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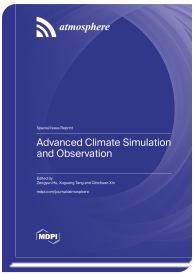
Special Issue Reprint

Advanced Climate Simulation and Observation



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Global climate changes, particularly extreme events, affect terrestrial carbon, water, and energy exchanges between the atmosphere, biosphere, and lithosphere, thus controlling freshwater availability, floods, and droughts. Therefore, it is urgent and necessary to develop advanced climate simulation and observation approaches and models related to extreme climate events. Advanced climate simulation and observation can improve the accurate prediction of climate change and long-term trends, which can mitigate climate events' impacts on human society. Under these conditions, this reprint aims to introduce advanced climate simulation and observation approaches to various practical studies related to climate variations, including the global climate models (GCMs) and regional climate models (RCMs), mitigation studies of high-impact climate events, predictions of climate variations, and some new artificial intelligence. Twenty-two papers have been collected in this reprint, with eight original research articles reporting on climate change and six papers reporting on climate change's impact on society and the economy. Meanwhile, three papers reported climate change's impact on agriculture, and climate change's impact on human health was studied in five articles.

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