



## The IGU Commission on *Geography and Sustainability*

### Annual Report for 2025

The report includes membership, meetings, publications, and other important information for the IGU Commission on *Geography and Sustainability* (IGU-GEOSUS).

#### 1. Steering Committee

The IGU Commission on *Geography and Sustainability* (IGU-GEOSUS) is the successor of the former IGU Commission on *Geography of Future Earth: Coupled Human Earth Systems for Sustainability* (IGU-GFE), approved by IGU in November, 2024. IGU-GEOSUS aims to serve as the focal point for developing, coordinating and implementing interdisciplinary research and education to promote sustainable development through an integrated geography perspective (website under construction: [igu-geosus.org](http://igu-geosus.org)).

#### Steering Committee members



Chair: Wenwu Zhao



Secretary : Yan Li



Francesco Cherubini



Walter Musakwa



Paulo Pereira



Lindsay Stringer



Jorge Rocha



Brett Bryan



Erle C. Ellis



Prajal Pradhan

The steering committee structure of IGU-GEOSUS is as follows:

#### Initiator and Honorary Chair

Prof. Dr. Bojie Fu

Distinguished Professor, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences

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Email: [bfu@rcees.ac.cn](mailto:bfu@rcees.ac.cn); Phone: +86 10 62923557

**Chair**

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Professor, Institute of Land Surface System and Sustainable Development, Faculty of Geographical Science, Beijing Normal University

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**Secretary**

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**Steering Committee Members**

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Professor, Department of Town & Regional Planning, University of Johannesburg, South Africa

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Professor and Head, Environmental Management Laboratory, Mykolas Romeris University,  
Lithuania

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Professor, University of Lisbon, Portugal

Email: [jorge.rocha@edu.ulisboa.pt](mailto:jorge.rocha@edu.ulisboa.pt)

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Prof. Dr. Prajal Pradhan

Professor, University of Groningen, Netherlands

Email: [p.pradhan@rug.nl](mailto:p.pradhan@rug.nl)

No.	Name	Role	Country	Gender
1	Bojie Fu	Initiator and Honorary Chair	China	Male
2	Wenwu Zhao	Chair	China	Male
3	Francesco Cherubini	Steering committee	Norway	Male
4	Walter Musakwa	Steering committee	South Africa	Male
5	Paulo Pereira	Steering committee	Lithuania	Male
6	Jorge Rocha	Steering committee	Portugal	Male
7	Brett Bryan	Steering committee	Australia	Male
8	Erle C. Ellis	Steering committee	USA	Male
9	Lindsay Stringer	Steering committee	UK	Female
10	Prajal Pradhan	Steering committee	Netherlands	Male
11	Yan Li	Secretary	China	Male
<b>11 members, 10 male and 1 female</b>				

## 2. Meetings

### 2.1 Meetings held in 2025

#### *The Summer School on Geography and Sustainability 2025*

The Summer School on Geography and Sustainability was held at Beijing Normal University, Beijing, China from June 10<sup>th</sup> to 17<sup>th</sup>, 2025. The summer school was hosted by Beijing Normal University, and co-organized by Geography and Sustainability journal and IGU-GEOSUS. Besides the on-site course, it was also open to international audiences via Zoom. This 7-day summer school aimed to help students to learn about ecological restoration, and provide support for regional, national and global sustainable development. Nearly 100 participants from 9 countries attended the summer school, including students and early careers researchers.



### **Group Photo of the 2025 summer school**

The invited speakers of the summer school include Prof. Bojie Fu (Vice-President of IGU), Prof. Michael Meadows (Past-president of IGU), and other scientists including Prof. Chansheng He, Prof. Paulo Pereira, Prof. Jorge Rocha, Prof. Weiqi Zhou, Prof. Francesco Cherubini, Prof. Xiangping Hu, Prof. Yangjian Zhang, Prof. Juran Li, Prof. Yan Li, Dr. Fanan Ujoh, Prof. Guangyao Gao, Prof. David Eldridge, and Dr. Jiren Xu. They gave lectures on different topics covering ecological restoration and sustainable development. During the summer school, participants have the opportunities to attend the field trip to visit the ecological restoration projects of the Loess Plateau.

**Summer School on Geography and Sustainability 2025**

Theme: Ecological restoration and sustainable development

Field Trip: Ecological restoration projects of the Loess Plateau

June 10-17, 2025 · Beijing Normal University/Online



 <b>Bojie Fu</b> Research Centre for Eco-Environmental Sciences, Chinese Academy of Sciences, China	 <b>Chansheng He</b> Western Michigan University, USA	 <b>David Eldridge</b> The University of New South Wales, Australia	 <b>Fanan Ujoh</b> Kogi State University, Nigeria
 <b>Francesco Cherubini</b> Norwegian University of Science and Technology, Norway	 <b>Guangyao Gao</b> Research Centre for Eco-Environmental Sciences, Chinese Academy of Sciences, China	 <b>Jiren Xu</b> The University of Glasgow, UK	 <b>Jorge Rocha</b> University of Lisbon, Portugal
 <b>Junran Li</b> The University of Hong Kong, China	 <b>Michael Meadows</b> Nanjing University, China; University of Cape Town, South Africa	 <b>Min Chen</b> Nanjing Normal University, China	 <b>Paulo Pereira</b> Mykolas Romeris University, Lithuania
 <b>Walter Musakwa</b> University of Johannesburg, South Africa	 <b>Weiqi Zhou</b> Research Centre for Eco-Environmental Sciences, Chinese Academy of Sciences, China	 <b>Xiangping Hu</b> Norwegian University of Science and Technology, Norway	 <b>Yan Li</b> Beijing Normal University, China
 <b>Yangjian Zhang</b> Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China	Registration  		



**Speakers of the summer school**

**Building Bridges for Climate Intervention: SRM Conference**

As climate change intensifies, solar radiation management (SRM) is emerging as a potential climate intervention approach, drawing increasing global attention and sparking extensive discussion across scientific, ethical, and policy domains. To foster academic exchange and promote international collaboration in this field, an academic symposium was successfully held in Xi'an, China, from July 21 to 23, 2025, in a hybrid format combining both in-person and virtual participation. The event was jointly organized by Xi'an Thermal Power Research Institute Co., Ltd. and the IGU Commission on Geography and Sustainability. The conference, titled "Solar Radiation Management: Technologies, Impacts, and Global Governance," focused on the latest developments in SRM, exploring its environmental and social effects, challenges, and opportunities for international cooperation in climate governance. It brought together more than 30 experts and scholars from various countries and regions. Experts emphasized the importance of a holistic approach that balances energy development with climate impact, and called for deeper integration between academic research and engineering practice. The dynamic exchange of ideas fostered diverse perspectives and offered new pathways for advancing SRM research.

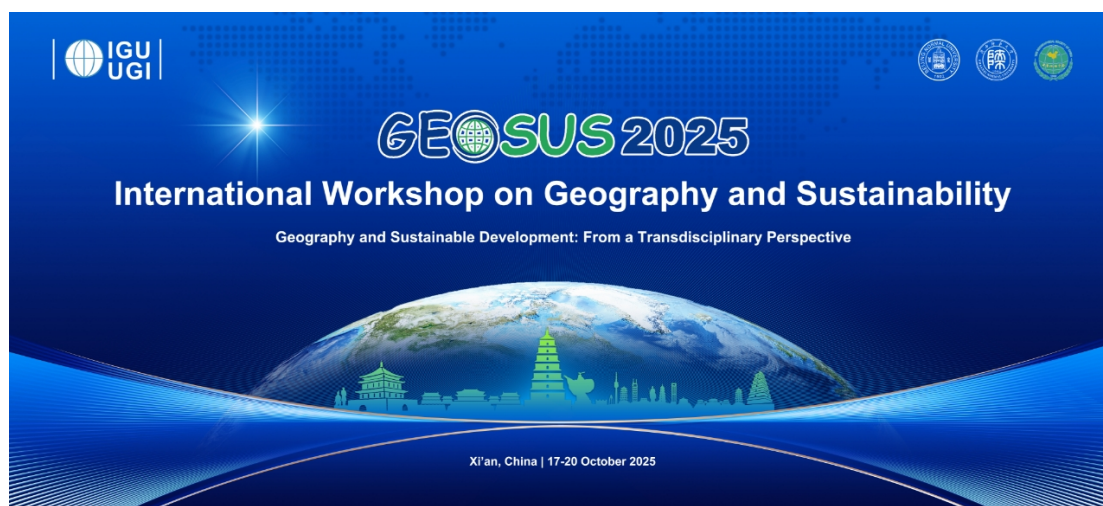


**Scholars attending a thematic presentation on solar radiation management**



**Group photo of on-site participants**

***International Workshop on Geography and Sustainability in 2025***



The International Workshop on Geography and Sustainability 2025 was successfully held on October 17-20, 2025 in Xi'an, China. The workshop theme of this year was Geography and Sustainable Development: From a Transdisciplinary Perspective, which aimed to promote in-depth dialogue and cooperation among multiple disciplines and drive the integrated innovation of geography and sustainability research. The workshop was hosted by Beijing Normal University, Shaanxi Normal University, the Geographical Society of China, and IGU, co-organized by IGU-GEOSUS and the Geography and Sustainability journal.

The workshop attracted nearly 500 attendants from 30 countries. The workshop had 13 keynote speeches and 36 thematic sessions, under the theme of climate change, ecological restoration, urban sustainability, etc. Prof. Nathalie Lemarchand (President of IGU), Prof. Michael Meadows (Past-president of IGU), Prof. Bojie Fu and Prof. Holly Barus (Vice-presidents of IGU), have attended the workshop in Xi'an.



### Photos of the Keynote Speakers

The workshop will be organized continually, and provide an international platform for communication on promoting sustainable development through an integrated geography perspective.



### Group photo of on-site participants



### Group photos of sessions

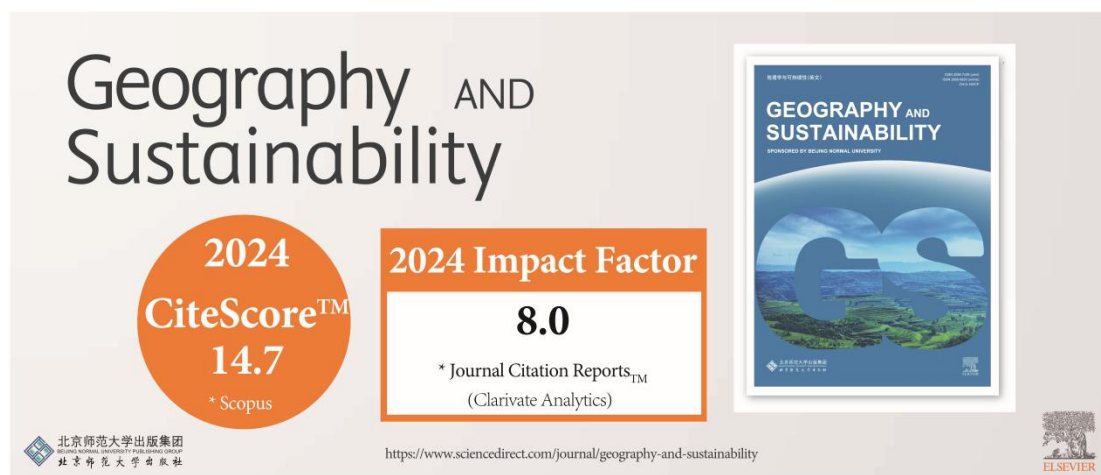
## 2.2 Upcoming Meetings in 2026

**Summer School on Geography and Sustainability 2026.** The IGU-GEOSUS Commission will organize a summer school for students all over the world. It will be held at Beijing Normal University. Prof. Jianguo Liu (Michigan State University, USA) will be one of the lecturers.

**Workshop on Sustainable City.** It will be held in Hong Kong, China. Prof. Bojie Fu and Prof. Mei Po Kwan (Chinese University of Hong Kong) will be the chairs of the workshop.

## 3. Publications

### 3.1 *Geography and Sustainability*—the official journal of IGU-GEOSUS



*Geography and Sustainability*, an international journal sponsored by Beijing Normal University and IGU-GEOSUS, is jointly published by Beijing Normal University Publishing Group and Elsevier. Prof. Bojie Fu, vice-president of IGU, serves as the chief editor of the journal.

Since its launch in 2020, the journal has been developed for six years. As the world's first international open-access journal focusing on geography and sustainability research, it aims to promote regional and global sustainable development through an integrated geographical perspective, serving as a focal platform for academic exchange and dissemination for global geographers committed to sustainability.

Over the past six years, the journal has been indexed by various domestic and international databases such as Scopus, Emerging Sources Citation Index, Engineering Village-GEOBASE, Directory of Open Access Journals, Norwegian Register for Scientific Journals, Series and Publishers, Chinese Science Citation Database, China Science Core Journals Database, International OA Journal Recommended List, China National Knowledge Infrastructure, China Open Access Journal, Wanfang Data, Superstar Journals Database, CQVIP, High-Quality Journal Catalog in the field of Geographic and Resource in China, Tier 1 Top in CAS journal ranking.

The journal's Web of Science Impact Factor 2024 is 8.0, ranking in the Q1 zone of its subject categories and 3/67 in the field of Geography, Physical. The latest Scopus CiteScore is 14.7, ranking in the Q1 zone of its subject categories and 2/183 in the field of Earth and Planetary Sciences: Earth-Surface Processes.

For inquiry and paper submission issues, please contact the editorial office: geosus@bnu.edu.cn. (<https://www.journals.elsevier.com/geography-and-sustainability/>)

### 3.2 A special issue on *Advancing Metacoupling Frontiers for Addressing Global Sustainable*

### ***Development Challenges in the Anthropocene in Geography and Sustainability***

Wu Yang (Zhejiang University, Hangzhou, China), Jonathan Rhodes (Queensland University of Technology, Brisbane, Australia), Ramon Bicudo da Silva (State University of Campinas, Campinas, Brazil), Hongbo Yang (Research Center for Eco-environmental Sciences, Chinese Academy of Sciences, Beijing, China), Aurora Torres (Universidad de Alicante, Alicante, Spain), and Jianguo Liu (Michigan State University, East Lansing, MI, USA) are organizing a special issue *Advancing Metacoupling Frontiers for Addressing Global Sustainable Development Challenges in the Anthropocene* in Geography and Sustainability.

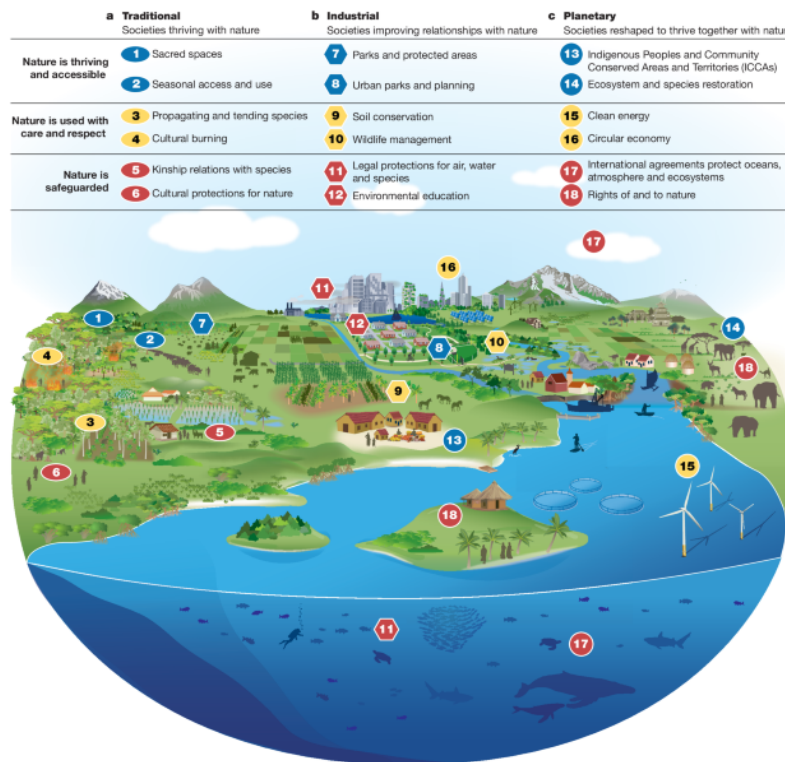
Submission Deadline: 31 March 2026

<https://www.sciencedirect.com/journal/geography-and-sustainability/about/call-for-papers>

### **3.3 Important publications from commission members in 2025**

#### ***(1) An Aspirational Approach to Planetary Futures*** in Nature

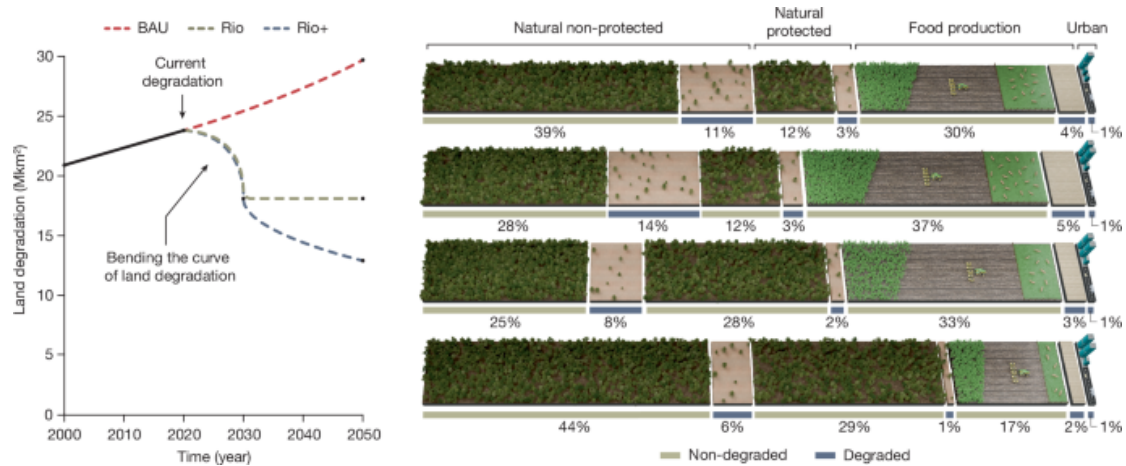
Our commission member Prof. Erle Ellis, Prof. Bojie Fu and other collaborators published a perspective paper in Nature on 25 June 2025, titled “*An Aspirational Approach to Planetary Futures*”. The paper proposed a framework to reimagine the human–nature relationship called Nature Relationship Index (NRI). This new vision-driven framework addresses a key gap in current progress metrics like the Human Development Index (HDI), which focus on human development's negative environmental impacts. The NRI instead proactively measures a country's progress toward a mutually beneficial relationship with nature across three dimensions: thriving and accessible nature, responsible use and care of nature, and effective governance for nature. Grounded in the principles of human agency, synergy between development and conservation, and a widespread aspiration for human-nature harmony, the NRI aims to shift the global narrative from crisis to positive action. It is slated for inclusion in the 2026 Human Development Report, with the long-term goal of regular updates to inspire policies and decisions that foster a prosperous future for both people and the planet.



Ellis, E. C., Malhi, Y., Ritchie, H., Montana, J., Díaz, S., Obura, D., et al. (2025). An aspirational approach to planetary futures. *Nature*, 642(8069), 889–899. <https://doi.org/10.1038/s41586-025-09080-1>

(2) *Bending the curve of land degradation to achieve global environment goals* in Nature

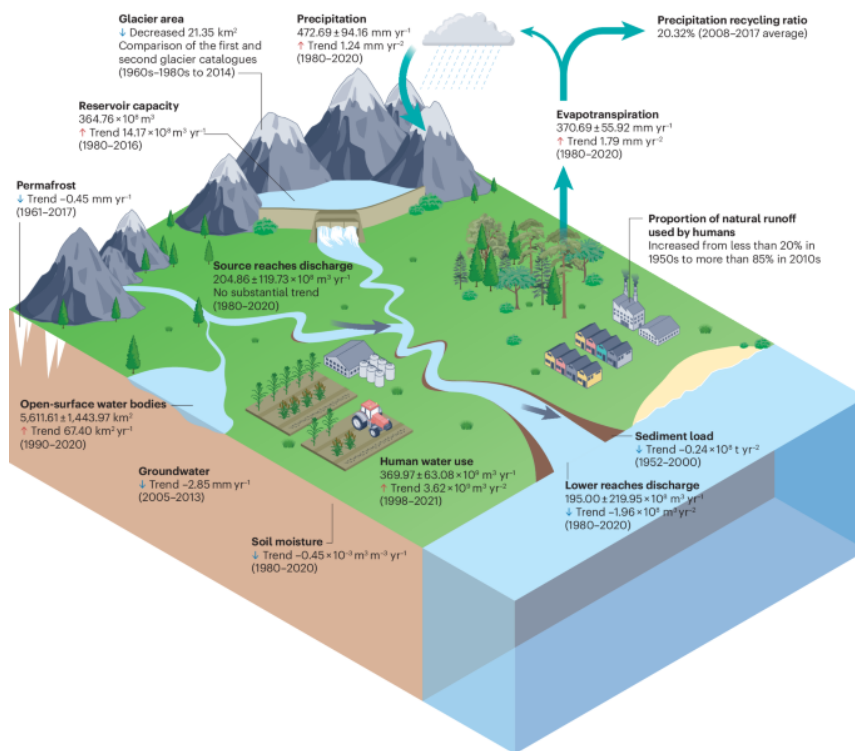
Prof. Fernando T. Maestre (Kingdom of Saudi Arabia), Prof. Bojie Fu, Prof. Lindsay Stringer and collaborators published a review paper, titled “*Bending the curve of land degradation to achieve global environment goals*” in *Nature* on 13 August 2025. The review paper presents a global pathway to reverse land degradation by transforming food systems. The research proposes three targeted, science-based interventions to be implemented alongside current policies: reducing food waste by 75%, restoring 50% of degraded lands, and shifting towards sustainable aquatic diets (replacing 70% of red meat and 10% of vegetables). Modeling indicates that by 2050, this integrated strategy could reduce global land degradation by 54% and cut land used for food production by 56% compared to 2020 levels, successfully bending the degradation curve. The authors urge the UN conventions on climate change, biodiversity, and desertification to align around these shared land and food system goals to achieve a sustainable and equitable future.



Maestre, F. T., Guirado, E., Armenteras, D., Beck, H. E., AlShalan, M. S., Al-Saud, N. T., et al. (2025). Bending the curve of land degradation to achieve global environmental goals. *Nature*, 644(8076), 347–355. <https://doi.org/10.1038/s41586-025-09365-5>

### (3) *Anthropogenic impacts on the Yellow River Basin* in *Nature Reviews Earth and Environment*

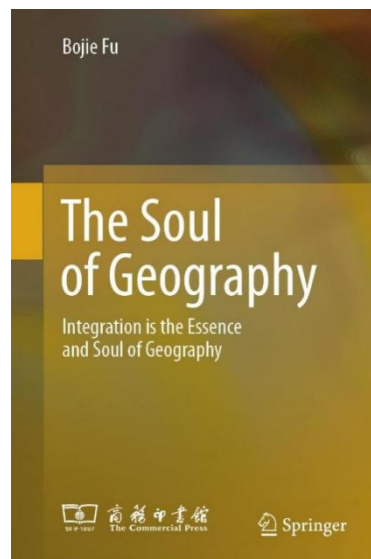
Prof. Shuai Wang, Prof. Bojie Fu, Prof. Wenwu Zhao and collaborators published a review paper on 16 September 2025 in *Nature Reviews Earth and Environment*. The study reveals intensified vertical water cycling with increased evapotranspiration (+1.79 mm yr<sup>-2</sup>), alongside declining groundwater (-2.85 mm yr<sup>-1</sup>) and soil moisture, threatening ecosystem resilience in the Yellow River Basin. Meanwhile, sediment load has dropped over 90% due to engineering and vegetation restoration, alleviating siltation but causing new challenges like delta erosion and water intake difficulties. The research conceptualizes the evolving human-water feedback into four stages: Supply Expansion (1960s-80s), Resource Constraint (1980s-2000s), Integrated Management (2000-20), and a prospective Future Resilience stage. To address these challenges—common to many arid basins—the authors recommend enhanced water storage monitoring, coupled human-water system modeling, integrated surface-groundwater management, and improved ecological compensation mechanisms to stabilize water fluxes and protect water stocks.



Wang, S., Song, S., Zhang, H., Yu, L., Jiao, C., Li, C., et al. (2025). Anthropogenic impacts on the Yellow River Basin. *Nature Reviews Earth & Environment*, 6(10), 656–671. <https://doi.org/10.1038/s43017-025-00718-2>

### 3.4 The English version of *The Soul of Geography* written by Prof. Bojie Fu

This book named *The Soul of Geography* is about Prof. Bojie Fu’s thoughts on geography research and teaching. The English version was published online in 2025.



## 4. Important information

#### 4.1 *The Launch of Global Dryland Ecosystem Program II*

The Global Dryland Ecosystem Program (DEP) II was launched by Prof. Bojie Fu and Prof. David Eldridge (University of New South Wales, Australia) in October 2025.



#### 4.2 *The Launch of IGU-GEOSUS's African Chapter*

The IGU Commission on Geography and Sustainability's African Chapter was launched by Prof. Water Musakwa (University of Johannesburg, South Africa) in October 2025. The mission of the African Chapter is to promote geography and sustainability in Africa. The main aim is to provide an African focus and interpretation of geography and sustainability. This is necessary due to the continent's history of colonization and the importance of indigenous, traditional and local knowledge systems. The continent faces numerous challenges, including climate change, population growth, land and habitat degradation, poaching, and poverty. These challenges pose a significant threat to the sustainability, equity, and conservation of natural resources in Africa. Likewise, Africa is home to iconic species and biodiversity hotspots. The African Chapter seeks to conduct research and provide solutions to the challenges it faces, ensuring sustainability, conserving iconic species and biodiversity, and ensuring equity. The African Chapter serves as the focal point for the development, coordination, and implementation of interdisciplinary research and education related to geography and sustainable development in Africa. The chapter aims to compile and share knowledge on geography and sustainability in Africa, thereby increasing the impact of research and exploring new development paths. This will contribute to achieving the global sustainable development goals by identifying context-specific approaches. To this end, the commission aims to promote and facilitate the following six thematic areas:

- 1) Fundamentals of coupled human–nature–earth systems for sustainability in Africa.
- 2) Advances and inclusive platforms for geospatial information technology for monitoring coupled human–nature–earth systems.
- 3) Linking conservation and nature to human well-being in Africa.

- 4) How can indigenous, traditional, and local African knowledge deepen our understanding of complex earth systems and human dynamics at different scales, and provide solutions to some of the 'wicked' problems facing Africa?
- 5) Human contributions and responses to global climate/environmental changes and sustainability.
- 6) Evaluation of progress towards sustainability and how we can develop new pathways towards it.

- Coupled human–nature–earth systems for sustainability in Africa.
- Geospatial information technology for monitoring coupled human–nature–earth systems.
- Linking conservation and nature to human well-being in Africa.
- How can indigenous, traditional, and local African knowledge deepen our understanding?
- Human contributions and responses to global climate/environmental changes and sustainability.
- Evaluation of progress towards sustainability and how we can develop new pathways towards it.



Walter  
Musakwa



Nesisa A Nyathi



Billy Mukamuri



Joseph Kaudhis



Neema Sumari



Regis  
Musavengane

#### IGU-GEOSUS Africa Chapter

**4.3 Prof. Lindsay Stringer was awarded by King Charles in his June 2025 birthday as a Member of the Order of the British Empire (MBE) in June 2025 for services to environmental development**