

Special Issue

Agriculture, Ecosystems and Environment: Monitoring, Modeling and Mitigation Under Climate Change

Message from the Guest Editors

Agricultural ecosystems are fundamental to global food security and play a complex role in Earth's biogeochemical cycles. They act as both a source and a sink for atmospheric carbon dioxide (CO₂), and practices for their management significantly influence regional water, energy, and climate balance. Cropping system, irrigation practice, soil health, phenological stage, and extreme weather events all impact the capacity of agroecosystems for carbon sequestration, coping with greenhouse gas emissions, and climate change adaptation and mitigation. This Special Issue aims to advance our understanding of the interactions between agricultural ecosystems and the atmosphere, as well as agriculture's level of resilience to a changing climate. We welcome original research articles and reviews on the interactions between agricultural ecosystems and the atmosphere, including, but not limited to, crop productivity, evapotranspiration, agricultural greenhouse gas emissions, land use change, and agroecology, as well as their spatial and temporal variation. We look forward to receiving your contributions to this Special Issue.

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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

Dr. Daniele Contini

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