Flight Scientist Report
Wednesday 08/26/2020 ACTIVATE RF28

Flight Type: Statistical Survey Flight – OXANA to southeast point
Flight Route: KLFI KECG OXANA 33.8/-71.59 ONGOT 34.39/-72.38 ONGOT OXANA
35.95/-75.7833 36.414/-75.9470 37.0154/-76.1241 37.6164/-76.3034 KLFI

Special Notes:
This was forecasted to be a flight with smoke influence and potentially even some African dust
to the south part of the flight path. There is also a CALIPSO overpass today

Conducted a spiral just southeast of Oxana: went up to about 17K ft and didn't really get into a
clean FT signature even at that altitude. Hit smoke layers and this spiral was done by Falcon in
clear air; this module has been coined the "aerosol unicorn module" by Snorre and is important
especially for remote sensing objectives.

Did CALIPSO underflight at end of flight and also did the overflight at Langley with 2 altitudes
with Falcon.

The flight was considered a major success owing to hitting so many objectives (clear and cloud
ensembles, aerosol unicorn module with smoke in clear air for remote sensing objectives,
CALIPSO underflight, and Langley overflight)

King Air
Cut the leg end short on far east side to improve synchronization with Falcon.
Instruments worked fine. Camera was good too.
6 Dropsondes
Modules: 1 full cloudy, 2 part cloudy, 2 full clear

Falcon
Eddie: camera worked well. Cabin temperature still a problem and UFCPC struggled again. One
change made to the dry neph configuration made flows problematic and need to check on this.
Ewan: on the PP leg, the Falcon did sample clouds (deep cumulus clouds)
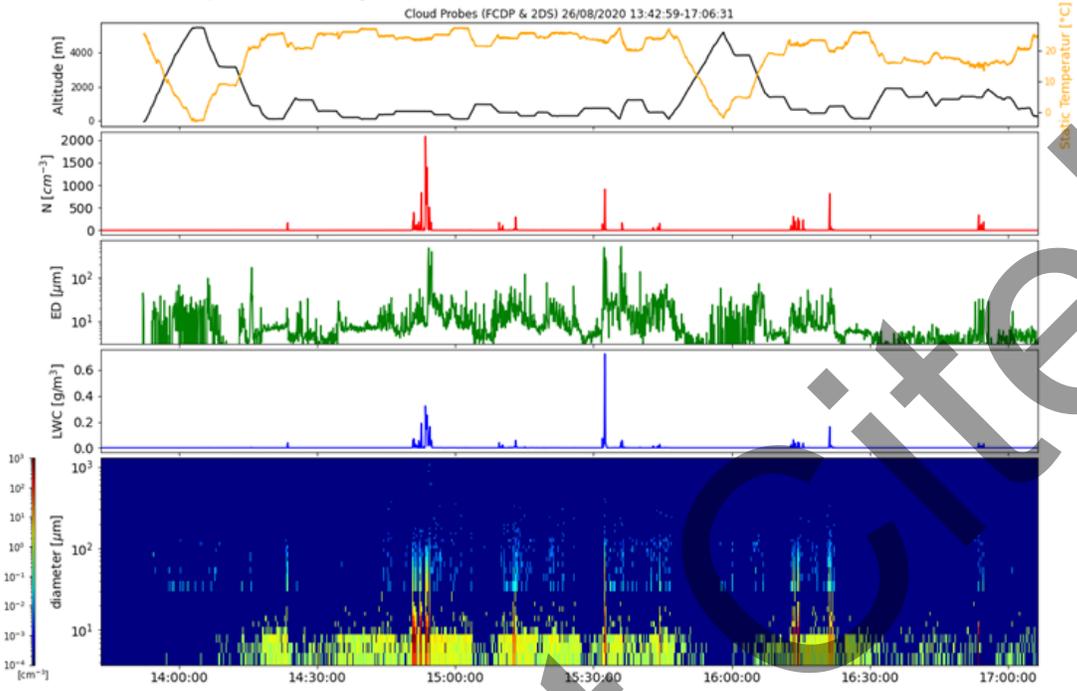
Rich Moore Quicklook Images:

26 August 2020
ACTIVATE Flight

Approximate location of spiral (before 16 UTC)
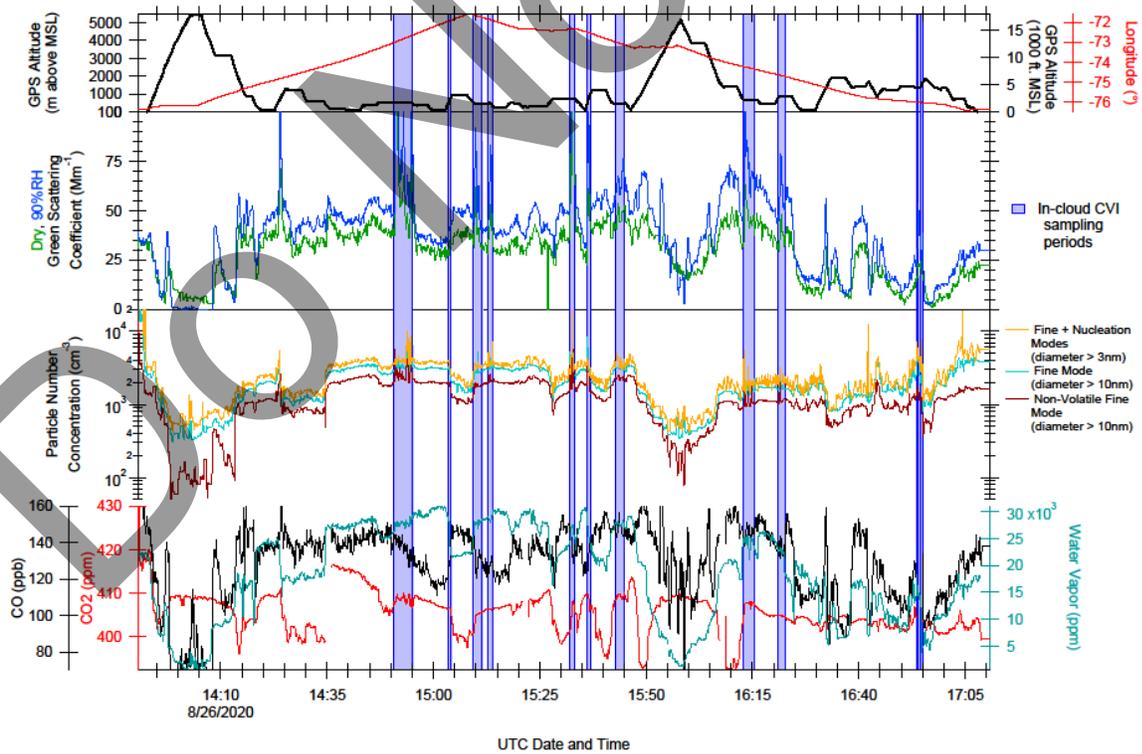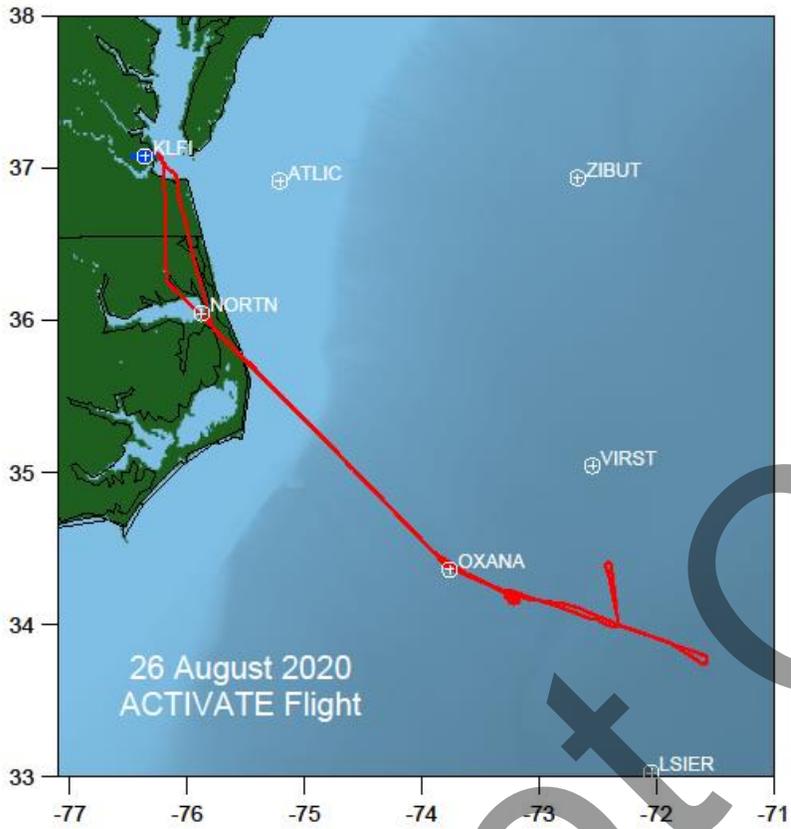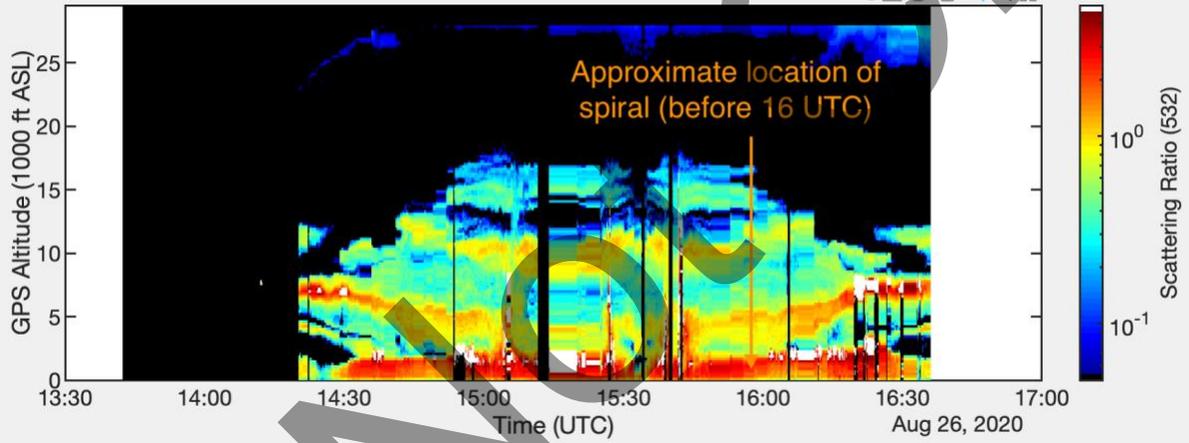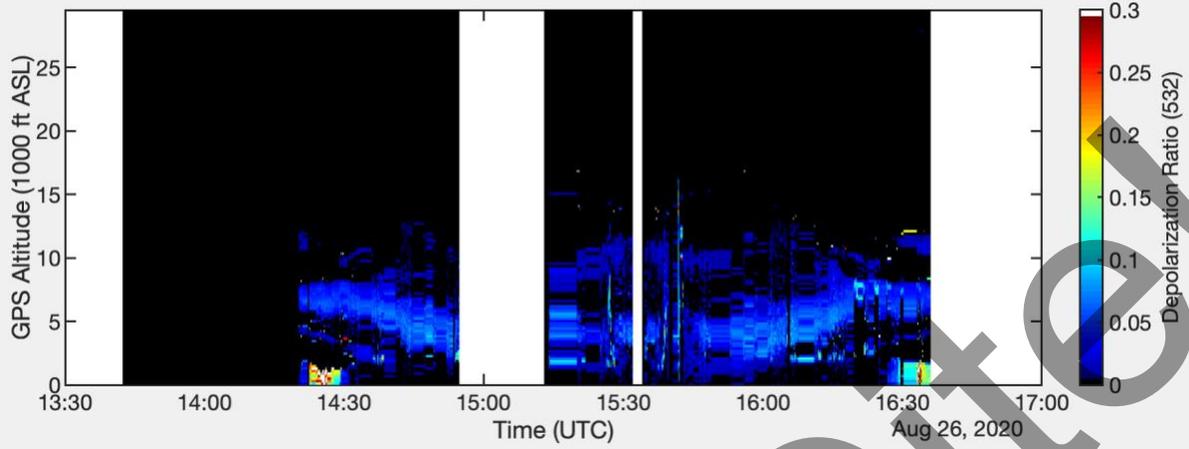
Quicklook ACTIVATE   Cloud Probes (FCDP & 2DS)

Simon Kirschler, Raphael Märkl, Christiane Voigt, Richard Moore, Ewan Crosbie
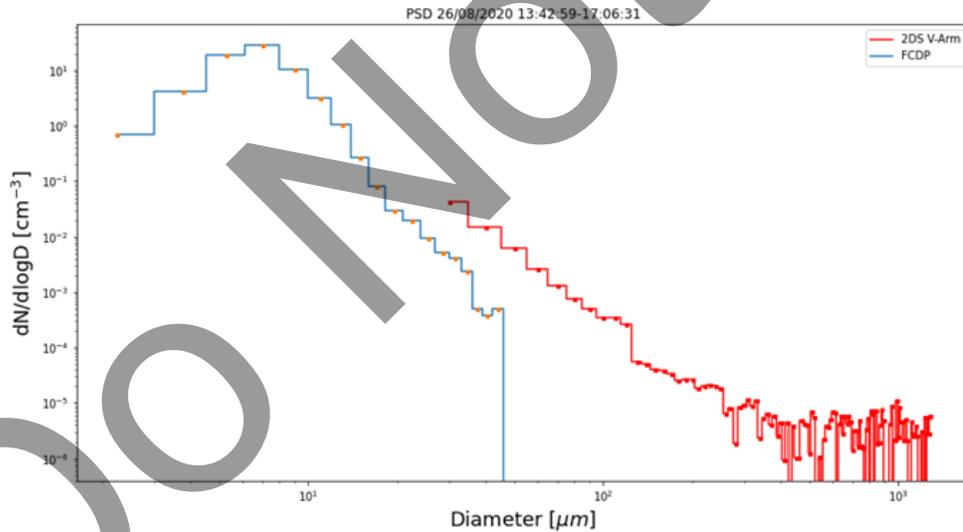
Cloud Probes (FCDP & 2DS) 26/08/2020 13:42:59-17:06:31

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PSD ACTIVATE

Simon Kirschler, Raphael Märkl, Christiane Voigt, Richard Moore, Ewan Crosbie

PSD 26/08/2020 13:42:59-17:06:31

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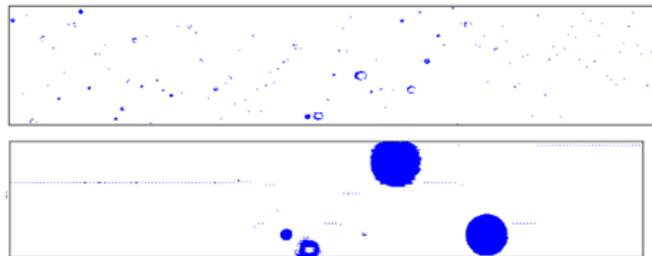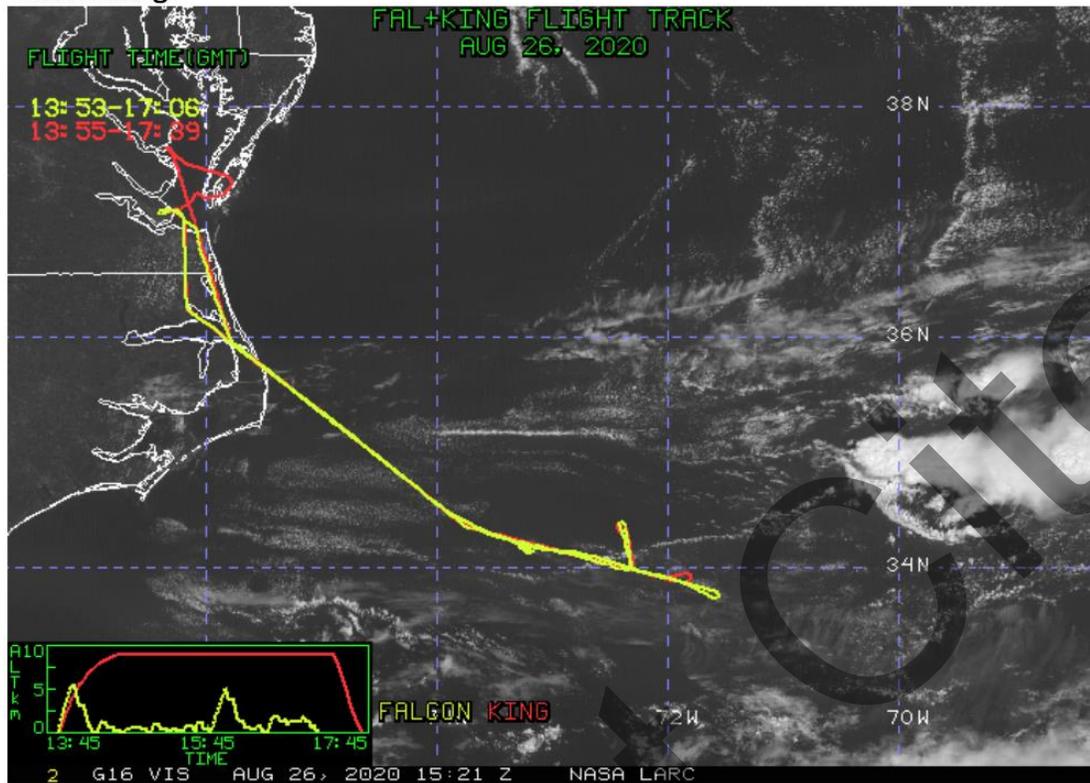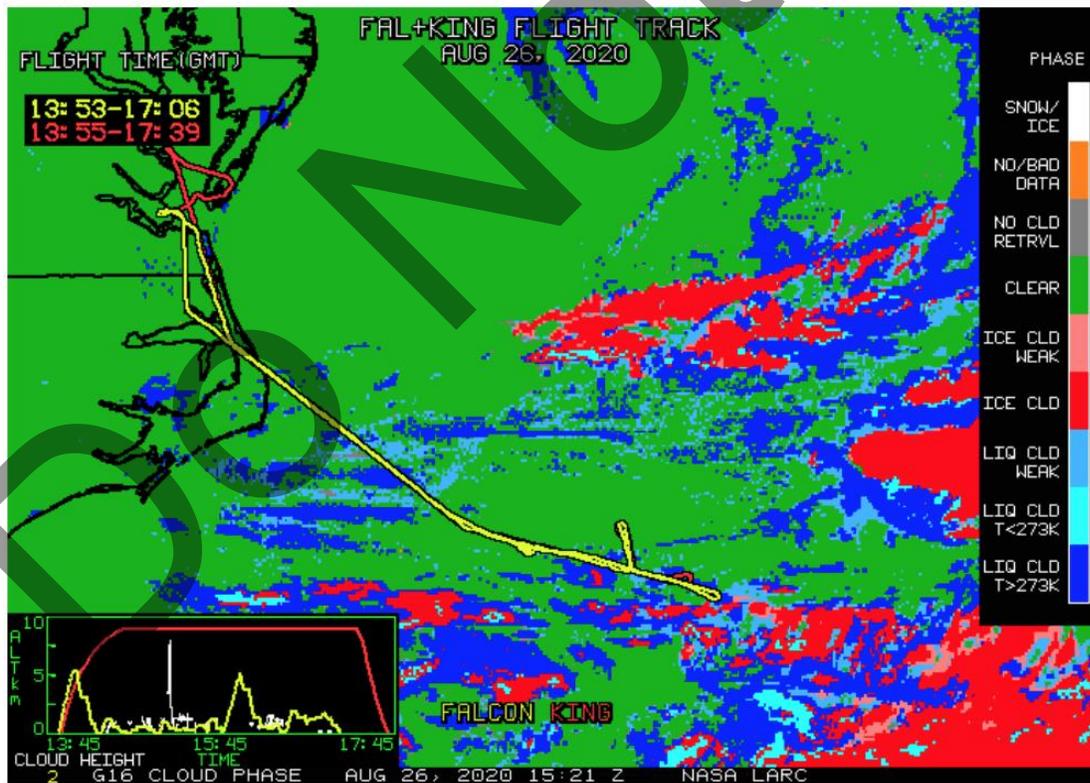
NASA-LaRC Clouds Group GOES-16 Quicklook Images for Flight 28, 15:21 UTC Aug 26, 2020
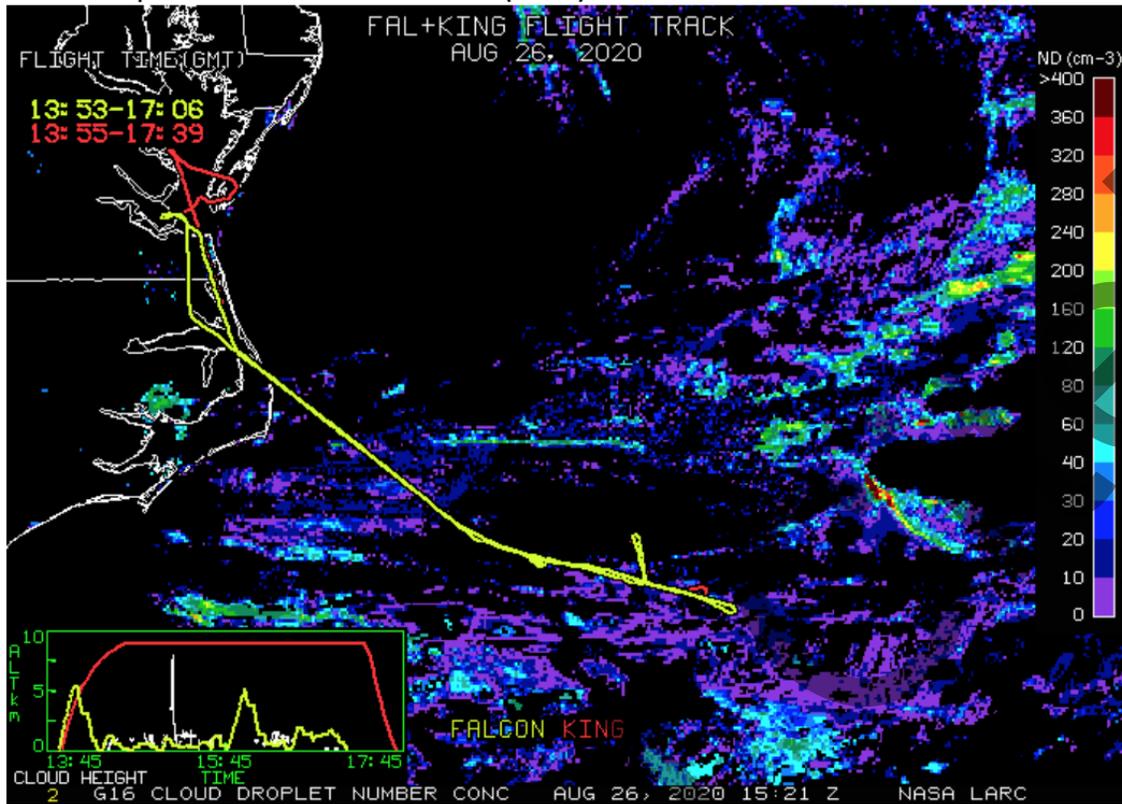
Visible Image

Cloud Phase

Cloud Droplet Number Concentration (cm-3)

FAL+KING FLIGHT TRACK
AUG 26, 2020

FLIGHT TIME(GMT)

13:53-17:06
13:55-17:39

ND (cm-3)
>400
360
320
280
240
200
160
120
80
60
40
30
20
10
0

FALCON KING

CLOUD HEIGHT
2   G16 CLOUD DROPLET NUMBER CONC   AUG 26, 2020 15:21 Z   NASA LARC

Cloud-Top Height (Kft-ASL)

FAL+KING FLIGHT TRACK
AUG 26, 2020

FLIGHT TIME(GMT)

13:53-17:06
13:55-17:39

CTH (Kft)
>36
32
28
24
20
18
16
14
12
10
8
6
4
3
2
1
0

FALCON KING

CLOUD HEIGHT
2   G16 CLOUD TOP HEIGHT (KFT-ASL)   AUG 26, 2020 15:21 Z   NASA LARC