

# Review of: "Responsible Geosciences, or Geoscience Literacy for Urbanites"

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**Potential competing interests:** No potential competing interests to declare.

**Review of the manuscript '*Responsible Geosciences, or Geoscience Literacy for Urbanites*' by Martin Bohle submitted to Qeios.**

Focus of the paper: geoscience literacy in urban environment. The paper presents a novel and interesting topic of responsible geosciences making important contribution to existing literature by investigating urban structure is a complex social-ecological system with human knowledge as an essential mechanism linking the parts of the system.

Relevance: The presented study is the original primary research on novel and interesting topic. The manuscript meets general criteria of the significance and novelty in social geographic studies presenting an investigation on complex-adaptive dynamics coupling human practices and the geosphere.

Abstract is well written and clearly describes the undertaken study, describes research object, motivation, study goals and major achievements.

Structure: The article is well organized with structured sections. The structure of the manuscript conforms to the journal standards and discipline norm. It has the following sections: Introduction, Concepts and Materials, Discussion & Conclusion, References. Section Concepts and Materials is divided into the minor subsections and paragraphs for a better structure.

Logic: The clarity of the text logic and organization of the paper is sufficient. It demonstrates the consistent interpretation of the presented essay with comments on the importance of the geoscience expertise with regard to urban functioning and system organisation.

Introduction presents a background on sustainable urban life and geosphere with regard to geoscience literacy. The author explained the phenomena of the relationship between urban life and geosphere, the interconnected realm of metropolises, and the multi-dimensional traits of urban life which is shaped by social, economic, and environmental factors. The Introduction describes the research showing context of the essay.

Literature regarding the relevant topics is reviewed, formatted according to the journal rules and appropriately referenced. Major sources include published papers on geoscience education, social-geographic studies such as human dynamics in Earth System, landscapes as social-ecological systems, physical technosphere etc. Literature is referenced and relevant.

Research gaps and weakness in former works are described – the lack in similar studies on geo-ignorance. Hence, this study contributes by filling this gap and pointing at the importance of geographic knowledge for urban management, the role of human being in the socio-geographic systems, and the complexity of such structures.

Motivation is explained: this study contributes to fill in the gaps in the existing research through presenting a novel study on urban environment. Among others, the author explains the effects of urban life which goes beyond the built-up areas through extended functionalities, and points that regional, continental, and global infrastructures form the part of the urban realm.

Results of this essay include the conceptual analysis of human role in urban realm with regard to the physical changes in geosphere. Specifically, he points the place of human beings within the social-ecological systems as a part of complex-adaptive dynamical structure. The author concludes that environmental literacy is essential for smart solutions and decision making for urban planning and managements. This study contributes to the sustainable urban development.

Discussion and Conclusion are well stated, linked to original research focus and interpreted the major outcomes of this essay regarding social-geographic systems. The importance of this paper is well summarized as follows: people's geoscience literacy should be linked with a global perspective for the well-functioning of the urban realm requires professionals who design, build, and govern social-ecological systems on a planetary scale. hence, the importance of education, knowledge-driven solutions in management of urban ecosystems is underlined.

Actuality, novelty and importance: The author explained that urban realm is the essential mode of human-geosphere interaction, and the interconnection of urban lifestyles with Earth's geosphere through their functions. An example is provided for interactions with weather and meteorology. Here the author discusses the risks of geoscientific ignorance and the importance of climate literacy which is achieved through broadcasting and systematic weather observations. He also points at the essential role of weather forecasts for society well-being.

Academic contribution: A novel investigation performed linking the human role in geosphere, and importance of geographic knowledge for functioning of the complex systems connecting social structure with geographic phenomena. The paper increases the knowledge in social geography and education in geography.

I suggest to publish this paper.

With kind regards,

- Polina Lemenkova.

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