the SWEPOS™ group
- Project looking into the possibilities for RTK data as a part of system information from cellular base stations
  - In co-operation with other stakeholders
  - Standardization of cellular networks
  - Suitable format(s) for RTK data, e.g. VRS, FKP, MAC...