Special Issue

Impact of Ocean Plants on Atmosphere

Message from the Guest Editor

Global greenhouse gas concentrations (CO2 and CH4) have reached high levels. Coastal plant ecosystems (including seagrass beds, mangrove, salt marsh, etc.) commonly referred to as 'blue carbon' have high primary productivity and act as carbon sinks. CO2 will be bound to primary producers in blue carbon ecosystems and converted into body tissue biomass through photosynthesis, where it is then sequestrated in sediment for a long period of time through a series of physical, chemical and biological processes. However, plants might enhance CH4 emission due to their abundant organic matter input and the formation of an anaerobic environment in sediment. Further, the CO2 and CH4 flux between ecosystems and the atmosphere are influenced by many environmental factors, for e.g., tidal immersion, solar radiation, temperature, terrestrial river input, et. The significant lack of case studies on the greenhouse gas flux between blue carbon ecosystems and the atmosphere limits our capacity to formulate strategies to mitigate climate change.

Guest Editor

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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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