

Flight Scientist Report
Friday 09/02/2020 ACTIVATE RF30

Flight Type: Statistical Survey Flight–OXANA to the southwest
Flight Route: KLFI KECG OXANA RUNDY 32.5/-75.5 RUNDY OXANA KECG KLFI 37.22/-76.39 KLFI

Special Notes:

Falcon noted that it was challenging to do the ensembles as there was lots changing quickly in terms of PBL height and cloud conditions. Cloud fraction was low. There were patches of higher cloud fraction but did not correspond with the flight track. Some clouds were developing vertically making it hard to designate time as above cloud, most clouds were very shallow so ACB=BCT. Aerosol seemed quite uniform between vertical levels. Change along track was quite subtle, except over land on the inbound leg where ORG was significantly enhanced.

King Air

Some start-up issues with instruments but it was resolved early on.

Did 6 sondes

Did the Langley overflight

Falcon

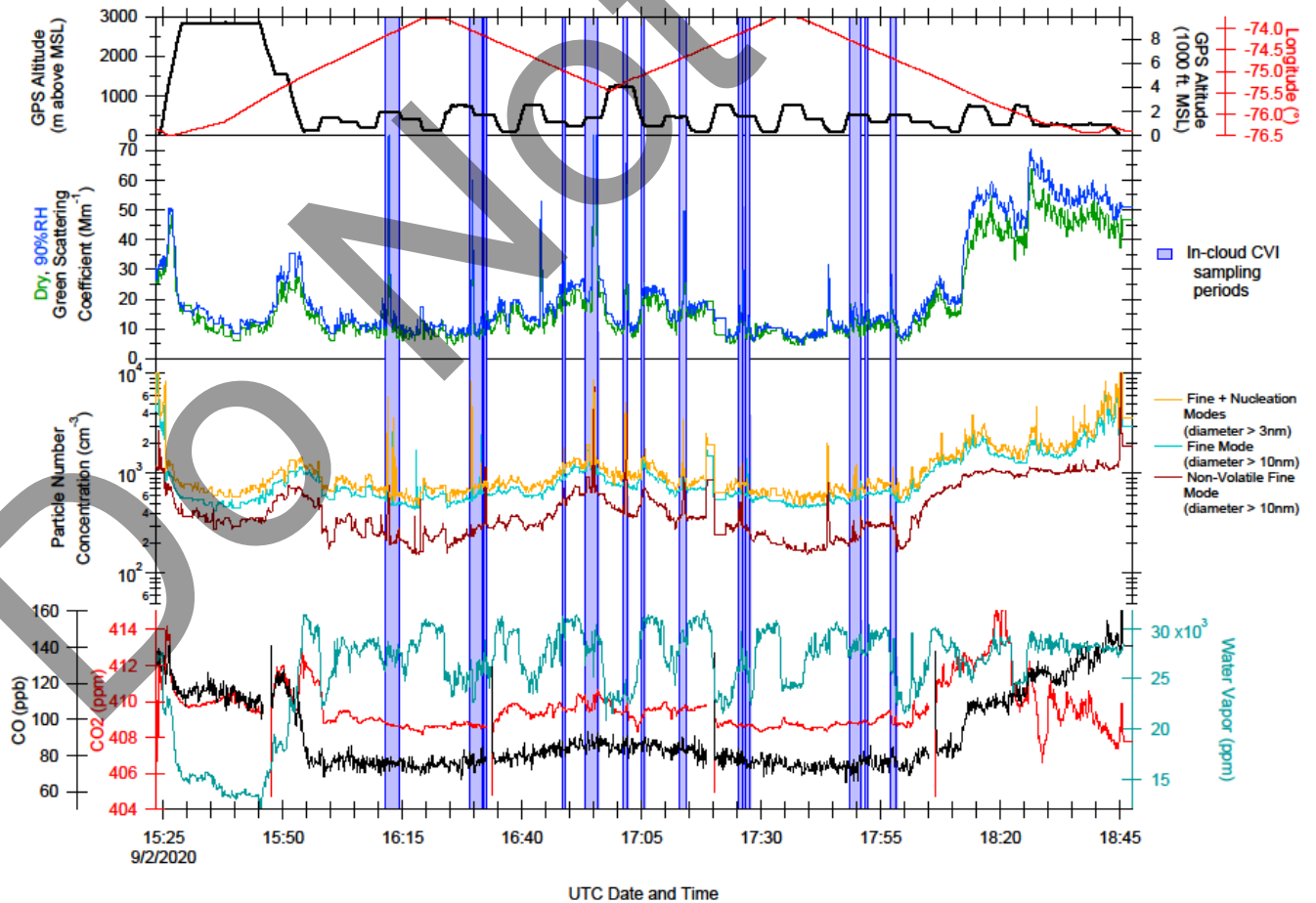
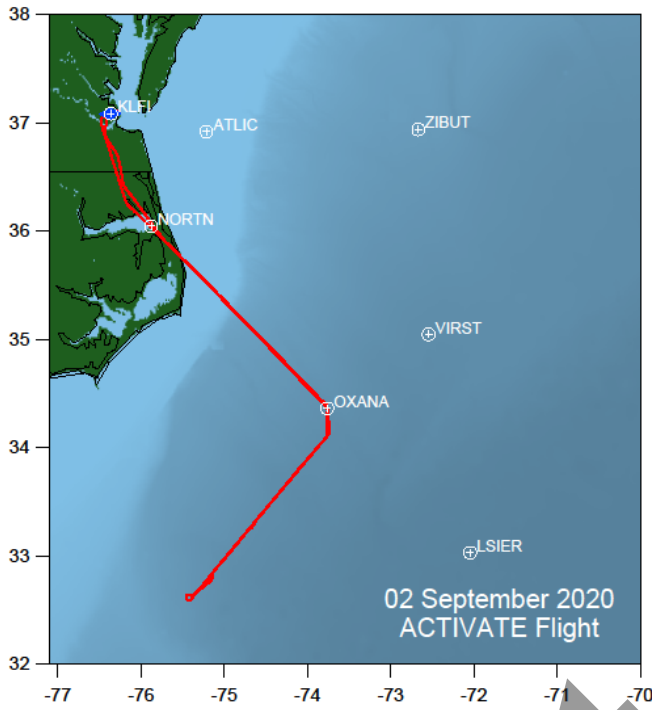
Made a turn slightly early on the way back to save fuel

Did overflight at 1000 ft

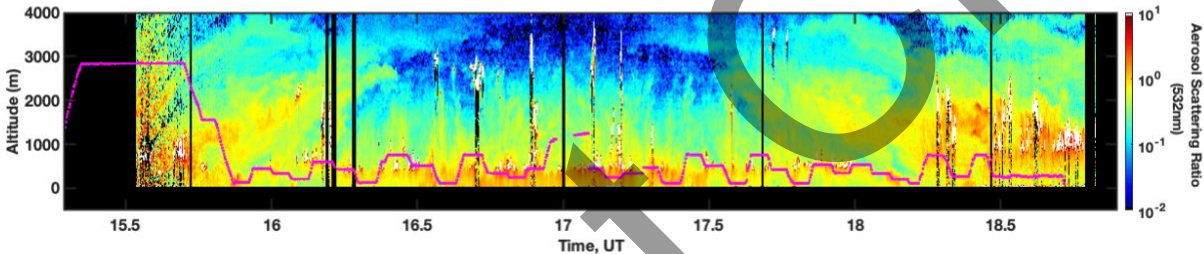
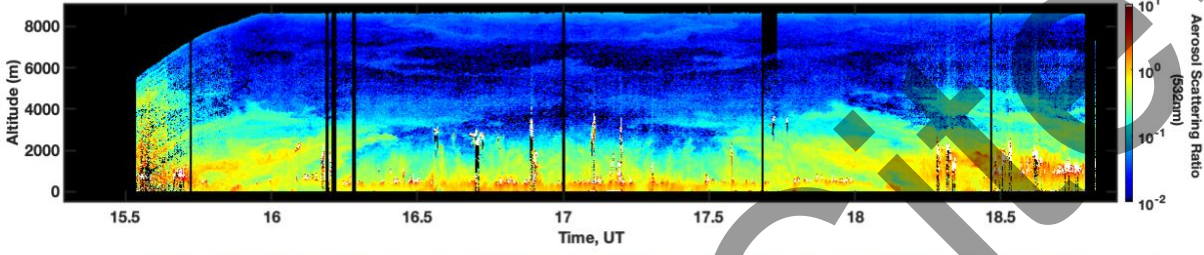
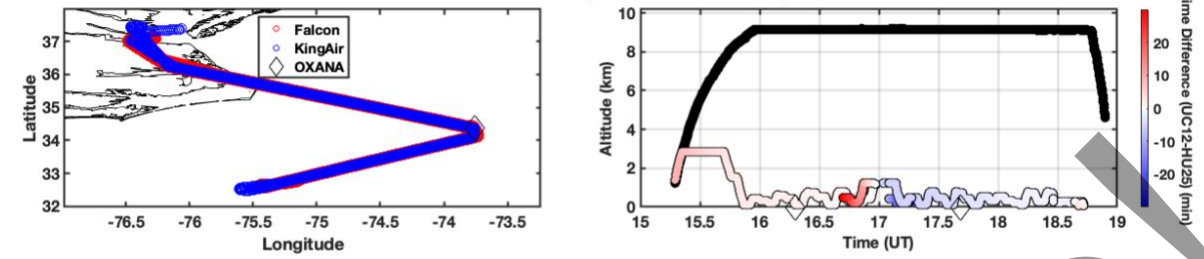
One CPC had an issue

Need some time to work on the replacement AC3 pump on Tuesday – it is not occluding properly.

Rich Moore Quicklook Images:



20200902 - ACTIVATE - KingAir and Falcon flight tracks

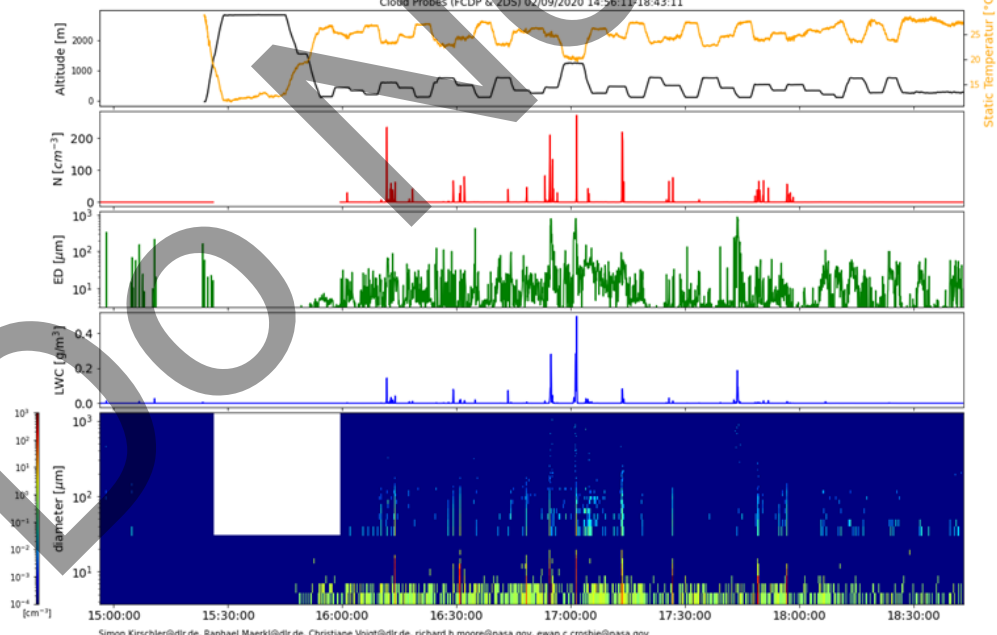


Quicklook ACTIVATE Cloud Probes (FCDP & 2DS)

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



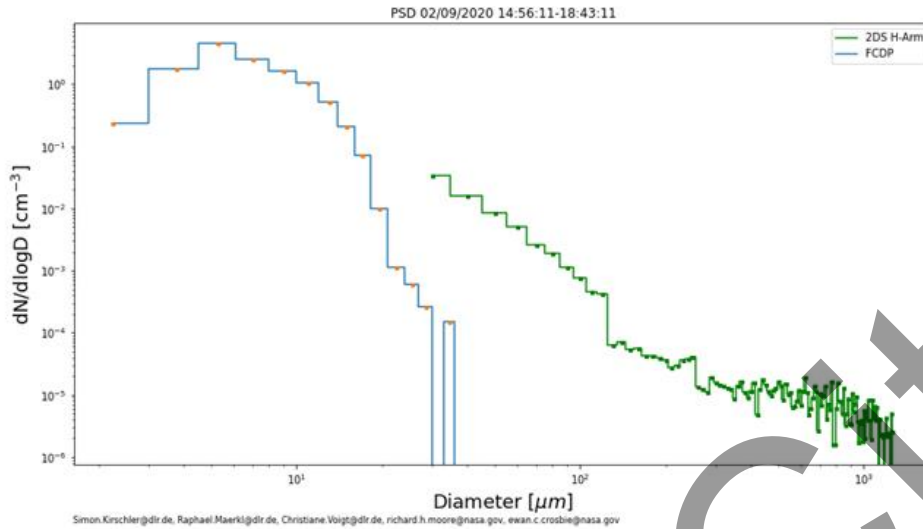
Cloud Probes (FCDP & 2DS) 02/09/2020 14:56:11-18:43:11



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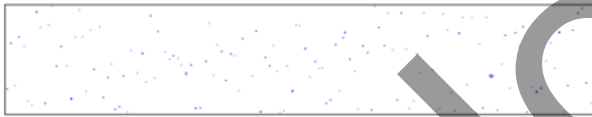
PSD ACTIVATE

preliminary data, only for quicklook use
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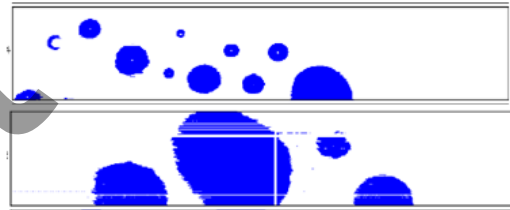


It looks like there were some areas with a high number concentration of small droplets, such as around 16:11 and others with very large droplets such as around 17:01 and also at 17:43.

16:11

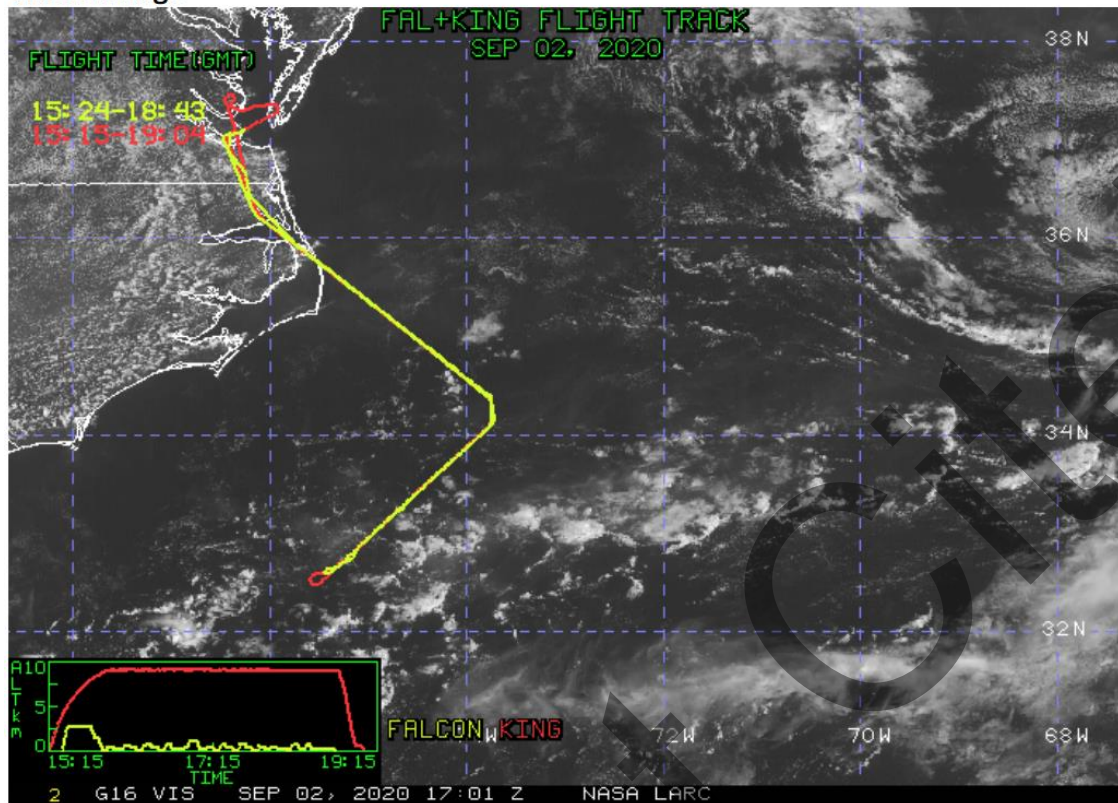


17:01

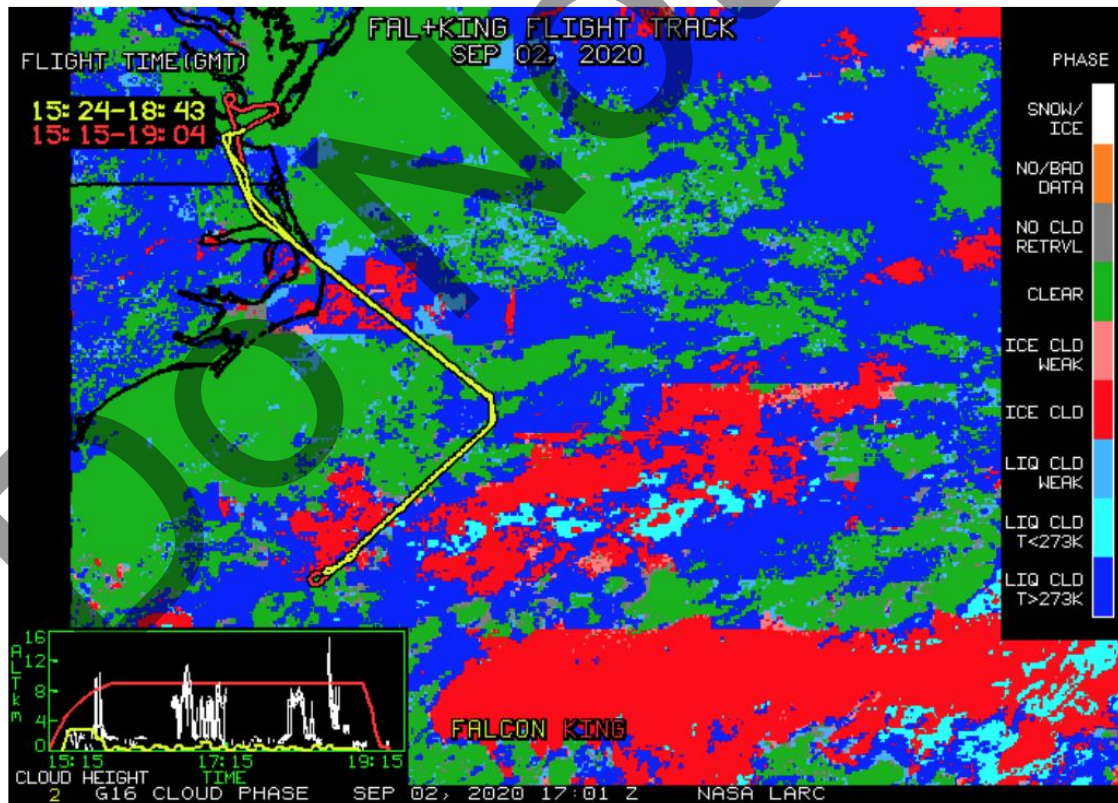


NASA-LaRC Clouds Group GOES-16 Quicklook Images for Flight 30, 17:01 UTC Sep 02, 2020

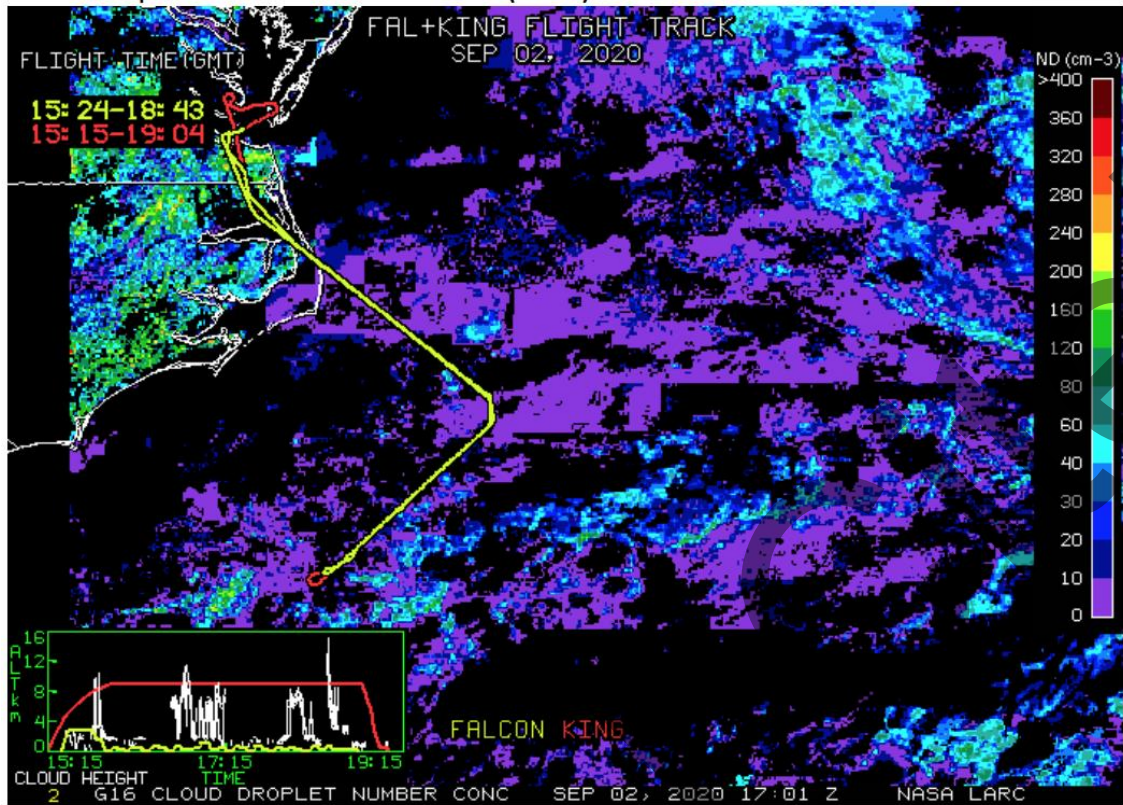
Visible Image



Cloud Phase



Cloud Droplet Number Concentration (cm-3)



Cloud-Top Height (Kft-ASL)

