

## **Biogenic emissions from North America: What can we learn from INTEX-B/MILAGRO and OMI?**

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Measurements from recent field experiments and from space allow us to test current understanding of emissions of reactive organic gases from North America. Using a 3D chemical transport model (GEOS-Chem), we examine the constraints provided by INTEX-B/MILAGRO and other recent field experiments on the budgets of isoprene and methanol, two of the most important biogenic volatile organic compounds. Aircraft observations of methanol over North America and the adjacent oceans indicate that current bottom-up biogenic emission estimates are too high, while oceanic uptake is underestimated. In the case of isoprene, formaldehyde (HCHO) column measurements from OMI (aboard Aura) afford new top-down constraints on the spatial distribution of isoprene emissions. We use INTEX-B/MILAGRO measurements to validate the OMI HCHO data, and explore the implications of the satellite data for the magnitude and distribution of isoprene emission from North America, and the emission capacity of the underlying vegetation types.