atmosphere

an Open Access Journal by MDPI

IMPACT FACTOR 2.3

CITESCORE 4.9

Data Assimilation Development: Theory, Algorithm, and Applications in Meteorology

Guest Editors:

Dr. Zhibin Sun
Natural Resource Ecology Laboratory, Colorado State University, Fort Collins, CO 80523, USA

Dr. Yan-An Liu
School of Geographic Sciences, East China Normal University, Shanghai 200241, China

Dr. Zigang Wei
Department of Atmospheric & Oceanic Science, University of Maryland, College Park, MD 20740, USA

Deadline for manuscript submissions:
closed (15 August 2023)

Message from the Guest Editors

Used to assimilate observational information into dynamical systems, data assimilation has many successful applications in atmospheric science and oceanic science, while also being utilized in many other fields. With the continuous development of a new generation of meteorological satellite- and ground-based remote sensing data, the development of data assimilation directly affects its applicational benefits in various fields, especially in extreme weather prediction.

With much challenging research on the theories, algorithms, and meteorology applications of data assimilation, this Special Issue aims to cover the advancing studies in this field. Original studies, from pure theories to algorithm improvements, from assimilating satellite data to coupling data assimilation with machine learning, from Kalman filters with non-Gaussian noise to estimating error covariance via non-ensemble methods, from the combination between sequential assimilation and variational assimilation to data fusion with assimilation techniques, and so on, are all welcome contributions.

atmosphere

an Open Access Journal by MDPI

IMPACT FACTOR 2.3

CITESCORE 4.9

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

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!

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))

Contact Us

Atmosphere Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/atmosphere
atmosphere@mdpi.com
𝕏@Atmosphere_MDPI