2019 NOAA/AOML/HRD Hurricane Field Program - IFEX

SATELLITE VALIDATION EXPERIMENT
Science Goals & Observational Applications

NESDIS JPSS Satellite Validation Experiment: Jason Dunion (Co-PI), Jon Zawislak (Co-PI), Michael Folmer (Co-PI), Chris Barnet (Co-PI), Rebekah Esmaili (Co-PI), Nadia Smith (Co-PI)

Goal: Use GPS dropsondes launched from the NOAA G-IV jet to validate 3-dimensional temperature and moisture profiles produced from the NOAA-20 and Suomi-NPP polar orbiting satellites. The skill of these atmospheric profiles, created using the NOAA Unique Combined Atmospheric Processing System (NUCAPS) algorithm will be assessed using GPS dropsonde data and will also be used to evaluate analyses from the GFS and FV3-GFS models [*IFEX Goals 1, 2, 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 validating NUCAPS thermodynamic profiles produced from the CrIS (infrared) and ATMS (microwave) instruments flying onboard the NOAA-20 and Suomi-NPP polar orbiting satellites, as well as atmospheric stability indices derived from those profiles. The aircraft data will be valuable for evaluating numerical model performance in challenging environments with high temperature and moisture gradients and areas of high static stability (e.g., the Saharan Air Layer and dry air intrusions wrapping around tropical disturbances (e.g., African easterly waves, invests, and TCs).