

## 2019 NOAA/AOML/HRD Hurricane Field Program - IFEX

### EARLY STAGE EXPERIMENT *Science Goals & Observational Applications*

---

**Convective Burst Structure and Evolution Module (CBM):** Robert Rogers (PI), Jon Zawislak, Trey Alvey, Josh Wadler (UM/RSMAS), Michael Bell (CSU)

Goal: The objectives are to obtain a quantitative description of the kinematic and thermodynamic structure and evolution of intense convective systems (convective bursts) and the nearby environment to examine their role in TC intensity change [*IFEX Goals 1, 3*]. See the 2019 HRD HFP web page for additional details: <http://www.aoml.noaa.gov/hrd/HFP2019/index.html>

Observational Applications: The data collected during this experiment will be useful for the evaluation of numerical model performance in capturing the structure and evolution of deep convection, particularly as it evolves in a sheared environment. Radar measurements of reflectivity and vertical velocity, and cloud and precipitation probe measurements of hydrometeor type and size, can be used for the evaluation of microphysical parameterizations. Dropsonde measurements of low-level kinematic and thermodynamic structures and stepped-frequency microwave radiometer measurements of surface wind speed can be used to evaluate the performance of planetary boundary layer parameterizations. Select datasets can be withheld to assess the impact of them on TC structure and evolution in an observing system experiment (OSE) framework.