

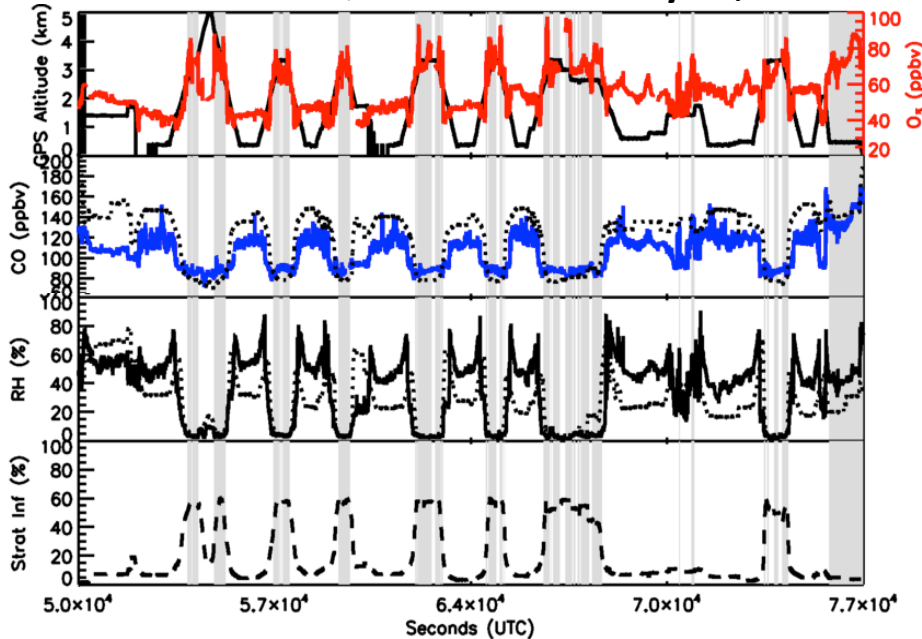


# Tracking the Influence of Stratospheric Air in Aircraft Campaigns

## Global Modeling and Assimilation Office

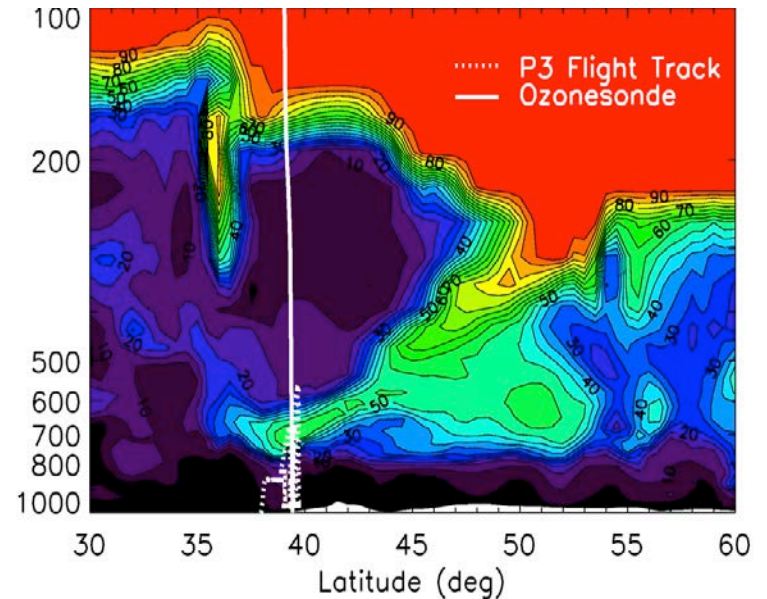
In July, 2011, the DISCOVER-AQ aircraft observed air pollution over the DC-Baltimore area. Between 2 and 4km, the high ozone values were from an unexpected source: – the stratosphere.

### DISCOVER-AQ Observations: July 27, 2011



Stratospheric air (gray shading) has higher ozone concentrations and lower CO and H<sub>2</sub>O concentrations than tropospheric air.

### GEOS-5 Strat Tracer: July 27, 2011



Stratospheric tracers in GEOS-5 simulations capture the rapid downward transport on July 27, 2011. Such near-surface ozone increases occur mostly in the western U.S. during spring: this work shows how they can also affect the East Coast during summer.