Special Issue

The Hunga Tonga 2022 Eruption and Its Impact on the Atmosphere, Climate, and the Environment

Message from the Guest Editor

On 14–15 January 2022, the epic eruptions of the Hunga Tonga–Hunga Ha'apai volcano in the SW Pacific, already has and will, in some way, affect the atmosphere, world climate, and various aspects of the terrestrial and marine environments. Here, as a guest editor, I am asking you a dedicated specialist to unravel some of the processes and impacts of this volcanic event and contribute to this SI. The topics include but are not limited to: submarine explosion triggers, supercritical water, phreatomagmatic processes, plume velocity, and composition, gas compositions, cloud generation, lightning frequency, and intensity, supersonic shockwaves, infrasound, atmospheric gravity waves, tsunami generation, surges, ashfall, accretion of ash, impacts on marine biota including corals, pyroclastic flow/processes/water interaction, stratospheric particle density and migration, heat generation, water, and air turbidity, silicosis in animals and humans, erosion, bathymetry and coastal alterations, chlorine, and bromine emission, and stratospheric ozone depletion.

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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