

## Special Issue

# Coupled Iron–Carbon Biogeochemical Processes

### Message from the Guest Editors

Iron (Fe) is ubiquitous and ranks 4th in natural abundance in Earth's crust. Same as iron, carbon (C) is also abundant and the major element for organic and inorganic substances. They are both omnipresent in nature and reactive in chemical reactions. Most importantly, iron and carbon coupling is one of the most important natural processes that influence the cycles of major and minor active elements in the atmosphere, hydrosphere, biosphere, and geosphere. It drives important chemical reactions, such as oxygen delivery, nitrogen fixation, and climate change. Fe minerals have been suggested to play an important role in interacting with and stabilizing C in soils and sediments. C associated with Fe minerals by sorption and co-precipitation showed higher stability, indicated by longer turnover times, than non-Fe-bound C. Thus, it is crucial to understand the biogeochemical reactions of Fe-bound C in soils. This session will utilize interdisciplinary efforts to have an advanced understanding of the mechanisms of the coupled iron-carbon biogeochemical processes as well as their direct and indirect impacts on environmental processes.

---

### Guest Editors

Dr. Xiaopeng Huang

Dr. Qian Zhao

Dr. Lanfang Han

---

### Deadline for manuscript submissions

closed (29 May 2024)



## Environments

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.7  
CiteScore 5.7



[mdpi.com/si/175950](https://mdpi.com/si/175950)

*Environments*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[environments@mdpi.com](mailto:environments@mdpi.com)

[mdpi.com/journal/  
environments](https://mdpi.com/journal/environments)





# Environments

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.7  
CiteScore 5.7



[mdpi.com/journal/  
environments](https://mdpi.com/journal/environments)



## About the Journal

### Message from the Editor-in-Chief

Environmental issues are quickly becoming central political, economic and academic topics of the twenty-first century. A large number of modern challenges are directly or indirectly caused by complex interactions between environmental issues. Such issues require interdisciplinary research, knowledge and insights to understand and, ultimately, for solutions to be found. Through the journal *Environments*, we strive to create a platform for meaningful discourse by accepting contributions from a wide range of fields. We sincerely hope you will consider publishing your distinguished work in this highly-accessible, peer-reviewed journal.

---

### Editor-in-Chief

Prof. Dr. Sergio Ulgiati

1. Department of Science and Technology, Parthenope University of Naples, Centro Direzionale, Isola C4, 80143 Napoli, Italy

2. School of Environment, State Key Joint Laboratory of Environment Simulation and Pollution Control, Beijing Normal University, No. 19 Xijiekouwai Street, Beijing 100875, China

---

### Author Benefits

#### High Visibility:

indexed within Scopus, ESCI (Web of Science), PubAg, AGRIS, GeoRef, and other databases.

#### Journal Rank:

JCR - Q2 (Environmental Sciences) / CiteScore - Q1 (Ecology, Evolution, Behavior and Systematics)

#### Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 19.2 days after submission; acceptance to publication is undertaken in 3.4 days (median values for papers published in this journal in the first half of 2025).