

# G-1 Flights in Texas 2000 AQS

20 Research Flights from 8/18/00 to 9/12/00

Data available at <ftp://aerosol.das.bnl.gov/pub/Houston00/>

Check Read Me.txt for revision history

10-s averaged data (1-s data available by request)

Flat file with uniform formatting, blanks for missing data

Self-documenting

Currently contains:

Position, met, gas-phase chemistry, particle probe data

To be added:

H.C., peroxide, carbonyl, PILS, small particles

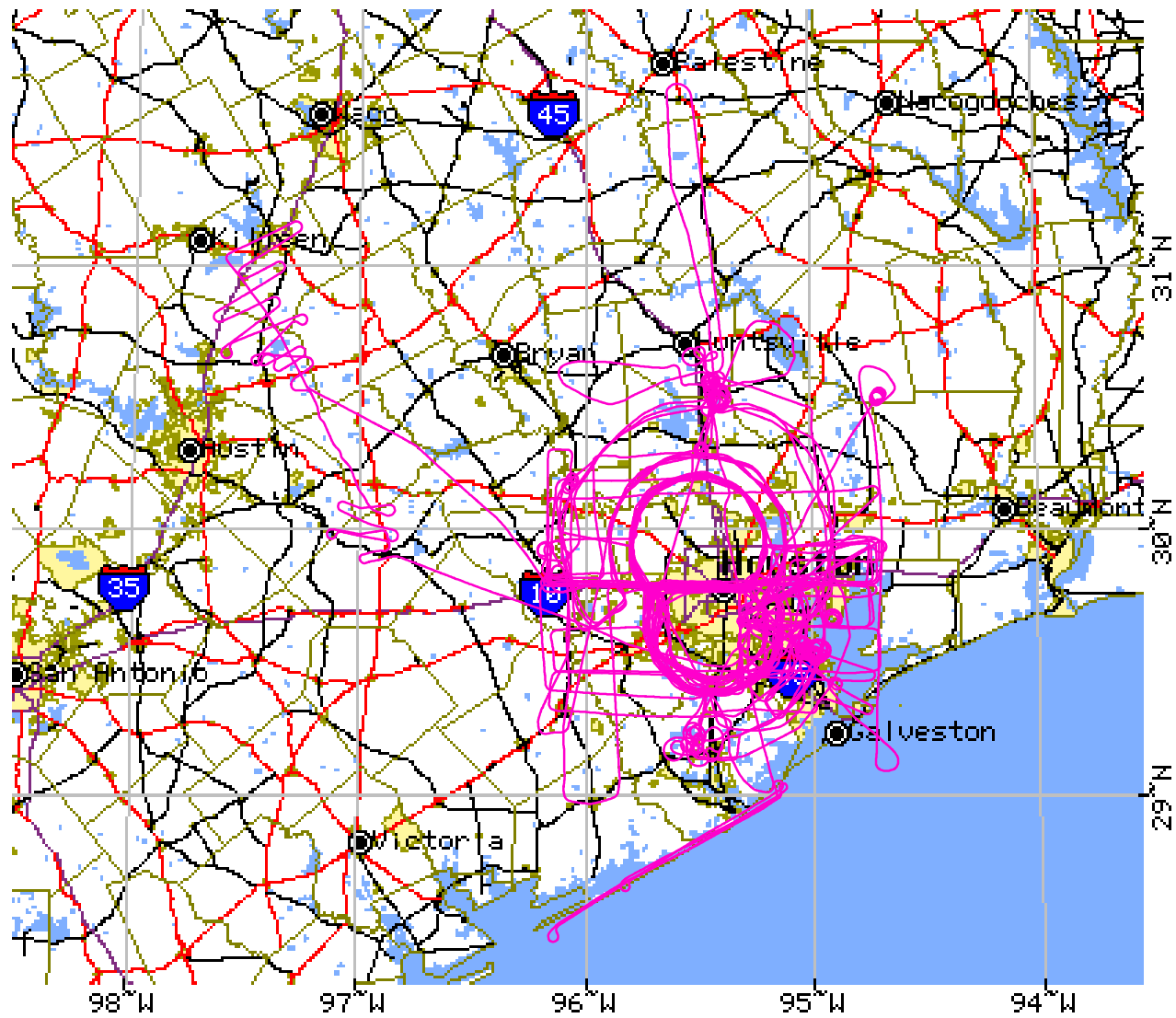


# Humidity, Heat & Hydrocarbons



# Flight Tracks

## All Flights



# Quality Assurance/Quality Control

## MFCs

SBF Calibration

## NO/NO<sub>2</sub>/NO<sub>y</sub>

Zeros via prereaction with reagent O<sub>3</sub>

NO std. traceable to BNL NIST std.

NO<sub>2</sub> standard generated by GPT, confirmed to <5% w/gaseous std.

Multi-point calibrations on ground in ZA (NO, NO<sub>2</sub>)

Single-point standard additions in flight (NO, NO<sub>2</sub>)

NO<sub>y</sub> conversion efficiency, response time for HNO<sub>3</sub>

## O<sub>3</sub>

Zeros via charcoal

Gas-Phase Titration traceable to NIST NO standard

Zeros & response stability in flight

## CO

Zeros via Hopcalite

CO std. EPA protocol gas traceable to BNL NIST std.

Multi-point calibrations on ground in ZA

Single-point standard additions in flight

## SO<sub>2</sub>

Zeros via KCO<sub>3</sub> filter

SO<sub>2</sub> std. EPA protocol gas traceable to BNL NIST std.

Multi-point calibrations on ground in ZA

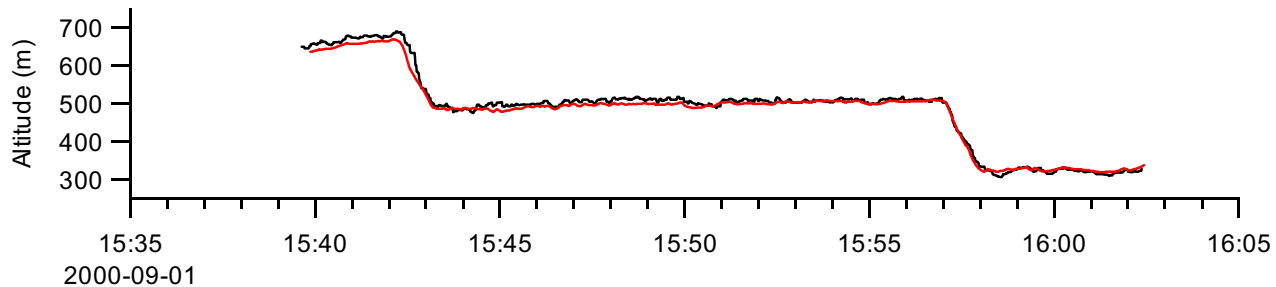
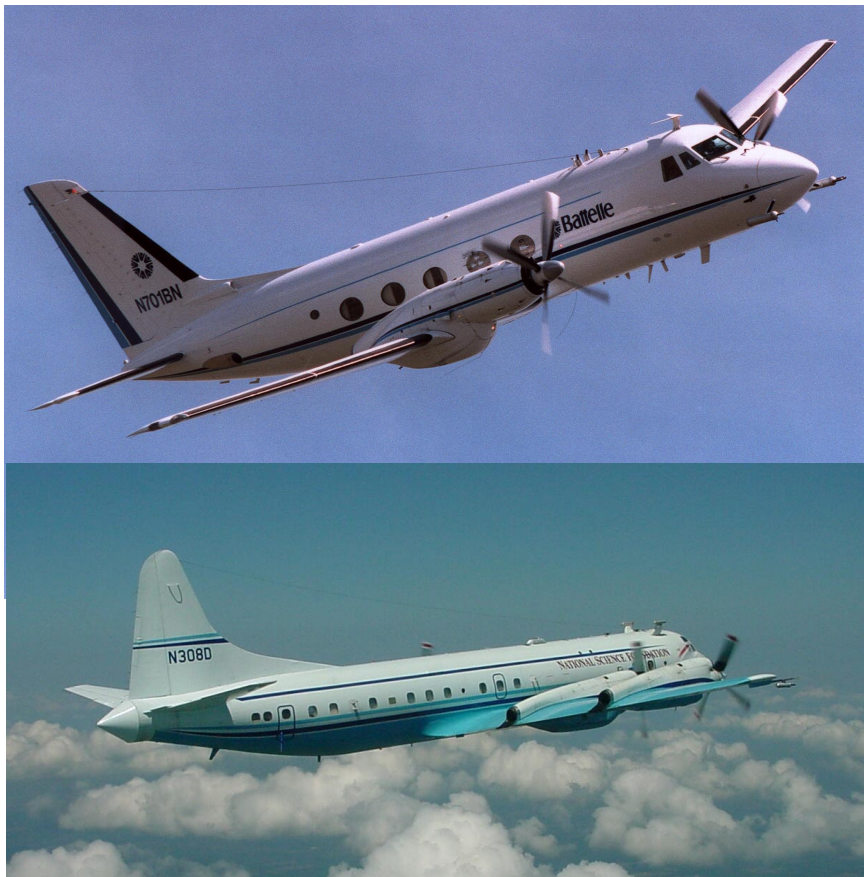
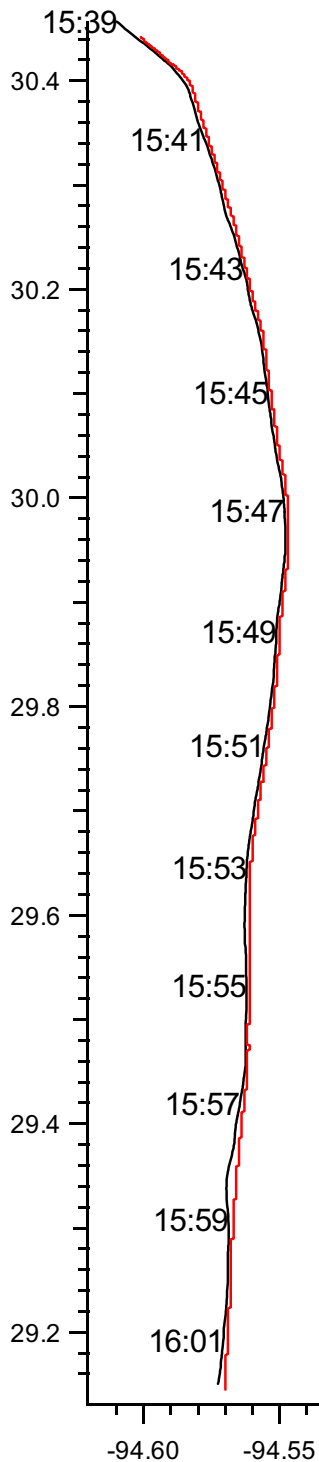
Single-point standard additions in flight

## Met

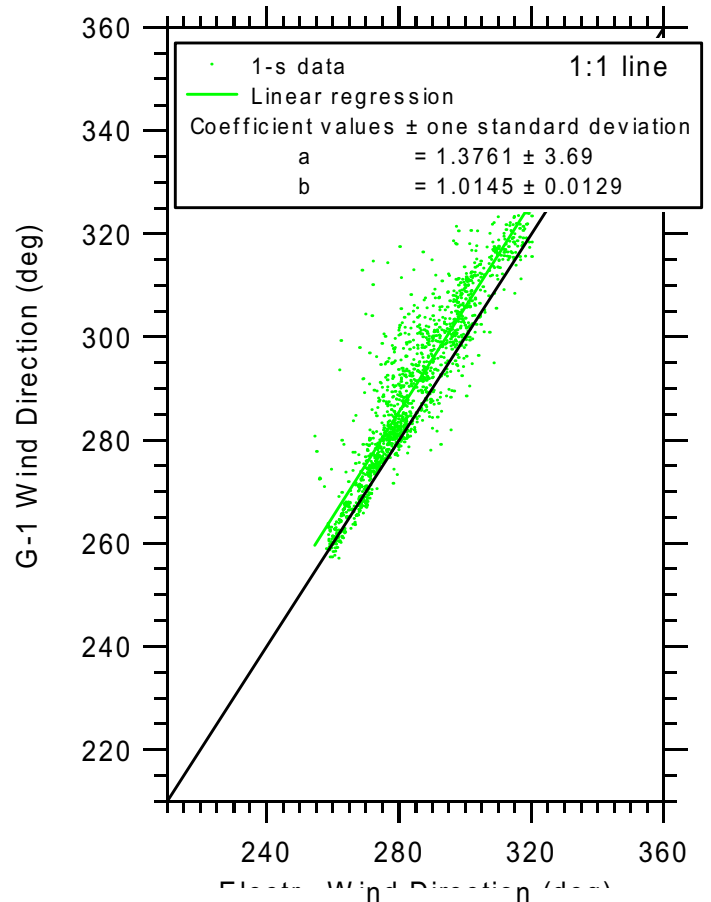
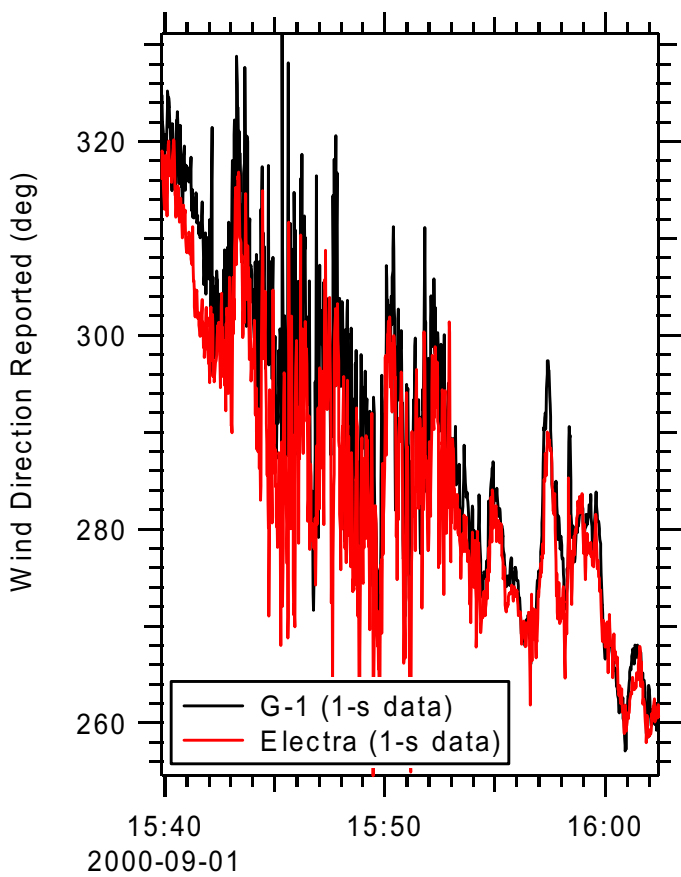
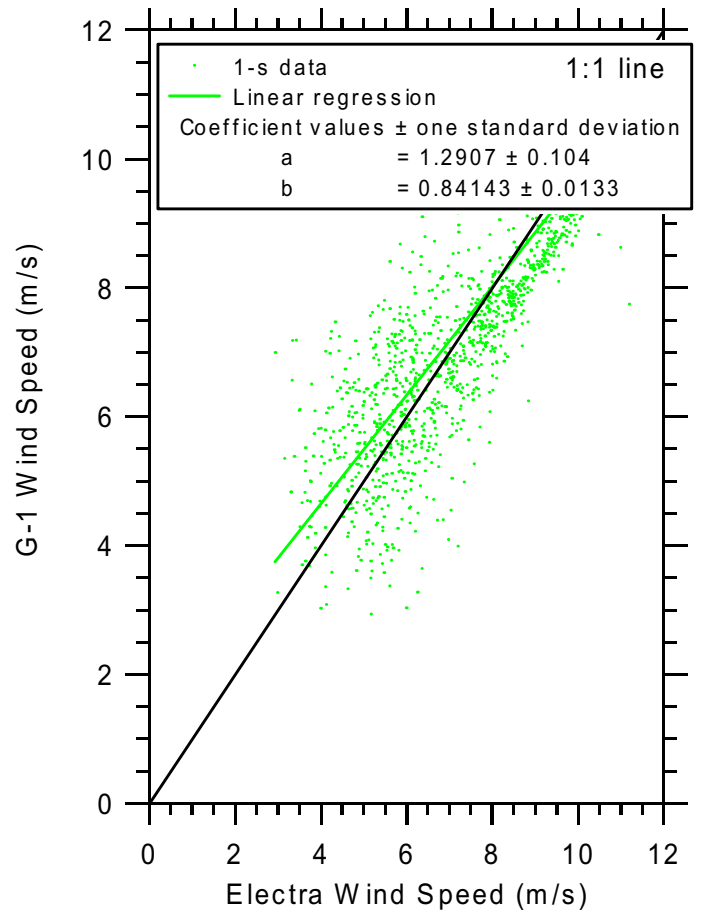
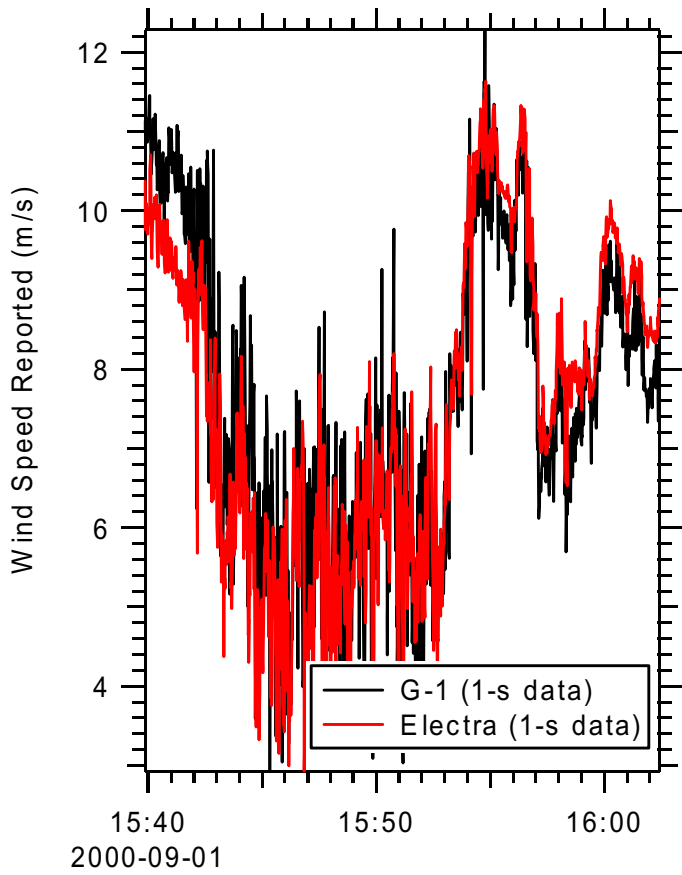
PNNL Calibration

# Intercomparison Section

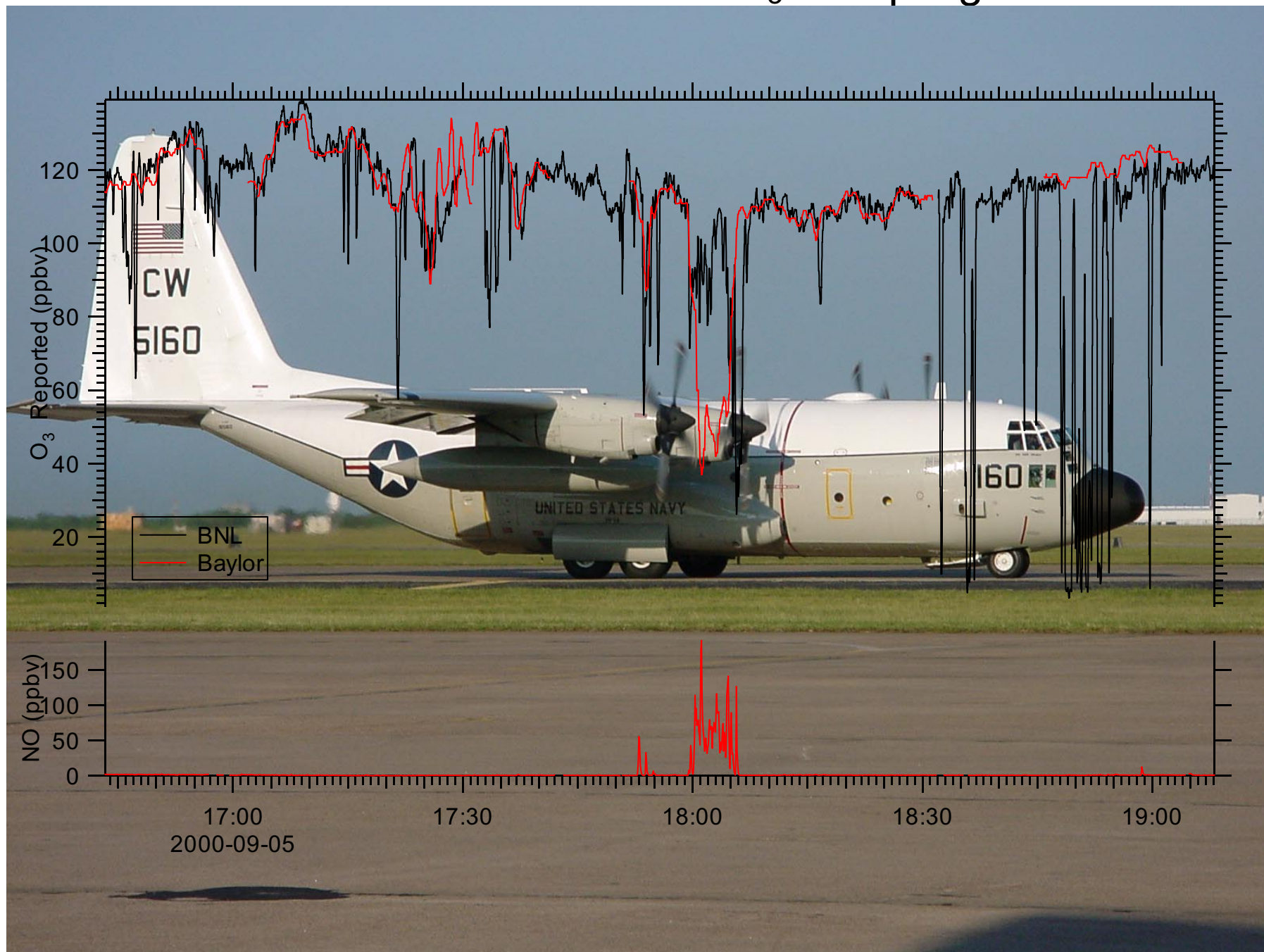
Duration 15:40 – 16:03 or ~79 nm  
Horizontal Separation = ~150 m  
Vertical Separation < 10 m



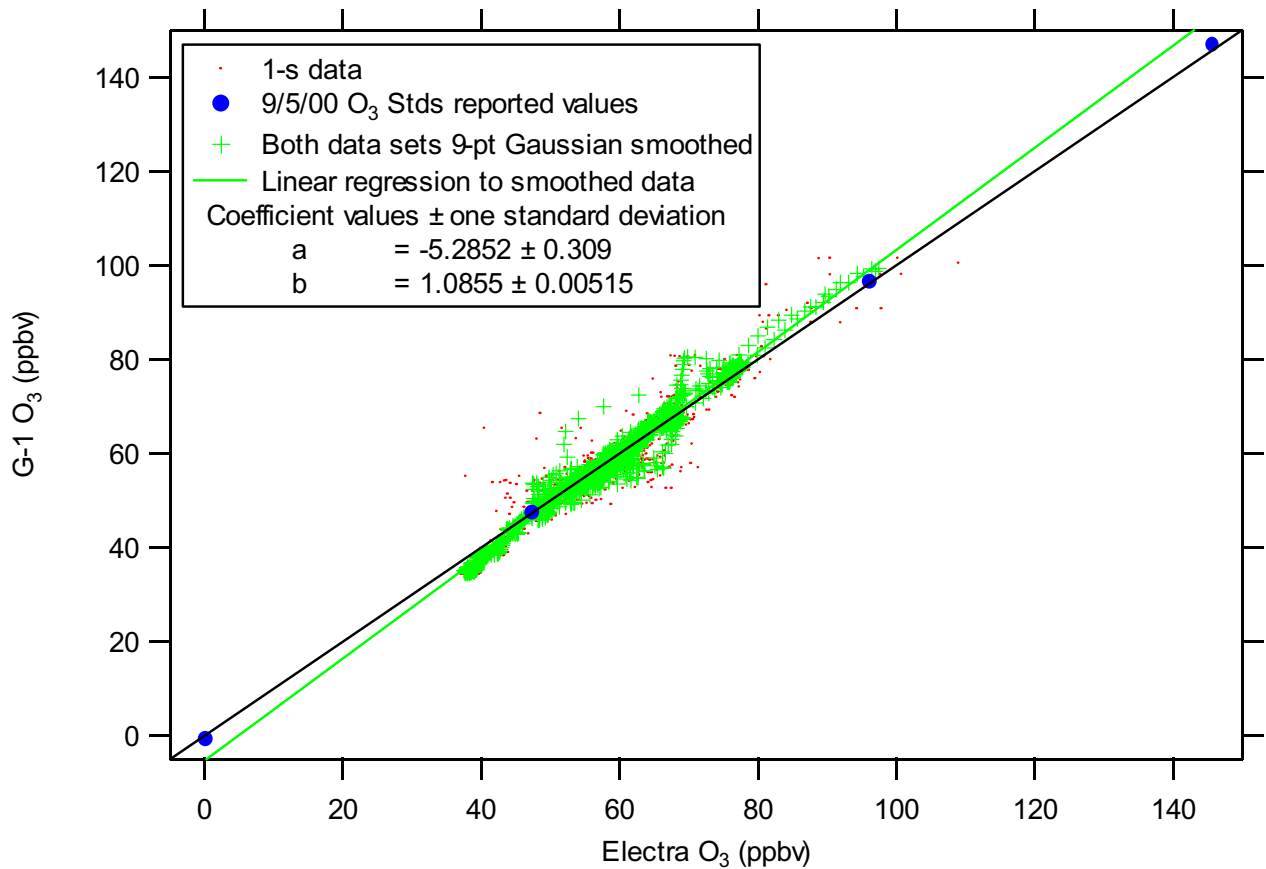
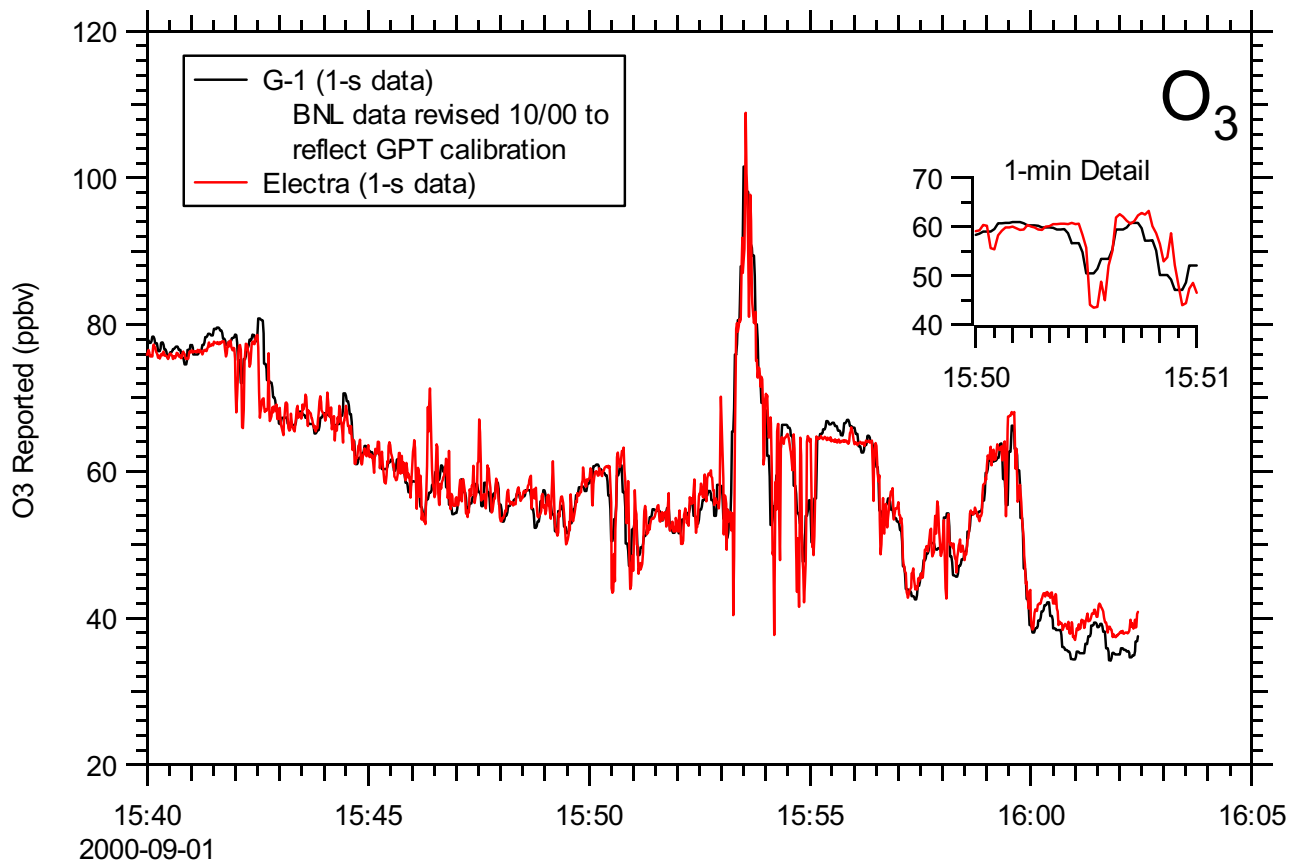
# Winds



# Ground O<sub>3</sub> Sampling vs. Twin Otter

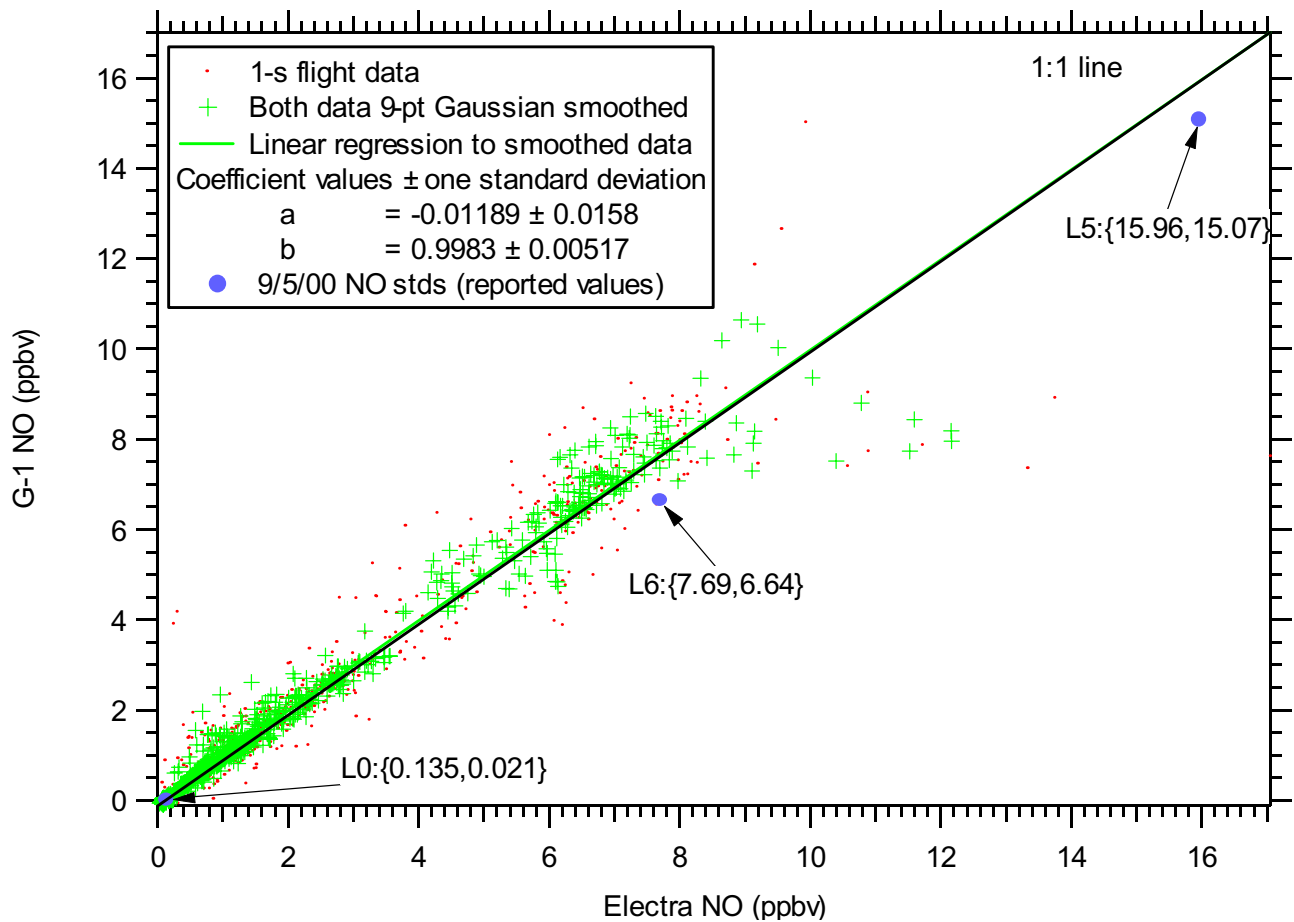
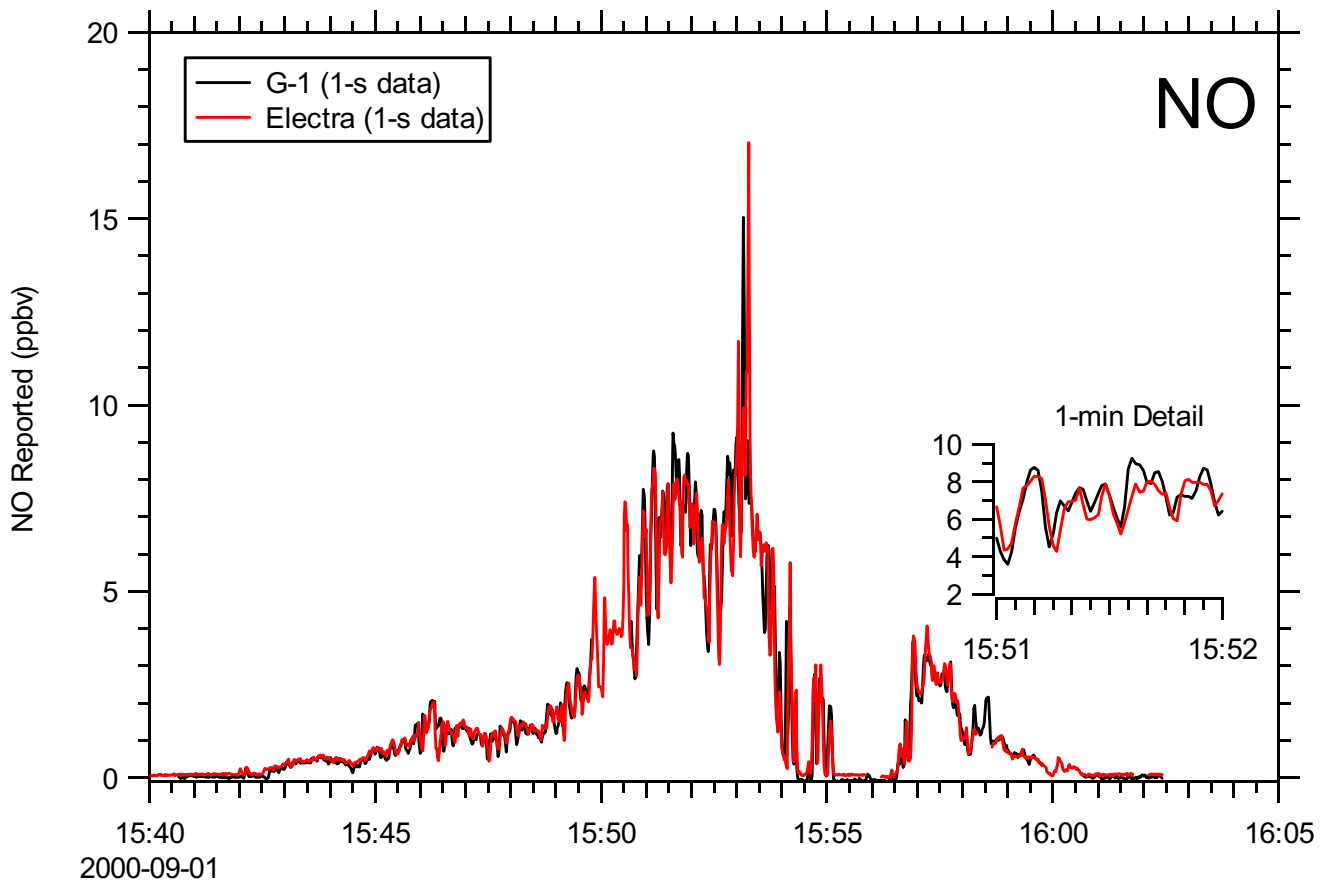


# Airborne O<sub>3</sub> Sampling vs. Electra



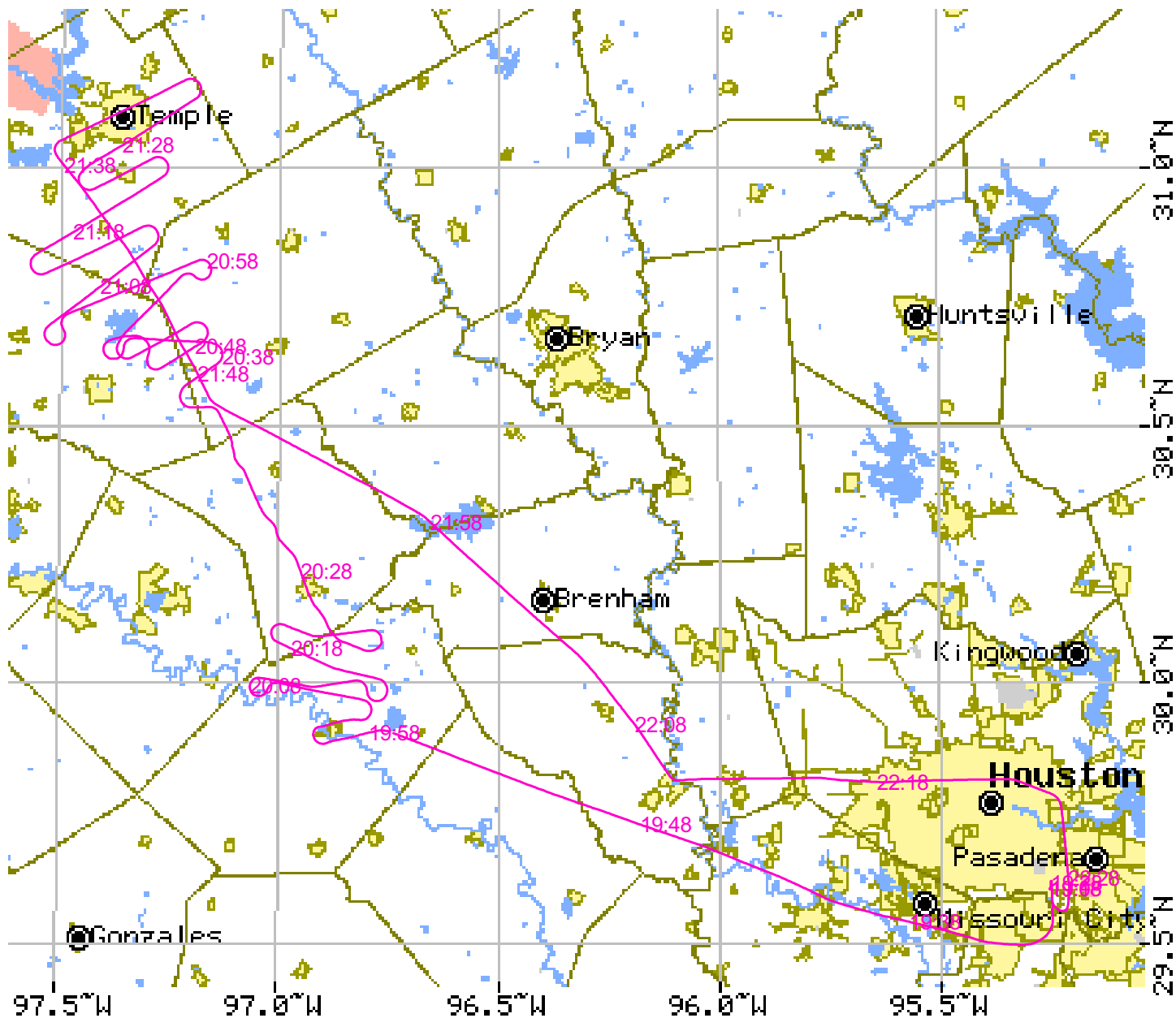


# Airborne NO Sampling vs. Electra

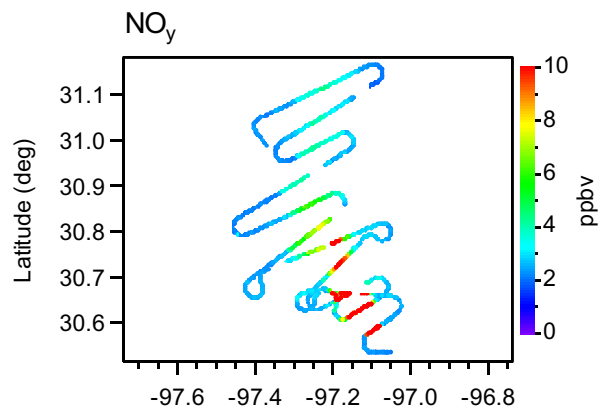
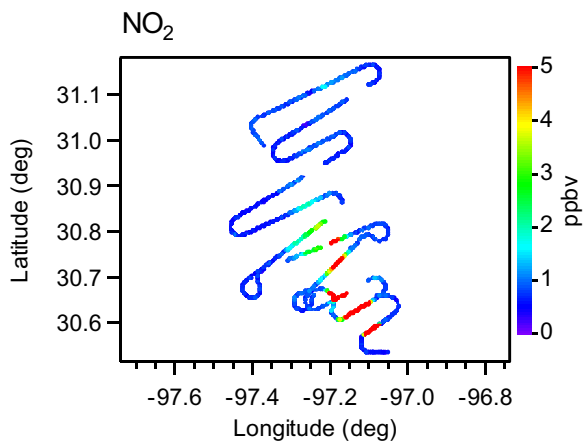
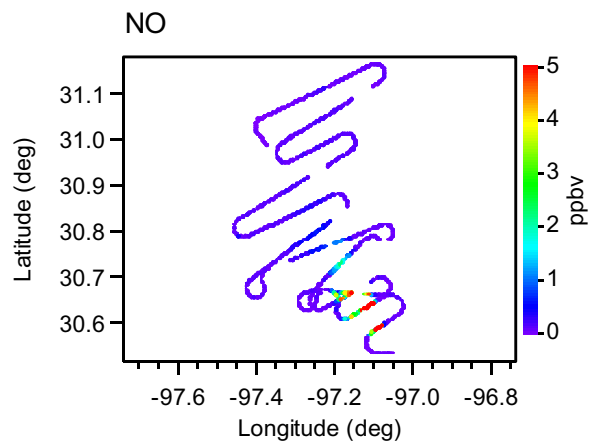
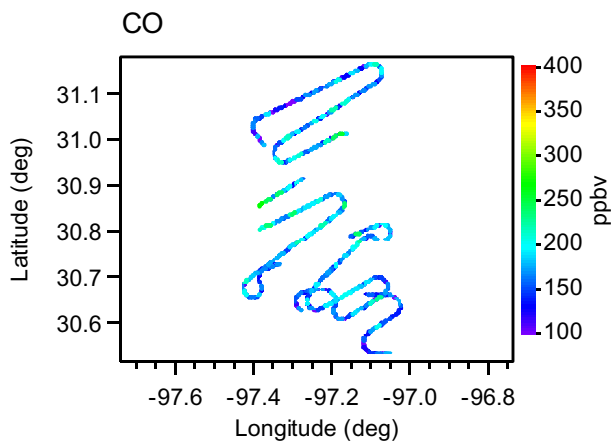
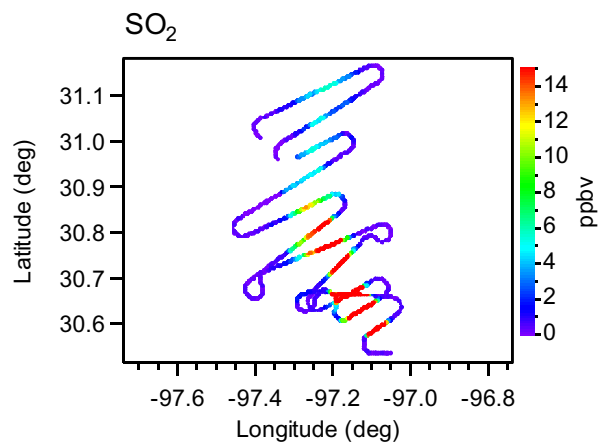
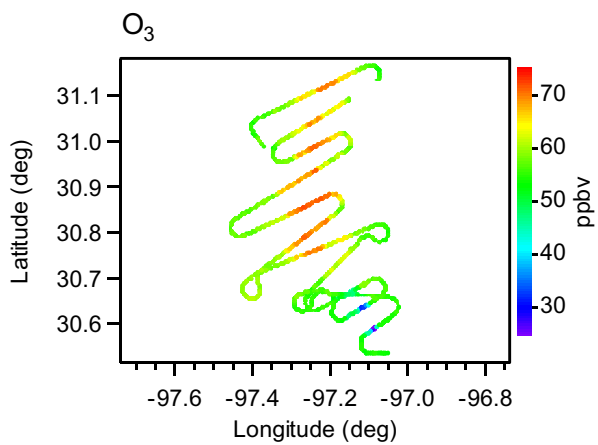
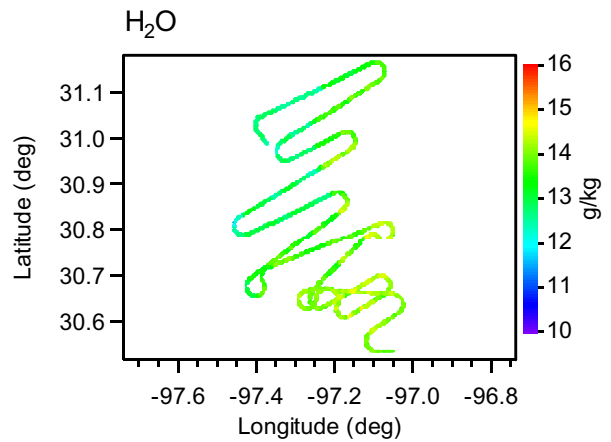
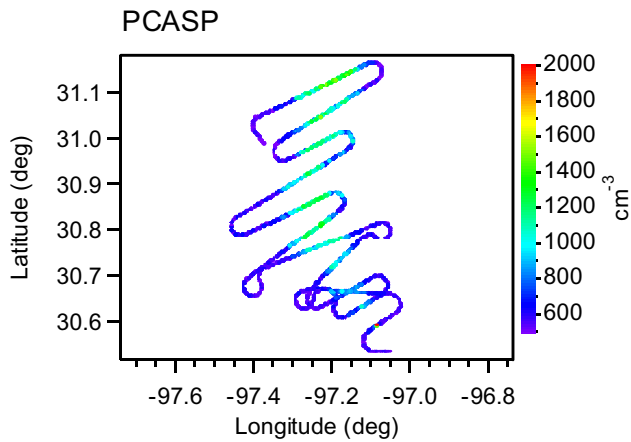


Afternoon 9/10/00

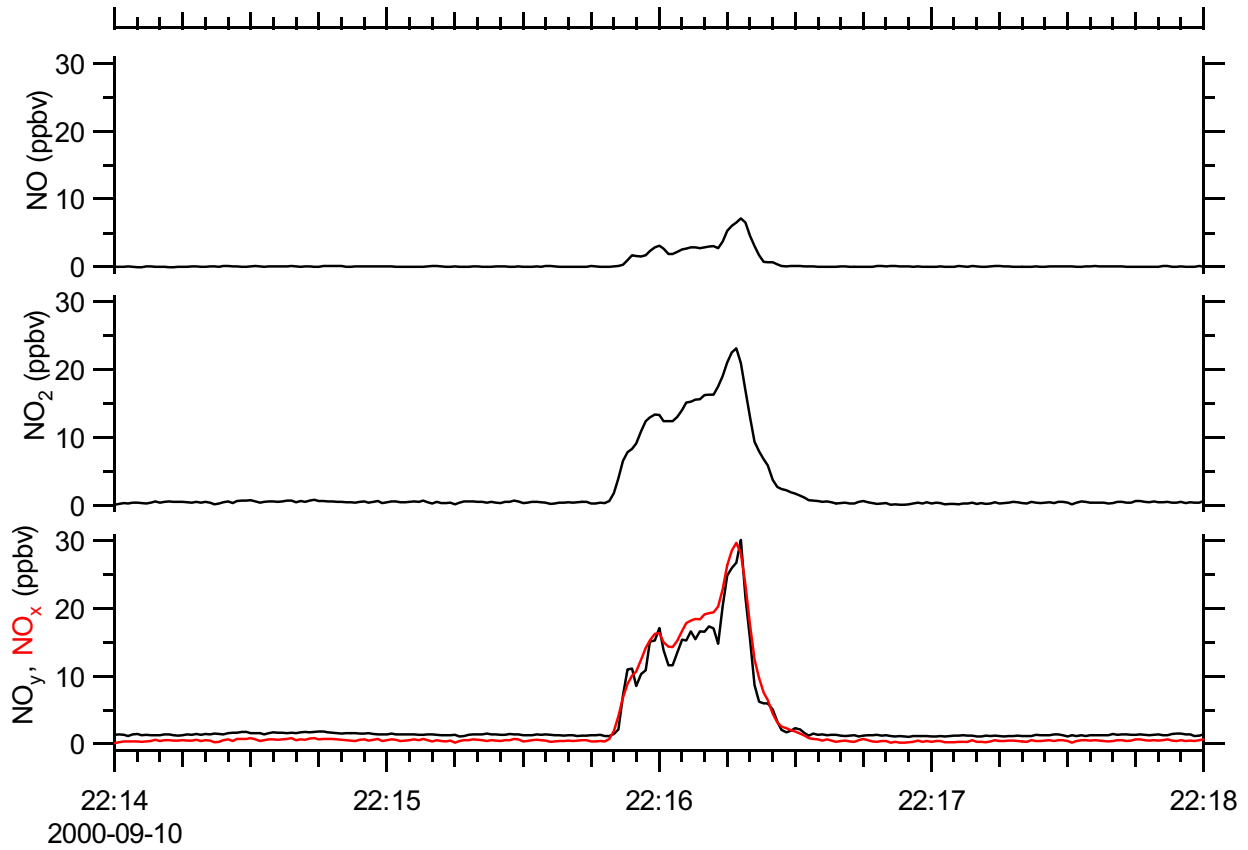
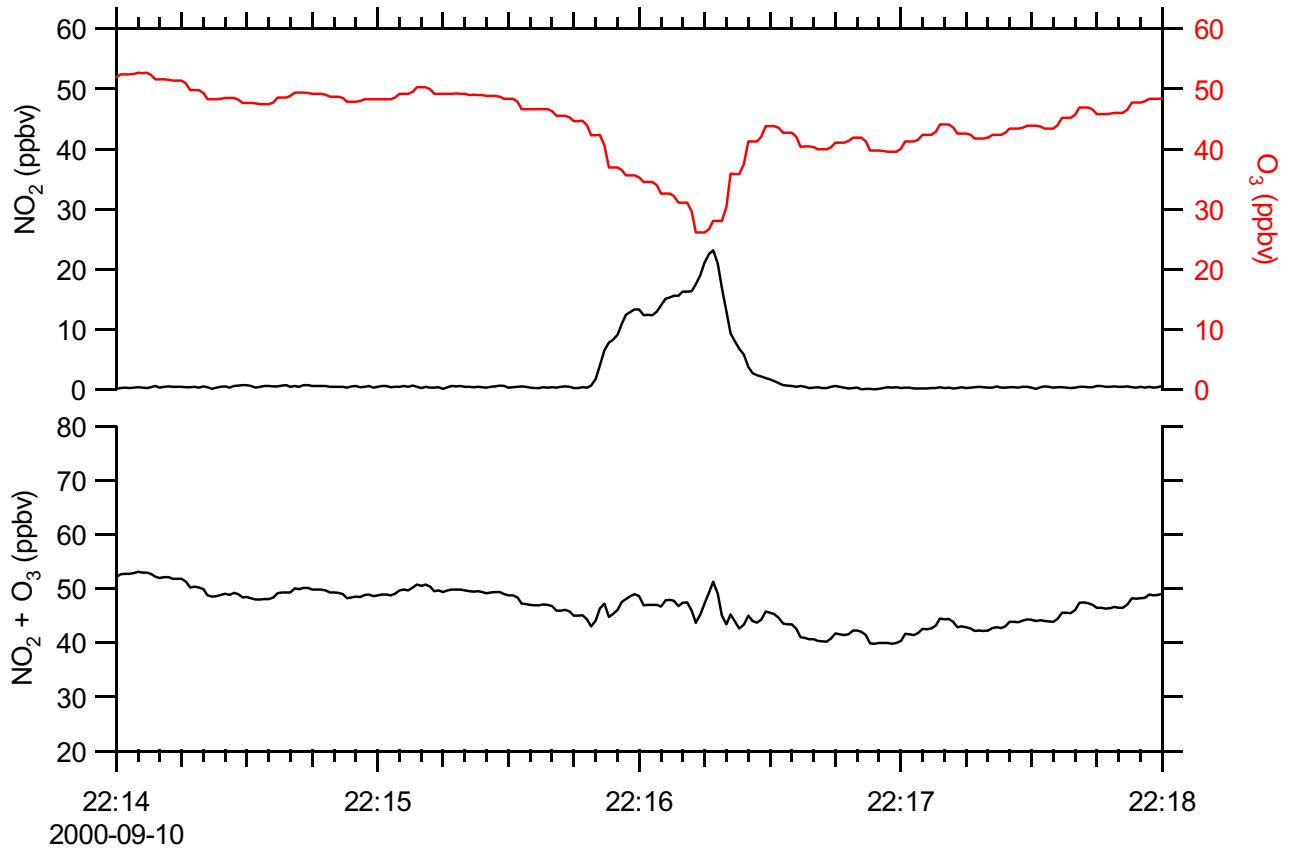
Plume Study



# Partial Results

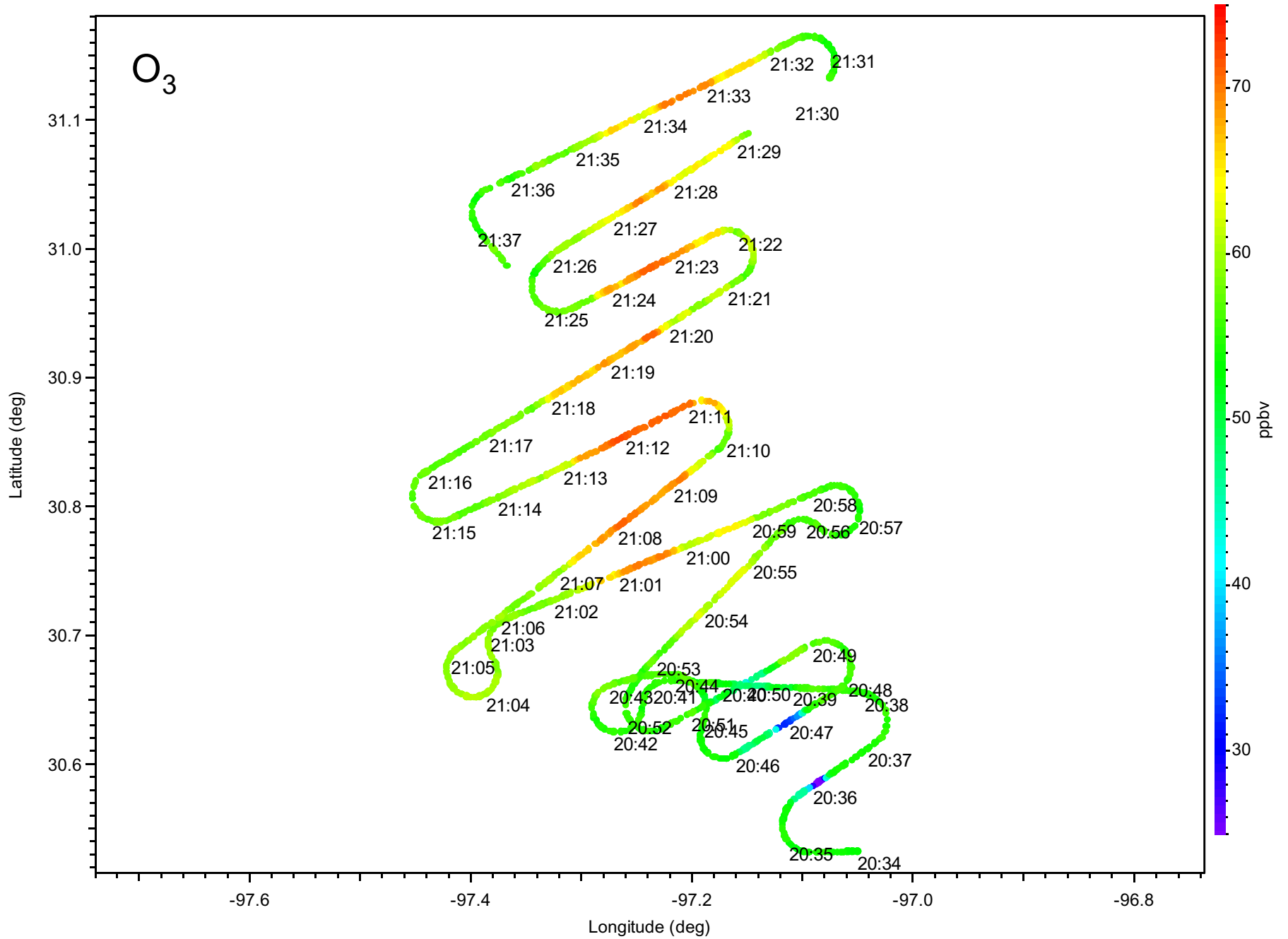


# NO GPT

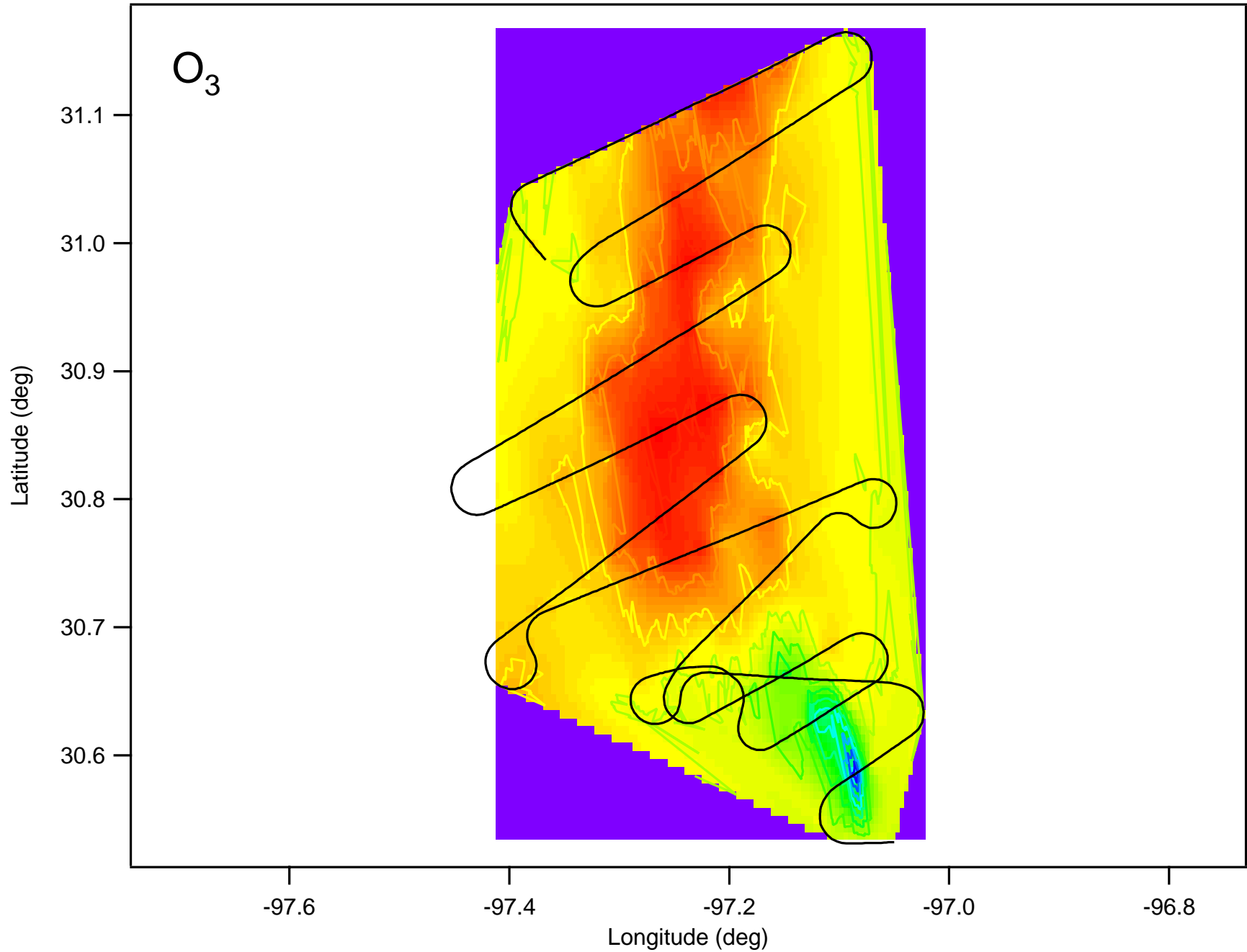




# Plume Crossings



O<sub>3</sub>



# O<sub>3</sub> Production

