Composition of Particles Produced From Houston Area Sources

Observations Made on 6 October Aboard the NOAA P-3 Aircraft

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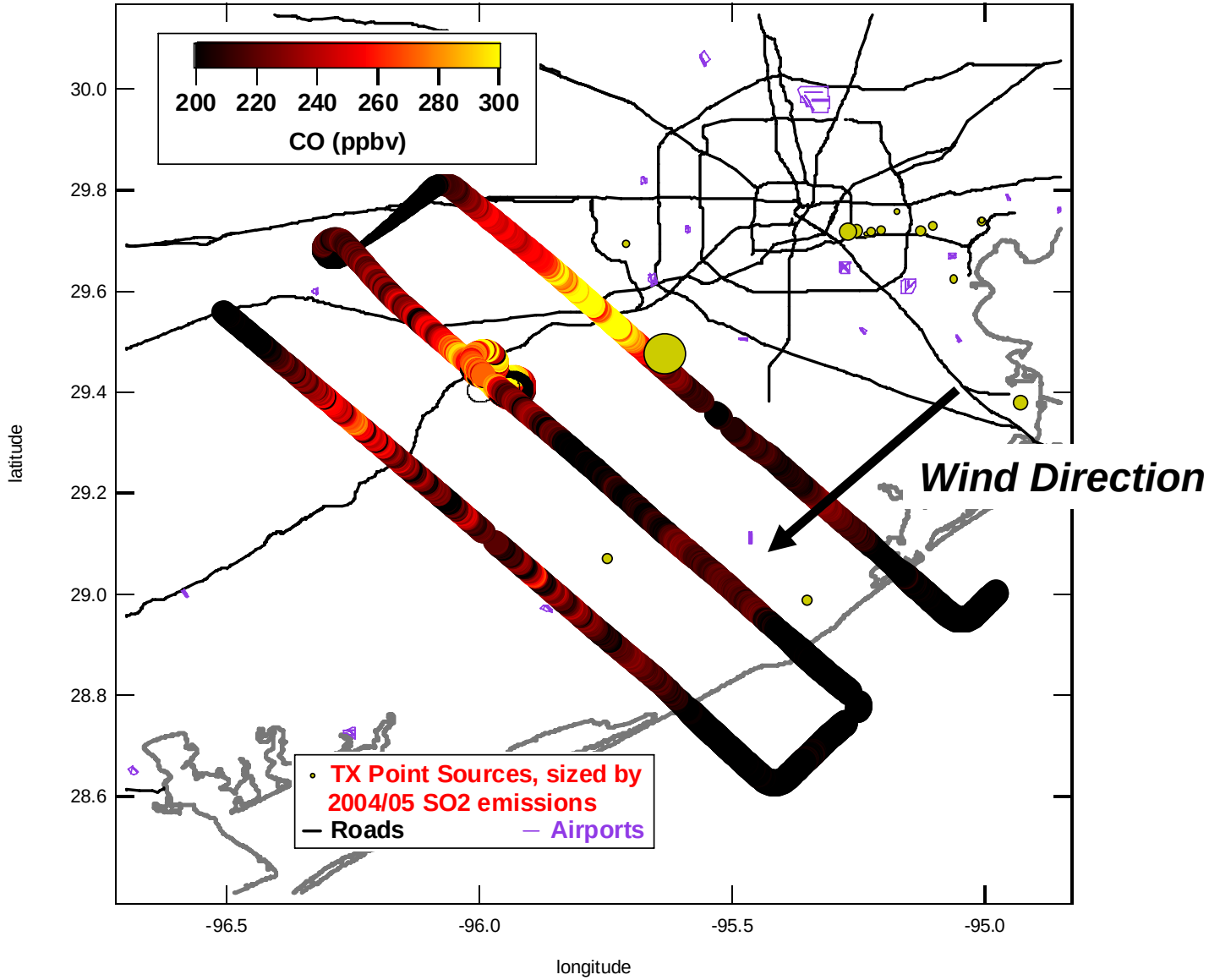
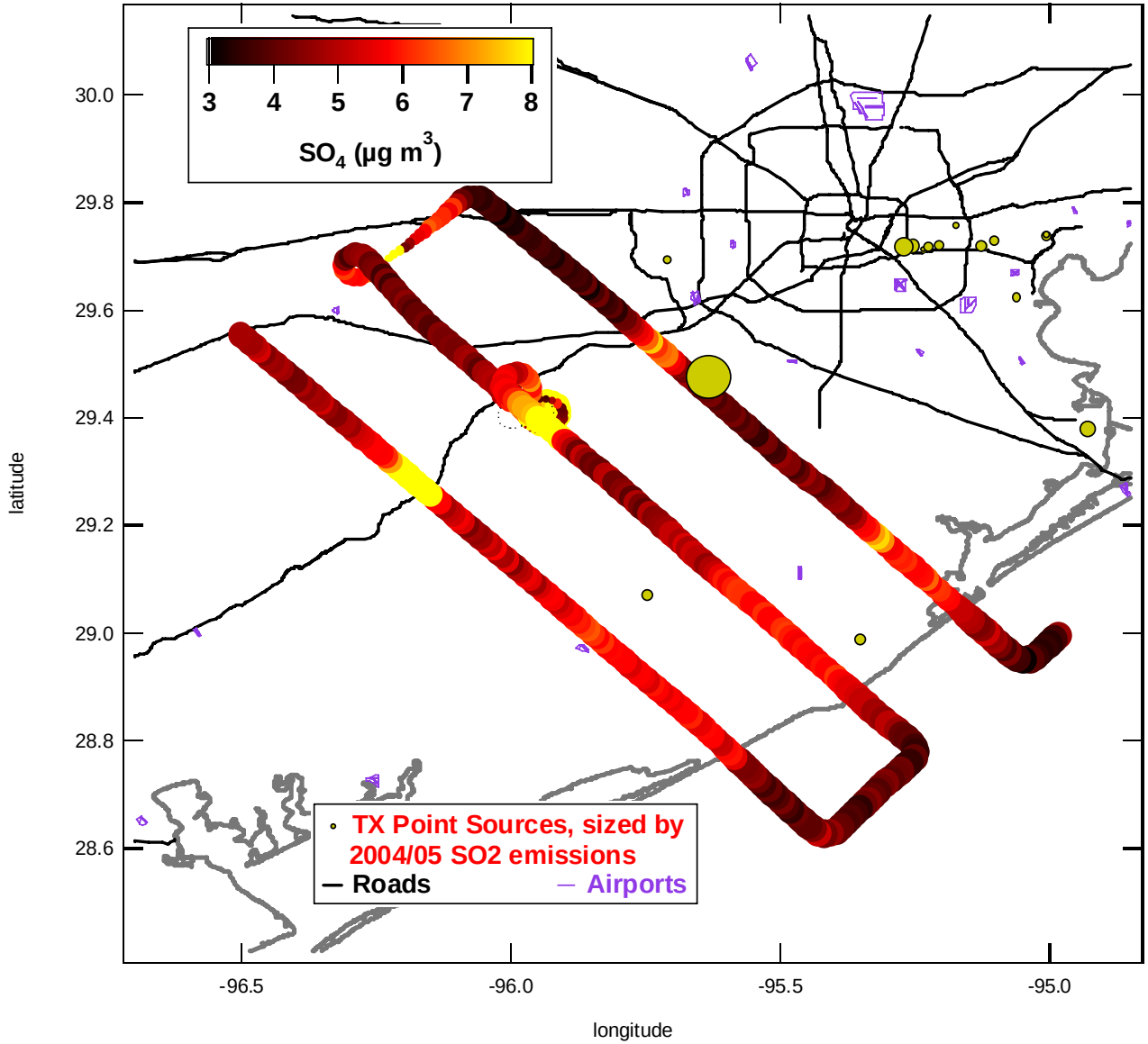
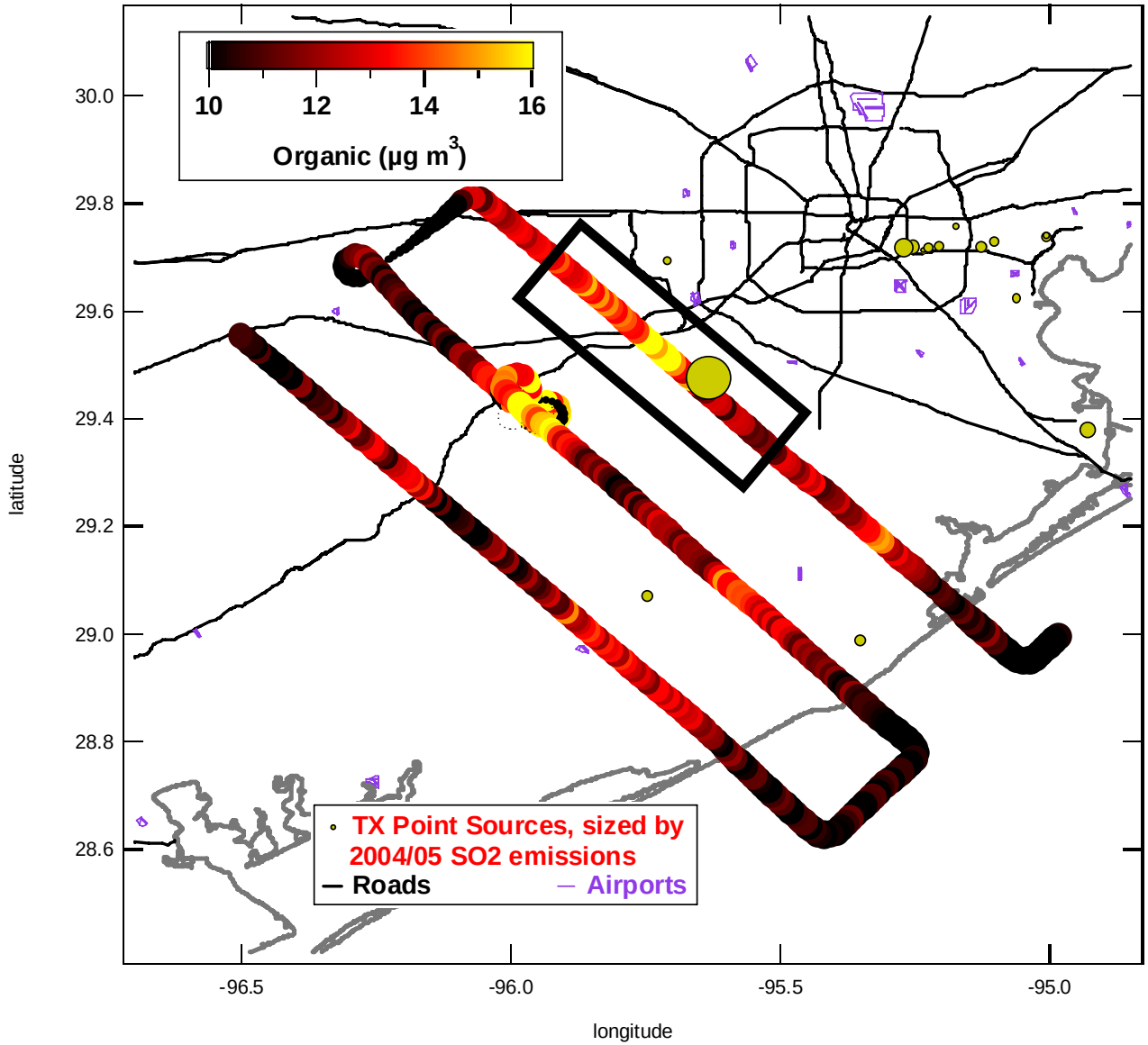
CO from Urban Sources

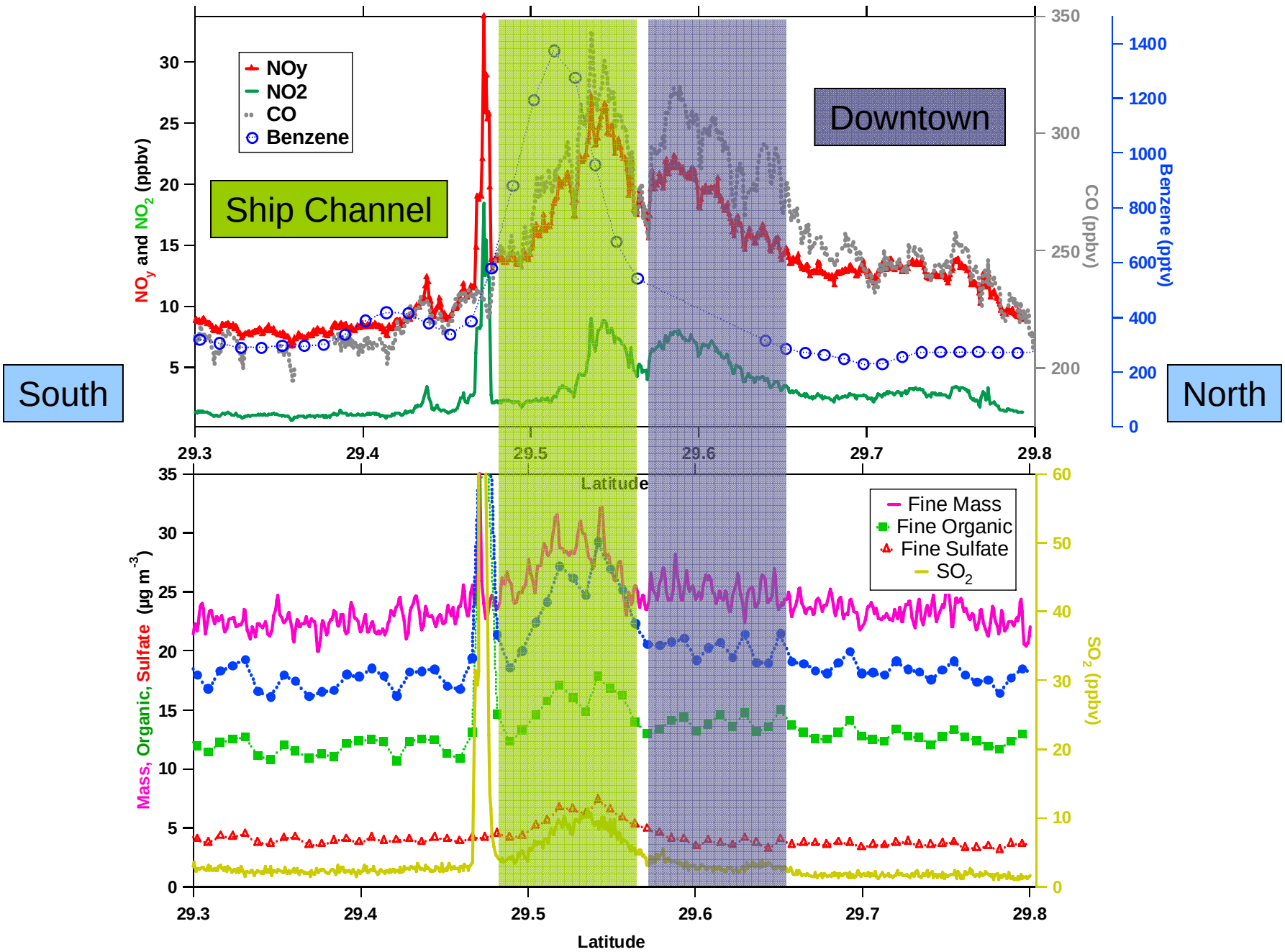


SO_4 from SO_2 Sources



Organic from Industrial Sources




NOy
NO2
CO
Benzene
Ship Channel
Downtown
South
North
NOy and NO2 (ppbv)
CO (ppbv)
Benzene (pptv)
Latitude
Fine Mass
Fine Organic
Fine Sulfate
SO2
Mass, Organic, Sulfate (µg m-3)
SO2 (ppbv)
29.3
29.4
29.5
29.6
29.7
29.8

Summary

Very preliminary dataset, and only a single case examined, but

These results appear to be typical:

- **Organic and sulfate particles from ship channel area**
- **Organic particles at lower mass concentrations from urban area**
- **Sulfate particles from SO_2 sources**
- **Variable background, from very clean to >15 $\mu g\ m^{-3}$**

Contributions of many, most notably

Emissions: *Frost*
Particle composition: *Middlebrook and Bahreini*
Optical properties: *Baynard*
Size distributions: *Wollny and Gallar*
CO and SO2: *Holloway*
NOy: *Ryerson, Neuman, Zheng*
Benzene: *de Gouw, Warneke, del Negro*
Prodding: *Parrish*
Funding: *NOAA and TCEQ*