



Supplement of

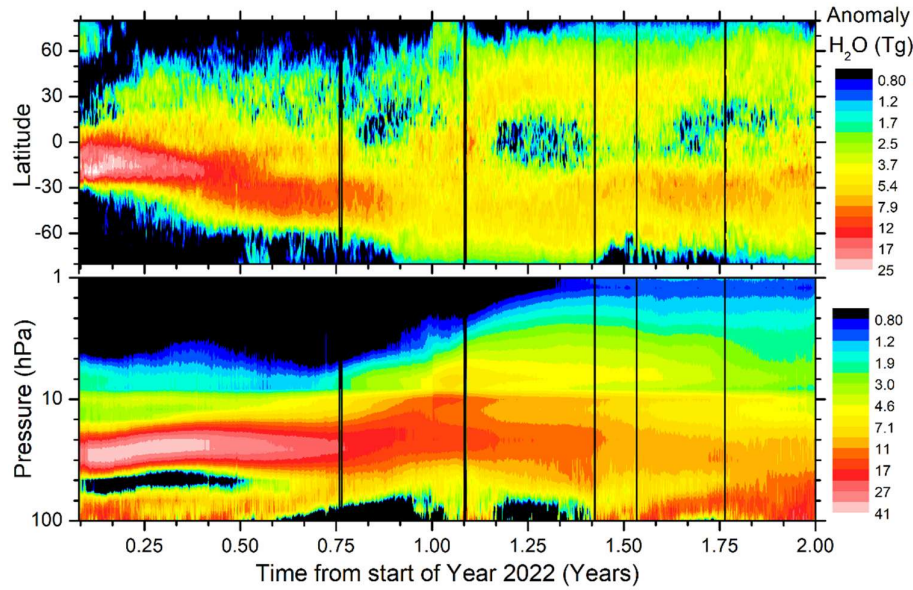
Stratospheric aerosol formed by intense volcanism–sea interaction during the 2022 Hunga Ha’apai eruption

Bengt G. Martinsson et al.

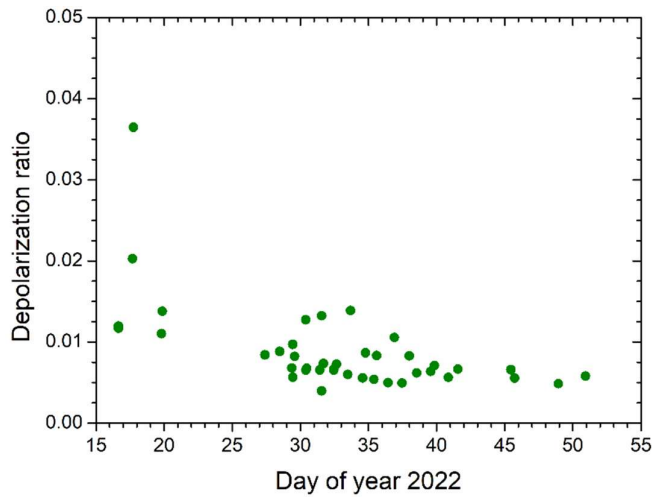
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1 Supplementary Figures



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3 **Figure S1.** Distributions of water vapor (H_2O) in the stratosphere after the 2022 Hunga Tonga volcanic eruption.
4 a) Latitude and b) altitude distributions of H_2O anomaly. The integration element sizes in a) span 1 – 100 hPa,
5 4° in latitude and 360° in longitude, and in b) -82 to 82° in latitude, 360° in longitude and atmospheric pressure
6 ratio 1.21 ($\sim 1.32 \pm 0.1$ km). The minor vertical tick marks show five of the eleven measurement levels inside a
7 decade (1.5, 2.2, 3.2, 4.6 and 6.8 hPa respectively, and 10 times these values in the next decade).



8
9 **Figure S2.** Particle depolarization ratio of dense aerosol layers from CALIOP the first few weeks after the HT-
10 22 eruption.