



**INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS
UNION GEODESIQUE ET GEOPHYSIQUE INTERNATIONALE**

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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 – The People at the Forefront (XXV)

Christophe Cudennec, Secretary General of the International Association of Hydrological Sciences (IAHS), 2019-2023



Christophe Cudennec, IAHS Secretary General (2019-2023)

I grew up next to Rochefort, western France, where the Charente River meanders and flows into a wide bay of the Atlantic Ocean protected by islands; where the geomorphology determines the mixing of fresh and marine waters, with complex dynamics of sediments and nutrients, and a rich ecology and oyster production. This environment certainly determined my early interest in the interfacing and dynamics of different waters, of water and land, of shapes and functions, of naturalism and engineering, of physical and human geography; and determined my interest in their variability, visible in the tides and skies, their rhythms visible in bird migrations and farming campaigns, their changes visible in the landscapes, and their compound extremes visible from

time to time. During my childhood and teenage years in the 1970-80s, family slow-movement road-trips across Europe and its North-African and Middle-East neighbouring countries, as well as a

personal sensitivity to the rising awareness of environmental challenges and post-Chernobyl debates led me to put my original perceptions in a wider perspective, and to orient my studies.



The Charente River meanders and estuary on the Atlantic Coast (IGN aerial photographs made publicly available [here](#))

I went through the French national competition based on Mathematics, Physics, Chemistry, Biology and Geosciences and could enter the «ingénieur agronome» curriculum that allowed me to contextualise sciences and practices into various agricultural, environmental, and institutional settings; with a particular focus on soil and water-related resources and hazard assessments. For my National Service in 1995 I was lucky to be sent to the French Embassy in Iceland, where I served as scientific and technical attaché for 1.5 years at the age of 22, and dedicated myself to explore such a unique environment; to support bilateral and European projects covering all geosciences; and to learn the essentials of diplomacy. This was a very intense experience, and confirmed my vocation. Back in France, I became an assistant at the university and studied for my PhD thesis (defended in 2000) on geomorphology-based hydrology, at the interface between water and landforms, land survey and fractal modelling, hydro-met dynamics and human security, with fieldwork in France, Tunisia, Mali and Indonesia. After two years as Associate Professor, consolidating my teaching portfolio, I moved to Tunisia for 3.5 years to focus on development-oriented research issues, in particular the data-scarce understanding of socio-hydrological processes impacted by agricultural intensification, the analysis of the Water-Energy-Food nexus from overexploitation, and the capitalisation of traditional knowledge. The Tunisian revolution a few years later, partly caused by the un-sustainable dynamics of these issues that I had studied, and the turbulence that my PhD students and alumni faced increased my interest in sustainability issues, in forensic analysis of complex crises, in the identification of science questions from socio-environmental hotspots, and in the value of scientific cooperation across borders. I arrived back to my university, l'Institut Agro, in France in 2006 and became Full Professor in 2010, with various academic and scientific responsibilities, in particular Dean for Digital Transition, and involvement in expert committees, in particular for the National Health Security Agency.

My curiosity for hydrology at large, across scales, interfaces, and geographic-climate-societal contexts led me to participate in IAHS conferences and initiatives, where I found welcoming, inclusive and encouraging values and atmosphere. I was invited by Pierre Hubert, the then Secretary

General of IAHS, to help with the then bilingual Hydrological Sciences Journal, which led me to 11 years of regular sleepless nights checking and translating titles, abstracts and keywords, and also the opportunity to read, every month, a new wave of literature in the field. This long-term practice, and my IAHS Tison Award for young hydrologist in 2007, led colleagues to suggest I consider the role of Secretary General of IAHS when it became vacant. I initially rejected the idea, then asked my peers for advice, then checked my employer's and home's policies, and finally decided to run for election. The IAHS community honoured me by electing me in 2011 in Melbourne, and by encouraging me to follow up in 2015 in Prague and in 2019 in Montreal. These years as Secretary General have been a unique adventure in terms of service to the community, of articulation of agendas and forming partnerships that contributed to consolidation and dissemination of scientific knowledge – and it allowed me to intensify my understanding of the hydrological and cultural diversity of the world. I have in particular appreciated, for example, being at the heart of the agenda-setting initiatives for PUB-Prediction in Ungauged Basins (initial and closing phases); Panta Rhei on hydrological change (design and development); UPH – Unsolved Problems in Hydrology (design); the support that I could give to working groups on new observation techniques – MOXXI and on citizen science – CANDHY; the close cooperation (representing IAHS and IUGG) with the UNESCO Intergovernmental Hydrological Programme and WMO bodies dealing with operational hydrology, innovation and capacity development; involvement with UN Water, including the design and monitoring of SDG6; the co-organisation of IAHS/IUGG assemblies and events across the world; the transformation of the oldest series of publications in hydrology (IAHS Redbooks, since 1924) into an open access low-cost Proceedings journal; the management of travel grants based on ED&I criteria; and so on. These 10.5 years coincided with intense changes in the world, an acceleration of digital transformations, an intensification of the monetary and bibliometric drivers in science, the Covid-19 pandemic, and the IUGG (in 2019) and IAHS (in 2022) centenaries – as well as with an acceleration of the Anthropocene syndrome, intense hydroclimate changes and related disasters, the emergence of Earth Modelling and Critical Zone approaches; and others. The journey has thus been busy though imperfect because of my capacity as a volunteer, but being part of a team of committed and competent persons, who share the same values of a worldwide inclusive association, focusing on adding value to the network of science, knowledge and sustainability, has certainly been the best way for me to traverse the decade; and to answer some of the questions that I formulated when I was a child looking at the Charente Estuary.



Field survey in Tunisia (2005)



IAHS Panta Rhei workshop in Zimbabwe (2018)

2. IUGG Awards 2023 – Call for Nominations

IUGG presents three categories of [Union Awards](#) – the Gold Medal, the Fellowships (Honorary Membership), and the Early Career Scientists Awards – to recognise outstanding individuals, who contributed significantly to the Earth and space sciences and international research cooperation. The awards are presented quadrennially at IUGG General Assemblies. Now, IUGG calls for nominations for the **2023 Early Career Scientist Awards**, the **Fellowships**, and the **Gold Medal**. The awards will be presented during the IUGG General Assembly 2023 ([IUGG2023](#)) in Berlin, Germany.

The **IUGG Early Career Scientist Awards** (ECSAs) honour early career scientists for their outstanding research in Earth and space sciences and international research cooperation. The deadline for submission of nominations for ECSA is **20 June 2022**. The nominations will be examined by the [IUGG ECSA Committee](#), which is chaired by Katrin Schroeder (Italy). The IUGG ECSAs are bestowed up to 10 individuals. The awardees will be invited to attend IUGG2023. Details on the IUGG ECSAs, including the procedure for nomination, eligibility criteria, and technical requirements, can be found [here](#).

IUGG Fellowships (Honorary Memberships) are a tribute to individuals who have made exceptional contributions to international cooperation in geodesy or geophysics and attained eminence in the field of Earth and space sciences. The deadline for submission of nominations for IUGG Fellowships is **20 September 2022**. Nominations will be examined by the [IUGG Fellow Selection Committee](#), which is chaired by Andrew Yau (Canada). IUGG Fellowships are bestowed up to 10 individuals. Details on IUGG Fellowships, including the procedure for nomination, eligibility criteria, and technical requirements, can be found [here](#).

The **IUGG Gold Medal** is the highest honour awarded by the International Union of Geodesy and Geophysics. The medal was established in 2013 to recognise Earth and space scientists for outstanding contributions to geodesy and geophysics and for unselfish international cooperation in research. The deadline for submission of nominations for the IUGG Gold Medal is on **20 October 2022**. The nominations will be examined by the [IUGG Gold Medal Committee](#), which is chaired by Tom Beer (Australia). The Gold Medal is bestowed to one individual. Details on the IUGG Gold Medal, including the procedure for nomination, eligibility criteria, and technical requirements, can be found [here](#).

Please take this opportunity to recognise colleagues for their contributions to the Earth and space sciences and international research cooperation.

For more information, please contact the [IUGG Secretariat](#).

3. IACS – New Joint Body on the Status of Mountain Snow Cover



A Joint Body is a way for IACS to organise joint activities with other organisations. IACS is pleased to announce the establishment of a new Joint Body ‘Status of Mountain Snow Cover (JB-SMSC)’ together with the World Meteorological Organization ([WMO](#)) and the Mountain Research Initiative ([MRI](#)).

Climate change is clearly impacting the amount and distribution of mountain snow cover over space and time. Knowledge of these changes is of great importance for research and practice, not least given the important role that snow plays for mountain ecosystems, natural hazards, and tourism, as well as a source of water for ecosystems and humans. Despite the high relevance of snow in mountain regions, an inventory for mountain snow cover and the underlying processes on a global scale are still lacking. Even regional inventories are strongly limited to a few well-monitored mountain ranges, such as in the U.S. Rockies and the European Alps.

The JB-SMSC will address these knowledge gaps by providing robust information on mountain snow cover changes at a global scale over the past few decades by compiling and analysing existing data (covering data from stations, remote sensing, and model simulations) at sufficiently high resolution. In addition, the JB-SMSC also aims to better understand processes of accumulation and ablation based on existing modelling and observational studies. Another important objective is to provide open access to the snow data for the benefit of the research community, and thereby contribute to the operational capacity building.

The JB-SMSC is co-chaired by Wolfgang Schönner (IACS; Austria), Shawn Marshall (MRI; Canada) and Lijuan Ma (WMO; China).

4. IAG – Discover GGOS

Do you know what Geodesy is exactly and what the IAG Global Geodetic Observing System ([GGOS](#)) does?

This youtube [film](#) immerses you in the World of Geodesy...



Over the last few months GGOS has been working on the production of the short film “Discover GGOS” to promote GGOS as well as geodetic observations, IAG services and geodetic products. The aim of this film is to explain and outline the benefits of Geodesy in a clear and simple way.

In addition to the English film version, GGOS also produced the film in the Spanish and German languages to reach as many people as possible. In the near future, a Japanese and a Portuguese version will also be available. Here you can access the “[Discover GGOS](#)” playlist containing all language versions. Don’t forget to [subscribe](#) for the GGOS YouTube Channel.

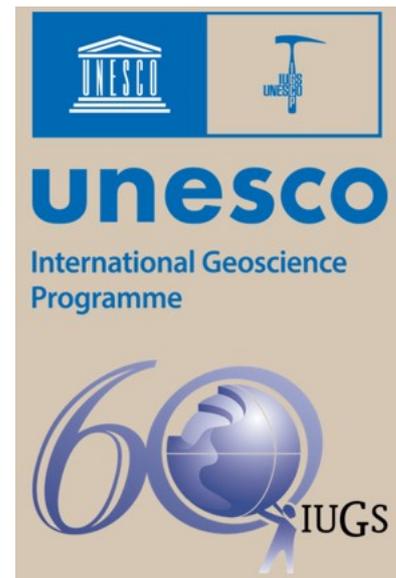
Please share this film with your family members, colleagues and other interested people to bring them closer to the World of Geodesy.

5. UNESCO/IUGS – Earth Futures Festival

Are you a geologist with good video skills? A video-maker with a passion for the planet or simply someone who likes to film your adventures across the world? Then maybe this is for you!

The [Earth Futures Festival](#) is an international film and video event showcasing the important role geoscience plays in tackling our most pressing global challenges: climate change, the management of our natural resources, transitions to cleaner energy, mitigation of risks from natural hazards, and building sustainable cities.

The event will take place in September and October 2022 with screenings and award events hosted at the UNESCO Headquarters in Paris, and venues in Sydney and New York. Professionals and students in the realms of Earth Science, the Arts and Science Communication along with community associations, school students and First Nations peoples are encouraged to submit works in video format to the Festival. The work of short-listed finalists will be presented during the Festival. Works can range from feature length documentaries, to short video pieces and spoken stories, through to visual and musical performances.



This year’s themes are:

- Dynamic Earth
- Future Earth
- Human Connections

The Festival is organised in collaboration with [UNESCO](#), the [IGCP Project 685: Geology for Sustainable Development](#) and the International Union of Geological Sciences ([IUGS](#)).

Learn more about the Earth Futures Festival [here](#) and submit your work by **15 May 2022**.

6. Awards and Honours

International Association of Hydrological Sciences (IAHS)

The winners of the 2022 IAHS-UNESCO-WMO International Hydrology Prize are **María José Polo Gómez** (Spain; Dooge medal) and **Francis Chiew** (Australia; Volker medal).

The International Hydrology Prize medals for 2020, 2021 and 2022 will be awarded during [2022 IAHS Scientific Assembly](#) in Montpellier, France alongside celebrations of the 100th anniversary of IAHS.

As of 2014, two medals are awarded under the International Hydrology Prize: the Dooge medal and the Volker medal. Both medals are intended to distinguish outstanding achievements by hydrological scientists but with a different focus. The Dooge medal is aimed at fundamental contributions to the science of hydrology, whereas the Volker medal is aimed at outstanding applications of hydrological science for the benefit of society at large.

Nominations for the annual Prize are made by National Committees to IAHS, National Committees to the UNESCO-IHP or National Hydrological Advisors to the WMO and forwarded to the Secretary General of IAHS for consideration by the Nomination Committee. The Committee consists of the President and a Vice-President of IAHS and representatives of UNESCO and WMO.

American Association for the Advancement of Science (AAAS)

AAAS named its [2021 Fellows](#) incl.

Stephen R. McNutt, IUGG Bureau Member (2019-2023), *for distinguished contributions to the field of volcano seismology, particularly volcanic hazards assessments, triggering effects of tides and sea-level, and development of databases on volcanic earthquake swarms and volcanic tremor.*

Officers of the Order of Australia

In January 2022 the Governor-General of Australia named three climate scientists as [Officers of the Order of Australia](#), the second-highest civilian honour in the country. The three are **Tom Beer**, IUGG President (2007-2011), **John Church**, WCRP Chair, and **Sue Barrell**, a past member of the WMO Executive Council.

The Electromagnetics Academy

The Electromagnetics Academy named its [2021 Elected Fellows](#) incl.

Shuanggen Jin, Chair of IUGG Commission on Planetary Science (UCPS; 2019-2023).

Congratulations!

7. Obituaries

Steve Kenyon (1957-2021)

Steve C. Kenyon passed away on Christmas morning 2021. Steve was an all-round geodesist, having a big impact on global gravity field geodesy through the securing of data and development of the pioneering global gravity field models EGM96, EGM2008, and the upcoming EGM2022. Many of his colleagues in Geodesy around the world will remember Steve's good spirit, his humour, and easy-going attitude at numerous IAG meetings and symposia, as well as his impact on global gravity field data cooperation, and in particular his involvement in the formation of the IAG International Gravity Field Service (IGFS). He also played a key role in many major international activities, such as the Arctic Gravity Project of the 1990's, SIRGAS and South American gravity field activities, and support for global altimetry and airborne projects, to name a few. Steve started his career 1983 with the US Defense Mapping Agency Aerospace Center in Cheyenne, Wyoming, now known as the National Geospatial-Intelligence Agency. He transferred later to NGA St. Louis, and studied for his M.Sc. at Ohio State University 1995-97. This is where Steve met many international colleagues, and provided a base for his later appointments as NGA Branch Chief under the Gravity and Geophysics department, and eventually the 2002 position as Senior Scientist for Global Partnerships, a position he held until his retirement in 2017. During his work at NGA, he was instrumental in facilitating the advancement of geodesy both within NGA and globally. In concert with this effort, he also helped boost global recognition of NGA as a key geodesy partner. Steve was part of a group of three young geodesists sent on long-term training in physical geodesy at the National Geodetic Agency (KMS) in Copenhagen 2004, with numerous later visits to set up joint projects, a cooperation that started with the first continental-scale airborne gravity survey of Greenland 1991-92 by the US Naval Research Laboratory in cooperation with NGA and KMS, and later airborne and satellite altimetry projects. Even though he was retired, Steve was still planning yet another visit to Copenhagen in June 2022, to be timed with the Tour de France départ (Steve was an avid bicyclist, cycling the US east to west, and north to south along the Rocky Mountains). Steve was very involved in global in-situ and airborne gravimetry projects, as for instance in South America (e.g. Chile and Brazil), Asia (especially Mongolia), and many African regions. Steve's Mongolian adventures had him travelling across Eastern steppe, the Gobi Desert and Western Altai mountains, to explore the gravity field by helicopter, car, horse and camel in cooperation with local survey teams ("National Geographic stuff", in his own words). His contributions to secure modern height system development across Mongolia and many other countries have been widely recognised.

Steve participated in the numerous IAG and other technical meetings around the world (e.g. in Alaska, Greenland, Russia, Italy, Germany, Argentina and Australia, to name a few). Steve published and co-authored more than 50 papers in international journals, but his main recognition is really as a promotor and coordinator of global geodesy, playing an important role in also improving the global gravity field data acquisition and sharing, an important part of the global present and future geodetic infrastructure, impossible to do from space alone. Steve leaves behind his wife, and two adult children. He will be missed by his geodetic friends around the world.

René Forsberg, DTU Space, Denmark
Mijidorj Saandar, MONMAP, Mongolia
Sylvain Bonvalot, BGI, France

George Veis (1929-2022)



George Veis (photo credit Veis family)

The international scientific community has lost a distinguished member in the field of Geodesy. George Veis passed away on 25 January 2022.

He started his journey by completing his first degree in the School of Rural and Surveying Engineering (SRSE) of the National Technical University of Athens (NTUA), followed by post graduate studies, initially in France at the Sorbonne, the Ecole Nationale des Sciences Geographiques, the Observatoire de Paris and the Bureau Gravimetric International, and later in the USA at the Institute of Geodesy Photogrammetry and Cartography of the Ohio State University. He

completed his PhD thesis titled "Geodetic Applications of Observations of the Moon, Artificial Satellites and Rockets" in 1958 under the supervision of the famous Finnish geodesist, Prof. W. Heiskanen. His thesis was the first concise text on Satellite Geodesy, and Prof. George Veis has often been referred to as the father of Satellite Geodesy.

In 1959 he was elected Professor at the SRSE of the NTUA and in parallel continued his research activities using terrestrial and satellite geodesy methods. During the period 1958-1979 he was consultant at the Smithsonian Astrophysical Observatory and Research Associate at the Harvard Observatory. In 1966, George Veis made a significant contribution to the well-known publication *Standard Earth*, which was considered a fundamental work in the field of Satellite Geodesy. In 1967 he established the Dionysos Satellite Centre (DSC) where he designed the Laser Ranging System. Under his supervision, DSC participated in many international and hellenic geodetic and geodynamic research programs.

As a consultant to the SAO, George Veis organised an international network of artificial satellite tracking stations that collected data from which new values for the dimensions of the Earth were derived. Very few people are aware that the precise star catalogue in the FK4 system, known as "SAO STAR CATALOGUE", was conceived and compiled by George Veis. During the period 1965-1984, he organised International Symposia on "The Use of Artificial Satellites for Geodesy and Geodynamics" whose Proceedings (five volumes) have been a considerable contribution to Geodesy. Throughout his career he was an active member of the international geodetic community, serving as President or member of Sections and Working Groups of the IAG, IUGG and COSPAR.

George Veis was actively involved in the administration and management of NTUA and worked towards the improvement of academic life and programs, even during a very dark, politically, period for Greece, the Colonels' Junta. In 1973 he was arrested, as his initiatives were not acceptable to the Junta's administration. The international scientific community's reaction and rapid response contributed to his release within a month.

He always helped and guided young colleagues, and a significant number of his former students are now members of teaching and research staff in universities and research organisations in Greece and abroad. George Veis' former students organised in 1992 an "International Workshop on Global Positioning Systems in Geosciences" at the Technical University of Crete Chania, Greece, which was dedicated to him.

In 1987, while carrying out his research on Reference Systems for Geodesy and Astronomy, he proposed a new Geodetic Reference System for Greece. The System HGRS87 (Hellenic Geodetic Reference System 87) was adopted by the Greek State and is being used by engineers involved in surveying measurements and cadastre.

His significant contributions to the international scientific forum have been acknowledged internationally. In 1994, the Technical University of Zurich (ETH) awarded him the title of “Honorary Doctor”. In 1998, soon after his retirement, he was awarded the title of Professor Emeritus of NTUA, and in 2001 the Senate of NTUA honoured George Veis by naming a new building after him. In 1998, with the unanimous decision of past IAG Presidents, the “Levallois Medal” was awarded to George Veis for his outstanding contributions to the science of Geodesy. In 2003, he was elected Member of the Academia Europaea (Section Earth and Cosmic Science), and in 2013 he was awarded the medal of “Officier” of the “Ordre des Palmes Academique” of the French Republic.

In parallel to his academic activities, George Veis served for many years as General Secretary and President of the Hellenic National Committee for Geodesy and Geophysics, President of the National Observatory of Athens, President of the Hellenic National Space Committee, President of the National Advisory Council and President of the Hellenic Mapping and Cadastral Organization.

The 2009 ILRS Technical Workshop on “SLR Tracking of GNSS Constellation” that took place in Metsovo, Greece, besides being a celebration of 50 years of Satellite Geodesy, also celebrated George Veis’ 80th birthday, acknowledging his profound contribution to the field.

George Veis was loved and respected by all his students, colleagues and friends as his notable scientific competence was combined with high personal qualities, such as integrity, modesty, generosity, friendliness, understanding, and a strong sense of humour. He will undoubtedly be sorely missed.

I consider myself privileged to be one of George Veis’ first students, assistants, and collaborators at NTUA. Thus, after more than 60 years of friendship and excellent cooperation with such an exceptional person, I feel a great loss. George Veis is survived by his wife of 50 years, Katerina, his daughter, three sons and five grandchildren, who were all an invaluable and beloved part of his life.

D.D. Balodimos, D.Phil Oxon
Professor Emeritus NTUA
Former Vice Rector of NTUA

With great sadness IUGG reports the death of

Roberto Molina Garza (1960-2021), a renowned Mexican paleomagnetist who was strongly involved in organising the IAGA Scientific Assembly 2013 in Merida, Mexico, was murdered during a field trip. The obituary can be found [here](#).

8. Meeting Announcements

The X Hotine-Marussi Symposium



It is our privilege and pleasure to invite you to the jubilee X Hotine-Marussi Symposium on Mathematical Geodesy, which will be held at Politecnico di Milano, Milan, Italy, from 13 to 17 June 2022, under the scientific coordination of the Intercommission Committee on Theory ([ICCT](#)) of the International Association of Geodesy (IAG).

The goals of the Symposium are aligned with the main objectives of ICCT:

- advancing theoretical geodesy,
- developing new geodetic methods reflecting recent advances in geodetic observing sensors, and
- interdisciplinary cooperation between geodesy and other Earth and planetary sciences.

Details about the symposium, its scientific programme and venue are available [here](#).

We look forward to welcoming you in Milan!

Pavel Novák, Mattia Crespi, Riccardo Barzaghi, Nico Sneeuw, and Fernando Sansò
on behalf on the Scientific and Local Organising Committees

25th International Electromagnetic Induction Workshops of IAGA Division VI



On behalf of the Local Organising Committee, it is my pleasure and honour to invite you to the 25th International Electromagnetic Induction Workshop ([EMIW2022](#)), the major event of the EM geophysics community and IAGA Division VI. The 25th Workshop will be held from 11 to 17 September 2022 in Çeşme, Turkey.

The International Electromagnetic (EM) Induction Workshops of [IAGA Division VI](#) are the premier events for researchers around the world to exchange knowledge on latest developments in the field of electromagnetic geophysics. The Workshop is an important event for both the international research community and for many sectors of industry and government that use EM methods for geothermal, mining, petroleum and energy exploration, groundwater and environmental resource evaluation, geohazard monitoring such as GIC (Geomagnetically Induced Currents in technological systems) and many other fields. The workshop is suitable for graduate students and junior scientists.

Details about the workshop, its scientific programme and venue are available [here](#).

Abstract Submission Deadline: **19 June 2022**
Hope to see you in Çeşme, in September 2022.

Ahmet T. Başokur, Chair of the Local Organising Committee

9. Meeting Calendar

This calendar includes meetings which are planned to be organised in 2022 under the umbrella of IUGG, and major conferences of IUGG's partner organisations. Meetings are subject to change due to the COVID-19 pandemic. The calendar is updated regularly and is also available [online](#). If you would like to include the mention of a meeting, or report changes, please contact the [IUGG Secretariat](#).

March

- 16, ITU, UNEP, WMO, Online, [Workshop on AI for Natural Disaster Management](#)

April

- 11-13, IAG, Leipzig, Germany, [IGRF Workshop 2022](#)
- 19-23, SSA, Bellevue WA, USA [Annual Meeting 2022 of the Seismological Society of America](#)

May

- 15-20, AGU, Atlanta GA, USA, [AbSciCon22 - Origins and Exploration: From Stars to Cells](#)
- 18-20, IAPSO, IUGG, Menorca, Spain, [2nd World Conference on Meteotsunamis](#)
- 22-27, JPGU, Chiba, Japan, [Japan Geoscience Union Meeting 2022](#)
- 23-25, IAG, Moscow, Russia, [Spatial Data 2022 – Science-Research-Technology](#)
- 23-27, EGU, Vienna, Austria, [EGU General Assembly 2022](#)
- 29-3 June, IAHS, Montpellier, France, [IAHS Scientific Assembly](#)

IAVCEI Scientific Assembly 2023

- 30 January-3 February 2023, IAVCEI, Rotorua, New Zealand, [IAVCEI Scientific Assembly](#)

IUGG General Assembly 2023

- 11-20 July 2023, IUGG, Berlin, Germany, [IUGG General Assembly 2023](#)

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