

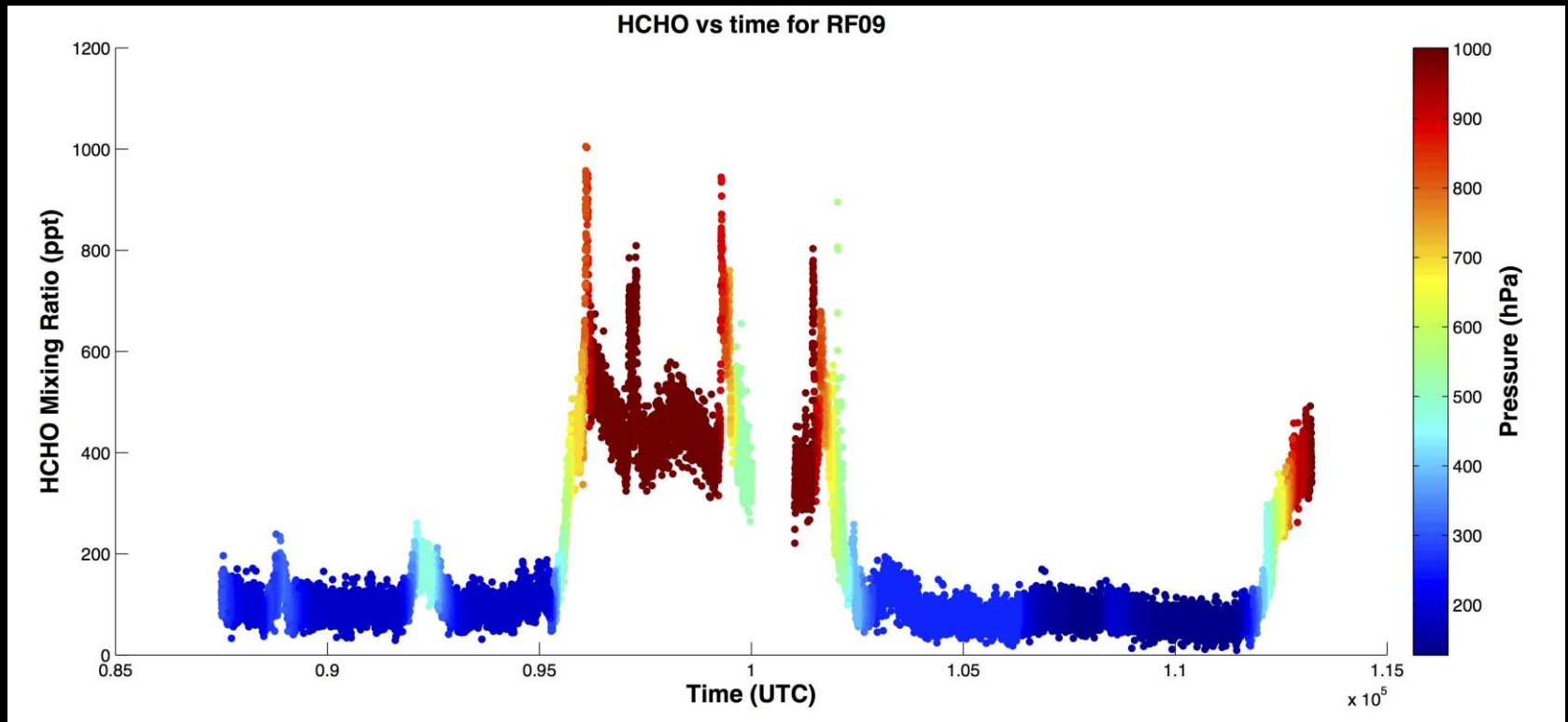
Formaldehyde (HCHO) during RF09

12 Feb. 2014

CONTRAST Science Team Meeting

Dan Anderson

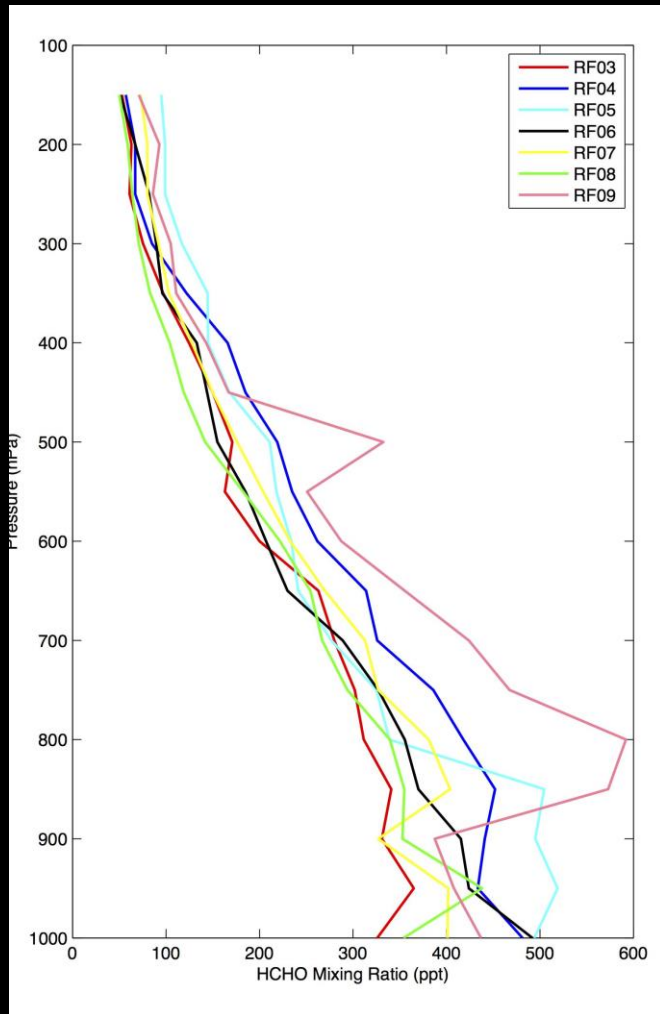
RF09 Time Series



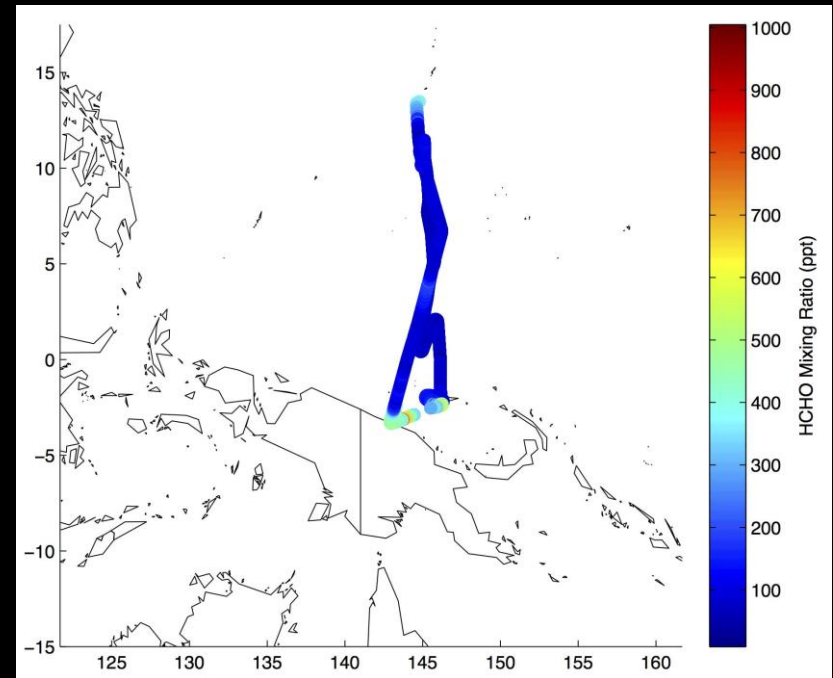
- Good correlation between HCHO mixing ratio and pressure.

Comparison to Previous Flights

Median HCHO Values for CONTRAST Research Flights



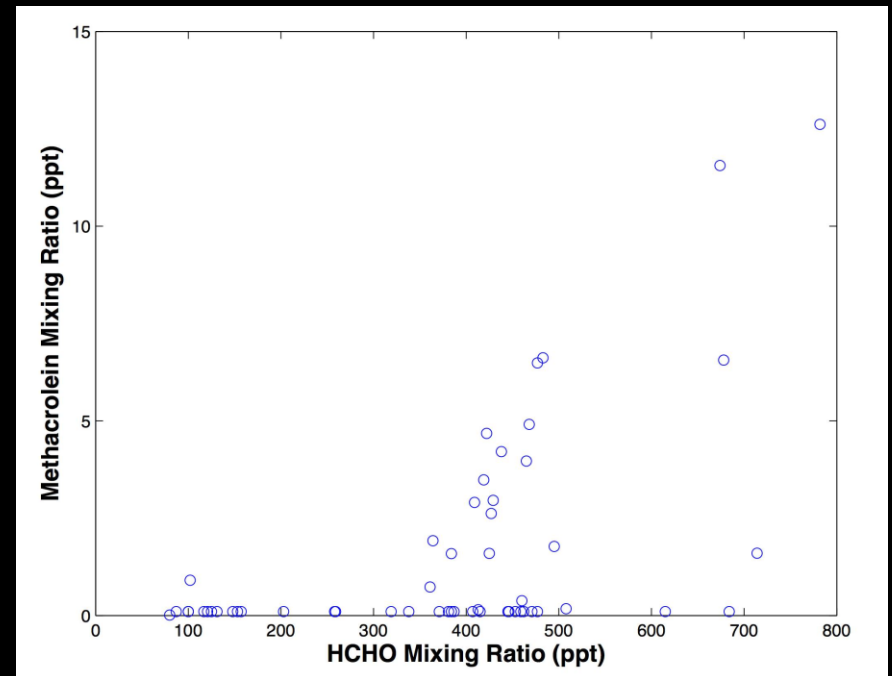
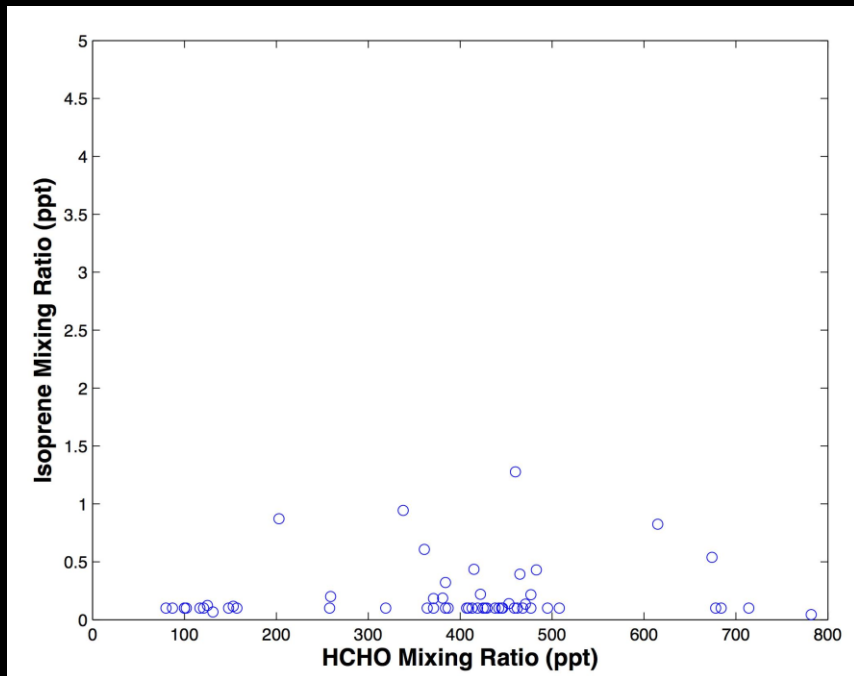
HCHO along the RF09 Flight Track



- Significant HCHO enhancement between 900 and 550 hPa.

Isoprene and Methacrolein

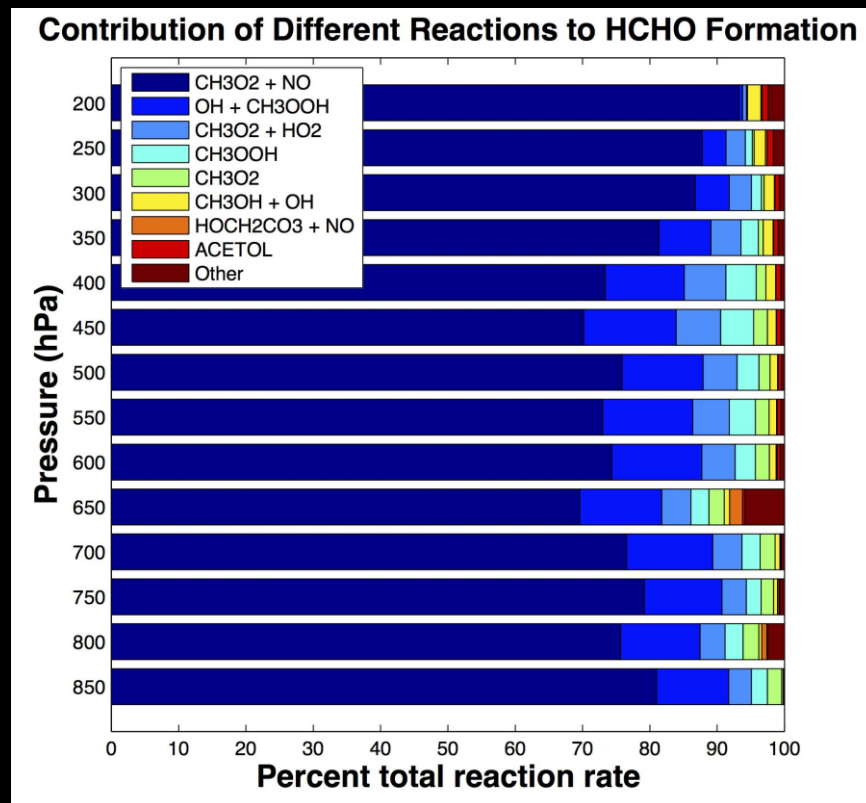
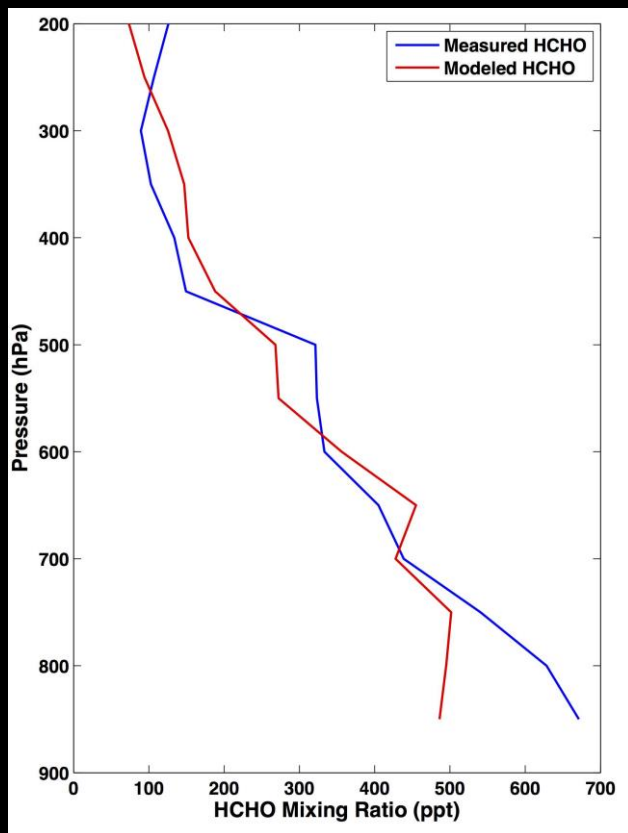
HCHO vs Isoprene and its Oxidation Products during descent near Manus



- No correlation between Isoprene and HCHO
- Some increase in Methacrolein with HCHO.

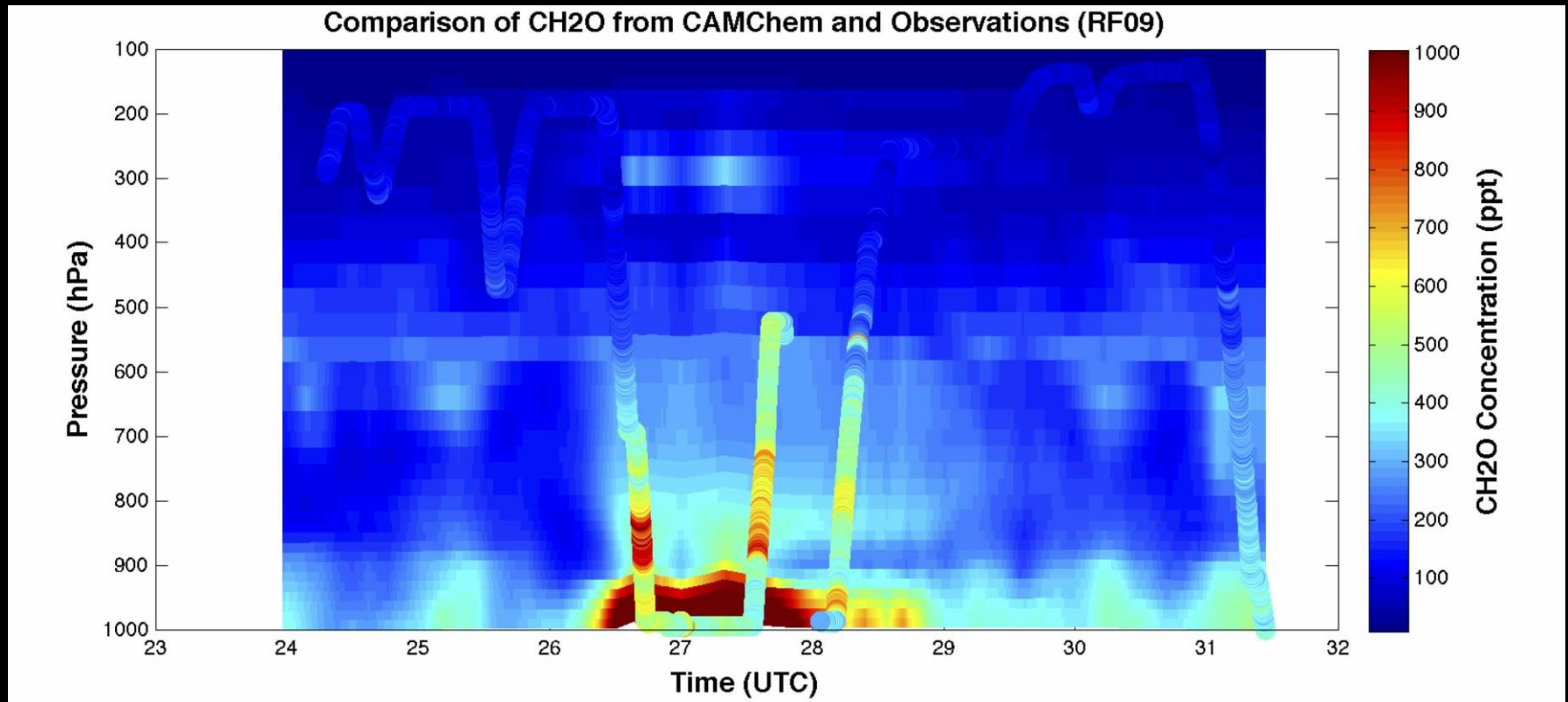
UWCM Box Model Results

Modeled and Measured HCHO during descent near Manus



- Model underpredicts HCHO at pressures greater than 700 hPa.
- Model predicts methane chemistry dominates at all levels. Isoprene and its oxidation products not important.

Comparison to CAMChem



- CAMChem keeps enhanced HCHO too close to the surface.

Summary

- Possible reasons for discrepancy:
 - Transport
 - Production by other VOCs.
 - Primary emission from biomass burning.

HCHO Correlations during descent near Manus

