

22 Years of GPS Dropsonde Data for Climate Studies

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The GPS dropsonde was developed in the early 1990's by NCAR/EOL engineers and scientists. The NCAR GPS Dropsonde is a high precision instrument that has been used over a long period of time to measure vertical distributions of temperature, pressure, humidity, and winds. It has been routinely used by NSF, NOAA/AOC, and the Air Force. NSF has supported over 39 dropsonde projects where 7790 soundings have been released. NOAA and the Air Force use dropsondes to support NOAA's National Hurricane Center, dropping over 15,000 sondes in the Gulf of Mexico and Atlantic Ocean from 1996 to present. All of these data sets are available to the community. Those associated with hurricane research and operational forecasting provide unique opportunities to validate climate models and global reanalysis products.