Research on the construction of knowledge graph for aeolian geomorphology

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Delivery date: 11.03.2025

# Abstract

With the rapid development of information geography research, promoting the construction and application of knowledge graphs has become an important means of integrating aeolian geomorphology knowledge. Aeolian geomorphology is a crucial component of geomorphological studies. To integrate the dispersed knowledge in this field and enhance its accessibility and usability, this study attempts to construct an aeolian geomorphology knowledge graph by consolidating relevant disciplinary knowledge. First, in response to the vast amount of existing data, knowledge graph construction techniques—such as knowledge extraction, fusion, processing, and updating—are employed to develop a knowledge graph for aeolian geomorphology. Then, this knowledge graph is applied to thematic literature research, information retrieval, and dune type identification and classification, demonstrating the advantages of knowledge graph technology in the field of aeolian geomorphology. A method for constructing a dune classification knowledge graph will also be proposed. On this basis, typical application cases will be explored to investigate the application models of knowledge graphs, and potential future research directions are suggested. The findings will show the aeolian geomorphology knowledge graph provides a novel tool for knowledge management and analysis in aeolian geomorphology research and applications.

# Keywords

Aeolian Geomorphy; Knowledge Graph; Geomorphology; dune classification