

IAGA Working Group V-MOD “Geomagnetic Field Modelling” Minutes of WG Meeting on 20.7.05

Chair – Susan Macmillan, co-chair – Stefan Maus, attendees ~30

Susan Macmillan opened the meeting and presented the following agenda:

1. Data collection – overview
2. IGRF
 - a. IGRF9
 - b. IGRF10
 - c. plans
3. EPS special issue
4. Website (<http://www.ngdc.noaa.gov/IAGA/vmod/>)
5. World Digital Magnetic Anomaly Map - progress/plans
6. Model of the Earth’s Magnetospheric Field and ISO
7. IAGA guide on geomagnetic field modelling
8. IAGA resolutions
9. IAGA2007 sessions

The issues were discussed as follows:

1. Overview of global data collection efforts

Susan Macmillan gave an overview of data of the past five years available to magnetic field modelers, including Ørsted, CHAMP and SAC-C satellite data and observatory and repeat station data.

Nils Olsen commented that there were problems with the Ørsted vector magnetometer, but even if these could not be solved, they would try to keep Ørsted alive for its valuable scalar measurements.

Mike Purucker commented that the scalar magnetometer on SAC-C had lost lock in December 2004 and attempts to revive it had failed

Mioara Mandaia announced that finally calibrated vector data for CHAMP would be available by the end of 2005.

Susan Macmillan pointed out the success of INTERMAGNET with a high number of participating observatories. She also mentioned that high quality repeat station vector measurements were available in some regions.
2. IGRF
 - a. IGRF-9 was finalised in 2003
 - b. IGRF-10

Call for candidates in Mar 2004 for main-field model at 2005.0 and secular-variation model for 2005.0-2010.0, submission of candidates to IGRF-10 Task Force in Oct 2004, evaluations in Nov 2004, vote and released in Dec 2004, announcements in various journals shortly afterwards
 - c. Plans

Future calls for candidates by WG or Task Force must specify the number of candidates per team
IGRF-11 will be produced in 2009

3. IGRF special issue

10 papers on main-field modelling and IGRF in final stages for special issue of the journal Earth, Planets and Space

4. Web page of V-MOD

The web pages are hosted by the National Geophysics Data Center in the USA and are being monitored for hits and downloads. The statistics show that the pages and models are well used.

5. World Digital Magnetic Anomaly Map

Task Force chaired by Juha Korhonen and Colin Reeves

The project is gathering momentum

First map is to be ready by IUGG2007

Open project allowing all interested organisations to participate

Commercial sensitivity of some datasets to be respected – in some cases this will mean decimated datasets being released

IGRF-like procedure of submitting and evaluating candidate maps for WDMAM

Revisions envisaged – to fill gaps with new or improved data sets, and to take advantage of improved techniques to tie everything together

Further discussions at WDMAM meeting on the following day

6. ISO – Volodya Papitashvili

Proposal was made to investigate possibility of making the process of producing the IGRF an ISO standard. The IGRF is a component of other magnetic field products (magnetospheric models, indices etc) currently being considered by ISO.

Due to

- a. lack of real need from industry
- b. considerable effort involved in doing this and lack of willing people to take it forward and
- c. concerns over status of other models if IGRF was made an ISO standard
- d. voluntary nature of IGRF production,

the meeting decided there was no need to be pro-active in this direction.

Volodya Papitashvili also proposed to have a Task Force within IAGA which would deal with ISO issues. However, the prevailing opinion in the Working Group was that the current IAGA structure is sufficient to deal with ISO issues.

7. IAGA guide on geomagnetic field modelling

Seeing no immediate need for a guide on geomagnetic field modelling and no volunteer to write one, the item was dropped

8. Resolutions

- a. Eigil Fris-Christensen proposed a resolution stressing the need to support the development and distribution of *Swarm* level 2 products (main-field models, crustal-field models, etc submitted by all science teams). It was agreed this resolution should proceed.
- b. A draft resolution from Volodya Papitashvili concerning ISO did not find support in the Working Group.

9. IUGG2007 sessions

The following sessions were proposed. These proposals were later modified in the Division V meeting

- a. World Digital Magnetic Anomaly Map, Characteristics of Candidate Grids and the First Edition (one day and posters)
Convenors - Tiku Ravat, Kumar Hemant, Juha Korhonen
- b. International Decade of Geopotential Research - Global Magnetic Field Models using Satellite Data (2 days and posters)
Convenors – Stefan Maus, Nils Olsen, Vincent Lesur