

## **Impact of Global Hawk on GFS Hurricane Forecasts**

Kate Howard<sup>1</sup>, Jason Sippel<sup>2</sup>, Vijay Tallapragada<sup>1</sup>

([kate.howard@noaa.gov](mailto:kate.howard@noaa.gov))

<sup>1</sup>NOAA NWS NCEP/EMC; <sup>2</sup>NOAA AOML/HRD

This study will investigate the impact of Global Hawk (GH) dropsonde observations on Global Forecast System (GFS) model hurricane track and intensity forecasts. In 2015-2016, the NOAA SHOUT project utilized the GH for High-Impact Weather (HIW) surveillance over the Atlantic and Pacific oceans. Among the GH's capabilities are overflights of tropical and extratropical cyclones using dropsondes that are transmitted in real-time. The GH flies at high altitudes (i.e., >56,000 feet) with long endurance (i.e., >24 hours) and range (i.e., >9000 nautical miles), which enables targeted observing strategies to be implemented over the remote ocean. Between the SHOUT project and the antecedent NASA HS3 experiment, GH dropsondes were released in a total of 12 tropical cyclones over the Atlantic Basin. Despite the GH capabilities, GH data is currently not assimilated in the GFS at NCEP, but positive results from this study would justify their inclusion.