

# NOAA/AOML/Hurricane Research Division (HRD)

## GUIDE TO DATA ACCESSIBILITY

Updated 23 July 2020

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### **Overview of data access and management**

AOML/HRD collects and maintains hurricane *observational* and *modeling* data. *Observational* data primarily consists of raw and quality-controlled (“research quality”) aircraft data from NOAA (WP-3D and G-IV) (collected during the annual Hurricane Field Program [HFP] in partnership with OMAO/Aircraft Operations Center, AOC) and United States Air Force Reserve / 53rd Weather Reconnaissance Squadron (C-130) aircraft. *Modeling* data consists of outputted products and model fields from operational and experimental forecast models (e.g., Hurricane Weather Research and Forecasting [HWRF], Basin-scale HWRF, and the Hurricane Analysis and Forecast System [HAFS]).

Observational data are publicly accessible on the AOML/HRD webpage:

<https://www.aoml.noaa.gov/data-products/#hurricanedata>

Model products are publicly accessible at the AOML Hurricane Model Viewer:

<https://storm.aoml.noaa.gov/>

AOML/HRD data management is supported internally by the *Data Display, Archival, and Legacy (DDAL) Working Group*. DDAL POCs are: Jonathan Zawislak ([jonathan.zawislak@noaa.gov](mailto:jonathan.zawislak@noaa.gov)) and Heather Holbach ([heather.holbach@noaa.gov](mailto:heather.holbach@noaa.gov))

*Data Management Plans* (DMPs) have been produced for nearly all *observational* and *model* products made available by AOML/HRD and are available on request with the HRD DDAL.

A brief description of the primary data types and contact information made available via AOML/HRD are listed below. Data is made available in raw (many of which is maintained by AOC and available at NCEI) and processed form on the AOML data webpage, minimally, by the end of each hurricane season, and optimally during an individual flight.

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**List of products and analyses made available by AOML/HRD**

<b>INSTRUMENTS</b>	<b>DATA STEWARDS</b>
Tail Doppler radar (TDR)	John Gamache (john.gamache@noaa.gov) Paul Reasor (paul.reasor@noaa.gov)
P-3 Lower Fuselage (LF) radar (prior to 2018) P-3 Multi-mode radar (MMR) (2018 to present)	John Gamache (john.gamache@noaa.gov) Paul Reasor (paul.reasor@noaa.gov)
Stepped Frequency Microwave Radiometer (SFMR)	Heather Holbach (heather.holbach@noaa.gov)
Doppler Wind Lidar (DWL)	Lisa Bucci (lisa.r.bucci@noaa.gov) Dave Emmitt (Simpson Weather Associates) (gde@swa.com)
Cloud Physics Probes	Robert Black (robert.a.black@noaa.gov)
Imaging Wind and Rain Airborne Profiler (IWRAP)	Paul Chang (NOAA/NESDIS/STAR) (paul.s.chang@noaa.gov)
Wide Swath Radar Altimeter (WSRA)	Heather Holbach (heather.holbach@noaa.gov) Ivan PopStefanija (ProSensing) (popstefanija@prosensing.com)
<b>PLATFORMS</b>	<b>DATA STEWARDS</b>
P-3 and G-IV Flight-level	Neal Dorst (neal.m.dorst@noaa.gov)
GPS Dropwindsonde	Kathryn Sellwood (kathryn.sellwood@noaa.gov) Sim Aberson (sim.aberson@noaa.gov)
Infrared (IR) Dropwindsonde	Joe Cione (joe.cione@noaa.gov)
Small Unmanned Aerial Systems (sUAS) - Coyote (prior to 2019)	Joe Cione (joe.cione@noaa.gov)
Airborne eXpendable BathyThermograph (AXBT)	Jun Zhang (jun.zhang@noaa.gov) Nick Shay (Univ. of Miami/RSMAS) (nshay@miami.edu)
<b>OBSERVATIONAL PRODUCTS</b>	<b>DATA STEWARDS</b>
HEDAS Pre-processing	Altug Aksoy (altug.aksoy@noaa.gov)
Center Fixes / Tracks (2-min)	Neal Dorst (neal.m.dorst@noaa.gov)
FLIGHT+, VDM+	Jonathan Vigh (RAL/UCAR) (jvigh@ucar.edu)
<b>INFORMATIONAL</b>	<b>DATA STEWARDS</b>
Flight Logs (e.g., Lead Project Scientist, Radar, Dropsonde, Boundary Layer)	Neal Dorst (neal.m.dorst@noaa.gov)
<b>MODEL PRODUCTS</b>	<b>DATA STEWARDS</b>
Basin-scale HWRF	Ghassan Alaka (ghassan.alaka@noaa.gov)
Hurricane Analysis and Forecast System (HAFS)	Andrew Hazelton (andrew.hazelton@noaa.gov)
HWRF Hurricane Ensemble Data Assimilation System (HEDAS)	Sim Aberson (sim.aberson@noaa.gov) Altug Aksoy (altug.aksoy@noaa.gov)

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#### **AOML/HRD Data Policy for Users**

Unless otherwise stated, data provided by AOML/HRD are the property of the U.S. Department of Commerce and are fully and openly available to all users.

AOML/HRD is committed to facilitate full and open access to data in a timely manner; this includes data collected in support of hurricane research (through the annual Hurricane Field Program) and reconnaissance flights each hurricane season, and model products provided through the AOML Hurricane Model Viewer. While AOML/HRD works closely with other federal and academic partners in these efforts, data collected that are not under the purview of NOAA may have access limitations.

Provided observational data generally falls into three types:

- Level 1 [*Raw or experimental*]: data have limited, or no processing for quality assurance, and are typically from the real-time collection
- Level 2 [*Quality controlled / processed*]: data have been quality controlled and are considered research quality
- Level 3 [*Synthesized products*]: consists of synthesized Level-2 datasets

Proper acknowledgement to the "NOAA/Atlantic Oceanographic and Meteorological Laboratory/Hurricane Research Division" should accompany the use of these data in any publications or presentations. If Level 2 or 3 data are used, please cite the relevant publication(s) from the AOML/HRD personnel who developed the methods for generating or processing the data.

If use of Level 2 or 3 data constitutes a major or fairly significant aspect of a publication, co-authorship by AOML/HRD personnel is appropriate; please discuss any such planned use with the DATA STEWARD associated with the dataset. If data is cited in a publication, users are encouraged to send the citation and DOI to the AOML/HRD Director for internal tracking.

Please refer to the AOML/HRD [Publication](#) pages for additional citations that may help your research. AOML/HRD welcome collaborations and are committed to providing our expertise in interpretation and evaluation of the data.

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#### **HRD Data User Agreement**

Datasets available through AOML/HRD websites are freely available and can be downloaded for academic, research, or professional purposes subject to the following user terms:

- A. Users must notify the designated DATA STEWARD when any future work based on, or derived from, AOML/HRD Level 2 or Level 3 data is published.
- B. User agrees not to redistribute original AOML/HRD data and documentation.
- C. Users will acknowledge the support of AOML/HRD in any publications using the data with the following citation: 'Datasets were provided by the NOAA/Atlantic Oceanographic and Meteorological Laboratory/Hurricane Research Division...'
- D. If use of Level 2 or 3 data in a publication constitutes a major or fairly significant aspect of an article, co-authorship by an AOML/HRD scientist[s] is appropriate; please discuss any such planned use with the DATA STEWARD. Please check with the AOML/HRD [Staff](#) and [Publication](#) pages for additional citations that may help your research. We welcome collaborations and will lend our expertise in interpretation and evaluation of the data.
- E. Users agree to send a link to a freely accessible PDF (not beyond a pay wall) of any publications resulting from the use of the data and documentation to the AOML/HRD Director. If this is not possible, a hard copy version should be mailed to the following address:

Director, Hurricane Research Division  
Atlantic Oceanographic and Meteorological Laboratory  
4301 Rickenbacker Cswy  
Miami, Florida 33149

By using or copying these data and documentation, the Data User agrees to abide by the terms of this agreement.