



Miljøministeriet
Geodatastyrelsen

National Report Denmark

EUREF Symposium 2013

Kristian Keller (GST) krkel@gst.dk

Mette Weber (GST) meweb@gst.dk

Karsten Engsager (DTU Space) ke@space.dtu.dk

Outline

- The National Survey and Cadastre (KMS) is now named The Danish Geodata Agency (GST)
- News from our permanent GNSS network
- New version of transformation software, open source
- Improved geoid model for Denmark
- New reference systems for the Faroe Islands
- Uplift models for DK and Nordic area (NKG project)
- Free geodata free of charge for all

Permanent GNSS stations

The Danish permanent network of 10 GNSS stations is performing very well.

However one incident occurred this spring at the station TEJN at the Island of Bornholm. The antenna was replaced a few days after the incident.

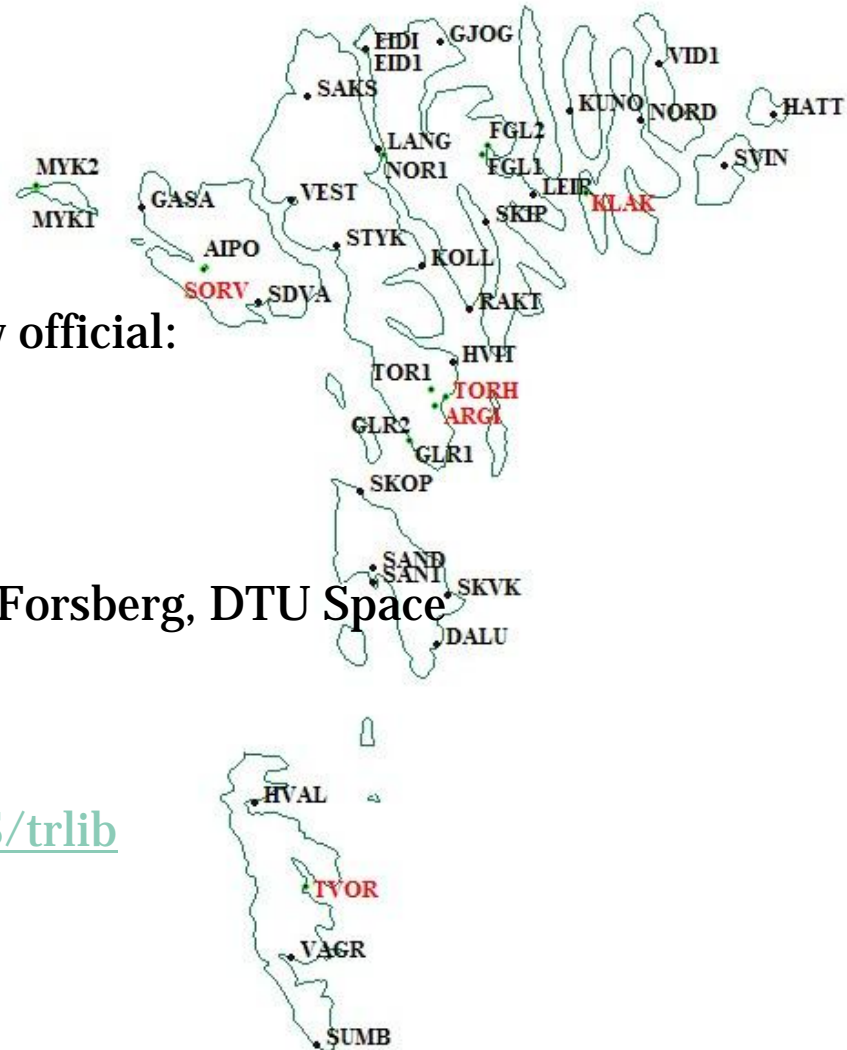
Levelled and GNSS heights will be integrated with tide gauge measurements as well as gravity data.



New transformation software – KMSTrans2

New features in KMSTrans2:

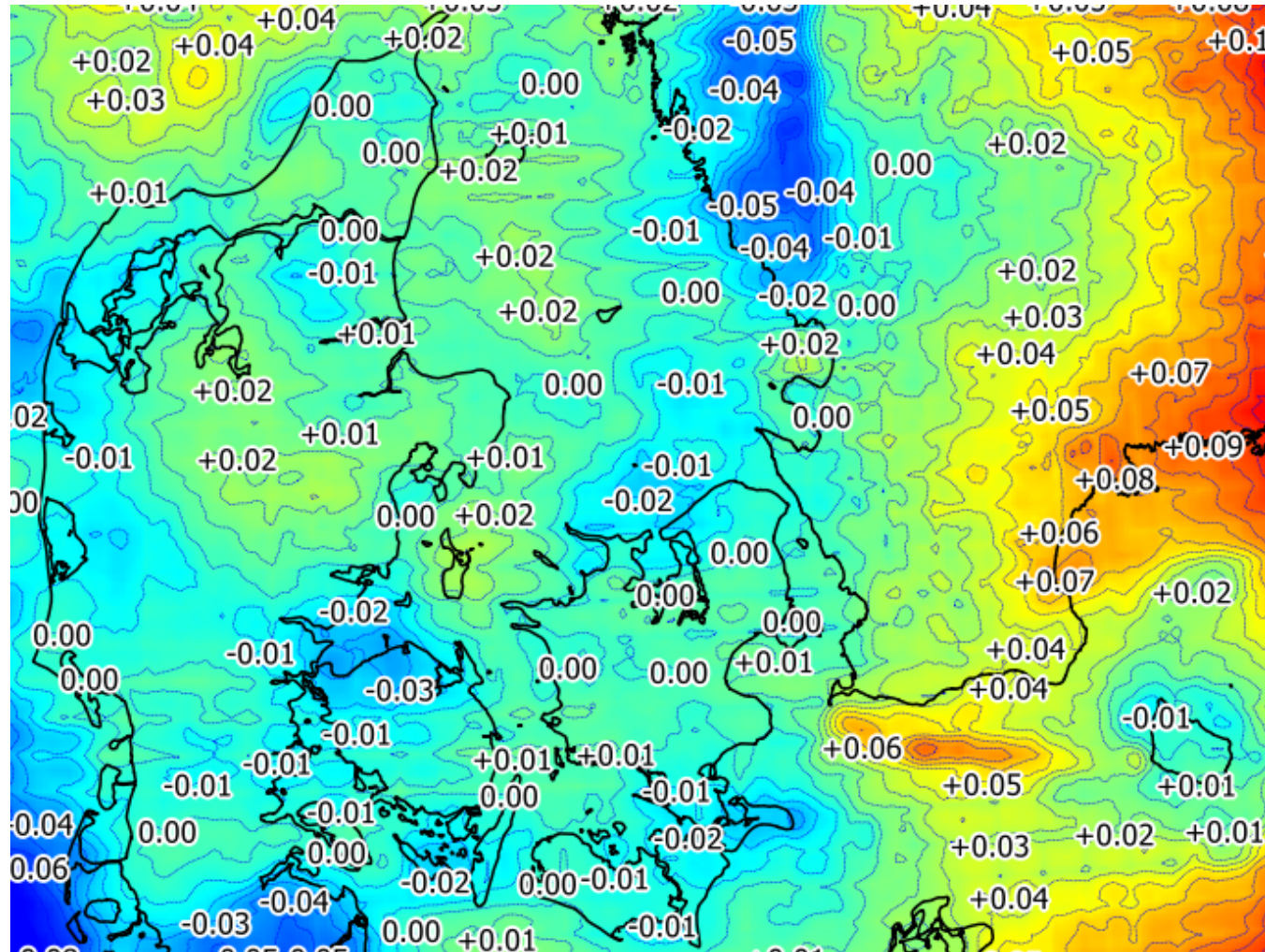
- Improved geoid model for Denmark
- New systems for the Faroe Islands is now official:
 - ETRS89
 - New height system (FVR09)
 - New geoid model (fogeoid12)
 - by Karsten Engsager and Rene Forsberg, DTU Space
- New interface
- Open source: <https://bitbucket.org/KMS/trlib>



Improved geoid model for Denmark

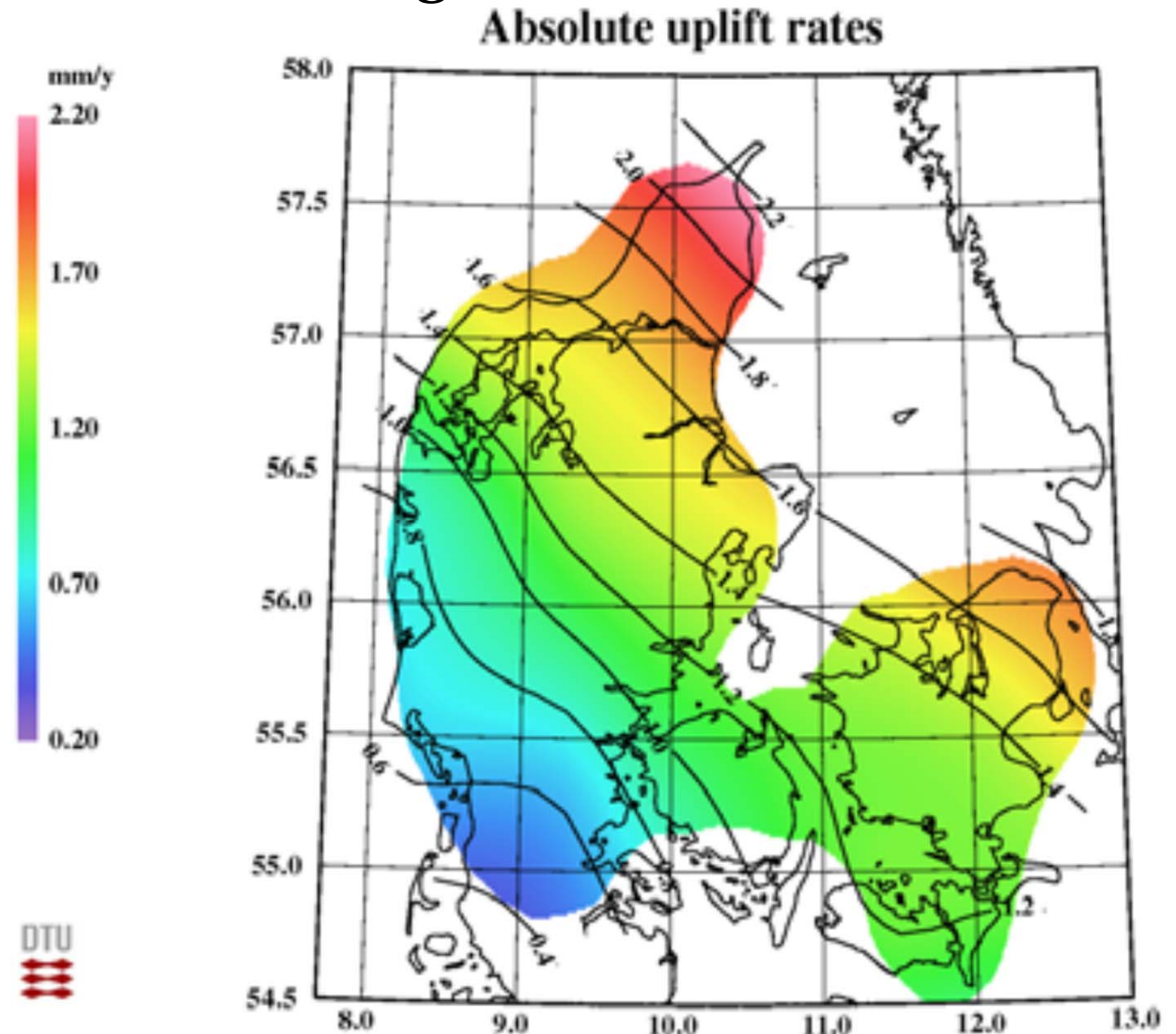
An improved geoid model has been calculated by Rene Forsberg, DTU Space using the latest gravity data and more than 700 bench marks with both GNSS and levelled height observations.

The improvement is approx. 1-2 cm in Denmark



Uplift models based on levelling and GNSS

- The work are ongoing and expanding in cooperation with the Nordic Commission of Geodesy (NKG)
- Errors of relative uplift rates: 0,15-0,25 mm/year
- Error of absolute level: 0,2-0,3 mm/year



Per Knudsen, Karsten Engsager and S.
Abbas Khan, DTU Space, March 2012

Free geographical data from 1/1 2013

The Danish Geodata Agency (GST) gives free access to

- Existing and historical topographical data
- Maps developed in cooperation with the municipalities
- Cadastral maps
- Denmark's Height Model
- Nautical charts are NOT included