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# IAMAS Newsletter



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[www.iamas.org](http://www.iamas.org)

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## President's Message

Dear IAMAS colleagues,

We are coming to the close of another interesting year from the perspective of meteorological and atmospheric sciences. We are very excited to be actively preparing our joint DACA-13 meeting in Davos, please mark your calendars for this important event where we hope to meet most of you.

Last November, the IAMAS bureau met with representatives of several other IUGG Associations in Paris and with the organizers of DACA-13 and local IAMAS members. This meeting was extremely constructive and gave us all the opportunity to work towards more efficient and fruitful interaction among IUGG/IAMAS associates.

Another very exciting prospect for next year is first time attribution of the IAMAS Early-Career Scientist Medal (see Page 7). In this newsletter you will find extensive information about all this and more, and we also, as always, look forward to getting more inputs from you.

Finally, I would like to extend to all of you my warmest and most sincere wishes for an amazing end-of-year holiday and a Happy New Year 2013.

— Athena Coustenis, President



## 2012 viewed from an IAMAS perspective

This year fell between the last General Assembly of our parenting Union IUGG in Melbourne, Australia, and the upcoming joint assembly (together with IACS) in Davos, Switzerland, DACA-13 (<http://www.daca13.org>) which is scheduled for the second week of July.

Over the summer, six of the IAMAS commissions held or contributed to large international meetings including: the 16th ICCP conference in Leipzig, Germany; ICDM-2012 in Kunming, China; IRS-2012 in Berlin, Germany; QOS-2012 in Toronto, Canada; IGAC/ICACGP in Beijing, China; and two ICPAE meetings, EPSC in Madrid, Spain and DPS in Reno, NV, USA. More information can be found on Pages 3—6.

Preparations for DACA-13 are well on their way. 21 symposia containing 63 topical session blocks are seeking submissions for short oral and poster presentations; the deadline is soon coming, 31 January 2013.

The relevance of a continuous series of topical meetings is evident from the IAMAS Publication Series #2 "International Ozone Commission: History and activities". Rumen Bojkov uses the 32 Ozone Conferences (1929—2008) as a basis for his most interesting compilation. Printed copies can be obtained from me (Hans.Volkert @ dlr.de), and pdf copies via <http://www.IAMAS.org/Reports>.

At the close of a busy year I extend my best wishes to every one in the global IAMAS community. Have a good start into 2013 and see you in Davos!

— Hans Volkert, Secretary-General

**Left:** IAMAS Bureau in Nov., from right: Athena Coustenis, Joyce Penner, John Turner, Guoxiong Wu, Hans Volkert, Zheng (Jenny) Lin

## Introduction of an AAS Special Issue and a Summary of On-going Research

In 2010, the Chinese National Committee (CNC) for the International Association of Meteorology and Atmospheric Sciences (IAMAS) prepared a progress report for the XXV General Assembly of the International Union of Geodesy and Geophysics (IUGG), held in Melbourne, Australia, during 28 June — 7 July 2011. Some advances and achievements in meteorology and atmospheric sciences in China, mainly for the period 2006—2010, were presented.



Out of twelve submissions, eight papers were accepted for publication in the special issue (Eighth National Report to IUGG by China National Committee for IAMAS) of *Advances in Atmospheric Sciences* (AAS, Issue 5, Volume 29). The review paper by Huang et al. (2012) systematically revealed the

characteristics, process, spatio-temporal variability of the East Asian Monsoon (EAM) system. The paper also suggested many frontier research questions to be resolved in the monsoon studies. Ren et al. (2012) reviewed recent progress in climate change research, in particular, surface temperature, frequency of major extreme climate events including extreme temperature, frequency of extreme precipitation events, tropical cyclone landfall, sand/dust storms in the past 50—100 years, and the climate change in the past 2000 years based on proxy records. Climate projection for future climate change was also reviewed in this paper. Weather and climate effects on the Tibetan Plateau (TP) is one of the major research focuses with the Chinese scientists. The progress in this field was reviewed in Duan et al. (2012). New evidences were found from both field observations and numerical simulations showing the close relationship between mesoscale topography of the TP and sensible heat flux over TP, and thus relating to the spring persistent rains over Southern China. Duan et al. also relayed the conclusion that the thermodynamic processes over TP can influence the large-scale teleconnection processes, such as the Asian-Pacific Oscillation and atmospheric circulation over North America and Europe. Long-term trend was also discussed in this paper. Progress in climate prediction and weather forecasting in China was reviewed in Xiao et al. (2012). In addition

to the introduction of current China operational centers, the paper also proposed some important issues relating to future seamless short-term climate predictions. Progress in the study of nonlinear atmospheric dynamics and predictability of weather and climate in China was reviewed in Zhou et al. (2012) paper.

In the fields of atmospheric physics and chemistry, Qie (2012) reviewed the progress of atmospheric electricity research in China. The paper reported the current progress in rocket-triggered lightning operation and process study, lightning physics and effects, lightning activities associated with different type of thunderstorms. Progress of the radio and optical mapping techniques were also discussed. Ma et al. (2012) reviewed the progress of atmospheric chemistry research in China, mainly focusing on the photochemical smog, haze pollution and gas-aerosol interaction. Owing to rapid economic development and urbanization, anthropogenic activities in land use change as well as gas and particulate emission became the major factors influencing the regional environment and also the climate. Field observations and mechanism studies were also both reviewed in this paper.

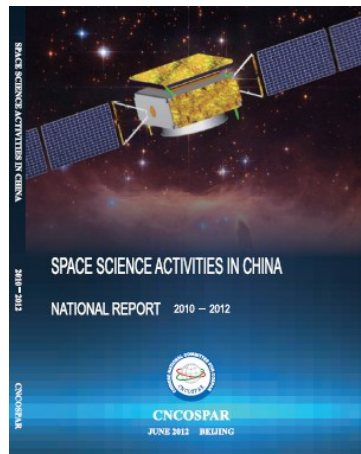
Climate change is closely related to global and regional carbon and nitrogen cycles in the terrestrial ecosystem and oceanic processes. The progress in this field was reviewed in Xu et al. (2012) paper. Both field observations and research on model development and simulation conducted by Chinese scientists from 2006 to 2010 were introduced and a series of primary quantitative estimations of the carbon sink in terrestrial ecosystem and ocean regions around China were given.

Owing to various reasons, progress in other atmospheric scientific disciplines has not been collected in this national report. Chinese scientists have also made good progress in research on aerosol-cloud-radiation interaction and their effect on climate and the hydrological cycle, weather modification and studies on high-impact weather, among others. In particular, readers may refer to a freshly released report (Wang and Ren, 2012) to find information of the most recent fast development of Chinese meteorological satellites.

Facing the critical challenges by world and Chinese social developments and scientific frontiers of atmospheric sciences, Ministry of Science and Technology, National Natural Science Foundation of China, Chinese Academy of Sciences, China Meteorological Administration, State Oceanic Administration, and Ministry of Environmental Protection currently sponsor nearly 40 national atmospheric research programs. These programs cover a wide range of topics, including paleo-climate and environment, characteristics and coupling of global and regional climate sys-

tems, climatic and environmental change caused by anthropogenic activities in land use change, aerosol as well as gas emission, coupling process of all atmospheric layers, global ice-atmosphere-ocean-land coupling, interaction of climate change and land ecosystem, development of high-resolution climate model and projection of future climate, process and prediction of high-impact weather, bio-physical processes in air-land and air-sea interaction, and biogeochemistry cycles, among others.

Please contact Prof. LÜ Daren (ludr @ mail.iap.ac.cn), president of CNC for IAMAS and Dr. BIAN Jianchun (bjc @ mail.iap.ac.cn), SG of CNC for IAMAS, if you are interested in these programs. CNC for IAMAS will gladly putting you in contact with the PIs of these programs as Chinese atmospheric scientists welcome opportunities of in-depth cooperation with the international community.



- Duan, A. M., G. X. Wu, Y. M. Liu, Y. M. Ma, and P. Zhao, 2012: *Adv. Atmos. Sci.*, **29**(5), 978–992, doi: 10.1007/s00376-012-1220-y.
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- Ren, G. Y., Y. H. Ding, Z. C. Zhao, J. Y. Zheng, T. W. Wu, G. L. Tang, and Y. Xu, 2012: *Adv. Atmos. Sci.*, **29**(5), 958–977, doi: 10.1007/s00376-012-1200-2.
- Wang, C. and L. Ren, 2012: [<http://english.nssc.cas.cn/rh/rp/201212/P020121204503691994996.pdf>]
- Xiao, Z. N., B. Liu, H. Liu, and D. Zhang, 2012: *Adv. Atmos. Sci.*, **29**(5), 943–957, doi: 10.1007/s00376-012-1194-9.
- Xu, Y. F., Y. Huang, and Y. C. Li, 2012: *Adv. Atmos. Sci.*, **29**(5), 1027–1047, doi: 10.1007/s00376-012-1206-9.
- Zhou, F. F., R. Q. Ding, G. L. Feng, Z. T. Fu, and W. S. Duan, 2012: *Adv. Atmos. Sci.*, **29**(5), 1048–1062, doi: 10.1007/s00376-012-1204-y.

**Right:** Lively poster discussions during this years ICCP conference in the foyers during mid-afternoons without simultaneous oral talks — the proven format for IAMAS and beyond. See <http://www.iamas.org/gallery> for more photos like this.

## ICCP Conference on Clouds and Precipitation

The ICCP held its International conference on clouds and precipitation in Leipzig Germany, 29 July — 4 August, 2012. Over 500 people from 34 countries attended the conference. The program consisted of thirteen sessions covering a wide spectrum of topics related to clouds and precipitation. The full program is displayed on the conference website: <http://iccp2012.tropos.de> or through the ICCP homepage: <http://iccp-iamas.org>. A special panel was held to discuss climate geo-engineering, its potential for success, ethical issues related to the use of such projects, and other related topics.

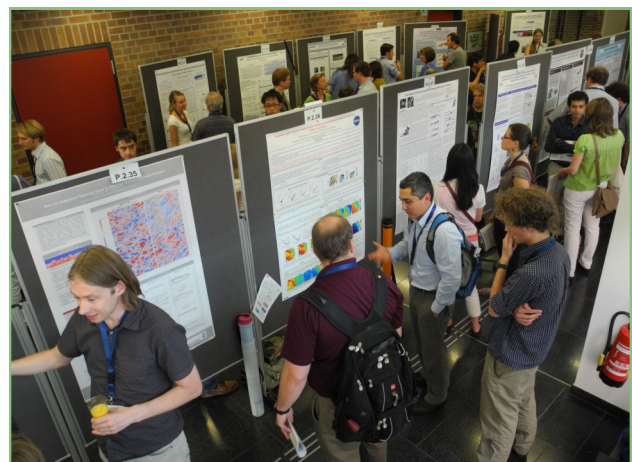
A special award was given to Dr. Robert Knollenberg in recognition of his pioneering work in developing the electro-optical spectrometers that revolutionized the measurements of cloud microphysical properties.

Prof. John Latham was awarded as the ICCP honorary member In recognition of many years of outstanding scientific contributions to cloud physics and cloud electrification.

Five awards were given to the best posters by students and post-docs. Eleven new ICCP members were elected, replacing those that completed two terms. The president, Zev Levin; the Vice president, Andrea Flossmann; and the secretary, David Starr completed their term and new officers were elected. The new officers are:

- President: Prof. Andrea Flossmann (France)
- Vice President: Prof. Robert Rauber (USA)
- Secretary: Darrel Baumgardner (Mexico)

Manchester England was chosen as the venue for the next ICCP conference in 2016.



## International Radiation Symposium 2012

Organized by the Officers and Members of the International Radiation Commission (IRC) and the Berlin Local Organizing Committee, the quadrennially-convened International Radiation Symposium (IRS) was held from 6–10 August, 2012 in Berlin at the Seminaris Campus Hotel Science and Conference Center, aka the “Dahlem Cube”, located on the Free University campus. More than 530 registrants from 33 countries participated in IRS2012. Twelve students from 11 countries received travel awards of \$1000 US each to attend the IRS. In addition to IRC and IAMAS support, the IRS2012 was sponsored by the Free University Berlin, KIT, Leibniz-IFT, DLR, ESA, DWD, and EUMETSAT. At the 2012 IRC Business Meeting, members elected new officers for the 2012–2016 IRC term: Werner Schmutz, President (Switzerland), PMOD/WRC; B.J. Sohn, Vice-President (South Korea), Seoul National Univ.; and Peter Pilewskie, Secretary (USA), LASP.

The Science Program included presentations in 10 sessions, and 11 union talks, including lectures by the recipients of the IRC Early-Career Scientist Award (Robert Levy) and the Gold Medal Award (Kuo-Nan Liou). Sessions at the IRS included: Radiative Transfer Theory & Modeling; Molecular Radiative Properties;



*Above: IRC President Robert Cahalan presents the Gold Medal to Kuo-Nan Liou*

Particle Radiative Properties; General Remote Sensing; Understanding Climate Using Satellite Data (including EarthCARE); Surface Measurements & Field Experiments; Radiation Budget & Forcing; Weather, Environment & Climate Applications; Solar UV Radiation; and Ocean Optics. The IRS2012 Proceedings papers will be published online, searchable and downloadable, by the American Institute of Physics (AIP) with open access in perpetuity.

Pictures from the IRS can be viewed at <http://www.irc-iamas.org/resources/photos.php>

*Below: IRS2012 attendees at the Dahlem Cube in Berlin, August 2012.*



## Workshop on "Dynamics and Predictability of High-Impact Weather and Climate Events"

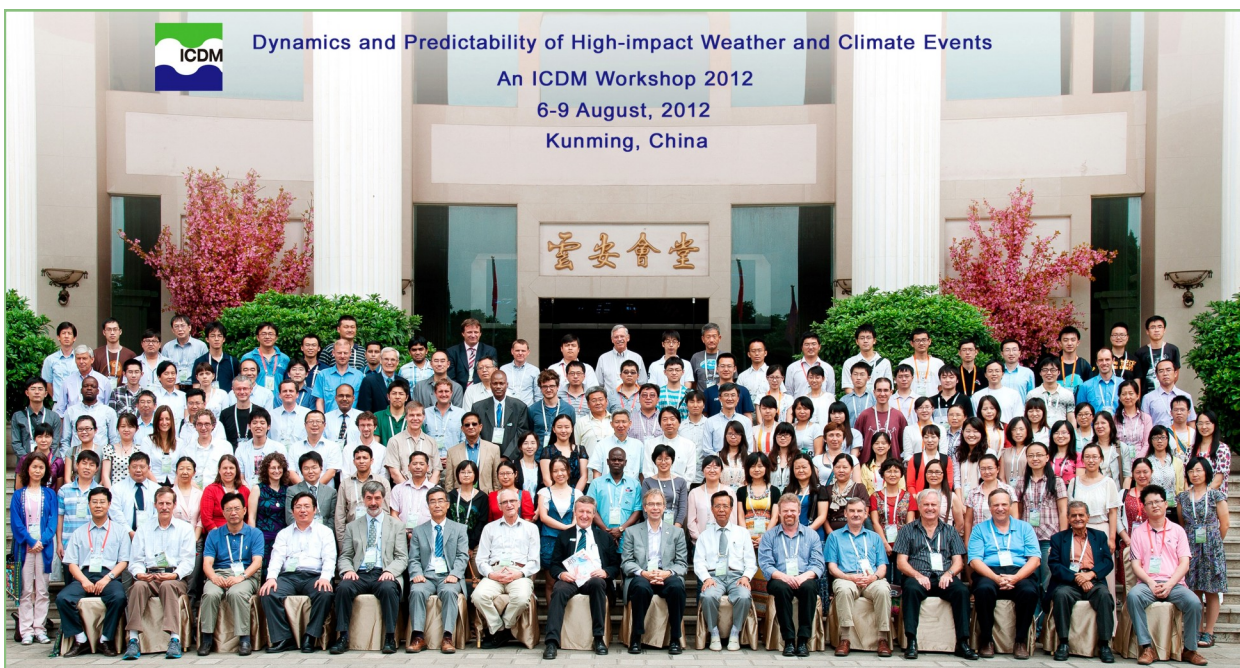
The International Commission on Dynamical Meteorology (ICDM) held its 2012 workshop on 6–9 August in Kunming, China. The workshop covered many aspects of the variability of the atmospheric circulation, including Monsoon systems, the El Niño-Southern Oscillation, Arctic & Antarctic Oscillations, tropical & extra-tropical cyclones, and extreme events associated with those circulation systems. It addressed predictability on range of timescales, from day-to-day weather forecasting to seasonal and decadal climate prediction. The workshop provided an unusual platform for exchanges between the climate and weather research communities, and promoted research on high-impact weather and climate dynamics and predictability.

The workshop featured a series of 24 invited lectures from international scientists working on synoptic and climate dynamics. More than 140 people from 17 countries and regions attended the workshop. The co-chairs of the Science Organising Committee were Prof. Jianping Li of LASG/IAP and Dr. Richard Swinbank of the UK Met Office (the president of ICDM). The ICDM is very grateful to the local organizers, the State Key Laboratory of Numerical Modelling for Atmospheric Sciences and Geophysical Fluid Dynamics (LASG) of the Institute of Atmospheric Physics (IAP) of



*Above: Panel members considering the legacy of the WMO THORPEX programme (left to right) Tetsuo Nakazawa, Richard Swinbank and Hisashi Nakamura, with Mitch Moncrieff in the foreground*

the Chinese Academy of Sciences (CAS). The workshop was co-sponsored by a range of both international and Chinese sponsors, including IUGG and IAMAS, World Weather Research Program (WWRP) and World Climate Research program (WCRP), Chinese Association of Science and Technology (CAST), CAS, National Nature-Science Foundation of China (NSFC), and various Chinese projects. Following the successful conclusion of the workshop, the ICDM is now looking forward to organizing a more specialised, workshop on high-latitude dynamical meteorology during 2014.



*Above: The official group photo of attendees of the ICDM 2012 workshop. An annotated version with all the names can be downloaded here <http://www.iamas.org/meetings/ICDM2012-GroupNames.pdf>*

## Quadrennial Ozone Symposium 2012

The 2012 Quadrennial Ozone Symposium (QOS) was held under the auspices of the International Ozone Commission (IOC) of the International Association of Meteorology and Atmospheric Sciences (IAMAS) during the last week of August, 2012 in the Sheraton Centre in downtown Toronto, Canada. The meeting attracted 311 attendees from 31 countries. Several hundred papers were presented, on an array of topics ranging from ozone instrument calibration issues to the 2011 first-ever recorded Arctic ozone hole. Both the atmospheric modeling and measurement communities were well represented.

Prof. Tom McElroy and Prof. Christos Zerefos (below) welcomed the meeting participants in the opening ceremony. The QOS was sponsored by Environment Canada, IAMAS, the Canadian Space Agency, the University of Toronto and York University.

The 2012 Dobson Award was awarded to Harald Rieder, University of Columbia.



## IAMAS.org statistics

Over the past two years interest in the IAMAS websites has proved to be stable around 8500 visits per month (all pages), with around 850 visits per month for the start page alone. So far, in 2012, we've had some 100,000 visits — ~2% up on last year! With the new IAMAS gallery recently going live (<http://www.iamas.org/gallery>), and the many interesting meetings lined up for 2013 (Page 7), we are surely going to beat that figure next year.

## ICPAE 2012

The European Planetary Science Congress 2012 held last September in Madrid, Spain, was a great success with 705 participants from 34 countries in attendance. ICPAE and IAMAS would like to thank all those that attended this great event and would be very much pleased to welcome everyone back at the European Planetary Science Congress 2013, 08–13 September 2013, University College London, United Kingdom. Further information can be found here <http://www.epsc2013.eu/>

This year also saw the 44th annual meeting of the Division for Planetary Sciences (DPS), held in Reno, Nevada, USA between October 14–19. It was a lively and fruitful week as highlighted by the ~3000 twitter posts from over 600 contributors as archived here <http://eventifier.co/event/dps12>

*Left: Christos Zerefos, President of the IOC (left) and Tom McElroy, York University and the Canadian member of the IOC (right) standing next to the poster which advertised the conference along with the iconic low stratospheric ozone event of 2011.*

*Below: this photo was 'tweeted' from the DPS conference along with the text "Room full of planetary scientists to discuss the future of decadal survey in the current budget environment #DPS12 <http://t.co/RAJN1z99>". More photos can be found via <http://eventifier.co/event/dps12>*





**DACA-13**

**Davos Atmosphere and Cryosphere Assembly 2013**  
 Air, Ice & Process Interactions  
 An IUGG (IAMAS & IACS) Event

Register via [www.daca13.org](http://www.daca13.org)

July 8-12, 2013



### The IAMAS Early-Career Scientist Medal

At the 2011 Assembly in Melbourne, Australia the IAMAS Executive agreed that the association would award an Early-Career Scientist Medal biennially. The medal will be awarded to an early-career scientist working in any area of the atmospheric sciences who has carried out excellent scientific research and who has the potential to make a significant contribution in the future. We take 'early-career' to be a scientist who has earned their highest degree within the last 10 years and who is under 40 years of age when nominated.

Scientists can be nominated for the medal by the IAMAS commissions, who will seek potential nominees from early-career scientists working in their fields. Each commission may nominate only one scientist ahead of an Assembly. Scientists may also be nominated by Members at Large. The first medal will be awarded at the 2013 Assembly in Davos, Switzerland and nominations for this award should be received by the IAMAS Bureau by 28 February 2013.

The nomination should consist of a brief (less than 2 page) account of the achievements of the nominated scientist, details of their involvement with IAMAS, a list of their major publications and an assessment of their potential. The recipient will be decided by the Awards Committee chaired by IAMAS Vice-President Prof. John Turner. Membership of the committee is drawn from the Bureau and Members at Large.

The recipient is expected to be present at the Davos Assembly and give a lecture at an appropriate session. The recipient will receive an inscribed medal and a certificate signed by the President and Secretary-General of IAMAS.

— John Turner, IAMAS Vice-President &  
Chair of the Awards Committee  
(jtu @ bas.ac.uk)

### Upcoming Meetings

In addition to participating in the IUGG and IAMAS Scientific Assemblies, the IAMAS commissions also carry on a number of activities between the IAMAS and IUGG assemblies. In addition to helping organize symposia at a range of scientific meetings led by other organizations, planned conferences coming up include:

- **sun2climate school**: "Impact of solar variability on the Earth's climate", targeted at final-year master students, PhD students and early-career post-docs, 10-15 March 2013, Thessaloniki, Greece <http://sun2climate.sciencesconf.org>
- **ICCL**: Expert Assessment Workshop on climate variability and predictability, 16–17 April 2013, Beijing, China

<http://iccl2013.csp.escience.cn/>

- **SPARC** Reanalysis/analysis Intercomparison Project (S-RIP) Planning Meeting, 29 April — 1 May 2013, Exeter, UK <http://www.sparc-climate.org/activities/emerging-activities/>
- **ICNAA 2013**: International Conference on Nucleation and Atmospheric Aerosols, June 23–28, 2013, Fort Collins, CO, USA. Topical Areas include: Nucleation, Stratospheric and Tropospheric Aerosols, Cloud Condensation Nuclei and Ice Nuclei, Aerosol-Cloud-Climate Interactions. There will be a special session on the CLOUD experiment. Please contact Paul DeMott (pdemott@lamar.colostate.edu) for more information. <http://chem.atmos.colostate.edu/icnaa/index.html>
- **ICCP Workshop on the Measurement Problems in Ice Clouds** ETH, Zurich, July 5–6, 2013 (i.e., the Friday and Saturday before the DACA-13 conference). Sponsored by ICCP, IUGG and private donors. For more information please contact: Darrel Baumgardner (Darrel.baumgardner @ gmail.com). <http://www.daca-13.org/wsl/daca13/program/SympC2/ICCPWorkshopIceClouds>
- **DACA-13**: The joint IAMAS/IACS Scientific Assembly to be held 8–12 July 2013 in Davos, Switzerland. It is also expected that IAPSO and IAHS will be co-sponsors of some of the symposia to be organised. <http://www.daca13.org>
- **Knowledge for the future**: This Scientific Assembly to be held in Gothenburg, Sweden on 22–26 July 2013 will be a forum, where experts from various disciplines of hydrology, oceanography, seismology and physics of the Earth's interior can meet and exchange knowledge and ideas with colleagues from all over the world. <http://iahs-iapso-iaspei2013.com/>
- **IUGG 2015**: The XXVI IUGG General Assembly will be held in July 2015 in Prague.
- **LPMR-11**: The 11th international workshop on Layered Phenomenon of the Mesopause Region (LPMR), 29th July — 1st August 2013, Leeds, UK <http://www.lpmr.leeds.ac.uk>
- **IAGA 2013**: "Living on a Magnetic Planet": 12th Scientific Assembly will be held in Mérida, Yucatán, México, from August 26 — 31, 2013. [http://www.geociencias.unam.mx/iaga2013/2\\_circular.pdf](http://www.geociencias.unam.mx/iaga2013/2_circular.pdf)

Have a regular look at <http://www.IAMAS.org/>

We welcome short reports from the individual IAMAS Commissions at any time

— Scott Hosking, Editor  
(jask @ bas.ac.uk)