

Special Issue

Sea-Air CO₂ Fluxes and Implications

Message from the Guest Editor

Carbon dioxide (CO₂) is one of the main greenhouse gases and is emitted into the atmosphere primarily via the burning of fossil fuels and land use changes. Additionally, the division of carbon dioxide, both natural and anthropogenic, among the atmosphere, land, and the ocean, is known to be sensitive to climate variability. The growth in atmospheric CO₂ is dampened by the land biosphere and ocean. However, the uptake of excess CO₂ by the ocean is lowering the seawater pH, a process known as ocean acidification. At present, there are several key questions to be answered concerning the ocean–atmosphere exchange of CO₂, including the processes controlling seasonal to decadal variability in its fluxes, the feedback between the ocean CO₂ sink and other climate change processes, the role of biological processes, and the quantification of the fluxes in the land–ocean continuum. This Special Issue of *Atmosphere* is dedicated to papers addressing ocean–atmosphere CO₂ fluxes via observations, remote sensing and modelling studies, as well as the application of novel observing tools, platforms and future climate scenarios.

Guest Editor

Dr. Letícia Cotrim da Cunha

Faculdade de Oceanografia, Universidade do Estado do Rio de Janeiro,
Rio de Janeiro 20550-900, Brazil

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Atmosphere
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
atmosphere@mdpi.com

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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

Institute of Atmospheric Sciences and Climate (ISAC), National Research Council (CNR), Str. Prv. Lecce-Monteroni km 1.2, 73100 Lecce, Italy

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