

Flight Scientist Report
Tuesday 03/22/2022 ACTIVATE RF142

Flight Type: Statistical Survey Flight

Flight Route: KLFI ATLIC ZIBUT SKPPR DASER MOMOM TXKF

Special Notes: First flight to Bermuda of entire campaign. This is the first of two flights to land at Bermuda, fuel up, and then return to LaRC.

King Air

Pilot report (Wusk):

Two flight day with HU-25. First planned Bermuda refueling. Planned for 0830 take-off for HU with UC12 to follow. Strong tailwinds expected for the UC to Bermuda. Planned for FL230. Route KLFI ATLIC ZIBUT SKPPR DASER TXKF. Flown as planned, 4 sondes, landed with 2200#. RNAV to Rwy 30. Taxied to Apron 4 near FBO. We knew they would not have a GPU (it broke the weekend prior) so HU had to shut down cold. Fuel truck was waiting. 4 biz jets were in process of leaving, but once they were gone an FBO rep drove some of us down to look at the Longtail hangar as a short site visit for the June deployment. Re-boarded for a planned 2PM ADT take-off.

Flight scientist report (Shingler):

KLFI ATLIC ZIBUT SKPPR DASER MOMOM TXKF

First refueling stop to Bermuda today. Outbound at FL230 to stay under some mid level cloud. En route to ZIBUT there is a thick (5-18kft) layer of low-moderate scattering (0.5-1.0) with very high depol (~20%). Near OUTES a MBL started to form reaching an altitude of approx 2kft near CUMBY. At its highest, the MBL reached an altitude of about 4kft with 2-3 small shallow cu cells sampled. By SKPPR the MBL has weakened in altitude and scattering. There is still a decoupled aerosol layer aloft between 6-8kft that we have seen almost all flight. This layer has scattering values around 1.2 ASR and depol values around 6%. About 5-10 min past SKPPR the the decoupled layer broadened and diffused over the next 30 min. MBL stronger past DASER with MBL tops around 3.7kft.

SONDES

ZIBUT

1/2 ZIBUT/MOMOM

MOMOM

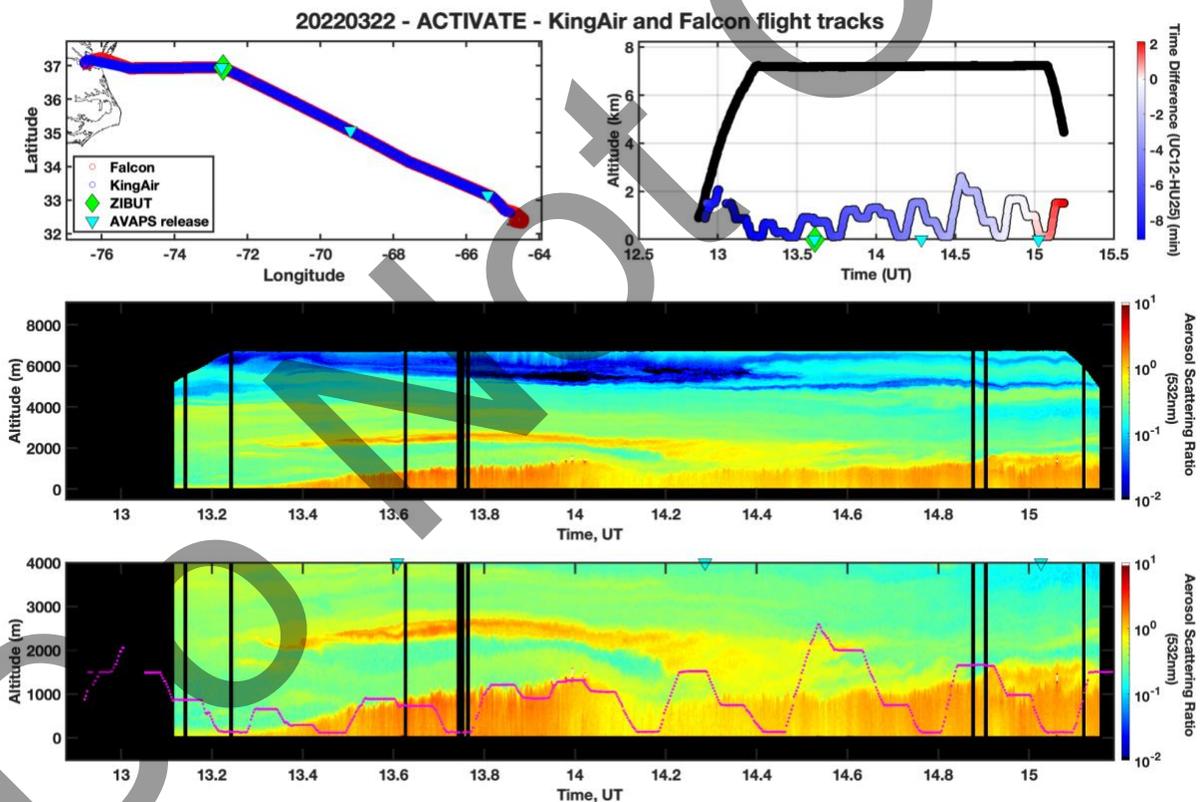
Falcon

Pilot report (Slover):

ACTIVATE statistical survey flight with few clouds on a route from Langley to Bermuda, KLF1 ATLC ZIBUT SKPPR DASER MOMOM TXKF. Flown as planned with HU-25 taking off first and UC-12 easily catching up and remaining coincidental most of the way.

Flight scientist report (Crosbie):

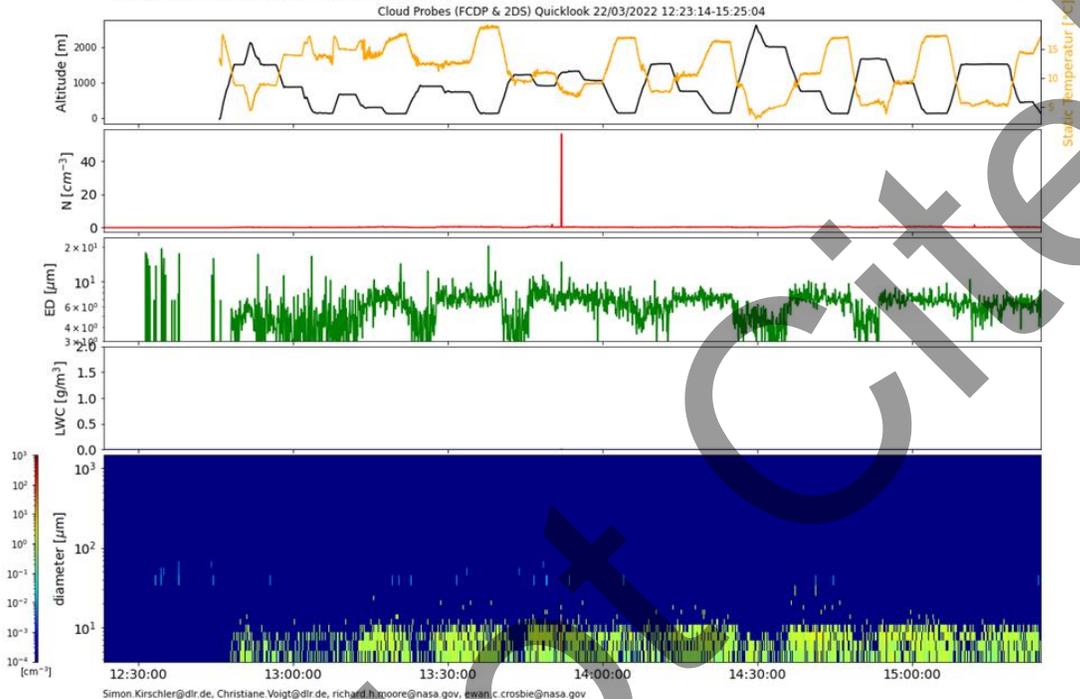
Stat survey outbound to Bermuda. Clear air sampling throughout most of the flight. There were a few regions where there were very scattered small Cu but they were not large enough to be sampled. Marine boundary layer aerosol was the focus of the outbound leg. There was evidence of a gradient in AMS organic aerosol with distance offshore.



Quicklook ACTIVATE Cloud Probes (FCDP & 2DS) Quicklook

preliminary data, only for quicklook use

Simon Kirschler, Christiane Voigt, Richard Moore, Ewan Crosbie

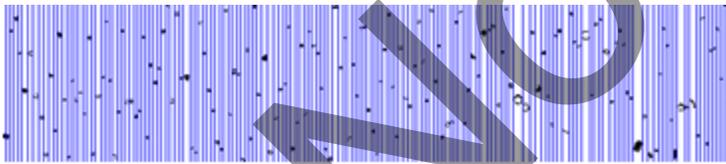
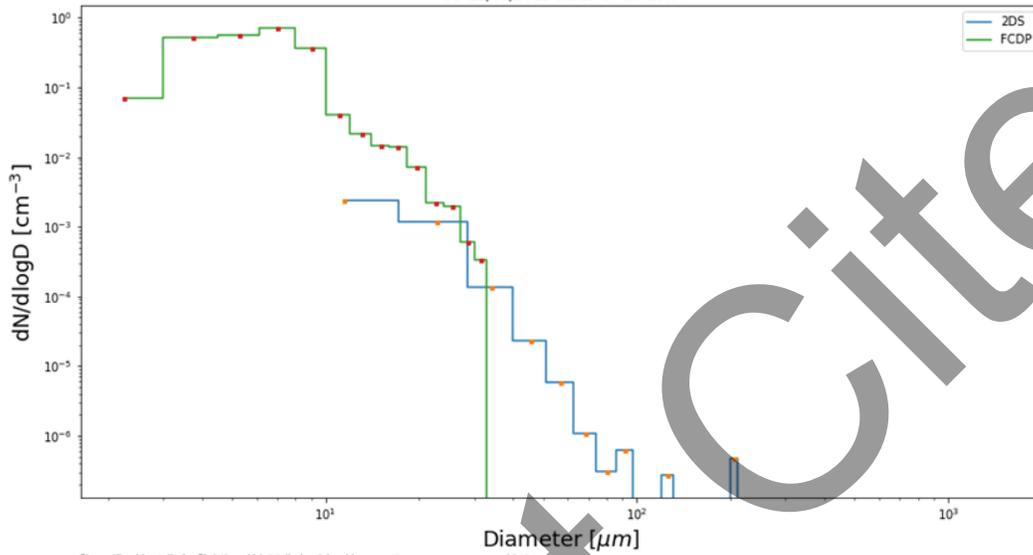


PSD ACTIVATE

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

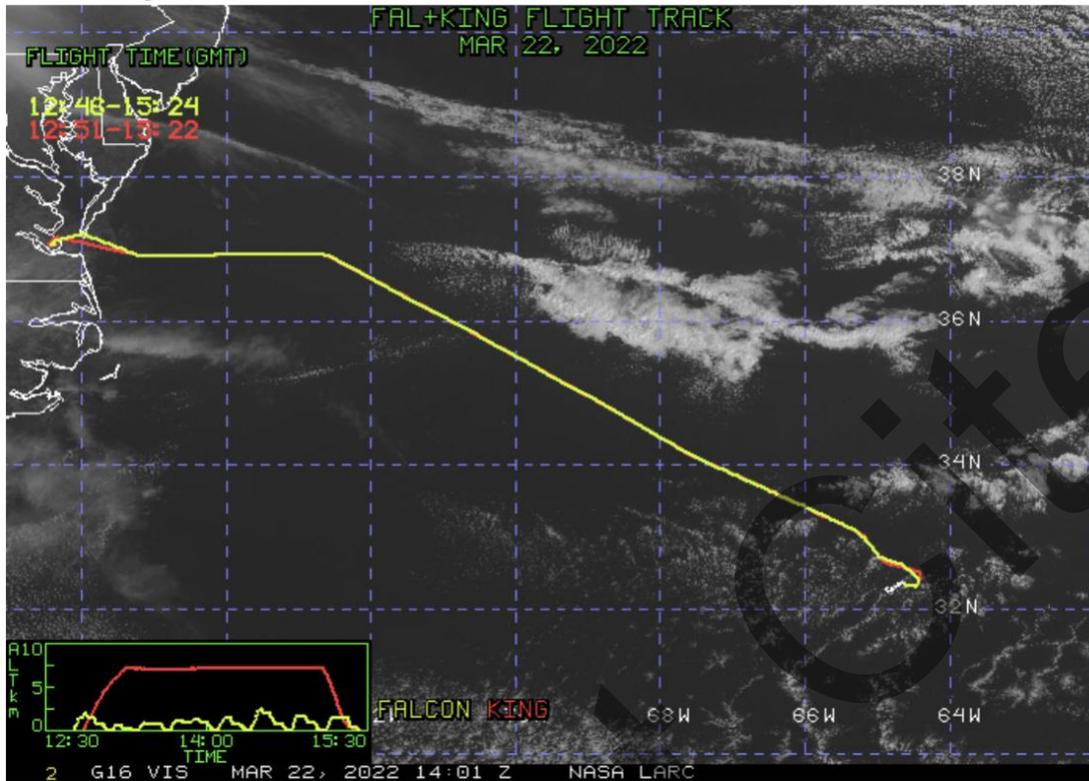


PSD 22/03/2022 12:23:14-15:25:04

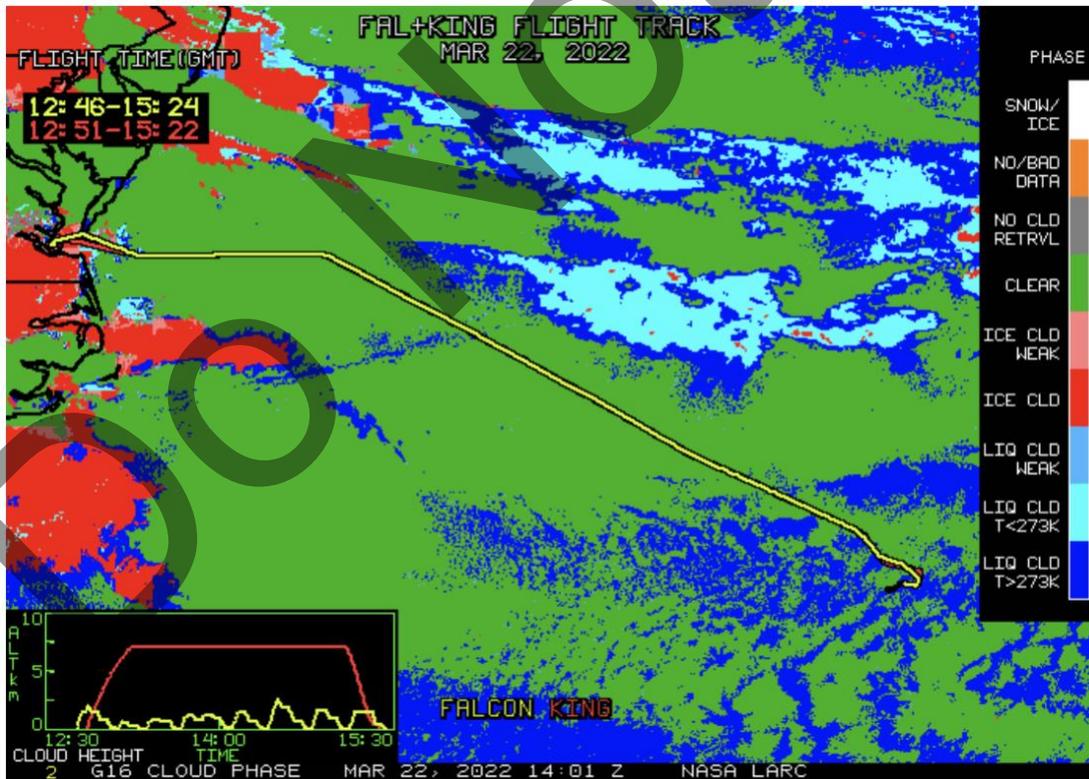


Very rare pure liquid drizzle drops
and **no** Precip.

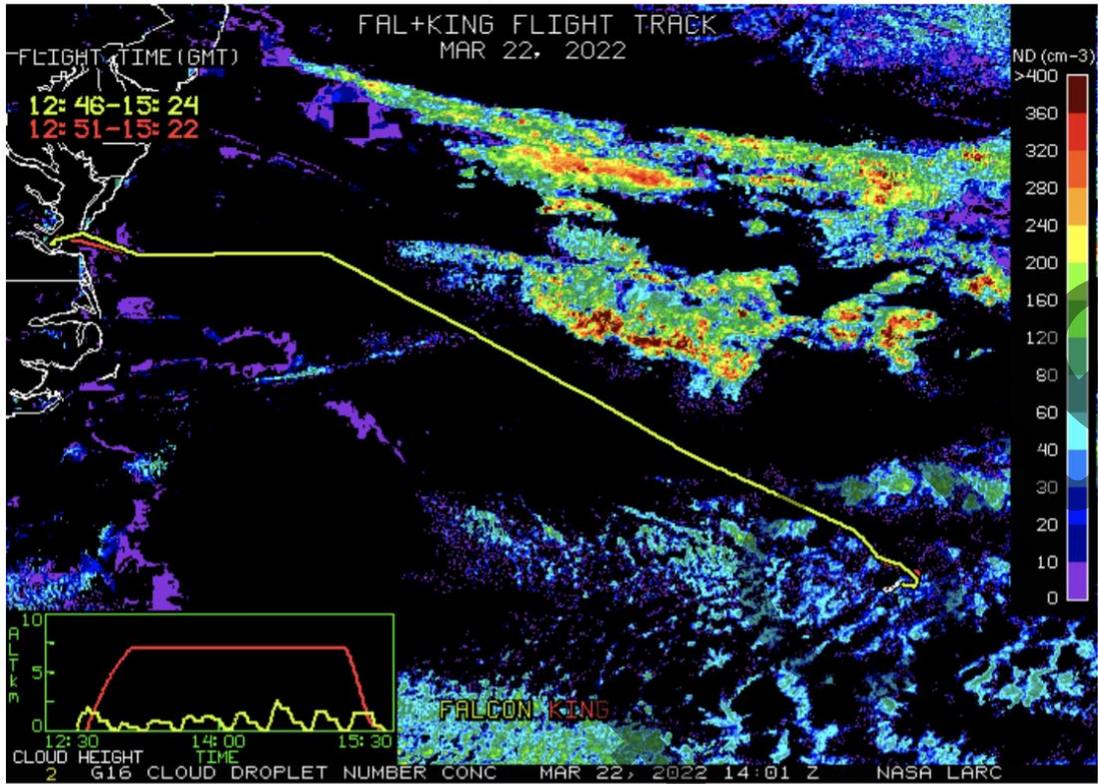
Visible Image



Cloud Phase



Cloud Droplet Number Concentration (cm-3)



Cloud-Top Height (Kft-ASL)

