Special Issue

Effect of Solar Activities to the Earth's Atmosphere

Message from the Guest Editors

The Sun can affect the atmosphere in many ways, including solar flares, variations in solar X-ray and ultraviolet irradiance, release of intense fluxes of solar energetic particles, and coronal mass ejections resulting in auroral phenomena and geomagnetic storms. Increased solar radiation and occurrence of geomagnetic storms may cause disturbances in the density of atmospheric gases that result in a greater drag effect, which reduces the lifetime of satellites. Hard electromagnetic radiation produced by solar flares may disturb the ionosphere and, thus, interfere with radio signals, resulting in the degradation of communication quality. More and more accurate knowledge is needed for the stable operation of satellites, telecommunications, etc.

The Special Issue is open to research on the influence of solar activity on the Earth's atmosphere and the elucidation of various aspects of the mechanism and consequences of its influence. Additionally, studies of atmospheric and ionospheric phenomena associated with geomagnetic storms at the beginning of the solar maximum of the current 25th solar cycle are welcome.

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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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