NATIONAL REPORT OF SWEDEN

– GEODETIC ACTIVITIES AT LANTMÄTERIET

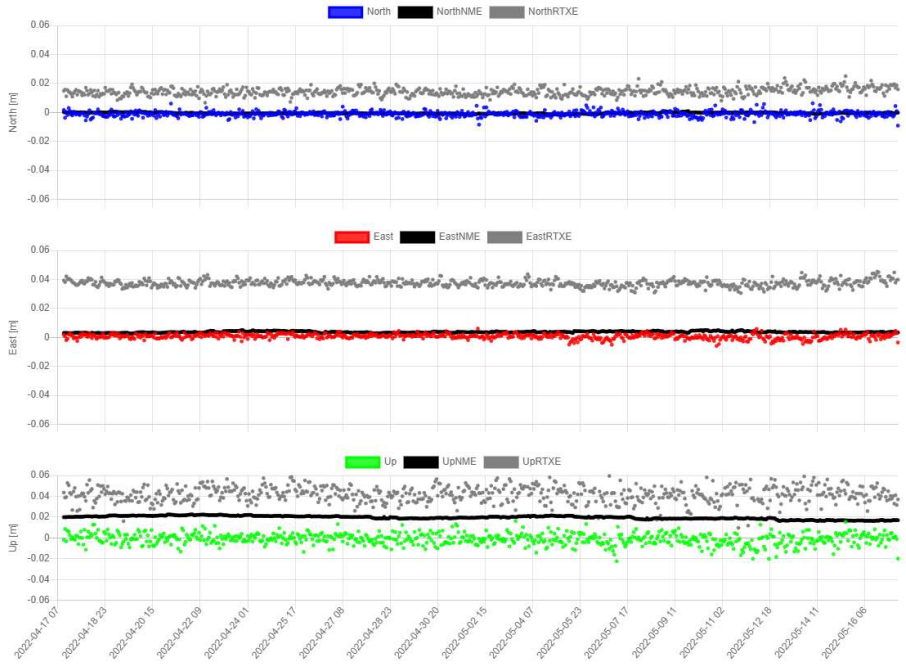
EUREF SYMPOSIUM, 1-3 JUNE 2022

LANTMÄTERIET

NEAR REAL-TIME COORDINATES FOR MONITORING OF CORS

Since late 2021, hourly coordinate sets is used for monitoring of the SWEPOS™ national CORS network

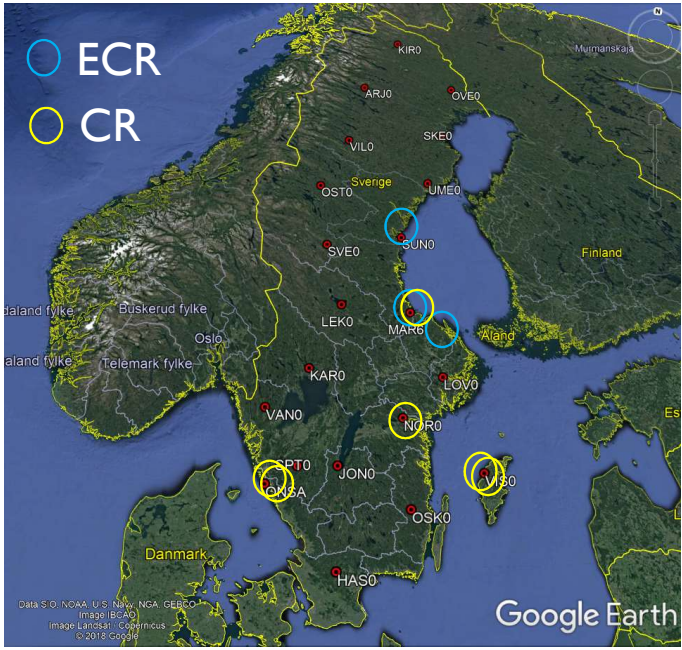
- GNSS data are processed by Bernese GNSS Software
- Displacement of the hourly coordinates wrt to the ”official” station coordinates is calculated → distributed to SWEPOS monitoring system
- An important supplement to the monitoring algorithms of the network RTK software and daily coordinate determination



Black and grey show the results from the monitoring algorithms of the network RTK software.

DESIGN, TEST AND INSTALLATION OF InSAR CORNER REFLECTORS

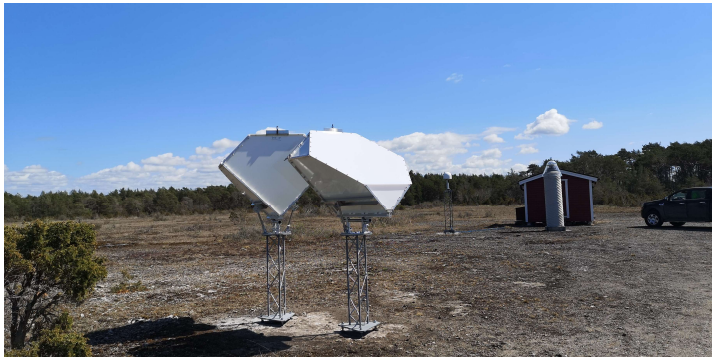
- 3 ECRs/transponders (installed during the Geodetic SAR project)
- Nationwide Ground Motion Service now publicly available
  - Based on Sentinel-1 data
  - Lantmäteriet contributes by complementing fundamental SWEPOS stations with corner reflectors
  - So far, 6 CRs (Mårtsbo, Norrköping, two in Onsala, two in Visby) were installed
  - Aim is to install another 15 CRs in the coming years – planning of locations is in progress



SWEPOS fundamental stations (red) and locations of CRs/ECRs installed so far.

Onsala
Photo: Gunnar Elgered

Visby



DINPAS – DIGITAL INFRASTRUCTURE ENABLING ACCURATE POSITIONING FOR AUTONOMOUS SYSTEMS

- R&D project 2021-2023, to evaluate requirements of future autonomous airports in terms of
  - reliable, precise positioning
  - scalability to large numbers of devices, to benefit the next generation of industrial digital solutions
  - distribution of correction data via the 3GPP protocol.
- Lantmäteriet will implement a new software for generation of GNSS SSR corrections, based on SWEPOS data
  - for comparison of positioning using OSR corrections which is used in today's SWEPOS network RTK service.

THANKS FOR YOUR ATTENTION!

T. Kempe, A. Alfredsson, S. Alissa, A. Engfeldt, F. Dahlström, M. Håkansson, L. Jivall, L. Jämtnäs, M. Lidberg, C. Lilje, F. Nilfouroushan, T. Ning, D. Norin, K. Ohlsson, P-A. Olsson, H. Steffen, R. Steffen, K. Tirén, P. Wiklund, J. Ågren

Geodata Division,
Department of Geodetic Infrastructure

CONTACT geodesi@lm.se PHONE +46 (0)26 633932

LANTMÄTERIET