# Supporting Information for "Atmospheric and Ionospheric Responses to Hunga-Tonga Volcano Eruption Simulated by WACCM-X"

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**Introduction** This Supporting Information includes two figures (Figure S1 and Figure S2).

**Figure S1.** Surface pressure perturbation (period < 1 hour) at UT1800 hour. Wave reflection from the Andes and L'<sub>1</sub> mode can be seen, with amplitudes of about 10 Pa.

**Figure S2.** Longitude-height cross section of zonal wind at 44°N at UT1536 hour.

**Figure S3.** Zonal (upper), vertical (middle), and TEC (lower) perturbations (period < 1 hour) at UT0855 hour.

# Surface pressure

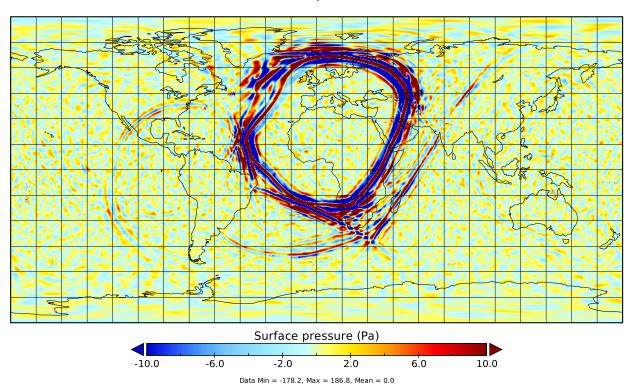


Figure S1: Surface pressure perturbation (period < 1 hour) at UT1800 hour. Wave reflection from the Andes and L' $_1$  mode can be seen, with amplitudes of  $\sim \! \! 10$  Pa.

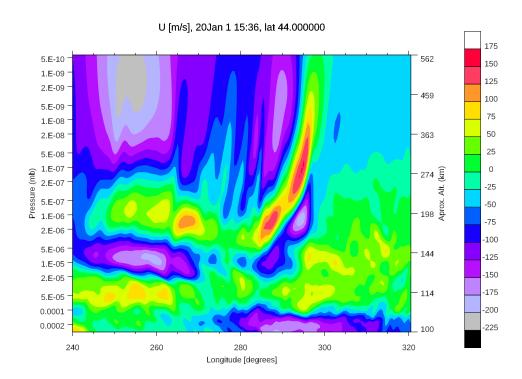
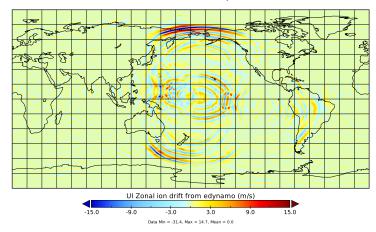
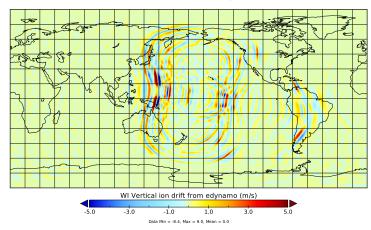


Figure S2: Longitude-height cross section of zonal wind at  $44^{\circ}N$  at UT1536 hour.

#### UI Zonal ion drift from edynamo



### WI Vertical ion drift from edynamo



## Electron Column Density

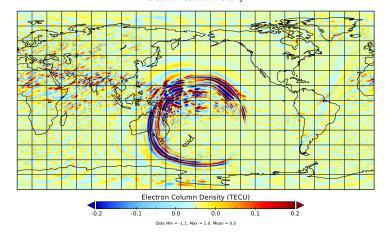


Figure S3: Zonal (upper), vertical (middle), and TEC (lower) perturbations (period < 1 hour) at UT0855 hour.