Special Issue

Land Surface Dynamic Mechanisms and Anthropogenic Facility Disasters Caused by Sand/Dust Processes

Message from the Guest Editors

Under the current background of the rapid development of new energy, road, and other projects in arid and semi-arid regions, the research demand for the mechanism and protection of aeolian sand/dust has increased rapidly. This Special Issue is devoted to all topics related to sandy landform dynamic mechanisms and anthropogenic facility disasters, including (but not limited to) the following subjects:

- Dynamic model of aeolian sand/dust movement;
- Long-term field observation on wind-blown sand/dust around anthropogenic facilities;
- Causes of aeolian sand/dust disasters on anthropogenic facilities;
- The impact of sand/dust transportation on the efficiency of photovoltaic/wind power generation;
- The influence of surface deposition of sand/dust on roads and power transmission lines;
- The formation and evolution of sand/snow dunes;
- New methods and technologies for the prevention of aeolian sand/dust disasters;
- Failure mechanisms and effectiveness evaluations of prevention measures;
- New water-saving irrigation technology for plant-based sand disaster prevention;
- Optimization of a comprehensive protection system for sand/dust disaster.

Guest Editors

Dr. Hongchao Dun

Dr. Binbin Pei

Prof. Dr. Kan He

Deadline for manuscript submissions

31 May 2026

Atmosphere

an Open Access Journal by MDPI

Impact Factor 2.3
CiteScore 4.9

mdpi.com/si/239824

Atmosphere
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
atmosphere@mdpi.com

mdpi.com/journal/atmosphere

Atmosphere

an Open Access Journal by MDPI

Impact Factor 2.3
CiteScore 4.9

mdpi.com/journal/atmosphere

About the Journal

Message from the Editor-in-Chief

Continued developments in instrumentation and modeling have driven atmospheric science to become increasingly more complex with a deeper understanding of concepts, mechanisms, and interactions. This is the field that innovation built and it has led to a better appreciation for the complexity with atmosphere. Human life is intertwined in this complexity as we strive to better understand our atmosphere. Climate change is constantly stretching the limits of our thinking and forcing new ideas and concepts to be played out. Welcome to the Anthropocene!

Editor-in-Chief

Dr. Daniele Contini
Institute of Atmospheric Sciences and Climate (ISAC), National Research Council (CNR), Str. Prv. Lecce-Monteroni km 1.2, 73100 Lecce, Italy

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), Ei Compendex, GEOBASE, GeoRef, Inspec, CAPlus / SciFinder, Astrophysics Data System, and other databases.

Journal Rank:

CiteScore - Q2 (Environmental Science (miscellaneous))

MDPI