1125-92-2868 **Oliver Matthew Sale*** (saleo@southwestern.edu), 1400 Rivery Blvd., APT 4230, Georgetown, TX 78628. *Investigation of Central Texas Surface Ozone Concentrations 1980-2015.* Preliminary report.

We aim to investigate the effect of increasing population on the Austin region's surface ozone concentrations. To understand this effect, we need to understand the effect El Nino Southern Oscillation (ENSO) has on the region's surface ozone concentrations. In our preliminary comparative data analysis on the effects of "very strong" ENSO events (Southern Oscillation Index, or SOI, of 4) on the surface ozone concentrations of Site 484530014 (Austin Northwest). Stratifying by precipitation, the mean monthly ozone concentrations for very strong ENSO events were compared to the neutral (SOI of 0) or very weak (SOI of 1-3) ENSO events. Suppression of ozone concentrations was observed for the very strong ENSO years relative to ENSO neutral years for April and May, no significant change was observed in other months. Our current investigation includes examining, wind speed and direction, temperature, and surface reflectivity in order to identify natural drivers. The remaining surface ozone concentration could be attributed to the local anthropogenic production of ozone precursors. By having reliable surface ozone concentrations with robust knowledge of regional background ozone and ENSO effect events, we could study anthropogenic trends in Austin's surface ozone concentrations. (Received September 20, 2016)