

Content

Introduction by Prof. Mary Scholes, Vice-President of IAMAS	1
Reports on the online IGAC/iCACGP Early Career Science Conference and annual iCACGP business meeting	3
The Centennial Celebration of the Chinese Meteorological Society	4
The 2025 IAMAS/IACS/IAPSO Scientific Assembly BACO-25	6
Opportunity to host the IAMAS 2029 assembly	6
Commission activities	6
Recent IAMAS publications	6
Water Cycle Changes Over Asia: From Attribution to Adaptation.	7
World Weather Research Programme of the WMO	8
Upcoming meetings	10

Introduction by Prof. Mary Scholes, Vice-President of IAMAS

Welcome to the latest issue of the IAMAS newsletter. I work at the University of the Witwatersrand (Wits), Johannesburg, in the School of Animal, Plant and Environment Sciences. I thought that I would take this opportunity to highlight research work taking place in South Africa and other parts of Africa. My areas of research are focused on systems analysis and biogenic trace gas emissions. I also serve as the Vice Chair of the Research Board of the WMO and have been involved in the establishment of several Task Teams e.g. AI for Weather, Data exchange, Early Warnings for All, Hydrology Research and the links between Social Sciences and the Geosciences. I also have oversight of three major Research Programmes - the World Weather Research Programme, the World Climate Research Programme and the Global Atmospheric Watch Programme.



South Africa is unfortunately a hot spot for the negative impacts of climate change, with the rate of warming in South Africa being nearly twice the average rate recorded worldwide. South Africa is already experiencing extreme events, especially floods and droughts. I am involved with climate modelling together with the Global Change Institute (GCI), also at Wits, on the changing frequency of extreme events and rainfall trends on the Eastern Escarpment of South Africa. There are other climate modelling activities being carried out by Prof Stuart Piketh at the University of the North-West and Prof Bruce Hewitson at the University of Cape Town.

Dr Tirusha Thambiran, an IAMAS Member-at Large, is a Principal Researcher at the Council for Scientific and Industrial Research (CSIR) in Pretoria, leading research on climate change mitigation and air quality management, with a focus on co-benefits. Developing improved weather and climate information and forecasts is critical to the region effectively responding to climate change and air quality challenges it faces. The enhancement of observation networks and the improvement of real-time data collection on temperature, humidity, wind speed, and other atmospheric parameters

were driven by African universities and researchers, in collaboration with regional entities and international meteorological organizations. Key developments here focused on building the network infrastructure and leveraging artificial intelligence and satellites to optimize data use. For example, in South Africa the University of Witwatersrand started to roll out a real time air quality monitoring system in the Gauteng province. Research that demonstrated the potential for countries in the region to leverage their national greenhouse gas (GHG) mitigation efforts to improve air quality was also undertaken. For example, in collaboration with the University of Cape Town, the CSIR used its air quality modelling platform to explore how different GHG emission pathways could impact ambient air quality and human health in South Africa.

Complementary to this type of work, are the developments on improving the understanding of African weather systems and ocean dynamics and how these might be impacted by climate change. In 2024, significant analyses based on the Coupled Model Intercomparison Project Phase 6 (CMIP6) were reported together with Prof Francois Engelbrecht, the Director of the Global Change Institute (GCI), which focused on validating results for the region and analysing the projected changes in the rainfall and temperature.

There are many collaborative projects, nationally and internationally, which play an important role in helping us to understand climate science in Africa. The GCI research team uses current earth system modelling, regional climate model downscaling and tropical cyclone modelling and contributes to sustainability science, especially focusing on the socio-economic impacts. Of particular interest, the Resilience and Preparedness to Tropical Cyclones across Southern Africa (REPRESA) project, co-led by the University of Bristol, the GCI and Eduardo Mondlane University (Mozambique), aims to reduce the devastating impacts of tropical cyclones in southern Africa and Madagascar. This initiative is managed under the CLARE (Climate Adaptation and Resilience) programme and focuses on Madagascar, Malawi and Mozambique, addressing the impacts of tropical cyclones in a changing climate. REPRESA seeks to improve early warning systems and community uptake, integrating advanced climate and flood modelling with anticipatory governance structures. This includes co-developing community-specific action plans and enhancing humanitarian operations.

From a technical standpoint, novel high-resolution climate simulations are being generated for the region, which will enable tropical cyclone characteristics to be examined and compared for the historical and future period. These simulations will be used in flood modelling and together, the project will hopefully lead to a better understanding of the major risks associated with tropical cyclones in the future. The project started in 2023 and in October 2024, a meeting was held in Malawi, which brought together the various partners, including universities, hydrometeorological services, NGOs, and governments. The focus was on “Early Warnings for All” and discussions centred around how to improve early warning systems, strengthen disaster preparedness and improve long-term adaptation planning, while making sure it is fully inclusive of all those affected and benefits, not only the target countries, but also informs broader resilience-building efforts for climate-vulnerable regions globally.

The REPRESA project is only one example, the FOCUS Africa project concentrated on developing climate services for climate-sensitive sectors, such as food security, water, and energy across several countries in Southern Africa is driven by the CSIR and uses a combination of CORDEX (Coordinated Regional Climate Downscaling Experiment) projections and local downscaling efforts for numerous climate variables. A key focus for the region remains on improving the reliability of the forecasting of the El Niño-Southern Oscillation (ENSO) and developing an improved understanding of the potential impacts thereof. The African Centre of Meteorological Applications for Development (ACMAD) for example has collaborated with the national meteorological services in the region on the use of Africa-specific data in ENSO prediction systems.

Reports on the online IGAC/iCACGP Early Career Science Conference and annual iCACGP business meeting

The International Global Atmospheric Chemistry (IGAC)/International Commission on Atmospheric Chemistry and Global Pollution (iCACGP) 2023 Early Career Researcher (ECR) online conference was a great success with over 300 attendants. To accommodate attendees across the world, the event had three sessions, one for Asia and Oceania, one for Africa, Europe, and the Middle East, and one for the Americas, totalling 18 hours of conference activities.

The conference included science-focused sessions and early career activities. The science sessions included three invited talks for each geographical region (nine talks in total) and poster sessions. The science presentations were by ECRs (defined as within seven years of their Ph.D.) that mid-career and senior scientists could attend as well. Several of the mid-career and senior scientists judged posters and provided feedback to the presenters. Six poster prizes (two for each region) were awarded giving the winners travel support to the 2024 iCACGP/IGAC Conference, including participation in the 2024 IGAC Early Career Course. The early career activities included ice breaking activities, a collaborative/engaging activity (climate model with sectorial role play), and three skills workshops (ethics, field campaign, and international collaborations). More information can be found [online](#).

The annual iCACGP Business Meeting took place on 8 September 2024 in Kuala Lumpur, Malaysia the day before the start of the 2024 iCACGP-IGAC Joint Conference. IGAC is a project supported by iCACGP and Future Earth to facilitate atmospheric chemistry research towards a sustainable world.

The first session of the business meeting was joint with the IGAC Scientific Steering Committee (SSC) and the IGAC/iCACGP ECR SSC, and had 28 attendees. The group discussed past and future ECR activities as



Standing, left to right: Karn Vohra (ECR), Kerry Pratt (IGAC SSC), Rebecca Garland (IGAC SSC), Aderiana Mbandi (IGAC SSC), Qi Chen (iCACGP), Emily Matthews (ECR), Stephanie Schneider (ECR), Yugo Kanaya (IGAC SSC), Nestor Rojas (IGAC SSC), Bert Verreyken (ECR), Martin Ramacher (ECR), Lisa Emberson (IGAC SSC), Christian Geroge (iCACGP), Maria Kanakidou (iCACGP), Max Desservettaz (ECR), Simone Andersen (ECR), Nikos Daskalakis (iCACGP ECR), Kathryn Emmerson (guest), Liya Yu (IGAC SSC), Hugh Coe (IGAC SSC and iCACGP), Louisa Emmons (IGAC SSC), Owen Cooper (IGAC SSC), Vinayak Sinha (IGAC SSC and iCACGP), and John Burrows (iCACGP and IAMAS).

Sitting, left to right: Hiroshi Tanimoto (iCACGP), Mary Barth (iCACGP), Clare Murphy (IGAC SSC and iCACGP), and Langley Dewitt (IGAC Director).

well as IGAC/iCACGP positioning statements, the format of future conferences, and the role of long-term measurements in atmospheric chemistry research. During the afternoon session, the iCACGP members (10 in person, two online, and three early career liaisons) provided updates on current and future activities in their region, and discussed outcomes of past visioning sessions and next steps for strategic planning for iCACGP. More information about iCACGP can be found at <https://www.iamas.org/icacgp/>.

The Centennial Celebration of the Chinese Meteorological Society

Qingdao, China, 23-24 November 2024

The Centennial Celebration of the Chinese Meteorological Society (CMS) and a symposium on meteorological science and technology modernization were held in Qingdao, China from 23-24 November 2024. The event brought together meteorologists from around the world to review the society's century-long journey, conduct discussions on promoting meteorological scientific progress, advance meteorological technological capabilities and achieve high-quality developments goals in meteorology. Leaders from multiple organisations, including the China Association for Science and Technology and the China Meteorological Administration, sent congratulatory messages and delivered speeches. Academician Zhemin Tan, the President of CMS, presided over the symposium and delivered a keynote paper. The President of the International Association of Meteorology and Atmospheric Sciences (IAMAS), as well as the Presidents of the American Meteorological Society (AMS), the European Meteorological Society (EMS) and the Meteorological Society of Japan (MSJ) expressed best wishes to the CMS and anticipated enhanced international cooperation and exchanges in the field of meteorology.

A list of 30 CMS Inaugural Fellows was officially announced at the event. To mark the centennial, the CMS also launched three publications: *The Centenary History of the Chinese Meteorological Society (1924-2024)*, *Commemorative Collection on the Centenary Progress of Atmospheric Sciences Research and Application*, and *Commemorative Collection on Meteorological Science Popularization for the Centenary of the Chinese Meteorological Society*. Parallel exhibitions showcased the CMS historical milestones, advancements in meteorological technology and academic journals. Multiple sub-sessions were held, covering topics such as the history of the CMS, strategies for the development of atmospheric sciences, energy meteorology, weather and climate of the Tibetan Plateau, meteorological communication, and meteorological artificial intelligence. Nearly

a thousand participants attended the event, with numerous scholars presenting papers on the latest research findings and insights into the future of meteorological science.

Founded by renowned meteorologists such as Lu Gao, Bingran Jiang and Kezhen Zhu in 1924 in Qingdao,



The Centennial Celebration of the Chinese Meteorological Society.

Shandong Province, the CMS is dedicated to the advancement of meteorological science and the development of weather observations. It is one of the earliest national natural science societies established in China. Currently, the CMS boasts nearly 150 institutional members and over 40,000 individual members with 44 branches, covering all major areas and disciplines in the field of meteorology. Over the past century, the CMS has actively promoted disciplinary development, academic exchanges, popularization of scientific knowledge, establishment of journals, and cultivation of future talent. The CMS has had 29 councils, with meteorologists such as Kezhen Zhu, Duzheng Ye and Shiyan Tao successively serving as president. Significant contributions have been made to areas such as the East Asian monsoons, East Asian rainstorms, and the climate of the Tibetan Plateau, attracting widespread attention from the international atmospheric science community. The CMS-published journals, *Acta Meteorologica Sinica* (established in 1925) and *Journal of Meteorological Research* (established in 1987), have become leading meteorological academic journals in China with growing international influence.

Dr. Andrea Flossmann, President of IAMAS, delivered a speech at the event, congratulating the CMS on the successful centennial celebration and acknowledging the important role played by the CMS in promoting the development of meteorological science and technology. She also thanked the Chinese researchers for their significant contributions to meteorological science in general and to IAMAS and expressed hopes for future collaboration between IAMAS and CMS. Dr. Flossmann emphasized that in a rapidly changing world, new challenges arise, and only a structure of disciplinary commissions and a collaboration of nations across disciplines will preserve and provide a scientific ecosystem that allows a rapid response of the atmospheric science community to newly emerging urgent problems for society.

The CMS also conducted exchanges and cooperation with meteorological societies from Europe, the United States and Japan during the conference.



IAMAS President Dr. Andrea Flossmann delivering a speech at the Centennial Celebration.

The 2025 IAMAS/IACS/IAPSO Scientific Assembly BACO-25

A major IAMAS event in 2025 will be the Scientific Assembly to be held jointly with our sister associations IACS and IAPSO in Busan, South Korea over 20-25 July. The initial plan for the meeting had 81 scientific sessions and the call resulted in over 1,250 abstracts being submitted, of which over 700 from the IAMAS community. The abstracts came from scientists in 41 countries, which promises an exciting, international programme of science. The deadline for abstract submission has now passed and the convenors will be assembling the science programme that will be released in the second half of March. More information on BACO-25, including details of how to register, are available on the conference web site at https://baco-25.org/2025/english/01_introduce/02_introduce.asp.

Opportunity to host the IAMAS 2029 assembly

Bids can still be submitted to host the 2029 IAMAS Scientific Assembly. These meetings are held every four years between the assemblies of IUGG and bring together scientists involved in all aspects of the atmospheric sciences. The 2029 assembly is still at an early stage of planning, but may be held with one or more of the other IUGG associations. For more details please contact the IAMAS Secretary General at iamas.secretary@gmail.com.

Commission activities

The International Commission on Atmospheric Electricity (ICAE) has for many years produced a newsletter and in January 2025 released volume 35, issue 2. It highlights its symposium to be held at BACO this July, along with relevant sessions at EGU. The newsletter can be found at <https://www.iamas.org/icae/>

The International Commission on Atmospheric Chemistry and Global Pollution have a virtual monthly online seminar on the cryosphere and atmospheric chemistry. See <https://www.catchscience.org/seminar-series>.

Recent IAMAS publications

The IAMAS associated scientific journal Advances in Atmospheric Sciences (AAS) publishes reports and articles on the work of the association and its commissions, along with relevant research results. It also publishes papers by the IAMAS Early Career Scientist Medalists and IUGG Fellows nominated by IAMAS. The latest IAMAS-related publication in AAS is a report on the 2024 International Radiation Commission quadrennial meeting. The report can be accessed via <http://www.iapjournals.ac.cn/aas/article/doi/10.1007/s00376-025-4525-3>.

Water Cycle Changes Over Asia: From Attribution to Adaptation

The 9th GEWEX-OSC, Sapporo, Japan, 8 July 2024

A meeting on Water Cycle Changes Over Asia: From Attribution to Adaptation was held on 8 July 2024 at the 9th Global Energy and Water Cycle Exchanges (GEWEX) Open Science Conference (OSC) at the Keio Plaza Hotel in Sapporo, Japan. This addressed the communication of advanced information on climate and hazard projections to the general public and was attended by over 60 participants from around the world. The session explored the scientific progress in event attribution to determine the extent to which human-caused climate change over Asia has influenced the changes in the water cycle, as well as in climate and hazard. The session also addressed impact assessments of climate changes and adaptations utilizing dynamical downscaling and considering human activities, and an online one-stop shop for information and resources to adaptation to help individuals and organizations. Furthermore, the session addressed the challenges associated with communicating the results of climate change impact assessments and adaptation strategies.

Seven invited speakers presented climate projections and impact assessments in their own countries. These presentations collectively emphasized the importance of innovative methodology, stakeholder collaboration, and informed policy-making in effectively tackling climate change challenges. They showcased the critical role of interdisciplinary approaches and knowledge co-production in creating actionable and sustainable climate resilience strategies.

After the presentations, a panel discussion was held that included an expert on climate dialogue as well as the invited speakers. The panel discussed effective communication strategies to bridge the gap between science and society and was held with scientists and communicators from the Asia-Oceania region. During this discussion, they shared issues and discussed the direction of solutions for communicating advanced information on climate and disaster predictions to decision makers and the general public.

One topic discussed was how users make the most of climate projection data. It was stressed that dialogue amongst climate scientists, impact assessment and adaptation researchers, and stake-holders is essential to produce useful data. A further topic discussed was how the careers of science communicators in the climate change and adaptation field can develop. Good role models have a part to play in communicating career development and academic courses for this purpose in universities should be provided.

The session was supported by the Ministry of Education, Science, Culture, and Sports, The University of Tokyo, Japan Marine Science and Technology Center, Kyoto University, and Japan Meteorological Business Support Center.



World Weather Research Programme of the WMO

Estelle De Coning

The Weather and Climate Information Services for Africa (WISER) [Early Warnings for Southern Africa \(EWSA\)](#) international consortium has been working in southern Africa since mid-2023 to co-produce satellite-based nowcasting products and alerts for severe thunderstorms. The project is led by the University of Leeds, UK and funded by the UK government's Foreign, Commonwealth and Development Office (FCDO). Several partners work together on this project, including the [World Weather Research Programme of WMO](#), but the main partners are the National Meteorological and Hydrological Services (NMHSs) of Mozambique, Zambia and South Africa. Early warnings for severe thunderstorms can help communities prepare and it can save lives, aligning with the United Nations Early Warnings for All (EW4All) initiative led by the World Meteorological Organization (WMO).

In 2024, the project arranged southern Africa's first testbed at the Zambia Meteorological Department (ZMD). This two-week event brought together forecasters, meteorologists, user engagement specialists, representatives of disaster and disability organisations and community members. At ZMD, forecasters and meteorologists used new satellite-based tools and techniques to issue nowcasts every couple of hours and evaluate their reliability. The process of issuing nowcasts, and the content of the messages, improved significantly over the two weeks as everyone learned together. And the prototype process showed great potential.

Besides the testbed, several co-production and co-design workshops took place in 2024 in Mozambique, Zambia and South Africa. Participants in all three countries included the WISER EWSA project team and representatives from the NMHSs, community observers and mobilisers, intermediary organisations dealing with disaster risk management and reduction, humanitarian aid, people with disabilities, and other vulnerable groups in the three countries. Some government departments and media organisations also attended part of the meetings.

The quality and accuracy of weather forecasts issued by the three countries improved because of capacity building and access to forecasting tools enabled by the project. Several forecasters have been trained by SAWS, in its role as a Regional Specialised Meteorological Centre (RSMC) and Regional Training Centre (RTC) of WMO since 2023. The training comprised online and face-to-face sessions.

Another testbed event is planned for the end of January 2025, during which nowcasting will take place 24 hours a day, with messages issued regularly in the case of any pending severe events. This event will include more community activities to raise awareness of how to access and use weather information.

The project will conclude in the second half of 2025 and we are working hard towards reaching our project objectives, namely to strengthen capacity for co-producing nowcasts and short-range forecast early warning systems across the Southern African regional network; to raise awareness of risks related to extreme storms for diverse urban populations; to identify business models to ensure sustainability of nowcasts and short-range forecast warning; and to stimulate regional demand for nowcasts as part of a suite of weather and climate information across the full range of timescales for risk reduction.



Upcoming meetings

Meetings supported by IUGG are indicated by an asterisk

2025

- Improved Simulations of the Stratosphere for Better Predictions of Weather, Climate and Extreme Events, Cambridge, UK, 24-28 2025 March (ICMA)*
- 2025 International Symposium on Lightning Physics and Lightning Meteorology, Beijing, China, 23-26 April 2025*
- Resilience to Natural Hazards through AI Solutions, Frascati, Italy, May 2025*
- Titan: 20-year Anniversary of Cassini-Huygens Mission, Paris, France, first semester of 2025 (ICPAE)*
- 21st Global Emission Initiative Conference, Abidjan, Ivory Coast, 9-11 July 2025*
- The IAMAS/IACS/IAPSO Joint Scientific Assembly BACO-25, 20-25 July 2025 Busan, Republic of Korea. www.baco-25.org.
- Workshop on Data Science for Weather and Climate Research, and Training School on Climate Data Analysis and AI in the Global South (AI4Climate), Dakar, Senegal, October/November 2025*
- The 11th WMO Scientific Conference on Weather Modification. Pune, India 3-7 November 2025. https://www.tropmet.res.in/229-event_details
- Workshop on Progress in Atmospheric Electricity. December 2025. San Francisco, USA. (ICAE)

2026

- The 6th International Atmospheric Rivers Conference. Date and location to be decided.
- The Climate and Cryosphere Open Science Conference, Wellington, New Zealand 9-12 February, 2026. clic2026.com.
- The 12th Scientific Committee of Antarctic Research Open Science Conference. Oslo, Norway 8-18 August 2026. <https://www.npolar.no/en/arrangement/scar2026/>

2027

- The 29th IUGG General Assembly. To be held in Incheon, Republic of Korea in the Boreal summer of 2027. The dates will be announced soon.

2028

- The next IRC Quadrennial Symposium. Date and location to be decided.
- The 20th International Conference on Clouds and Precipitation (ICCP) will be held at the Indian Institute of Tropical Meteorology. The exact date will be announced in due course.