

Flight Scientist Report  
Friday 12/10/2021 ACTIVATE RF99

Flight Type: Statistical Survey Flight

Flight Route: ATLIC ZIBUT DARUX ZIBUT ATLIC

Special Notes: This was planned as a 2-flight day but a power issue on Falcon the night before on the 2<sup>nd</sup> flight sidelined the plane in the morning. When things were repaired, we planned for a single afternoon flight

### **King Air**

Pilot report (Sandeem):

Final Activate flight for CY 2021. Dual aircraft flight between B200 (529) and HU-25 (524). 4 dropsondes, no significant issues noted with aircraft or with research systems. Flight planned from KLFI ATLIC ZIBUT TILED ZIBUT ATLIC KLFI, modified to replace TILED with DARUX during the flight. Weather: Departure through intermittent cloud layers, used anti-icing equipment preventatively. Arrival was through multiple cloud layers breaking out at 400 ft. During research, encountered a hazy cirrus layer at FL280, descended to FL260 during outbound leg to enter clearer air. Clear of clouds at those altitudes. Note: Pop up airspace reservation restricted altitudes between 9000 - FL250, preventing further altitude changes.

Flight scientist report (Shingler):

KLFI ATLIC ZIBUT DARUX ZIBUT ATLIC KLFI

Cirrus at FL280 along the route out near ZIBUT. Descended to FL260 (limited by ATC from going lower). Cloud tops of the lower deck around 10kft. Out near DARUX there was a layer of approx 30% depol between 6-8 kft above a layer of clouds seen at 4-5 kft.

4 Sondes launched on this flight.

ZIBUT DARUX MID COAST

### **Falcon**

Pilot report (Slover):

ACTIVATE statistical survey flight planned as KLFI - ATLIC - ZIBUT - TILED - ZIBUT - ATLIC - KLFI, but flown to DARUX instead of TILED. NEW YORK oceanic ATC capped us under IFR at 8000' MSL vs the desired 10,000' due to military traffic in area. This prevented us from getting Above Cloud Tops until after the return leg past ZIBUT inbound. Several min-alt, and lots of below cloud and in cloud data but only one instance of above cloud top data. On return, we had to fly an instrument approach and follow ATC altitude requirements.

Flight scientist report ():

Do Not Cite!

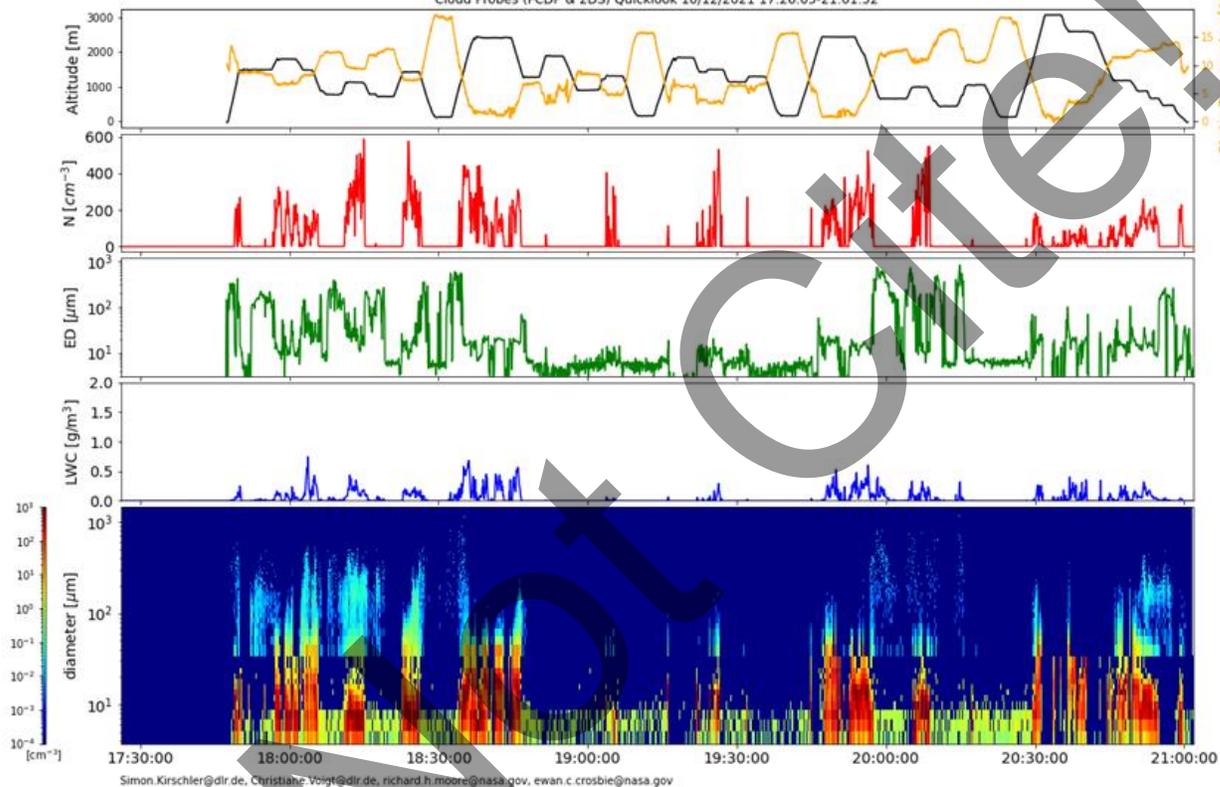
# Quicklook ACTIVATE Cloud Probes (FCDP & 2DS) Quicklook

preliminary data, only for quicklook use

Simon Kirschler, Christiane Voigt, Richard Moore, Ewan Crosbie

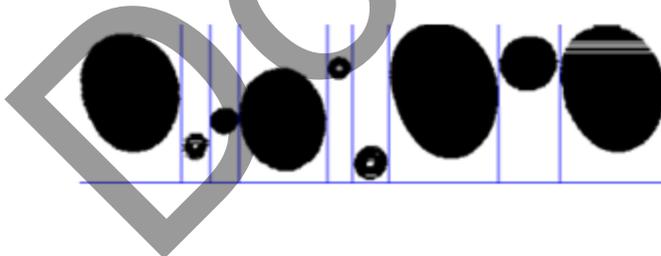
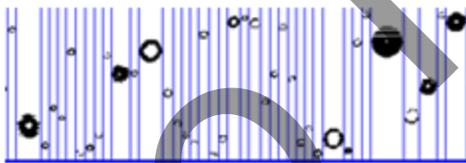
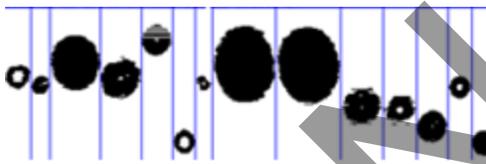
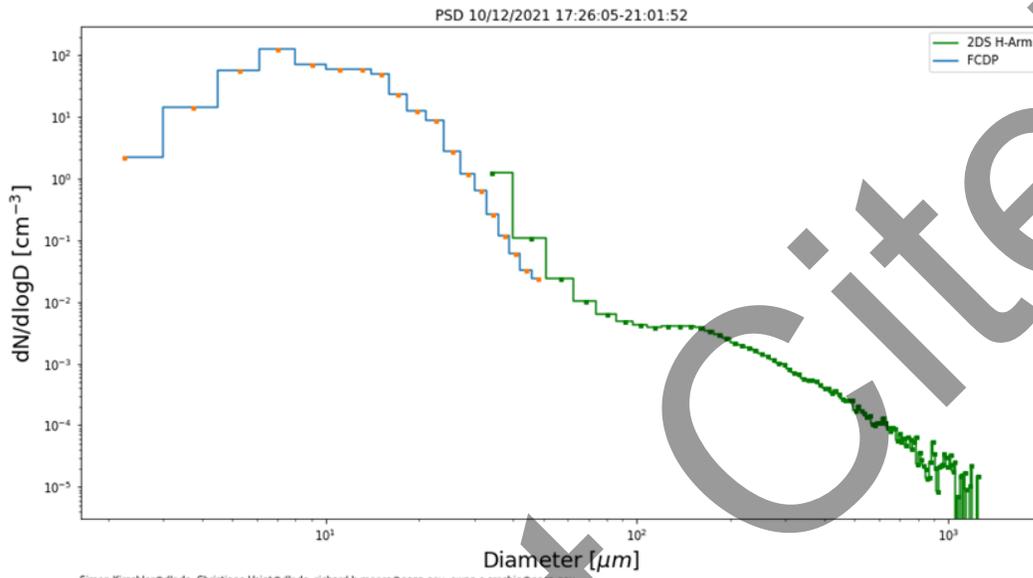


Cloud Probes (FCDP & 2DS) Quicklook 10/12/2021 17:26:05-21:01:52



# PSD ACTIVATE

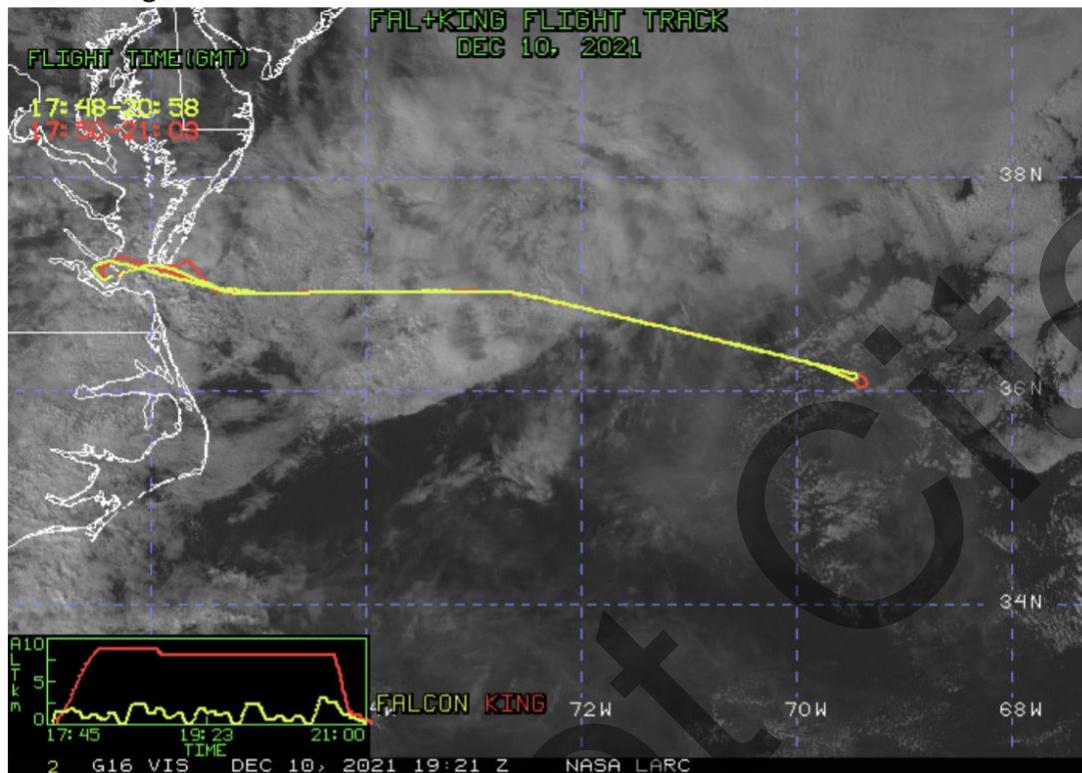
preliminary data, only for quicklook use  
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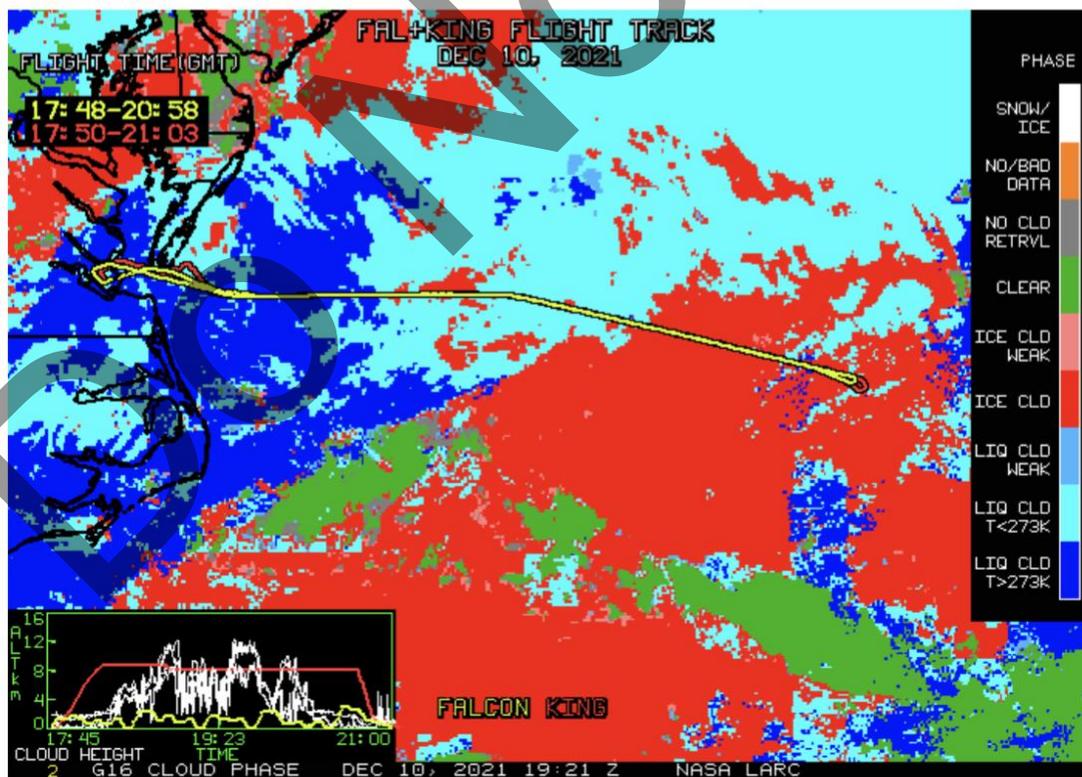
Pure liquid clouds and precip

Do Not Cite!

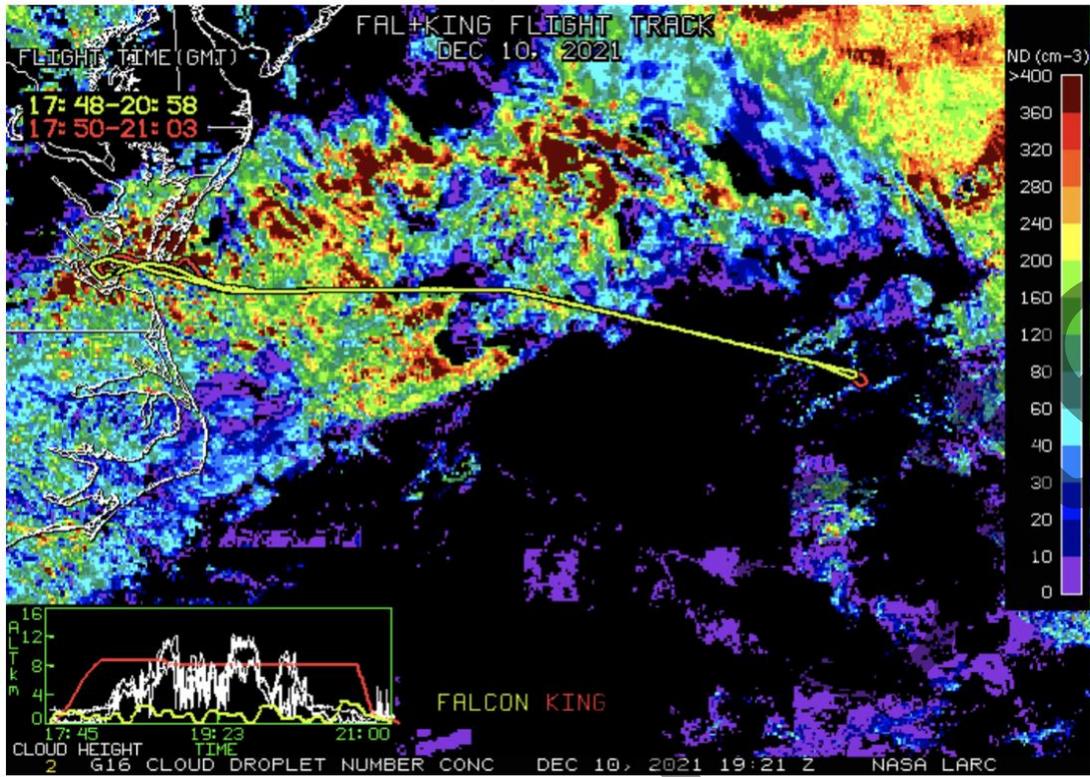
NASA-LaRC Clouds Group GOES-16 Quicklook Images for Flight 99, 19:21 UTC Dec 10, 2021  
Visible Image



Cloud Phase



Cloud Droplet Number Concentration (cm-3)



Cloud-Top Height (Kft-ASL)

