

ASI-GVAC

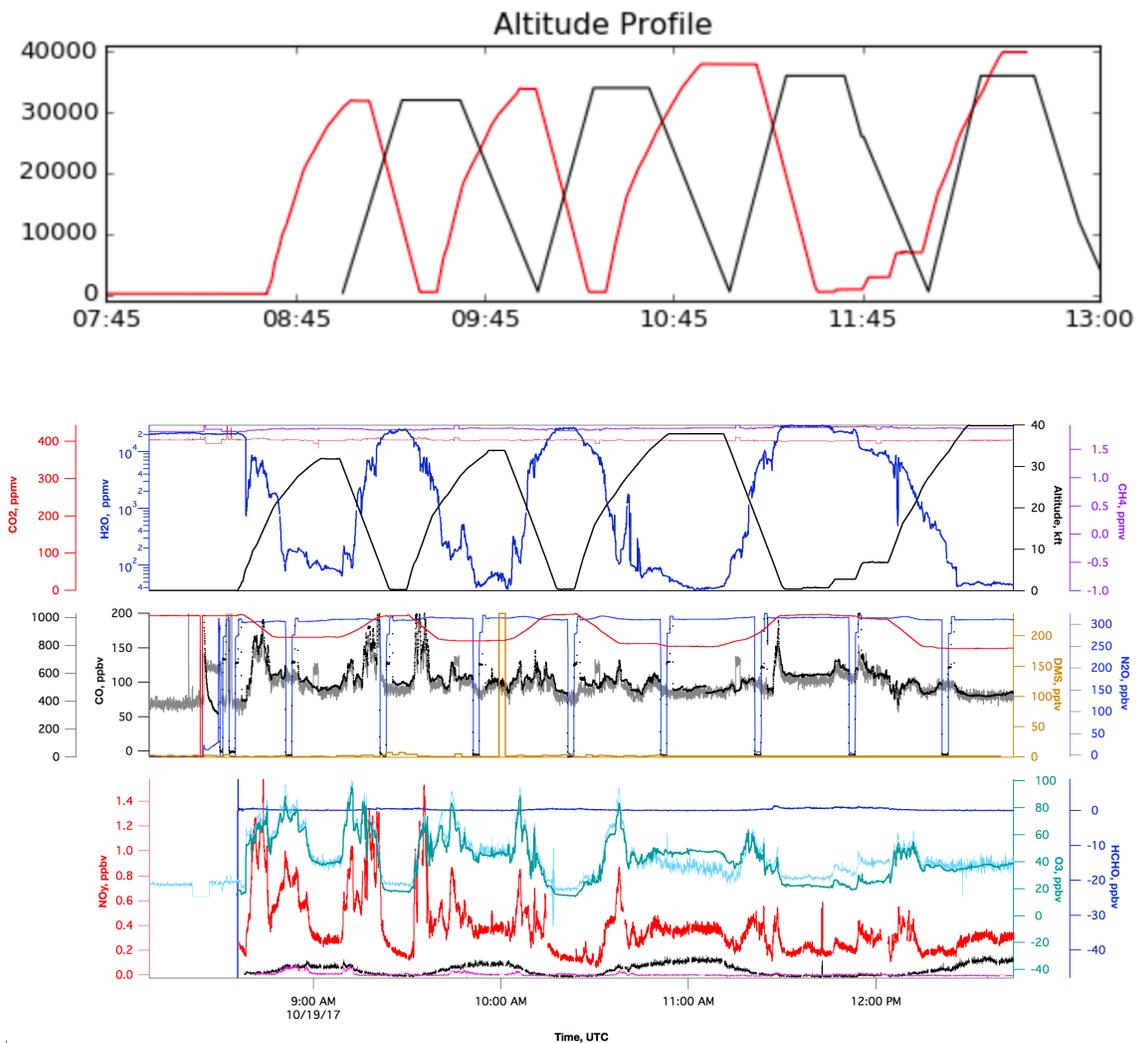
On-time takeoff 08:34 LT (08:34 UT)

Landing LT (13:10 UT)

- Left ~25 min early.
- Sharp boundary layer transition – strong inversion. Biomass burning haze, etc above inversion layer. Large number of ~2-10 um particles. 700 ppt CH₂O. Levelled off at ~34kft (radar) – as predicted we did not sample the S. American biomass burning emissions.
- ~8 min at FL320 and descent. Similar profile as takeoff – biomass burning from Africa extensive. >1.5% CO:CO₂ – similar to what we say on descent into ASI. Boundary layer cloud stratus at ~5000 ft.
- 5 min at FL340 and descent. Boundary layer cloud (broken) at 7500 ft. More structured biomass burning signals above mixed layer. 18 knot wind at 500 ft. Ascent is pretty clean. Had to divert around some Cbs at the ITCZ.
- 15 min at FL380 and then descent. Big particles (dust?) and smoke observed beginning at 13000 ft. Algae observed since ITCZ. Performed flux maneuver at 500, 1000, and 3000 ft; probably a bust – wind speeds were 2-3 knots at 500; 6-7 at 1000. A (dead?) shark/whale observed. Third leg above the mixed layer. Follow with MMS at 7000 ft.



- Climb out after MMS maneuver to FL400. Descent into Cabo Verde for on time arrival – noon local. Poor visibility for last hour of flight.



We obtained 3 profiles, performed flux and MMS maneuvers. We will head back here tomorrow for more fun. All instruments report working well. Biomass burning south of the ITCZ and dust north. Generally, much more polluted south of the ITCZ than north of the ITCZ. Lots of dust on landing – 40-50 large particles / cc.

Debrief

CAFS – good.

NO_y – good.

DLH Small problem with flow controller. Good otherwise.

Picarro good.

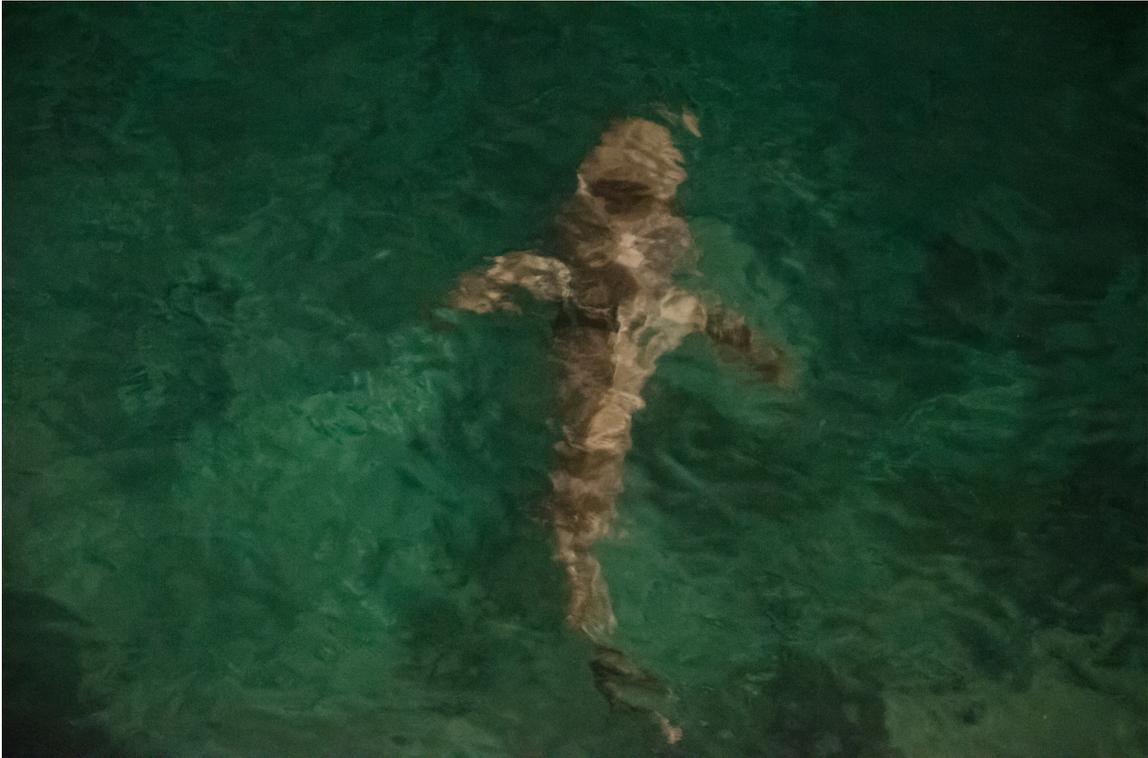
QCLS good.

SAGA good.

Panther/UCATs good.

AO2/Medusa. good.

GT-CIMS good.
NOAA CIMS good.
WAS good.
MMS good.
TOGA – OK, but some computer issues one hour into flight. Lost a handful of samples.
AMP/AGA good.
CAPS good.
PALMS. good.
ATHOS. good.
ISAF. good
SP2 – good. One instrument was down due to low laser power.
HRAMS small snafu at beginning (lost a bit of data) otherwise good.
CITCIMS good.



We left behind the Ascension sharks (said to be “Galapagos Sharks”). In either case, they recently bit some people and so no swimming! Photo credit: Max Dollner