

### GEOSAT software develoment project

By Laila Løvhøiden, project mangager



## GEOSAT software ambitons

The GEOSAT software will be used in the analysis of space geodetic data by doing combined analysis of data from VLBI, SLR, GPS and DORIS at the observation level.

This will benefit both the accuracy of satellite orbits and the geodetic reference frame



### Origin of GEOSAT





#### Way to find them

to develop a precise multipass method for satellite Doppler positioning using celest mechanics



#### Team GEOSAT

- Ann-Silje Kirkvik VLBI
- Eirik Mysen Gravimetry and combination
- Geir Arne Hjelle Doris
- Halfdan P. Kierulf VLBI
- Ingrid Fausk SLR
- Kristian Breili Altimetri
- Michael Dähnn GPS/GNSS
- Per Helge Andersen Everything



# Project status early January 2014

- Gravimetry "version 1" finished
- Altimetry "version 1" finished
- VLBI processing test deliveries 10 years to IVS NMA has applied to become an IVS-center
- SLR intensive development ongoing
- GPS awaiting debug and maybe a major revision
- Doris development in the parking lot due to slow project progress
- Combination awaiting progress and available resources



#### Project deadline

Per Helge Andersen's retirement June 2nd 2015







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Present Project manager GEOSAT SDP - NMA
Co-chairing UN-resolution GGRF –NMA

Previous Head of Administration Land divisjon - NMA

Quality Manager Land divisjon - NMA

Education Master – Innovation & Technical dev. – UiO

Master - Petroleum engineering - NTNU



#### Simple math

**Laila** ≠ Geosat



### GEOSAT queenie





## My project management philosophy

- Empowering the team
- Motivate the team (to continue struggling)
- Building the right competence in the team
  - Build and attract competence
- Build network
- Working on group dynamics
- Ensure good working conditions for the team
  - Secure finances
  - Top management interest (right kind)



## Activities/progress since January

- Zuheir Altamimi visiting all week 35 teaching the team CATREF (the programme used for ITRF2013)
- Processing a lot of VLBI data and uploading to ITRF2013
- Finishing the SLR in processing and testing phase
- Making the Geosat movie VIP presentation
- Going on twitter
- Improving Geosat software runtime a lot
- Implementing version management
- Presenting our VLBI work at the IVS conference in Shanghai
- Abstract approved for the IDS-conference in October 2014
- Working with an info folder about GEOSAT
- Attended IGS-workshop in June

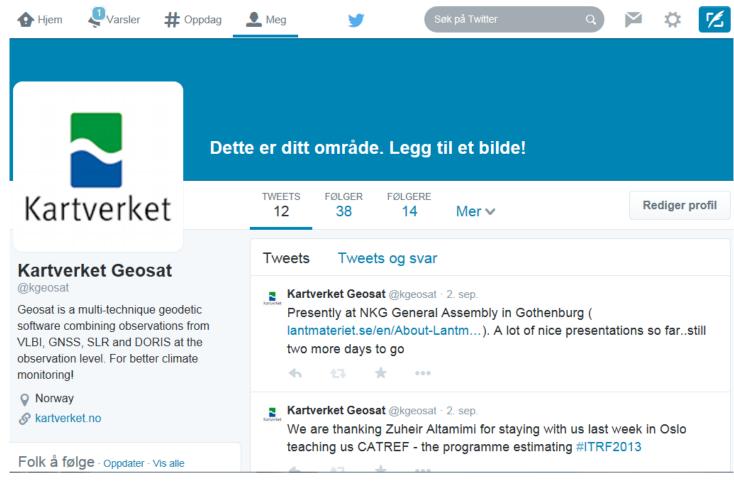


#### More activities

- The team has a saying in all the management issues of the project
- Team members opening profiles on Linkedin
- Mapping Per Helge Andersen's scientific network and planning how to ensure that the project can maintain the most important relationships
- Developed simple communication plan/strategy
- Intensive Doris development ongoing
- GPS debugging/revision well in progress
- The work combining the techniques in progress
- Have attracted top management's interest Created a knowledge key performance indicator to be followed by top management – in order to keep the true priority of the GEOSAT project
- Bugs fixed



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# Geosat philosophy – descriptive paper

[P. H. Andersen, "Multilevel arc combination with stochastic parameters". Journal of Geodesy 01/2000; 74(7): 531 - 551].

