The Dutch GOCE National User Group – Fact Sheet

R. Koop(1), P. Visser(2), A. Selig(3), B. Ambrosius(4)

(1) SRON National Institute for Space Research
Sorbonnelaan 2, 3584 CA Utrecht, The Netherlands
Email: r.koop@sron.nl, URL: www.sron.nl

(2) DEOS, Delft University of Technology
Kluyverweg 1, 2629 HS Delft, The Netherlands
Email: pieter.visser@lr.tudelft.nl, URL: www.deos.tudelft.nl

In Brief:

Dutch groups and persons have been participating in GOCE activities from the early days of the project till now and are planning to stay involved until the goals of the mission will be realized. The activities, that actually go back all the way to the first ideas of the ARISTOTELES mission, have been evolving over many aspects of the mission, from instrument simulation via data processing to user applications. The groups now involved can rely on a long lasting expertise in the respective fields of interest: space geodesy, orbital mechanics, space research and technology, oceanography and geodynamics. In the context of GOCE, but also in related fields, the participating Dutch groups have established both national and international cooperation and reputation.

Objectives

The Dutch GOCE User Group is a non-formal cooperation between the teams. The cooperation intends to:
- mutually inform the teams about each others GOCE activities
- inform all teams about the status of the GOCE project and planning
- strengthen the position of all teams within the European GOCE context and the GOCE project
- provide information on related Earth Observation missions to the user community
- exchange scientific ideas and information on the application of GOCE data in several earth sciences
- support the status of the Dutch GOCE User community towards the funding agencies
- identify the topics for future research in the field of application of gravity data
- try to define preliminary requirements for GOCE follow-on missions.

Research Teams of the Dutch GOCE User Group

The Dutch GOCE User Group consists of the following institutes:

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Name</th>
<th>Organisation</th>
<th>Since</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEOS</td>
<td>Department of Earth Observation and Space Systems(*)</td>
<td>Delft University of Technology</td>
<td>1980’s</td>
</tr>
<tr>
<td>IMAU</td>
<td>Institute for Marine and Atmospheric Research Utrecht</td>
<td>Utrecht University</td>
<td>1998</td>
</tr>
<tr>
<td>IVAU</td>
<td>Institute for Earth Sciences Utrecht</td>
<td>Utrecht University</td>
<td>1998</td>
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</tbody>
</table>

(*) Previously DEOS was founded as a cooperation between the section Astrodynamics and Satellite Systems of the Faculty of Aerospace Engineering and the section Physical Geodesy of the Faculty of Geodesy.

In the framework of the GOCE activities, the competence of each team is as follows:
- DEOS - orbit determination, gravity field modelling, applications in oceanography and geodynamics
- SRON - calibration, scientific pre-processing, simulation
- IMAU - application of GOCE gravity data in oceanography
- IVAU - application of GOCE gravity data in geodynamics

CURRENT RESEARCH THEMES
Current research projects of the Dutch GOCE groups are:

<table>
<thead>
<tr>
<th>Group</th>
<th>Topic</th>
<th>Researchers</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEOS</td>
<td>EGG-C: precise orbit determination; support to: calibration and pre-processing, validation of gravity field solutions</td>
<td>P. Visser, J.v.d.IJssel, E. Schrama, E. Doornbos</td>
</tr>
<tr>
<td>DEOS, SRON</td>
<td>Satellite-Derived Geoid Anomalies due to Glacial Isostatic Adjustment and Secular Sea-Level Variations</td>
<td>H. Schotman, R. Koop, B. Vermeersen</td>
</tr>
<tr>
<td>SRON, DEOS</td>
<td>Support to the development of the GOCE SSTI simulator</td>
<td>V. Hannen, J.v.d.IJssel, P. Visser, R. Koop</td>
</tr>
<tr>
<td>SRON, DEOS</td>
<td>Study of the GOCE Calibration and Monitoring Facility</td>
<td>R. Koop, J. Bouman, P. Visser</td>
</tr>
<tr>
<td>SRON</td>
<td>EGG-C: external calibration, scientific pre-processing; project management</td>
<td>R. Koop, J. Bouman</td>
</tr>
<tr>
<td>IMAU, SRON</td>
<td>Impact of GOCE-derived mean sea level on the simulation of Indian Ocean circulation</td>
<td>F. Vossepoel, P. J. van Leeuwen, R. Koop</td>
</tr>
<tr>
<td>IVAU, SRON</td>
<td>Geophysical modeling of the Earth’s gravity field</td>
<td>G. Marquart, W. Spakman, R. Koop</td>
</tr>
</tbody>
</table>

**RECENT PUBLICATIONS**

[17] Schotman, H., Model sensitivity of GIA induced high resolution gravity anomalies and geoid heights, 8th European workshop on numerical modeling of mantle convection and lithospheric dynamics, Hruba Skala, Czech Republic, 13 – 18 September 2003