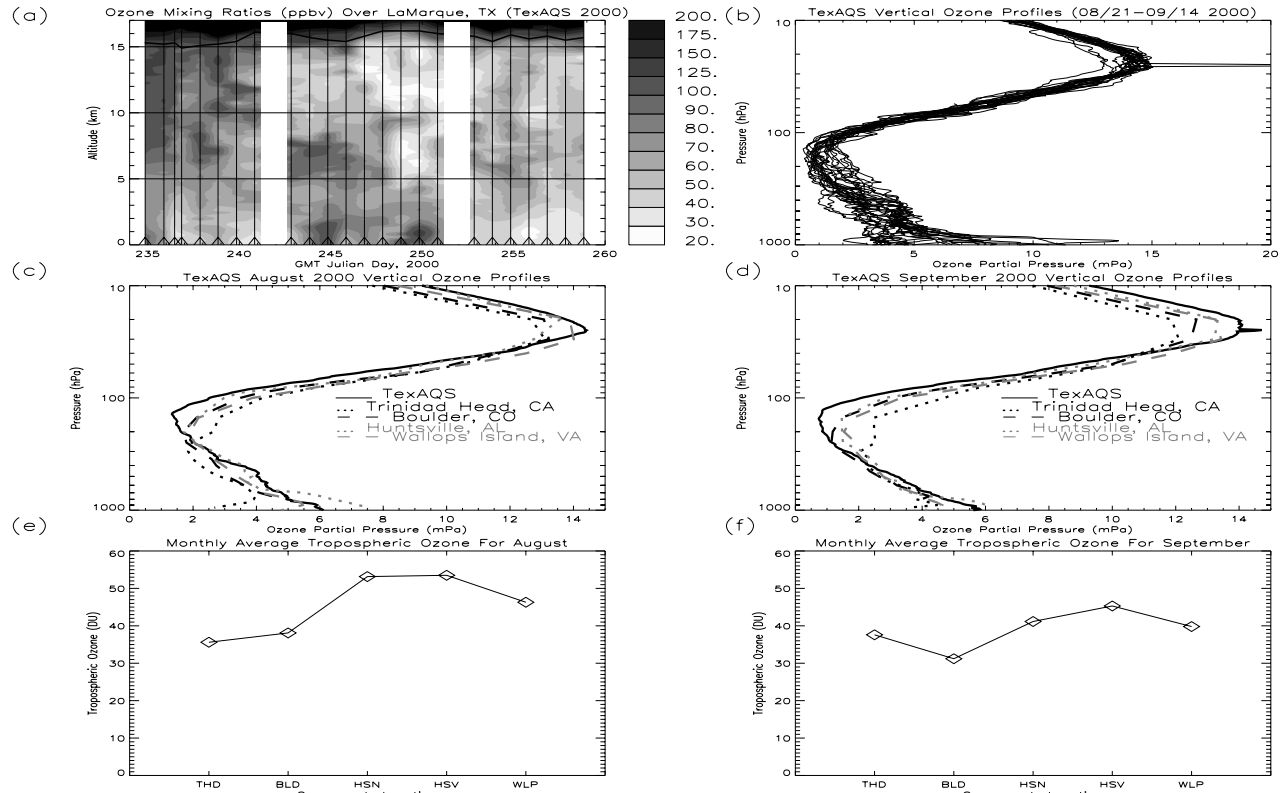


P1.18 DAILY VARIABILITY IN TROPOSPHERIC OZONE PROFILES AT TEXAQS WITHIN THE CONTEXT OF A US TROPOSPHERIC OZONE CLIMATOLOGY

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Daily ozonesondes were launched from the Coastal Research Center in LaMarque, TX, (29.35 N, 95.00 W,) at 20:00 GMT (15:00 LT) between 08/21 – 09/14, 2000. There were 11 profiles launched in August and 13 in September. The time-series and spaghetti plots of Figures 1 (a & b) show the strong day-to-day variability in ozone at all levels of the troposphere.

[Newchurch et al., submitted 2001] propose a tropospheric and lower-stratospheric ozone climatology using ozonesondes from four stations across the United States. The data used to construct this emerging climatology spans a time period of 2 and 3 years at the new ozonesonde stations (Huntsville, AL and Trinidad Head, CA, respectively,) and five years for the longer running stations Wallops Island, VA and Boulder, CO. The ozonesonde launch frequency at the four stations is on a weekly basis.

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Boundary layer ozone concentrations over Houston, TX are highly variable, Figure 1 a.

- The average August and September Houston boundary layer profiles are lower than the average Huntsville profiles, but higher than the average profiles at the other three stations, Figures 1 c & d.
- The average August and September Houston middle troposphere profiles are higher than the other four stations, but are closest to the Huntsville average profiles.
- In the upper troposphere, the Houston average profiles for August and September are substantially lower than those at the other four stations.
- In the lower stratosphere, the average Houston profiles are lower than those at the other four stations, while in the middle stratosphere, that trend is reversed.
- The monthly average integrated tropospheric ozone in (DU) for Houston is comparable to that at Huntsville for both months.

The average profiles at the five stations decrease from August to September.