Flight Scientist Report
Tuesday 03/29/2022 ACTIVATE RF147

Flight Type: Statistical Survey Flight
Flight Route: KLFI ZIBUT FISSH DARTT KLFI
Special Notes: First of two flights today to capitalize on excellent cold air outbreak conditions. We have done this type of flight plan in the past where we sampled the cloud field but also try to get upwind in the clear air next to the coast. We went counterclockwise to capitalize on slower aircraft wind speed on the most important leg aligned with the boundary layer winds (but going in reverse against the wind). This helps with coordination for the two planes and buys more time for data collection.

King Air
Pilot report (Wusk):
First joint flight of planned two flight day. planned flight around W386: KLFI ZIBUT FISSH DARTT KLFI. 4 sondes, nominal conditions. Crew was Wusk, Coldsnow, Shingler.

Flight scientist report (Shingler):

KLFI ATLIC ZIBUT 36.55N/069.88W WEBBB FISSH DARTT KLFI

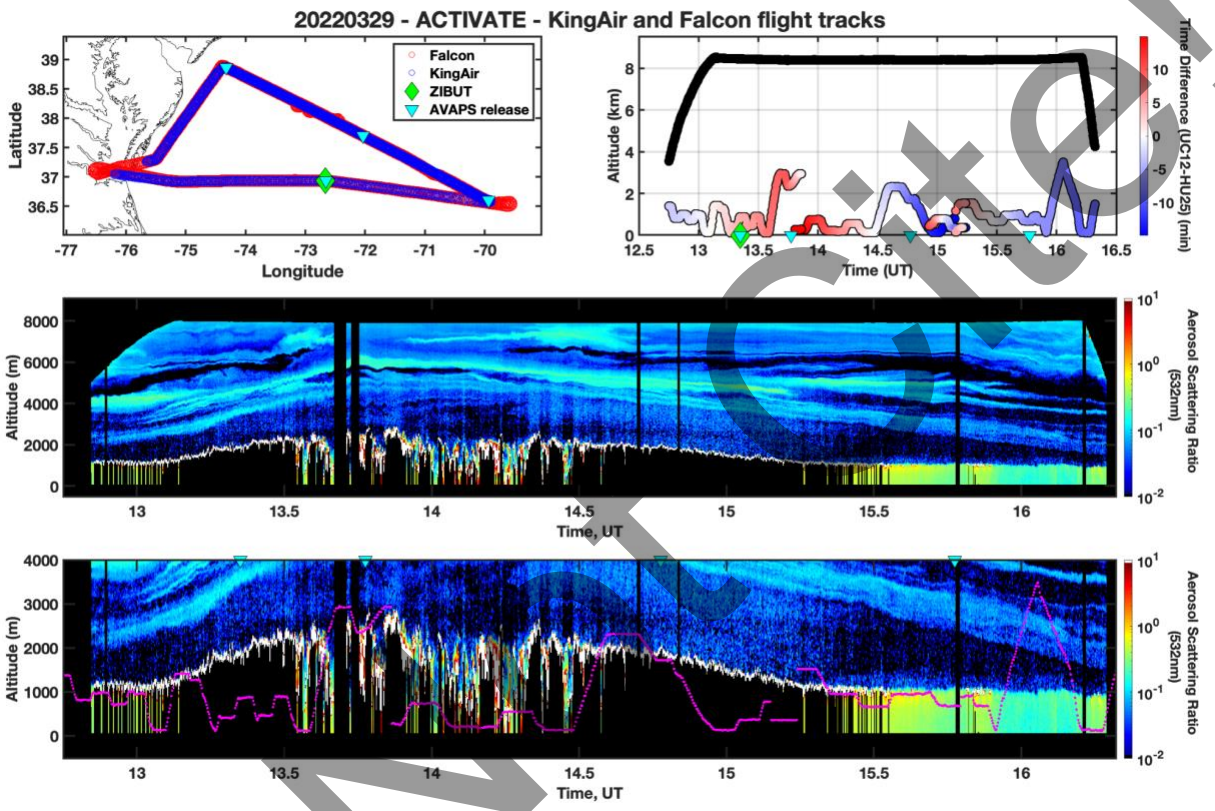
Plans for the day are 2x around the horn counterclockwise loops around ZIBUT/SIE corridors.

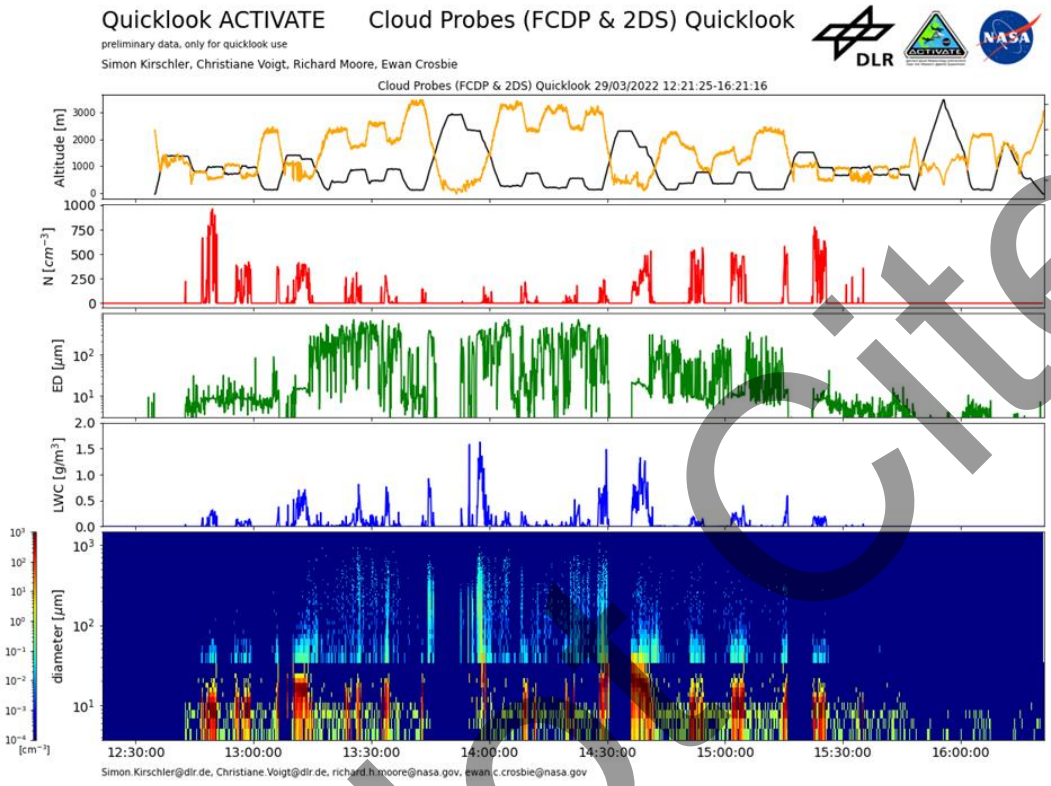
Fairly stratified lower cu deck between 3-5kft en route to ZIBUT. Deck was broken at the far eastern point and transitioned to stratified and back to scattered and clear near the coast.

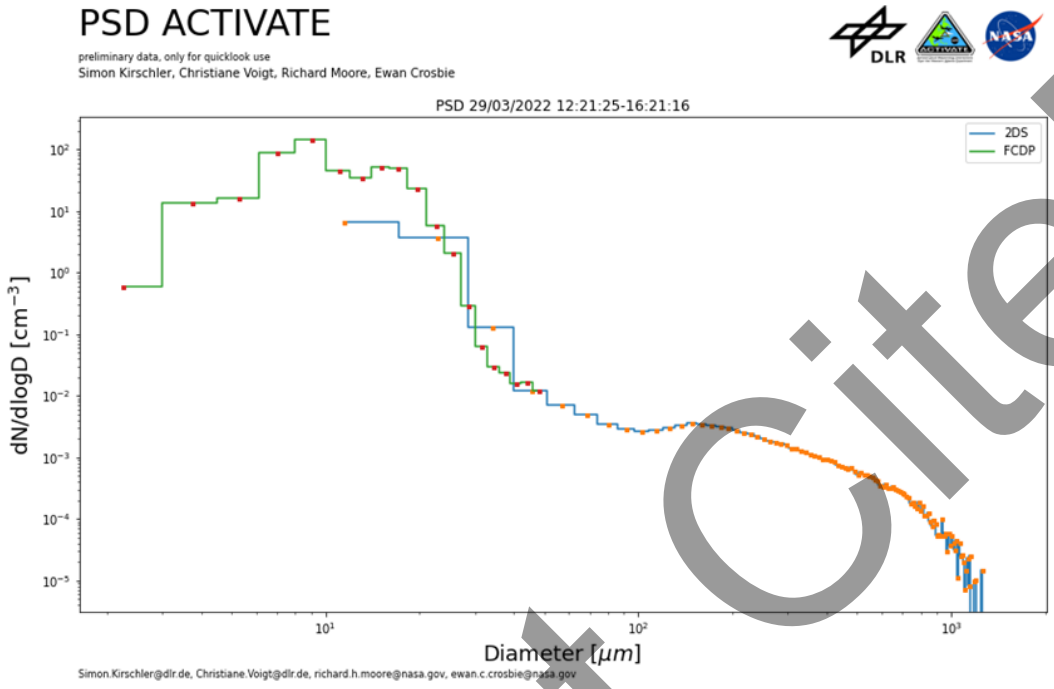
4 SONDES
ZIBUT
Turn point
WEBBB
FISSH

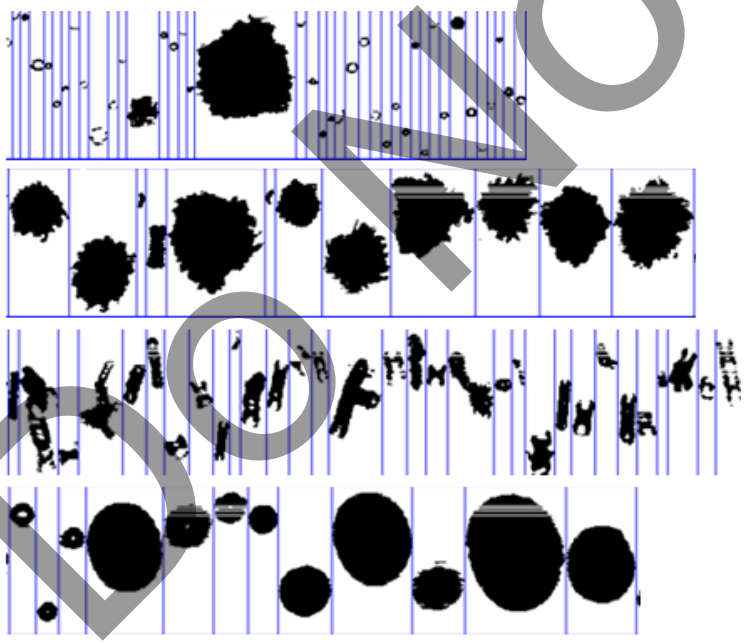
Falcon
Pilot report (Slover):
ACTIVATE cold air outbreak flight flown counter-clockwise around W-386 from KLFI - ATLIC - ZIBUT - N3633/W06953 - WEBBB - FISSH - DARTT - KLFI. One "mini-wall" was flown near LYNUS with a 360-spiral up to above cloud top at end of mini-wall. High altitude strong westerly winds over 100 kts made coincidental flight challenging, but spacing seemed to meet requirements. A military UAS in the W-386 "D" area between FISSH and DARTT forced a climb profile to 8000' and back down reducing the amount of desired low level sampling on that leg.

Flight scientist report ():



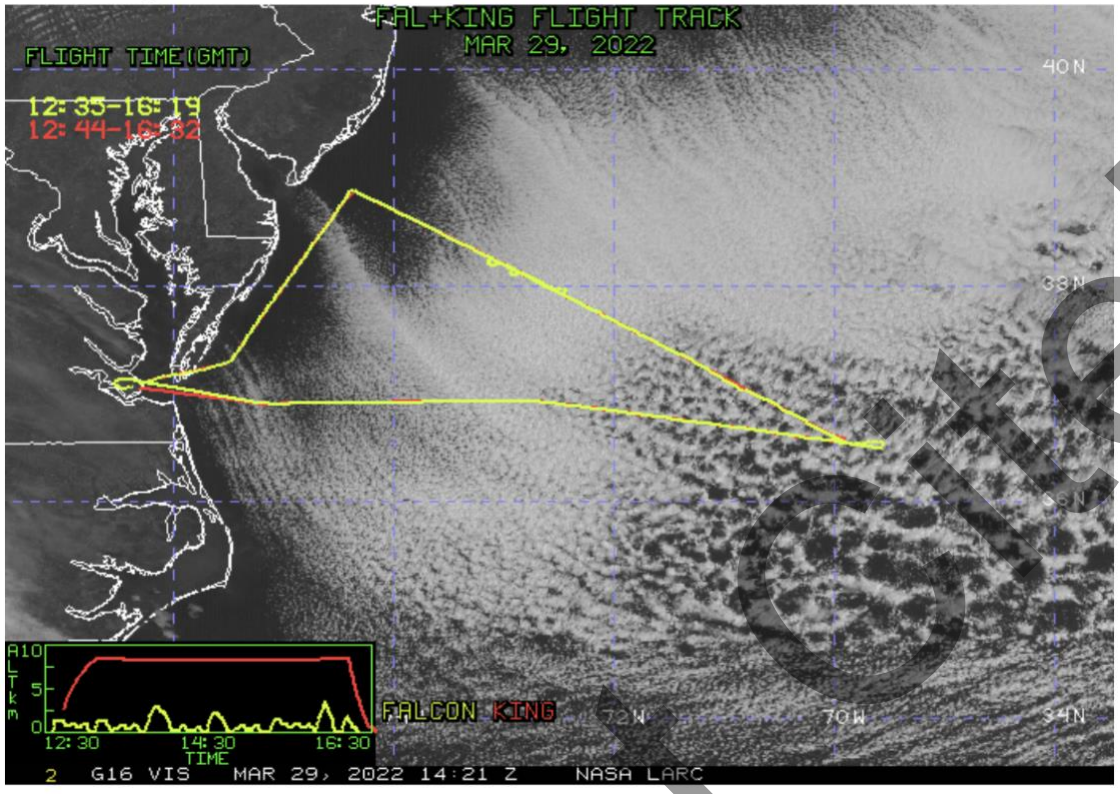

Quicklook ACTIVATE
Cloud Probes (FCDP & 2DS) Quicklook
preliminary data, only for quicklook use
Simon Kirschler, Christiane Voigt, Richard Moore, Ewan Crosbie
Cloud Probes (FCDP & 2DS) Quicklook 29/03/2022 12:21:25-16:21:16
Altitude [m]
Static Temperatur [°C]
N [cm⁻³]
ED [µm]
LWC [g/m³]
diameter [µm]
[cm⁻³]
12:30:00
13:00:00
13:30:00
14:00:00
14:30:00
15:00:00
15:30:00
16:00:00
Simon.Kirschler@dlr.de, Christiane.Voigt@dlr.de, richard.h.moore@nasa.gov, ewan.c.crosbie@nasa.gov



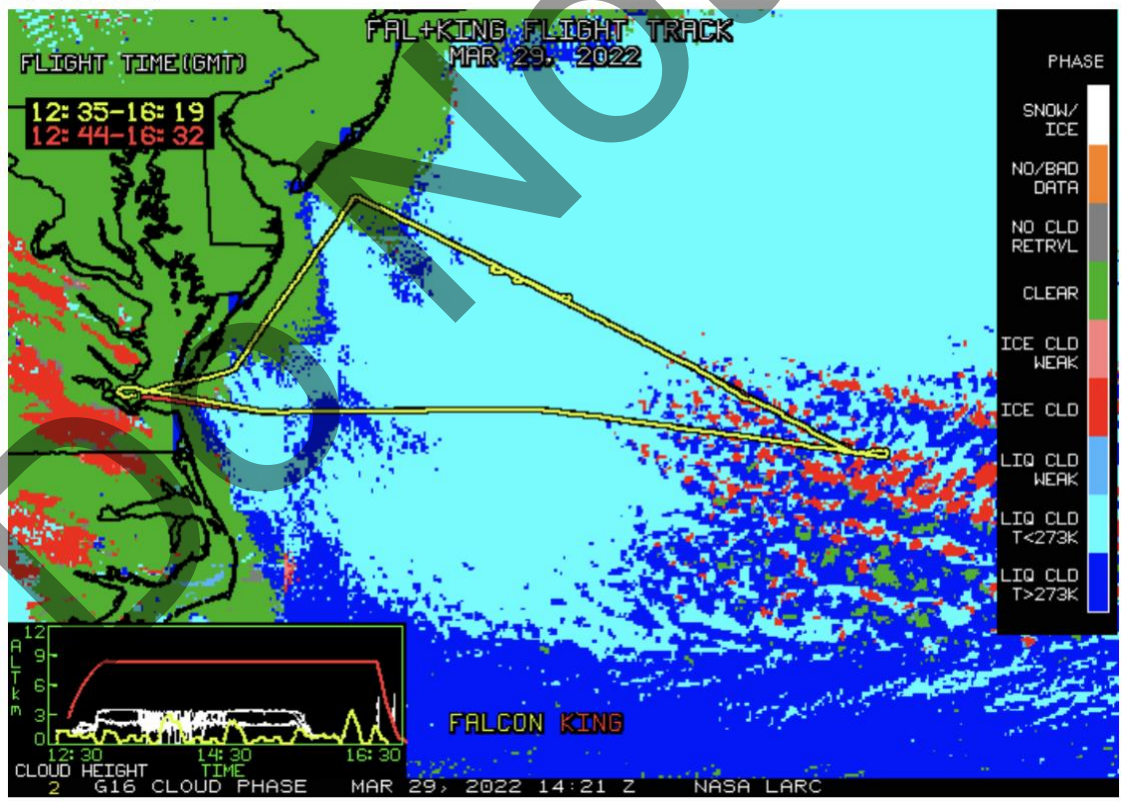


Mixed phase clouds with Precip.

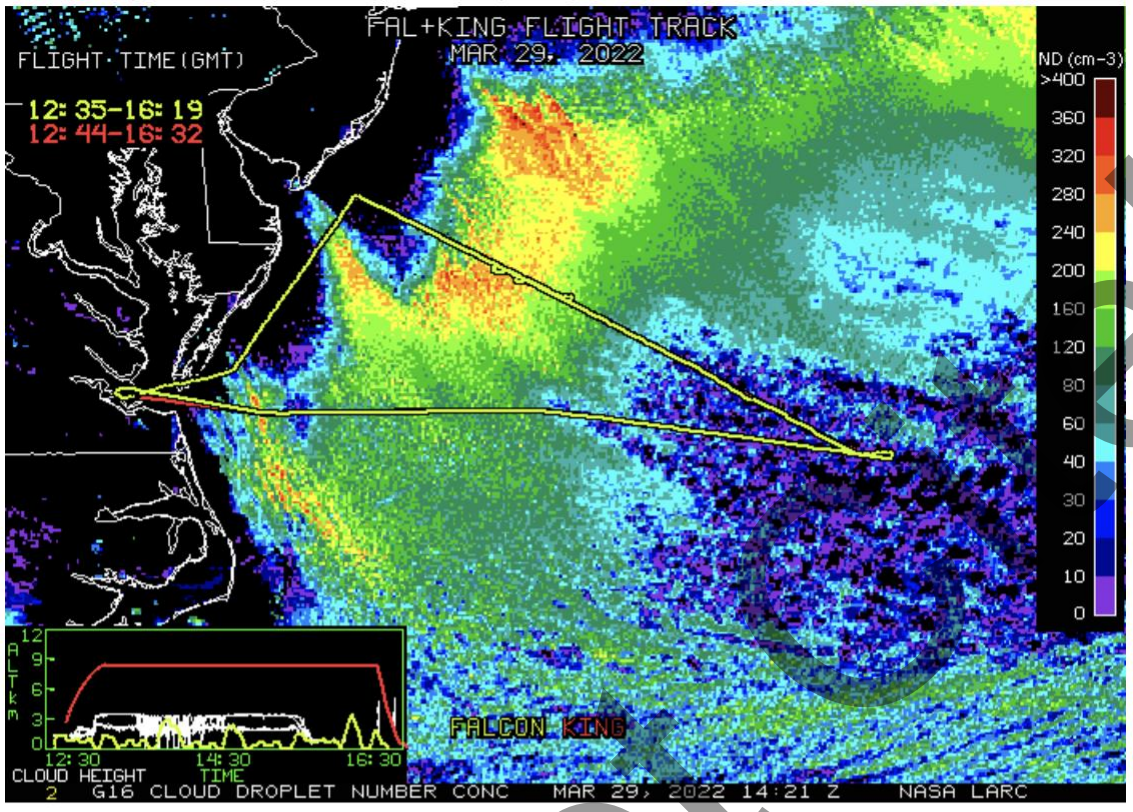
Visible Image



Cloud Phase



Cloud Droplet Number Concentration (cm-3)



Cloud-Top Height (Kft-ASL)