

Stratospheric Gravity Wave Activity before the 2018 Hualien Earthquakes

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A series of earthquakes hit eastern Taiwan in early February, 2018, including a magnitude 6.0 shock occurred at 1356Z on February 4 and another magnitude 6.2 shock at 1550Z on February 6. The temperature profiles retrieved from the ERA5 reanalysis dataset were employed to estimate the stratospheric potential energy. The potential energy is an index indicating the active level of stratospheric gravity wave. The evolutions of gravity wave activity around the earthquake period were thus established and studied. The gravity wave activity was enhanced above the epicenter about two week prior to the earthquake series. Further temporal and spatial analyses discriminated the gravity waves causing by meteorological systems and those possibly causing by seismic activities, and will be discussed in this presentation.