

Convective Influence of Air Parcels Sampled during POSIDON

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The convective influence of air parcels sampled during POSIDON flights is investigated using a combination of backward trajectories and satellite-derived estimates of convective cloud top altitudes. 30-day backward diabatic trajectories are calculated from a cluster of points surrounding the flight tracks using ERA-Interim fields. The trajectories are traced through 3-hourly convective cloud top altitude fields based on geostationary satellite brightness temperatures and rainfall measurements. The location and time of most recent convection are analyzed. Preliminary analyses indicate that some of the sampled air parcels were influenced by convection over the Asian monsoon region and transported via the monsoon anticyclone towards Guam over the course of about two weeks. Many flights also sampled air parcels that were recently influenced by convection occurring locally near the flight track, which may include the influence from Typhoon Haima. The convective influence statistics of air parcels sampled during POSIDON and ATTREX 2014 missions are compared.