

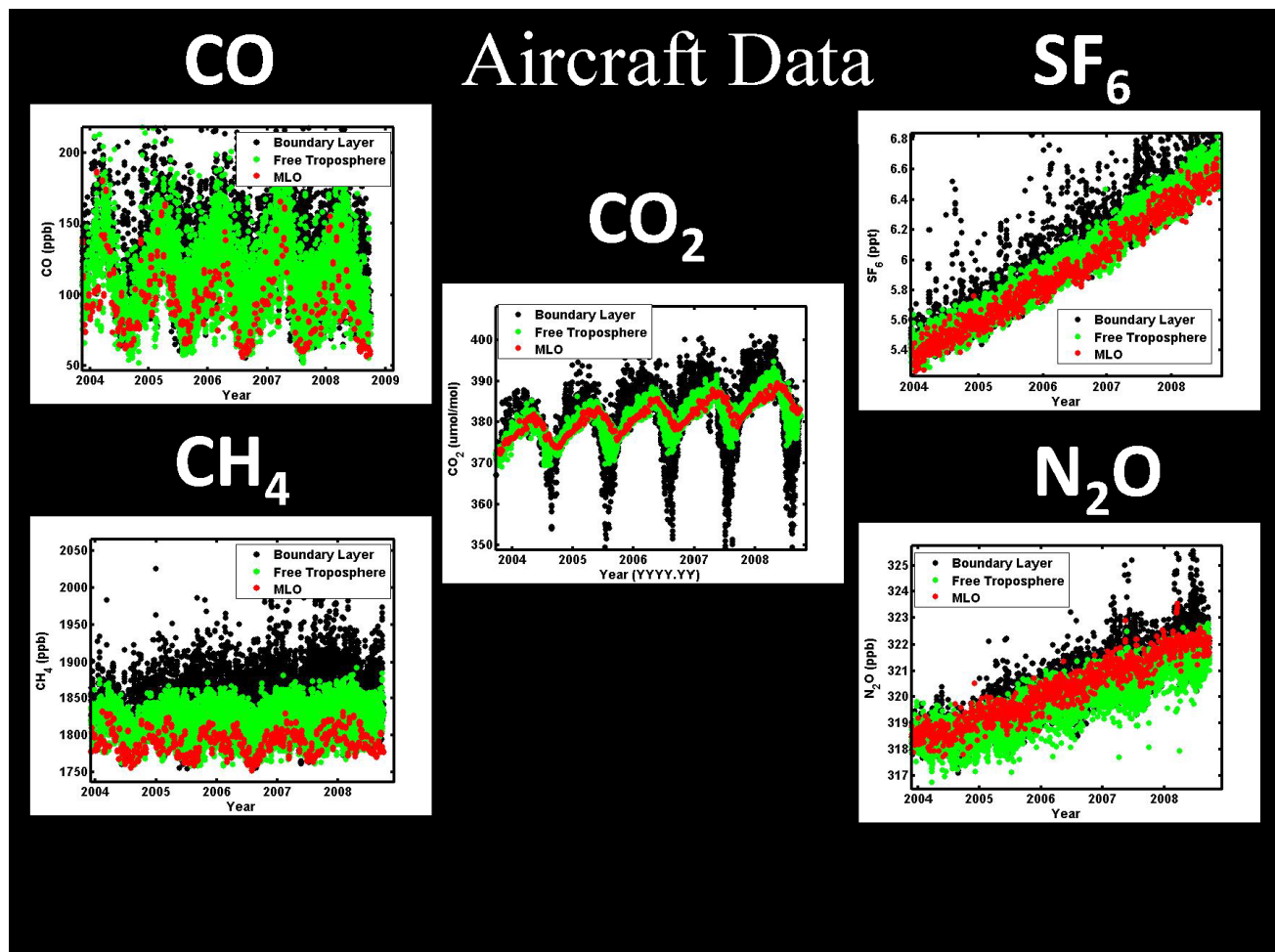
## Observations of Non-CO<sub>2</sub> Greenhouse Gases Over North America from the NOAA ESRL Carbon Cycle Group Aircraft Project

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The NOAA ESRL Carbon Cycle Group Aircraft Project has been making measurements of CO<sub>2</sub>, CH<sub>4</sub>, CO, N<sub>2</sub>O and SF<sub>6</sub> for more than 4 years at 16 sites around North America. A compilation of vertical profiles from 500 m above ground level to 8000 m of these gases relative to trends observed at Mauna Loa Observatory gives a unique look at potential sources and sinks of each gas as well as the large scale circulation that drives longitudinal and latitudinal gradients observed for each gas. In this study we will focus on the vertical and horizontal distribution of CH<sub>4</sub>, CO, N<sub>2</sub>O and SF<sub>6</sub> over North America to understand the transport of non-CO<sub>2</sub> greenhouse gases out of mid-latitude boundary layer to high latitude regions.



**Figure 1.** CO<sub>2</sub>, CH<sub>4</sub>, CO, N<sub>2</sub>O and SF<sub>6</sub> measurements made over North America by the NOAA ESRL Carbon Cycle Group Aircraft Project in the last 10 years. Red shows measurements made at Mauna Loa Observatory (MLO), green dots shows free troposphere measurements and black dots show measurements below 1500 magl.