

Flight Scientist Report
Friday 5/14/2021 ACTIVATE RF64

Flight Type: Statistical Survey Flight

Flight Route: ATLIC ZIBUT 3430N07030W ZIBUT ATLIC

Special Notes: seemed to be two layers of clouds (low and mid-level). As the remote sensors pick up on the mid-level cloud, the Falcon probed both layers rather than just the lower layer.

King Air

Pilot report (Jamison): 2-ship cooperative flight with the HU-25; routing ATLIC-ZIBUT-3430N07030W-ZIBUT-ATLIC, FL280. 4x dropsondes deployed, ZIBUT, turn point, 1/2 way back to ZIBUT, ATLIC. Winds at altitude ~ 90 kts from the west; maintained reasonable proximity with HU-25 by delaying takeoff 7 min after HU-25 takeoff. Commenced descent out of FL280 at ATLIC. Exceptionally clear visibility at altitude.

3.5 hours

Flight scientist report (Harper): This was the second flight of the day with a similar flight plan to the morning's flight with a slight modification to the outbound leg being further toward the southeast. The UC12 took off shortly after the HU25 staying coincident throughout the outbound legs. Similar conditions to the morning flight with no observed cirrus and weak aerosol layer (possibly dust) near the UC12 altitude, but cloud tops had a higher variability from 5kft to 13kft.

- 4 sondes were dropped:
 - 1st sonde: 1min before turn at ZIBUT on the outbound leg
 - 2nd sonde: 1min before turnaround at furthest point.
 - 3rd sonde: ½ way between furthest point and ZIBUT on the return leg.
 - 4th sonde: between ATLIC and TURRET (as close to the coast as possible) on the return to base.
- No instrument issues with HSRL2, RSP, or AVAPS.

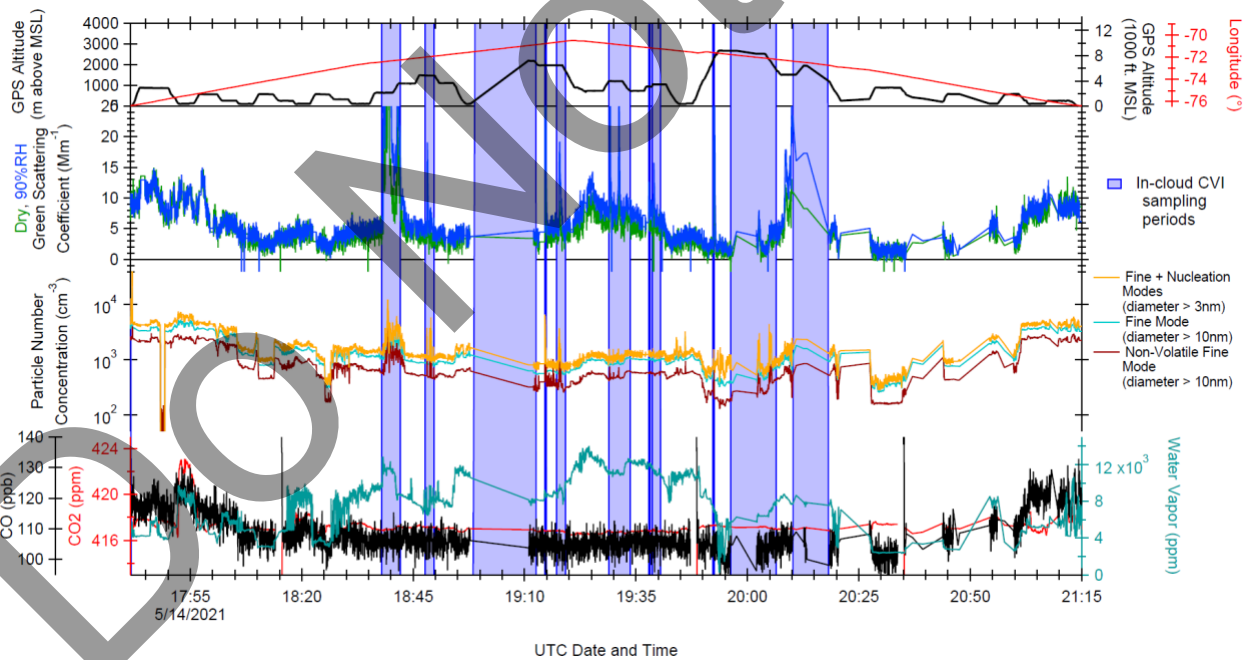
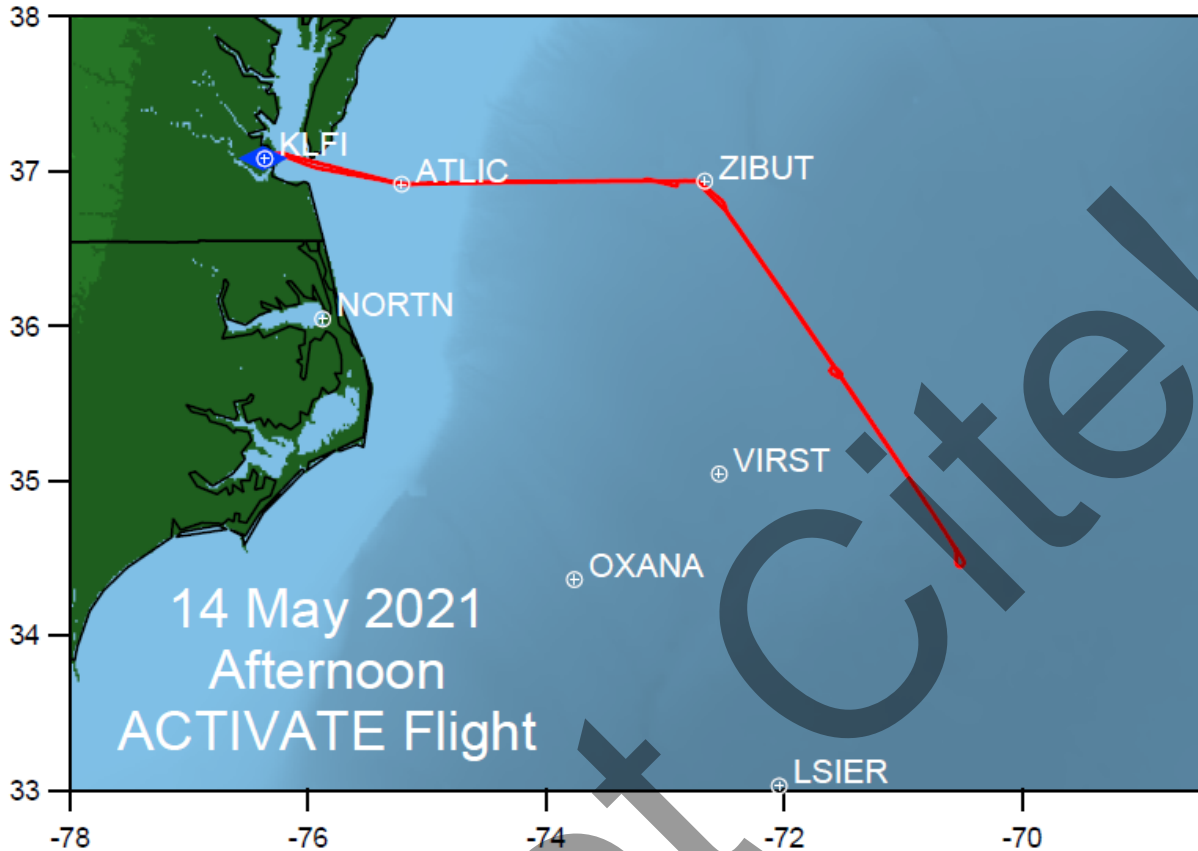
Falcon

Pilot report ():

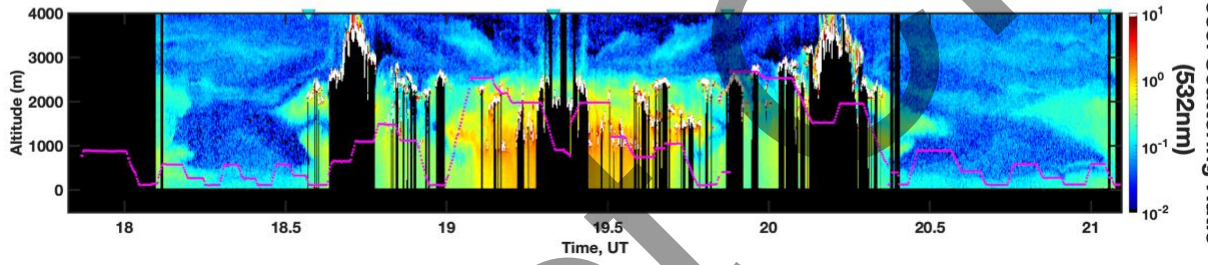
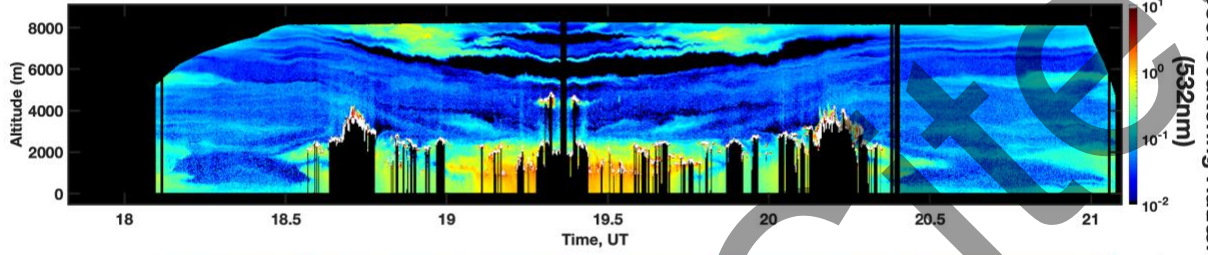
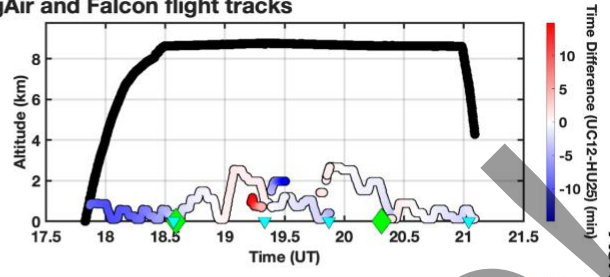
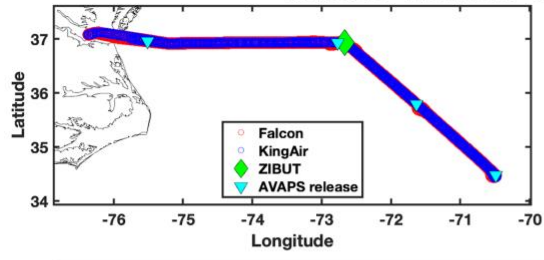
Flight scientist report (Crosbie): Similar conditions to the flight earlier in the day. The flight track was shifted a bit to the southwest of the previous end point. MBL was very low in the clear region again. The

second (upper) deck of cloud was less extensive during this flight so the focus was shifted to the lower level.

Do Not Cite!



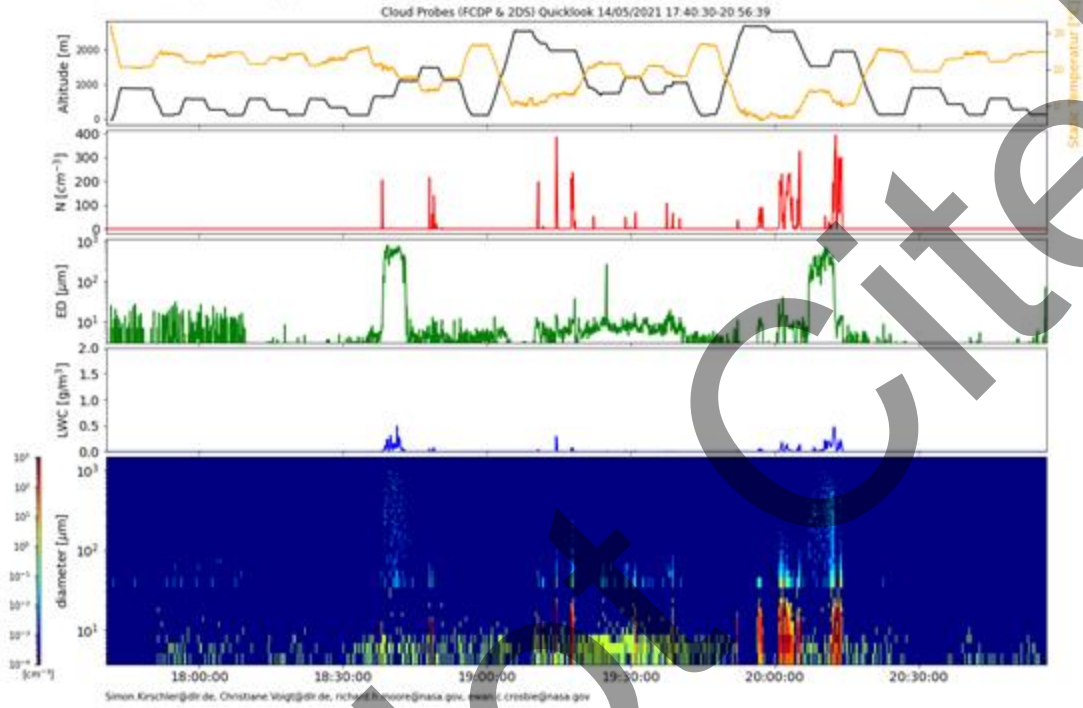
20210514 - ACTIVATE - KingAir and Falcon flight tracks



DO NOT

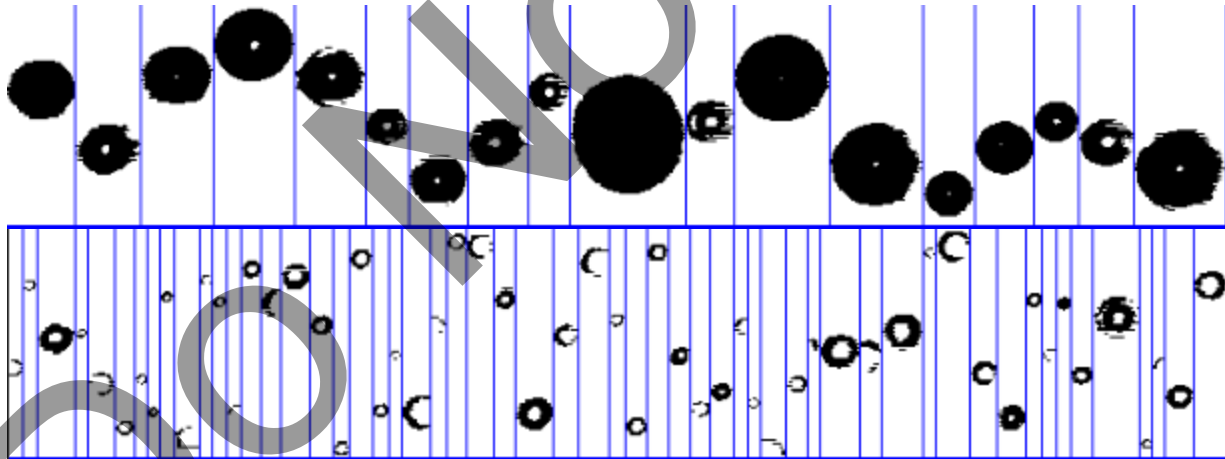
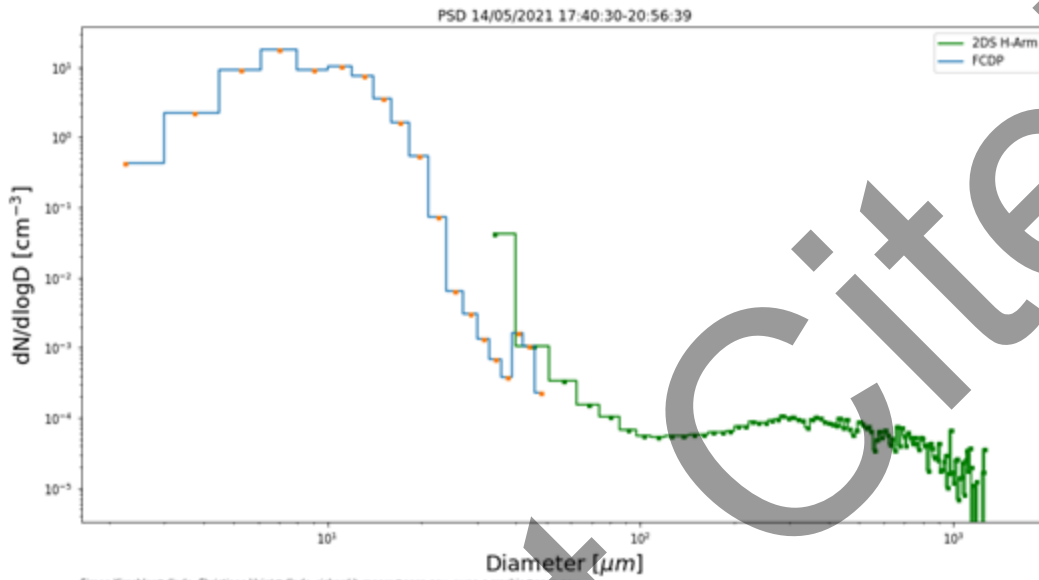
Quicklook ACTIVATE Cloud Probes (FCDP & 2DS) Quicklook

preliminary data, only for quicklook use
Simon Kirschler, Christiane Voigt, Richard Moore, Ewan Crosbie



PSD ACTIVATE

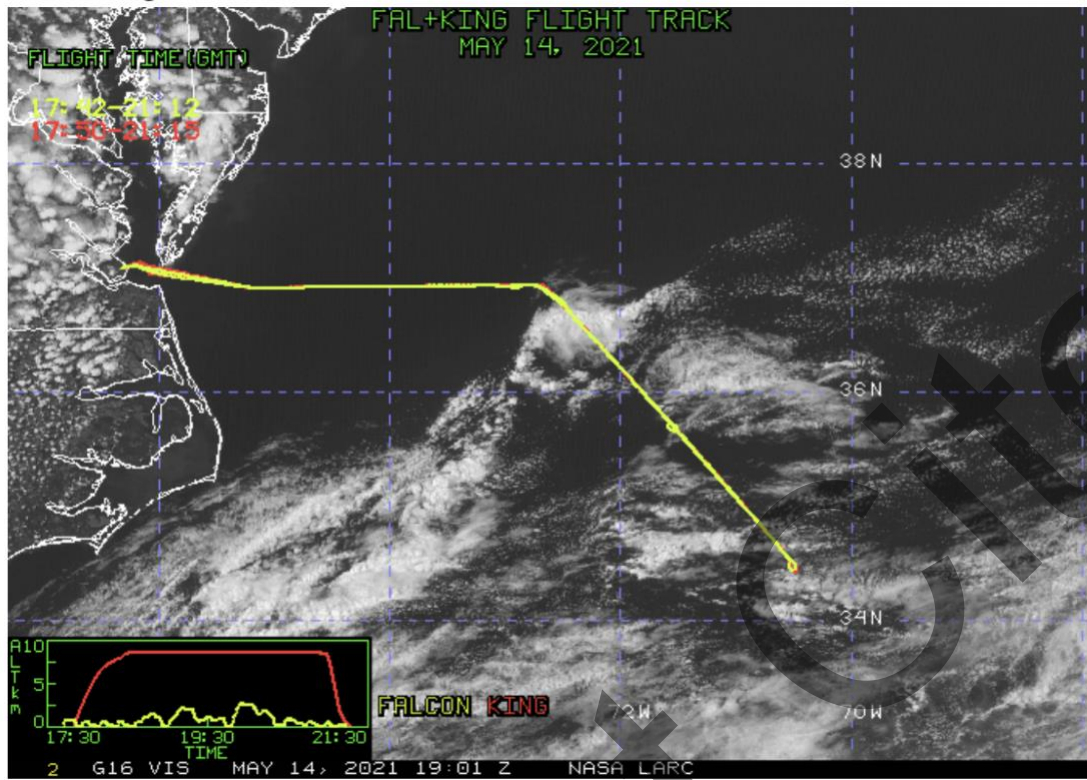
preliminary data, only for quicklook use
Simon Kirschler, Christiane Voigt, Richard Moore, Ewan Crosbie



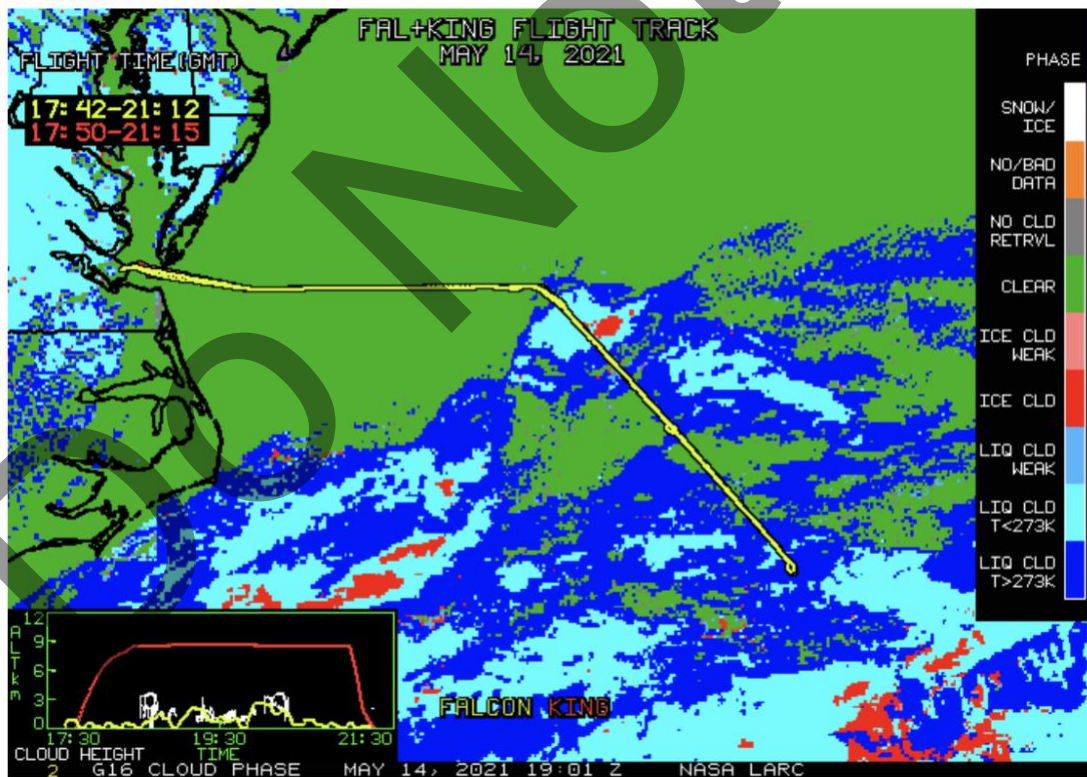
Pure liquid clouds with precipitation mode and pure drizzle.

NASA-LaRC Clouds Group GOES-16 Quicklook Images for Flight 64, 19:01 UTC May 14, 2021

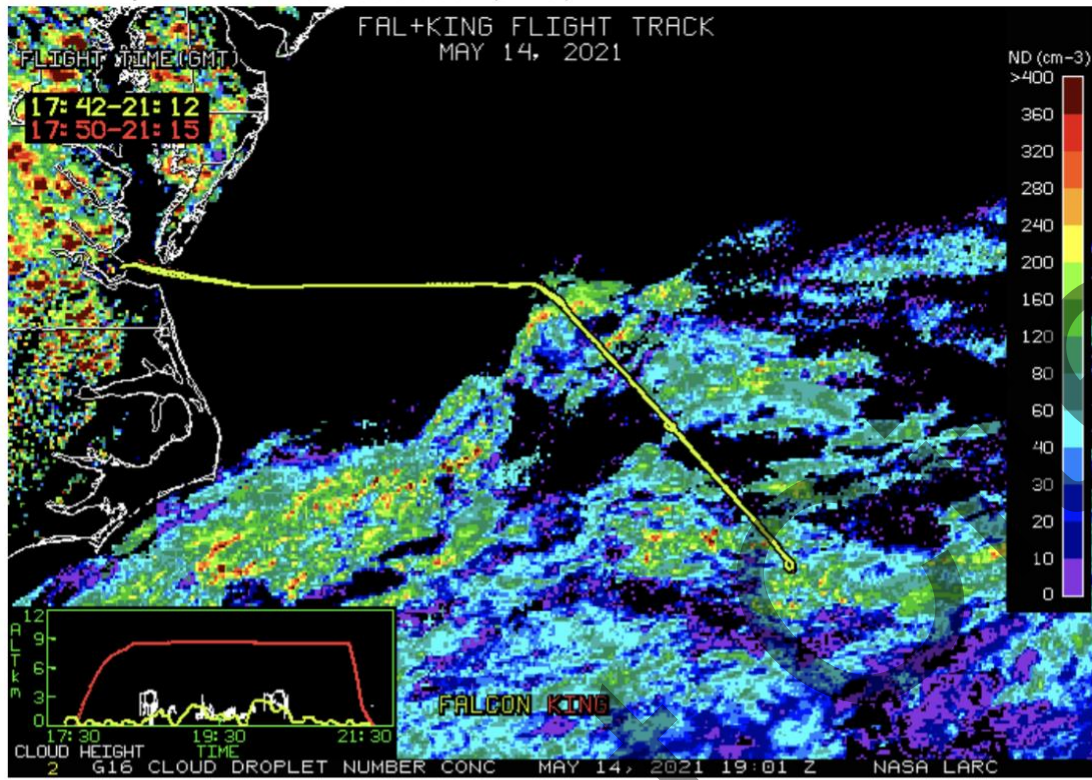
Visible Image



Cloud Phase



Cloud Droplet Number Concentration (cm-3)



Cloud-Top Height (Kft-ASL)

