

News at a Glance

1. News from Episodes
 2. News from the International Subcommittee on Cretaceous Stratigraphy
 3. Hutchison young Scientists Foundation travel awards
 4. IUGS call for awards, medals Emile Argand, the James Harrison, and the Early Career Geoscientist and volunteers to serve as expert panel
 5. Prof John Ludden at the jubilee celebrations in Berlin
 6. Prof. Hassina Mouri (IUGS Vice-President) honoured
 7. News from the IUGS-Commission on Geoethics
 8. News from the IUGS Initiative on Forensic Geology (IFG)
 9. News from INHIGEO
 10. News from the IUGS Commission on Geoscience Education (COGE)
 11. New from IUGS social media and young reporters
 12. News from the Commission on Global Geochemical Baselines (CGGB)
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1. News from Episodes

Check out the latest September 2023 issue 46 (3) of Episodes. This issue carries 7 Articles, 1 Communication of IUGS Geological Standards, 1 History of Geology, and 1 Book Review. Click the link below to access the current volume of Episodes:

<https://www.episodes.org/main.html>

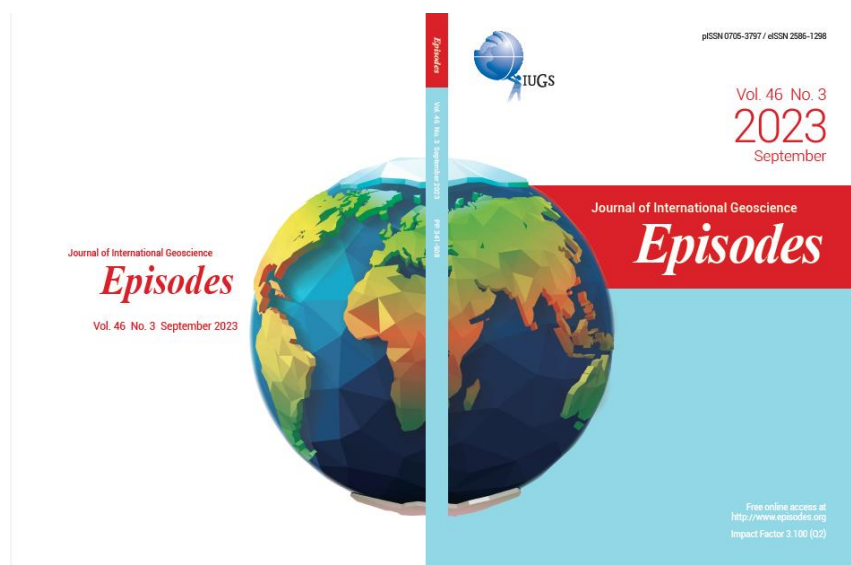


Figure 1. Cover page of IUGS-Episodes September issue 46 (3).

2. News from the International Subcommittee on Cretaceous Stratigraphy

Campanian GSSP dedication ceremony

The golden spike ceremony for the Campanian Global boundary Stratotype Section and Point (GSSP) was held on July 26, 2023 in the Bottaccione Gorge (Gola del Bottaccione), Gubbio (Italy).

This GSSP defines the base of the Campanian Stage

[<https://cretaceous.stratigraphy.org/gssps/campanian>] and was ratified by IUGS in October 2022 (Gale et al. 2023), [Episodes, <https://www.episodes.org/journal/view.html?uid=2319&vmd=Full>]

The GSSP for the base of the Campanian Stage is the magnetic polarity reversal from Chron 34n (the top of the Long Cretaceous Normal Polarity Chron) to Chron C33r at the 221.53 m level in the Bottaccione Gorge section at Gubbio, Umbria-Marche Basin, Italy. This event has been widely identified in oceanic settings and in widespread onshore outcrops. Sedimentation across the Santonian-Campanian boundary interval in the GSSP appears to be continuous, supported by evidence from the carbon isotope record and complete planktonic foraminifera and calcareous nannofossils biostratigraphy. The high-resolution carbon isotope record, derived from bulk sediment, provides an important additional means of correlation to other regions. Five auxiliary sections complement the GSSP, they are Seaford Head (Sussex, England, UK), Boceniec (Warsaw, Poland), Postalm (Austria), Smoky Hill (Kansas, USA), and the Tepeyac section (Coahuila, Mexico).

The ceremony was organized by the International Subcommittee on Cretaceous Stratigraphy [<https://cretaceous.stratigraphy.org/>] and was attended by David Harper (ICS Chair), Stan Finney (IUGS Secretary General), by the Mayor of Gubbio and local administrators of the Province of Perugia and the Region of Umbria, and by representatives of the Italian Scientific Organizations. There were also many geologists and students of some Italian universities, and several citizens of the area of Gubbio interested in heritage sites.

Further details on the attendances are available at

[<https://cretaceous.stratigraphy.org/news/Campanian-ceremony>]



Figure 2 Maria Rose Petrizzo (Chair Subcommittee on Cretaceous Stratigraphy)



Figure 3. Base of the Campanian GSSP



Figure 4: From left to right: Marco Menichetti (University of Urbino), Alessandro Montanari (Coldigioco Geological Observatory), David Harper (ICS Chair), Stan Finney (IUGS Secretary General), Maria Rose Petrizzo (Chair Subcommittee on Cretaceous Stratigraphy), Rodolfo Coccioni (University of Urbino, Member Campanian Working Group), Andy Gale (Chair Campanian Working Group).

3. Hutchison Young Scientists Foundation travel awards

IUGS Secretary General has issued a call for applications for **Hutchison Young Scientists Foundation travel awards** for young scientists to attend the 37th International Geological Congress in Busan, Korea, 25-31 August 2024. To know more open the link below:

<https://www.iugs.org/>

https://www.iugs.org/files/ugd/f1fc07_3ad62184e2be4321ad7b2a59b5180964.pdf?index=true

4. IUGS call for awards, medals and volunteers to serve as expert panel

The IUGS Secretary General issues a Call for Nominations for **the IUGS Awards/Medals: the Emile Argand, the James Harrison, and the Early Career Geoscientist** to be presented at the 37th IGC.

The Secretary general also issues a call for **volunteers to serve on Expert Panels** that evaluate nominees for the IUGS (Émile Argand and Early Career Scientist Medals) Please see detailed information in the Announcements and in the Terms of Reference in the links:

<https://www.iugs.org/>

https://www.iugs.org/files/ugd/f1fc07_d422d2550c0f4cf983ced0d0f35722e0.pdf?index=true

https://www.iugs.org/files/ugd/f1fc07_786634e390ac495486fccbd46cdf0658.pdf?index=true

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https://www.iugs.org/files/ugd/f1fc07_3b58254c407844d4b8593a59084ccfbd.pdf?index=true

5. Prof John Ludden at the jubilee celebrations in Berlin

The president of the IUGS, Prof. John Ludden attended the jubilee marking the 175th anniversary of the German Geological Society - Geological Association (DGGV) and 150th anniversary of the founding of the Prussian Geological Survey, whose function is now performed by the Community of State Geological Services. The ceremony was held on Saturday September 2, 2023, at the Humboldt Forum Berlin with 200 guests, including the Parliamentary State Secretary to the Federal Minister of Economics and Climate Protection, Dr. Franziska Brantner, the President of the DGGV, Prof. Dr. Martin Meschede, and the President of the BGR, Prof. Dr. Ralph Watzel.



Figure 5. Prof John Ludden (IUGS President) at the Berlin event

6. Prof. Hassina Mouri (IUGS Vice-President) honored

Prof. Hassina Mouri of University of Johannesburg, Vice President of the International Union of Geological Sciences (IUGS), honored for her research work with the Hypatia International Award. She is also UNESCO chair of Medical Geology in Africa.



Figure 6. Prof Hassina Mouri (IUGS, Vice-President)

7. News from the IUGS-Commission on Geoethics

New task groups

After its first meeting of its Governing Board, the IUGS-Commission on Geoethics (<https://www.geoethics.org/iugs-cg>) proceeded to create the first two task groups, which will work on the most urgent ethical issues within the IUGS community:

Task Group on IUGS Ethical Guidelines

Members: Vitor Correia (Portugal), Vincent Cronin (USA), Jorge Gomes Tapias (Colombia), Rie Hori (Japan). Contact person with the Governing Board: Ruth Allington (UK).

This task group will draft: 1) the ethical guidelines to be followed in the organization and conduct of IUGS scientific events; and 2) a proposal of IUGS Ethical Guidelines, covering the diverse ambits of IUGS internal and external relationships.

The 1st meeting was held on 2 August 2023 in virtual mode (Fig. 7).



Figure 7: 1st meeting of the Task Group on IUGS Ethical Guidelines of the IUGS-Commission on Geoethics (2 August 2023).

Task Group on Diversity, Equity and Inclusion (DEI)

Members: Chris Atchison (USA), Yong Ge (China), Éva Hartai (Hungary), Rachelle Kernen (Australia), Billy M. Williams (USA). Contact person with the Governing Board: Silvia Peppoloni (Italy).

This task group will define an action plan for the IUGS in bringing its constituent groups (commissions, sub-commissions, task groups, initiatives) to a reasonable balance of their members with regard to issues such as gender, geographical provenance, discipline, career stage; as well as supporting IUGS in its activities within the Standing Committee on Gender Equality in Science.

New book on geoethics

A new book on geoethics was published in the SpringerBriefs in Geoethics series

(<https://www.geoethics.org/springerbriefsgeoethics>):

Di Capua G. and Oosterbeek L. (2023). Bridges to Global Ethics: Geoethics at the Confluence of Humanities and Sciences. Springer, Cham, VII+115 pp., ISBN 978-3031222221.

<https://doi.org/10.1007/978-3-031-22223-8>

This book (Fig. 8) contributes to the current discussion on geoethics and global ethics within the geoscience and humanities communities. It provides new content and insights into developing convergent human actions in response to global anthropogenic changes, based on perspectives that make it possible to combine geoscience knowledge with humanities and social sciences



approaches. Selected authors present their reflections, findings and insights regarding the vision of geoethics (ethics of responsibility towards the Earth) as global ethics from philosophical, humanities and social sciences perspectives. In addition, they discuss ethical frameworks from diverse cultural traditions, searching for points of intersection with geoethics.

Read more: <https://link.springer.com/book/10.1007/978-3-031-22223-8>.

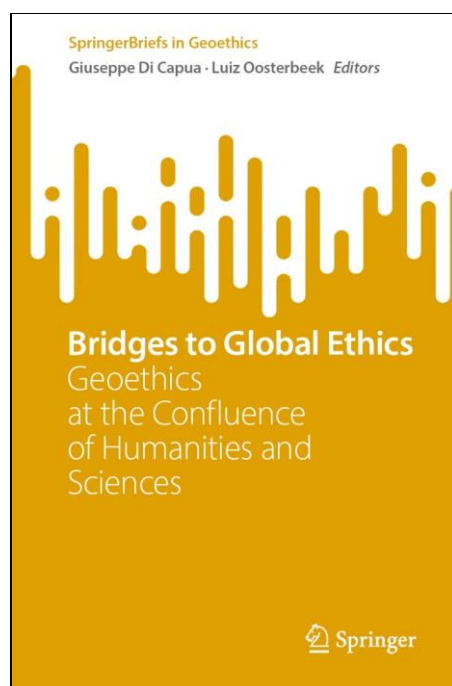


Figure 8. Di Capua G. and Oosterbeek L. (2023), book cover.

8. News from the IUGS Initiative on Forensic Geology (IFG)

5th IberoAmerican Congress on Forensic Geology, Bogota, Colombia, Booklet of Abstracts

A booklet of abstracts has been made publicly available, in both English and Spanish, following the 5th IberAmerican Congress on Forensic Geology, which was held in Bogota, Colombia. This was produced by IUGS-IFG in association with colleagues from the Iberoamerican Network of Forensic Researcher (RIIF_CYTED); Universidad Antonio Nariño, Colombia; Geological Society of London, Forensic Geoscience Group (GSL-FGG); Geoscience Forensi, Italia; University of Sannio, Italia and the Paraná State Scientific Police, Brazil. This comprises 35 abstracts presented in seven sections; (i) International Networks, (ii) Disappearances in Colombia, (iii) The Geoforensic Search Strategy, (iv) Identification of Missing People: Anthropology, Odontology,



Genetics and Taphonomy, (v) Soils: Inorganic, Mycology and Palynology, (vi) Geographic Information Systems and Remote Applied to the Search for Missing People, and (vii) Illegal Mining and Minerals Crimes. Photographs are also included showing IUGS-IFG training delivered in Colombia to help locate graves of missing persons associated with cartels and serious and organised crimes <https://geoforenses.com/>

MSc in Human Taphonomy, University of Lausanne, Switzerland

IUGS-IFG will support a new MSc in Human Taphonomy, at the University of Lausanne, in Switzerland commencing in September 2024. IUGS-IFG will provide a series of lectures on crime scene examination, geological trace evidence analysis and ground searches for burials.

<https://www.unil.ch/eb-ht/home.html>

Interforensics 2023, Brazil, 28-31 August 2023

IUGS-IFG will be represented at Interforensic 2023, in Brazil, on 28-31 August 2023, which is one of the largest forensic science conferences in the world. The programme includes the exchange of information, knowledge and experiences by multi-disciplinary practitioners and academics including criminal cases, industry, legal and scientific research. From a forensic geology perspective there is a particular emphasis on illegal mining. <https://interforensics.com/>

23rd Triennial Meeting of the International Association of Forensic Sciences (IAFS), 20-24 November 2023

The 23rd triennial meeting of the IAFS will be held at the International Convention Centre in Sydney, Australia, 20-24 November 2023. Many of the world's leading investigators in the field of forensic science will participate and inspire over 1,500 attendees from across the world. IUGS-IFG will be represented by Lorna Dawson (IUGS-IFG Treasurer), who is co-author on a presentation with Kari Pitts, Chemcentre, Perth. <https://iafs2023.com.au/>

Society for Economic Geologists (SEG), Resourcing the Green Transition, 26-29 August, London

The SEG 2023 Conference will be held in London from 26-28 August 2023. IUGS-IFG will be represented by Laurance Donnelly (Chair, IUGS-IFG) who will present a keynote lecture on '*Challenges Associated with the Future Supply of Battery Minerals and Black Mass*', which will include the potential to mitigate risks associated with mining, minerals and metals crimes.

<https://www.segweb.org/SEG-2023/SEG-Conference/SEG-2023/Home.aspx>

9. News from INHIGEO

1. Occasion: Great Kanto Earthquake 100 years ago

Author: Toshihiro Yamada (Japan)

Title: **Omori Fusakichi: Witness at the 2nd Pan-Pacific Science Congress of the Great Kanto Earthquake in 1923**

A large earthquake struck the southern Kanto area of Japan at noon, 1 September 1923. The network of seismometers indicated the epicentre as being located at Sagami Bay and a 7.9 magnitude earthquake. However, the ‘earthquake master’ Omori Fusakichi was absent at that time from Japan. He was in Australia attending the Pan-Pacific Science Congress.

Please open the link to know more: <http://www.inhigeo.com/anniversaries.html>

2. INHIGEO encourages young scholars june 2023!

Histories of earth sciences: visual and interdisciplinary approaches amid an environmental crisis Varese (Italy) June 6th 2023.

A one-day conference sponsored by INHIGEO, organized by members Maddalena Napolitani (Italy) and Victor Monnin (France), was hosted by the *Center for the History of the Mountains, Material Culture and Earth Sciences* of the University of Insubria in Varese. Themes pursued two related objectives: (1) considering new interdisciplinary approaches to study the history and the images of Earth sciences and (2) reflecting on the responsibilities that come with studying the history of Earth sciences amid a global, environmental crisis. *Eleven speakers representing 8 countries across Europe, Africa and North America took part in this lively and highly interesting forum for young PhD students and early career scholars interested in the history of the geological sciences with talks elaborating on aspects of visual, literary, archival and material sources.*



Figure 9. Group photo of speakers in front of Villa Toeplitz where the Center for the History of the Mountains, Material Culture and Earth Sciences is located (Varese, Italy), together with the director of the centre Ezio Vaccari (INHIGEO President).

3. INHIGEO sponsored History of Volcanology session at the 28th International Union of Geodesy and Geophysics (IUGG) General Assembly Berlin, Germany, 17th July 2023:

INHIGEO members Claudia Principe (Italy) and Martina Kölbl-Ebert (Secretary-General) organized a well-attended history of volcanology session at the recent 28th IUGG in Berlin as part of INHIGEO's outreach initiative of cross-disciplinary symposia within scientific congresses: **Symposium V10: "History of Volcanology and Historical Volcanology"** included 11 presentations on topics ranging from history of experiments, models, paintings and archives/publications of volcanic eruptions together with historical studies of eruptions and their effects on society and scientific theory related to Laki, Vesuvius, Etna, Phlegrean Fields, Ries Crater, St. Vincent, Montserrat and Dominica. The session aroused great interest among the congress participants who crowded the session room to hear the historical talks and question the speakers – great result by all involved in raising awareness in the history of our science!!



Figure 10. Co-conveners Claudia and Martina with INHIGEO President Ezio Vaccari at the 28th IUGG in Berlin July 2023.



10. News from the IUGS Commission on Geoscience Education (COGE)

Sessions accepted for the AGU Fall Meeting

We are excited to announce that COGE members are co-organizing two Technical Sessions at the American Geophysical Union (AGU) Fall Meeting in December, 2023 in San Francisco, USA, along with colleagues from IGEO. The first session is a Town Hall, titled “Advancing Global Geoscience Education: Honoring Legacies and Building Collaborations”. It aims to inform attendees about the past and present efforts of COGE and IGEO, including honoring the legacies of Christopher King and Ian MacKay, encourage new membership, and generate new ideas on how to grow these organizations and initiatives in the 21st century. The second session is a Scientific Session to which abstracts can be submitted. It is titled “[ED029 - International Geoscience Education: Formal and Informal Efforts, Organizations, and Future Directions](#)”. We encourage IUGS members to submit abstracts to the Scientific Session, share both Sessions with colleagues, and attend online or in person to ensure successful events.

Partnership with WOMEESA and CGEO We are thrilled to announce that we recently signed a Memorandums of Understanding (MoU) with WOMEESA (Women in Earth & Environmental Science Australasia) and CGEO (Geoscience Center of the Autonomous University of Mexico). This isn't just a partnership; it's a union of purpose to reshape geoscience education and ensure it's inclusive and progressive.

Together, we're crafting a global nexus of geoscience educators. Expect not just shared expertise, but a surge in initiatives that boost professionals, nurture students, and inspire fresh articles in Geoscience Education.

Stay tuned for updates on the exciting projects and initiatives that will emerge from these alliances, a significant step forward in our shared mission to promote geoscience education worldwide.

Episodes' special issue on Geoscience Education

We are glad to announce our proposal to contribute to the renowned IUGS Journal Episodes with a special issue dedicated to international geoscience education strategies. Initially envisioned as a collaboration with the late Chris King, the idea was revived by the new COGE Board in 2023 under the leadership of the leader of COGE Publications Subcommittee Susana Alaniz. This special issue aims to showcase findings on international strategies for geoscience education, using Episodes as an invaluable platform for highlighting modern educational methods in the geoscience community. We invite all researchers and educators to contribute! Stay tuned for this enlightening issue in the world of geoscience education!



Argentinian Professor awarded inaugural Chris King Medal We are honored to announce the inaugural awardee of the Chris King Medal for outstanding contributions in geoscience education, Dr. Héctor Luis Lacreu of La Universidad Nacional de San Luis, Argentina (retired). During his career, Professor Lacreu developed and directed various national geoscience education programs and teacher trainings in Argentina, influencing education at primary, secondary, and university levels. He has authored 26 publications on geoscience research and 28 publications on education and his work is highly referenced throughout Latin America and the world. Dr. Lacreu is known for focusing on in-person and virtual field geology and its historical and current relevance to society. Congratulations, Dr. Lacreu! For more information about Dr. Lacreu's career accomplishments, please visit the IUGS COGE website.

New Field Officer for the GEFO Program

COGE would like to give a warm welcome to our newest Geoscience in the Field Officer (GEFO), Dr. Muhammad Yaseen from the Department of Geology, Faculty of Physical and Numerical Sciences, Abdul Wali Khan University Mardan, Pakistan. We look forward to working with you, Professor Yaseen! For more information about the GEFO Program and to apply and contribute, please visit: <https://iugscoge.org/geoscience-education-field-officer-program/>.

New COGE Social Media Team members

The COGE Social Media team has welcomed three new members, Liliana Corona (Mexico), Grisel Jimenez (Bolivia), and Tiago Ribeiro (Portugal). We are working hard to produce COGE news on our website and social media profiles (Instagram/Facebook, Twitter, LinkedIn). Please follow us, and like and share our content so that we can grow! We'd love to have more members from different countries! For more information about which countries are currently represented in COGE, please visit: <https://iugscoge.org/coge-board-and-members/>

11. News from IUGS Social Media

Students and Early Career Professionals in the Geosciences:

We want to know your opinion to better understand the career aspirations or challenges for students and early career professionals interested in Earth and Space Science.

Please take part in this survey <https://forms.office.com/r/brDqCedWy8> which will remain open until **December 2023**.

Students and Early Career Professionals in the Geosciences

Take Our Survey

The Global Geoscience Societies would like your feedback and insights on geoscience career opportunities to help us develop programs, resources, and tools to ensure you can excel in your chosen field.



Meet our IUGS young reporters:

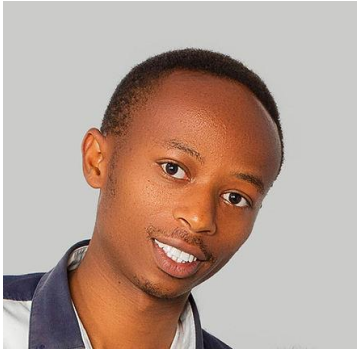
Carolina Ortiz-Guerrero (USA)

PhD Geoscientist



Carolina is passionate about using Geosciences' communication and education to foster and promote awareness, enjoyment, and literacy of Geosciences in society. As an educator and researcher in science communication, she thrives on developing innovative scicomm projects and exploring the impact of digital science communication tools in the Geosciences, reaching diverse audiences. As a co-manager of a Geosciences Scicomm platform, GeoLchat, she oversees the creation of multimedia science-communication content for social media platforms, catering to audiences in both English and Spanish.

Daniel Makasi Mahamba (Democratic Republic of Congo)
Green Journalism Consultant and Podcaster



Daniel is a Green Journalist Consultant based in Goma in the Democratic Republic of Congo. He is a Tetea Mazingira Podcaster on Natural Resources Governance and a mobile filmmaker.

Stalyn Paucar (Ecuador)
Geology student at the Central University of Ecuador



Stalyn is a student of Geology at the Central University of Ecuador. Currently he does new editions and translations to Spanish of literature about the Geology of Ecuador. These edited and translated resources are open-access and are available in the Internet Archive repository @stalynpaucar.

Ana María Tobón-López (Colombia)
Geoscientist and Civil Engineer



Ana Maria is a passionate geoscientist and civil engineer (M.Sc.), her multidisciplinary background ignites her drive to foster collaboration and bridge the gaps between science and practical applications. Her research experience, particularly in earthquakes, has forged and shaped her deep passion for understanding the origin, intensity and timing of natural hazards. In addition, her engineering background fuels her motivation to address the exposure, vulnerability and resilience of our societies and their infrastructures. With a strong commitment to developing effective strategies for risk mitigation and recovery, he intends to contribute to scientific outreach and education by inspiring others to join the journey to a safer and more sustainable future.

Matheus Nehale (Namibia)

Geology student at University of Namibia

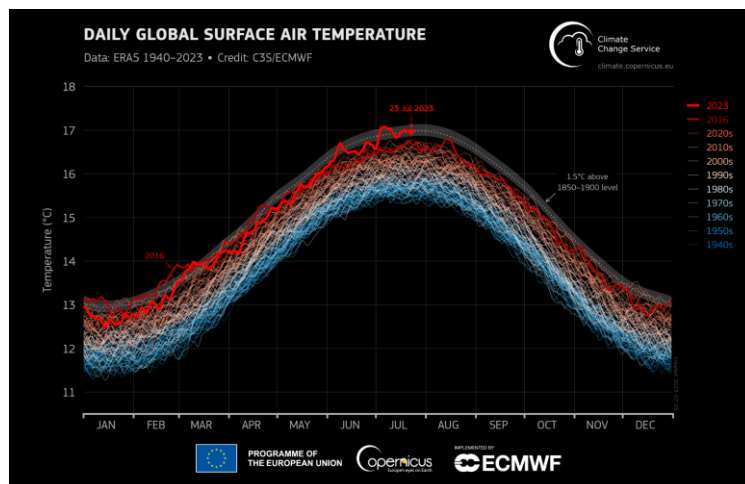


Matheus is a final year geology student at the University of Namibia. His interest in science communication arose from the drastic climate changes he has observed in his country in recent years. Therefore, he would like to take the opportunity as a young reporter to raise his voice on this issue. In his words, the best solution to a problem is always to make people understand about its causes, its effect and how it can be overcome or prevented. For him, the IUGS young reporters is the right platform to share his ideas and hear from others around the world about this phenomenon.

A Tale of Fire and Rain: Earth's Rising Temperatures and Raging Waters

By **Carolina Ortiz Guerrero (Geoscientist, Ph.D.)** Official IUGS Young Reporter from the United States

In the past month, our planet has experienced a turbulent assault of extreme weather events. This name is given to [unusually severe weather or climate conditions that can cause impacts on communities and agricultural and natural ecosystems](#). Among these were June's and July's heat waves which struck the world with an unyielding force, setting hot-temperature records. These heat waves resulted in [the hottest June ever recorded on Earth](#), and [July being the hottest month ever recorded](#), (in 174 years of temperature records). Yes, ever. In the United States (US), the heat wave has been manifested in [prolonged heat advisories](#), record-breaking temperatures in several cities (mainly in the South), and heat-related human and wildlife deaths. Additionally, other extreme-weather events have manifested as extreme rainfall, like those recorded in the states of Vermont and New York, where intense rainstorms produced flooding.



Daily Global Surface Air Temperature Records. Credit: [Copernicus/ERA5](#)

Boiling under the dome

[Over a thousand high-temperature records have been broken across the US through June and July](#). An extreme case in the US is Saratoga Spring in Death Valley National Park, which reached 53.9 degrees Celsius (129°F), one of the hottest reliably measured temperatures recorded in history. The severity of this heat has been related to a phenomenon called a ["heat dome,"](#) which is an immense area of high pressure that



traps heat beneath it. This phenomenon has taken hold over the southern United States, and is just one of several heat domes present worldwide in the Northern Hemisphere. The intensity of this heat dome is unprecedented, exerting pressure from above and threatening to become the most severe on record over the southern United States. The consequences have been dire. In Southern Florida, the effects have been felt in in-land and offshore settings. Meanwhile, in-land temperatures [have reached levels of 105-110°F \(41-44°C\)](#), keeping nighttime lows excruciatingly high; the [marine heatwave](#) has produced an “above average” intensity when compared to previous historical marine heatwaves, posing a [threat to corals and other types of marine lives](#).

Dr. Rosana Aguilera, a staff researcher in the groups of extreme weather events and climate change epidemiology at the Scripps Institution of Oceanography, explains that the effects of these extreme phenomena have been reinforced by the beginning of El Niño Southern Oscillation, which causes above-average sea-surface temperatures across the east-central equatorial Pacific, producing higher temperatures worldwide. Overall, climate scientists agree with this relationship. As the WMO Secretary-General Prof. Petteri Taalas said, [“The onset of El Niño will greatly increase the likelihood of breaking temperature records and triggering more extreme heat in many parts of the world and in the ocean.”](#)

A Tale of Fire and Rain

The prolonged heat wave has left communities grappling with the harsh reality of climate change. The high temperatures have made a considerably high number of United States residents—over 100 million— find themselves under heat advisories in the past weeks, which signals the scale of the reach of these events. The population from cities such as Las [Vegas](#) and [Phoenix](#) have been under weather advisories for several days, with warnings from local weather forecasters of not going outdoors between 9 am and 6 pm.

As Aguilera pointed out, the effects of heat waves (such as dehydration, heat-related strokes, sickness, etc.) may not equally affect populations in the same way, given pre-existent conditions and socio-economic vulnerabilities. So far, heat-related deaths have been reported across multiple states, highlighting the vulnerability of those without adequate protection from the scorching elements.

While the heat wave blazed relentlessly in the south of the US, another extreme-weather vent struck the Northeastern United States in early July. Dr. Jason Cordeira, the Atmospheric Science and Applications Manager at the Center for Western Weather and Water Extremes at the Scripps Institution of Oceanography, says that a series of various events occurring at different scales unchained the flooding, including 1) extremely high rainfall rates (about two months' worth of rain fell in two days), 2) persistent warm and humid airmass with tropical moisture, 3) A series of "forcing mechanisms" that convert the tropical moisture into rainfall, and 4) ground saturation conditions produced by widespread thunderstorms and showers, among others.

Combined with [other geological and geographical conditions](#), these ingredients were the perfect mix that led to prolific flooding in portions of New York's Hudson Valley and Vermont. The flooding led to [evacuations, fully or partially destroyed homes and businesses](#), and tragically, one [flood-related death](#) was reported in Vermont after this event. The event concluded with a Federal declaration of a state of emergency, unlocking federal resources to aid the state's recovery.

Although it is hard to attribute any single event to climate change, Dr. Cordeira remarked, "Science has shown that the frequency of extreme rainfall events is increasing over the Northeast U.S. and New England in tandem with warming driven by climate change. Warmer air simply holds more water vapor which can, in turn, produce more rainfall."

The severe effects of the extreme weather events in the past month are leaving a lasting impact on our planet and its inhabitants. Global authorities, such as UN Secretary Antonio Guterres, manifested that ["the era of global warming has ended, the era of global boiling has arrived,"](#) referring to the recent global temperature records. The consequences of the past months' extreme weather events, such as the flooding in the Northeast, remind us that no region is immune to the effects of climate-related events. Earth is giving humanity wake-up calls, but as scientists and climate authorities indicate, the severity of the events is becoming high to prepare humanity for the consequences of not answering those calls.

Rosalie Bisimwa - A geologist who advocates for women's empowerment in the mining sector in the DRC

By **Daniel Makasi**, Official IUGS Young Reporter and Tetea Mazingira Podcaster in Goma/DRC



Rosalie Bisimwa is a female geologist who is committed to women's empowerment in the mining sector in the Democratic Republic of the Congo (DRC). She is the coordinator of the Dynamique des femmes des mines (DYFEM), an organization that works to improve the living and working conditions of women in the mines of the DRC. Bisimwa lives in Goma, in the province of North Kivu.

Since 2022, she has participated as an expert in the Tetea Mazingira podcast on natural resource governance. Her organization DYFEM is among the Congolese civil society structures that provide resources on governance in extractive industries, gender and territorial development.

Bisimwa is a passionate advocate for the rights of women in the mining sector. She works to end discrimination and violence against women in the mines. She loves to work hard to improve the lives of women in the mines and she is a role model for young girls in the region.

Challenges for female geologists in extractive industries

Rosalie Bisimwa states that female geologists have difficulty finding jobs in mining companies. In fact, the mining sector is still very male-dominated and women are often discriminated against.

To get by, female geologists turn to organizations for the promotion of women in mines or to the profession of mining cartographer. Organizations for the promotion of women in mines help women develop their skills and find jobs in the mining sector.

The profession of mining cartographer is a profession that is increasingly being practiced by women, she tells us. Cartographers are responsible for creating maps of mines. They use mapping software to create maps that allow miners to find mineral resources.



Violence in mines in the DRC

Rosalie Bisimwa's work is important because it contributes to improving working conditions for women in the mining sector. She fights against discrimination and violence against women in the mines. She encourages women to pursue their dreams and become geologists.

Rosalie Bisimwa has said that violence against women in mining sites in the DRC is a serious problem that needs to be addressed.

According to her, violence against women in mines is a complex problem with many causes, including poverty, inequality and the low level of implementation of protective laws and policies. Women who work in mines are exposed to many types of violence, including rape, physical abuse and threats. She indicates that violence against women in mines can have devastating consequences on women's lives, including physical and mental health, financial difficulties and job loss. It is important to take action to combat violence against women in mines, including raising awareness of the problems, strengthening protective laws and policies, and providing support services to women who are victims of violence.

Ways to solve mines without violence against women

Here are some of the things that governments and businesses can do to combat violence against women in mines:

- Establish laws and policies that protect women from violence and discrimination
- Train police officers and other law enforcement officials on violence against women and how to prevent and punish it
- Provide support services to women who are victims of violence, including shelter, medical care and legal assistance
- Raise awareness among women and men of violence against women and how to prevent it
- Promote gender equality and women's empowerment

By taking these steps, we can help create a safer and more inclusive environment for women in mines, she hopes.

Rosalie Bisimwa's work makes a real difference in the lives of women miners in the DRC. She is an inspiration to women in the region and she is helping to improve their lives.

This year 2023, Rosalie Bisimwa is participating in the Summer University on Extractive Industries Governance in Francophone Africa, which is being held in Yaoundé, Cameroon. Through this session, she will strengthen her knowledge in the analysis of mining contracts, the reports of the Extractive Industries Transparency Initiative (EITI) and the use of online resources on the mining, gas, forestry and oil sectors.

The Impending Environmental Impact of Urban Dumping Sites: A Growing Concern in Namibia

By **Matheus Nehale** (Geology student at University of Namibia Official IUGS Young Reporter from Namibia)

In Namibia, many towns have established dumping sites where all types of unwanted materials, regardless of their degradability or non-degradability, are indiscriminately discarded. This practice raises significant concerns about the looming environmental consequences. Notably, some of the materials deposited in these dumpsites contain Persistent, Bio-accumulative, Toxic (PBT) substances, posing a severe environmental threat. One critical issue is the absence of proper covering for these dumpsites. During the rainy season, water can easily infiltrate down into the ground, potentially contaminating the underground water sources that serve as a vital supply for much of the country. Furthermore, when these dumpsites reach their capacity, they resort to burning the accumulated waste. This incineration process contributes to serious air pollution, releasing undesirable gases such as CO₂ into the atmosphere. The extent of pollution varies depending on the types of materials being incinerated at any given time. The combination of groundwater contamination and air pollution from these dumpsites raises urgent concerns about the long-term environmental impact on Namibia. Addressing these issues is essential to ensure the preservation of both the country's precious underground water resources and the overall air quality for its inhabitants.

Figure 1 illustrate the dumpsite with unwanted material in figure 1A and in Figure 1B there are burned tyres all this waste area



uncovered, and they are being a problem to the environment.

12. News from the Commission on Global Geochemical Baselines (CGGB)

The IUGS Commission on Global Geochemical Baselines (CGGB) participated at the Goldschmidt Conference, the largest meeting for geochemists, which was held in Lyon (France) from 9 to 14 July 2023. The session entitled “[*Novel geochemical and mapping methods at global to local scales with applications in environmental sciences, food safety, ecology, archeology and paleontology*](#)” under Theme 12 “Environmental Geochemistry and Human Health” was chaired by Anna Ladenberger (1st Co-Chair of CGGB) together with conveners from Italy, Canada and USA.

The main topic of the session was analytical developments in geochemistry including metal isotope analysis, high-throughput ICP-MS, and laser ablation technology, which have provided new tools to trace metal sources and cycling in environmental and forensic sciences, ecology, archeology and paleontology. In addition, novel mapping approaches, which have capitalized on the growing body of geochemical data to investigate environmental and anthropogenic processes driving the large-scale spatiotemporal geochemical variations in natural and human-managed soils, waters, and ecosystems. Geochemical mapping was shown as a useful tool to trace the provenance of food, archeological artefacts and the mobility of modern and ancient/extinct humans and animals.

The session was comprised of 23 oral presentations and 14 posters. The keynote lecture “[*Geochemical provenancing, can it meet evidentiary standards?*](#)” was delivered remotely by Jurian Hoogewerff from the National Centre for Forensic Studies (NCFS) at the University of Canberra.

Paula Adánez (CGGB Scientific Secretary) introduced the audience to the [*IUGS Manual of Standard Methods for Establishing the Global Geochemical Reference Network*](#) with the oral presentation [*A manual of standard methods for establishing the global geochemical reference network*](#), which took place on the 12th July. The session encompassed two half-days and was well received by the audience.



Goldschmidt session. Left: the keynote presentation by Jurian Hoogewerff. Right: presentation of the Manual by Paula Adánez.



For the IUGS website: A one-page concise text (up to about 500 words), if possible providing a web-link (e.g. to an IUGS activity website). **Each contribution to the IUGS e-Bulletin, website and/or social media should be marked as to which target medium or media it should be published in. Each contribution should be sent, at the same time, to the following addresses:**

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Time Frame for submissions to the e-Bulletin:

1. IUGS sends a reminder to leaders of activities in the last week of each month;
2. Contributions should be provided by the 16th day of every month.
3. IUGS will evaluate all submitted items in terms of urgency and will allocate these to the next monthly issue or a later issue and will also check that these comply with IUGS policy for publications and ethics;
4. The IUGS Publications Committee Team will aim to compile monthly e-Bulletin by the 25th day of the month and send it to the IUGS Secretariat;
5. The IUGS Secretariat will dispatch the e-Bulletin to the IUGS Community on, or before, the last day of each month;

This time frame may vary due to public holidays that affect the e-Bulletin Team and IUGS Secretariat such as Christmas and Chinese New Year.

NOTES

• Please check the IUGS [Calendar of Events](#) for upcoming scientific meetings. If you require information on international conferences, meetings, etc. to be considered for inclusion in this Calendar please mail to: giuseppe.dicapua@ingv.it

• To be added to or removed from the IUGS e-Bulletin distribution list, please mail to: iugs.beijing@gmail.com or secretariat@iugs.org

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