

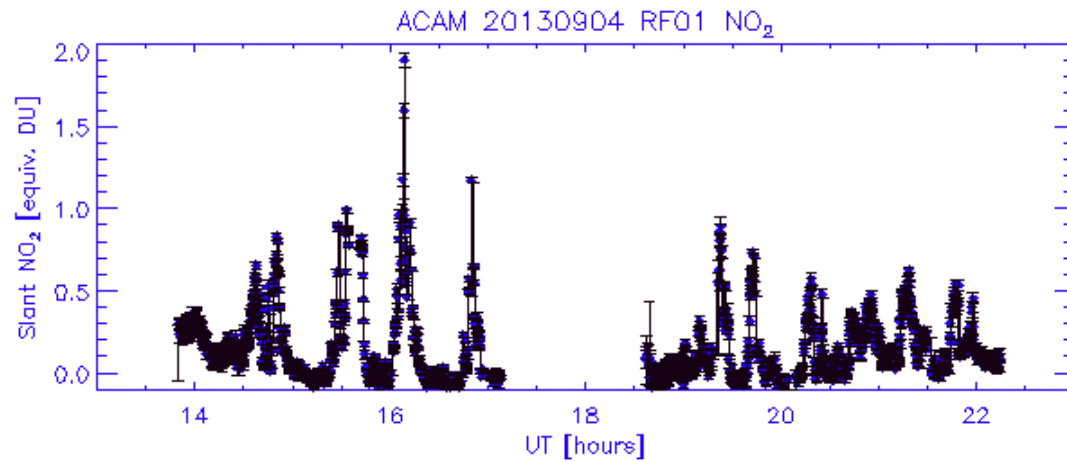


ACAM Flight Report

2013-09-04

Operations Summary RF01

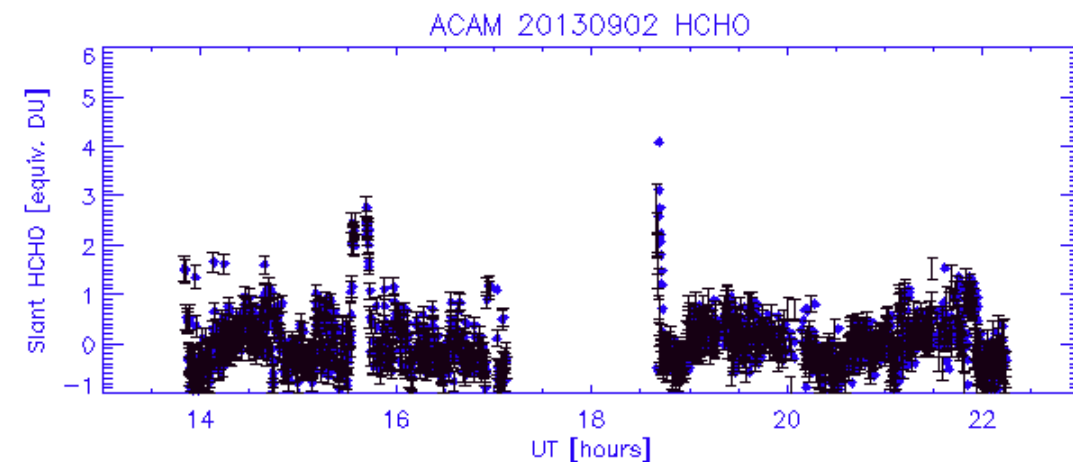
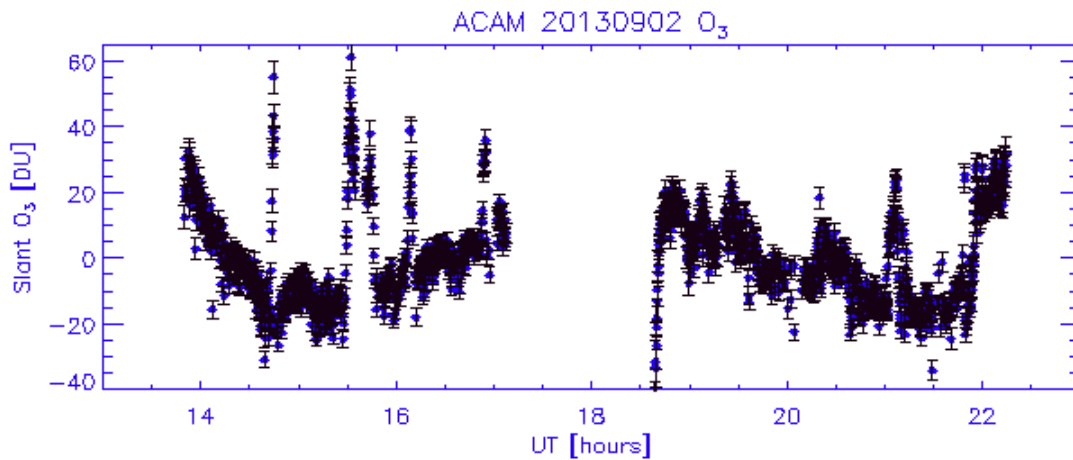
The ACAM instrument operated nominally during the first research flight, collecting over 10 million individual spectra for analysis. The instrument reached stable operating temperature approximately 45 minutes after take off and was operational for the duration of both flights. Cloud cover during the day has prevented some retrievals due to saturation of the detector over bright clouds within the field of view, but approximately 80% of the data will yield retrievable slant column amounts of NO_2 , CH_2O , and O_3 . Additional work will be required to flag retrievals with an estimate of cloud fraction in order to convert slant to total column. The following retrievals are swath averaged [7km across track by 300 meters along track].



Trace gas slant column amounts

Enhanced values of NO₂ are seen in the Channel View and Deer Park area in the morning as well as at Smith Point. Afternoon values are a bit lower and have spread westward.

Enhanced values of O₃ are seen in the Texas city area and at Smith Point in the morning. Smith Point shows a smaller peak in the afternoon.



Peak values of HCHO are seen in the Texas city area during the morning flight.

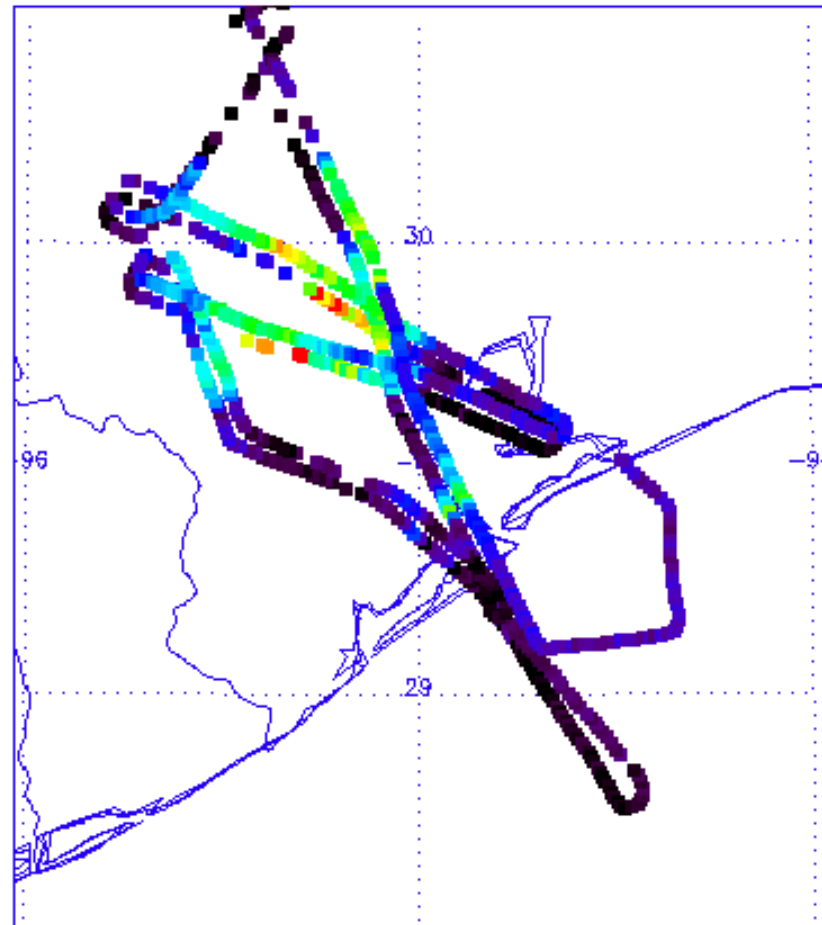
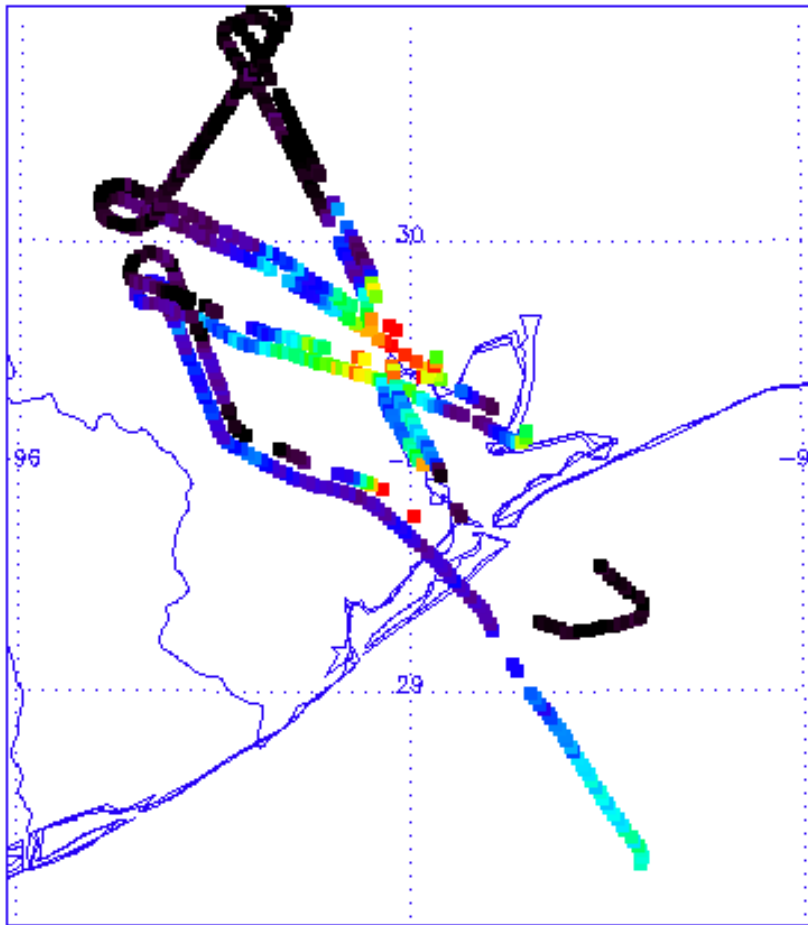
NO₂ Spatial Distribution

Morning

Peak [red] = 5.2×10^{16} molec./cm²

Afternoon

Second pass offset to show track values



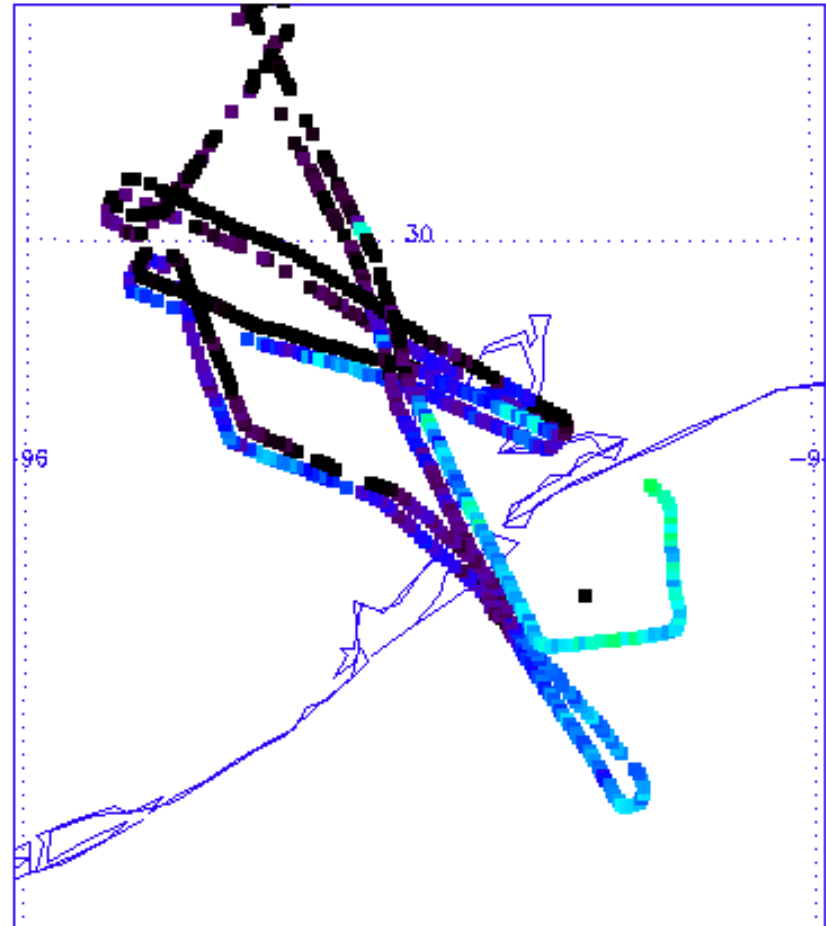
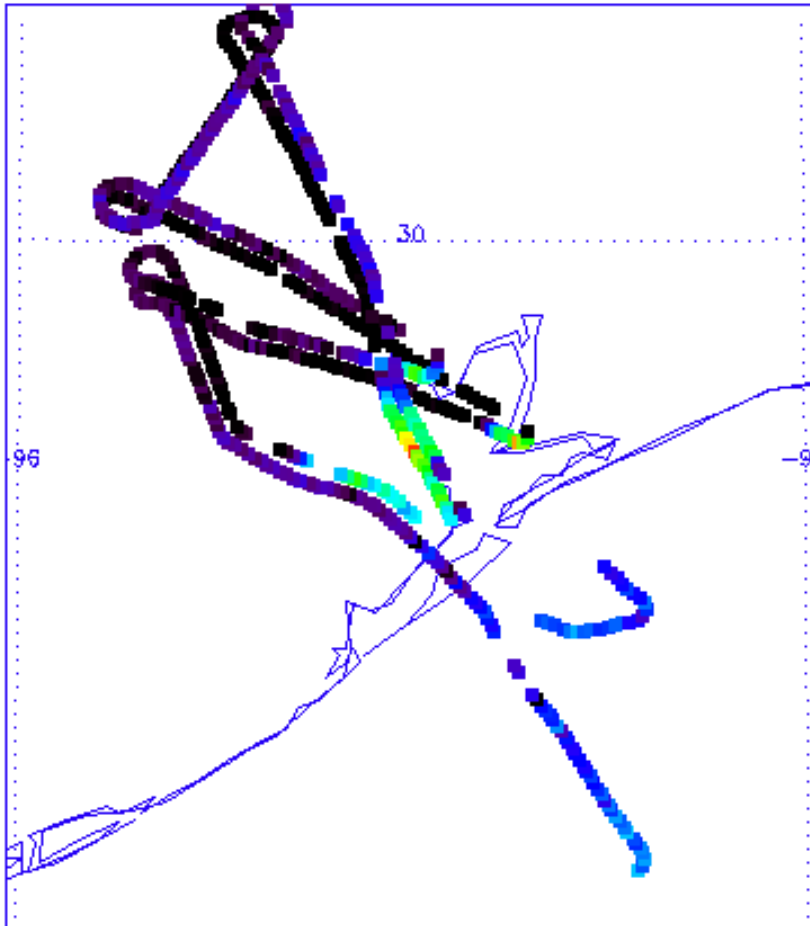
O₃ Spatial Distribution

Morning

Peak [red] = 50 DU

Second pass offset to show track values

Afternoon



HCHO Spatial Distribution

Morning

Afternoon

Peak [red] = 3.0×10^{16} molec./cm²

Second pass offset to show track values

