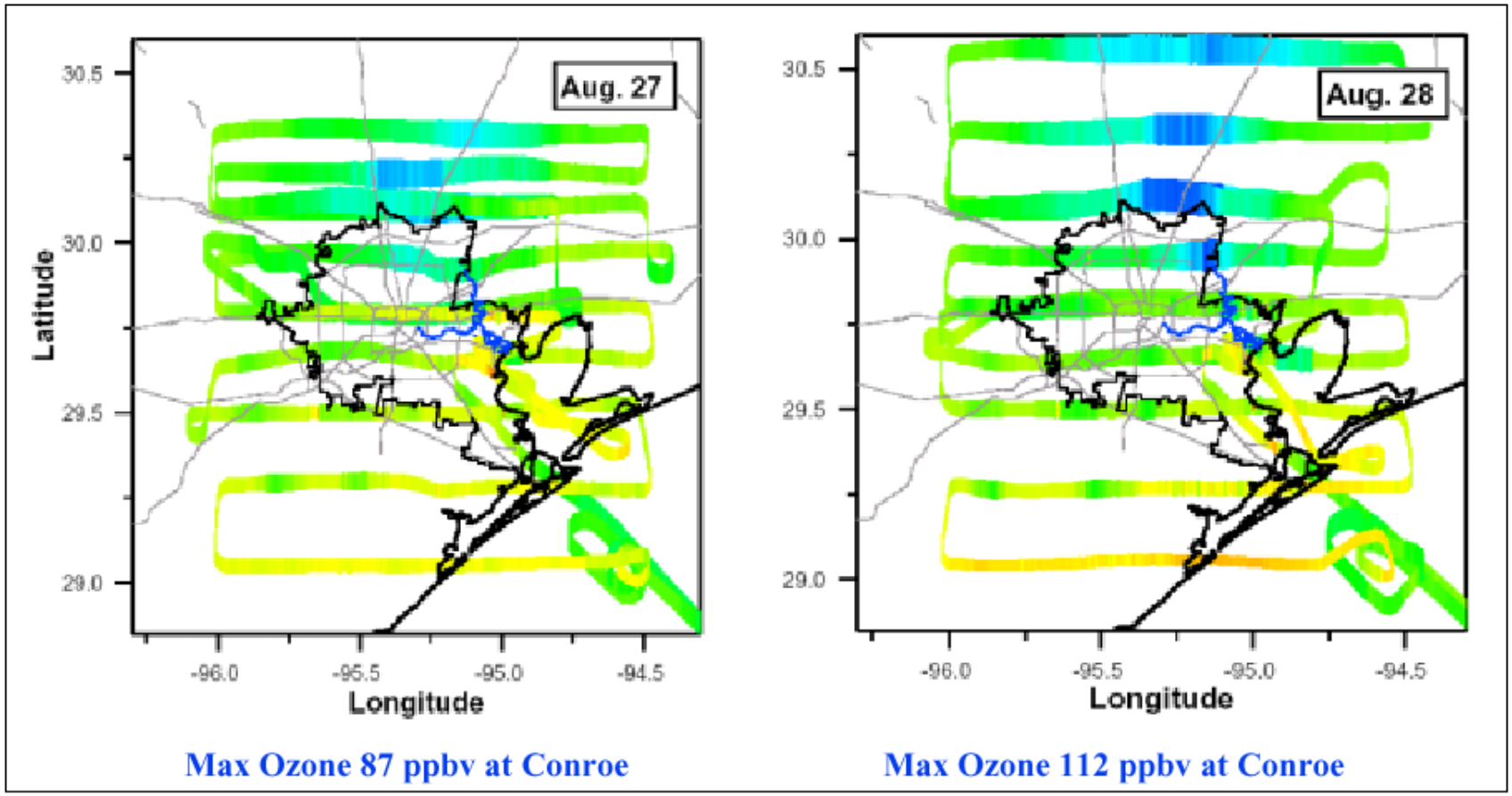

Figure 2. Ozone distribution along the flight path of the NCAR-Electra. There were 9 E-W traverses on each day, 4 south of the ship channel and 5 north of it. The southern traverses are almost the same on both days; the northern traverses are somewhat more tight on 8/27.

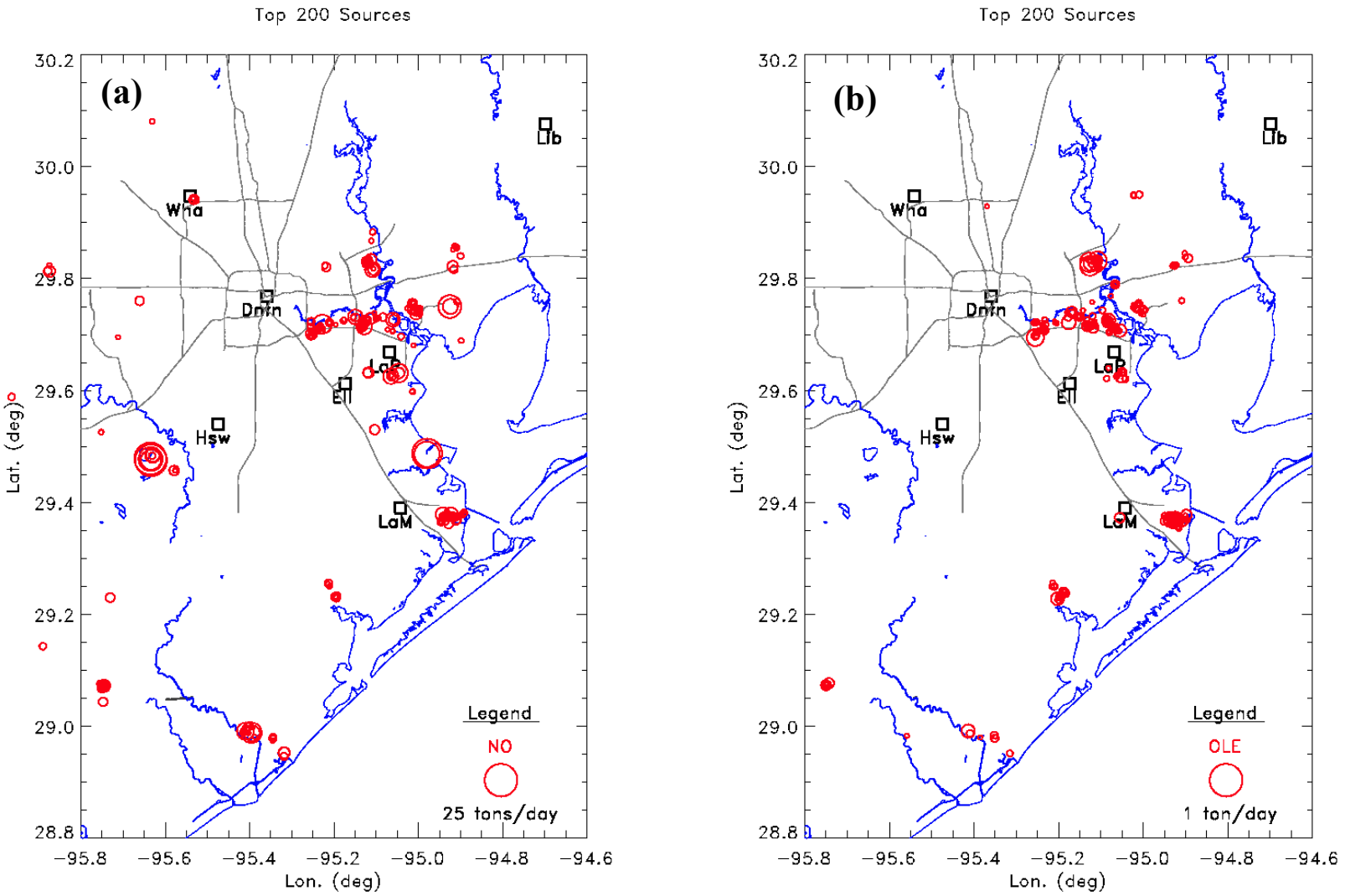

Figure 3. Locations and daily emission rates of the largest 200 major point sources of NO (Fig. 3a, left) and of OLE (Fig. 3b, right). OLE represents the grouped class of alkenes other than ethane in the CB4 chemical mechanism.. Observe the clustering of the OLE sources in the following five locations (see Figs. 1 and 6): Sweeny, Freeport, Choc. Bayou, Texas City and the Ship Channel Complex.

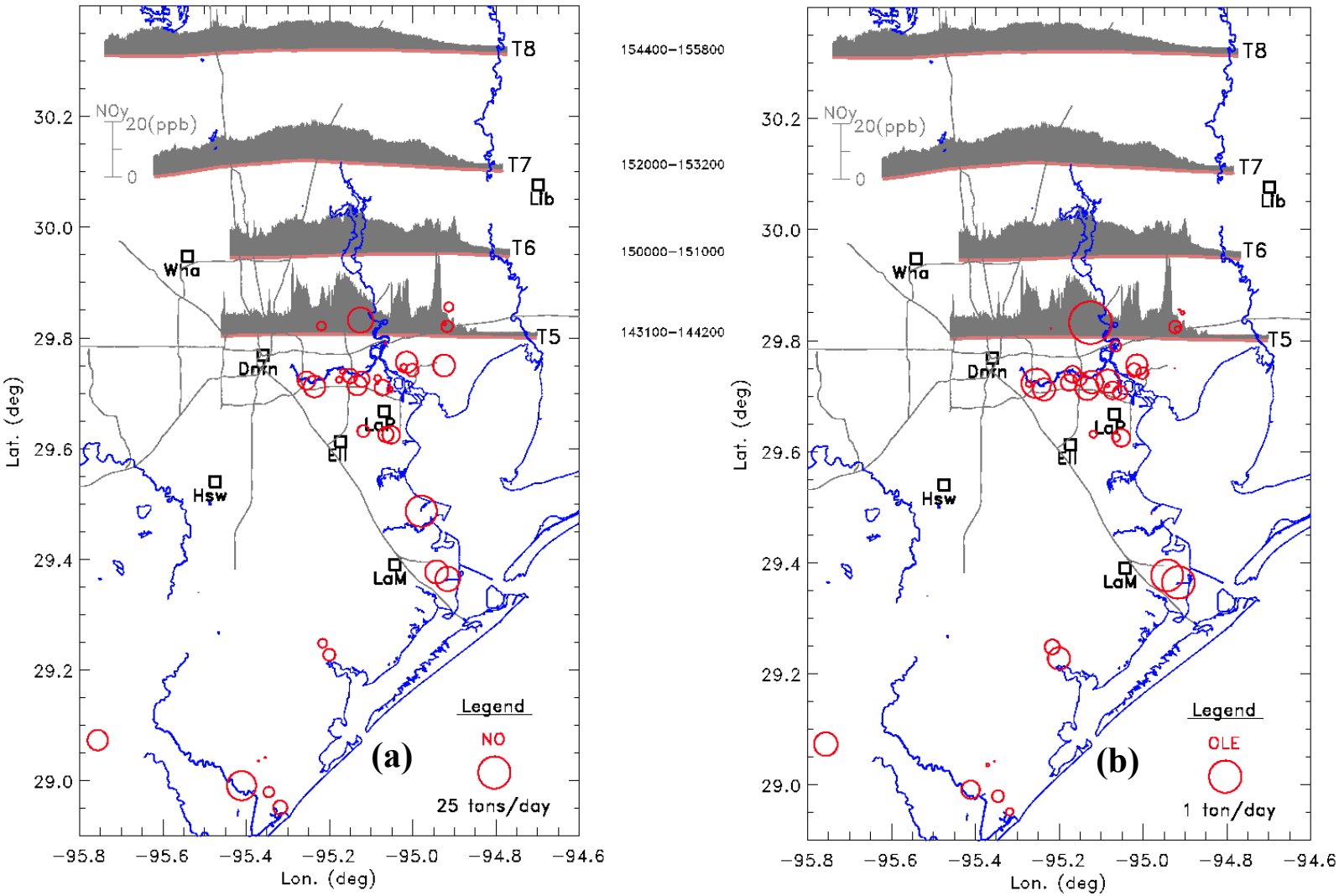

Figure 4. Locations and daily emission rates of NO (Fig. 4a, left) and of OLE (Fig. 4b, right) for the 35 "aggregate" major point sources for which plume dynamics and chemistry simulations have been performed in the present diagnostic analysis. The distribution of these sources is as follows: Sweeny (1), Freeport (3), Choc. Bayou (2), Texas City and the Ship Channel Complex (29). The maps also show the NOy concentration profiles as measured during four particular cross-plume traverses downwind of the Ship Channel Complex by the NCAR Electra aircraft on 8/28.

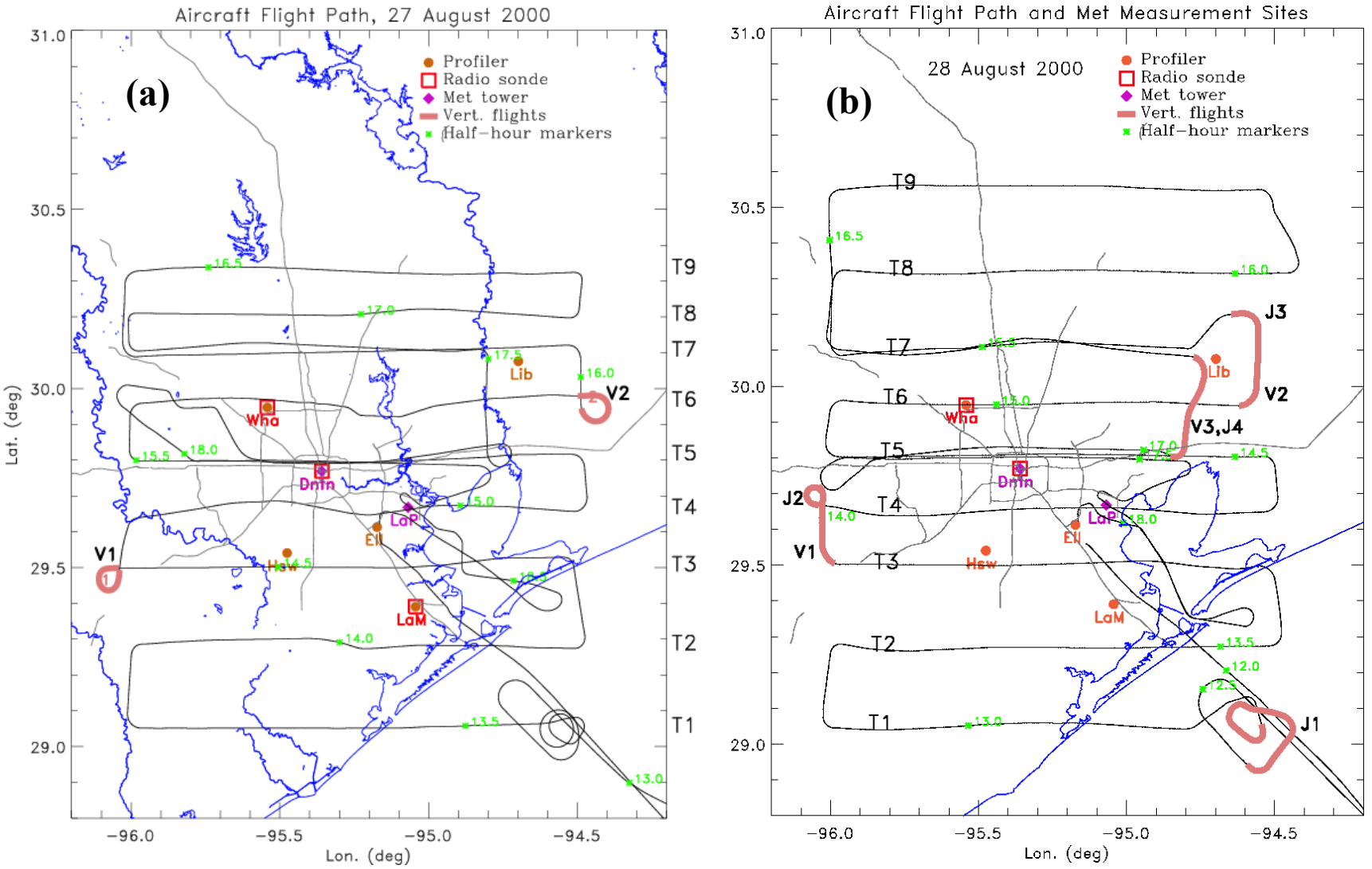

Figure 7. Maps of the H-G area showing the NCAR-Electra flight paths of August 27 (7a) and 28 (7b) 2000, along with the locations of meteorological measurement sites (see Legend at top right of each box). Both flights lasted approximately from 1200 to 1800 local time. The colored portions of the aircraft flight paths (Vi and Ji) delineate locations of ascent or descent for which the data are used either for vertical soundings of J_{NO2} (J_i, i = 1-2 in 7a and 1-4 in 7b) or variables used to infer Z_i at locations V_i (i = 1-2 in 7a and 1-3 in 7b); Vi = Ji in 7a.

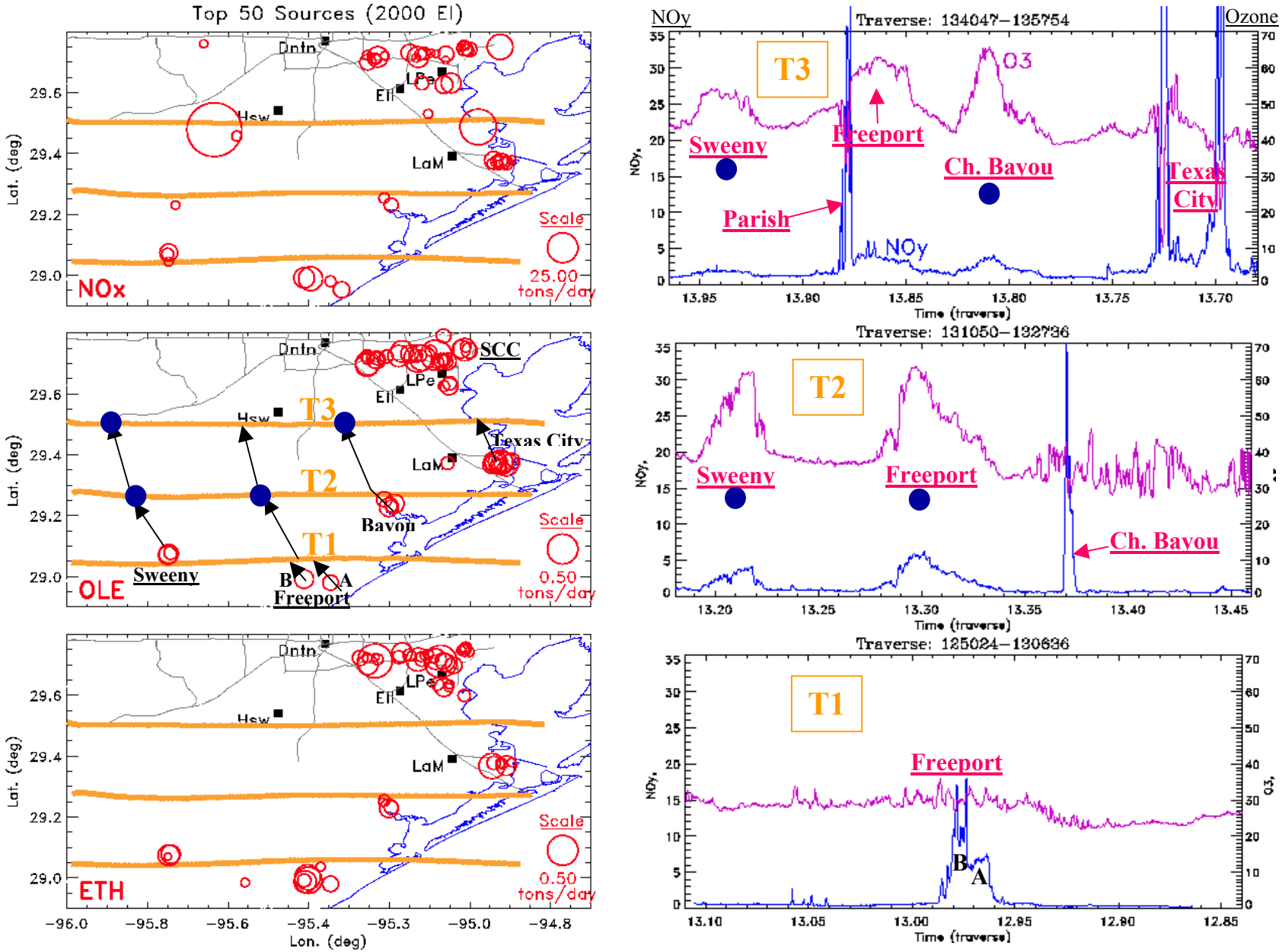

Figure 19. *Left panels*: Locations of the first three (southernmost) traverses (T1, T2, T3) of the NCAR Electra on 8/28, and major point sources of NOx, OLE and ETH, along with the approximate trajectories of the main plumes; *Right panels*: The Electra data of NOx and O_3 for the three traverses, with the main plumes identified (Parish is the large NOx source, a power plant, in the top left panel, just to the southwest of "Hsw" and just to the south of T3 near its left end).

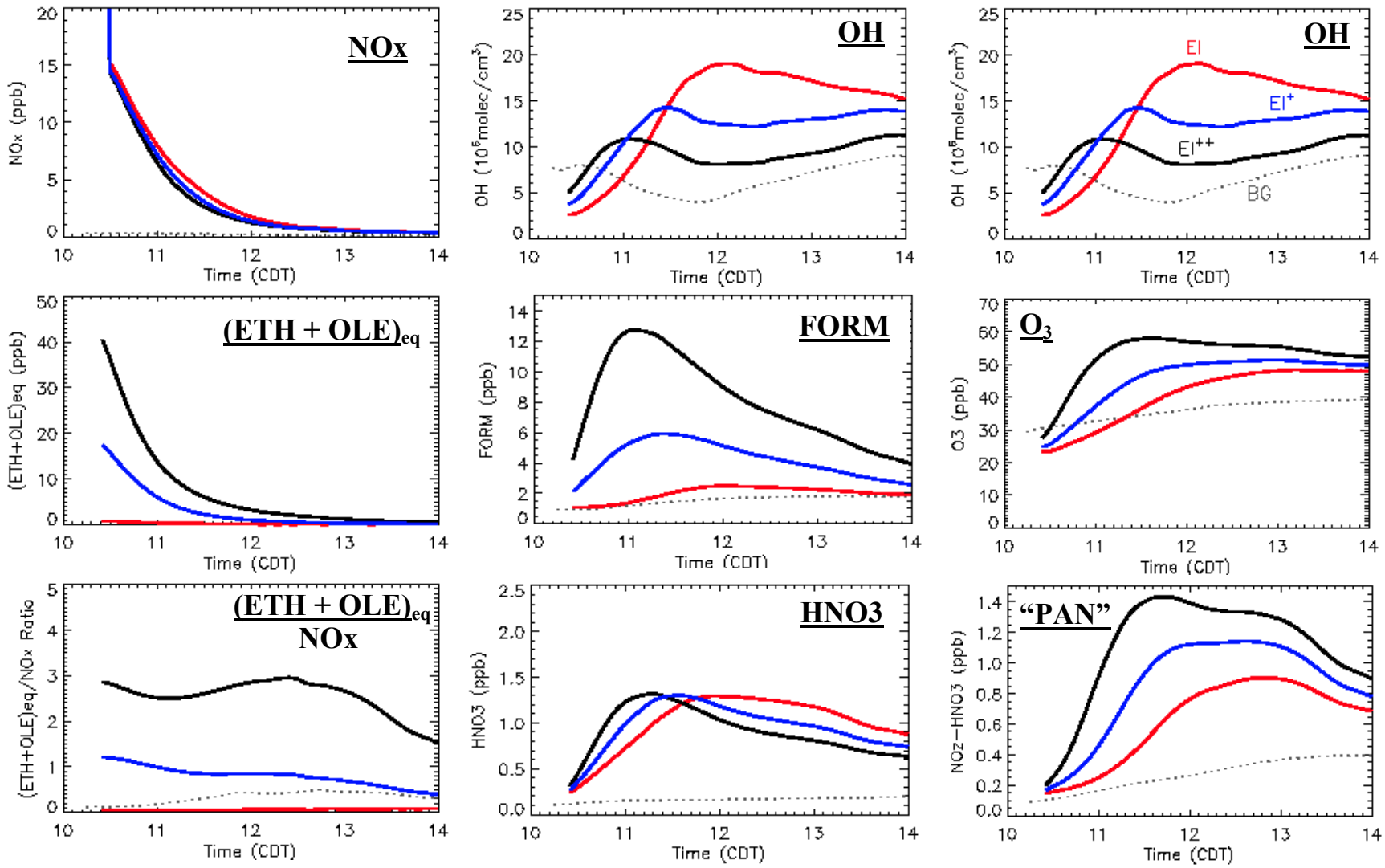

Figure 31. Sensitivity of secondary formations (OH, O_3, HNO_3, "PAN" and FORM) to three cases of ETH and OLE emissions from Sweeny for the 8/28 T3 scenario [plume release at 1010 and $Q_{NOx} = 1.25\ Q_{NOx}(EI)$]. The three cases of ETH and OLE emissions are as follows:-
(Red = EI) : Q_{ETH} and Q_{OLE} as per their emissions inventory ; (Blue = EI+) : $Q_{ETH} = Q_{NOx} = Q_{OLE}$; (Black = EI++) : $Q_{ETH} = 3.6\ Q_{NOx}$ and $Q_{OLE} = 2\ Q_{NOx}$.