

Dropsondes



Releasing dropsondes

Dropsondes are dropped into hurricanes from airplanes to measure air pressure, temperature, wind speed and humidity. Dropsondes are released high above hurricanes and from inside hurricanes.



The eye of Hurricane Dorian

Dropsondes were developed by the National Center for Atmospheric Research in Boulder. The information from dropsondes goes directly to supercomputers for weather models and to forecasters in the National Hurricane Center.



Dropsondes are used by hurricane hunter airplanes, which are flown by Air Force pilots from Biloxi, Mississippi and NOAA Corps pilots from Lakeland, Florida. Many dropsondes are released in all hurricanes near the US. They improve hurricane forecasts.

NCAR GPS Dropsonde

the definitive atmospheric profiling tool

Square-cone Parachute
High stability design

Parachute Dimensions
Height 14cm
Top width 8cm sides

GNSS Receiver
Receives navigation satellite signals to calculate wind speed & direction

Pressure sensor

Humidity sensor & Temperature sensor

Fall Speed ranges from 15 m/s (34 MPH) at 20,000 ft to 10 m/s (22 MPH) at sea level
A drop from 20,000 feet lasts 9 minutes.

Vents fills parachute within 10 seconds after release from aircraft

Sonde Dimensions
Length 30.5cm (12")
Diameter 4.4 cm (1.75")
Mass 165 grams

Radio Transmitter sends temperature, humidity, pressure and Wind (GPS) data to the aircraft every 0.5 seconds

Battery power the sondes for up to two hours

Microcontroller controls the transmitter and process the sensor data