

INTERMAGNET EXCON/OPSCOM Meeting

Venue: Hotel Castel de Pont-à-Lesse
Rue de Pont-à-Lesse 36,
5500 Dinant
Belgium

September 12-14, 2016

Report to INTERMAGNET Observatories

The meeting was organized by the Royal Meteorological Institute of Belgium through its Centre de Physique du Globe in Dourbes. It was held at the Hotel Castel de Pont-à-Lesse in Dinant, Belgium in the Cypress and Erable conference rooms.

We were welcomed at the beginning of the meeting by Jean Rasson, Head of the Scientific Unit "IRM à Dourbes". Alan Thomson, Chair of EXCON, launched the meeting by a few words.

The staff of the Dourbes Magnetic Observatory, local organizers of the meeting, provided valuable support: airport pick-ups and drop-offs, transport, meals and equipment as well as much needed facilities and help for the participants in the preparation and execution of their tasks. A banquet dinner at the restaurant "Chez Bouboule" in Dinant was a highlight of the meeting.

Many thanks to Jean and the staff of the Magnetic Observatory for the great hospitality and support!

Participants

EXCON

Finn, Carol
Gautier Hulot
Thomson, Alan
Excused: Boteler David

OPSCOM

Benoît St-Louis
Blais, Charles
Bracke, Stephan
Flower, Simon
Heumez, Benoit
Leonhardt, Roman
Matzka, Jürgen
Maury Virginie (by video link)
Rasson, Jean
Reda, Jan

Toh, Hiroaki
Turbitt, Chris
Excused: Stewart Duff

Observers

Fee Jeremy
Gonsette, Alexandre
Humbled Francois
Lewis Andrew
Miklavec, Mojca
Morschhauser Achim
Neska Mariusz
Oogi Junpei
Poncelet, Antoine
Raita Tero
Sumaruk Yuri
White Tim

EXCON Membership

There was no change in the EXCON membership.

OPSCOM Membership and Subcommittees

OPSCOM Chair Jean Rasson announced his resignation from OPSCOM and INTERMAGNET for after the 2016 Dinant meeting. EXCON chair Alan Thomson had the kind words: *“I'd like to thank you Jean for your hard work on behalf of OPSCOM over many years' service to INTERMAGNET. I know that our colleagues value greatly all that you have done. You will be a difficult man to replace!”*

In an election procedure ran by email after the meeting, the new OPSCOM Chair Simon Flower was elected.

INTERMAGNET secretary Duff Stewart announced his resignation in the months before this meeting and did not attend. We thank Duff for his valuable contribution to INTERMAGNET, both for his expertise in ICT and for his hard work as secretary. Considering the vacancies, it was felt that the Operational Committee needed new blood. An OPSCOM meeting was held to receive the nominations of potential new members and to put together a list of candidates for the committee. The list was then discussed with EXCON. As a result, the following OPSCOM Officers were elected:

Tim White, USA

Sergey Khomutov, Russia and

Andrew Lewis, Australia.

Andrew Lewis was asked to take over the task of INTERMAGNET Secretary and accepted.

Virginie Maury was absent from our meeting but assisted thanks to a live video link. There was some modification in the Subcommittee membership as listed in the table below.

During the meeting, Juergen Matzka resigned from his work in Definitive Data Subcommittee.

The Instrumentation and Data Acquisition Subcommittee will not meet regularly anymore but will be activated in case of need only.

Opscom Subcommittee Structure

= excused this meeting

Jean Rasson, Chair

Duff Stewart, Secretary

Definitive Data 8	IMO Applications 7	Instr and Data Acq 7	Technical Manual 6	WWW/GINS and Data Formats 9
	Benoit St-Louis	Benoit St-Louis	Benoit St-Louis , Chair	
Charles Blais	Chris Turbitt , Chair	Chris Turbitt	Chris Turbitt	Charles Blais
	Stefan Bracke		Stefan Bracke	Stefan Bracke
Hiroaki Toh		Hiroaki Toh	Hiroaki Toh	Hiroaki Toh
Jan Reda , Chair				Jan Reda
	Jean Rasson	Jean Rasson	Jean Rasson	
Jürgen Matzka	Jürgen Matzka	Jürgen Matzka	Jürgen Matzka	
Simon Flower				Simon Flower , Chair
Virginie Maury	Virginie Maury			Virginie Maury
	Duff Stewart	Duff Stewart		Duff Stewart
Benoît Heumez		Benoît Heumez		Benoît Heumez
Roman Leonhardt				Roman Leonhardt

Presentations at the Meeting

- INTERMAGNET Web service demo by Charles Blais
- Alan Thomson on the European Plate Observing System (EPOS)
- Geomagnetic metadata by Simon Flower

- MQTT : the solution for our real time data transfer needs? by Stephan Bracke
- Introduction to Geomag Algorithms and the EDGE data management system by Jeremy Fee
- Nano Satellites for magnetic field monitoring by Gaultier Hulot
- Situation at Argentine Island and Odessa Observatories by Yuri Sumaruk

Subcommittee on IMO applications and standards

New IMO's

Three new applications were accepted unconditionally in the period since the last Niemegek meeting:

- Brandon (BRD), Canada,
- Lonjsko Polje (LON), Croatia,
- Saint Petersburg (SPG), Russia.

Accepted unconditionally during the meeting:

- Conrad Observatory (WIC), Austria.

Update on successful applications from 2015

The two observatories accepted at the Niemegek 2015 meeting:

- Neumayer-III Station (VNA), Antarctica
- Jim Carrigan Observatory (JCO), USA

are both transmitting real-time data and JCO has uploaded 2014 & 2015 definitive data. VNA has yet to upload the 2014 or 2015 definitive data (promised for March 2017).

IMO's of concern.

Regrettably, after careful consideration and recommendation by the IMO's Application Subcommittee to EXCON, 2 IMO's have lost their INTERMAGNET membership during 2016 as a result of the lack of definitive data delivered. The latest definitive data accepted was for 2009 for both observatories.

We kindly ask them to submit renewed applications to INTERMAGNET once processing problems have been resolved.

Change of one-minute time standard to absolute time

The subcommittee decided to adopt the change to the one-minute definitive data standard proposed at the Niemegek meeting that defines the time-stamp in terms of an absolute accuracy rather than a drift.

At present, the one-minute definitive data time-stamp accuracy is defined (Technical Manual V4.6) as:

Clock Timekeeping Observatory data logger: 5 seconds/month

For the purpose of defining the one-minute standard in the INTERMAGNET CDF file format, the one-minute definitive data time-stamp accuracy was proposed to be:

Time-stamp accuracy (centred on the UTC minute): 5s

GIN/WWW/Data Format Subcommittee

Improving communication

Improving communication with our community has been a theme of the last couple of INTERMAGNET meetings. This subcommittee will:

- Look through the archive of INTERMAGNET Discussion Documents to see which can be published as Technical Notes or Policy Notes (Discussion Documents are INTERMAGNET's mechanism for working on and recording progress on a problem or new idea).
- Update the 'software' web page on the INTERMAGNET web site so that it contains references to all software that is useful when working with observatory data. If you know of any relevant software, please let us know.

- Put information about the most recent (and future) INTERMAGNET meetings on the INTERMAGNET web site.
- Create a website for distribution of ISO images of INTERMAGNET CDs and DVDs.

Geomagnetic Metadata

Our community collects Geomagnetic Metadata (information about our data) in a number of ways, including on the INTERMAGNET website, on the annual INTERMAGNET DVD and at the World Data Centres for Geomagnetism. However the metadata is

- Difficult for data providers to update
- Held in several unconnected systems – Inconsistent
- Difficult to use with computer programs -Unstructured
- Difficult to query – much of it not available publically

We propose to create a Metadata system for the Geomagnetic community that will centralise the collection, storage and distribution of Geomagnetic metadata. The goals of this work are:

- A single database for the whole community
- Easy for data providers to understand and update
- Easy for users to query and obtain data
- Contains information needed for the INTERMAGNET website, INTERMAGNET data DVD, World Data Centre web site (amongst others)
- A (possibly unrealistic) ideal would be to be able to create a yearbook from the metadata. We certainly won't manage this with the first system we create.
- Conform to metadata standards (such as ISO 19115) to allow our data to be understood by users outside our community

A first draft of the schema (a description of what the database will hold) is available for comments. Please contact Simon Flower (smf@bgs.ac.uk) for more information.

1-second definitive data

Delivery of 2014 1-second definitive data has not been as complete as we would like. If you have 1-second definitive data for 2014 that you are intending to deposit with INTERMAGNET please do let us know. We will continue to develop the software for handling the new data, particularly focussing on the MagPy Geomagnetic data processing system and the Autoplot data visualisation tool, with the aim of making software that is easy for all to use.

Some minor changes were agreed to the CDF data format that is being used for 1-second definitive data. These changes will be made public once finalised. The main change is in the naming of the time stamp variables such that it is possible to use a single time stamp variable in the situation where scalar and vector geomagnetic data share the same sample rate.

Other topics that were discussed

INTERMAGNET is interested in the possibility of using “Message Broker” software such as MQTT or Apache Kafka to enable rapid transmission of data from observatory to user. We will look into these technologies and discuss them further at the next INTERMAGNET meeting.

We will proceed to create Digital Object Identifiers (DOI) for our publications on CD/DVD, also for INTERMAGNET itself. Uppermost in these proposals is the importance of ensuring that credit for the work of running an observatory is given to the institute that runs it. We will continue to liaise with IAGA/IUGG on this subject and to look into further ways of enabling researchers to cite observatory data.

Definitive Data subcommittee

Call for 2016 definitive data

The call for one-minute definitive data for 2016 is planned for the end of January 2017. The deadline for data submission is July 1, 2017. **ATTENTION:** The IMO's missing this deadline will not be included anymore in the DVD but will be included in the web version of the DVD only.

Notes on the 1sec 2014 definitive data collection (IAGA2002)

The current state of 1sec definitive data collection for 2014: 3 IMO's have provided this data: API, CLF, EBR

Software is available for checking 1sec definitive data. The java program DataCheck1s.jar is available on the ftp sever:

ftp://ftp.nmh.ac.uk/INTERMAGNET/software/DataCheck1s/ and the 1sec data conversion program IAGA2002_to_IAF21.exe is available on the ftp server:

ftp://pargin.ipgp.fr/DATAVERIFICATION/CHECK1mindata/

The procedure of acceptance for 1sec. definitive data should be similar to the one applied in case of 1 min definitive data, i.e. two-steps procedure.

The 1sec 2015 definitive data collection

The call for one-second definitive data for 2015 is planned for the beginning of February 2017. The requested format will be CDF. The deadline for data submission is set at October 1, 2017.

The next EXCON/OPSCOM meeting

The next INTERMAGNET meeting will be held in Hermanus, South Africa, just after the joint IAGA/IAPSO/IAMAS Assembly in Cape Town. The dates for the INTERMAGNET meeting are set as September 3 – 5, 2017.

Please note that IMO's may send observers to this meeting. As space will limit the amount of observers, we encourage Observers to register their participation with the new OPSOM Chair Simon Flower (smf@bgs.ac.uk) at the earliest. IMO's are welcome to submit topics for discussion at this upcoming meeting.

This report is sent to the "worldobs" mailing list worldobs@gfz-potsdam.de in addition to the "imocontact" list imocontact@gfz-potsdam.de and to the INTERMAGNET Officers.