

Flight Scientist Report
Friday 03/01/2020 ACTIVATE RF13

Flight Type: Process Study Flight – Clouds
Flight Route: ATLIC-northeast point
Special Notes: First true cold air outbreak flight

King Air

- All Fine

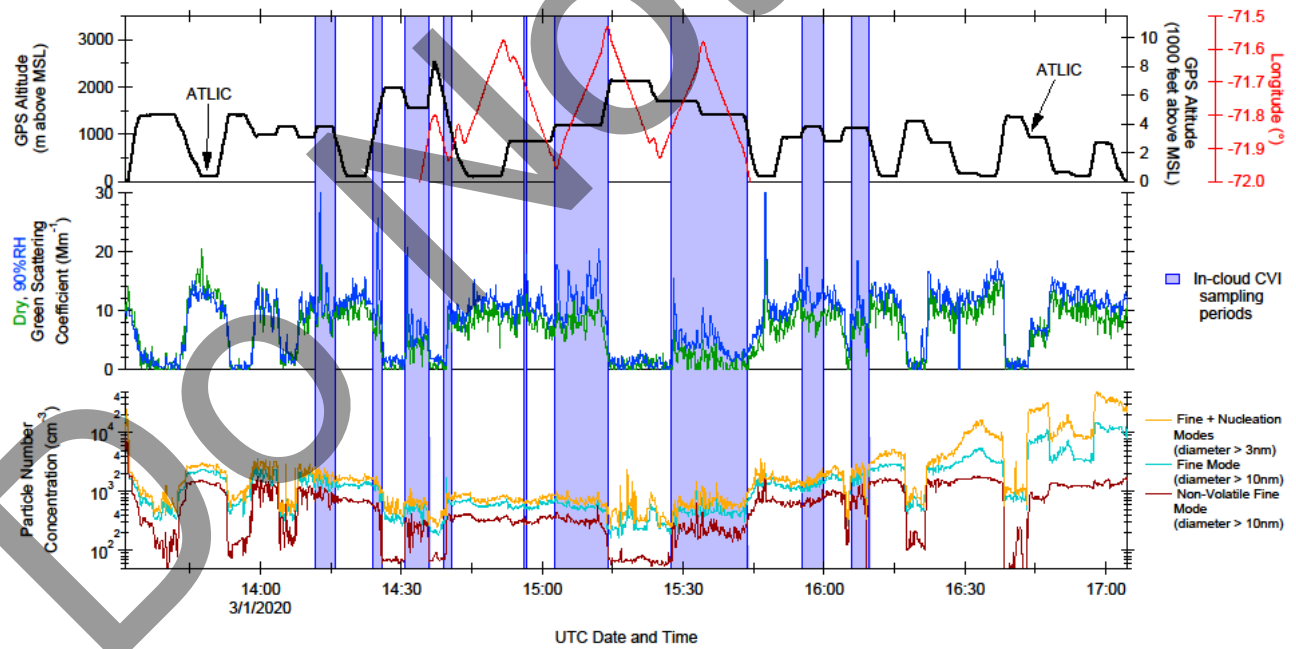
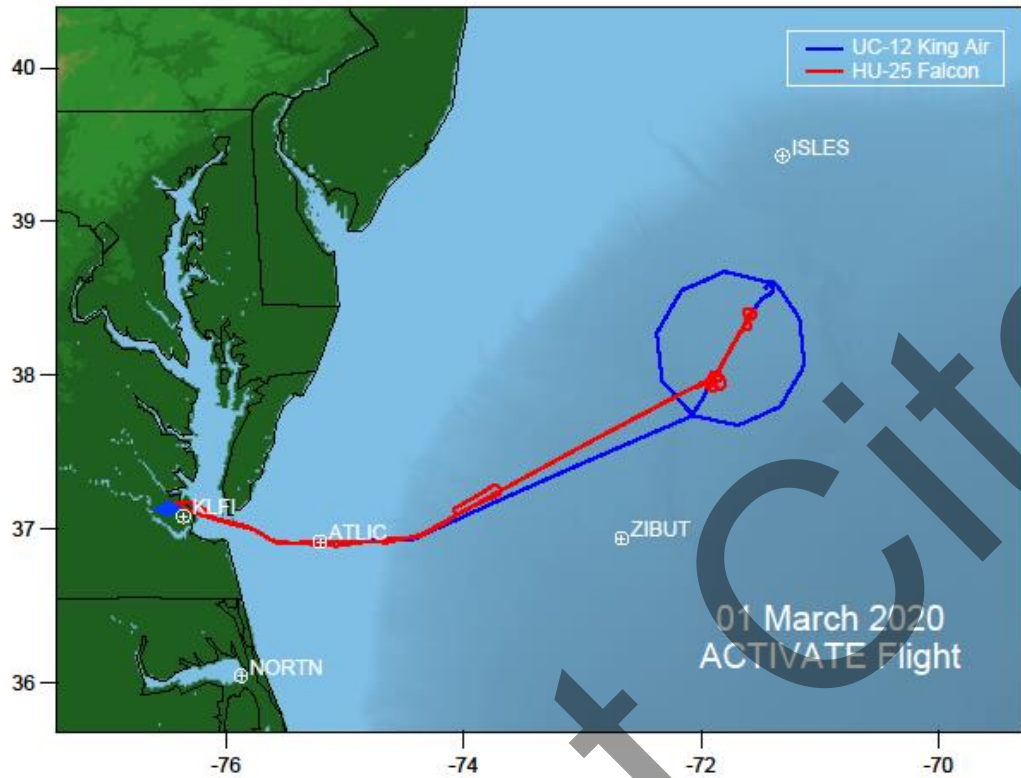
Instruments:
Fine

Falcon

- Icing during the flight; snow
- Surveyed out to the wall area, spiraled down, and then proceeded with wall in such an order to get a 6th bonus leg at 5K ft.
- Cloud bases varied considerably across the duration of the wall line
- The circle we set up appeared to be in a patch with more closed cell structure were just upwind it was more street-like in terms of clouds
- Surveyed on way back and noted evidence of new particle formation closer to coast.

Instruments:
Clouds were too cold for cloud water
Gas instruments struggled with the

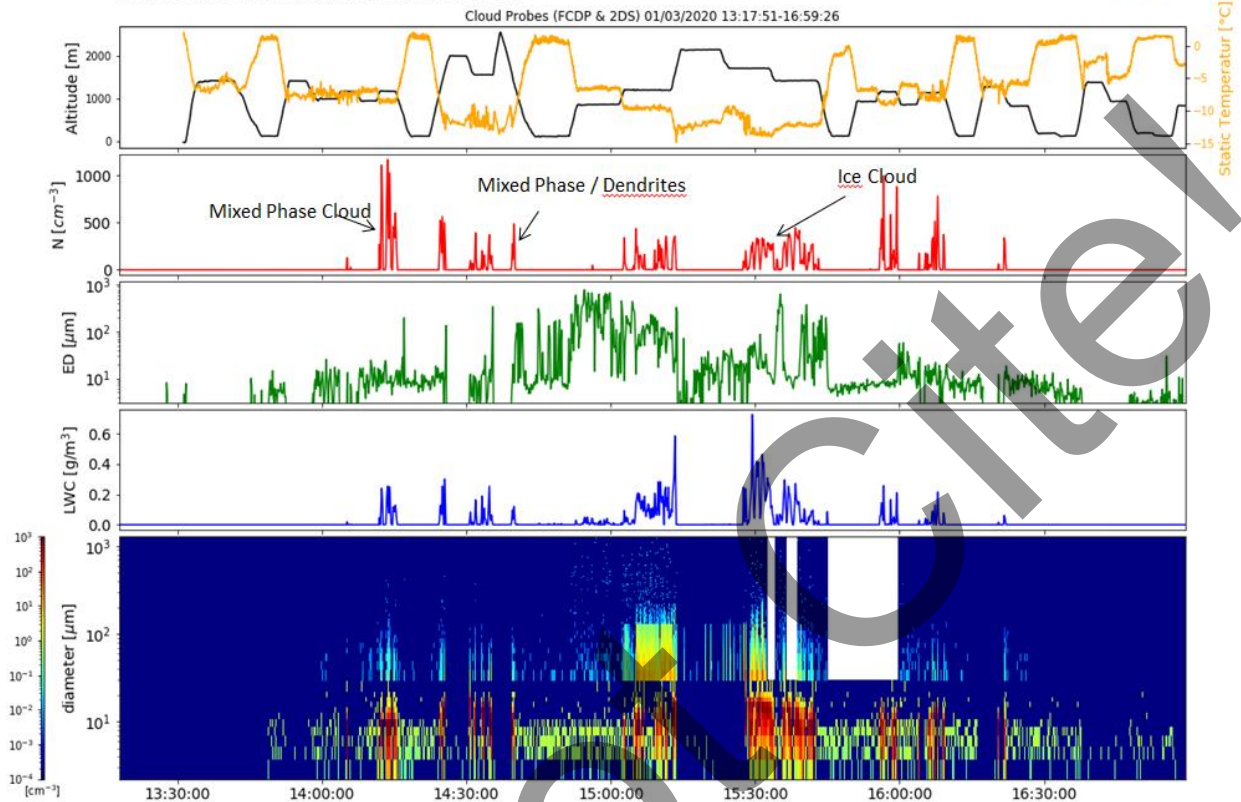
Rich Moore Quicklook Images:



Quicklook ACTIVATE Cloud Probes (FCDP & 2DS)

preliminary data, only for quicklook use

Simon Kirschler, Christiane Voigt, Richard Moore, Ewan Crosbie



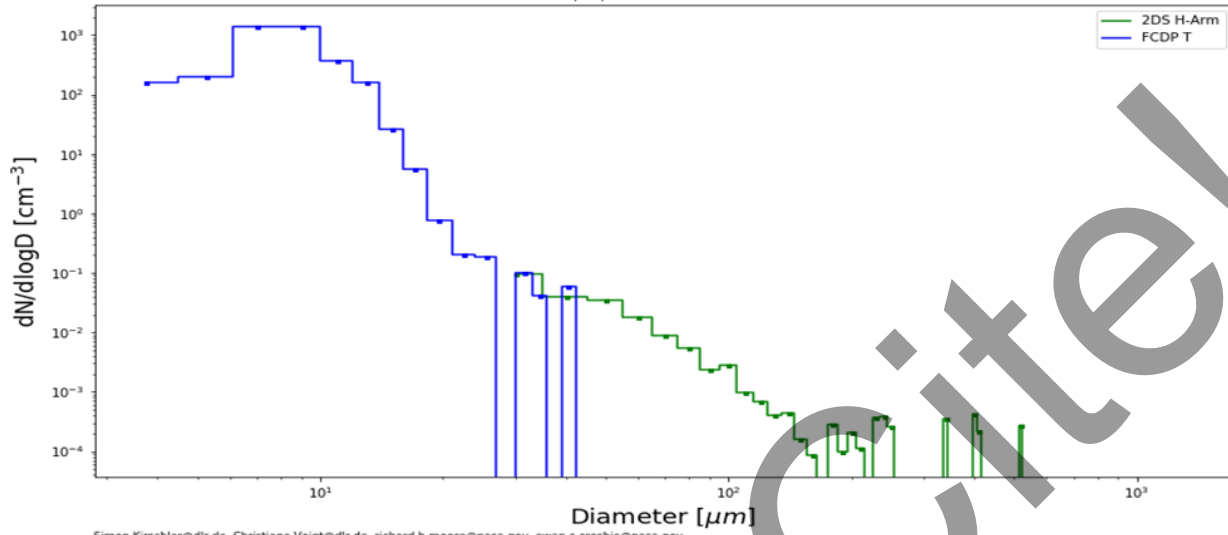
Simon.Kirschler@dlr.de, Christiane.Voigt@dlr.de, richard.h.moore@nasa.gov, ewan.c.crosbie@nasa.gov

PSD ACTIVATE

preliminary data, only for quicklook use
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PSD 01/03/2020 14:24:30-14:25:20



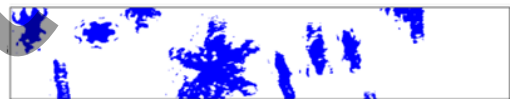
Simon.Kirschler@dlr.de, Christiane.Voigt@dlr.de, richard.h.moore@nasa.gov, ewan.c.crosbie@nasa.gov

Mixed Phase / Dendrites: 14:41:09

Mixed Phase: 14:13:51



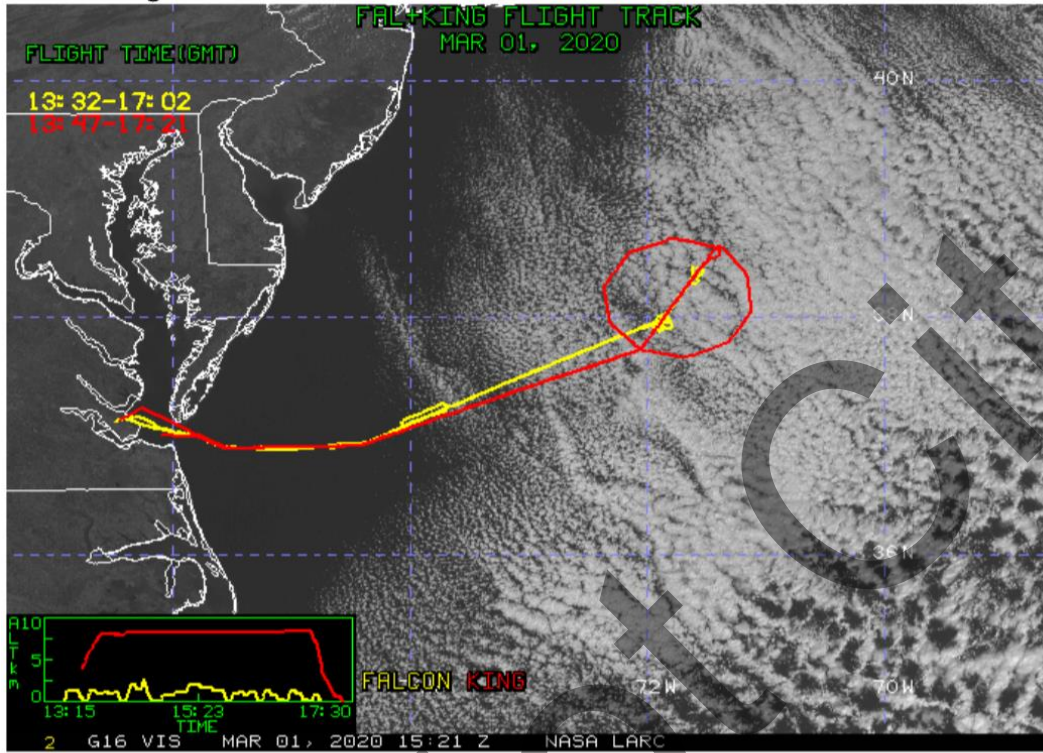
Ice Cloud: 15:35:25



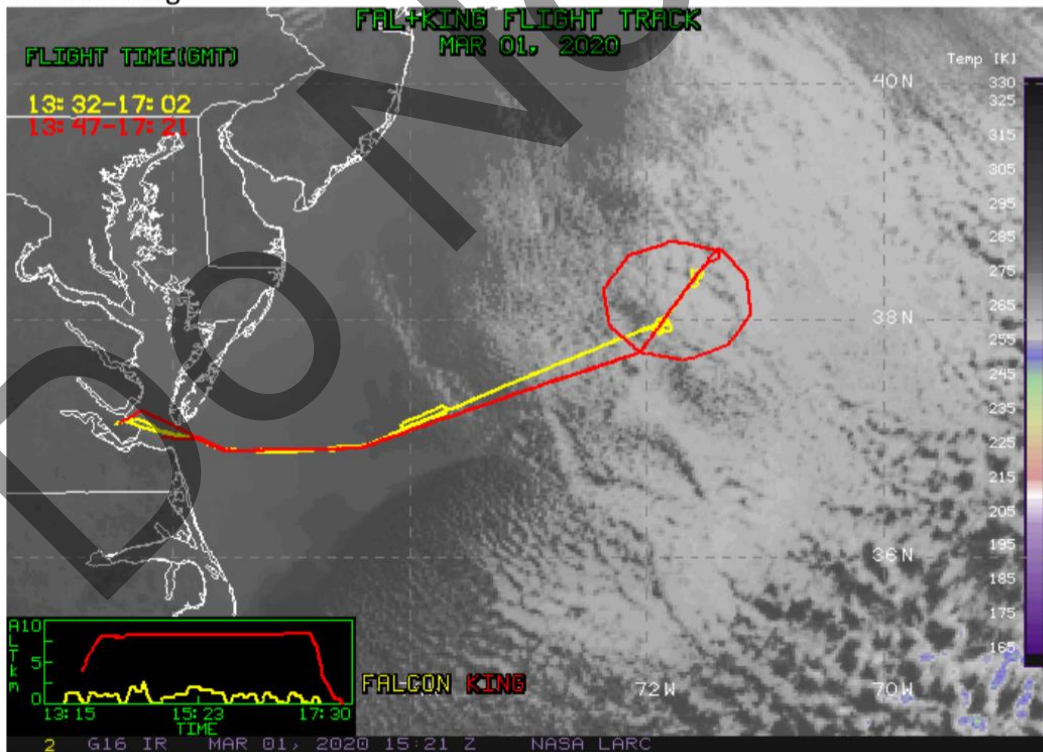
Do Not Cite!

NASA-LaRC Clouds Group GOES-16 Quicklook Images for Flight 13, 15:21 UTC Mar 01, 2020 (near middle of flight)

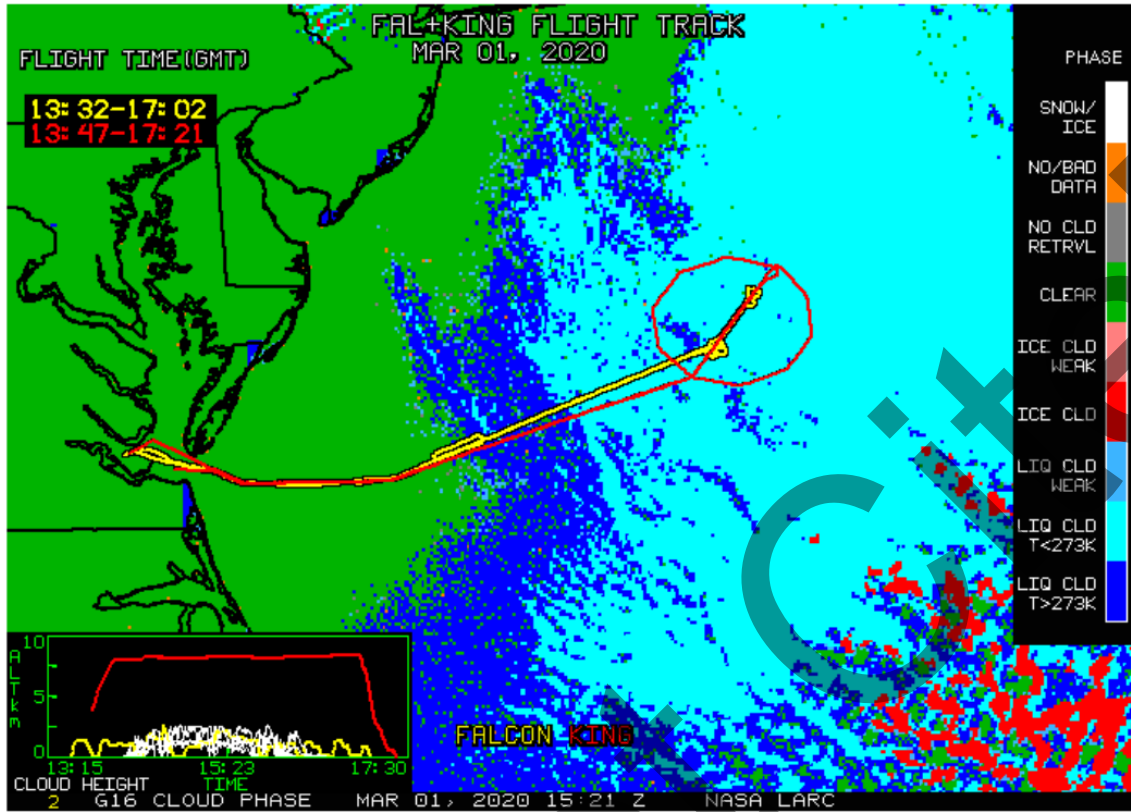
Visible Image



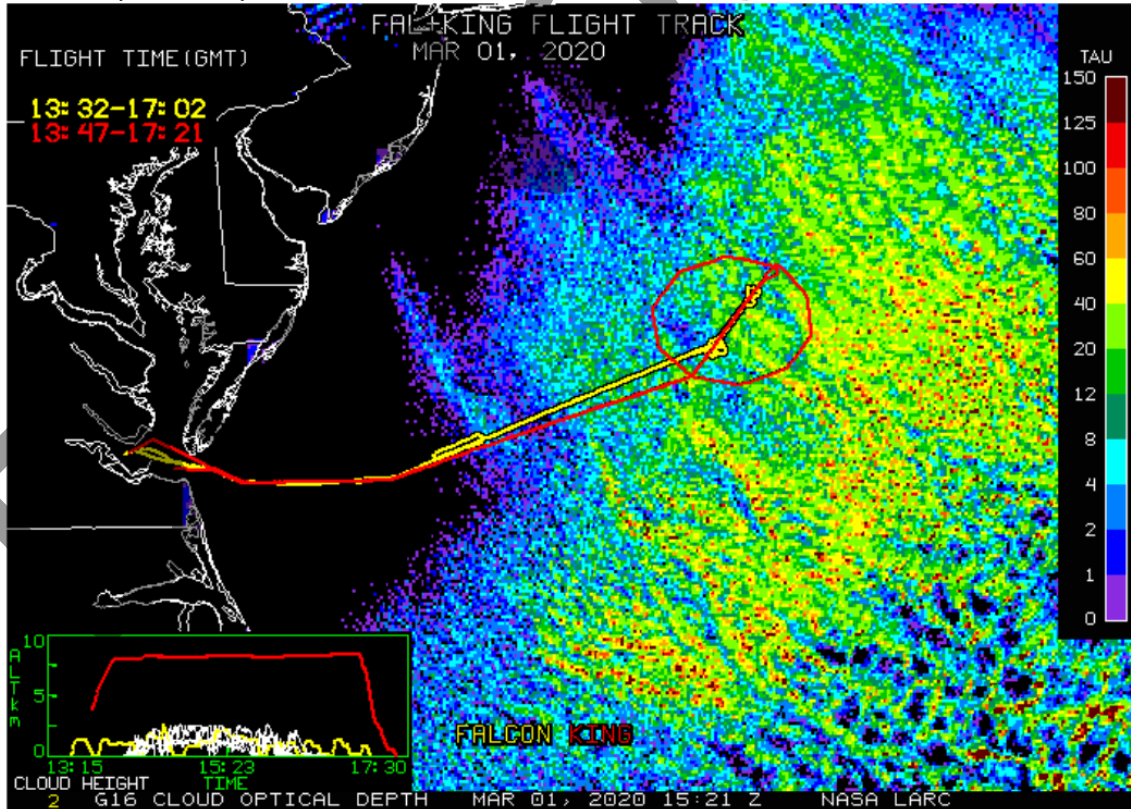
Infrared Image



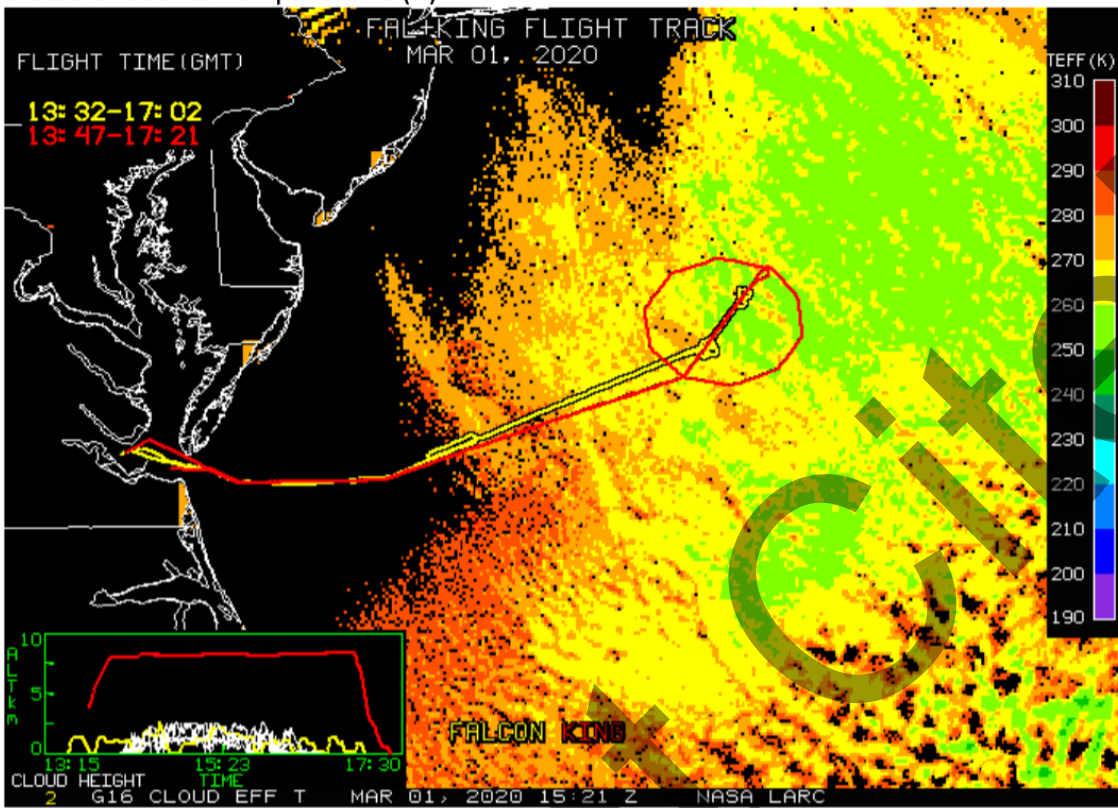
Cloud Phase



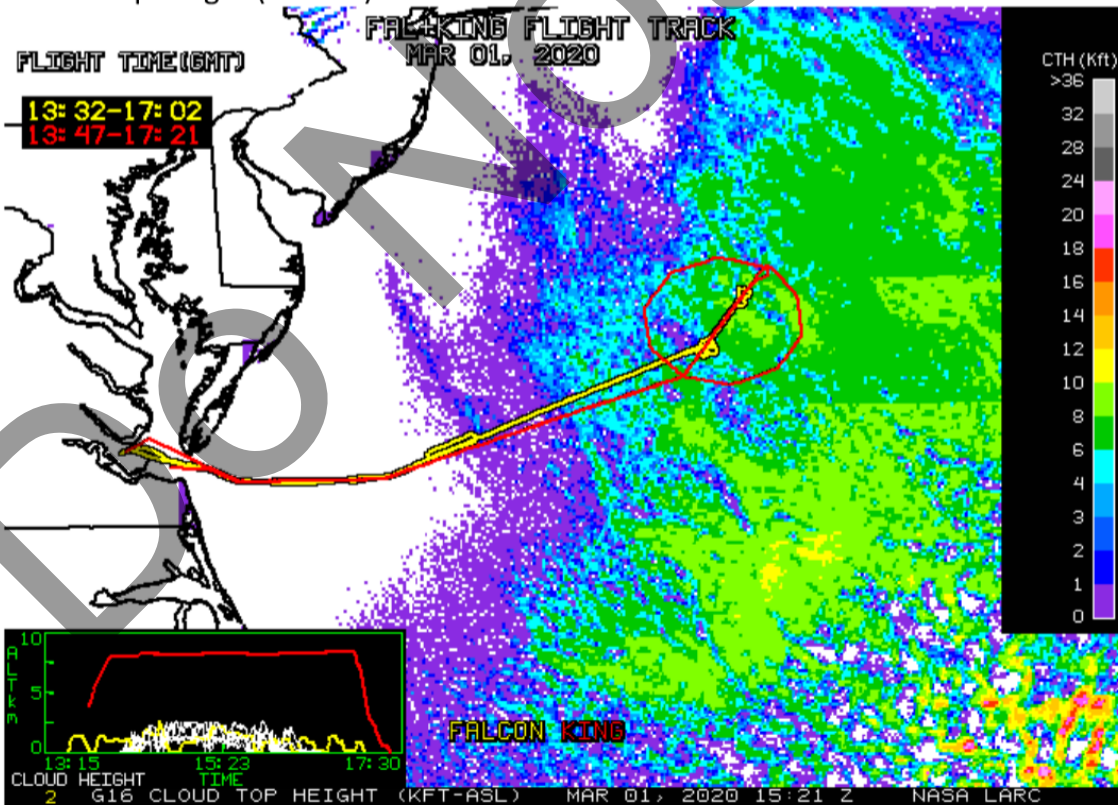
Cloud Optical Depth



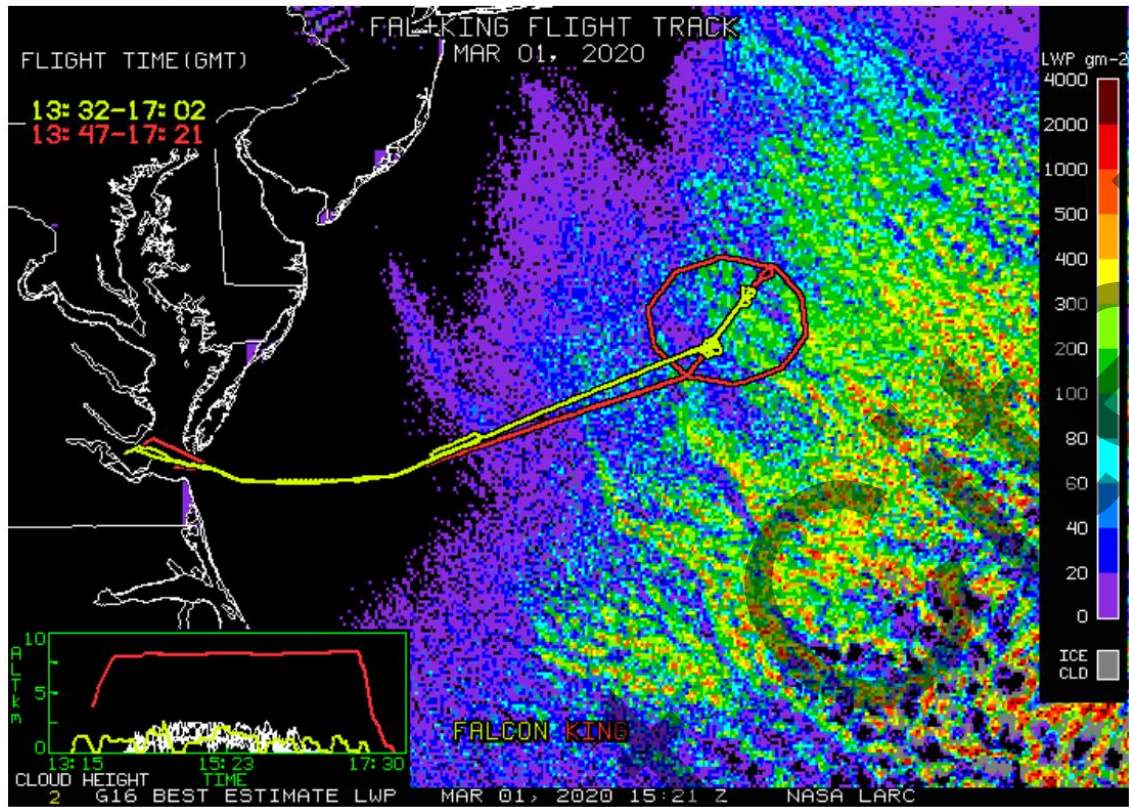
Cloud Effective Temperature (K)



Cloud-Top Height (Kft-ASL)



Liquid Water Path (gm-2)



Cloud Droplet Number Concentration (cm-3)

