Surface Latent Heat Flux Associated with Coastal Earthquakes

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Detailed analysis of surface latent heat flux (SLHF) over the epicentral and adjoining regions of 50 recent coastal earthquakes have shown anomalous SLHF prior to these earthquakes. Such anomalous behavior of SLHF is not found with the earthquakes occurring far away from the coastal earthquakes. The surface latent heat flux retrieved from the NOAA satellites over the epicentral region of coastal earthquakes show anomalous SLHF few days prior to the main earthquakes. The analysis of SLHF associated with 50 recent coastal earthquakes have shown that the anomalous peaks prior to earthquakes depend on the distance of the epicenter of earthquake from the coast, months in which they occur, ocean depth and magnitude of the earthquakes. The anomalous peaks are found to show continuity in SLHF peaks over time and space and these earthquakes have shown that the SLHF show maxima along either the fault lines or perpendicular to the fault lines which show some kind of relation with the type of faults. Detailed analysis of SLHF and water vapor deduced from various satellites data have been analysed statistically and also using signal – noise decomposition of time series using the continuous wavelet transform. The use of SLHF and other surface parameters of ocean and land will be discussed in the Early Warning of impending coastal earthquakes.