Flight Scientist Report
Tuesday 6/01/2021 ACTIVATE RF75

Flight Type: Statistical Survey Flight
Flight Route:
Special Notes: ASTER underflight planned originally but called an au

**King Air**
Pilot report (Wusk):
Takeoff  1031 L
Land  1406 L
3.6 hours

Cooperative science flight with the HU-25. One flight day. Departed Rwy 26, targeted 1030 TO for overpass timing. Initial ATC departure to the west with a delayed turn on course to ECG. Initial climb to FL270, requested and received FL280 in AR8. Planned route was ECG-OXANA-(multiple lat/longs for ASTOR overpass)-OXANA-ECG. Past ECG word came up that ASTOR run scrapped, instead OXANA-PERDO-OXANA. Winds were extremely light at altitude. Aircraft geolocation became focus of flight (rather than overpass timing) and was very good throughout route. Descended out of FL 280 approximately 20 nm southeast of ECG. 4x dropsondes deployed. All objectives were achieved with no aircraft discrepancies noted. Crew was Coldsnow, Wusk, and Shingler.

Flight scientist report (Shingler):

Shallow cu seen over land between KLFI and just after the coast with some light cirrus above the UC12. Skies cleared up towards OXANA and some shallow cu and mid level stratus developed closer to PERDO. Four sondes were dropped (OXANA on the way out, PERDO, mid point, and near the COAST). All instruments were operational.

**Falcon**
Pilot report ():

Flight scientist report (Crosbie):
There were shallow cumulus clouds over land on both the outbound and return legs. We adjusted our inbound plans to accommodate that as an opportunistic bonus. We managed to get 3 cloudy modules out of the flight but cloud conditions were very sparse in places. One CW sample was collected in the stratiform layer that appeared to be fed by deeper cumulus near the far turn point. There was a marked increase in sulfate and scattering with distance offshore towards the end point, but overall the aerosol mass concentration and scattering was quite low.
Only shallow pure liquid clouds without precipitation.

from Simon: The FCDP measured an interesting feature with high concentrations in the end of the flight which correlates with the in-cloud CVI sampling period. Could be a cloud formation process in a bloom at an early stage, because nearly non particles were > 15 um.