An aerial photograph of terraced rice fields. The terraces are filled with water, and some are planted with young green rice seedlings. A person in a blue shirt is standing in the water, guiding a water buffalo. The terraces are built on a hillside, and the water flows from higher levels to lower ones. The overall scene is a traditional agricultural landscape.

***Environmental Earth Sciences***  
**Thematic Issue:**  
**The Soil-Water-Atmosphere Nexus**  
**Call for Papers**



## 1. Topic and Scope

During the Anthropocene Era, human activities have altered the natural environment more strongly than ever before in the planet's history. Even though climate change has probably received the greatest attention from both the scientific community and the public globally, other environmental problems are similarly pressing. For example, soil degradation through erosion, compaction, salinization, or chemical pollution damages not only our land's fertility and productivity (which are prerequisites for feeding a growing population), but also key soil functions to store carbon, filter and purify water, and inhabit biodiversity. Similarly, the natural hydrological cycle has been impacted in manifold ways. Rivers may have been managed and rectified, but at the same time, threats by hydrological extremes, such as floods and droughts, have increased considerably in many parts of the world. The number of contaminants affecting our water resources has become almost uncountable; moreover, some of these substances' environmental and public health relevance is still not fully understood. Nevertheless, aquatic ecosystems and the services they provide are under considerable threat due to pollution and a wide range of changes in the physical environment.

Changes in the biotic and abiotic environment are connected by a complex set of interrelations; they are also highly relevant to socioeconomic development. They form the prerequisites for energy and food production and are linked to (raw) materials in their entire life cycle. The Resource Nexus provides a conceptual framework for investigating and sustainably managing these interlinkages, considering the potential synergies and tradeoffs between different management objectives.

*Wet rice farming is linked to several nexus elements: food, water, soil, and climate security. In general, agriculture is a major water user, an important cause of soil degradation, and an important source of greenhouse gases such as carbon dioxide or methane. (Image: shutterstock/bvh2228)*



This thematic issue focuses on three specific dimensions of the Resource Nexus:

- Pedosphere and soil
- Hydrosphere and water
- Atmosphere and air

We invite manuscripts that consider **several environmental resources in an integrated perspective**. They may focus on any one (or more) of the following aspects:

- scientific investigation of interactions/interrelations between different environmental resources/compartments

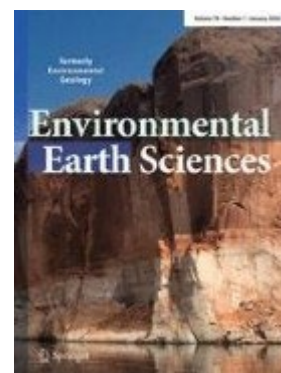
- integrated impact assessment of anthropogenic activities that affect more than one of the environmental resources/compartments
- integrated technology-based solutions that support the conservation of more than one environmental resource/compartment
- holistic management and governance approaches that consider at least two environmental resources/compartments concomitantly
- sustainability assessment from an organisational perspective with a focus on management impact, and synergies/tradeoffs between different objectives

Manuscripts may look beyond atmosphere, pedosphere, and hydrosphere, but must include reference to at least two of these compartments. Papers with a demonstrated relevance to the United Nations Sustainable Development Goals (SDGs) are particularly welcome. Articles that focus solely on climatological, hydrological or pedological processes without considering interlinkages to other spheres of the terrestrial environment are outside the scope of this thematic issue.

## 2. About *Environmental Earth Sciences*

*Environmental Earth Sciences* is an international multidisciplinary journal published by Springer. It is concerned with innovative approaches and significant aspects of interaction between humans and natural resources, particularly including the following:

- Groundwater and soil contamination caused by waste management and disposal practices
- Environmental problems associated with transportation by land or water
- Geological processes that may impact ecosystems or humans
- Man-made or naturally occurring geo-hazards
- Environmental problems caused by extraction of minerals, coal, and ores, as well as oil and gas, water, and alternative energy sources
- Environmental impacts of exploration, remediation, and hazardous materials
- Management of geo-environmental data and information systems
- Dissemination of knowledge on techniques, methods, approaches, and experiences to improve the environment



*Environmental Earth Sciences* offers a **hybrid** (transformative) publication model with the option of publishing **open access**. The current **impact factor** is **2.2** (2019).

For further information on the journal's scope, please visit their [website](#).

## 3. Guest Editors of the Thematic Issue

The thematic issue on the Atmosphere-Soil-Water Nexus is co-edited by experts with an academic background that covers various aspects of the Resource Nexus.



**Prof. Daniel Karthe** heads the Research Programme “Resource Nexus for Regions in Transformation” at the United Nations University Institute for Integrated Management of Material Fluxes and of Resources (UNU-FLORES). He holds a professorship in Environmental Engineering at the German-Mongolian Institute for Resources and Technology (GMIT) and is co-affiliated to the Faculty of Environmental Sciences at Technische Universität Dresden (TU Dresden) in Germany. Prof. Karthe has more than 20 years of research experience on water resources management in different parts of the world but has recently also been working on air and soil pollution and their mitigation. He co-chairs the Water Sustainability Commission of the International Geographical Union and the Commission on Hydrology within the German Geographical Society.



Following the completion of her PhD in Ecological Conservation and Integrated Watershed Management at TU Dresden in 2015, **Dr Lulu Zhang** joined UNU-FLORES where she now serves as an Associate Programme Officer. Her work focuses on the potential of land to produce food, energy, and clean water, and to store carbon in meeting future demand without further depleting finite natural resources. Dr Zhang is a member of the World Association of Soil and Water Conservation (WASWAC), the European Society of Soil Conservation (ESSC), and the German Soil Science Society (DBG) and has led research projects in various countries including China, Tanzania, Nigeria, and Germany. She has not only published several papers related to the Resource Nexus, but also served as a co-editor of a recent book on the application of the Environmental Nexus concept in the context of sustainable land management.



**Dr. Serena Caucci** is an Associated Programme Officer at the United Nations University Institute for Integrated Management of Material Fluxes and of Resource (UNU-FLORES) where she addresses the linkages of water and waste and ecosystem for reducing natural resource losses. Dr. Caucci current research is geared towards sustainable development with interests on the impact that anthropogenic activities have on natural resources. Focusing on the sustainable management of wastewater and organic waste, Dr. Caucci works towards the development of a transdisciplinary framework that could make use of socioeconomic and environmental interlinkages to enhance sustainable natural resource management. The final goal of her activities leads to knowledge translation for evidence-based decision-making processes and its implementation at various scales. Dr. Caucci is a member of the UNU & Member Representative of the UN-Water Regional Level Coordination Expert Group, Steering Committee member of the ‘Nexus Cluster’, German water and wastewater association DWA. She holds a PhD on Environmental Science and Water resource Management.



**Dr Sabrina Kirschke** is a Senior Research Associate at UNU-FLORES, where she contributes to research, education, and capacity development activities in water resources management within the Resource Nexus. Before joining UNU-FLORES, she has implemented several water-related projects at the Helmholtz-Centre for Environmental Research (UFZ) in Magdeburg, Germany, at the Deutsche Gesellschaft für Technische Zusammenarbeit und Entwicklung GmbH in Eschborn and Uganda, and as a PhD candidate at the Leuphana University of Lüneburg, Germany. Dr Kirschke's main research interest is the governance of complex environmental resources management problems within a Resource Nexus approach. Her work refers to various regional levels (e.g., transboundary, national, local) in various regions (e.g., Europe, Africa, Asia, and Latin America) and she is experienced with inter- and transdisciplinary research and the application of both qualitative and quantitative research methods.



**Dr Nora Adam** has a background in biodiversity, forestry, and environmental sciences. She carried out research on population genetics, and the genetic and chemical diversity of plants. During her work at the Max Planck Institute for Chemical Ecology and the German Centre for Integrative Biodiversity Research (iDiv), she focused on the role of plant chemical and genetic diversity for mediating above- and belowground diversity and the resulting consequences for plant productivity. Besides her background in natural sciences, she also explores how a better integration of biodiversity into the economy can contribute to its protection and sustainable use. She also engages in raising awareness for biodiversity and the Resource Nexus. In her current position as Partnerships and Liaison Officer at UNU-FLORES, she works with experts from key institutions to advance the achievement of the SDGs.



**Prof. Edeltraud Günther** has held the position of Chair of Business Management esp. Environmental Management and Accounting at TU Dresden since 1996 and currently serves as the Director of UNU-FLORES. She held Visiting Professorships at the Namibia University of Science and Technology (NUST), Kobe University, and University of Virginia. Her research focuses on sustainability management, environmental accounting, and management control systems, with an emphasis on corporate responsibility, life cycle assessment, resilience, and sustainability assessment. As the Director of UNU-FLORES, Prof. Günther is a vocal advocate for advancing the Resource Nexus which is also reflected in the Institute's mission to create meaningful impact across the scientific landscape, and to champion the Resource Nexus as a vital scientific perspective. In addition to her long-held appointment at

TU Dresden, Prof. Günther founded the Centre for Performance and Policy Research in Sustainability Measurement and Assessment (PRISMA) in 2016 and has acted as the Centre's Chair since then. A globally recognised expert in environmental management and sustainability assessment, Prof. Günther has published more than 200 journal articles in her research field and has contributed her expertise to numerous book chapters.

#### 4. Information for Contributors

If you would like to contribute to the thematic issue, please follow these three steps:

1. Submission of a short abstract to the guest editors
2. Upon approval of the abstract: Preparation of the manuscript
3. Submission of the manuscript via the journal's editorial management system

##### 4.1 Submission of Abstract

Before submitting to the thematic issue, please submit a short abstract (max. 1 page) containing:

- the names and affiliations of the prospective authors
- contact information (at least email addresses), preferably for two corresponding authors
- your research approach and main findings
- if applicable: short information about your study area

Please make sure that your abstract describes how your work is related to the Nexus between Atmosphere/air, pedosphere/soil, and hydrosphere/water.

Abstracts may be submitted in one of the following text formats:

- Microsoft Word (\*.DOC or \*.DOCX)
- OpenOffice / Libre Office (\*.ODT or \*.SXW)
- Other common document formats (\*.RTF or \*.PDF)

Please submit your abstracts during the following period and send it to the coordinating guest editors by email (see below):

**OPENING:** 1 April 2021

**DEADLINE:** **30 September 2021** (additional registrations may still be accepted after this; please check with the coordinating guest editors)

Email for abstract submissions (or questions to the editors): [aswnexus@unu.edu](mailto:aswnexus@unu.edu)

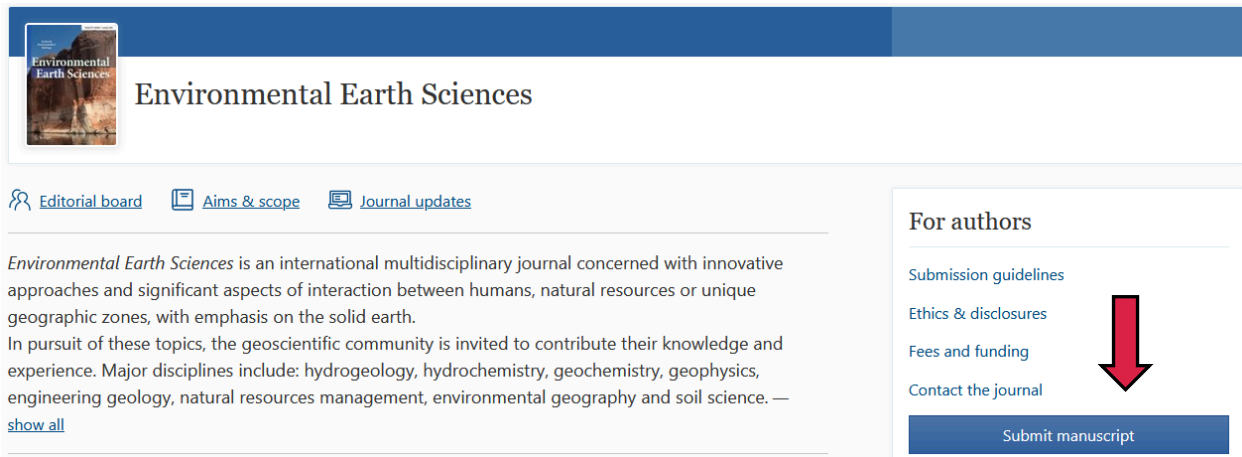
## 4.2 Preparation of Manuscript

Before preparing your full manuscript, please carefully read the [instructions for authors](#) which you may find online.

## 4.3 Manuscript Submission

If you have not previously published with *Environmental Earth Sciences*, you will need to create a user account [here](#).

The online submission system can be accessed via the journal's website and will guide you through the submission process.



**Environmental Earth Sciences**

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*Environmental Earth Sciences* is an international multidisciplinary journal concerned with innovative approaches and significant aspects of interaction between humans, natural resources or unique geographic zones, with emphasis on the solid earth. In pursuit of these topics, the geoscientific community is invited to contribute their knowledge and experience. Major disciplines include: hydrogeology, hydrochemistry, geochemistry, geophysics, engineering geology, natural resources management, environmental geography and soil science. — [show all](#)

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Please make sure to select the thematic issue **“T.I. Soil-Water-Atmosphere Nexus”** during the submission process and indicate the name of the special issue in your cover letter. You can select the special issue during step 1 of the submission process:

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if you are submitting a new or revised manuscript please be aware that we have recently updated our submission guidelines (viewable via the Instructions for authors link above). Please ensure your manuscript adheres to these guidelines prior to submission, to avoid requests from the Editorial Office for missing content, delaying Editor assignment.

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- T.I. : Groundwater Resources and Sustainability
- T.I. : Water in Large Basins
- T.I.: Mineral and Thermal Waters
- T.I. : Sustainable Utilization of Geosystems
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- T.I. : Geosphere-Anthroposphere Interlinked Dynamics
- T.I. : Groundwater quality and contamination and the application of GIS

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Please note that the period for submitting full papers is the following:

**OPENING:** 1 June 2021

**DEADLINE:** 31 December 2021

#### 4.4 Hybrid Publishing Model and Open Access Option

Authors have the choice of publishing their article without any charges, or in an open access format. To publish open access in *Environmental Earth Sciences*, authors are required to pay an article-processing charge (APC). The APC for all published articles is as follows, subject to VAT or local taxes where applicable: £1890.00/\$2780.00/€2190.00.

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