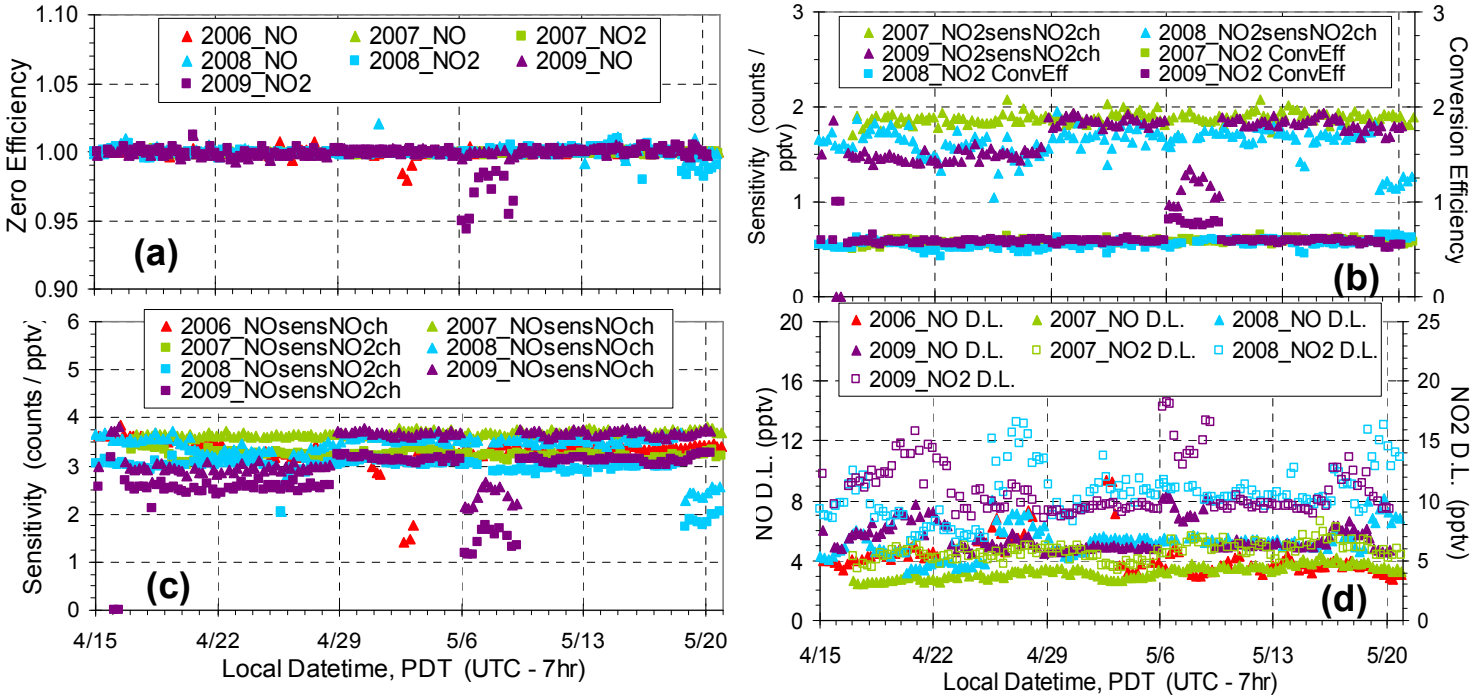
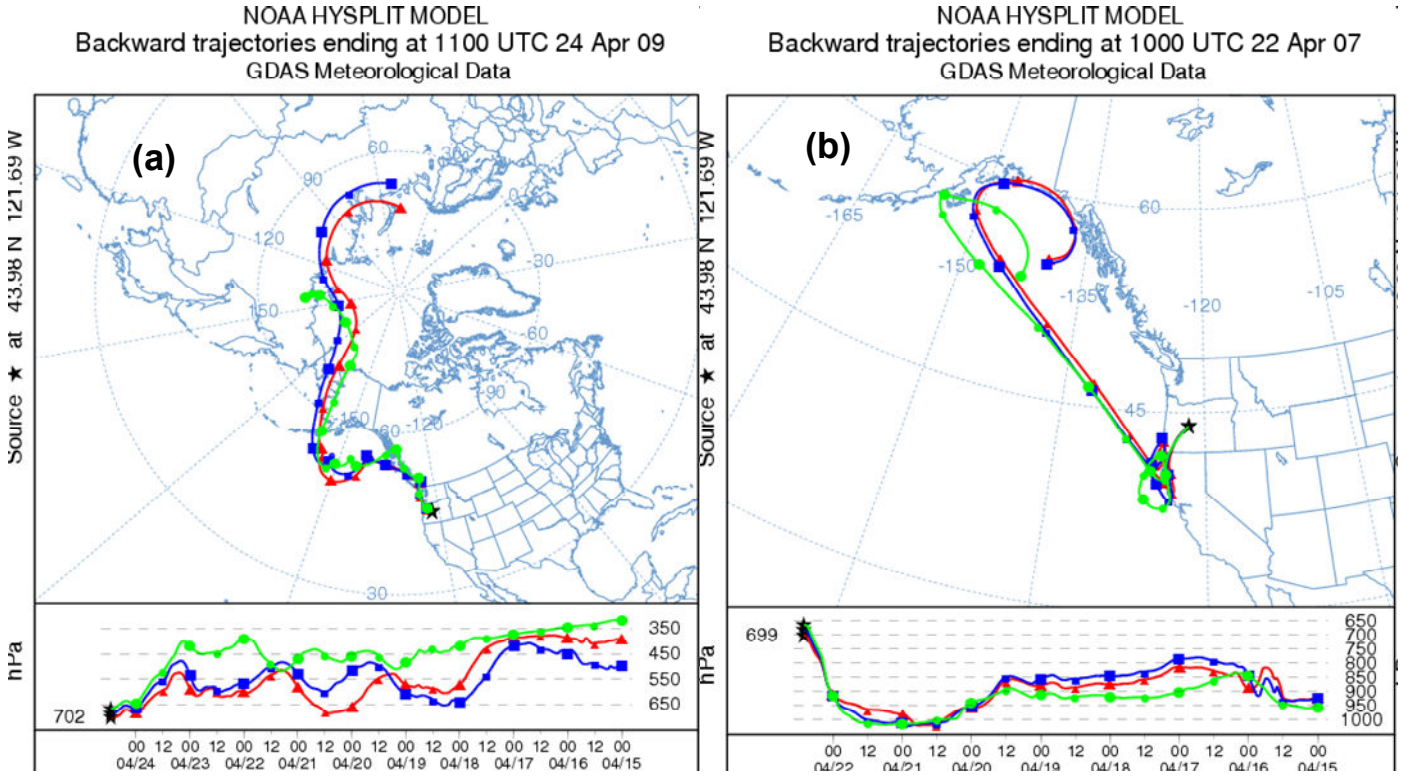
Supplemental Material



Supplemental Figure 1. NO_x instrument performance statistics for all four spring campaigns: (a) zeroing efficiency in both the NO and NO_2 channels, (b) NO_2 sensitivity in the NO_2 channel and NO_2 conversion efficiency, (c) NO sensitivity in both the NO and NO_2 channels, and (d) NO and NO_2 detection limits.



Supplemental Figure 2. Example 10-day HYSPLIT backtrajectories initiated during the peak hour of the event at one of the points adjacent to MBO for (a) an Imported event [24 Apr 2009] and (b) a North American event [22 Apr 2007]. These plots were created online (http://www.ready.noaa.gov/ready/open/traj.html) using the GDAS meteorological dataset.

Supplemental Table 1. Comparison of MBO data to data collected aboard the NCAR C-130 aircraft during fly-by's of MBO as part of the INTEX-B campaign in spring 2006. The column denoted with an asterisk (*) indicates that 2007-09 median or mean NO_2 (and NO) values for the hour of day and the month in which the fly-by occurred are used since NO_2 measurements were not made at MBO until 2007. C-130 aircraft data provided by Gao Chen (at NASA) and is presented as the median of the 1 sec data within 25 km of MBO horizontally and within 100 m of its summit.

Date	Local Time (PDT)	NO (pptv)		NO_2 / NO		
		MBO mean ± 1σ	C-130 mean ± 1σ	MBO* median	MBO* mean ± 1σ	C-130 mean ± 1σ
4/24/2006	12:08	39 ± 11	43 ± 13	2.3	3.1 ± 2.2	1.1 ± 0.4
5/3/2006	12:35	23 ± 7	16 ± 2	2.9	3.7 ± 3.3	2.6 ± 0.8
5/8/2006_A	10:05	12 ± 1	10 ± 1	3.2	4.6 ± 4.4	3.9 ± 1.4
5/8/2006_B	16:06	18 ± 2	17 ± 7	2.8	3.7 ± 3.2	3.0 ± 0.8