



NCAR



# METplus for HAFS

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NCAR/RAL

HAFS Coordination Meeting – 19 Aug 2020

**National Center for Atmospheric Research**

# Developing Use-Cases to Evaluate Using HRD Data



**Hurricane Research Division**  
Atlantic Oceanographic & Meteorological Laboratory  
National Oceanic & Atmospheric Administration

**Hurricane Data**

The Hurricane Research Division collects a variety of data sets on tropical cyclones. Each Atlantic and East Pacific hurricane seasons we conduct a field program in which we collect these data sets from the NOAA aircraft and process them. By clicking on a year from the list below you will go to a window which lists each storm from which we collected data.

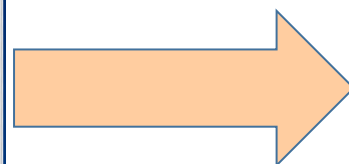
**Please note** that we don't necessarily collect information on every hurricane that occurs, so the list won't be for all of the storms for that year.

In addition :  
 For wind field analysis click here.  
 For aircraft radar data click here.  
 For dropsonde data click here.  
 For the HURDAT reanalysis progress click here.  
 For data formats click here.

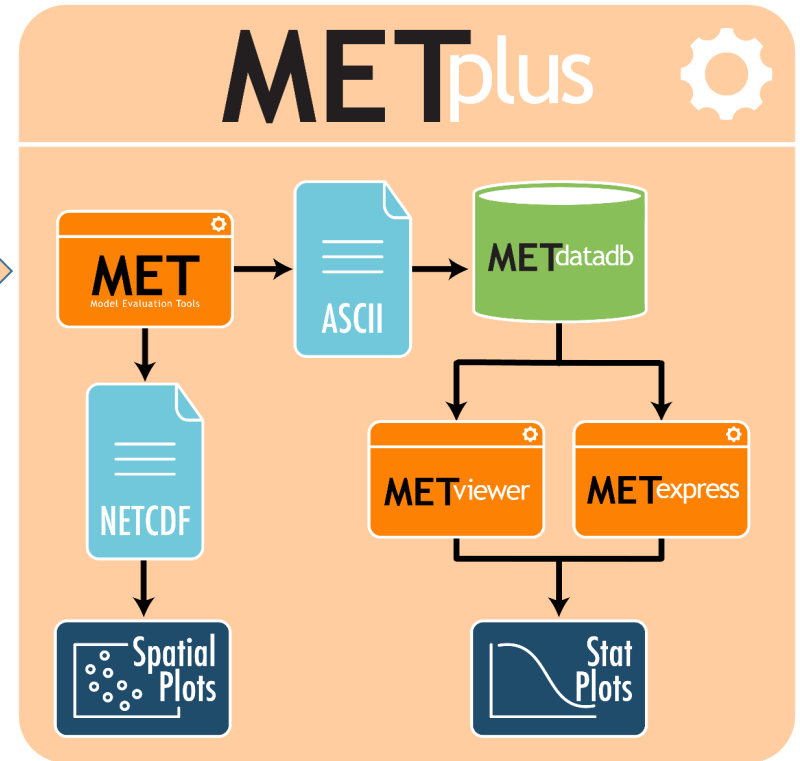
Select a Year:  Go

**2019 Hurricane Season**

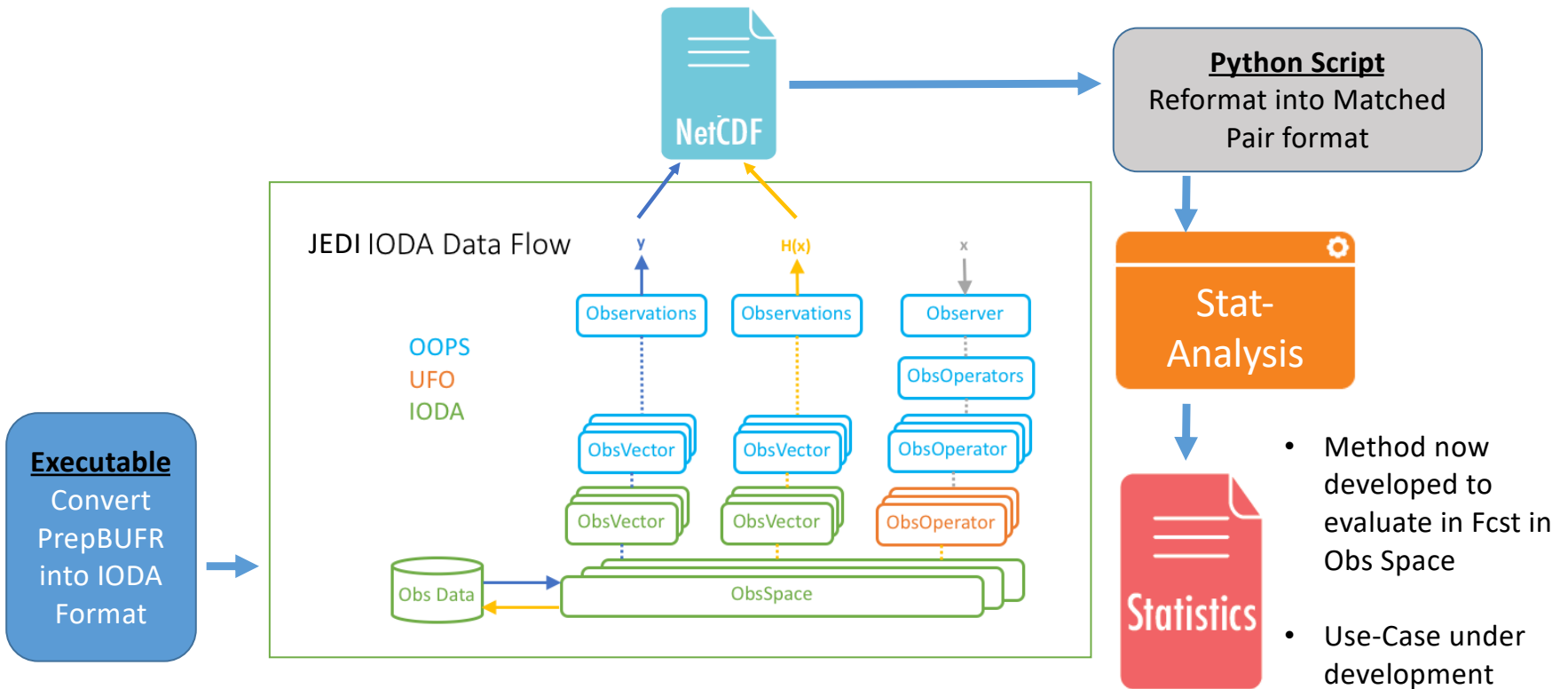
Storm Name	Missions	Radar	Satellite	Sondes	SFMR	Track
Andrea	Missions	Radar	Satellite	Sondes	SFMR	Track
Barry	Missions	Radar	Satellite	Sondes	SFMR	Track
TD#03	Missions	Radar	Satellite	Sondes	SFMR	Track
Dorian	Missions	Radar	Satellite	Sondes	SFMR	Track
Fernand	Missions	Radar	Satellite	Sondes	SFMR	Track
Humberto	Missions	Radar	Satellite	Sondes	SFMR	Track
Jerry	Missions	Radar	Satellite	Sondes	SFMR	Track
Karen	Missions	Radar	Satellite	Sondes	SFMR	Track
Lorenzo	Missions	Radar	Satellite	Sondes	SFMR	Track
Nestor	Missions	Radar	Satellite	Sondes	SFMR	Track
Olga	Missions	Radar	Satellite	Sondes	SFMR	Track
Misc	Missions	Radar	Satellite	Sondes	SFMR	Track
Genesis (pre-Ivo)	Missions	Radar	Satellite	Sondes	SFMR	Track
Lorena	Missions	Photos	Radar	Satellite	SFMR	Track



**In testing:**  
 1<sup>st</sup> use-case is focused on ingesting radar data through python embedding

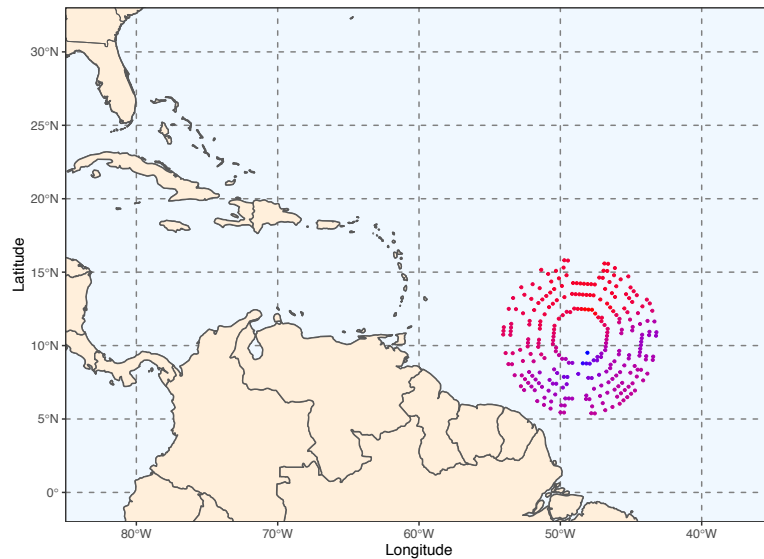


# Making Connections to JEDI



HAFS Case: 2019-24-08T18:00:00Z - Hurricane Dorian

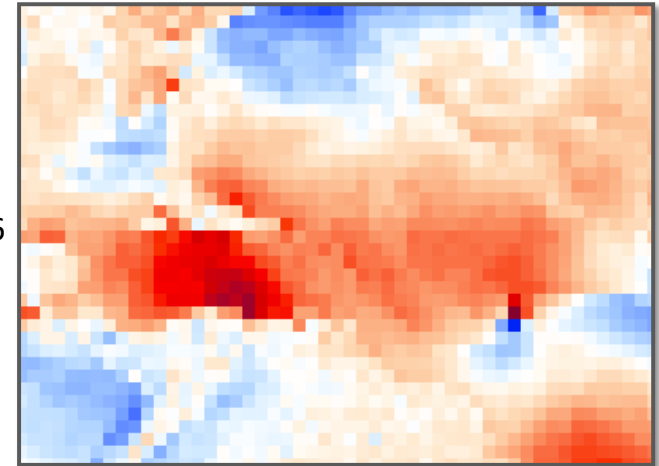
- prepbufr with 50112 each of U, V, T, and Q
- ObsType are 138/238
- 261 distinct lat/lon locations of vertical columns



Run JEDI app **hofx\_nomodel.x** with bufr2nc-fortran data

- With coarse 6-tile background / surface level obs
- To do:
  - Convert full 50112 obs data
  - As a LAM with tile7

C96  
tile6



nest  
tile7

