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[U-09]Submarine volcanic eruption in Tonga accompanied by a meteo-tsunami

Sun. May 22, 2022 5:15 PM - 6:45 PM Exhibition Hall 8

On January 15, 2022, a large-scale submarine eruption occurred at the Hunga Tonga-Hunga Ha'apai volcano (Hunga volcano) in the Tonga Islands, causing an enormous disaster due to the resulting tsunami and ash fall. In addition to the formation of a large volcanic plume in a short period of time, the eruption created atmospheric pressure disturbances accompanied by meteo-tsunamis as well as ionospheric disturbances, all of which were widely observed throughout the world including the Japanese Islands. This is the first time in modern earth science that detailed observations of such various disturbances caused by a volcanic eruption have been made globally. Understanding magma generation at Hunga volcano, including in the present case, combined with a comparison of volcanic activity between the Tonga Arc and the Izu-Ogasawara Arc, both of which are oceanic island arcs, will provide important insights into submarine eruptions around Japan.

The purpose of this session is to promote discussion and deepen our understanding of submarine volcanic eruptions and all the disturbances they cause in the geosphere. We invite presentations from diverse research fields covering topics such as the characteristics of the Hunga volcanic eruption itself (i.e., location of the eruption site, its size and intensity, the nature of the resulting plume, and the eruption sequence) and comparison with other volcanic eruptions, and the characteristics and excitation mechanisms of atmospheric pressure disturbances and associated meteo-tsunamis as well as ionospheric disturbances.

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