

Hurricane Hunter Data at NOAA's Hurricane Research Division

Heather Holbach

Thursday, 03/28/2019, 10:30 PST (17:30 UTC)

Connection Information

<https://global.gotomeeting.com/join/157892821>

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United States: +1 (312) 757-3121

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Presentation

[Slides](#)

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Attendees

Jocelyn Elya, Carolina Berys-Gonzalez, Steve Diggs, Heather Holbach, Alex Kozyr, Megan Carter, Erin Robinson, Karen Stocks, Chris Olson

Minutes

1. Heather is part of NOAA's Atlantic Oceanographic and Meteorological Laboratory Hurricane Research Division (HRD)
2. Objective to advance understanding and improve forecasts for tropical cyclones
3. HRD research themes: observing techniques, modeling and prediction, data assimilation, dynamics and physics, impacts
4. Heather's research - Observing Techniques - improve wind speed and rain rate estimates from the Stepped-Frequency Microwave Radiometer (SFMR)

- a. One of the most important ways they measure hurricane intensity
- b. As wind speed increases, get more white capping on ocean surface. Makes temperature of ocean look warmer to SFMR. Use this to tease out wind speed and rain rate.
5. Need ground truth to compare SFMR to - Dropsondes
 - a. Pressure, temperature, humidity, gps location info to collect wind speed and direction
6. For strong storms like Irma, see separation between SFMR and other observations for high winds. Research will investigate this further.
7. Hurricane Hunters
 - a. Objectives: reconnaissance (Air Force), research (HRD)
8. Aircraft
 - a. WP-3D Orion flies low and through the storm
 - i. Radars make these unique from the Air Force aircraft.
 - ii. Flies at 8,000 - 12,000 feet
 - b. G-IV Jet flies high, above and around the storm to sample environment
9. Collect data in many different formats. .frd, .eol, .buf, .nc, .txt
10. Data portal organized by hurricane season, then storm. On FTP server.
 - a. Data Display, Archive, and Legacy Group. Establish better data management practices
11. No single data manager in HRD

Questions

- Jocelyn - Flight related training?
 - Water survival, get out of harness in case of water landing
 - Lead project scientist, dropsonde scientist, radar scientist. Training for each of 3 positions.
- Steve
 - How do you get feedback from community of different data formats?
 - Survey sent to community. Low response, so town hall meeting at AMS.
 - Are you considering changes to formats?
 - Most of community is moving to netCDF. But some users still need training w/ netCDF.
 - April 25 call with Vardis Tsontos and Sean Arms will present tool to convert from CSV to netCDF
- Erin Robinson - How involved is HRD with Environmental Data Management committee in NOAA

- Colleagues interacting with them and NASA DAACs
- Challenge without a data manager
 - Steve - have they costed this out? Not yet. Struggle that many NOAA labs have
- Jocelyn - Do users want data by storm or all SFMR data
 - Not sure. Heather wants entire dataset, some people want composites, but many people do case by case.
- Alex - Who is the NCEI point of contact?
 - Point of contact within lab in physical oceanography department. AOC sends all raw data to NCEI
 - Most data not sufficiently documented to send to NCEI
- Steve - Data seems operational in nature. Do they check how many scientific papers reference their data?
 - Heather hasn't, but someone who manager publications may have.
 - Typed in "Hurricane data" into Google, and didn't come up. Want to improve accessibility and findability.
 - What kind of justification do you use to meet goals and get more funding? Operational side. Air Force doesn't have G4 jet.
- Chris - Challenge in archiving shipboard data in R2R. Do you imagine the data types staying all together in archives?
 - Haven't made decision yet. AOC archives both flights with NCEI.
 - Important to organize metadata such that data is searchable by storm or by one dataset
 - Is there any related data people may want to download together? List on website of related datasets with links. Central hub for hurricane data.
 - Similar to R2R-SAMOS reciprocal linking of cruise data
- Steve - Willing to share your work at workshop on shared problems and shared solutions?
 - Yes.