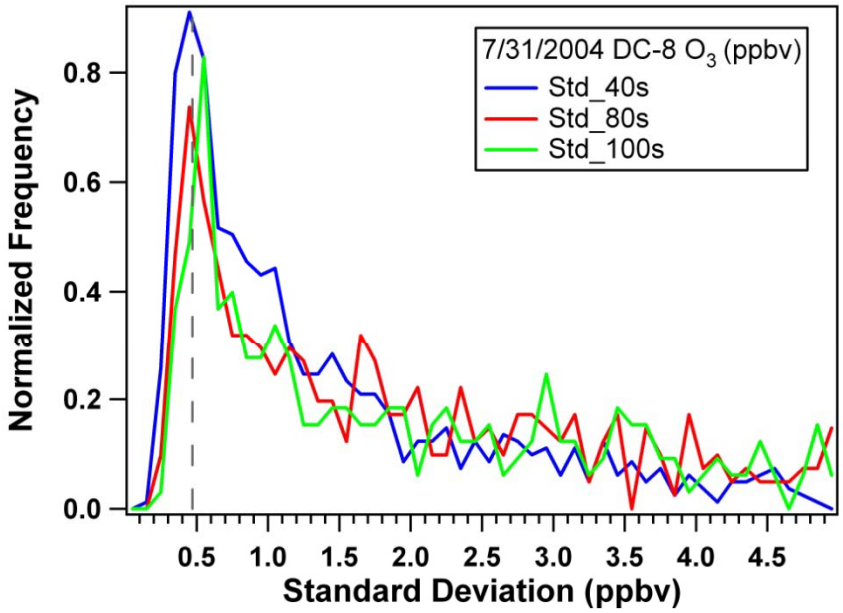
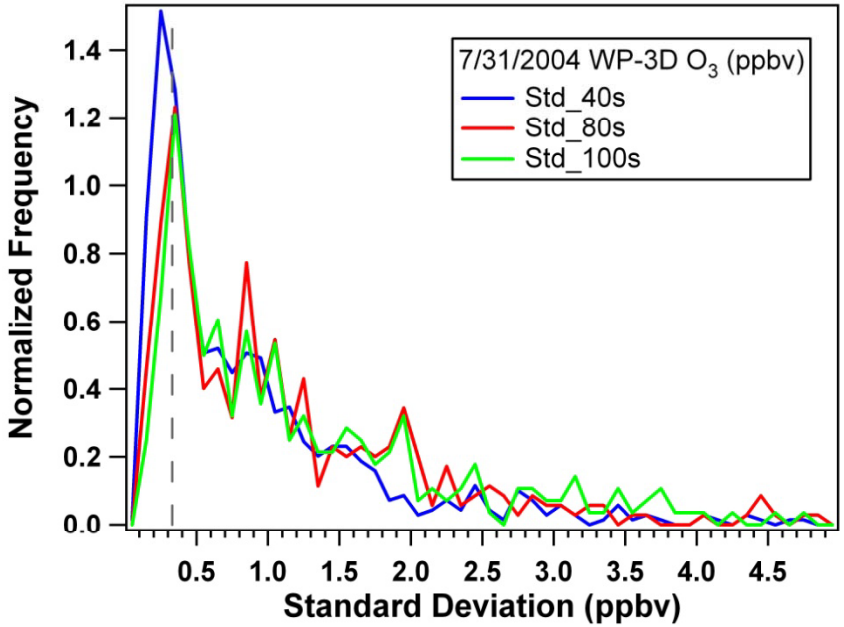




Estimated O_3 Absolute Precision*

Date	DC-8 (ppbv)	WP-3D(ppbv)
07/22/2004	1.5	1.5
07/31/2004	0.49	0.32
08/07/2004	1.0	0.45

Estimated O_3 Relative Precision*

Date	DC-8	WP-3D
07/22/2004	1.2%	1.4%
07/31/2004	1.2%	0.8%
08/07/2004	1.2%	1.0%

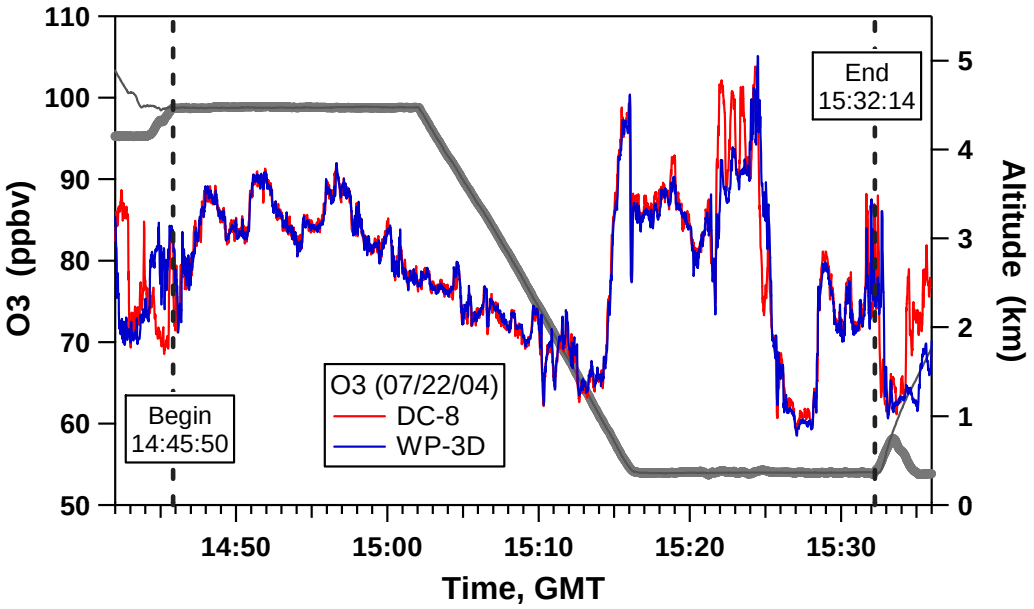
*Impact of ambient variation is limited by varying time intervals, but not excluded

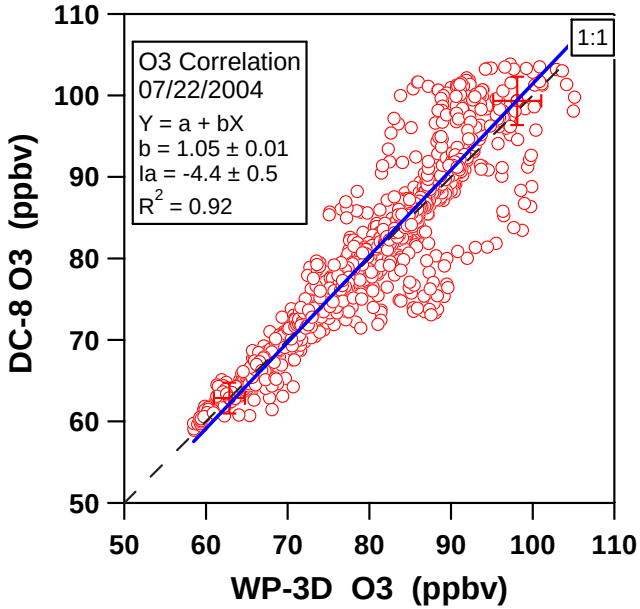
BAE-146 (7/28/04): 0.9 ppbv or 1%.

PI Reported Uncertainty

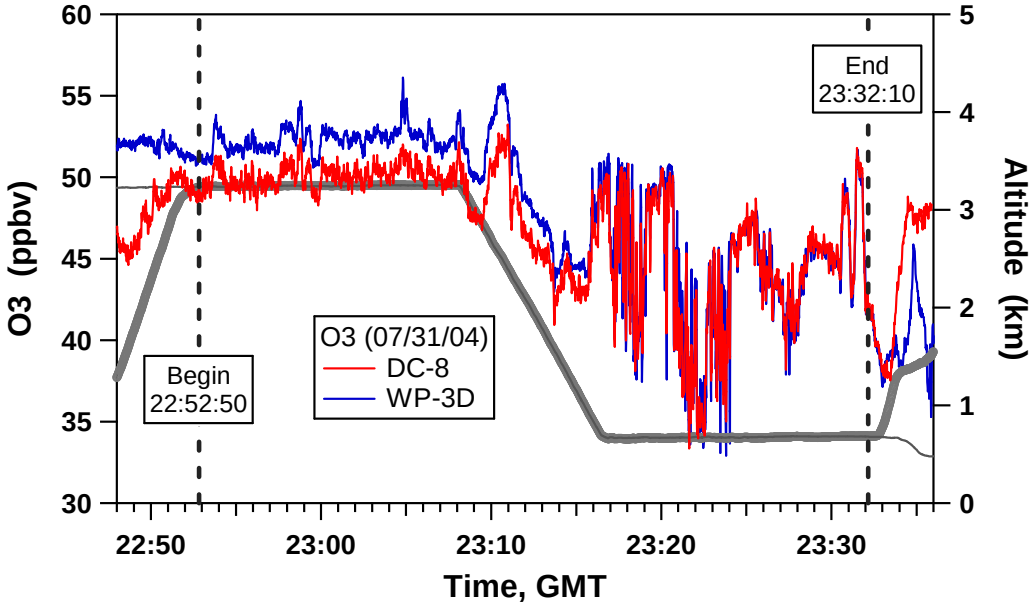
DC-8: 3 ppbv or 3%
WP-3D: 0.1 ppbv +3%
BAE-146: ????

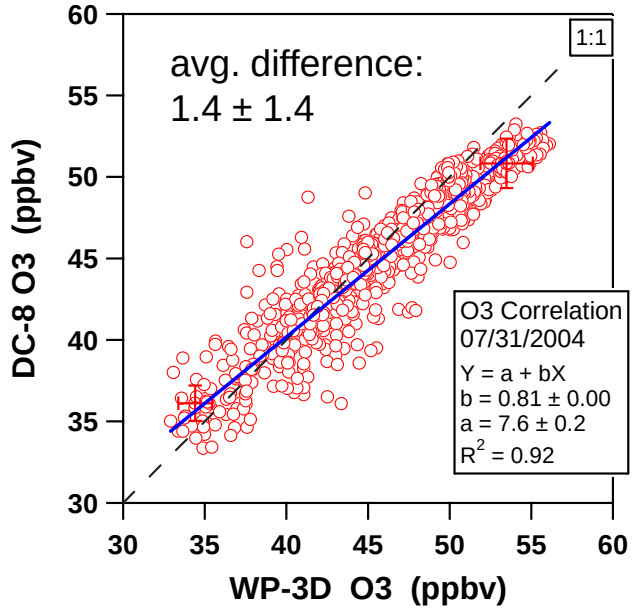
ICARTT O3 Measurement Comparison: DC-8 vs. WP-3D 07/22/04



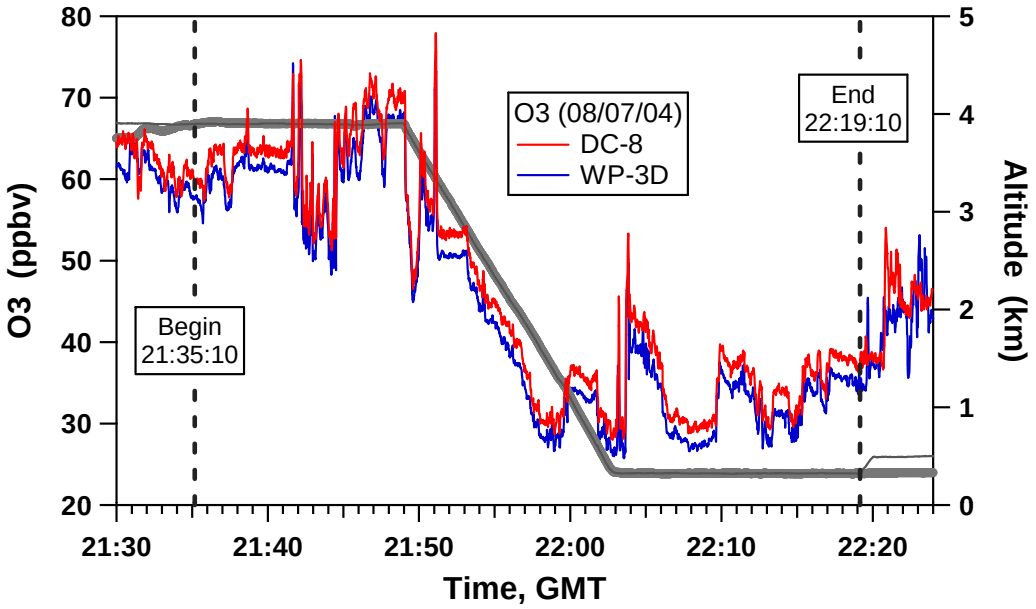


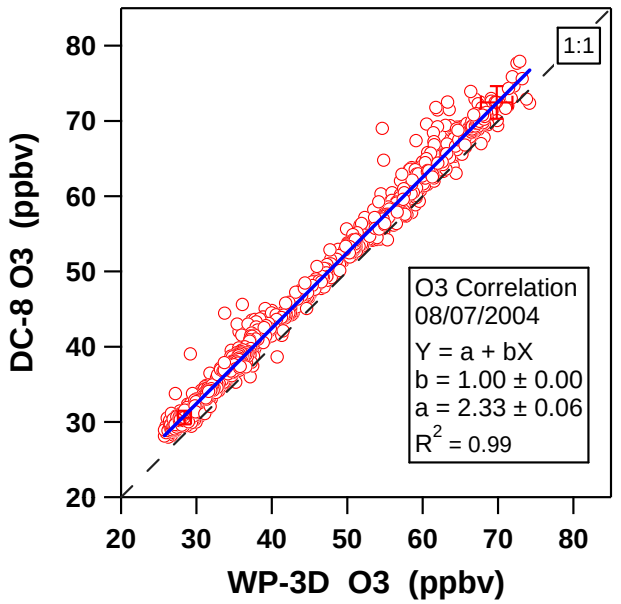
ICARTT O3 Measurement Comparison: DC-8 vs. WP-3D 07/31/04



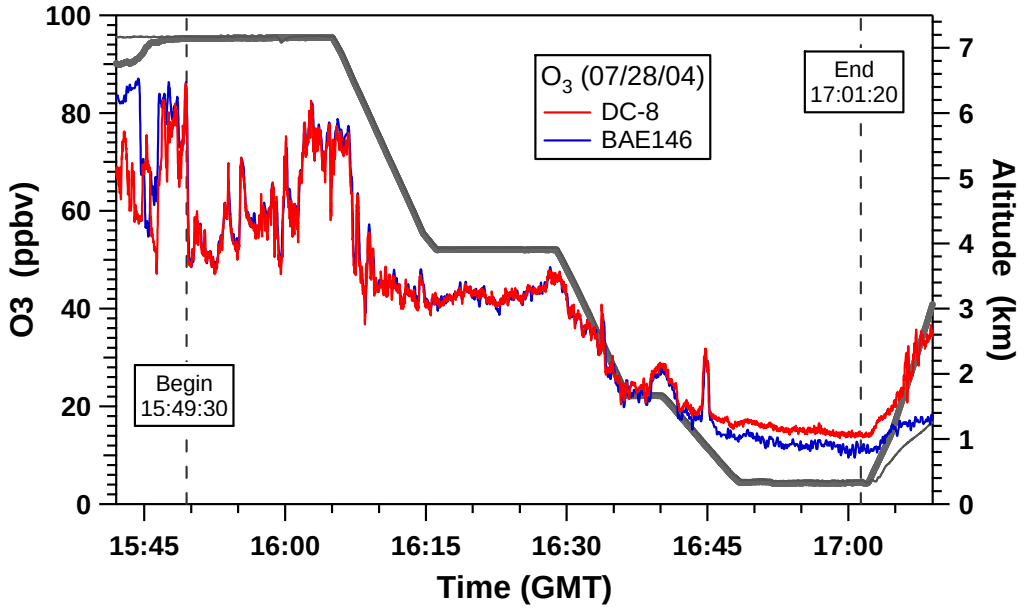


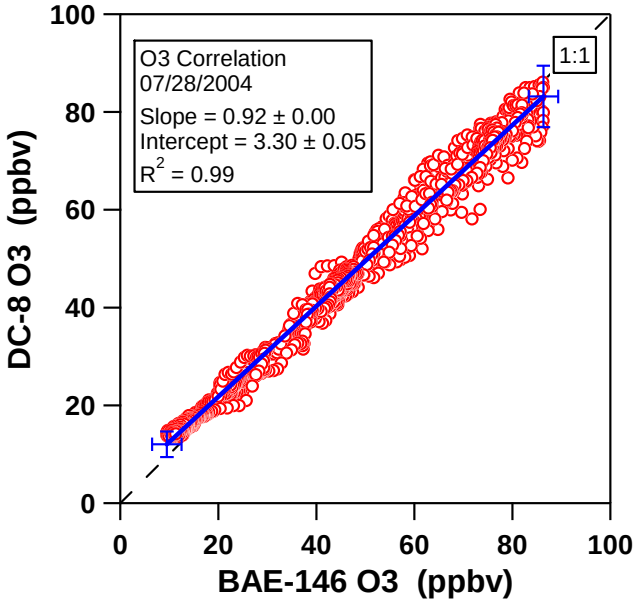
ICARTT O3 Measurement Comparison: DC-8 vs. WP-3D 08/07/04

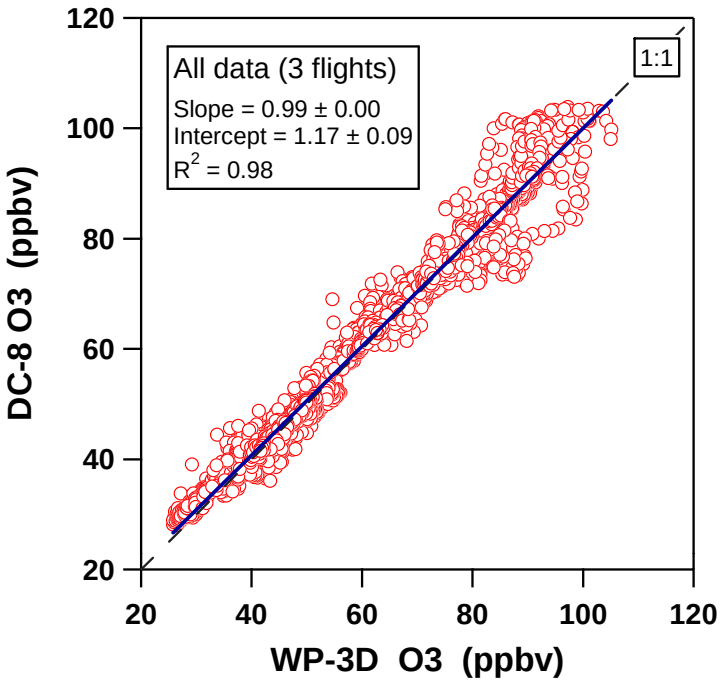


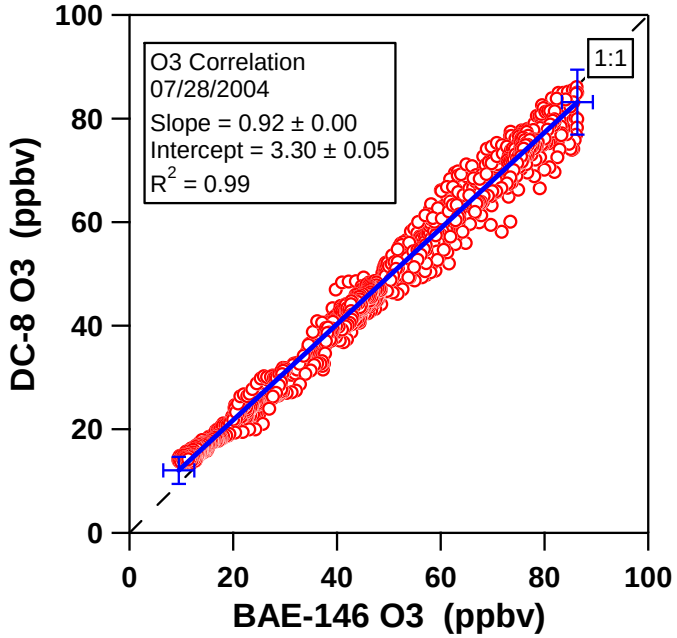


ICARTT O3 Measurement Comparison: DC-8 vs. BAe-146 07/28/04









ICARTT O3 Measurement Consistency Assessment Summary

It can be derived:
WP-3D vs. BAE-146
Y = (0.93 ± 0.01) + (2.1 ± 0.1)

Impact of the measurement consistency, if DC-8 O3 is, then …

DC-8	WP-3D	BAe-146
20	19	18
60	59	62
120	120	127

Additional Comments from Melody Avery

Langley In Situ Ozone Measurement Considerations

Calibration:

Reference to NIST Standard Reference Photometer

1.2% uncertainty in standard

250 ppt mean residual (CL-NIST), 600 ppt (DAS-NIST)

Stability (since 2000): DAS 0.5%, TECO <0.1%, CL 0.2% (only since 2005)

– Zero: 1 sigma = 200-300 ppt; “LOD” = 600 ppt; ambient = 600 ppt +/- 200 ppt

– Inst. Params (variability): Largest tolerated in data set: sample flow, pres – 2%, temperature – 1%, NO flow – 0.5%