

# Annual Report 2025

(Reporting period: 16 Jan. – 4 Dec. 2025)

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## A. Membership

*IGU-requirements: The structure of your current steering committee, including all names and contact details. The number of Commission/Task Force corresponding members (i.e. your 'membership' - circulation - list, in total and, if at all possible, by country as of 1 December 2022). The counts of members by country are exceedingly helpful in documenting to the International Science Council (ISC) and other international organizations the IGU's extensive reach.*

### a. Structure of Steering Committee (SC)

The structure of the SC during the reporting period is indicated in Table 1.

*Table 1: Members of the Steering Committee of the Commission and their respective functions and contact details*

Function in SC	First/ LAST name (sex)	Country	Title, Affiliation, contact details	SC-Portfolio
Chair	Frank WINDE (male)	South Africa/ Germany	Dr. habil.; extraordinary prof.; North-West University, PO Box 1174, Vanderbijlpark, 1900; RSA Wismut GmbH, 09117 Chemnitz, Jagdschänkenstr. 29, + 49 151 2571 3237; <a href="mailto:frank.winde@gmail.com">frank.winde@gmail.com</a>	administration membership, meetings, website
Vice Chair	Liliana ZAHARIA (female)	Romania	Prof. Dr., University of Bucharest, Faculty of Geography, 1 Nicolae Balcescu Blv, 010041 Bucharest; +40 21305 3822; <a href="mailto:zaharialili@hotmail.com">zaharialili@hotmail.com</a>	Deputy role, outreach, conferences
Vice Chair	Daniel KARTHE (male)	Germany	Prof. Dr., United Nations University, Institute for Integrated Management of Material Fluxes and Resources (UNU-FLORES); Ammonstraße 74, 01067 Dresden; <a href="mailto:karthe@unu.edu">karthe@unu.edu</a>	Deputy role, joint publications, conferences
Member	Danijel ORESIC (male)	Croatia	University of Zagreb, Dpt. of Geography, Marulicev trg 19/II, 10000Zagreb, Hrvatska, <a href="mailto:doresic@geog.pmfr.hr">doresic@geog.pmfr.hr</a>	collaboration, outreach
Member	Lanhui ZHANG (female)	China	Dr., Lanzhou University, College of Earth Environmental Sciences, Guanyun Bldg. 0912, Tianshuinan Rd. 222, Lanzhou city, 730000, Gansu Province, PRC, +10 931 8912805, <a href="mailto:lhzhang@lzu.edu.cn">lhzhang@lzu.edu.cn</a>	Publications, reporting, collaboration
Member	Heejun CHANG (males)	USA	Portland State University, Geography, 1721 SW Broadway, PO Box 751, T: 503-725-3162, <a href="mailto:changh@pdx.edu">changh@pdx.edu</a>	publications, collaboration, outreach
Member	Marcela HEBE GONZALES (female)	Argentina	Dr., University of Buenos Aires, Dpt. Atmospheric and Ocean Science – CIMA CONICET; Intendente Güiraldes 2160; Bif. II, Ciudad Universitaria, C1428EGA CABA, Argentina, +54-11-52858472, <a href="mailto:marcelahebe@gmail.com">marcelahebe@gmail.com</a>	publications, collaboration, outreach
Advisory Member	Natalia FROLOVA (female)	Russia	Prof. Dr., Lomonossov State University, Moscow, Dpt. of Hydrology, Faculty of Geography, GSP-1, 119991, Leninskie Gory, +7 495 9391533; <a href="mailto:frolova_nl@mail.ru">frolova_nl@mail.ru</a>	non-executive advisor
Advisory Member	Chansheng HE (male)	USA	Prof. Dr., Western Michigan University, Dpt. of Geography, 3234 Wood Hall, Kalamazoo, MI 49008-5424, +1 269-387-3425; <a href="mailto:chansheng.he@wmich.edu">chansheng.he@wmich.edu</a>	non-executive advisor
Honorary Member	Tony JONES (male)	UK	Prof. Dr. emer.; University of Wales, Institute for Geography and Earth Sciences, Aberystwyth, <a href="mailto:tonyandjenjones@btinternet.com">tonyandjenjones@btinternet.com</a>	non-executive advisor

There have been no changes to the composition of the SC since the last annual report for 2024. In view of the continued low levels of active participation proffs. Zaharia and Winde agreed to continue with administration of the Commission beyond their respective terms until a suitable solution has been found. For relevant stipulations of the IGU statute regarding SC appointments please visit our website at [Steering Committee – IGU Commission for Water Sustainability \(igu-water.org\)](http://Steering Committee – IGU Commission for Water Sustainability (igu-water.org)).

## b. Member statistics

Based on a decision taken in 2016 that was aimed to curb the uncontrolled grow of mostly inactive members through simply adding email address of one-time attendants to a circulation list, we only accept applicants as new members who submit filled-in member templates outlining their areas of interests/ expertise and research profile in the field of water. This information is displayed on our website to facilitate better collaboration within and outside the Commission ([Members – IGU Commission for Water Sustainability \(igu-water.org\)](#)).

In the past year Dr. Salah Diab, a geographer from the Menoufia University in Batra (Egypt) and Mr. Gorachand Sarkar, a physicist from the LIC of India in Kolkata joined the Commission.

Sadly, I also have to share the news that Mr. Ewald Erasmus passed away on 11 October 2024. With him we lose a longstanding member of the Commission and expert in geology and hydrogeology with whom I worked extensively over the past two decades. He will be sorely missed by his colleagues from the Mine Water Research Group as well as Karst Ltd., with whom he worked closely on several high-profile research projects in South Africa.

As of November 2025, the Commission has a total of 68 registered members hailing from 26 countries on all six inhabited continents. Female members account for 34%. Details on our members are available at the Commission's website ([www.igu-water.org](http://www.igu-water.org)).

The membership per country is as follows:

Argentina	2
Armenia	1
Australia	1
Canada	1
China	6
Croatia	4
Egypt	1
Eswatini	1
France	1
Germany	6
Ghana	1
Hungary	1
India	7
Italy	2
Japan	1
Nigeria	1
Norway	1
Portugal	2
Romania	7
Russia	6
South Africa	4
Spain	1

Turkey	2
United Kingdom	3
United States of America	4
Zimbabwe	2

## B. Meetings

In 2025, no Commission meeting was planned or held.

For the upcoming Regional IGU Conference in Istanbul (Turkey) to be held from 17-21 August 2026 the Commission submitted three proposals for sessions drafted by prof. Zaharia, Dr. Moresanu and myself covering the following themes:

- **Coping with hydrological extremes: changes and challenges** (Chair: L. Zaharia; co-chair: F. Winde)
  - Genesis, characteristics (magnitude, frequency), and space-time dynamic
  - Analysis, monitoring, forecasting and warning techniques
  - Observed and predicted changes in specific parameters/ patterns
  - Impacts of environmental changes (i.e., climate, anthropogenic) on hydrological extremes (observed and forecasted)
  - Assessment of risks induced by hydrological extremes
  - Flood and drought risk management, from policies and strategies to implementation: risk culture, resilience and adaptation, nature-based techniques etc. Examples of good practices.
- **Mountain River Basins at a crossroads: Between hydrotechnical use, environmental degradation, resilience and restoration imperatives** (Chair: G. Moresanu; co-chair: Joanna Zawiejska)
  - The conflicts and trade-offs between water use for energy (especially under the green transition) and the ecological integrity of mountain river systems;
  - The impact of pollution, sand and gravel extraction, and urban encroachment into floodplains;
  - Case studies of restoration efforts, re-naturalisation projects, or community-based water management practices in mountain and submountain basins;
  - The role of local perception and socio-economic dependencies on rivers, and how these influence both policy implementation and restoration outcomes;
  - Governance approaches that aim to reconcile river use and protection, including innovative planning tools, participatory processes, or legal instruments.
- **Water as a Nexus Resource** (Chair: F. Winde; co-Chair: L. Zaharia)
  - Water-energy nexus
    - Desalination
    - Power-cut induced urban droughts
    - Drought-induced power cuts (nuclear, coal, gas)
    - Water losses and hydropower
    - Wind turbines drying out forests
  - Water-food nexus
    - Water needs for food production
    - Food vs. biomass for energy production
  - Water-minerals-energy-nexus
    - Water impacts of mining critical minerals
    - Hidden water impacts of mining
  - Water and human habitats
    - Urban water pollution: Paris Olympics 2024
    - Rising stream pollution in the UK
    - Virus survival in warming waters
    - Sponge city concepts
    - Atmospheric moisture as new drinking water source
    - Urban water losses
    - Sinking cities due to groundwater abstraction

For more details visit: [Water Sustainability](#)

## **C. Networking**

*IGU-requirements: a. Means, if any, by which your commission has collaborated with other IGU Commissions and Task Forces during 2022. b. Collaboration, if any, with other international, intergovernmental, or inter- and multi-disciplinary bodies in 2022. c. Cooperative efforts, if any, with the International Science Council (ISC) and the International Council for Philosophy and Human Sciences (CIPSH) programs, etc.*

### **a. Collaboration with other IGU Commissions and Task Forces**

Initiated by Dr. Moresanu, the Commission coordinated the submission of water-related proposals to the IRC Istanbul 2025 with the Young and Early Career Geographers Commission.

### **b. Collaboration with other international, intergovernmental or multidisciplinary bodies**

Cooperation with UN-agencies continued by some members of the Commission including consultation as external expert to the International Atomic Energy Agency (IAEA) regarding several IAEA initiatives like ENVIRONET (prof. Winde is member of the Steering committee of the initiative, which comprises over 80 member states), the Uranium Mining and Remediation Exchange Group (UMREG, F Winde appointed as chair in 2025); Coordinating Group for Uranium Legacy Sites - Africa (FW compiled Technical Baseline Report together with BGR Hannover)

### **c. Cooperative efforts with the International Science Council (ISC)**

No new activities to report

## D. Publications

*IGU-requirements: a. Newsletters, special journal issues, and books published in 2021-22 (please provide complete citations). Note these publications should only be included if they are **directly** related to your IGU Commission activities (i.e. not a list simply pasted in from the CVs of steering committee members!) b. The current (accurate) URL of the commission's website.*

### a. Newsletter and reports

The annual report for 2024 was submitted in time.

### b. Special issues, books, joint publications

Following an initiative by prof. Opp a special issue was published in MDPI's Applied Science to which several members contributed with joint papers of which the following was meanwhile published:

Alymbaeva Z, Zharnikova M, Ayurzhanaev A, Sodnomov B, Chernykh V, Gurzhapov B, Tsypypov B, Garmaev E (2025): Impact of the high water level of Lake Baikal on rare plant species of the coastal zone. *Applied Science*, 15 (4), 2131, <https://doi.org/10.3390/app15042131>

Vasilenko AN, Frolova NL, Grigoriev VY, Magritsky DM, Shevchenko AI, Winde F (2024): Spatio-temporal variability of water temperature of Arctic rivers in Russia over the past 60 years. *Applied Science*, 14, 10942, <https://doi.org/10.3390/app142310942>

### c. Website

The Commission's website is available at: [www.igu-water.org](http://www.igu-water.org).

## E. Archival contributions

*IGU-requirements: Materials and publications transmitted to the IGU archives by your commission. Copies (soft copies if appropriate) of all newsletters, monographs, special journal issues, etc. should be sent to the IGU Secretary-General upon publication for transmission to the archivist. Photographs from your meetings, field excursions, or other events that you are willing to share are especially gratefully received and will be included in the IGU e-Newsletter. The Commission's reports will be published on the website and in the IGU. These reports will also provide the Executive Committee with information for the evaluation of Commissions in regard to their continuation.*

A section on the Commission's revamped website is dedicated to archiving news, reports and other documents at [Newsletters & Reports – IGU Commission for Water Sustainability \(igu-water.org\)](http://www.igu-water.org).