The Nordic Geodetic Observing System (NGOS)

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NGOS original plan

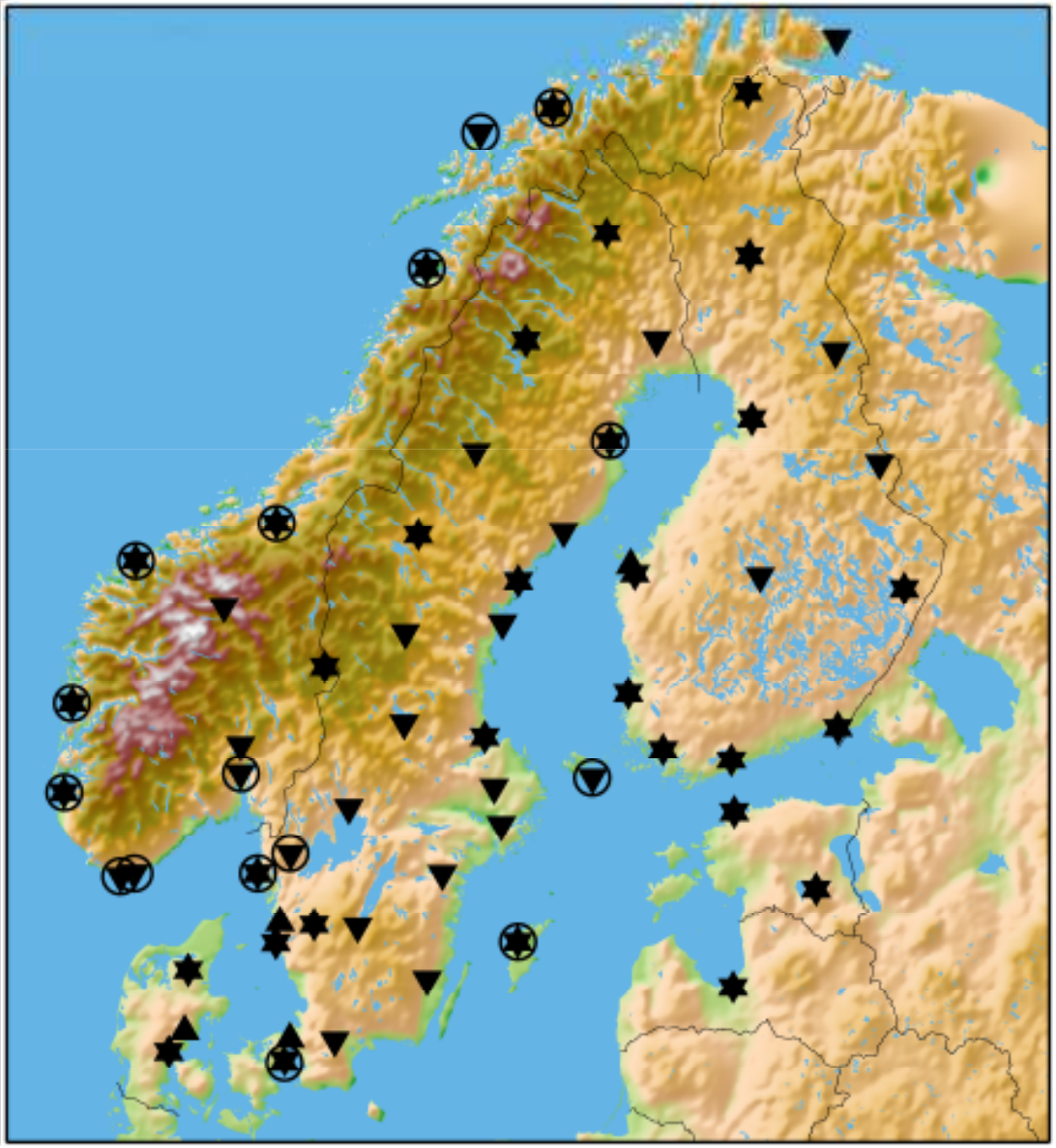
NGOS / Key Areas to Study

- Glacial dynamics, postglacial rebound
- Crustal stability
- Global climate change and its consequences

NGOS / Key Parameters

- Height / height systems
- Sea Level
- Geodetic position, reference frames
- Geopotential and gravity anomalies
- Temporal gravity change

NGOS plan, Fennoscandia



Absolute gravity points (triangles),
Nordic permanent GPS network (upside down triangles)
Tide gauges (circles).

All absolute gravity points are occupied with a GNSS instrument.

Realization via NKG Working Groups and other existing entities

NGOS Realisation, WG

- Geoid group

  The products from the WG are primarily the NKG Geoid models.
  Official NKG models: NKG89, NKG96, NKG2004
  Nationally adjusted models: FIN: FIN2000, FIN2005N00; N: HREF models; S: SWEN05-RH70, SWEN05-RH2000; …

- Height Determination group

  - Leveling data; in a database at Kort- og Matrikkelstyrelsen (KMS) in Denmark

  - Leveling data between stable nodal points; in a database at Statens Kartverk in Norway

  - Heights/Geopotentials; Lantmäteriet

  - Land Uplift Model NKG2005LU; Lantmäteriet

  - Paper on the Land Uplift Model NKG2005LU

  - Paper on adjustment of the "Baltic Leveling Ring " (BLR)

NGOS Realisation, WG

- Positioning and Reference Frame group
  - Permanent stations in the Nordic Area, data archive and access
  - Velocity field(s)
  - Transformation parameters, transformation strategies
  - more
- Geodynamics group
  - meta-data of the absolute gravity observations; an xls file (and pdf) with information on "who have observed where and when and with which instrument";

Techniques

Technique	Objective	Accuracy	Component(s)
VLBI	IAG SERVICE		
SLR	IAG SERVICE		
GNSS	EPN, NKG (OK)		
DORIS	IAG SERVICE		
Levelling	UELN, Nordic (OK)		
Tide gauges	PSML (OK)		
Absolute gravimeters	AG plan + archive (developing)		
Superconducting gravimeters	GGP (OK, IAG PROJECT ??)		
Spring gravimeters	Many sources, partly available		

Meta-databases, data archives, partly available
Product availability to users; partly available

Problems of NGOS

- NGOS was thought to be a regional densification of GGOS
- Currently GGOS is based on the existing IAG (global) services
- Role of NGOS as a regional GOS has changed, “no place” in GGOS
- In NKG the basic components are the *working groups*. Where do these components need NGOS? Who needs NGOS?
- Lack of interest, lack of time, low activity

Future of NGOS

- New structure of NKG; proposed “Geodetic Infrastructure” Working Group
- This WG could be the common umbrella for a more easy access to the data and products for ordinary users
- Forum for network and instrument-based questions
- Combination of data
- Local ties between techniques

Thank you for all people involved in work of NGOS!