INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS
UNION GEODESIQUE ET GEOPHYSIQUE INTERNATIONALE

The IUGG Electronic Journal

Volume 24 No. 5 (1 May 2024)

This monthly newsletter is intended to keep IUGG Members and individual scientists informed about the activities of the Union, its Associations and interdisciplinary bodies, and the actions of the IUGG Secretariat, Bureau, and Executive Committee. Past issues are posted here. E-Journals may be forwarded to those who will benefit from the information. Your comments are welcome.

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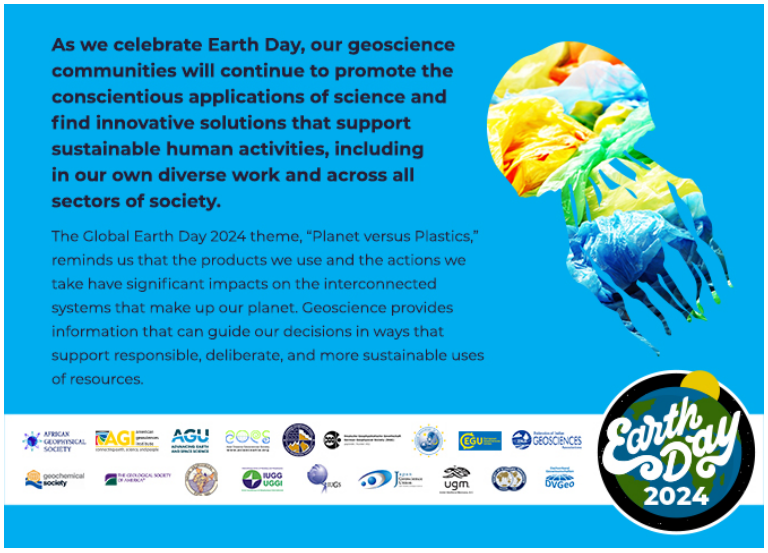
1. IUGG – Joint Earth Day Statement

IUGG celebrated Earth Day on 22 April 2024 together with its partners and published the following statement.



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2. IUGG – The People at the Forefront (XXXIV): Virendra Tiwari, Bureau Member 2023-2027

Embarking on a nostalgic journey through the corridors of my past, I am enveloped by a kaleidoscope of memories – each a testament to life's multifaceted tapestry, weaving together moments both tender and tumultuous. It is within this intricate mosaic of experiences that I find myself molded into the person I stand as today – a resilient, enlightened soul, forged through the crucible of life's trials and triumphs.

My odyssey began in the tranquil embrace of a quaint village nestled amidst the verdant landscapes of Uttar Pradesh, India. It was there, amidst the rustic simplicity of rural life, that the seeds of my educational voyage were sown. From the tender age of six, I embarked on a quest for knowledge, guided by the nurturing wisdom of my mother – a testament to the adage that 'home is the first school of a child'. Recollections of those formative years are etched vividly in my mind – the rhythmic clatter of chalk on wooden slates with earthy aroma of carbon-polished surfaces, and the joyous discovery of the world's contours sketched upon a humble football. As a school goer, aspects of geophysics were appealing to me as I came across explration work being done in my village area, in which the oil men used to drill, blast and record in a machine. I could not comprehend and visualise the records except the notion of photographing the subsurface of the Earth. Fortunately, I belong to an educated family and my curiosity and orientation towards science, and engineering were well understood by my parents during my nascent stage itself. Fuelled by the dedicated efforts of parents and educators, I imbibed the foundational tenets of learning, setting the stage for a lifelong pursuit of knowledge.

Venturing forth to Banaras Hindu University, India I found myself ensconced within the hallowed halls of academia, drawn by the allure of scientific inquiry and philosophy. As adolescence beckoned, the enigmatic realm of geophysics captivated my imagination – a realm shrouded in mystery yet brimming with untold potential. It was there, amidst the storied corridors of one of India's oldest institutions, that my perspective underwent a profound metamorphosis – a transformation that propelled me towards the venerable field of geophysics, steeped in tradition yet ripe with innovation.

Virendra Tiwari and the first Absolute Gravity Station in the Dronning Maud Land, Matri, Antarctica

Ever since, it is never a looking back. After qualifying the CSIR National Eligibility Test, I joined the CSIR-National Geophysical Research Institute (CSIR-NGRI), Hyderabad as a Junior Research Fellow and pursued my PhD. I had the opportunity to serve CSIR-NGRI for the last three decades in scientific positions, including the coveted position of Director, CSIR-NGRI for six years. Currently, I am serving another CSIR institute again in the capacity of Director, at CSIR-North East Institute of Science and Technology (CSIR-NEIST), Jorhat, Assam. Since my early days as a researcher, I am engaged to answer some fundamental queries of Earth's geodynamics, like for example, how continental topographic masses are supported by lithosphere over millions of years? And applications of geosciences for example, how gravity data can be utilised in conjunction with other geophysical information for natural resource exploration? Thus, the twin sides of geosceicnes, knowledge generation and applications have been part of my working ever since begening of my scientific career. In the quest of wealth of knowledge and to unravel the known, I had several opportunities to embark on field tours, traversing different terrains with exposure of lithology from Precambrian to Quaternary period of the geological time

scale. It was very thrilling as a young Earth science researcher to be on different data acquisition platforms, viz.,ground survey, offshore platform, and airborne geophysics. As a part of internationally reputed geophysical instititute, involvied in the national and international projects, I had opportunities to travel to Antarctica and other continents. During the Indian Antarctic expedition, we could establish first Absolute reference gravity station at Indian station Maitri in 2003-2004.

Virendra Tiwari and the first heli-borne surveys in the Himalayan region for near surface imaging

Working in close coordination with peers and highly experienced scholars gave me the platform to enrich my knowledge and expertise, and that was indeed a bonanza I had in terms of addressing key research problems on lithosphere, geodynamic issues, estimation of effective strength of continental and oceanic lithosphere, extent of underthrusting Indian crust under Himalaya and eclogitisation of lower crust under southern Tibet, localisation of mega-thrust earthquakes in subduction zones, numerical simulations of present-day tectonic stress across Indian subcontinent, to name a few. My research transcended from subsurface mass distribution manifested over different geological time periods to geological mass transportation occurring over contemporary time, particularly hydrological mass variation over a decade after finishing my PhD. We used GRACE temporal gravity data for quantification of extreme water mass loss ascribed to over exploitation of groundwater in the north Indian region, which provided significant input for the management of groundwater. Pursuing the satellite based hydrological studies in the recent times, gradually I became more involved in the groundwater research, especially in near surface imaging using airborne surveys, aquifer characterisation and utilising it for water management, as well as using seismological signal for detecting mass transport.

Yet, amidst the heady pursuit of scientific inquiry, a sobering reality looms large – the imperative of sustainability and the urgent need to safeguard our planet's future. Therefore, with a strong scientific ardour, I urge the young Earth science professionals and researchers through the globe to work religiously towards three key areas of sustainable growth and development of the Earth viz., ocean, ground water and climate. The ocean has vast resources to be tapped for our future needs, be it our food and nutrition, fuels as well as mineral wealth for industries. As Earth scientist, we need to exercise lots of caution and sensitivity in optimum exploration and exploitation of our ocean resources by making sure that the marine ecosystem is not disturbed and the delicate ecological balance is maintained. The future global crisis and geopolitical tensions could be led by scarcity of groundwater. In order to avoid it, now is high time for the Earth science fraternity worldwide to adopt best possible measures to ensure recycling of ground water aquifers and judicious management of our groundwater. Climate change is the most burning topic over decades globally and most of the climate change summits have collapsed without being able to reach a concrete consensus so far. This is a colossal challenge to the new generation of Earth scientists to device a robust mechanism to arrest the excess greenhouse gases such as through carbon sequestration etc. In essence, it is my enthusiastic appeal to the young researcher fraternity globally to realign your research objectives by adhering to the 17 UN Sustainable Development Goals so as to produce R&D which is in sync with nature and is in perfect harmony with the sustainable growth and development of the world as a whole.

I have been fortunate enough to get associated with IUGG at a very young age while serving IUGG National Committee activities for more than 20 years, and have been the National Delegate, IUGG

Membership Committee, Finance Committee before getting elected as Bureau Member. A few years back, I have been a nodal person for organising virtually the Joint Scientific Assembly of IAGA-IASPEI 2021at Hyderabad, India, with a vision of realising the mission of IUGG to promote and advance the knowledge of Earth System, encourage and facilitate collaboration within and between associations.

Inauguration of the IAGA-IASPEI 2021 by Dr. Jitendra Singh, Hon'ble Minister of State for Science & Technology; Earth Sciences and Prime Minister Office, Government of India (GoI) in the gracious presence of Dr. M. Rajeevan, Former Secretary, GoI, Dr. Ashutosh Sharma, Secretary, DST, GoI, Dr. Shekhar Mande, DG, CSIR and Secretary, DSIR, GoI and me

Apart from IUGG, I am also a member of the IUGS national committee and serve other scientific social responsibilities like Vice President of Indian National Science Academy, President Federation of Indian Geoscience Association, a federal of geoscience associations and patron institutions.

As I stand on the precipice of a new era, I am reminded of the profound responsibility that accompanies scientific leadership – a responsibility to nurture the flames of inquiry, to foster collaboration, and to pave the way for a brighter future for generations to come. Through steadfast commitment to our shared values and unwavering dedication to the pursuit of knowledge, we can transcend boundaries, illuminate the darkest corners of ignorance, and usher in an era of enlightenment and progress.

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3. IUGG – Activities at the EGU General Assembly 2024

The IUGG Bureau was active in several ways at the recently concluded EGU conference in Vienna: One highlight was the Great Debate on the EGU, organised jointly with AGU, GSL and IUGS: "How can geoscience unions and societies effectively integrate science into global policy decisions?" (see photos, credits: Megan O'Donnell, GSL). Guests on the panel were Tasmin Edwards from King's College London (UK), Alessandro Allegra from the European Commission in Brussels, Belgium, Joel Gill from Geology for Global Development and Cardiff University (UK), and Vanessa McBride [Online] from the International Science Council (ISC) in Paris, France. It was a lively and stimulating

discussion with interesting points of experience and views including interaction with the plenary. The debate was moderated by Elena Robinson (AGU) and Alex Rudloff (IUGG), with strong support from Megan O'Donnell (GSL).

Further activities included an IUGG Bureau Meeting, meetings with the AGU and EGU leadership, and a exchance with the key persons of the IUGG2027 bid from Incheon, Rep. of Korea. More detailed information will follow.

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4. IUGG – Statutes and By-Laws

In 2017, the IUGG Bureau started a process to reformat the IUGG Statutes and By-Laws to make reading and understanding easier, without changing the content. On 19 April 2024, the IUGG Council approved the reformatted version of the Statutes and By-Laws, which can be downloaded here.

IUGG Council Delegates from 33 Member Countries (of 42 Member Countries eligible to vote) submitted an electronic ballot. 33 affirmative, 0 negative, and 0 abstaining votes were received.

Our special thanks for this tremendous job goes to the members of the IUGG Statutes and By-Laws Committee including Charles Fierz (Chair), Charles Barton, Jeffrey Freymueller, and Ajay Manglik.

Also, IUGG would like to thank the Council Delegates and the Association Officers for their valuable support and contributions to the further development of our Union.

Please note that IUGG documents and the IUGG website still refer to the old Statutes and By-Laws. Relevant updates should be made over the next weeks.

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5. IUGG2023 – Comptes Rendus

The Comptes Rendus of the 28th IUGG General Assembly (IUGG2023) are now available here. Thanks to all who helped to compile the proceedings of the General Assembly!

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6. IAMAS/IAG – UN Focus Group on AI for Natural Disaster Management transitions into Global Initiative

From 13 to 15 March 2024, the International Telecommunication Union (ITU), World Meteorological Organization (WMO), and UN Environment (UNEP) Focus Group on AI for Natural Disaster Management held its final workshop and meeting at the University of Maryland Baltimore County (UMBC) and NASA Goddard Space Flight Center (GSFC). Thanks to the generous support of the IUGG Grants Program Special Call (IYBSSD2022), under the leading applicant of the International Association of Meteorology and Atmospheric Sciences (IAMAS) and supporting applicant of International Association of Geodesy (IAG), we were thrilled to support the onsite participation of

experts and stakeholders [with priority for those based in least developed countries (LDCs) and small island developing states (SIDS), for woman scientists, and for early career scientists].

During the workshop, which drew ca. 230 participants, Prof. Benedikt Soja (IAG) gave a keynote highlighting some of the ways that geodesy can be used in conjunction with AI for seismic hazards. This was followed by presentations from experts at MIT Lincoln Lab, National Weather Service, and U.S. Department of Agriculture demonstrating how AI is being used operationally in disaster management – to fill the gaps in radar observations, to monitor disasters and their impacts from remote sensing imagery, and to address accessibility gaps in weather information. In the following session, experts from UMBC, NASA GSFC, and Texas A&M University demonstrated how AI is being used in a research context: to classify imagery, to transform disaster risk reduction progresses, and to support disaster management through versatile foundational models.

On-site participants of the final workshop and meeting of the Focus Group on AI for Natural Disaster Management

At the meeting, the Focus Group approved the final deliverables and, with agreement from the UN partners, launched its successor: an ITU/WMO/UNEP Global Initiative on Resilience to Natural Hazards through AI Solutions. This UN Global Initiative will enable the Focus Group to continue its standardisation and capacity sharing activities, and to delve into implementation projects. Participation in the UN Global Initiative is open to all and opportunities to contribute (e.g., to share your research as a use case) can be found here.

Monique Kuglitsch, Chair of the UN Focus Group on AI for Natural Disaster Management

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7. IAVCEI – Scientific Assembly 2025: Call for Session Proposals

IUGG

IAVCEI
International Association of Volcanology and Chemistry of the Earth's Interior

We are glad to inform that the call for sessions is now open for the IAVCEI Scientific Assembly 2025 which will be held in Geneva, Switzerland from 29 June to 4 July 2025. More information can be found here.

IAVCEI 2025 Scientific Committee

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8. GRC/IAG – Implementing IUGG 2015 Resolution #4: Organisation of GNSS enhanced Tsunami Early Warning (GeTEWS) Consortium: Report

The United Nations recognises the Oceania region encompasses the sovereign states and dependent territories of 17 nations with vastly differing economies. These nations of Oceania are united by their exposure to significant geophysical risk generated by both tectonic and climatic forces. Oceania is both the source and recipient of tsunamis generated by the tectonic and volcanic forces of the Pacific Ring of Fire. The GeoRisk Commission (GRC) is proud to play a role in advancing the IUGG contributions to disaster risk reduction. GRC believes that GNSS enhanced Tsunami Early Warning Systems (GeTEWS) can provide cost effective and rapid warning for Oceania.

The catastrophic Great Indian Ocean Tsunami of 26 December 2004 prompted the IUGG Associations led by the IAG to play important roles in developing the science, infrastructure and algorithms necessary for GeTEWS. A review of these early activities can be found in the GTEWS 2017 workshop report. However, the report also discussed a reticence amongst western Pacific nations to share real time GNSS data that is a key data set for a regional GeTEWS capability.

The IUGG Grants Program 2022-2023 supported GRC in developing the GeTEWS Oceania Working Group. The working group conducts its meetings as an element of the Geodesy4Sendai activity of the GEO Work Programme 2022-2026. Following a year of discussion, the GeTEWS Oceania Working Group and the Pacific Geospatial and Survey Council announce the **GeTEWS Oceania 2024 workshop to be held in Suva, Fiji from 4 to 8 November 2024**. The workshop is sponsored by the Joint Tsunami Commission and GRC.

The workshop seeks to establish regional agreement on the development, funding, and governance of a GNSS Oceania Geospatial Array and processing capability for the verification and tracking of tsunamis. The workshop agenda will address the needs and capabilities of each nation to support its GNSS capability. The workshop will also discuss the many other applications of GNSS to regional environmental monitoring. Timothy Melbourne, Chair IAG/GGOS Geohazards Focus Area and the Tonga Ministry of Lands and Mineral Resources began the GeTEWS Oceania Initiative with the installation of the first of five multi-GNSS receivers in March 2023.

John LaBrecque, GRC Chair

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9. Survey on researchers' expectations of conferences

Are you a researcher planning to attend scientific conferences?

Please consider participating in and distributing this survey on researchers' expectations of conferences that Ariane Wenger – a doctoral student at the Transdisciplinarity Lab (TdLab), ETH Zurich – is conducting as part of her dissertation on changing research exchange practices. The short (10-15 minutes) online survey is aimed at researchers of all scientific disciplines and career stages who are planning to attend scientific conferences. In particular, opinions and views of researchers from all around the world are appreciated. Participation in the survey will not only enrich this study, but will also help to identify avenues for enhancing current conference practices, benefiting the wider academic community. The survey can be accessed here.

Thank you very much for your support!

TdLab, ETH Zurich

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10. Awards and Honours

International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI)

Minard Pete Hall (Ecuador) and ***Jim Kauahikaua*** (USA) were named as recipients of the 2024 Honorary Awards.

International Lithosphere Programme (ILP)

Fabio Capitanio (Australia) was named as recipient of the 2024 Evgenii Burov Medal.

Congratulations!

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11. Meeting Calendar

This calendar includes meetings which are planned to be organised under the umbrella of IUGG, and major conferences of IUGG's partner organisations (in *italics*). The calendar is updated regularly and is also available online. If you would like to add a meeting, or report changes, please contact the IUGG Secretariat.

May

- 6-10, IUGG, IAGA, IAMAS, Ourense, Spain, 12th International Workshop on Long-Term Changes and Trends in the Atmosphere
- 13-17, IUGG, IAGA, L'Aquila, Italy, Course on Operational Space Weather Fundamentals
- *19-21, IUSS, Florence, Italy, Centennial Celebration and Congress of the International Union of Soil Sciences*
- 20-24, IAVCEI, Nový Jičín, Czech Republic, Volcandpark 2024
- *26-31, JpGU, Chiba, Japan, Japan Geoscience Union Meeting 2024*
- 30-1 June, IUGG, CMG, IASPEI, Mumbai, India, Workshop on Computational Geosciences for Sustainable Development

June

- 2-7, IUGG, CMG, Mumbai, India, 34th Conference on Mathematical Geophysics. Mathematical Geophysics for Sustainable Development
- 2-7, IUGG, IAGA, Fredericton, New Brunswick, Canada, The Combined ANGWIN/VCAIS Meeting
- 5-7, IAG, Barcelona, Spain, EUREF Symposium 2024
- 7-17, IUGG, IACS, McCarthy AK, USA, International Summer School in Glaciology
- 17-21, IUGG, IAMAS, Hangzhou, China, Quadrennial International Radiation Symposium 2024
- 18-20, IAVCEI, Liverpool, UK, 1st International Conference on Volcanic and Igneous Plumbin Systems (VIPS)
- *23-28, AOGS, Pyeongchang, Rep. of Korea, AOGS Annual Meeting 2024*
- 23-28, IUGG, IAG, SEDI, Great Barrington MA, USA, 18th Symposium of SEDI
- 24-27, IUGG, IAMAS, La Jolla CA, USA, International Atmospheric Rivers Conference 2024
- 24-28, IUGG, IASPEI, San José, Costa Rica, 5th General Assembly of the Latin American and Caribbean Seismological Commission
- 30-6 July, IAGA, Utrecht, Netherlands, 18th Castle Meeting - New trends on Paleo-, Rock- and Environmental Magnetism

July

- 7-12, IAMAS, Sapporo, Japan, 9th Global Energy and Water Exchanges (GEWEX) Open Science Conference
- 8-12, IAMAS, Jeju, Rep. of Korea, 11th International Cloud Modeling Workshop (ICMW) 2024
- 12-13, IUGG, IAMAS, Jeju, Rep. of Korea, Workshop on Evaluation of Cloud Probe Processing Software
- 13-14, IUGG, IAMAS, Jeju, Rep. of Korea, Workshop on Scientific Directions for Cloud Chamber Research
- 13-21, COSPAR, IUGG, Busan, Rep. of Korea, 45th COSPAR Scientific Assembly
- 14-19, IAMAS, Jeju, Rep. of Korea, International Conference on Clouds and Precipitation
- 15-19, IUGG, IAMAS, Boulder CO, USA, Quadrennial Ozone Symposium
- 15-20, IUGG, IAPSO, Buenos Aires, Argentina, Summer School ‚From meso to sub-mesoscale ocean circulation structures: satellite and in-situ measurements, physical mechanisms and biological impact‘
- 15-21, IAVCEI, Eastern Carpathians, Romania, 2nd edition of the Carpathian Fluid Geochemistry Summer School
- 20, IAMAS, Jeju, Rep. of Korea, A Short Course on Cloud Microphysics and Radar Observations
- 20-27, IAHS, UNESCO-IHP, WMO, Cairo, Egypt, IAHS Academy
- 24-25, IAHS, Eichstätt, Germany, International Commission on Continental Erosion (ICCE) Symposium 2024

August

- *6-15, IAU, Cape Town, South Africa, 32nd IAU General Assembly*
- *24-30, IGU, Dublin, Ireland, 35th International Geographical Congress*
- 25-30, IAG, Strasbourg, France, 20th Geodynamics and Earth Tides Symposium
- *25-31, IUGS, Busan, Rep. of Korea, 37th International Geological Congress*

September

- 4-6, IAG, Thessaloniki, Greece, Gravity, Geoid and Height Systems 2024
- 7-13, IAGA, Beppu, Japan, 26th Electromagnetic Induction Workshop
- 8-15, IAVCEI, Catania, Italy, 10th International Conference on Tephra Studies
- 9-13, IAMAS, Kuala Lumpur, Malaysia, 16th International Commission on Atmospheric Chemistry and Global Pollution Symposium and 18th International Global Atmospheric Chemistry Science Conference
- 16-20, IASPEI, Corfu, Greece, Young Seismologist Training Course
- 18-20, IAVCEI, Catania, Italy, 6th Conference Alfred Rittmann
- 22-27, IUGG, IASPEI, Corfu, Greece, 39th General Assembly of the European Seismological Commission
- 30-4 October, IAGA, Breckenridge CO, USA, 11th VLF and ELF Remote Sensing of the Ionosphere and Magnetosphere (VERSIM) Meeting

October

- October, IAMAS, Qingdao, China, ICCL Conference
- 1-4, IUGG, IASPEI, Windhoek, Namibia, 4th General Assembly of the African Seismological Commission
- 5-13, IAVCEI, Nicolosi, Italy, 9th school on Convective and Volcanic Clouds (CVC) detecting, monitoring and modeling
- 6-9, EMSEV, IAGA, IASPEI, IAVCEI, Chania, Greece, Electromagnetic Studies of Earthquakes and Volcanoes

- 7-11, IAG, Potsdam, Germany, GGOS Days 2024 and GGOS Focus Areas Topical Meeting
- 13-19, IAMAS, Nanjing, China, ICDM Workshop 2024
- 20-26, IAG, Kunming, China, 23rd International Workshop on Laser Ranging
- 31-6 November, IAGA, Vassouras, Brazil, XXth IAGA Workshop on Geomagnetic Observatory Instruments, Data Acquisition and Processing

November

- November, IAG, Bogota, Colombia, SIRGAS 20243-7, IUGG, IASPEI, Belek, Türkiye, 15th General Assembly of the Asian Seismological Commission
- 4-7, IUGG, IAHS, Florianópolis, Brazil, 9th International Water Resources Management Conference of the International Association of Hydrological Sciences; 14th International Workshop on Statistical Hydrology of the International Association of Hydrological Sciences; and 1st Encontro Brasileiro de Hidrologia Estatística
- 4-8, GRC, Suva, Fiji, GeTEWS Oceania 2024
- 4-8, IAVCEI, San Pedro de Atacama, Chile, 1st International Monogenetic Conference
- 10-14, IAMAS, Goa, India, 9th SOLAS Open Science Conference

December

- *9-13, AGU, Washington DC, USA, AGU Fall Meeting 2024*

Association Scientific Assemblies 2025

- 29 June – 4 July, IAVCEI, Geneva, Switzerland, IAVCEI Scientific Assembly 2025
- 20-25 July, IACS, IAMAS, IAPSO, Busan, Rep. of Korea, IACS-IAMAS-IAPSO Joint Scientific Assembly 2025
- 31 August – 6 September, IAGA, IASPEI, Lisbon, Portugal, IAGA-IASPEI Joint Scientific Assembly 2025
- 1-5 September, IAG, Rimini, Italy, IAG Scientific Assembly 2025
- 5-10 October, IAHS, Roorkee, India, IAHS Scientific Assembly 2025

IUGG Electronic Journal Volume 24 Number 5 (1 May 2024)

Editors: Franz Kuglitsch, Mioara Mandea, Alexander Rudloff (Editor-in-Chief), and Kathy Whaler.