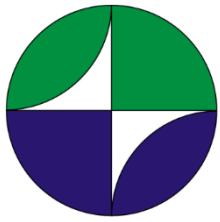


INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS
UNION GEODESIQUE ET GEOPHYSIQUE INTERNATIONALE

IUGG – XXVII. Generalversammlung 2019: **Fakten, Bilder, Grafiken und *Lektionen***

Dr. Alexander Rudloff, IUGG Secretary General
Dr. Franz Kuglitsch, IUGG Executive Secretary
GFZ German Research Centre for Geosciences

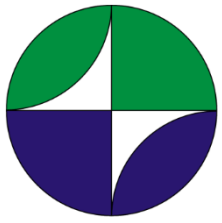


IUGG General Assembly 2019

Montreal, Canada , 8-18 July 2019

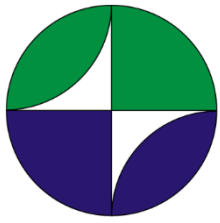
“Beyond 100: The next century in Earth and Space Science”





IUGG General Assembly 2019





IUGG General Assembly 2019 / Highlights (I)

11 July 2019:

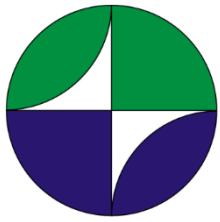
- *“Earth Sciences as the Underlying Pillars to Meet Societal Challenges in the Next Century”* by David Grimes (Canada)
- *“Bridging the Science-Policy Gap to address India’s Water Crisis: Insights from Cauvery Basin Research”* by Veena Srinivasan (India)
- *“The Ocean’s Role in Atmospheric Carbon Dioxide Changes During Ice Age Cycle”* by Karen Kohfeld (Canada)



David Grimes

Veena Srinivasan

Karen Kohfeld



IUGG General Assembly 2019 / Highlights (II)

13 July 2019:

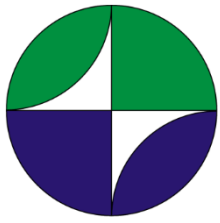
- *“Exploring and Understanding Earth from Space: The Power of Perspective”* by Waleed Abdalati (USA)
- *“Improving Atmospheric Reconstructions for Historical Extreme Events by Rescuing Lost Weather Observations”* by Ed Hawkins (UK)
- *“Hunting the Magnetic Field”* by Lisa Tauxe (USA)



Waleed Abdalati

Ed Hawkins

Lisa Tauxe



IUGG General Assembly 2019 / Highlights (III)

16 July 2019:

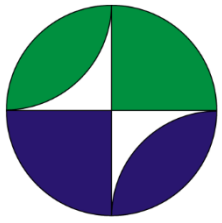
- *“Geodesy Sharpens You Up”* by Kosuke Heki (Japan)
- *“Singing Seismograms: Harmonic Tremor Signals in Seismological Records”* by Vera Schlindwein (Germany)
- *“Volcanic Giants - What We Know, What We Think We Know, What We Can’t Know About Cataclysmic Super-Eruption”* by Paolo Papale (Italy)
-



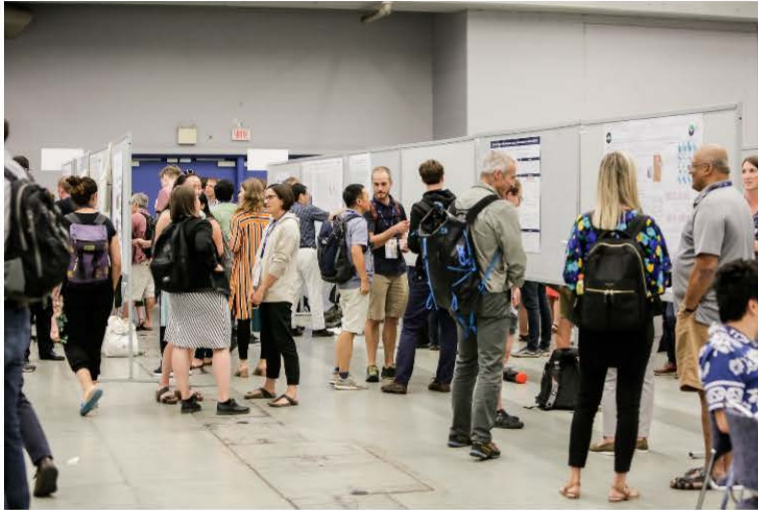
Kosuke Heki

Vera Schlindwein

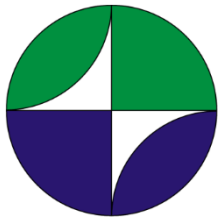
Paolo Papale



IUGG General Assembly 2019 / Highlights (IV)



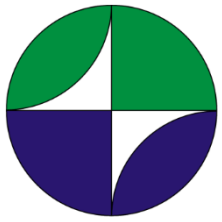
At poster and oral sessions



IUGG General Assembly 2019 / Highlights (V)



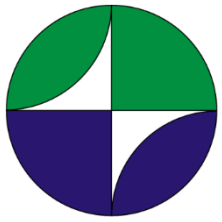
Enjoying Canadian food



IUGG General Assembly 2019 / Highlights (VI)



Between sessions

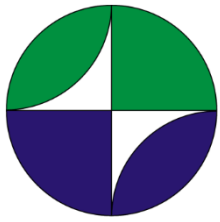


IUGG General Assembly 2019 / Facts & Figures (I)

General Assembly 2019

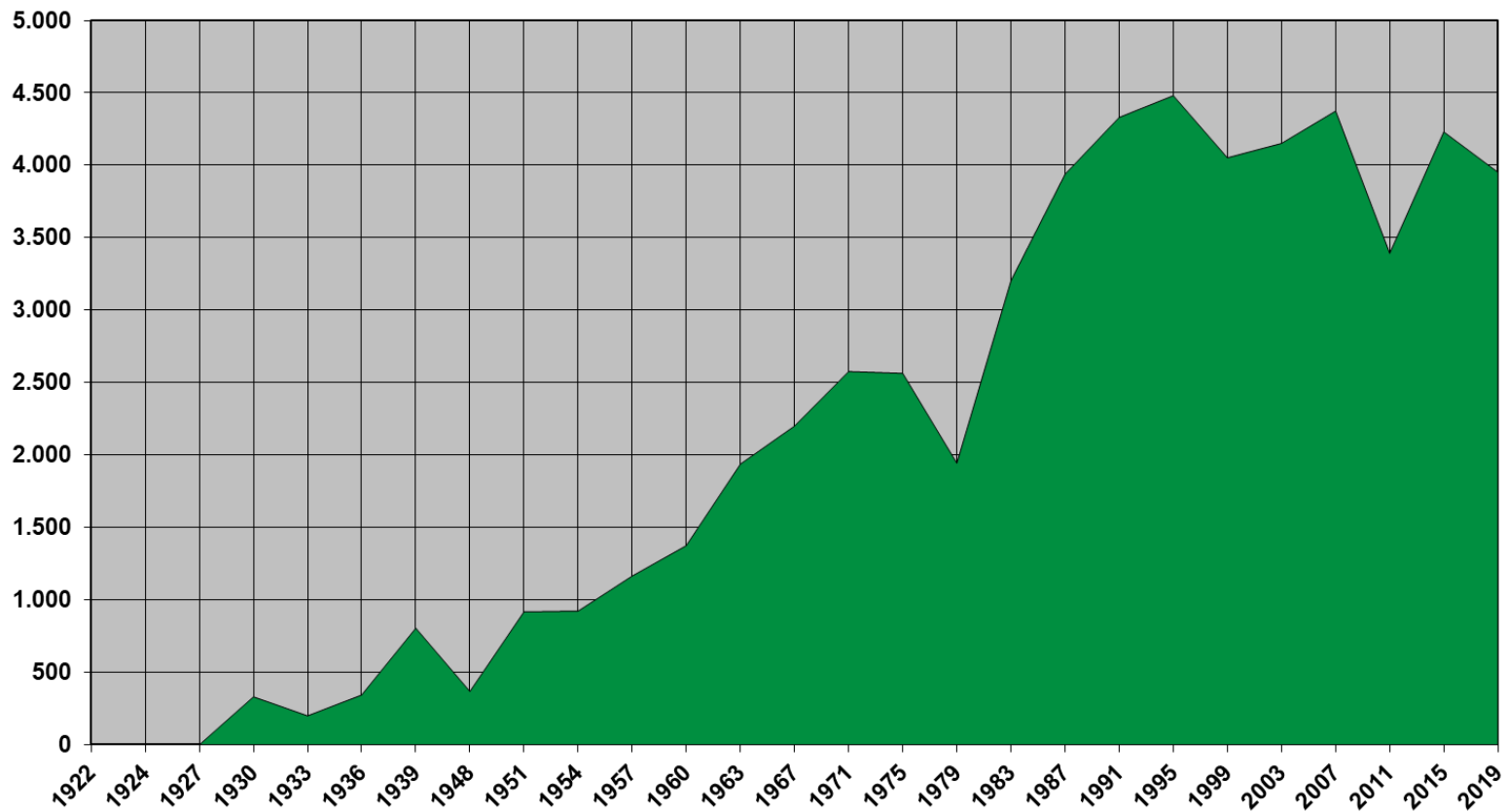
- 3,952 Participants (incl. no-shows) from 94 countries

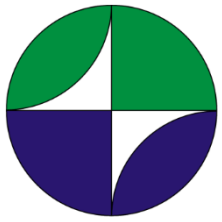
▪ TOP 5	<i>N</i>	<i>Perc</i>
➤ CANADA	869 /	22.0%
➤ U.S.A.	680 /	17.2%
➤ CHINA	406 /	10.3%
➤ JAPAN	292 /	7.4%
➤ GERMANY	225 /	5.7%



IUGG General Assembly 2019 / Facts & Figures (II)

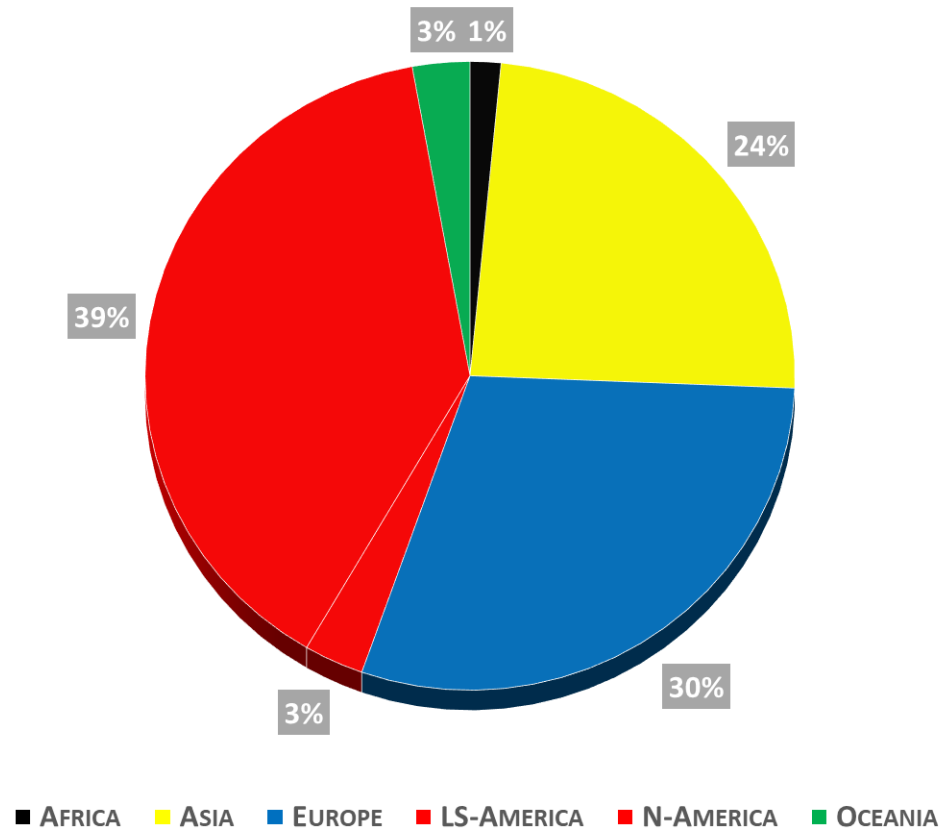
IUGG General Assemblies / Attendees (since 1922)

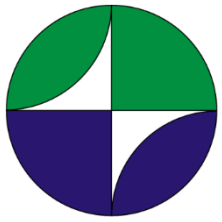




IUGG General Assembly 2019 / Facts & Figures (IIIa)

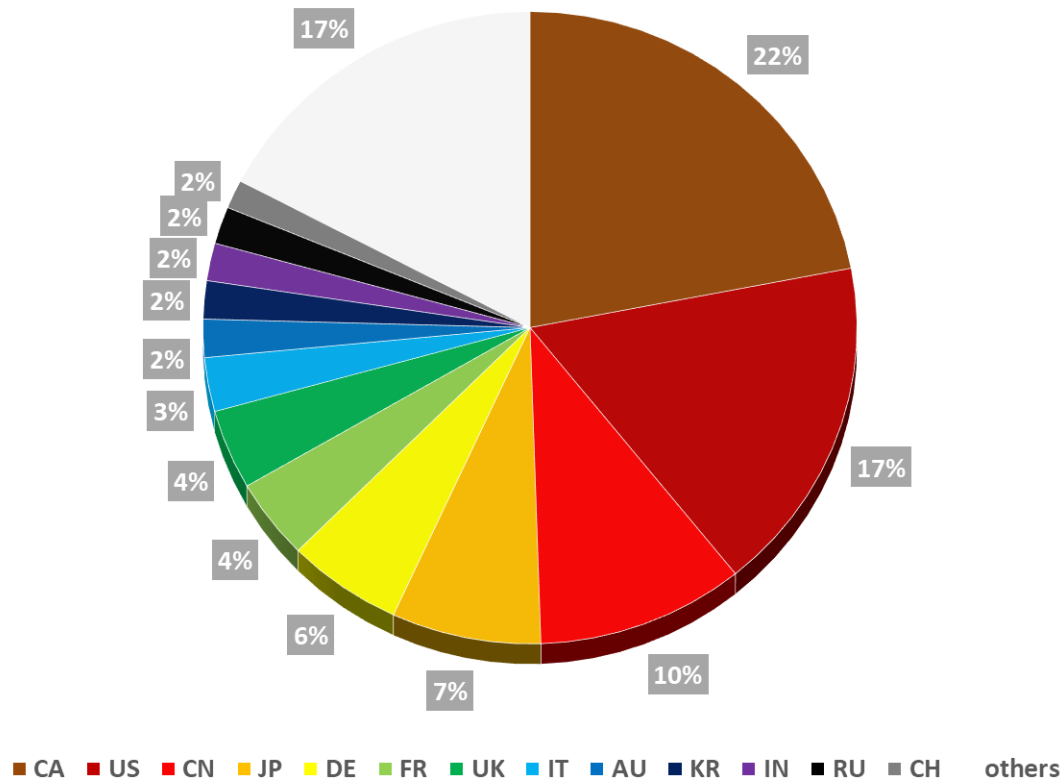
IUGG GA 2019 - Attendees by continents

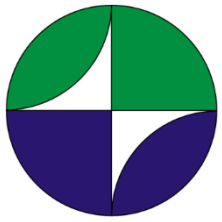




IUGG General Assembly 2019 / Facts & Figures (IIIb)

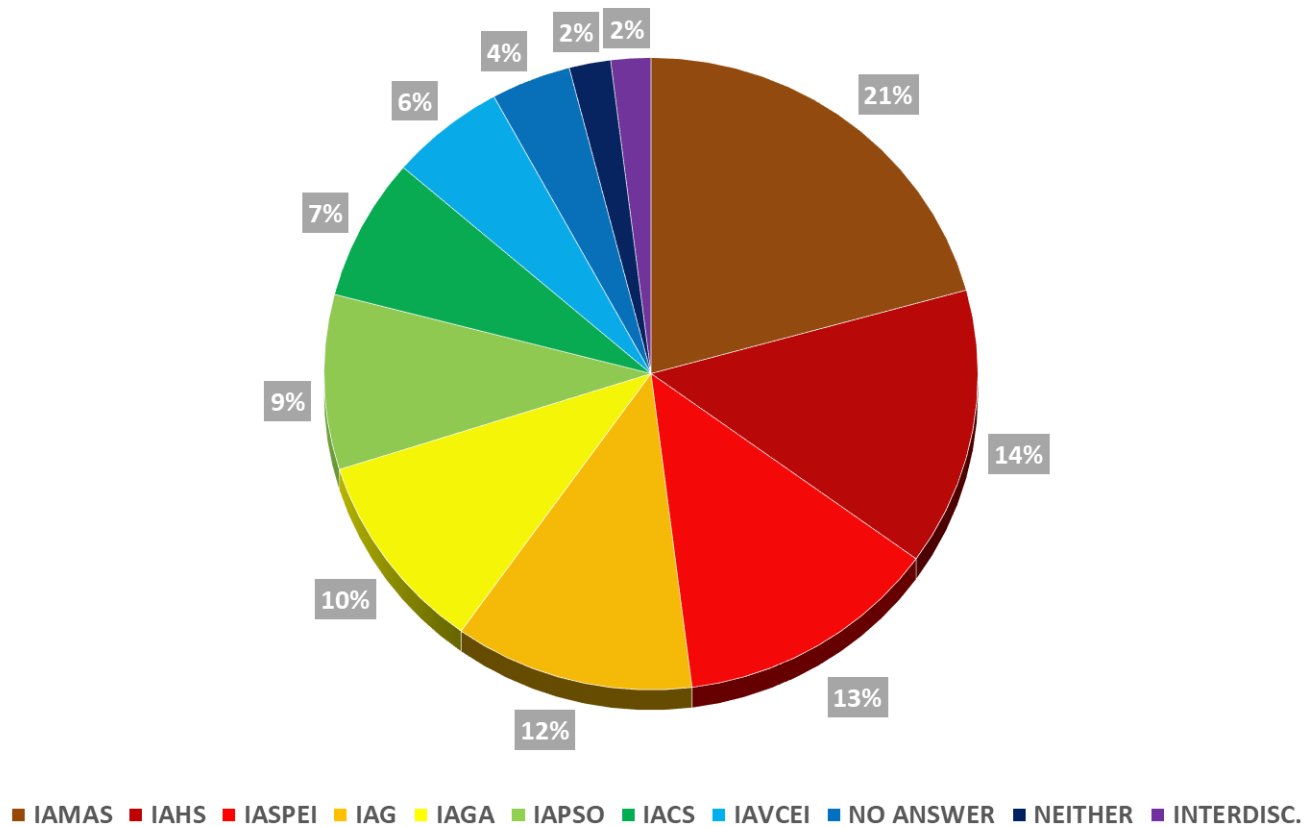
IUGG GA 2019 - Attendees by nations

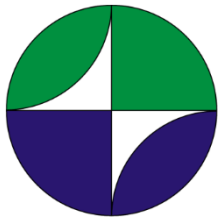




IUGG General Assembly 2019 / Facts & Figures (IIIc)

IUGG GA 2019 - Attendees by association





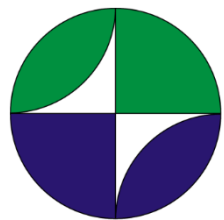
IUGG General Assembly 2019 / Facts & Figures (IV)

The Scientific Program consisted of

- 234 symposia,
- 18 workshops, and
- 558 sessions in total.

...more than

- 4,580 presentations at the General Assembly there were
- 9 Union Lectures (see below),
- 437 invited presentations,
- 2,329 oral presentations, and
- 1,814 poster presentations.



IUGG General Assembly 2019 / Programme Analysis (I)

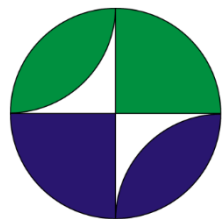
27th GA of IUGG / July 2019



Total Number of Sessions per Day

Day of Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Su
Day of Week	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	
UNION									4	3	3	2	3	4	4	1	2															26
IACS								6	5	6	4	2																				23
IAG									4	6	7	4	7	7	6	6																47
IAGA												7	2	10	10	10	12															51
IAHS								16	13	10	10	7																				56
IAMAS								38	8	26	15	13																				100
IAPSO								6	10	5	3	6	10																			40
IASPEI												4	11	10	13	8																46
IAVCEI											4	2	6	6	3	6																27
JOINT SYMP JA											9	8	3	2	3																	25
JOINT SYMP JC											6	8																				14
JOINT SYMP JG										3	7	3	3		3																	19
JOINT SYMP JH									2	2	2	2																				8
JOINT SYMP JM								11	2	3	9	7																				32
JOINT SYMP JP									3	3	6	4	4																			20
JOINT SYMP JS											5	4	2	2	1																	14
JOINT SYMP JV												1		4		1																6
Summary								81	50	67	96	80	60	45	40	35																554

N: Sessions per day



IUGG General Assembly 2019 / Programme Analysis (II)

27th GA of IUGG / July 2019



Maximum Number of Sessions in Parallel

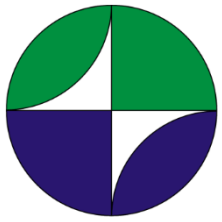
Day of Month	8				9				10				11				12				13				14				15				16				17				Su
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D					
UNION					1	1	1	1	1	1	1	0	1	0	1	1	0	0	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	0	0	26	
IACS					1	1	2	2	2	2	1	0	2	0	2	2	1	1	1	1	1	0	1	0															23		
IAG									0	2	2	0	2	0	2	2	1	2	2	2	1	0	2	1	1	2	2	2	1	2	2	2	2	0	2	2	2	2	2	0	47
IAGA																	1	2	2	2	1	0	1	0	3	3	2	2	3	0	4	3	4	0	3	3	5	4	3	0	51
IAHS					2	4	5	5	5	5	3	0	3	0	3	4	3	3	3	1	2	0	3	2															56		
IAMAS					9	9	10	10	1	0	7	0	8	0	9	9	5	3	3	4	4	0	4	5															100		
IAPSO					0	0	3	3	3	4	3	0	0	0	3	2	1	1	1	0	0	0	2	4	2	2	3	3											40		
IASPEI																					1	0	2	1	5	2	2	2	2	2	3	3	4	0	5	4	4	4	0	0	46
IAVCEI																	1	1	1	1	0	0	1	1	1	1	3	1	3	1	1	1	1	0	1	1	2	2	2	0	27
JOINT SYMP JA																	1	2	3	3	3	0	2	3	0	1	1	1	0	0	1	1	1	0	1	1				25	
JOINT SYMP JC																	2	1	1	2	2	0	3	3															14		
JOINT SYMP JG													1	0	1	1	2	3	1	1	1	0	1	1	1	1	1	0					1	0	1	1			19		
JOINT SYMP JH									0	1	1	0	1	0	1	0	0	1	1	0	0	0	1	1															8		
JOINT SYMP JM					3	3	3	2	0	0	2	0	1	0	1	1	1	2	3	3	2	0	3	2															32		
JOINT SYMP JP									1	1	1	0	0	0	2	1	1	2	3	0	2	0	1	1	1	2	0	1											20		
JOINT SYMP JS																	0	1	2	2	2	0	1	1	1	1	0	0	1	1	0	0	1					14			
JOINT SYMP JV																						0	0	0	1					1	1	1	1				1		6		
Summary	0	0	0	0	16	18	24	23	13	16	21	0	19	0	25	23	20	25	28	23	23	0	29	28	16	16	15	13	12	8	13	12	15	0	13	12	15	13	7	0	554

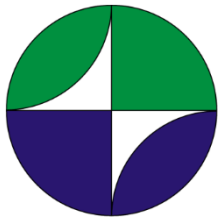
Codes:

A: 08:30 B: 10:30 C:13:30 D:16:30

Saturday

Sunday



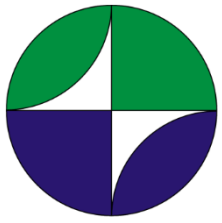


Mission

The International Union of Geodesy and Geophysics (IUGG) is the international organization dedicated to advancing, promoting, and communicating knowledge of the Earth system, its space environment, and the dynamical processes causing change.

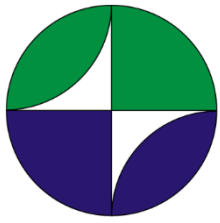
Through its constituent Associations, Commissions, and services, IUGG convenes international assemblies and workshops, undertakes research, assembles observations, gains insights, coordinates activities, liaises with other scientific bodies, plays an advocacy role, contributes to education, and works to expand capabilities and participation worldwide.

IUGG is a national membership organization.



IUGG National Members





IUGG General Assembly 2019 / Meeting “Marathon”

Bureau meetings (3/1)

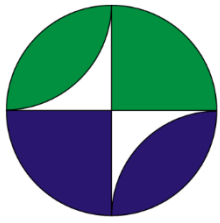
- I) Monday, 8th July 2019 – 9-12 h
- II) Wednesday, 10th July 2019 – 9-12 h
- III) Monday, 15th July 2019 – 9-12 h
- NEW Thursday, 18th July 2019 – 10-12 h

Council Meetings (3)

- I) Tuesday, 9th July 2019 – 14-18 h
- II) Friday, 12th July 2019 – 9-13 h (“GA 2023 pitch”)
- III) Tuesday, 16th July 2019 – 15-18 h (Elections)

Executive Committee (3/1)

- I) Monday, 8th July 2019 – 14-18 h
- II) Thursday, 11th July 2019 – 14-18 h
- III) Monday, 15th July 2019 – 15-18 h
- NEW Thursday, 18th July 2019 – 14-16 h



IUGG Executive Committee 2019-2023

EXECUTIVE COMMITTEE

Bureau

PRESIDENT



Kathryn Whaler
IAGA
UK

PRES.-ELECT



Chris Rizos
IAG
AUSTRALIA

SEC. GENERAL



Alexander Rudloff
ILP / IASPEI
GERMANY

TREASURER



Niels Andersen
IAG
DENMARK

MEMBER



Stephen McNutt
IAVCEI
USA

MEMBER



Eduard Petrovsky
IAGA
CZECH REPUBLIC

MEMBER



Jun Xia
IAHS
CHINA

EXECUTIVE SEC.



Franz Kuglitsch
GERMANY

PAST PRESIDENT



Michael Sideris
IAG
CANADA

Association Presidents

IACS



Regine Hock
USA

IAG



Zuheir Altamimi
FRANCE

IAGA



Mioara Manda
FRANCE

IAHS



Günter Blöschl
AUSTRIA

IAMAS



Joyce Penner
USA

IAPSO



Trevor
McDougall
AUSTRALIA

IASPEI

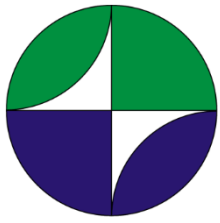


Kenji Satake
JAPAN

IAVCEI



Patrick Allard
FRANCE



IUGG Finance Committee 2019-2023

FINANCE COMMITTEE

CHAIR



Corina Risso
IAVCEI
ARGENTINA

MEMBER

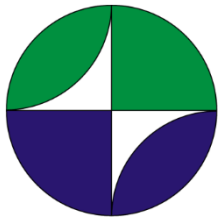


József Ádám
IAG
HUNGARY

MEMBER



Priscilla Grew
IAVCEI
USA



IUGG – Resolutions 2019 (Ia)

Resolution #1: Reducing the Carbon Foot Print by the Research Community

The International Union of Geodesy and Geophysics

Considering

The clearly established impact of human activity on climate change and biosphere degradation,

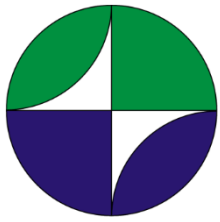
Acknowledging

The irreversible consequences of continuing the current trajectory of greenhouse gas emission for the ecosystems of the planet and human societies,

Noting

That the Intergovernmental Panel on Climate Change (IPCC), in its recent special report on the impact of global warming of 1.5°C (IPCC, 2018; <https://www.ipcc.ch/sr15/>),

- Demonstrated the dramatic differences between the consequences of warming of 1.5°C and 2.0°C above pre-industrial levels, and
- Showed that limiting the warming to 1.5°C could be obtained only by strongly reducing carbon dioxide emissions before 2030,



IUGG – Resolutions 2019 (Ib)

Resolution #1: Reducing the Carbon Foot Print by the Research Community (cont'd)

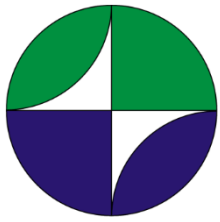
The International Union of Geodesy and Geophysics

Urges

- IUGG and affiliated Scientific Associations to take carbon foot print criteria into account when choosing the venue of future meetings, and
- The participants of the 27th IUGG General Assembly, research institutions and individual researchers to contribute to an unprecedented effort to evaluate and reduce greenhouse gas emission impact on the environment.

Resolves

The research community, which is well aware of the origins and impact of climate change, should exhibit an exemplary attitude by modifying its professional practices in order to rapidly reduce its carbon footprint.



IUGG – Resolutions 2019 (II)

Resolution #2: The International Terrestrial Reference Frame (ITRF)

The International Union of Geodesy and Geophysics

Considering

- The significant efforts of the International Association of Geodesy (IAG) in developing and maintaining fundamental geodetic products, in particular the International Terrestrial Reference Frame (ITRF), for scientific and societal benefits, and
- The importance of inter-operability of various geospatial data-sets and geo-referencing applications,

Acknowledging

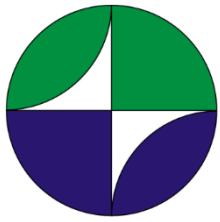
The adoption by the IUGG of Resolution 2 in Perugia 2007 of the International Terrestrial Reference System (ITRS) as the preferred Geocentric Terrestrial Reference System (GTRS) for scientific and technical applications,

Noting

- That the ITRF is the numerical realization of the ITRS, developed, maintained and made available to users by the International Earth Rotation and Reference Systems Service (IERS), an IAG service, and
- That the ITRF is widely used as the standard in various geo-referencing applications,

Resolves

To recommend to the user community that the ITRF be the standard terrestrial reference frame for positioning, satellite navigation and Earth Science applications, as well as for the definition and alignment of national and regional reference frames.



IUGG – Resolutions 2019 (III)

Resolution #3: Thanks

The International Union of Geodesy and Geophysics

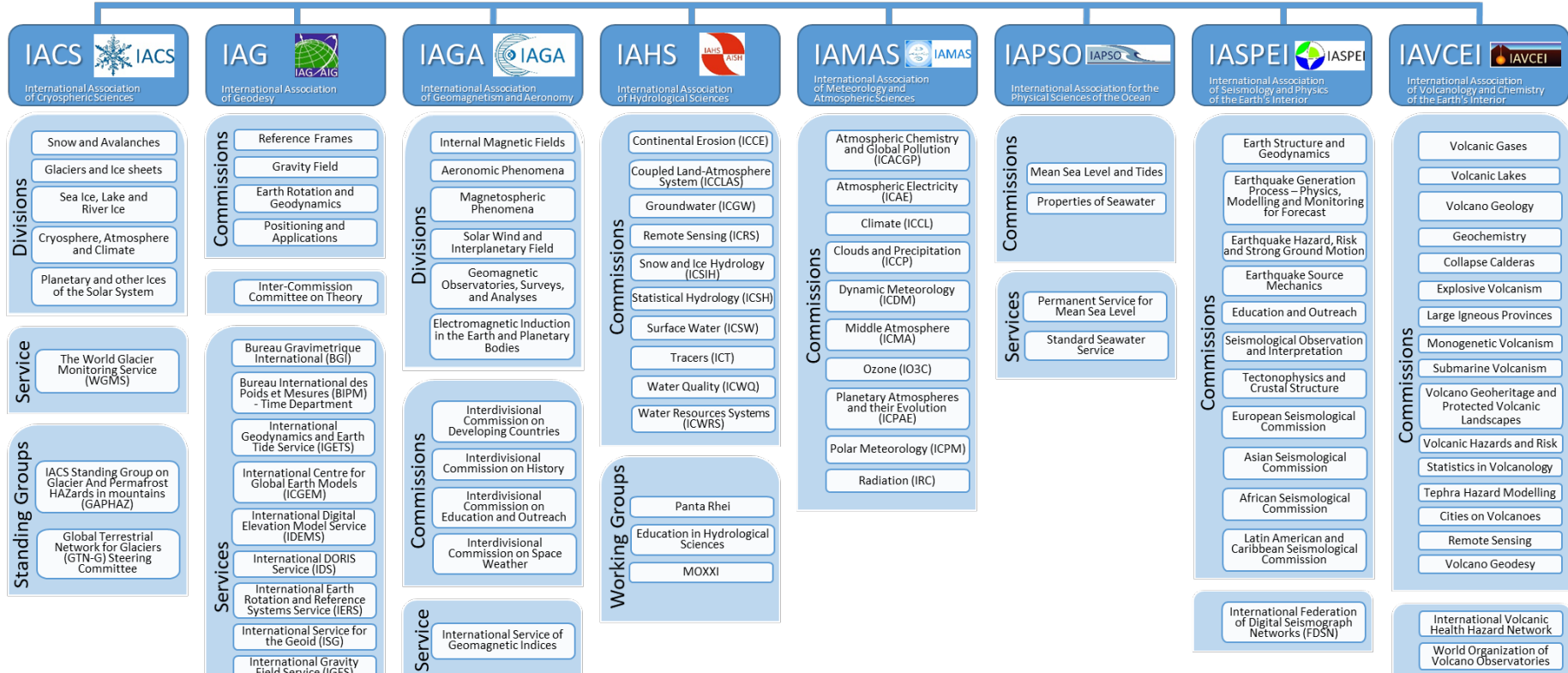
Resolves

To record gratefully its appreciation for the organization, arrangements, and hospitality at its 27th General Assembly.

On behalf of all participants the Council expresses its warm thanks to the Local Organizing Committee, the Scientific Program Committee, the Canadian Geophysical Union (CGU), the Canadian Meteorological and Oceanographic Society (CMOS) and all others for making the 27th General Assembly a success in the beautiful city of Montreal.

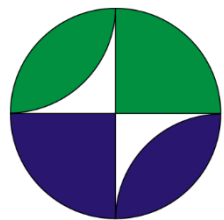
International Union of Geodesy and Geophysics (IUGG)

Associations



Union Commissions and Working Group





IUGG Association Scientific Assemblies 2021

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

Rotorua, New Zealand, 2021



International Association of Cryospheric Sciences

International Association of Meteorology and Atmospheric Sciences

International Association for the Physical Sciences of the Oceans

Busan, Rep. of Korea, 18-22 July 2021



IAMAS



International Association of Geomagnetism and Aeronomy

International Association of Seismology and Physics of the Earth's Interior

Hyderabad, India, 22-27 August 2021



International Association of Geodesy

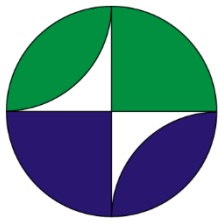
Beijing, China, 2021



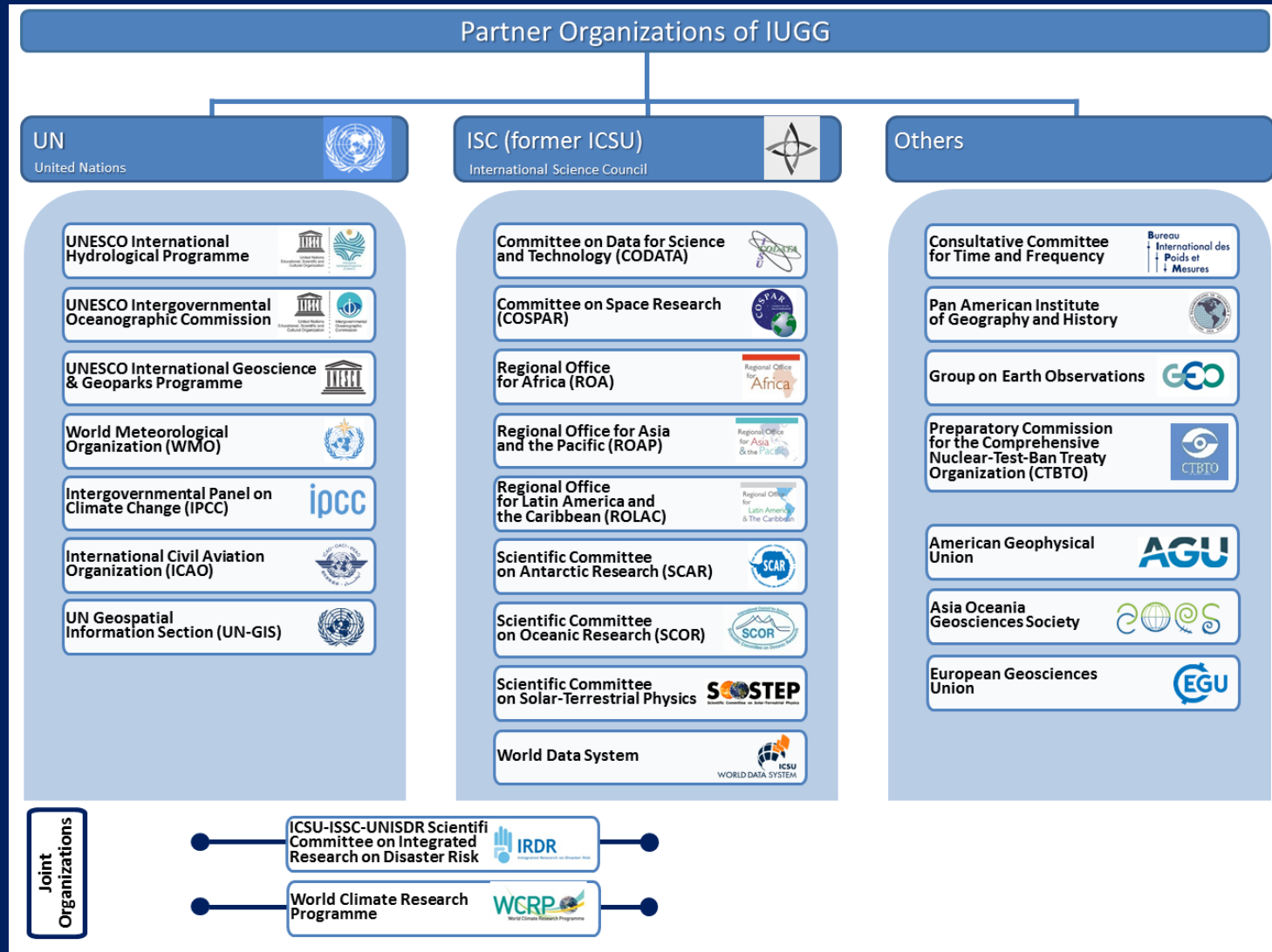
International Association of Hydrological Sciences

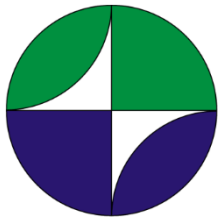
Montpellier, France, 2021





Partnership



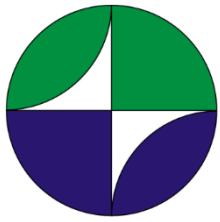


ICSU + ISSC = ISC

International Council for Science (ICSU) + International Social Science Council (ISSC) = **International Science Council (ISC)**



Participants of the ICSU-ISSC joint General Assembly, Taipei, October 2017 (photo: ICSU/ISSC)



ICSU + ISSC = ISC



**1st ISC General
Assembly, 3-5 July 2018**

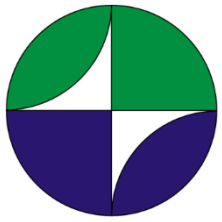
**143 Member
Organizations**

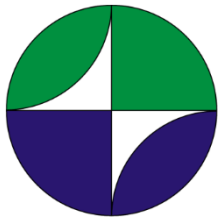
**39 Member Unions
and Associations**

31 Affiliate Members



VP	President	Treasurer	VP	President-elect	Secretary
Jianhai Li	Daya Reddy	Renée van Kessel	Eliza Reis	Peter Gluckmann	Alik Ismail-Zadeh
China	South Africa	Netherlands	Brazil	New Zealand	Germany
Chemistry	Mathematics	Sociology	Sociology	Biology	Physics

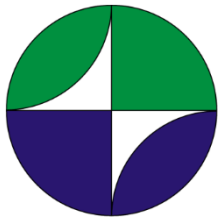




IUGG General Assembly 2023 (I)

**28th IUGG General
Assembly
Berlin, Germany
12-19 July 2023**



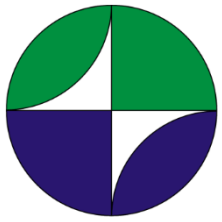


IUGG General Assembly 2023 (II)



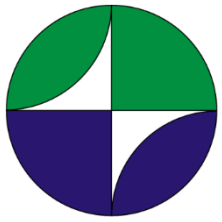
CityCube Berlin

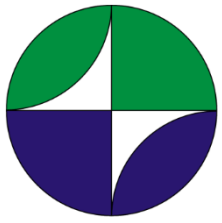




IUGG General Assembly 2023 (III)



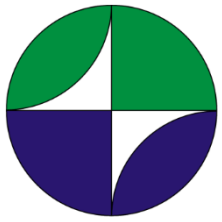




IUGG Centennial (I)

Centennial of the International Union of Geodesy and Geophysics Celebration at UNESCO HQ, Paris – 29 July 2019

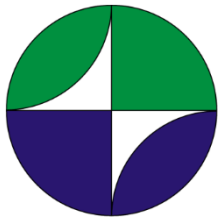




IUGG Centennial (II)

Centennial of the International Union of Geodesy and Geophysics Celebration at UNESCO HQ, Paris – 29 July 2019

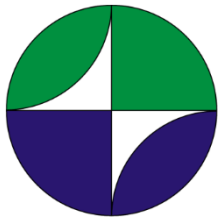




IUGG Centennial (III)

Centennial of the International Union of Geodesy and Geophysics Celebration at UNESCO HQ, Paris – 29 July 2019

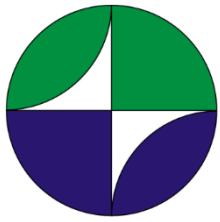




IUGG Centennial (IV)

Centennial of the International Union of Geodesy and Geophysics Celebration at UNESCO HQ, Paris – 29 July 2019





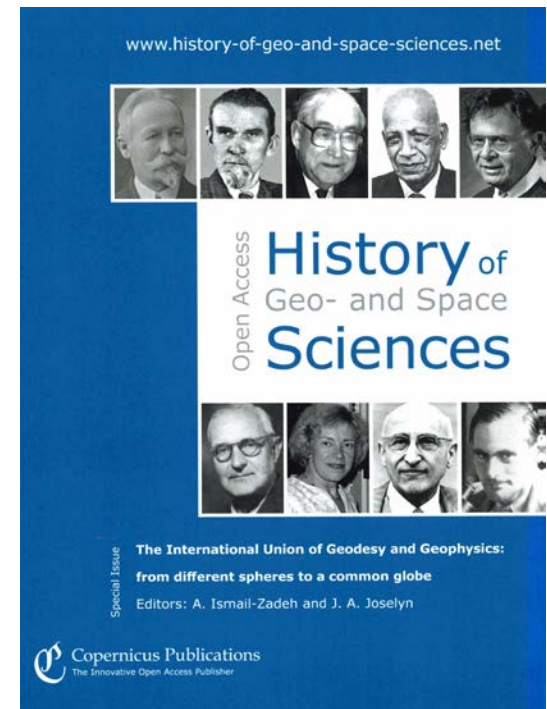
IUGG Centennial (V)

History of the International Union of Geodesy and Geophysics (1919-2019)

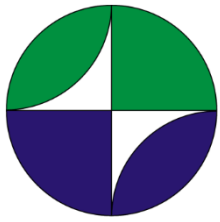
Special issue

The International Union of Geodesy and Geophysics: from different spheres to a common globe

Editor(s): A. Ismail-Zadeh and J. A. Joselyn



https://www.hist-geo-space-sci.net/special_issue996.html (Open access)



Thank you! Merci beaucoup ! ¡Gracias!
Спасибо! 谢谢 شكرا

IUGG Secretariat

Helmholtz Centre Potsdam

GFZ German Research Centre for Geosciences

Telegrafenberg, A17

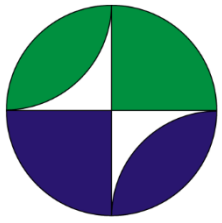
14473 Potsdam, Germany

T: 49 331 288 1978

secretariat@iugg.org

www.iugg.org





Picture Credits

Credits:

Slides 2 - 9: LOC/IUGG 2019

Slides 31 - 32: ISC

Slide 34: unknown

Slide 35: CityCube Berlin

Slide 36: H. Schuh

Slides 38 - 41: C. Valentin/IUGG

Slide 42: Copernicus GmbH