IAMAS Newsletter

IUGG

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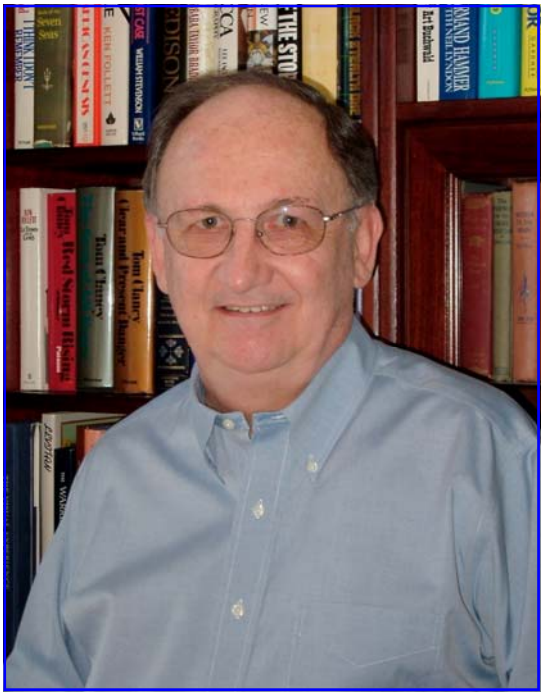
President's Message

The IUGG general assembly in Perugia, Italy is fast approaching. Many thanks to all who have been working to arrange the program there and to all who will be coming. The listing of symposium topics is very exciting and demonstrates the interesting science being done to understand the atmosphere, oceans, ice, solid Earth, and other components of the active and changing Earth system on which we reside. IAMAS has been responsible for arranging 19 IAMAS symposia and 30 joint symposia with other associations, plus a number of other special events and Union symposia.

In addition to the scientific symposia, there will be a number of exciting special events. In response to a resolution passed by WMO, IAMAS, and IUGG in 2003, the International Aerosol-Precipitation Assessment Group was formed to evaluate the effects of aerosols, especially those from biomass burning, on precipitation. Under the initial leadership of the late Peter Hobbs and then later leadership of Zev Levin, the report has been completed and its results will be presented at a special symposium in Perugia on 9th July. Many, many thanks to all those involved in this effort. A second special symposium, on 5th July, organized by IAMAS for the benefit of all attending, will provide an opportunity for the leaders from the IPCC Working Groups I, II, and III to present an overview of the findings of their contributions to the Fourth Assessment Report. As has been reported in the media, the evidence of human-induced change has become quite apparent and, while a number of important uncertainties remain for researchers to resolve, important progress has been made in projecting likely consequences in the future. And, in addition, SG List is organizing a series of lunchtime lectures, so keep an eye out for "The Mona Lisa Code, Lunch Lectures into the Mysteries of the Atmosphere."

IAMAS will also hold our quadrennial General Assembly in Perugia—the meeting of the representatives of our member nations. In addition, the commissions of



IAMAS will also be meeting, so do keep an eye out for notices of these meetings as the commissions are really the backbone of IAMAS, coordinating and promoting research on the many exciting aspects of meteorology and atmospheric sciences.

The most important item on the IAMAS agenda will be the election of officers, as this year will mark an important transition. For twelve years, Prof. Roland List has been the IAMAS Secretary-General, voluntarily taking on this assignment and, in particular, the enormous responsibility of organizing the IAMAS scientific assemblies (and the administrative aspects of the general assemblies too, but those are the easy part). Roland was elected to office at the IAMAS/IUGG General Assembly in Boulder, Colorado in 1995. He then took the lead in organizing the scientific assemblies in Melbourne (in 1997 with IAPSO), Birmingham (1999), Innsbruck (2001), Sapporo (2003), Beijing (2005) and now Perugia. I missed only the one in Melbourne, and can personally attest to how interesting and exciting the pro-

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President's Message (contd.)

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grams have been at each of these assemblies (and I have heard many reports about the high quality of the Melbourne assembly as well).

Roland has been a very strong supporter of encouraging leading scientists to convene our symposia and of making sure that all who attend have an opportunity to present their results in a full oral presentation or in a highlight presentation with a poster in addition. He has admirably carried forward the special role that the international scientific associations play in creating a sense of cooperation and community among scientists from around the world, whatever their country or area of interest within our field.

To help all of us better appreciate and understand the breadth and richness of our field, Roland has initiated a tradition of having exciting luncheon talks by speakers and on topics that are of wide interest. And to offer recognition to those who have played major roles in our field, Roland has also taken the lead in arranging special symposia to honor leaders, laboratories, or topics in our field where the nation hosting the meeting has played a major role. For example, in Beijing, the symposium marking Prof. Ye Duzheng's 90th birthday included papers covering over sixty years of Chinese meteorological research, and in Sapporo, the special symposium honored Profs. Nakaya and Magono, formerly at Hokkaido University, for their research on aerosols and precipitation.

And Roland has done much more, organizing the IUGG/WMO panel on aerosols and precipitation mentioned above, keeping accounts for IAMAS and distributing funds to assist participation of under-financed scientists from around the world to participate in our assemblies, and representing IAMAS to the WMO. And all this while also continuing his research on the physics of precipitation formation with colleagues around the world (see http://www.atmosp.physics.utoronto.ca/people/list/curriculum for a listing of all the many contributions Roland has made over his 50+ year career). The Perugia assembly will provide an opportunity for all of us to express our deep appreciation for his many contributions over these twelve years. In addition, our appreciation to Canada, and especially the University of Toronto, for so generously supporting his participation over this period.

As my term as president comes to a conclusion, I would also like to take this opportunity to thank those who have served with me, especially those who will be completing their service in Perugia, especially including Robert Vincent as Vice-President for 8 years; Leonard Barrie, Igor Mokhov, and Akimasa Sumi as members-at-large for 8 years; and Huw Davies as past-president and John Turner, as deputy SG, each for 4 years. As indicated in the separate article reporting on the nominations of new officers, a number of other of the current officers are nominated for new offices or for re-election, and I would like to also thank them for their service, particularly Dr. Guoxiong Wu who has served as Vice-President and led the Local Organizing Committee for our scientific assembly in Beijing two years ago.

Finally, I would like to add my congratulations to Professor Brian Hoskins, former President of IAMAS, on his recent knighthood for services to environmental science.

See you in Perugia.

Mike MacCracken
(mmaccrac@comcast.net)

Election of IAMAS officers in Perugia

In Perugia the terms of several officers will come to an end and elections will take place for the period 2007-2011. In late 2006 the IAMAS Nominating Committee, chaired by Huw Davies, invited the IAMAS community to tender nominations for the upcoming vacant positions. The Nominating Committee has now completed its consideration of the proposed nominations and in accord with the IAMAS Statutes prepared a slate of candidates for consideration at the Assembly. The fore-mentioned slate is set out below.

POSITION OF PRESIDENT:	Prof. Guoxiong Wu, China
POSITION OF SECRETARY-GENERAL:	Dr. Hans Volkert, Germany
POSITIONS OF VICE-PRESIDENT (2):	Dr. Anne Thompson, USA Dr. M.A. F da Silva Dias, Brazil
POSITIONS OF MEMBERS AT LARGE (4):	Prof. T. Yasunari, Japan Dr. V. Kattsov, Russia Prof. S. Stefan, Romania - for a final 4 year term Dr. E.H. Berbery, Argentina

Featured Commission: The International Commission on Climate (ICCL)

The eagerly awaited release of the Fourth Assessment Report ("Climate Change 2007", also referred to as AR4) of the Intergovernmental Panel on Climate Change (IPCC) this year has generated wide-ranging interest from not only scientists and policy makers, but also from the general public which has helped to motivate important national and international political discussions. The conclusions of the IPCC are now even more compelling regarding the reality and magnitude of anthropogenic (human-induced) climate change.

From an historical perspective, it is interesting to revisit the messages presented in previous IPCC reports to help understand how the science has evolved over the past 20 years since the IPCC was formed [in 1988 by the United Nations Environmental Programme (UNEP) and World Meteorological Organization (WMO)]. In the First Assessment Report of the IPCC (1990) [in reference to recent observations of a warming world since industrialisation] it was stated:

"The size of this warming is broadly consistent with predictions of climate models, but it is also of the same magnitude as natural climate variability. Thus the observed increase could be largely due to this natural variability; alternatively this variability and other human factors could have offset a still larger human-induced greenhouse warming. The unequivocal detection of the enhanced greenhouse effect is not likely for a decade or more."

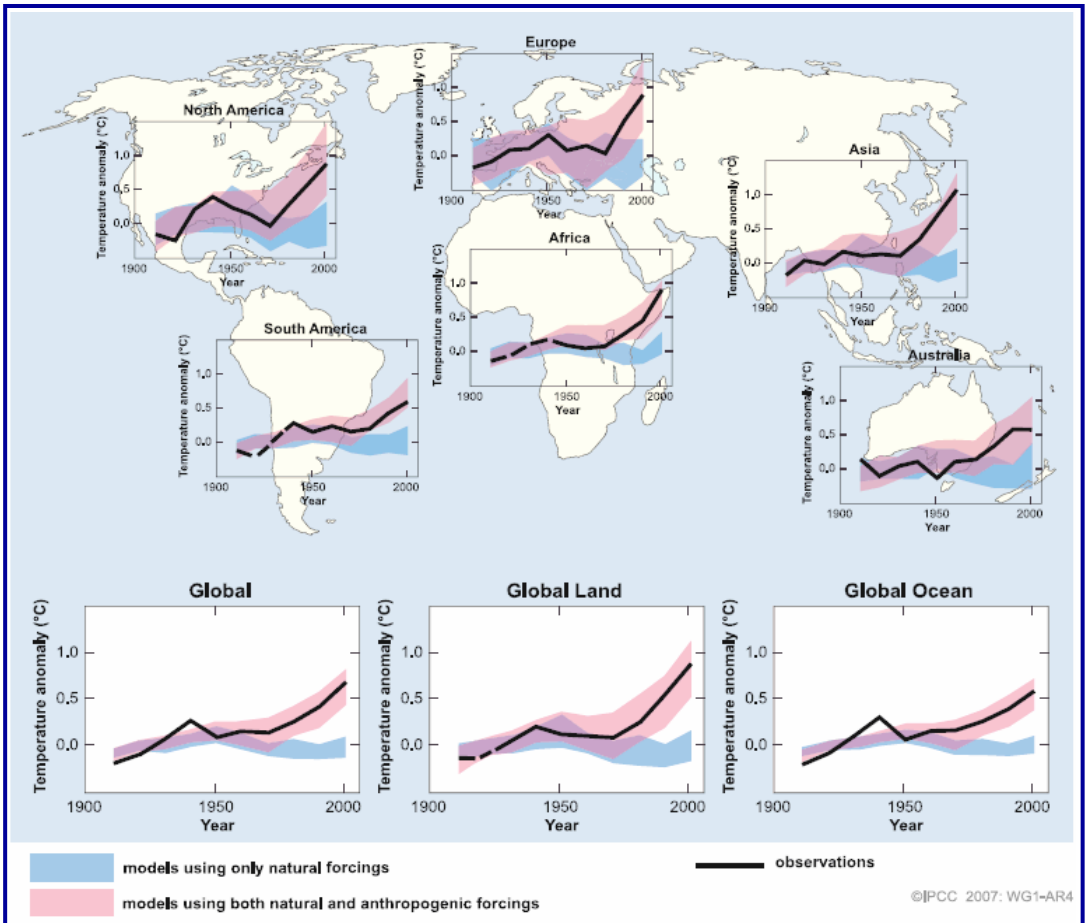

Figure SPM.4. *Comparison of observed continental- and global-scale changes in surface temperature with results simulated by climate models using natural and anthropogenic forcings. Decadal averages of observations are shown for the period 1906 to 2005 (black line) plotted against the centre of the decade and relative to the corresponding average for 1901–1950. Lines are dashed where spatial coverage is less than 50%. Blue shaded bands show the 5–95% range for 19 simulations from five climate models using only the natural forcings due to solar activity and volcanoes. Red shaded bands show the 5–95% range for 58 simulations from 14 climate models using both natural and anthropogenic forcings. {FAQ 9.2, Figure 1}*

Note: The figure above is taken from the IPCC 4th Assessment Report of Working Group I ("The Physical Science Basis"), which is available online at http://ipcc-wg1.ucar.edu/wg1/wg1-report.html

The ICCL (contd.)

By 1995, IPCC's Working Group I (reporting on detection and attribution) concluded that:

"The balance of evidence suggests a discernible human influence on global climate."

This much stronger statement was largely a result of improvements in the representation of spatial (and temporal) patterns of warming and cooling in climate model simulations that included the effects of both greenhouse gas forcing ("equivalent" carbon dioxide) and the shorter lived sulphate aerosols.

In 2001, IPCC's Working Group I concluded that:

"There is new and stronger evidence that most of the warming observed over the last 50 years is attributable to human activities."

Much of the new evidence that led to the still stronger statement in this Report was based on new multi-proxy approaches that drew on statistically rigorous and chronologically solid paleo-records of hemispheric temperature compilations over multiple centuries. Subsequent comparison of these long records to models run with and without natural and anthropogenic forcing suggested that in the past 50 years or so, the rise in the CO_2 concentration became the dominant factor in explaining Northern Hemisphere temperature changes.

Finally, in this year's assessment, Working Group I concluded that:

"Most of the observed increase in globally averaged temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations … The observed widespread warming of the atmosphere and ocean, together with ice mass loss, support the conclusion that it is extremely unlikely that global climate change of the past 50 years can be explained without external forcing, and very likely that it is not due to known natural causes alone."

In this Report it was shown that, at the continental and global scales, observations of surface temperature change over the past century cannot be reproduced in climate model simulations using natural forcings alone [see Fig. SPM.4]. Rather, the inclusion of anthropogenic forcings is required in order to simulate these observed changes.

Somewhat disturbingly, however, despite the *very likely* level of confidence provided in the latest IPCC Report, statements framed around statistical significance seem to leave open the door to public (and occasionally political) scepticism. One example is a worrying public comment written in a local area Australian newspaper where it was argued that "90% confidence … is a mile away from being certain" [in reference to the level of confidence regarding anthropogenic climate change]. One might be tempted to respond to this with the analogy that 90% confidence of having cancer would be considered somewhat differently!

Irrespective of the remaining anecdotal scepticism in a few groups, the most recent IPCC Working Group I Report is surely an outstanding scientific contribution documenting the significant increases in our understanding of climate change and the increasing level of confidence that we are indeed seeing a climate response to anthropogenic greenhouse gas emissions.

Neil J Holbrook (Executive Secretary)
Keith Alverson (President)
International Commission on Climate (ICCL)

IAMAS Business Meetings in Perugia

IAMAS Bureau: Monday 2 July 09:00 - 10:00
IAMAS Executive Committee: Monday 2 July 10:00 12:00
IAMAS Assembly: Tuesday 3 July 17:00 - 19:00
IAMAS Executive Committee: Thursday 5 July 10:00 12:00
IAMAS Bureau: Friday 6 July 09:00 - 10:00
IAMAS Assembly (if necessary): Friday 6 July 10:00 12:00
IAMAS Executive Committee: Monday 9 July 14:00 16:00
IAMAS Assembly: Tuesday 9 July 17:00 - 19:00

For details of the meeting locations see the IAMAS web site nearer to the time, notice boards in Perugia or emails from the Bureau.

The IAMAS/IAPSO 2009 Assembly

There will be an IAMAS/IAPSO Joint Assembly in Montreal, Canada over 20-29 July 2009. An important activity in Perugia will be to produce a draft list of symposia that will form the basis of the IAMAS contribution to the assembly. Possible symposia will be put forward by the commissions at the Executive meetings, so if you would like to see a particular topic covered in Montreal then contact the relevant commission.

The IAMAS newsletter

The newsletter editor welcomes short reports from the individual IAMAS Commissions at any time.

Gareth Marshall (gjma@bas.ac.uk)
Editor IAMAS newsletter