

Upper Air Support for the Hazardous Weather Testbed Spring Experiment

Abstract:

Every year, the National Severe Storms Laboratory (NSSL) has a Hazardous Weather Testbed Spring Experiment to examine different weather phenomena. In 2012, NSSL invited Texas A&M Meteorology students to aid in upper air radiosonde launches. The data collected was used to evaluate boundary layer evolution as well as intercomparison studies for Vaisala RS-92, Vaisala RS-80, and iMet radiosondes.

A typical day's itinerary consisted of three launches at 1500Z, 1800Z, and 2100Z respectively. When conditions were favorable, theodolites were used to track the balloon in order to obtain additional wind measurements. The A&M team provided mobile launches to study convective initiation in desired locations. In Concordia, Kansas, our team made four rapid-succession launches preceding an approaching cold front. On a different day, near Altus, Oklahoma, two balloons were launched in order to obtain data as a dry line approached. Data collected, including instrument comparisons, will be presented, along with lessons learned from field experiences.