



# NORDISKA KOMMISSIONEN FÖR GEODESI

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2012-09-04 Draft Minutes

## THE PRESIDIUM OF THE NORDIC GEODETIC COMMISSION

### DRAFT MINUTES FOR THE 51<sup>ST</sup> MEETING

#### Lammi, Finland

**SEPTEMBER 4, 2012**

#### PRESENT

##### Denmark:

Niels Andersen, DTU Space (Chair)  
Per Knudsen, DTU Space  
Lola Bahl, KMS  
Thomas Knudsen, KMS (Item 7)

##### Finland:

Markku Poutanen, FGI  
Jarkko Koskinen, FGI  
Pasi Häkli, FGI

##### Iceland

Thorarinn Sigurdsson, LMI

##### Norway:

Kristian Breilli, K  
Per Erik Opseth, K  
Anne Jørgensen, K

##### Sweden:

Mikael Lilje, LM (Secretary)  
Jan Johansson, Chalmers

#### APOLOGIES

Iceland Gudmundur Valsson, LMI,

Norway Matthew Simpson, K  
Torbjørn Nørbech, K

Sweden: Jonas Ågren, LM



## ITEM 1. OPENING OF THE MEETING

Niels welcomed us to the meeting and thanked FGI for the preparations. He also thanked FGI for the preparations of the NKG Autumn School that takes place in Lammi at the same time.

## ITEM 2. APPROVAL OF THE AGENDA

Mikael had prepared a draft agenda that has been sent out to all members of the Presidium. The agenda was approved.

## ITEM 3. MINUTES FROM NKG PRESIDIUM MEETING 50

The minutes from last meeting was adopted. It was noted that Lola and KMS has one action on project management and Per has one action item on a follow up work shop from the work shop in April. Both action items will be discussed during the meeting

## ITEM 4. BRIEF REPORTS ON FINANCIAL AND ORGANISING ISSUES AT THE NORDIC NATIONAL MAPPING AUTHORITIES

Below is a brief summary of the reports

### Denmark:

DTU: A new director has been appointed and Kristian Pedersen, who has his background in astrophysics, started 1<sup>st</sup> of September. This will also enable Niels to put more focus on Polar DTU in the future.

DTU Space moved in June to DTU Campus in Lyngby. The move is very suitable since they have started the new education *Earth and Space Physics and Engineering*. The education is both on bachelor and master level. The number of students is very promising with 50 students on the bachelor level and 10 students on master level. C. C. Tscherning has retired from University of Copenhagen and currently it is most unlikely that his position will be replaced. This will leave it up to DTU to maintain Geodesy as a subject at university level in Denmark.

DTU is very much interested in an inter-Nordic cooperation regarding both education and research. There exist a co-operation already between e.g. Trondheim, Chalmers, DTU and Aalto University that could be intensified and extended. Niels put forward a suggestion on giving the cooperation an Arctic angle and especially several found this very interesting. More discussion on this is needed and NKG, or at least the research institute, should continue this.

KMS: The report started by saying that the budget is tight (as usual). Big changes are foreseen since the new director Henrik Studsgaard will present the new strategy in a few



days and that the organisation at KMS will be adjusted according to the strategy. A new organisation will be in place by the 1<sup>st</sup> of January. This will also effect *Referencenet* at KMS but it is not clear how yet. Climate change is a hot topic and *Referencenet* is adjusting its focus to this. KMS have also recruited new staff to the section and e.g. Kristian Keller has just started.

Also at KMS, as well as in the other Nordic countries, the discussion on free data is a hot topic.

## Finland

FGI; FGI has applied a new strategy and a new logo, new web pages etc. Also, Tiina Sarjakoski started 1<sup>st</sup> of September as Research Director. There is an on-going discussion in Finland on where science should be performed (universities, research institutes...). It is expected that this will be decided in the near future but the decision is on political level. One suggestion is to limit the number of research institute to not more than five and this would decrease the number significantly. Concerning FGI a discussion is to create a research institute on spatial data where in FGI would merge with parts from other institutes. The result could end up with an institute of around 200-300 researches.

The modernisation of Metsähovi continues. Currently, new GNSS receivers have been ordered to increase the number of permanent stations from 13 to 19 and the antennas are in calibration. The suggestion is to release a DGPS service free of charge. In longer term of perspective, the discussion currently is to also release a VRS nationwide service free of charge. There is a discussion on ministry level on this where the possibility is currently under investigation. This is in line with the policy of free data. A new super conducting gravimeter is coming around New Year. In the near future, FGI is looking for a new SLR, VLBI as well as updating the FG-5. Due to budget reasons the order will be first SLR and after that VLBI. Norway, Finland and Sweden are in the same process regarding VLBI and contacts has been taken between the institute to strengthen the cooperation.

Iceland: The severe budget constraints will continue also next year. During the summer, trigonometric levelling has been done in the highlands. Regarding the GNSS network, six stations are established and the goal is to have 12-14 stations. The aim is to be able to offer a Free-of-charge service on the metre level. A new geoid has been released and its quality is far better than the older one. The new one is expected to be better than 5 cm but more tests are needed to confirm this

Norway: Regarding the budget situation at Kartverket it is known that they will have less money next year but it is not clear if this also goes for the Geodesy Division. The funding for Ny-Ålesund is in place but the budget was based on figures that are a few years old. Unfortunately, this could mean that the amount of money is not enough for the planned



investment. There is a need to ask for a larger budget or in worst only buy one cable. The planning for the whole project has started. It is also clear that the doubled fiber optic cable is much more expensive than estimated. The fiber cable is however not part of Kartverkets project regarding Ny-Ålesund. The weather situation at Ny-Ålesund puts high demands on the instruments. The order for a VLBI is something like one month from now. At this meeting, there were a lot of discussions on more communication and cooperation between the Nordic institutes.

There is an on-going CPOS development meaning that a densification of the network is done but in combination also with research, mainly regarding atmospheric errors and orbit determination. Kartverket has new contract with Trimble regarding using VRS3 including a cooperation regarding research meaning that new research and developments at Kartverket can be included in VRS.

Sweden: As in the other countries, focus is at keeping the economy in balanced. Also, there is a discussion regarding free spatial data. Concerning the Geodesy Department; unfortunately too much focus has been on the rebuilding of the premises. The geodesy department will move to a new location at Lantmäteriet in mid-September meaning that a new control centre has been built as well as moving all SWEPOS servers to Lantmäteriets server hall. Parallel to this, GPS Net has been replaced by VRS 3. The change has been successful. SWEPOS is densified with some 40 stations per year. The introduction of SWEREF 99/RH 2000 in local authorities is still in progress and some 250 of 290 local authorities has introduced SWEREF 99 but only 60 of 290 as introduced RH 2000. The long term focus with an improved geoid model in 2015, currently an increase is in measuring relative gravity.

Chalmers: Onsala has been approved to upgrade VLBI at the premises to a cost of 4 mEuro. Also, Onsala will install a tide gauge in cooperation to SMHI as well as working more on seismic together with Uppsala University.

KTH-project: Professor Lars S will retire soon and the questions are if he should be replaced and what focus should Geodesy at KTH have. KTH hesitate in having a new professor since e.g. the number of students has decreased rapidly. The steering committee of the KTH-project is currently travelling around to companies and universities to discuss their work and future cooperation. They will e.g. visit DTU in September and should also visit Norway and Finland.

## **ITEM 5. NKG AUTUMN SCHOOL 2012, Finland**

Niels congratulated Finland and FGI for the preparations of the 8<sup>th</sup> NKG Autumn School. These are really important for our cooperation in the Nordic area and as an excellent starting point for our younger geodesists to start learn each other. The external speakers



were this time sponsored by FGI and Lantmäteriet and beside them the speakers were coming from all Nordic countries. The Biological station belonging to Helsinki University and situated in Lammi was chosen so that all students are at same place all the time. Just above 40 people paying the registration fee so it is expected that the event will break even.

The Scientific committee is;

- Markku Poutanen (FGI)
- Martin Lidberg (LM)
- Gudmundur Valsson (LMI)
- Kristian Breili (K)
- Ole Baltazar Andersen (DTU)
- Karri Muinonen (University Helsinki and FGI)

## **ITEM 6. REPORTS FROM THE WORKING GROUPS.**

### **Geodetic infrastructure (Chair Per Knudsen)**

The main work has been done in the project NCGN, see below under item 7. The working is in the process of defining a WG project to support the NKG contribution to the European Combined Geodetic Network. Within this project the working group will review the Nordic network and facilitate the other working groups in coordinating their contributions to the activities related to the NKG Joint WG Workshops on Postglacial Land Uplift Modeling.

### **Geodynamics (Chair Matthew Simpson)**

The working group chair Matthew is now on paternity leave and at this meeting Kristian Breilli presented on his behalf. The working group's webpages are updated. An updated project description on Absolute gravity measurements has been updated, see below item 8.

### **Geoid and height systems (Chair Jonas Ågren)**

Since last presidium meeting, all presentations and minutes are on the web. Besides that, the work within the various projects can be found in item 7.

### **Reference frames, positioning and navigation (Chair Pasi Häkli)**

Since last presidium meeting, all presentations and minutes are on the web. Besides that, the work within the various projects can be found in item 7.

## **ITEM 7. REPORTS FROM PROJECTS**

Thomas Knudsen, KMS, discussed on how to monitor the NKG projects. He based his discussion on a system that is used at KMS. They introduced it when they realised that



they needed to introduce a more rigorous project management. The system can include dynamic documents so it is easy to follow not only what is left but also what is done. However, Thomas suggests that we do not include this within NKG because the number of projects in NKG is too few as well as that the project descriptions are too rough. If we want to use the system, we the project descriptions should be more rigorous.

## **WG chair or project leader to present the status**

**Computation of the NKG2014 geoid model:** The project leader is preparing a specification of the data and computation continuing the discussion at the last meeting. It will be circulated in due time. Also a special study group on quality check of gravity data is formed and lead by Gabriel Strykowski.

**Investigation of the requirements for a future 5 mm (quasi) geoid model:** Lars Sjöberg has sent out a circular letter but to Jonas knowledge, no one has responded on it. Jonas and Lars have started a limited study covering Sweden. This will be presented at GGHS 2012 in Venice (Italy) in October.

**Finalisation of the Baltic Levelling Ring (BLR):** Due to lack of time for Jonas and Jaakko, nothing has happened.

**Review on current and near-future levelling technology:** The project leader has asked each and every one of the project members to write down their thoughts on this. Per-Ola has accepted to be the secretary of the group.

**Empirical land uplift model:** The project reported that they would like to have a more concrete response regarding the outcome and agreed actions from the work shop in Norway in April.

**ITRF - ETRS 89 Transformations:** According to the project plan the actions will start this autumn.

**GNSS Analysis Centre:** In the WG meeting it was discussed which version of Bernese should be used in the project. The university of Bern had announced that new version of Bernese (5.2) will be released soon. The WG decided to wait until EUREF symposium held in June if the new version is available for the project. It turned out that the schedule for new version is still unclear and the WG members decided that the project should be started with version 5.0. The project continues according to the plan in the autumn.

**NCGN - Nordic Combined Geodetic Network:** A diploma work has been made at FGI related to the project. The result of the work is visible on NKG website but the investigation is using the old station list. Based on the diploma work, a report is planned



to be published in a few months in an international journal. The station list will be upgraded gradually.

## ITEM 8 NEW PROJECT PROPOSAL

The working group of Geodynamics has sent in a new version of the proposal *Absolute Gravity Measurements in Fennoscandia*. The proposal was approved. Andreas Engfeldt is the project leader.

## ITEM 9. NKG WEB

Both Matthew and Jonas have reported problems and confusion regarding the NKG web site. Markku explained the problems occurred when FGI changed to a new webserver in the spring but had two parallel servers running. The problem should now be solved.

Markku reported also that we all need to update the website more regularly.

**Action: NKG presidium members and WG leaders to update the web page**

## ITEM 10. OTHER BUSINESS

The host country for NKG General Assembly 2014 was discussed and decided that Sweden will host the GA. **Agreed action. Sweden to host NKG General Assembly 2014**

The NKG General Assembly proceedings are ready within a few days and will be distributed.

## ITEM 11. NEXT MEETING OF THE PRESIDIUM

- Iceland (March, 2013). Preliminary 11-15 March, Arrival on Monday The proposal is to have the follow up workshop on Tuesday, Presidium meeting on Wednesday and Working Groups meetings Wednesday/Thursday or Thursday/Friday.

**Agreed action: Working Group chairs need to decide on week. Pasi to lead.**

- 3 June: Ilullisat, Greenland (May, 2013), in conjunction to the IAG-meeting. (30 May - 2 June,)