



Contrasting Reactive Organic Carbon Burden and Reactivity from Observations Across the United States

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Reactive organic carbon (ROC) is the fuel of tropospheric chemistry. However, the abundance and properties of reactive organic carbon in the atmosphere are not well understood. In particular, the relative contributions of key species to the mass burden and OH reactivity (OHR) have not been extensively explored. In this study, we compile measurements from two field studies in the United States: the 2010 CalNex campaign in Southern California and the 2013 Southeast Atmospheric Study (SAS) in the Southeast United States (SEUS) to explore ROC. Southern California represents a modern urban environment, whereas the SEUS represents a mix of biogenic and anthropogenic sources. We contrast the observed ROC at these two very different field sites in terms of both total abundance and contributions to OHR, in the context of recent global model simulations of ROC and OHR using the GEOS-Chem model. This synthesis will provide an overview of the constituents driving the ROC lifecycle in the United States.

*note that final presentation author list will include all measurement teams from CalNex and SAS