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From sky to ground

Vaisala-built dropsondes shine a light on hurricanes

The value of dropsonde sensing

Dropsondes parachute down from aircraft flying directly into or near a storm, collecting and transmitting valuable atmospheric real-time data:

- Wind speed and direction
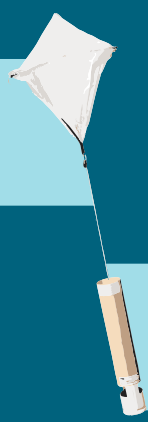- Humidity
- Barometric pressure
- Temperature

The result

Improved trajectory forecast of Tropical Cyclones by **10-15%**, potentially having an impact of **hundreds of miles.**

The data drop

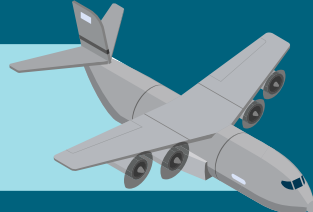**1** Descending dropsonde collects atmospheric data

2 Data sent to aircraft in real time for monitoring and data quality

3 Aircraft relays data to hurricane center

4 Forecasting, alerting and other tasks enabled

The 2021 hurricane season

1st time two consecutive seasons exhausted the list of 21 storm names
3rd most active year on record for named storms
6th sixth consecutive above-normal Atlantic hurricane season
7th consecutive year the first named storm formed before June 1

The storms

21 total named storms
8 storms made landfall
7 Atlantic hurricanes

NOAA and Air Force hurricane pros

1,265 flight hours logged
143 missions flown
2,300+ Vaisala-built dropsondes deployed
*Air Force includes Atlantic and Pacific storms

2022 hurricane season predictions

14-21 total named storms

6-10 Atlantic hurricanes

3-6 Major hurricanes with winds of 111 mph or higher

Dropsonde RD41*

- Provides accurate, reliable atmospheric profiles from the aircraft to the surface
- Supports storm reconnaissance and atmospheric research, and other airborne instrumentation validation
- Backed by 20+ years of dropsonde expertise and global deployments

*Built by Vaisala under license from UCAR, the Dropsonde RD41, aircraft data system hardware, and software as used by hurricane hunters was developed by the Earth Observing Laboratory of the National Center for Atmospheric Research.

Trusted weather observations for a sustainable future

1 National Oceanic and Atmospheric Administration, "Active 2021 Atlantic hurricane season officially ends" Active 2021 Atlantic hurricane season officially ends | National Oceanic and Atmospheric Administration (noaa.gov)

2 United States Air Force, "Hurricane Hunters wrap up 2021 season; brace for winter ops" Hurricane Hunters wrap up 2021 season; brace for winter ops > 403rd Wing > Article Display (af.mil)

3 NOAA predicts above-normal 2022 Atlantic Hurricane Season
https://www.noaa.gov/news-release/noaa-predicts-above-normal-2022-atlantic-hurricane-season

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vaisala.com/soundings