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## Addressing Climate Change with Artificial Intelligence Methods

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Deadline for manuscript  
submissions:

**30 September 2024**

### 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 datasets using deep learning; the latter uses involve downscaling or finds application to specific impact studies, such as hydrological or extreme-event investigations. AI 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 (non-exhaustive list):

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



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