Special Issue

Addressing Climate Change with Artificial Intelligence Methods

Message from the Guest Editor

In recent years, however, this complexity has also been addressed via the use of data-driven methods-artificial intelligence (AI) techniques in particular—as alternatives or complementary to dynamical models. The former applications include attribution or prediction studies (about global warming, but also individual phenomena), as well as research into large datsets using deep learning; the latter uses involve downscaling or finds application to specific impact studies, such as hydrological or extreme-event invesitfations. Al applications have shown also their usefulness in terms of extracting knowledge from large datasets (e.g., sets of satellite data) or addressing the social and economic impacts of climate change, as in cases of human migration. Relevant topics of the call include (nonexhaustive list):

- Detection and attribution of climate change by Al methods:
- Al downscaling of dynamical models for obtaining better reconstruction of the past and/or prediction of high-resolution future scenarios;
- Prediction through pure Al methods;
- Al in the study of extreme events;
- Al in impact studies (general or case studies in all possible applications).

Guest Editor

Dr. Antonello Pasini

Institute of Atmospheric Pollution Research, National Research Council, 00010 Rome, Italy

Deadline for manuscript submissions

closed (30 April 2025)



Climate

an Open Access Journal by MDPI

Impact Factor 3.2 CiteScore 5.7



mdpi.com/si/188871

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

mdpi.com/journal/climate





Climate

an Open Access Journal by MDPI

Impact Factor 3.2 CiteScore 5.7



About the Journal

Message from the Editor-in-Chief

Climate (ISSN 2225-1154) was established in 2013 to provide an open-access outlet for innovative research, review articles, new direction papers, and short communications relevant to all disciplines related to climate at all scales. The journal encourages papers ranging from climate change detection and attribution and Earth system modeling to ecosystem, hydrologic, and socioeconomic impacts and climate mitigation and adaptation measures. The influence of Climate is strong and growing (IF 3.2 in 2024, CiteScore 5.7 in 2024).

Editor-in-Chief

Dr. Timothy G. F. Kittel

Institute of Arctic and Alpine Research, University of Colorado Boulder, Boulder, CO 80309-0450, USA

Author Benefits

High Visibility:

indexed within Scopus, ESCI (Web of Science), GeoRef, AGRIS, and other databases.

Journal Rank:

JCR - Q2 (Meteorology and Atmospheric Sciences) / CiteScore - Q2 (Atmospheric Science)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 21.6 days after submission; acceptance to publication is undertaken in 3.9 days (median values for papers published in this journal in the first half of 2025).

