

Flight Scientist Report
Sunday 02/23/2020 ACTIVATE RF08

Flight Type: Statistical Survey Flight - Clouds & Clear
Flight Route: ZIBUT to 37°/-67.5°
Special Notes: King Air down due to maintenance

King Air

NA

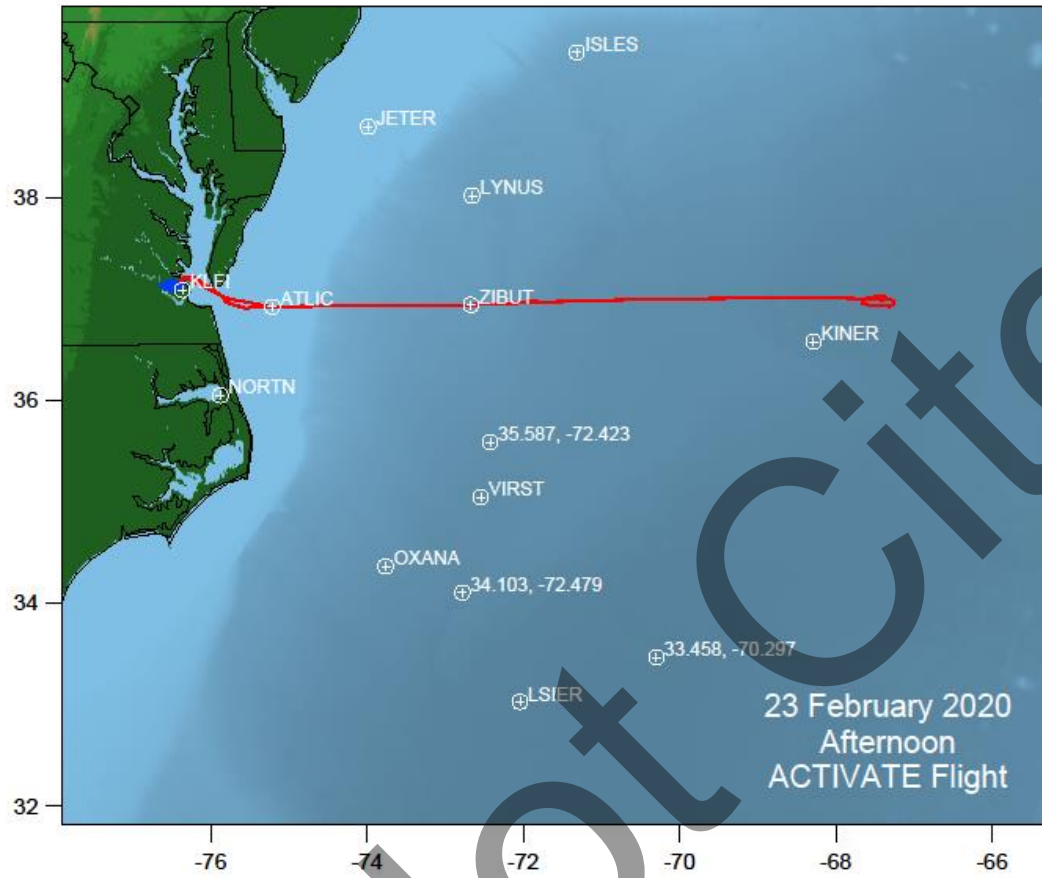
Falcon

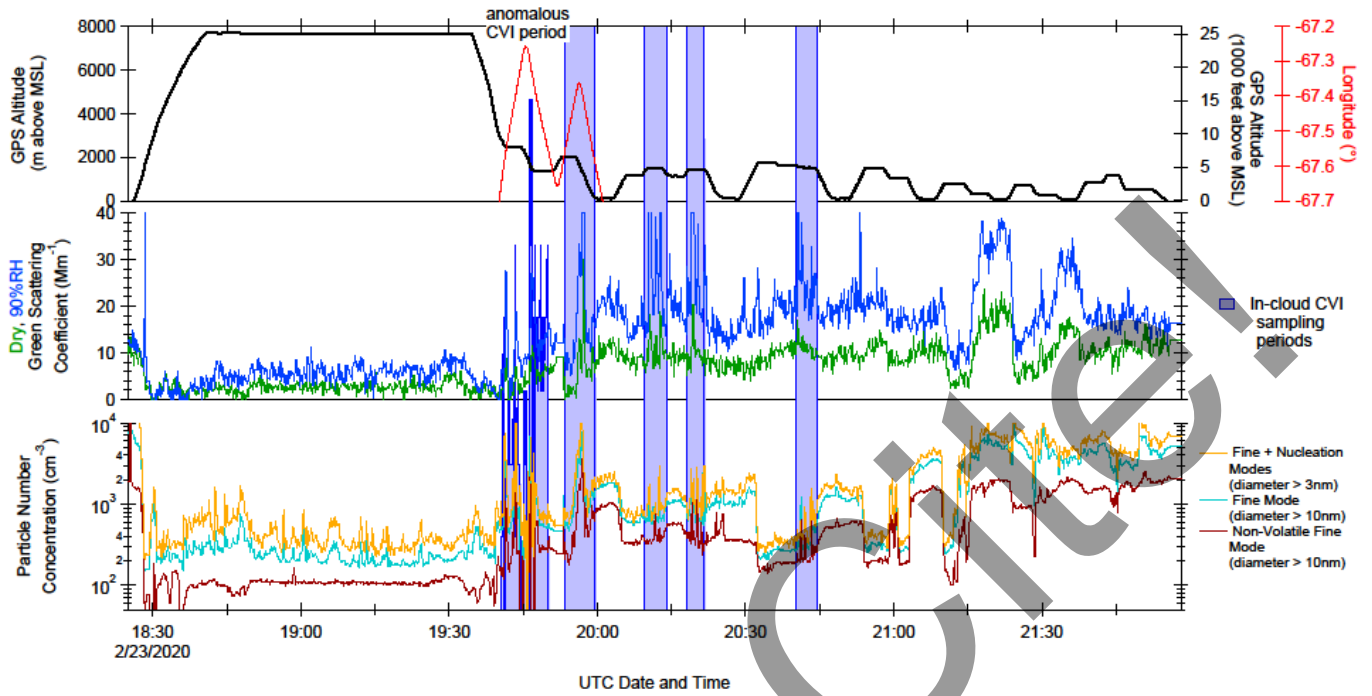
- Flew out high to save fuel to a point far east where we have some clouds.
- Descend to do a cloud wall in reverse order but drop the ACT leg to save time.
- 3 min legs, starting with BCT, which has mixed-phase precip (columns of ice from images)
- In BCB leg detected rain at beginning of leg (so drop shatter artifacts); we were troubleshooting some pump problems during this leg and thus the usable aerosol data is limited on that leg so rely more on the data around this time outside of this particular leg
- Did ACB and then down to MINALT
- Cabin was very hot with pumping issues during this wall pattern at far east point; this can easily be resolved by crew in back telling pilots to move to a manual temperature control
- First stat survey ensemble on way back was in a cloud field of scattered clouds; extended the BCT leg to buy time to hit some clouds near the end of it
- Did good clear air ensembles on way back to base

Instruments:

Some issues with heating and pump problems
Lost forward camera during flight

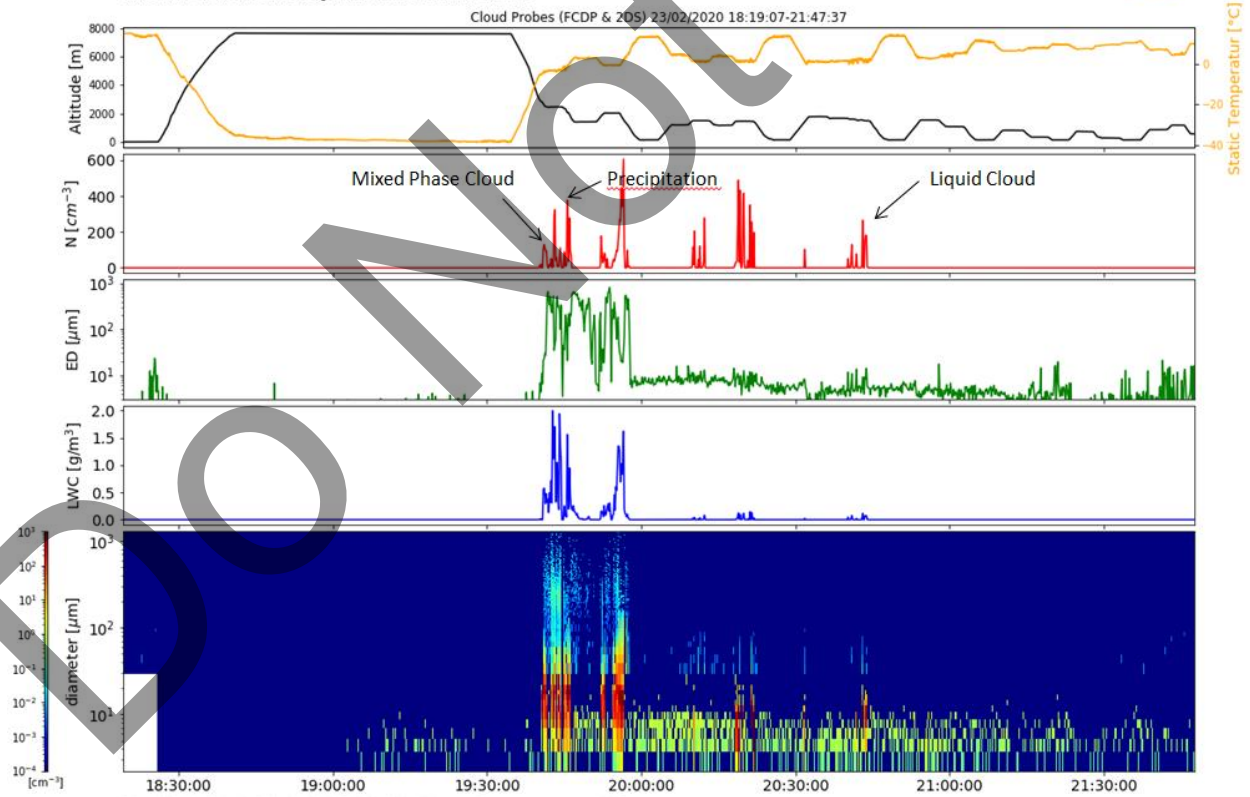
Rich Moore Quicklook Images:





Quicklook ACTIVATE Cloud Probes (FCDP & 2DS)

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



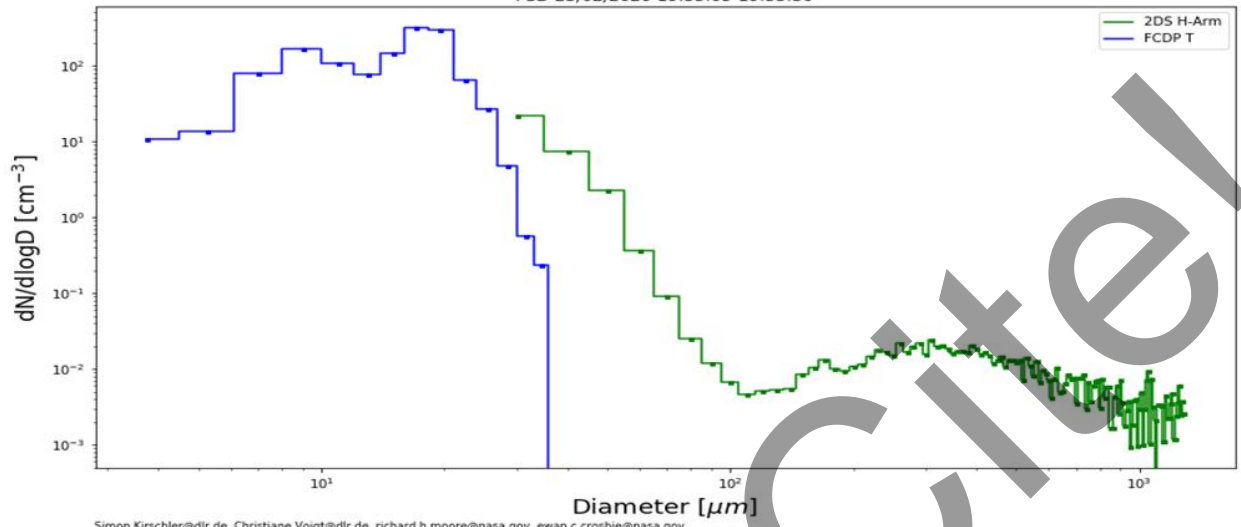
Simon.Kirschler@dlr.de, Christiane.Voigt@dlr.de, richard.h.moore@nasa.gov, ewan.c.crosbie@nasa.gov

PSD ACTIVATE

preliminary data, only for quicklook use
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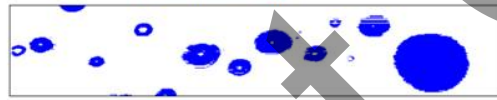
PSD 23/02/2020 19:55:05-19:55:30



Precipitation: 19:47:34

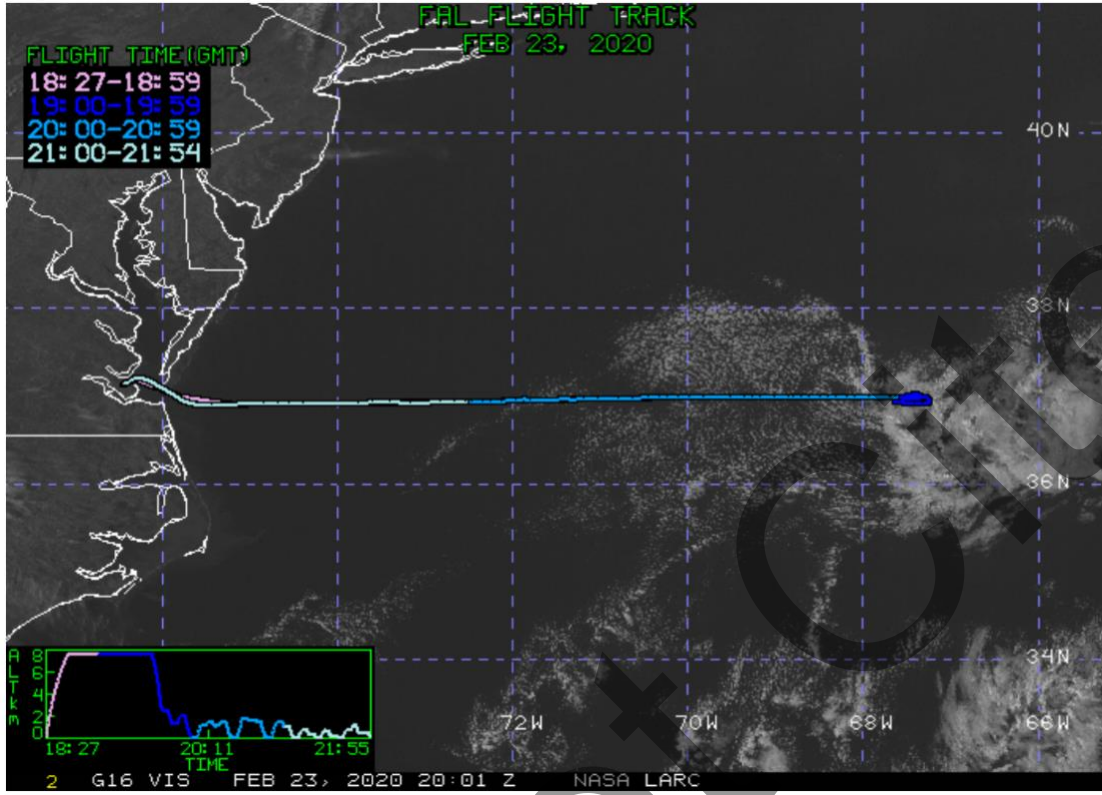
Mixed Phase Cloud: 19:42:55

Liquid Cloud: 20:40:17

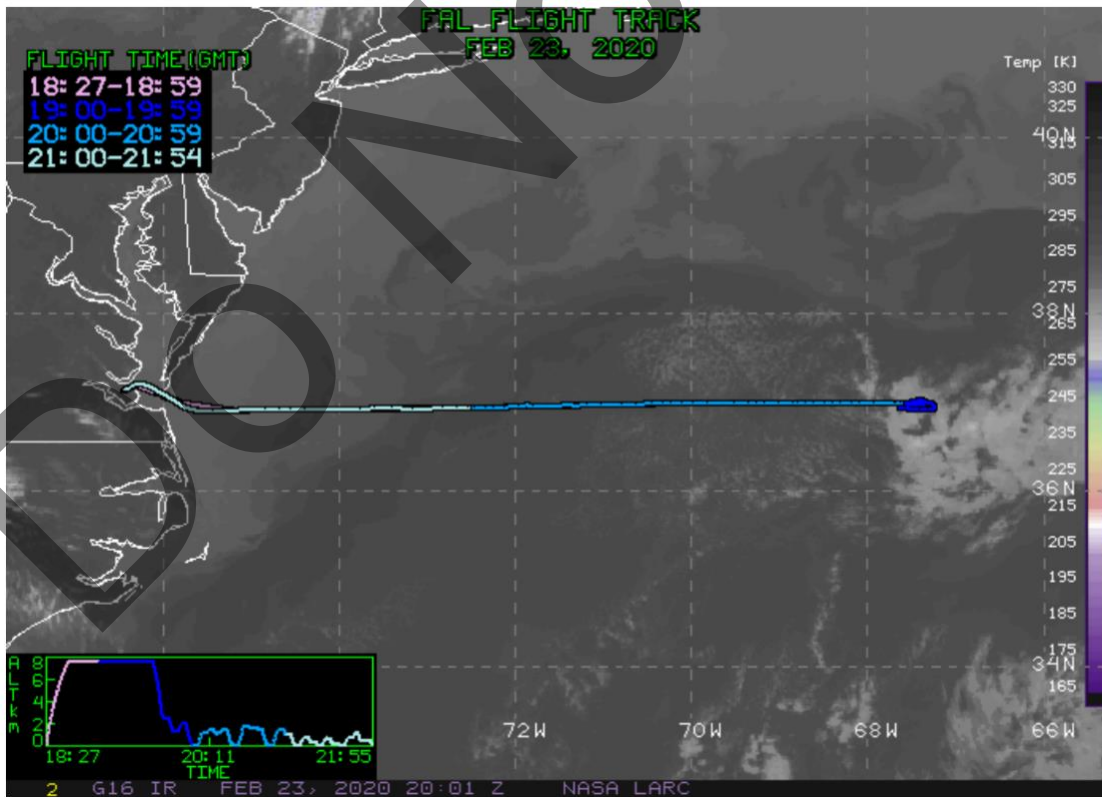


Do Not Cite!

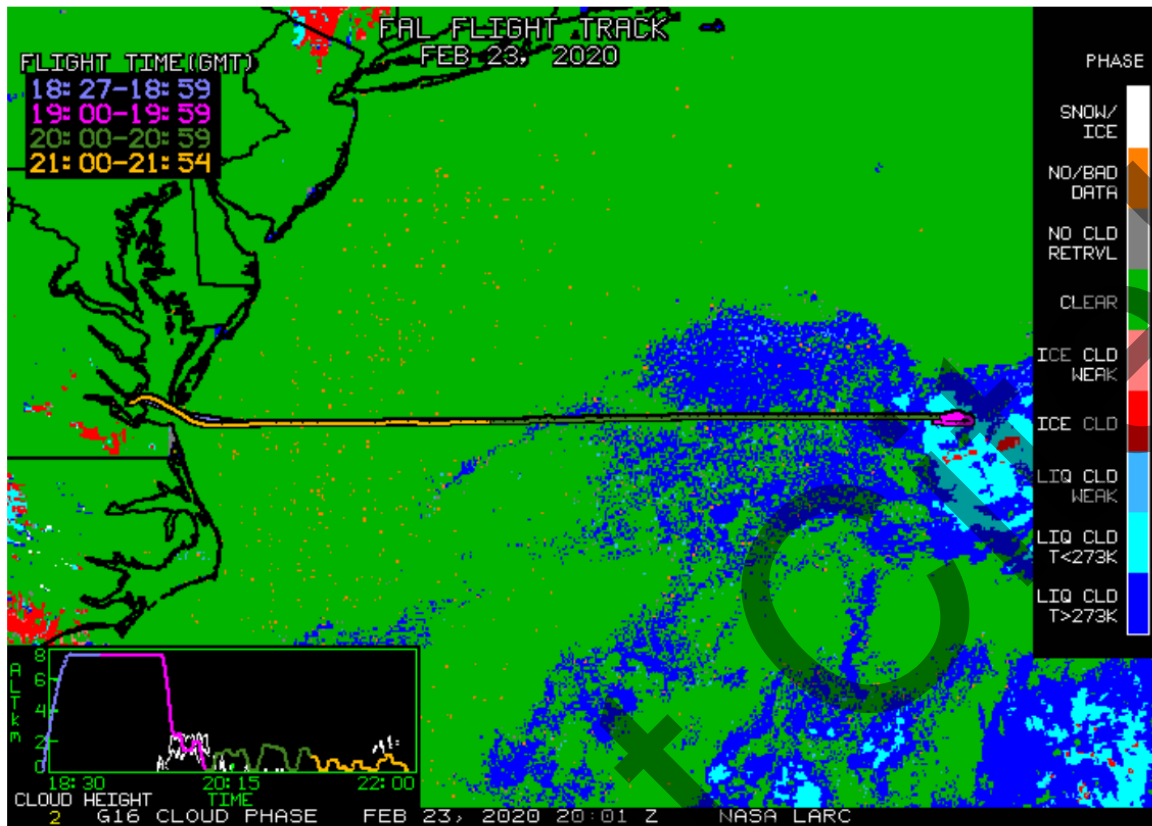
Satellite Group GOES-16 Images (near Middle of Flight):
Visible



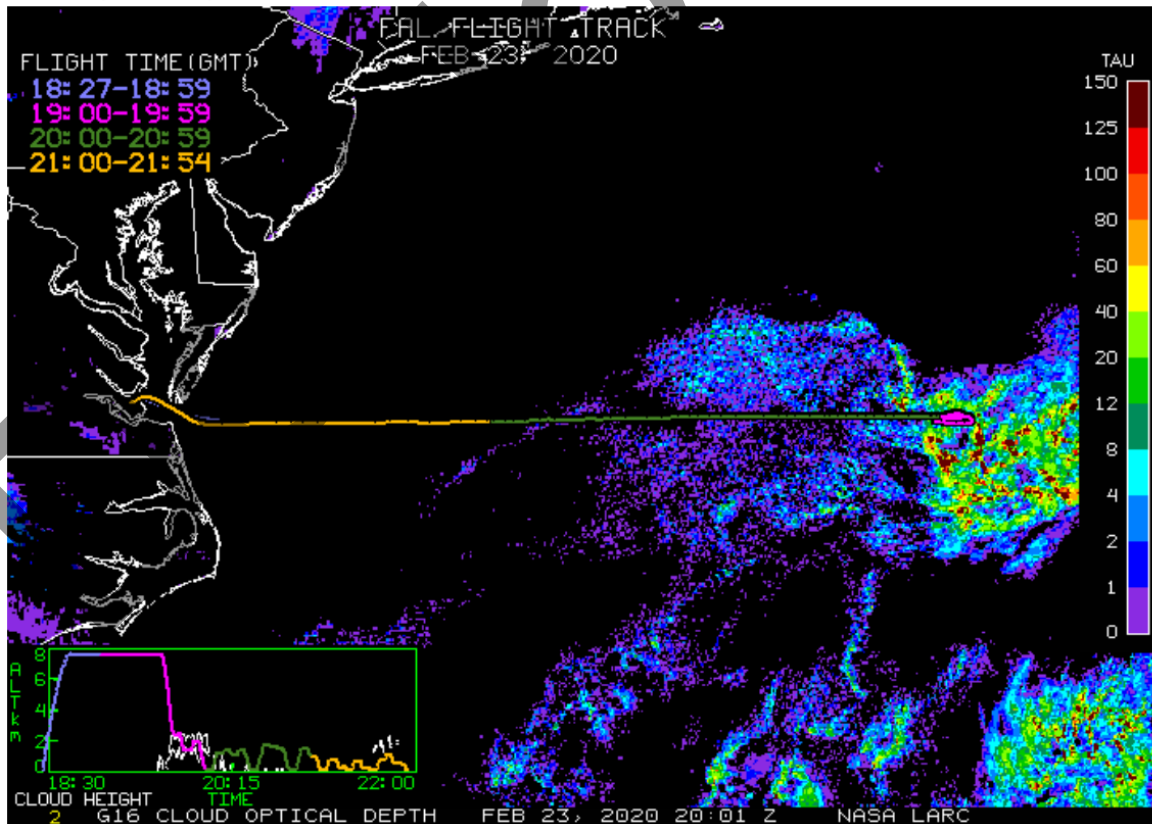
Infrared



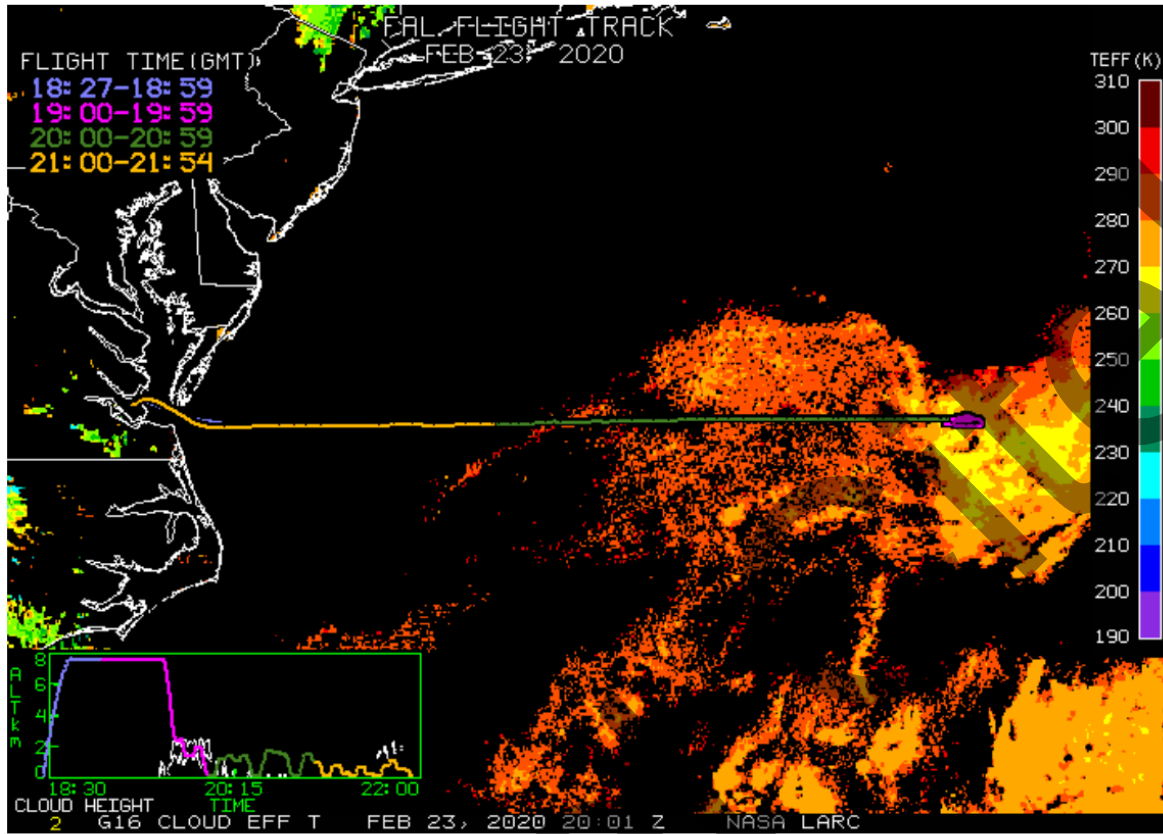
Cloud Phase



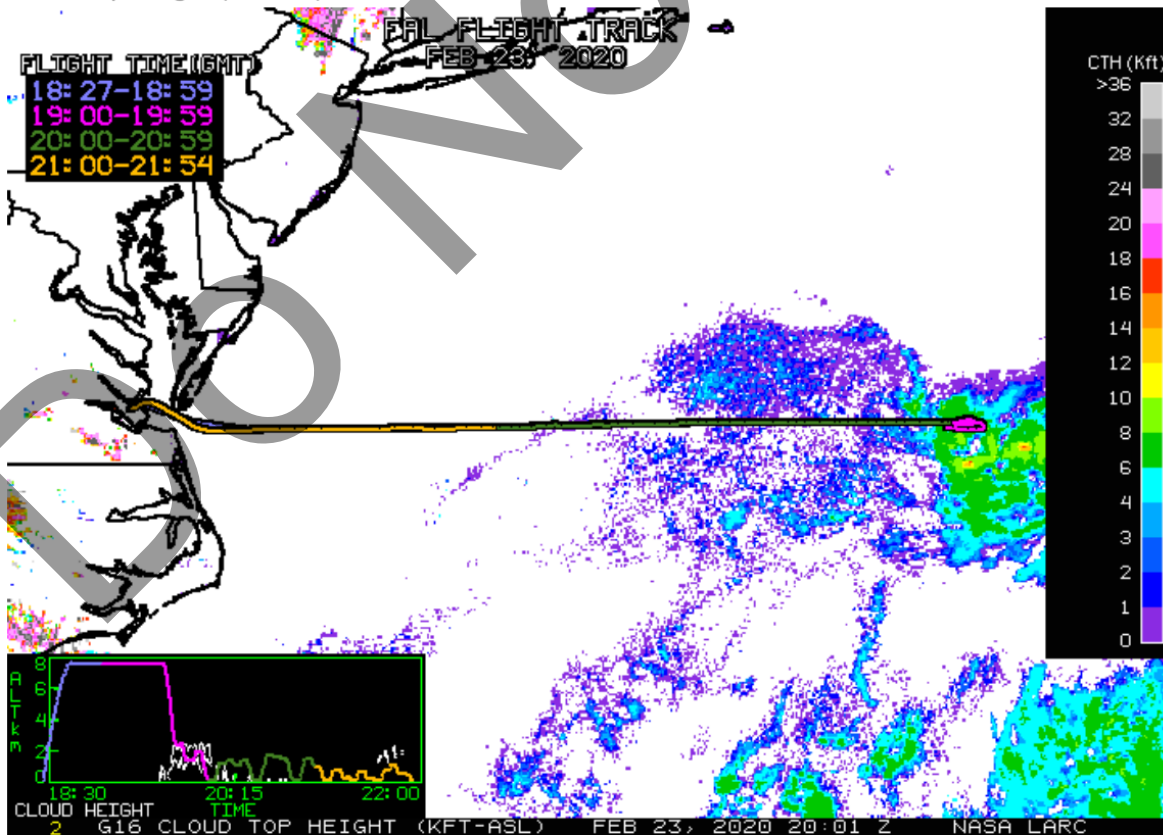
Cloud Optical Depth



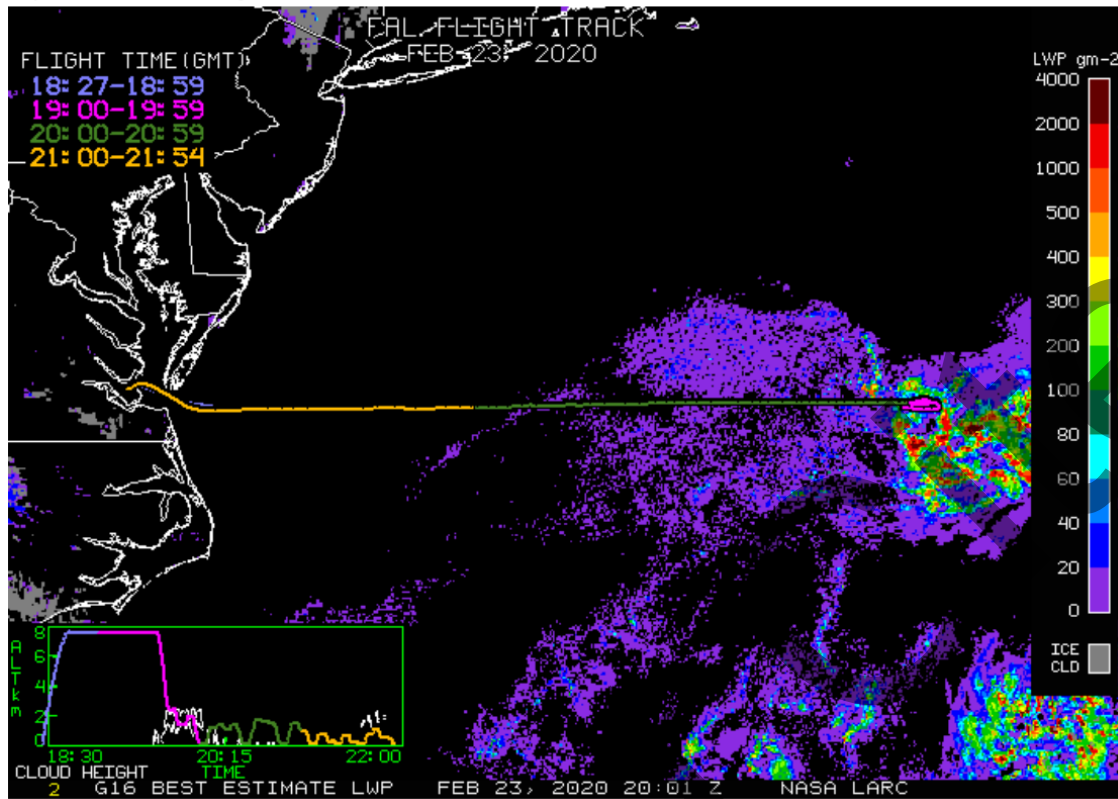
Cloud Effective Temperature (K)



Cloud-Top Height (Kft-ASL)



Liquid Water Path (gm-2)



Cloud Droplet Number Concentration (cm-3)

