Earth’s outgoing longwave radiation variability prior to M ≧ 6.0 earthquakes in the Taiwan area during 2009-2016

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This paper proposed an analysis method, recorded by the National Oceanic and Atmospheric Administration (NOAA) satellites data to trace variations of outgoing longwave radiation (OLR) for finding precursors of the earthquakes. The significance of these observations was explored using data sets of recent M ≧ 6 of earthquakes around Taiwan area from 2009 to 2016. It was found that precursors, was in the form of the persistent hot anomalies distributing near the epicenters, appear approximately 5 to 10 days prior to these earthquakes. We interpret that these thermal sources may originate from electromagnetic and gas emissions associated with pre-seismic processes. This study highlights the potential of OLR anomalous change in earthquake precursor studies, at least in the Taiwan region.

Keywords: National Oceanic and Atmospheric Administration (NOAA), outgoing longwave radiation (OLR), precursor

