Special Issue

Ozone Evolution in the Past and Future (2nd Edition)

Message from the Guest Editor

The ozone layer plays a key role in the protection of the biosphere from dangerous solar ultraviolet radiation. It also defines stratospheric temperature structure and therefore has a direct influence on the general circulation and surface climate. The discovery of the ozone hole in 1987 led to limitations in the production of halogen-containing, ozone-depleting substances (ODSs) by the Montreal Protocol and its amendments (MPAs). Thus, this measure prevented catastrophic ozone layer depletion, and most chemistry–climate models predict the recovery of the ozone layer in the middle of the 21st century. However, the ozone layer state and the effectiveness of ODS limitations by the MPAs still require continuous observations and modeling efforts to avoid any undesirable surprises. Besides ODSs, the ozone layer is sensitive to several factors such as the acceleration of meridional circulation caused by global warming; changes in solar irradiance; space weather-related events; emissions of very short-lived halogen-containing species.

Guest Editor

Dr. Eugene Rozanov

Physikalisch-Meteorologisches Observatorium Davos/World Radiation Center (PMOD/WRC), CH-7260 Davos Dorf, Switzerland

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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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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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