

## **Description of Additional Supplementary Files**

### **File name- Supplementary Movie 1**

#### **Description-**

This movie shows the 8.6 - 11  $\mu\text{m}$  brightness temperature difference for all available 10-minute Himawari-8 data from 15:17 UTC on 13 January 2022 to 06:07 UTC on 15 January 2022. Hunga volcano is indicated as a red triangle. Note that times annotated on the movie are nominal Himawari times but the actual observation time at the location of Hunga has an offset of  $\sim 7$  minutes from the nominal scan time (e.g. 15:00 UTC is actually closer to 15:07 UTC).

### **File name- Supplementary Movie 2**

#### **Description-**

This movie shows an animation of the data presented in Fig. 1 of the main text from 04:07 UTC to 07:07 UTC on 15 January 2022 (see Fig. 1 caption for details).