Flight Scientist Report
Thursday 09/03/2020 ACTIVATE RF31

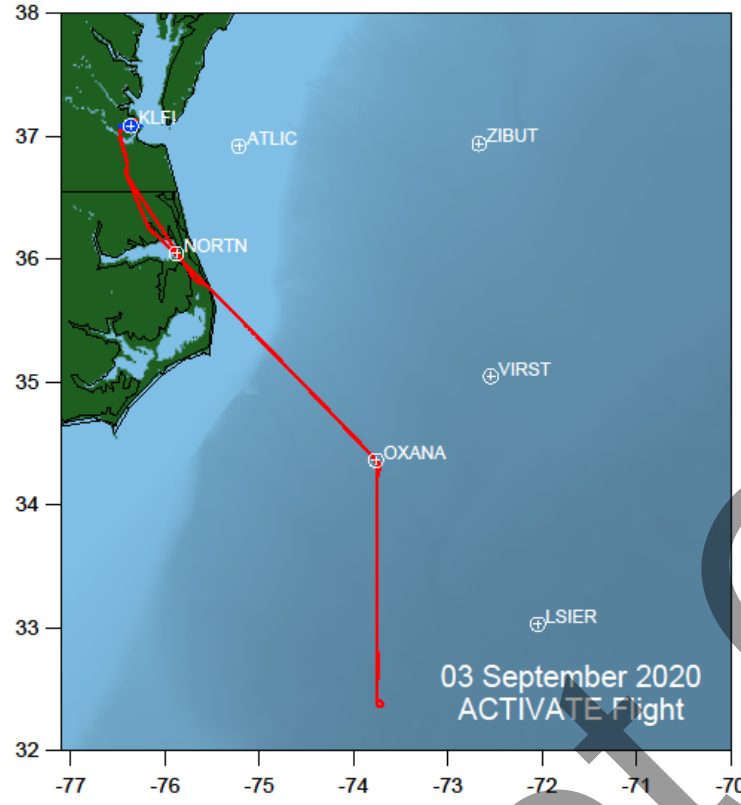
Flight Type: Statistical Survey Flight–OXANA to the south
Flight Route: KLFI KECG OXANA 32.4/-73.75 OXANA KECG KLFI TERKS KLFI

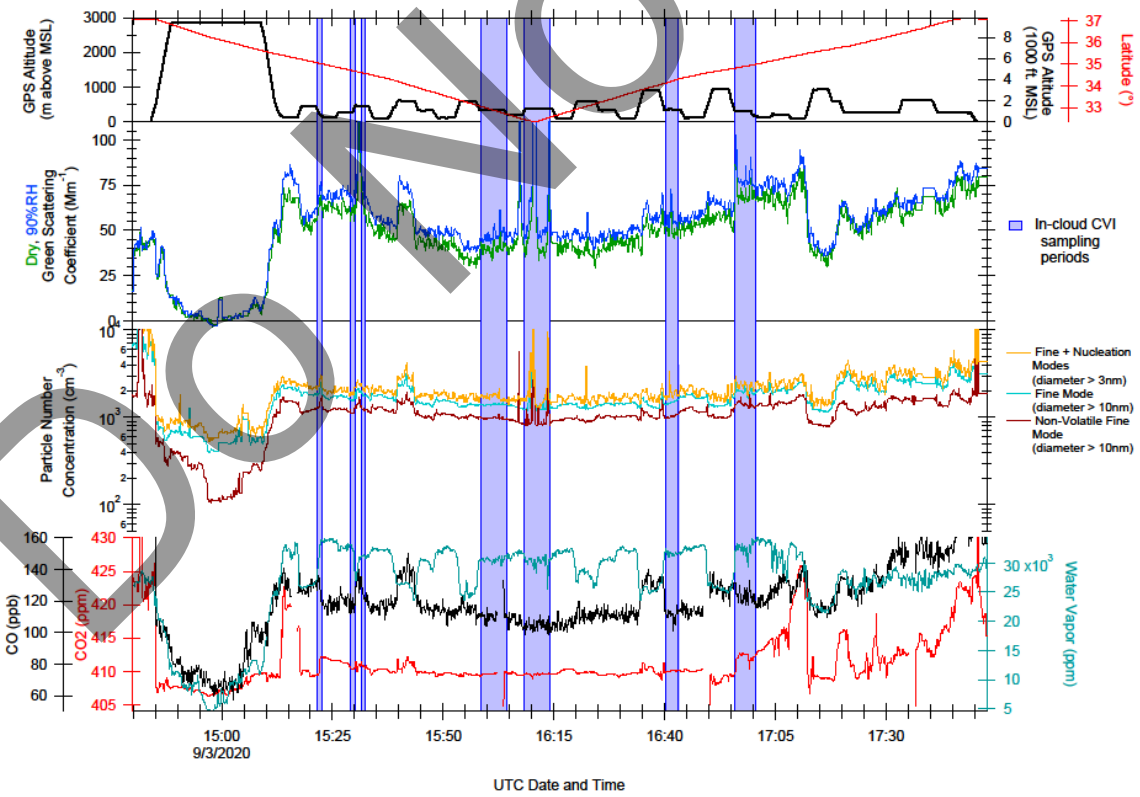
Special Notes:
Noted some clouds and even raining clouds on the Falcon track today.
4 clear ensembles and 3 cloudy ensembles

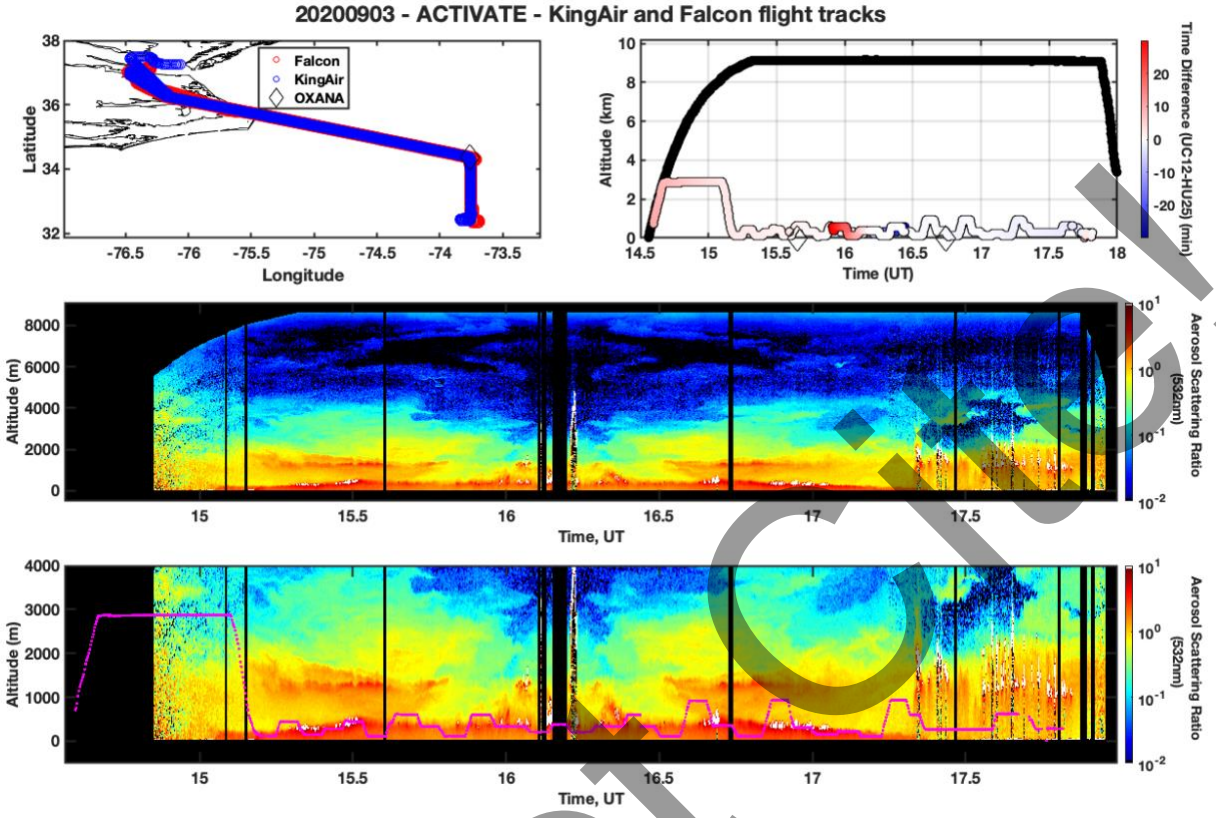
King Air
Pilot perspective: Took off on time. Everything went as planned.
6 sondes
Overflight conducted at Langley

Falcon
Cabin T a bit higher than yesterday as it was hotter outside. APU still worked well though and helped cool things.
RH issues are persisting for dry Neph.
Clouds were sparse but hit clouds when they could. More clouds to south end of track.
One of the higher aerosol scattering days
Comments from Luke: high scattering coefficients in the lofted layer. Coincident CO and CO2 seem to suggest this was potentially smoke. Looking at the HSRL curtain after the flight, we didn't get into the heart of that plume but still hit it distinctly at least twice. Note that the clear ensembles had 3 legs, MinAlt + Above-BL and a middle leg that was typically at ~1200ft (labelled HSRL/meat). This level looked like it was in the MBL (based on water vapor) but often was where the light whispy Cu were hanging out. I chose to not do a separate 800ft leg specifically for HSRL, but felt that at this level you got both cloudy and clear sampling.

Rich Moore Quicklook Images:

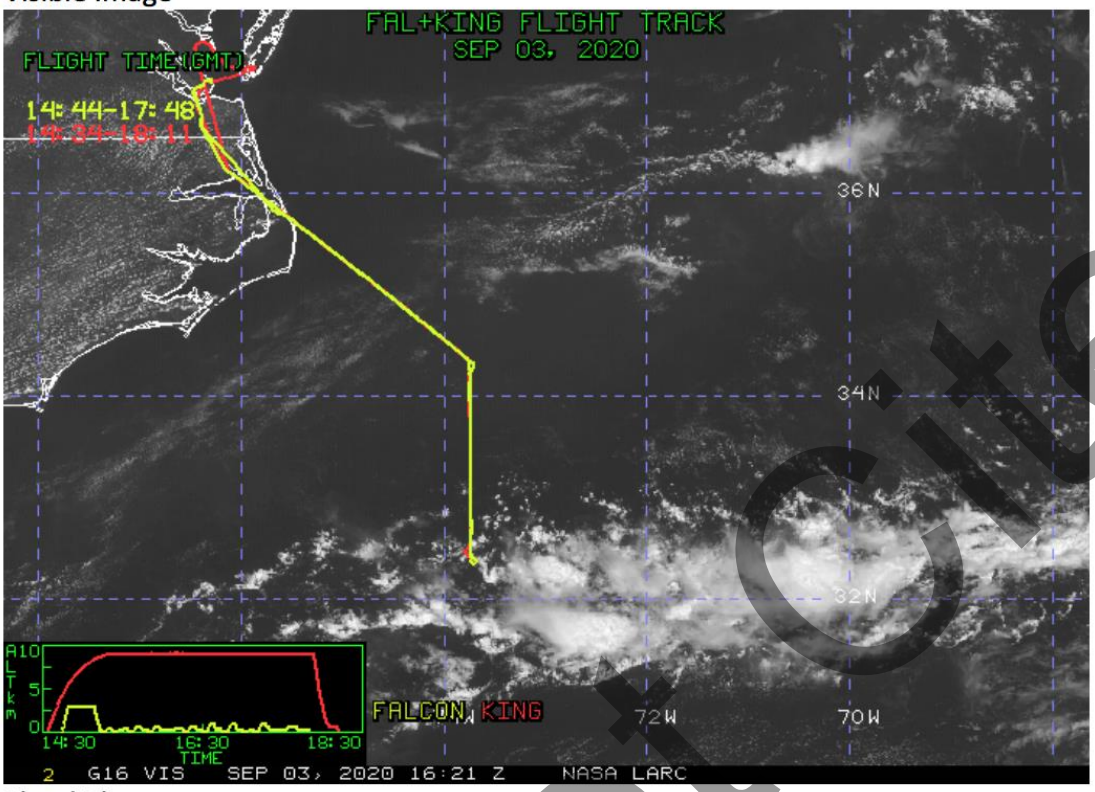




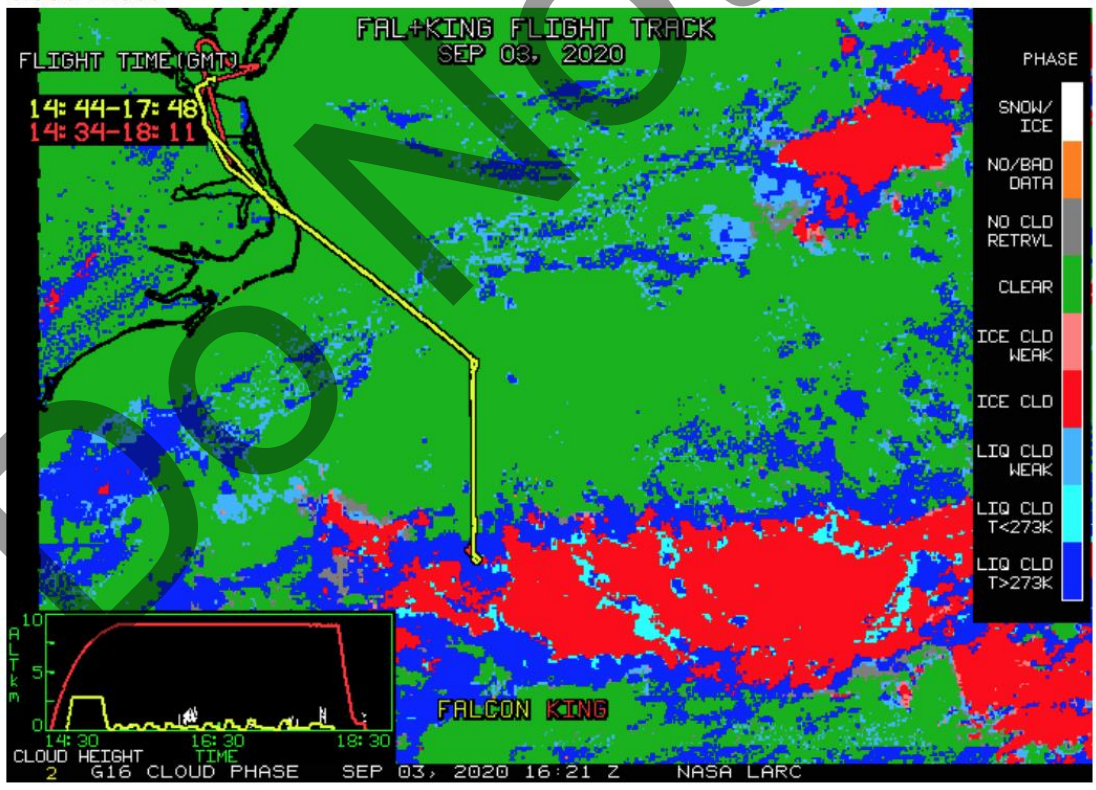

20200903 - ACTIVATE - KingAir and Falcon flight tracks
Falcon
KingAir
OXANA
Latitude
Longitude
Altitude (km)
Time (UT)
Time Difference (UC12-HU25) (min)
Altitude (m)
Time, UT
Aerosol Scattering Ratio (532nm)

NASA-LaRC Clouds Group GOES-16 Quicklook Images for Flight 31, 16:21 UTC Sep 03, 2020

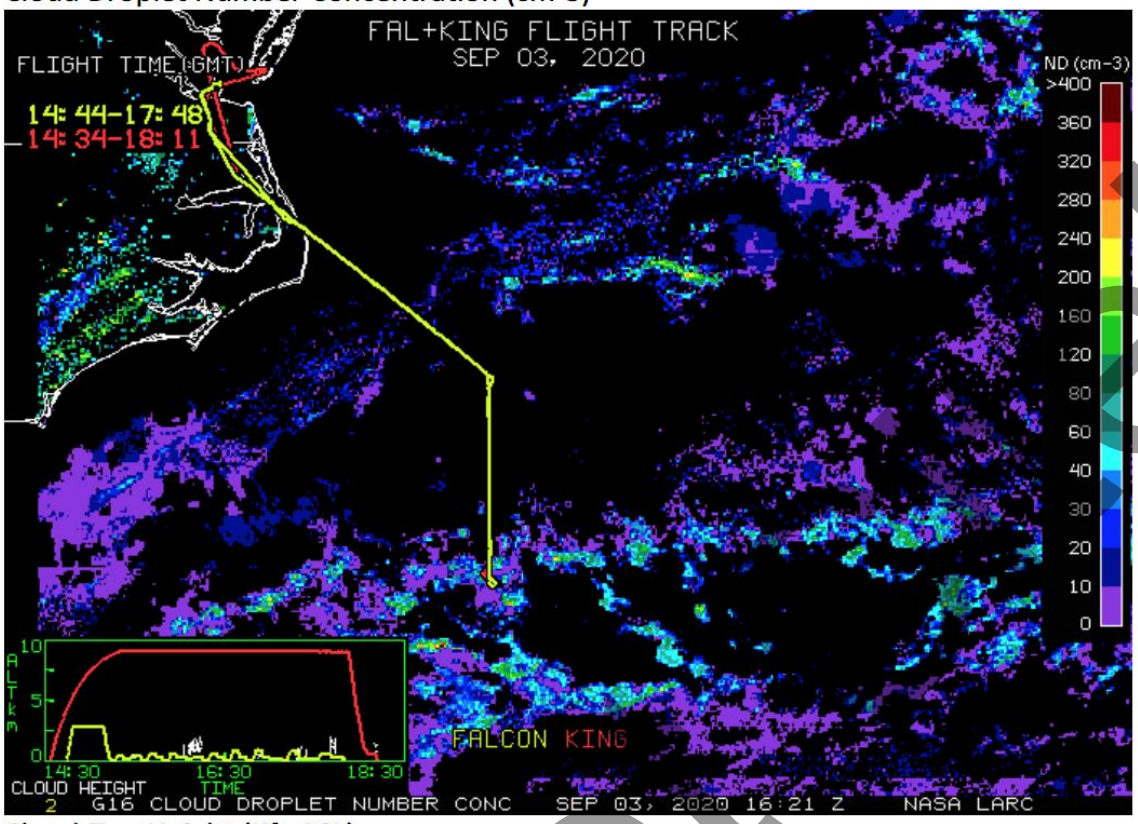
Visible Image



Cloud Phase



Cloud Droplet Number Concentration (cm-3)



Cloud-Top Height (Kft-ASL)