Annual Report for 2014
International Association of Geomagnetism and Aeronomy

1. INTRODUCTION

IAGA, the International Association of Geomagnetism and Aeronomy (AIGA - Association Internationale de Géomagnétisme et d'Aéronomie) is one of the eight Associations of the International Union of Geodesy and Geophysics (IUGG). It is a non-governmental body funded through the subscriptions paid to IUGG by its Member Countries. IAGA has a long history and can trace its origins to the Commission for Terrestrial Magnetism and Atmospheric Electricity, part of the International Meteorological Organisation, which was established in 1873.

IAGA is the premier international scientific association promoting the study of terrestrial and planetary magnetism, and space physics. IAGA is concerned with the understanding and knowledge that result from studies of the magnetic and electrical properties of:

- the Earth's core, mantle and lithosphere
- the middle and upper atmosphere
- the ionosphere and the magnetosphere
- the Sun, the solar wind, the planets and interplanetary bodies.

2. ADMINISTRATION

IAGA is organised in five Divisions and three Inter-divisional Commissions, each led by a Chair and a Co-Chair. Each Division/Commission may form Working Groups in given specialised topics and elects officers to run the business of the Working Groups. During the XXV IUGG General Assembly in Melbourne 2011, IAGA renews its officers. The links below lead directly to lists of the Division/Commission leadership and the Working Group names and officers:

http://www.iugg.org/IAGA/iaga_pages/science/sci_structure.htm

IAGA is administered by an Executive Committee, in accordance with the Association's Statutes and By-Laws:

http://www.iugg.org/IAGA/iaga_pages/admin/administration.htm

IAGA communicates with Member Countries through National Correspondents nominated by appropriate national bodies. Member Countries are represented at IAGA Assemblies by accredited Chief Delegates who may vote on matters, according to the voting rules set out in the Statutes and By-Laws, at meetings of the Conference of Delegates. Information on the EC members and National Correspondents are found at:

http://www.iugg.org/IAGA/iaga_pages/science/sci_structure.htm

3. ACTIVITIES

The highlights of the IAGA activities over 2014 are related to efforts in preparation for the 26th General Assembly of the International Union of Geodesy and Geophysics (IUGG) which will be held in Prague, Czech Republic, from the 22nd of June to the 2nd of July 2015, the release of the 12th Generation of the International Geomagnetic Reference Field, results related to the one-year in orbit of ESA's Swarm constellation, and to the excellent results of scientific workshops.

Preparations for the 26th General Assembly of the IUGG

This event will be held in Prague, Czech Republic, from the 22nd of June to the 2nd of July 2015. Please, visit the IUGG2015 website for the latest news:

http://www.iugg2015prague.com

The IAGA Vice-President Eduard Petrovsky has been working tirelessly as Programme Committee Chair, along with the Secretaries-General of all IUGG Associations, to ensure a successful meeting. Associated with this meeting IAGA will organise the second IAGA Summer School, based on the outstanding success of the first that was organised in 2013.

The 12th Generation International Geomagnetic Reference Field

IAGA has released the 12th Generation International Geomagnetic Reference Field — the latest version of a standard mathematical description of the Earth's main magnetic field that is used widely in studies of the Earth's deep interior, its crust and its ionosphere and magnetosphere. The coefficients for this degree/order 13 main field model were finalized by a task force of IAGA in December 2014. The IGRF is the product of a collaborative effort between magnetic field modellers and institutes involved in collecting and disseminating magnetic field data from satellites and from observatories and surveys around the world.

The IGRF is a series of mathematical models of the Earth's main field and its annual rate of change (secular variation). The 12th Generation IGRF coefficients were computed from candidate sets of coefficients produced by the participating members of IAGA Working Group V-MOD. Their institutes and the many organisations involved in operating magnetic satellites, observatories, magnetic survey programmes and World Data Centers are to be thanked for their continuing support of the IGRF project.

More information:

http://www.ngdc.noaa.gov/IAGA/vmod/igrf.html

Swarm

ESA selected Swarm as the fifth explorer mission in ESA's Living Planet Programme. The mission, consisting of three spacecraft, was successfully launched on November 22, 2013. Swarm satellites started their highly successful mapping of the Earth's magnetic field, electric field and other geophysical parameters. Since then, the 3rd Swarm Science Meeting took place in Copenhagen in June 2014, key publications have been issues and scientists have been

working at full pace for the consolidation of the instrument calibration. The Swarm 4th Data Quality Workshop was organised in December at GFZ in Potsdam. During this meeting, a Swarm Initial magnetic Field Model (SIFM) was presented; this model confirms that Swarm indeed provides by far the best-ever measurements of the Earth's magnetic field. Even at the present relative high orbit altitude of the satellites, the magnetic data are already outperforming previous missions. This is very promising and it confirms that Swarm is well under way to set new scientific standards in the coming years.

Sponsored Topical Meetings

As usual, there has been a good range of IAGA-supported meetings and workshops this year, about which there is more information in IAGA 2014 Newsletter. The IAGA sponsored a topical meeting during 2014:

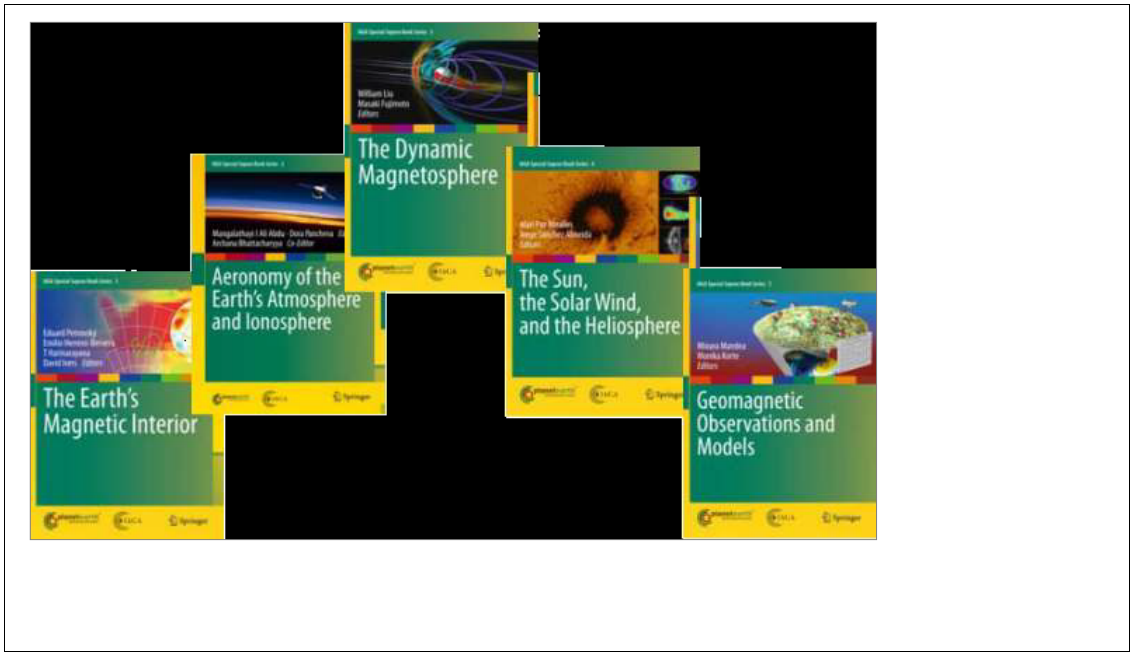
20 - 23 January	The 6th VLF/ELF Remote Sensing of Ionospheres and Magneto-spheres Workshop	Dunedin, New Zeeland	Craig J. Rodger
5 - 9 May	The 5th International High Energy Particle Precipitation in the Atmosphere (HEPPA) Workshop in conjunction with SPARC/SOLARIS-HEPPA	Baden-Baden, Germany	Gabriele Stiller
28 - 31 July	The 8th Workshop on Long-Term Changes and Trends in the Atmo-Sphere	Cambridge, U.K.	Andrew J. Kavanagh
2-14 August	The 40th Scientific Assembly of the Committee on Space Research	Moscow, Russia	COSPAR Secretariat
11-15 August	The 5th IAGA/ICMA/CAWSES Workshopon Vertical Coupling in the Atmosphere/Ionosphere System	Antalya, Turkey	Petra Koucka Knızova
25 - 31 August	The 22st EM Induction Workshop	Weimar, Germany	Oliver Ritter
31 August – 6 September	The 14th Castle Workshop Paleo, Rock and Environmental magnetism	Évora, Portugal	Pedro Manuel Fernandes Silva
7- 16 October	The XVIth IAGA Workshop on Ge-omagnetic Observatory Instruments, Data Acquisition and Processing	Hyderabad, India	Kusumita Arora

Publications

IAGA books

One of the most important achievements of IAGA in recent years was to publish, with Springer, a series of five books, summarizing the state of the science of the IAGA five divisions. As well as providing useful reference texts, the income to IAGA from Springer for

this venture was used to support scientists attending the last Scientific Assembly in Sopron, Hungary.



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The last issue of IAGA Newsletters was distributed at the end of December 2014. It can be downloaded from the IAGA web site www.iugg.org/IAGA.

New Flyer and Poster

During the XXIIth SA the final version of the new IAGA flyer was agreed upon by the EC.

4. FUTURE ACTIVITIES

Preparations for IUGG 2015

The XXVI General Assembly of the IUGG will take place in Prague from June 22 to July 2, 2015. IAGA works on the scientific programmes in order to offer to its members an exciting multi-disciplinary conference.

Preparations for IAGA 2017

Conference of Delegates approved the proposal to hold a joint Scientific Assembly with IAMAS and IAPSO in Cape Town in 2017, the other two Associations having already taken the decision to meet there. The organisation will be complex and challenging, but the potential benefits to our science are enormous. It will be the first time IAGA has held an Assembly in Africa.

Mioara MANDEA
IAGA Secretary General