Special Issue

Climate Change and the Potential Impacts on Wind/Solar Power Systems

Message from the Guest Editors

This Special Issue of Atmosphere explores the impact of climate change on renewable energy systems, specifically wind and solar power. Understanding the potential effects of extreme weather phenomena, such as hurricanes, heatwaves, and droughts, on these energy sources is crucial for sustainable development. Extreme weather events intensified by climate change have the potential to hinder sustainable development, particularly in vulnerable areas, and create obstacles in transitioning away from fossil-fuel-based energy systems. This Special Issue investigates the impacts on renewable energy potential under a changing climate and how extreme weather can affect the efficiency and resilience of wind and solar power systems. It examines adaptation strategies and technological advancements to enhance system performance to mitigate climate change impacts. Recognizing the vital connection between reliable clean energy sources and sustainable development, this Special Issue emphasizes the necessity of resilient clean energy infrastructure for promoting sustainable development and fostering economic growth.

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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

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