



News at a Glance

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1. New Year Greetings from IUGS



Figure 1. Happy New Year 2023.

2. News from the International Commission on Stratigraphy (ICS)

The International Commission on Stratigraphy is delighted to announce publication of the 10th Version of the 2022 International Chronostratigraphic Chart (<https://stratigraphy.org/chart>). Included are the recently ratified Global Boundary Stratotype Section and Point (GSSP) for the Campanian Stage (Cretaceous System) and the Global Standard Stratigraphic Age (GSSA) for the base of the Hadean (by implication, the age of the Earth). A number of numerical ages, mainly for the Jurassic Period, have been updated. The chart relies on the dedication and engagement of many hundreds of geologists, globally, working across the Commission's seventeen subcommissions.

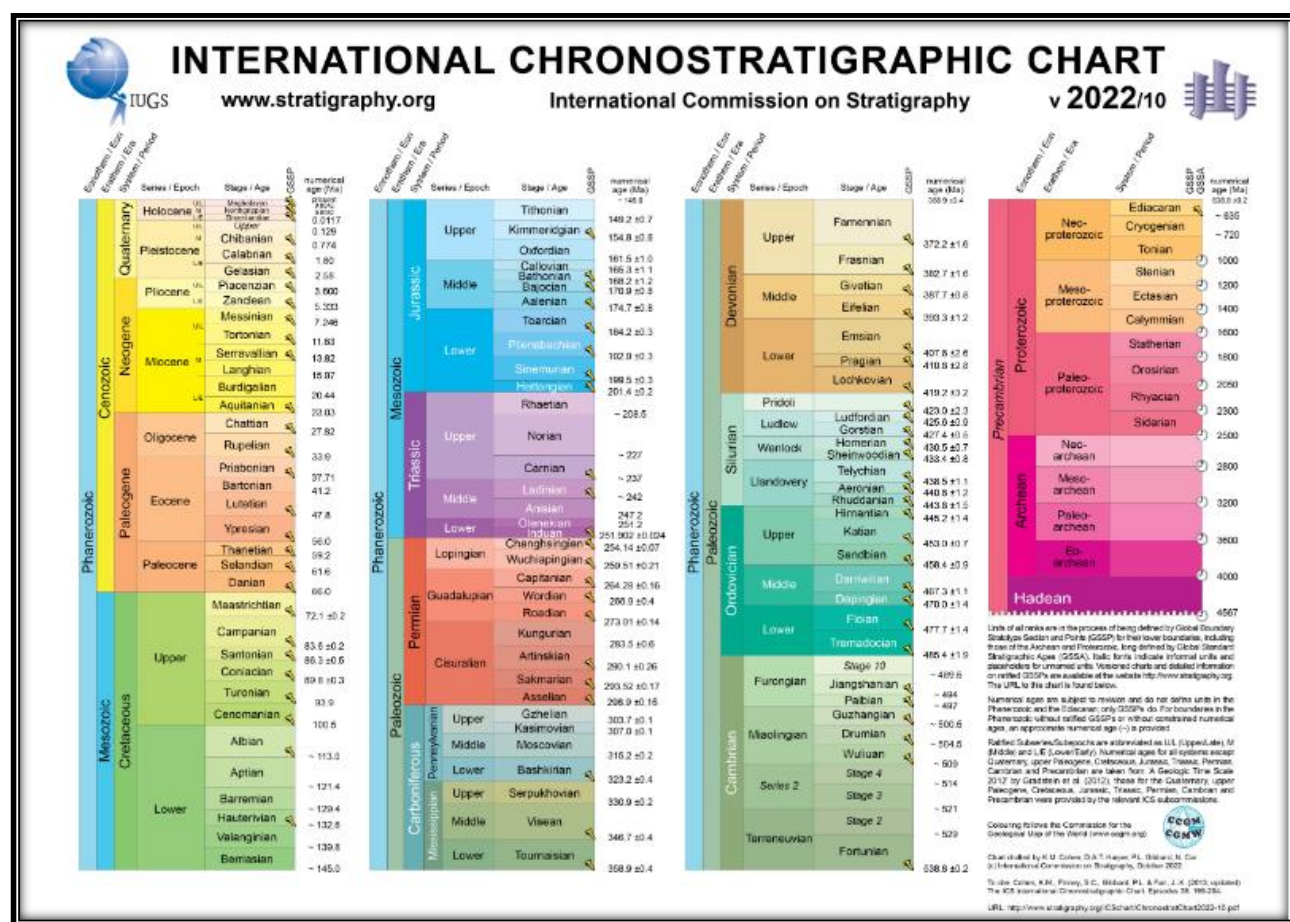


Figure 2. 10th Version of the 2022 International Chronostratigraphic Chart (<https://stratigraphy.org/chart>)



3. IUGS Past President Qiuming Cheng Received the AAG Gold Medal

The Association of Applied Geochemists (AAG) is an international geoscience organisation of professionals in industry, academia and government with a principal focus on mineral exploration and the associated fields of environment and analysis. AAG is an affiliated member of IUGS and actively participates in IUGS activities including IGCs and Commission on Global Geochemistry Baselines (CGGB). IUGS past president Qiuming Cheng made a keynote speech entitled "Basic Laws of Geochemical Element Distribution and Identification of Geochemical Anomalies in Exploration" at the symposium held in Chile on October 27, 2022. Qiuming Cheng was presented the AAG Gold Medal by the President of AAG John Carranza at the symposium.

4. IUGS-Episodes

Check out the latest December 2022 issue 45(4) of Episodes. This issue carries 7 articles, 1 Communication of IUGS Geological Standards, 1 Book Review, 1 History of Geology, and 1 Editorial. Click the link below to access the current volume of Episodes:

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

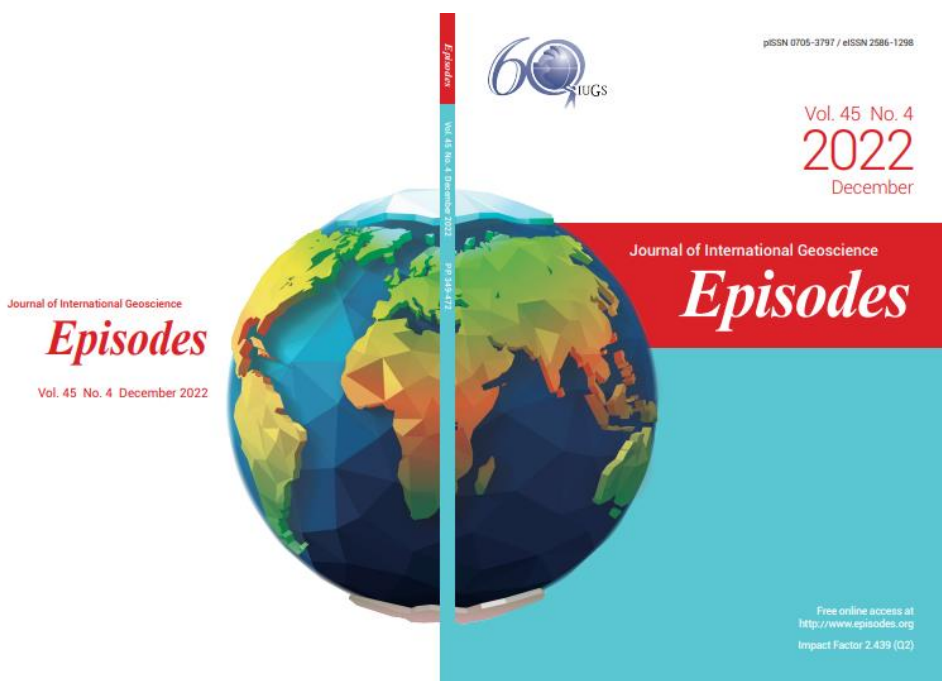


Figure 3. Cover page of IUGS-Episodes.

5. News from Subcommittee on Quaternary Stratigraphy

Anthropocene developments

A three-year programme of assessment of potential candidate GSSP sites for the Anthropocene series/epoch, supported by the Haus de Kulturen der Welt in Berlin (<https://www.anthropocene->



curriculum.org) and coordinated by the Anthropocene Working Group (AWG) of the Subcommittee on Quaternary Stratigraphy has resulted in 12 submissions, one per site plus an overview article¹, in a thematic set in the Anthropocene Review. These articles have been used to guide the voting members of the AWG in their vote on selection of a single candidate GSSP site and preferred hierarchical level, with the first round of voting completed on the 17th December 2022. A summary of the process and the 12 sites has also been published in *Science*² with commentary also in

Nature: <https://www.nature.com/articles/d41586-022-04428-3>.

A paper authored by 27 members of the AWG provided a detailed analysis following earlier publications debating whether the Anthropocene should be considered an informal, prolonged and diachronous ‘event’: e.g. <https://onlinelibrary.wiley.com/doi/abs/10.1002/jqs.3416> versus <https://onlinelibrary.wiley.com/doi/abs/10.1002/jqs.3467>. The article, published in *Earth-Science Reviews*³, considers events as short-term phenomena using deep-time examples and describes an Anthropocene event array, recognised in multiple proxies and coincident with the mid-20th century Great Acceleration.

¹ Waters, C.N., Turner, S.D., Zalasiewicz, J. and Head, M.J. (2022, in press). Candidate sites and other reference sections for the Global boundary Stratotype Section and Point of the Anthropocene series. The Anthropocene Review. <https://doi.org/10.1177/20530196221136422>.

² Waters, C.N. and Turner, S.D. (2022). Defining the onset of the Anthropocene. *Science* 378 (6621), 706-708. <https://doi.org/10.1126/science.ade2310>.

³ Colin N Waters, Mark Williams, Jan Zalasiewicz, Simon D Turner, Anthony D Barnosky, Martin J Head, Scott L Wing, Michael Wagemann, Will Steffen, Colin P Summerhayes, Andrew B Cundy, Jens Zinke, Barbara Fialkiewicz-Koziele, Reinhold Leinfelder, Peter K Haff, JR McNeill, Neil L Rose, Irka Hajdas, Francine MG McCarthy, Alejandro Cearreta, Agnieszka Gałuszka, Jaia Syvitski, Yongming Han, Zhisheng An, Ian J Fairchild, Juliana A Ivar do Sul, Catherine Jeandel (2022). Epochs, events and episodes: Marking the geological impact of humans. *Earth-Science Reviews*, 234, 104171. <https://doi.org/10.1016/j.earscirev.2022.104171>.

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

New ASTM International standard E3294, USA

The new ASTM International standard E3294 – 22 Standard Guide for Forensic Analysis of Geological Materials by Powder X-Ray Diffraction was placed on the Organization of Scientific Area Committees for Forensic Science (OSAC) Registry of approved standards in December 2022, and is publicized in the December 2022 OSAC standards Bulletin. This document was developed by the Geological Materials task group in OSAC.OSAC.

[OSAC Standards Bulletin - December 2022 | NIST](https://www.nist.gov/organization-scientific-area-committees-forensic-science/osac-registry)

<https://www.nist.gov/organization-scientific-area-committees-forensic-science/osac-registry>.

Geological Materials Trace Evidence Survey, USA

A survey on geological materials as trace evidence has been administered by Arizona State University, with input from the OSAC task group on Geological Materials. Forensic geologists and law enforcement are encouraged to take part in the survey.

<https://forms.gle/N6c2qdBWxPPgh2pd7>

PI Gwyneth Gordon at gwyneth.gordon@asu.edu. Reference IRB study #00016934.



6th IberoAmerican Congress on Forensic Geology, Chile

IUGS-IFG announced the, '6th IberoAmerican Congress on Forensic Geology' will be held in Chile in 2024. Further details will follow when available.

Applications of hand held XRF and fake gold detection

The links below provide case examples of the use of hand held XRF to detect fake gold.

<https://www.olympus-ims.com/en/insight/shining-like-a-diamond-or-rhinestone-identifying-precious-gems-with-xrf-analyzers/>

<https://www.olympus-ims.com/en/insight/spot-fake-bullion/>

<https://www.olympus-ims.com/en/applications/ut-testing-gold-bars/>

5th British-Finnish Geoscience Initiative and Finland British Embassy Meeting, Helsinki, Finland

On 13-14 December 2022, IUGS-IFG Chair and Officer for Scandinavia were invited to speak at the, '5th British-Finnish Geoscience Initiative'. They also met the British Ambassador, at the British Embassy and colleagues from the Finland Geological Survey (GTK), working on a project with IUGS-IFG for tracking and tracing precious minerals around the world, to prevent fraud and crimes.

<https://www.gtk.fi/en/this-is-gtk/>

6th Meeting on Minerals Related Crimes at the WCO Headquarters in Brussels, Belgium,

On 15-16 December, two IUGS-IFG Officers from South America were invited as speaker to attend the, '6th Meeting on Minerals Related Crimes' at the World Customs Office Headquarters in Brussels, Belgium, promoted by World Customs Organization AML/CTF. They spoke on problems of smuggling of diamonds and precious stones in Brazil.

Ancient Gold Theft, Bavaria, Germany

On 12 November, hundreds of ancient gold coins were stolen from the southern German Celtic Roman Museum in Manching in Bavaria. This comprised 483 Celtic coins and unworked gold (known as 'gold cake') dated from c100 BC. These were discovered during an archaeological dig near the present-day town of Manching in 1999. Interpol and Europol are undertaking investigations. If suspicious material is offered for sale, please contact the Bavarian State Criminal Police Office.

blka.sg622.soko-oppidum@polizei.bayern.de



Figure 4. Gold coins stolen in Bavaria, Germany (source: International Precious Metals Institute (IPMI) and the Bavarian State Criminal Police Office).

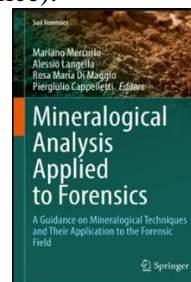


Figure 5. Mineralogical Analysis Applied to Forensics (source: Springer).

Mineralogical Analysis Applied to Forensics

The book 'Mineralogical Analysis Applied to Forensics' was firstly published online by Springer.



7. News from INHIGEO Anniversaries

Author: Christer Nordlund (Sweden)

Title: An anonymous reformer of mineralogy: Axel F. Cronstedt at the Swedish Bureau of Mines. Like many other mineralogists in eighteenth century Sweden, Axel Fredrik Cronstedt, worked in the mining industry. After studies in science and mathematics at Uppsala University, he was employed by the Bureau of Mines. He inspected and mapped mines and acted for the exploitation and improvement of ore, and, by extension, the economy of the nation. Conducting research to improve mining practices and extend knowledge in mineralogy was an integral part of this task and Cronstedt achieved results that gained him a place in the history of earth sciences.

To now more open the link below:

<http://www.inhigeo.com/anniversaries.html>

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

47th INHIGEO ANNUAL SYMPOSIUM 2022 – Two New INHIGEO Awards for young delegates!

Two young scholars were the recipients of the newly established **INHIGEO Early Career Award** and **INHIGEO Student Prize** for their presentations at the recently held 47th INHIGEO Symposium in Les Eyzies-de-Tayac, (Périgord region, France) during September 15th-24th 2022.

Conference website: www.inhigeo.com/france2022



Figure 6. During the symposium dinner on 21 September 2022, Martina Kölbl-Ebert (INHIGEO Secretary General) presenting the **INHIGEO Early Career Award** to Dr Maddalena Napolitani for



her presentation “*Painting the mountains between art and Earth sciences during the 2nd half of the 19th century: some French case studies*” and the **INHIGEO Student Prize** for best presentation by a Master/PhD student to Timothé Lhoste for his talk on “*Fabriquer l’homme fossile : Enquête autour des vestiges de la Denise et de leur contexte stratigraphique*”. On the left Ezio Vaccari (INHIGEO President) congratulating the young scholars for their presentations at the symposium on the History of the Geological Sciences.

Geological Society of America – October 2022

Mary C. Rabbitt History and Philosophy of Geology Annual Award

INHIGEO Vice President for Europe Marianne Klemun (University of Vienna, Austria) was the recipient for her contribution to the History of Geology of the 2022 Mary C. Rabbitt History and Philosophy Award of the Geological Society of America, at the annual meeting held in Denver in October. The Award is presented annually by the Geological Society of America’s History and Philosophy of Geology Division to an individual for exceptional scholarly contributions of fundamental importance to our understanding of the history of the geological sciences and candidates are from a worldwide pool. See: [GSA Division Awards \(geosociety.org\)](https://www.geosociety.org/division-awards/) [Mary C. Rabbitt History and Philosophy of Geology Award - 2022 \(geosociety.org\)](https://www.geosociety.org/division-awards/mary-c-rabbitt-history-and-philosophy-of-geology-award-2022/)

In addition, Marianne’s research has been honoured recently on two occasions in Austria: She was awarded on November 23 (2022) the Medal of Honour from the Carinthian Society for History for her research on history of natural sciences within a political context. She was also granted on November 24 (2022) the status of “Corresponding Member” of the Geological Survey (Geologische Bundesanstalt) in Vienna for her research about the Survey and history of geology as well for her cooperation with the Survey. In doing so, the institution is continuing a tradition that has been cultivated since 1849.



Figure 7. Marianne being toasted on receiving her nomination at the Geological Survey of Austria (Geologische Bundesanstalt).



8. News from the Commission on Global Geochemical Baselines

The “*International Union of Geological Sciences Manual of Standard Methods for Establishing the Global Geochemical Reference Network*” was presented by Alecos Demetriades on Monday, 17th October 2022, as an invited lecture at the “Geochemistry, Mineralogy, Petrology and Volcanology” session of the 16th International Conference of the Geological Society of Greece, which was held at the conference centre of the University of Patras from the 17th to the 19th of October 2022. Over seventy geoscientists attended the lecture. Among them were many undergraduate and postgraduate students, as well as senior geoscientists – lecturers, professors and former General Directors of the Hellenic Institute of Geology and Mineral Exploration. The presentation made a good impact on the attendees with many questions asked directly after the lecture and discussions continued during the coffee and lunch breaks. The Conference is held every three years since the early 1980s. This year’s successful event had over 600 delegates that contributed over 400 abstracts accessible by using the hyperlink: https://gsg2022.gr/wp-content/uploads/2022/10/GSG2022_Book-Of-Abstracts_V3_compressed.pdf.

The PowerPoint presentation and the extended abstract can be downloaded from the following pCloud hyperlink:

<https://u.pcloud.link/publink/show?code=kZyLTDVZoDBHluCRjz7N5g3K5fwTL7lma2D7>.



Figure 8. Alecos Demetriades (Chairperson of the Sampling Committee and Advisory Panel member of the Commission’s Steering Committee) delivering the keynote talk about the IUGS Manual of Standard Methods. The session conveners from left to right are: Petros Koutsovitis (University of Patras), Ariadne Argyraki (National and Kapodistrian University of Athens and Commission Steering Committee member) and Vasileios Melfos (Aristotle University of Thessaloniki).

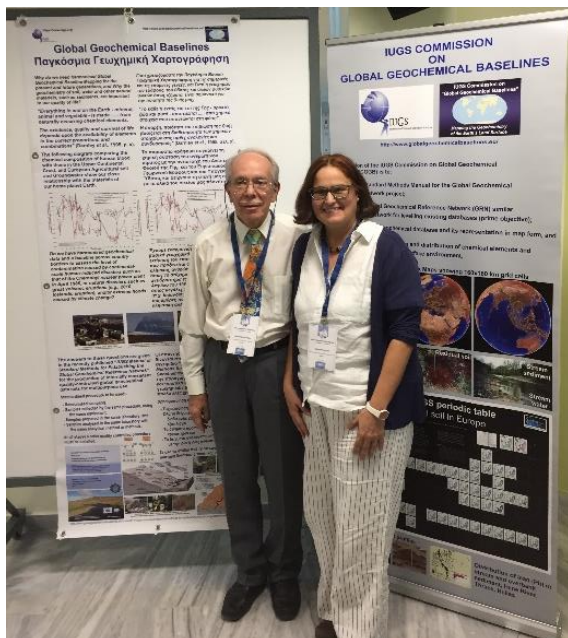


Figure 9. Alecos Demetriades (left) and Ariadne Argyraki (right) in front of the bilingual poster describing concisely the IUGS Manual of Standard Methods (left), and roll-up banner of the IUGS Commission on Global Geochemical Baselines (right). The poster and banner were displayed in the session room, and afterwards were moved to the conference centre's entrance hall and stayed there until the end of the conference in order to be seen by all delegates.

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:

gurmeet28374@gmail.com (e-Bulletin Editor-in-Chief)
giuseppe.dicapua@ingv.it (Webmaster)
gurmeet28374@gmail.com (Social Media Manager)

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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- Check the IUGS website: <http://www.iugs.org/>

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