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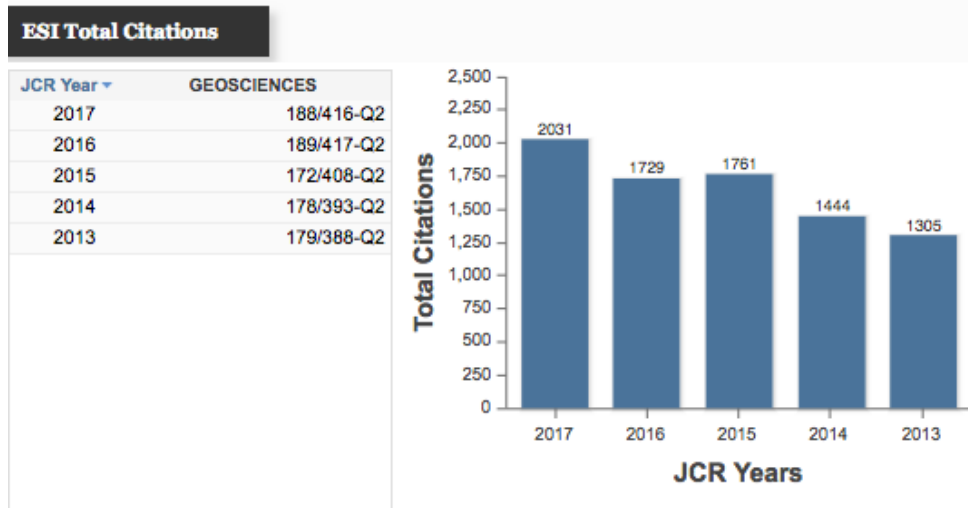
## News at a Glance

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### 1. Episodes: New Impact Factor

Episodes, the flagship journal of the IUGS, has increased its Impact Factor in the recently published review (Clarivate Analytics, 2017 IF). The new IF is 1.614, derived from the increase in citations of articles published in this journal. The aim of the IUGS Publications Committee is to continue increasing the impact of the journal within the scientific community.



Episodes: Citations 2013 – 2017

## 2. Chronostratigraphic Subdivision of the Cambrian

On June 25, 2018, the IUGS Executive Committee ratified the GSSP proposal for the boundary stratotype section and point that defines the base of the third series of the Cambrian, the Miaolingian Series and the base of the lowest stage of that series, the Wuliuan Stage. The boundary is placed at the lowest occurrence of the trilobite *Oryctocephalus indicus* (Reed, 1910) 52.8 m above the base of the Kaili Formation in the Wuliu-Zengjiayan section, Guizhou, China.



SYSTEMS	SERIES	STAGES	Boundary horizons (GSSPs) or provisional stratigraphic tie points
Ordovician	Lower	Tremadocian	
<b>CAMBRIAN</b>	Furongian	Cambrian Stage 10 (Undefined)	FAD of <i>Iapetognathus fluctivagus</i> (GSSP)
		Jiangshanian	FAD of <i>Lotagnostus americanus</i>
		Paibian	FAD of <i>Agnostotes orientalis</i> (GSSP)
	Miaolingian	Guzhangian	FAD of <i>Glyptagnostus reticulatus</i> (GSSP)
		Drumian	FAD of <i>Lejopyge laevigata</i> (GSSP)
		Wuliuan	FAD of <i>Ptychagnostus atavus</i> (GSSP)
	Cambrian Series 2 (Undefined)	Cambrian Stage 4 (Undefined)	FAD of <i>Arthrocephalus chauveaui</i> / FAD of <i>Olenellus</i> or <i>Redlichia</i>
		Cambrian Stage 3 (Undefined)	?FAD of trilobites / FAD of SSF species
		Cambrian Stage 2 (Undefined)	FAD of <i>Watsonella crosbyi</i> / FAD of <i>Aidanella attleborensis</i>
Terreneuvian	Fortunian	FAD of <i>Trichophycus pedum</i> (GSSP)	
	Ediacaran		

The International Subcommittee on Cambrian Stratigraphy chose many years ago to establish a completely new chronostratigraphic classification consisting of four series with two or three stages comprising each series with boundaries defined at stratigraphic levels that offered the best potential for widespread correlation. The GSSP just ratified by the IUGS EC largely completes the new classification for the upper part of the Cambrian System.

### 3. Ratification of GSSP proposal for Sakmarian Stage.

On July 21, 2018, the IUGS Executive Committee ratified the GSSP proposal for the boundary stratotype section and point that defines the base of the Sakmarian Stage of the Cisuralian Series of the Permian System. The boundary is placed at the lowest occurrence of the conodont *Mesogondolella monstra* Chernykh in Bed 26/3 at 55.4 m in the Usolka section, southern Urals, Russia.

Following guidelines for ratification, the ratified GSSP proposals for Cambrian and Permian and the recently ratified Holocene subdivisions will be published soon in Episodes.

#### 4. International Science Council Founding Assembly

The geounions cluster -a network of representatives of the international scientific unions dealing with the Earth Sciences at large- met on the occasion of the inauguration ceremony of the International Science Council in Paris on July 5th, 2018. Left to right: Yukio Himiyama (IGU President), Ruth Fincher (IGU), Allan Ashworth (INQUA President), Michael Meadows (IGU), Lena Halounova (ISPRS Secretary General), Orhan Altan (ISPRS), William Cavazza (IUGS vice-President), Michael Sideris (IUGG President), Anna Davies (Royal Irish Acad.), Qiuming Cheng (IUGS President). Not pictured: Piero Benvenuti (IAU Secr. General), Melody Brown Burkins (National Acad., USA), Rainer Horn (IUSS past-President), Alik Ismail-Zadeh (IUGG Secr. General), Takashi Kosaki (IUSS President), Menno-Jan Kraak (ICA President), Teresa Lago (IAU Secr. General), Nathalie Lemarchand (IGU), Makoto Ando (URSI President).



## 5. RFG 2018 . From Continent to Slope: Mapping the Oceanic Realm (IUGS and EMODnet)



An international team  
(Kristine Asch, BGR\*, Hiroshi

Kitazato, JAMSTEC\*\*, and Henry Vallius, GTK\*\*\* of the IUGS and the European Project “EMODnet Geology” organized and convened a session at the RFG2018 in Vancouver: “From Continental Shelf to Slope - Mapping the Oceanic Realm”.

12 speakers from Asia, Europe, North-America and Australia presented projects, requirements, approaches and challenges of marine geoscience mapping.

The session included 12 presentations and 3 posters on multidisciplinary R&D projects on geology, geophysics, geohazards, bathymetric and biologic aspects. Methods of off-shore mapping, data sampling and acquisition, data analysis and innovative ways of data access were introduced as well as the development of processes to harmonize and integrate marine data across EEZ boundaries. Abstracts see:

[http://rfg2018.gibsongroup.ca/admin/calendar\\_stream.php?id=37](http://rfg2018.gibsongroup.ca/admin/calendar_stream.php?id=37)

[http://rfg2018.gibsongroup.ca/admin/calendar\\_stream.php?id=38](http://rfg2018.gibsongroup.ca/admin/calendar_stream.php?id=38)

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\* BGR: Federal Institute of Geosciences and Natural Resources, BGR

\*\* JAMSTEC: Japan Agency for Marine Earth Science and Technology

\*\*\* GTK: Geological Survey of Finland

## **6. RFG 2018: Convergent Margin Geohazards and Geodisasters: Present Understanding, Mitigation, and Long and Short Term Preparedness**

IUGS Task Group on Geohazards (TGG) organized the session entitled “Convergent Margin Geohazards and Geodisasters: Present Understanding, Mitigation, and Long and Short Term Preparedness” on 20th June, 2018 at RFG2018 held in Vancouver. Nine papers from Japan, Thailand, India, Canada and USA were presented. Approx. 20 people attended this session and discussed geohazard research and disaster risk reduction.

## **7. Flood disasters in SW Japan, July 2018**

**Yujiro Ogawa and Kiichiro Kawamura**

(IUGS-TG GeoHazards, coordinators; fyogawa45@yahoo.co.jp, kiichiro@yamaguchi-u.ac.jp)

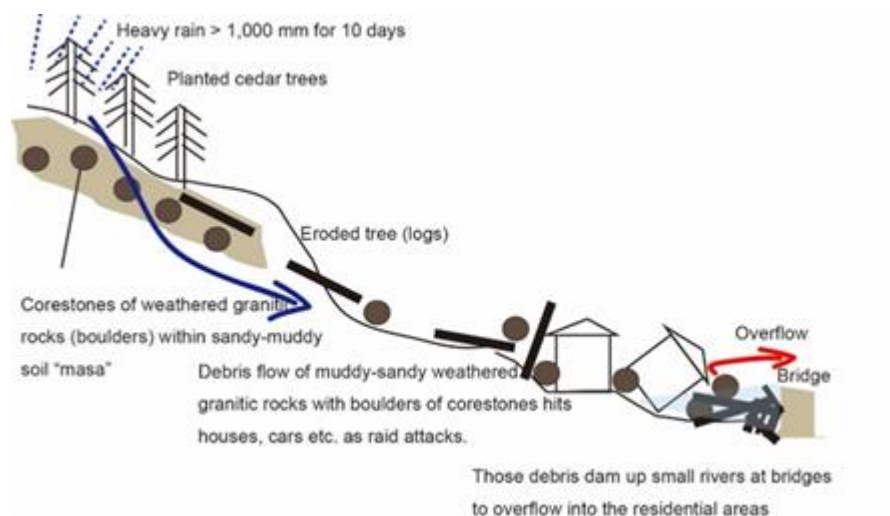
Heavy damage due to flood disasters has occurred and still continues in SW Japan. Slope failures, river floods, and debris flows from hilly areas, particularly around the Seto Inland Sea, were caused by incredibly heavy, concentrated rainfall of more than 1,000 mm for ten days up to 8th of July, 2018. Due to the heavy rain, boulder-sized corestones of weathered granitic rocks from the Ryoke Belt were washed down together with soil and tree trunks into the valleys impacting on and washing away houses along and at the bottoms of the valleys.

Most of the life lines (infrastructure such as water, electricity, telephone, internet, small and large roads, railroads, highways, etc.) became unusable in various places. Warning systems worked although some proved to be limited and slow. Hazard maps were mostly effective, but the very rapid rise in water levels in some localities prevented people from escaping. Up to the 10th of July, more than 200 people were dead or missing, and close to 20,000 people had to be evacuated. The economical damage is huge, currently estimated at more than US\$ 2 x 10<sup>9</sup>.

A key question is “How to mitigate the potential future damages?” Risk reduction could be achieved e.g. by building in safer areas, and, once a warning is given, evacuation should be

immediate. However, social life lines are fragile and the ability to make perfectly robust preparation is limited. It requires both personal preparedness and governmental action.

A summary of the major causes and results from TV, newspaper and internet reports can be found at the IUGS web site [[Report on flood disasters in SW Japan, July 2018](#)].



Schematic picture of how a strong debris flow affects houses etc. down slope and downstream. Thickly weathered granitic rocks in SW Japan have decomposed into sand and mud (clay) residual soils with corestones (less weathered and unweathered boulders). Heavy rain erodes those soil materials to move down as debris flows during and after rain falls to hit residential areas. The debris flows carry tree trunks (logs), in particular, and corestones which become stuck at bridges causing overflow up-stream of the barrier. This hazard remains even after the cessation of rain. Some natural and artificial dams are also at risk of later collapse in the later times. Picture drawn by Y. Ogawa's interpretation after some specialists' interviews in TV and Newspaper (Prof. T. Jitozono, Kagoshima Univ. at NHK TV, and Dr. M. Saito, Geological Survey of Japan at Yomiuri Shimbun Newspaper).

## 8. International Union of Geological Sciences (IUGS), Initiative on Forensic Geology (IFG)



Forensic Geology, From Crime Scene to Courtroom, American Geophysical Union (AGU), Washington DC, USA, December 2018: A session on Forensic Geology will be held at the American Geophysical Union, 10-14 December 2018, in Washington DC. The goal is to make this a wide-ranging session highlighting a variety of methods including case studies and current practices. Geosciences are applied in the criminal justice system in numerous ways. Soil and other geologic materials found on items of evidence can be compared to samples collected at a crime scene, while geophysical, remote sensing, and spatial analysis can aid in locating clandestine burial sites. Provenance studies focus on identifying potential source locations for geological evidence by comparing them with the known distribution of soils, rock types, and pollen. Because of the limited quantity of materials often obtained, many methods commonly used in geology and geochemistry are unsuitable for forensic characterization of geologic materials. This session highlights geoscience methods that can be applied in the criminal justice system including case studies, current practices, and forward-looking methods. Novel forensic geology methods may include LIDAR, multi-spectral imaging, predictive spatial analysis. Analysis of forensic soils may be enhanced with DNA-based taxonomic identification, Raman microscopy, micromorphometry, among others. The abstract deadline is 1 August 2018, further information can be found on the following link

<https://agu.confex.com/agu/fm18/prelim.cgi/Session/46981>

Forensic Geology in Japan: Ritsuko Sugita (IUGS-IFG Officer for Japan) delivered an invited lecture on Forensic Geology at an annual workshop of Kawasaki Geological Engineering Co., Ltd. on 28 June. Kawasaki Geological Engineering Co., Ltd. Is one of the biggest geological



consulting companies in Japan, utilizing geophysical ground search techniques and pollen analysis for their consulting business.

Professor Lorna Dawson, CBE. IUGS-IFG is delighted to announce that Professor Lorna Dawson, The James Hutton Institute, in Scotland and IUGS-IFG Treasurer was awarded a CBE in the Queen's birthday list honours for services to Soil and Forensic Science.

## 9. IAPG - International Association for Promoting Geoethics

26 articles have been published in the IAPG special issue on geoethics published in *Annals of Geophysics*:

Peppoloni S., Di Capua G., Bobrowsky P.T., Cronin V.S. (Eds.). *Geoethics at the heart of all geoscience*. *Annals of Geophysics*, 2017, Vol. 60, Fast Track 7. Free download: <http://www.geoethics.org/geoethics-ag2017>.

Programme of the Session S38: "History of geosciences and Geoethics: the right way for social responsibility" at the 89th Congress of the Geological Society of Italy, jointly with the Italian Society of Mineralogy and Petrography (Catania, Italy, 12-14 September 2018). The session S38 will take place on 13 September 2018, from 18:00 to 20:00 (8 orals and 7 posters). Conveners: Marco Pantaloni (ISPRA), Silvia Peppoloni (INGV), Fabiana Console (ISPRA), Giuseppe Di Capua (INGV). This session is co-sponsored by IAPG and INHIGEO: [http://www.sgicatania2018.it/BECong/sessione\\_programma.php?sessione2=50](http://www.sgicatania2018.it/BECong/sessione_programma.php?sessione2=50).

Call for abstracts at the AGU Fall Meeting 2018: session ED037 "Geoethics: Taking a Stand for Ethical Geoscience Research, Education, Communication, and Practice". Convenership: Cindy M. Palinkas (IAPG), Vincent S. Cronin (IAPG), Silvia Peppoloni (IAPG), Chris Keane (AGI). Session description and abstract submission: <https://agu.confex.com/agu/fm18/prelim.cgi/Session/51793>

Deadline: 1 August 2018.

The FCEA - Forum for Climate Engineering Assessment and the IAPG have signed an Agreement on Cooperation. The Agreement expresses a mutual desire to co-operate on a range

of issues in the field of geoethics and climate engineering. More about IAPG affiliations and agreements: <http://www.geoethics.org/affiliations-agreements>.

More news on the IAPG: <http://www.geoethics.org>

## 10. “Anniversaries”: The geologist’s hammer: tool, instrument and badge — 180 years ago

By Marianne Klemun, Professor of History of Science, Department of History, University of Vienna, Austria; INHIGEO Secretary-General, 2016–2020 ([Marianne.klemun@univie.ac.at](mailto:Marianne.klemun@univie.ac.at))



Figure A: Austrian geologists (Hauer, Suess, Stache) with their hammers, by permission of the Geological Survey Vienna [Geologische Bundesanstalt].

Although the hammer has a long history in civilisation, the “geologist’s hammer” was only born when field science and geology came into being together, and this happened at the end of the 18th century. Manuals written by geologists appeared in which the ideal shape of the geologist’s hammer was explained. One of these instruction books was written by the German scholar Karl Cäsar von Leonhard (1779–1862) under the title *Agenda geognostica: Handbook for travelling mountain researchers and guidelines for lectures on applied geognosy*, which was printed in 1838 in German, 180 years ago.

Fuller details are available on:

[http://iugs.org/uploads/Reports/Anniversaries\\_INHIGEO\\_The\\_geologist\\_s\\_hammer.pdf](http://iugs.org/uploads/Reports/Anniversaries_INHIGEO_The_geologist_s_hammer.pdf)



Figure B: Eduard Suess (1831-1914) with his hammers in the Department of Geology (Vienna), by permission of the Geological Survey Vienna.



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## EDITORS' NOTES:

### CONTRIBUTING TO THE IUGS E-BULLETIN, WEBSITE AND SOCIAL MEDIA

IUGS wishes to better co-ordinate public cation of information on **news, events and achievements** arising from IUGS activities (**not science reports or papers**). All IUGS Commissions, Task Groups, Initiatives and IGCP projects are requested to provide a steady flow of material. Contributions from Adhering Bodies and Affiliates will also be welcomed.

To aid co-ordination and standardization, IUGS has introduced a preferred format and a monthly timetable.

#### Format of submitted material:

Contributors should provide:

**For the E-Bulletin:** 2 or 3 sentences with between 1 and 3 illustrations (photographs, diagrams etc.) with captions as separate .jpg, .gif or .png files with a resolution of 150 dpi; optimally accompanied, by:

**For the web site:** a concise text of about 0.5 to 1 A4 page (up to about 600-700 words), if possible providing a web-link (e.g. to an IUGS activity website).

The short text in the E-Bulletin will be hyperlinked to any longer text which will be placed on the IUGS website. Items that are not in reasonably good English will be returned for improvement. Others will be edited for use of English if necessary. If proposed contributions are too long, they will be returned for shortening. All images must, if necessary, be copyright-cleared before submission.

**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:**

<a href="mailto:Kristine.Asch@bgr.de">Kristine.Asch@bgr.de</a>	(E-Bulletin editor)
<a href="mailto:Susanna.Koesterke@bgr.de">Susanna.Koesterke@bgr.de</a>	(E-Bulletin secretary)
<a href="mailto:giuseppe.dicapua@ingv.it">giuseppe.dicapua@ingv.it</a>	(webmaster)
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## Timetable:

The idealized timetable for the E-Bulletin is:

1. IUGS sends a reminder to leaders of activities in the last week of each month;
2. Contributions should be provided by the 16<sup>th</sup> day of that month (**items arriving after that date cannot be included in the next monthly issue**);
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 Team will aim to compile that month's E-Bulletin by the 25<sup>th</sup> 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;
6. Long versions of material will be posted on the IUGS Website in coordination with the publication of the relevant E-Bulletin.

This timetable will be varied, as necessary, to allow for public holidays that affect the E-Bulletin Team and IUGS Secretariat such as Christmas and Chinese New Year.

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## NOTES

- If you require notices, information on publications, etc. to be considered for inclusion in forthcoming IUGS e-bulletins, please mail to [Kristine.Asch@bgr.de](mailto:Kristine.Asch@bgr.de) and [amel.barich@gmail.com](mailto:amel.barich@gmail.com).
- Please check the IUGS [Calendar of Events](#) for upcoming scientific meetings this coming month. If you require information on international conferences, meetings, etc. to be considered for inclusion in this Calendar please mail to: [giuseppe.dicapua@ingv.it](mailto:giuseppe.dicapua@ingv.it)
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*Edited by:*

*Kristine Asch (IUGS, BGR), Susanna Kösterke (BGR), Amel Barich (IUGS)  
and Brian Marker (IUGS)*

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