Atmos. Chem. Phys. Discuss., 13, C9394–C9395, 2013
www.atmos-chem-phys-discuss.net/13/C9394/2013/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Contributions of local and regional sources to fine PM in the megacity of Paris" *by* K. Skyllakou et al.

WRS Stockwell (Referee)

william.r.stockwell@gmail.com

Received and published: 9 December 2013

The authors used a new implementation of a Particulate Matter (PM) source apportionment algorithm in PMCAMx-2008 with a treatment of organic aerosol with a volatility basis set framework. They applied the model to Paris for a summer and a winter month. They used the model to quantify the contributions from local, mid-range and long-range emission sources to aerosol concentrations in Paris. This paper is an excellent demonstration of the power of this technique.

They found that local sources were most important for elemental carbon (EC) while long-range sources were most important for sulfate aerosol. The sources of secondary organic aerosol (SOA) were particularly interesting. Mid and long-range transport are

Full Screen / Esc
Printer-friendly Version
Interactive Discussion
Discussion Paper

very significant during the summer and winter months and together they are much more important than local sources. This seems to be surprising because so many biogenically emitted compounds that produce aerosol precursors are very reactive and it might be expected these produce SOA on very local scales. This result should encourage further laboratory, field and modeling research.

One purely technical correction: Figure 7 is difficult to read and it could be improved by readjusting its color scale.

Interactive comment on Atmos. Chem. Phys. Discuss., 13, 25769, 2013.