

VNU JOURNAL OF SCIENCE: EARTH AND ENVIRONMENTAL SCIENCES

Editorial Board Chairman

Truong Vu Bang Giang
Vietnam National University, Hanoi, Vietnam

Editorial Board on Earth and Environmental Sciences

Managing Editors

Phan Van Tan - VNU University of Science, Hanoi, Vietnam
Do Minh Duc - VNU University of Science, Hanoi, Vietnam
Nguyen Ngoc Minh - VNU University of Science, Hanoi, Vietnam

Associate Editors

Mai Trong Nhuan - VNU University of Science, Hanoi, Vietnam
Truong Quang Hai - VNU Institute of Vietnamese Studies and Development Sciences, Hanoi, Vietnam
Phan Trong Trinh - Institute of Geological Sciences, VAST, Hanoi, Vietnam
Vu Van Tich - Vietnam National University, Hanoi, Vietnam
Hoang Van Long - Vietnam Petroleum Institute, Vietnam Oil and Gas Group, Hanoi, Vietnam
Tran Quoc Binh - VNU University of Science, Hanoi, Vietnam
Nguyen Kim Loi - Nong Lam University, Ho Chi Minh City, Vietnam
Nguyen Van Lap - Ho Chi Minh City Institute of Resources Geography, Ho Chi Minh City, Vietnam
Bui Xuan Thanh - Ho Chi Minh City University of Technology, Vietnam
Ho Quoc Bang - Ho Chi Minh University of Natural Resources and Environment, Ho Chi Minh City, Vietnam
Le Thi Phuong Quynh - Institute of Natural Products Chemistry, VAST, Hanoi, Vietnam
Ngo Duc Thanh - University of Science and Technology of Hanoi, VAST, Hanoi, Vietnam
Le Huy Minh - Institute of Geophysics, VAST, Hanoi, Vietnam
Tran Nghi - VNU University of Science, Hanoi, Vietnam
Nguyen Cao Huan - VNU University of Science, Hanoi, Vietnam
Tran Thanh Hai - Hanoi University of Mining and Geology, Hanoi, Vietnam
Nguyen Van Vuong - VNU University of Science, Hanoi, Vietnam
Ngo Huu Hao - University of Technology, Sydney, Australia
Trinh Quang Toan - University of California, Davis, USA
Andreas Fink - Karlsruhe Institute of Technology, Germany
Katsuaki Koike - Graduate School of Engineering, Kyoto University, Japan
Hidenari Yasui - The University of Kitakyushu, Japan
Jamie Shulmeister - University of Canterbury, New Zealand
Fredolin Tangang - National University of Malaysia, Malaysia
Edvin Aldrian - Agency for Assessment and Application of Technology, Indonesia
Luc Hens - Leuven University, Belgium
Benjamin Burkhard - University Hannover, Germany
Doo Chul Kim - Okayama University, Japan
Martin Kappas - Göttingen University, Germany

Secretary

Nguyen Hong Ngoc	Nguyen Thi Huyen Trang
VNU Journal of Science, Hanoi, Vietnam	VNU University of Science, Hanoi, Vietnam
Tel.: (84) 984938131	Tel.: (84) 971527096
E-mail: ngocnh@vnu.edu.vn	E-mail: huyentrang194@gmail.com

Aims and Scope

VNU Journal of Science: Earth and Environmental Sciences publishes *double-blinded* peer-review research papers, communications and reviews dealing with: Climate change, Climatology & Meteorology, Environmental science and technology, Geodesy, Geography, Geoinformatics, Geology, Geophysics, Hydrology and Oceanography.

Publication Information

The journal publishes *quarterly in March, June, September, December* by the Vietnam National University in Hanoi. As a fully open access publication, the journal will provide maximum exposure for published articles, making the research available to all to read and share. A corresponding print version is also available.

Any manuscript followed the journal's scope and author guideline will be assigned to managing editors. All manuscripts undergo an editorial screening and a double-blinded peer review by at least one independent expert in the field. The managing editors make an editorial decision, which is subject to endorsement by the Editor-in-Chief.

Further information is available through the journal website: <http://js.vnu.edu.vn>

Publication Permit No 223/GP-BTTTT, issued on Jul. 22nd 2014 and Permit (Revised) No 62/GP-BTTTT, issued on Jan. 29th 2021. Printed at Su That Printing House, No 201 Cau Dien Street, Bac Tu Liem District, Hanoi, Vietnam. Legal Deposit: Quarter II/2023.