GTG-N Overview

- Motivation:
  - GTG updates are tied to the model runs.
  - Turbulence can vary dramatically over small space/time intervals.
  - We will have more observational data and rapid-update diagnostic products in the near future.
  - This implies the need for a rapid-update (e.g., every 15 min) gridded turbulence product, GTGN

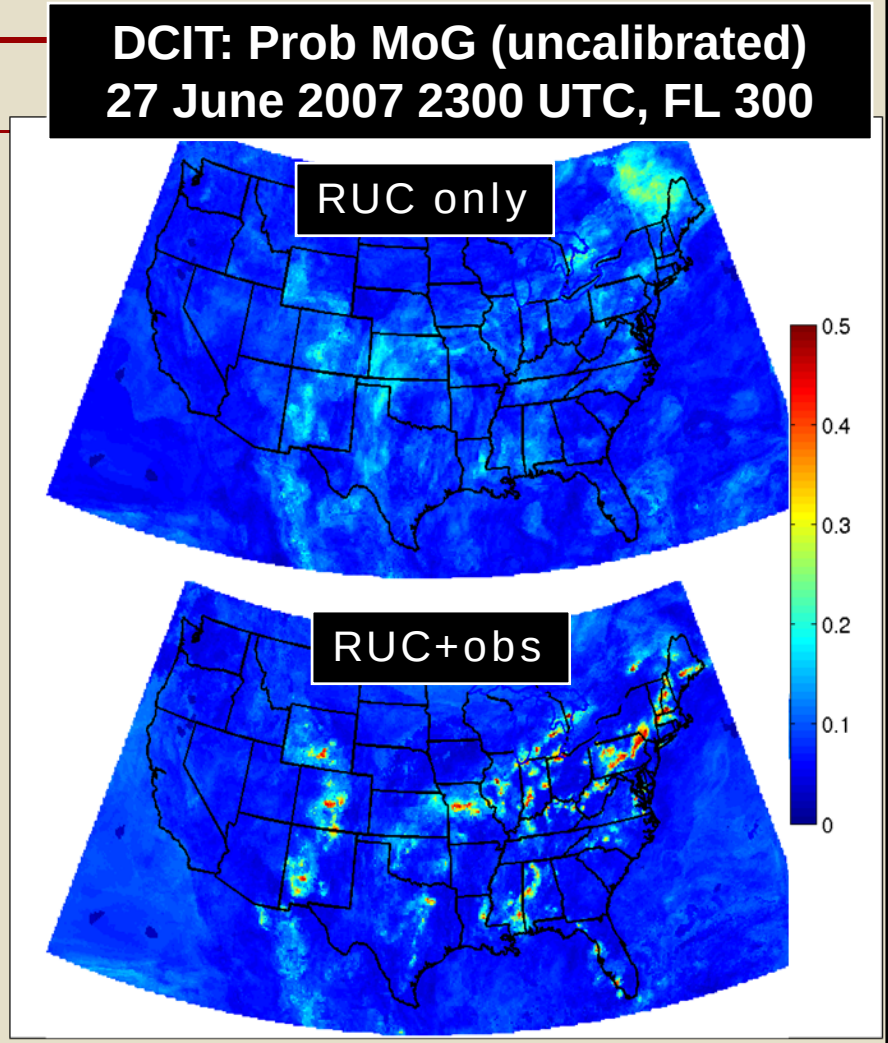
GTG-N Overview

- Approach (nominal):
  - Start with GTG grid.
  - Incorporate:
    - DCIT/NTDA
    - *In situ* Reports
    - Pireps
    - Lightning data
    - Satellite data.
    - Other…
  - Compute confidences for all inputs (diagnostic and measurements).
  - Use an intelligent merging procedure to create a unified turbulence nowcast gridded product.

Diagnosis of convectively-induced turbulence (DCIT)

DCIT uses:

- Near-storm environment and turbulence diagnostics from RUC
- Storm location, morphology, observations from satellite, radar (dBZ and NTDA EDR), and lightning



AWRP

NCAR

GTG-N Example

GTG 1 hr forecast