

Supplementary material for:

## **OMI Satellite Observations of decadal changes in Ground-Level Sulfur Dioxide over North America**

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## OMI SO<sub>2</sub> Surface Mixing Ratio

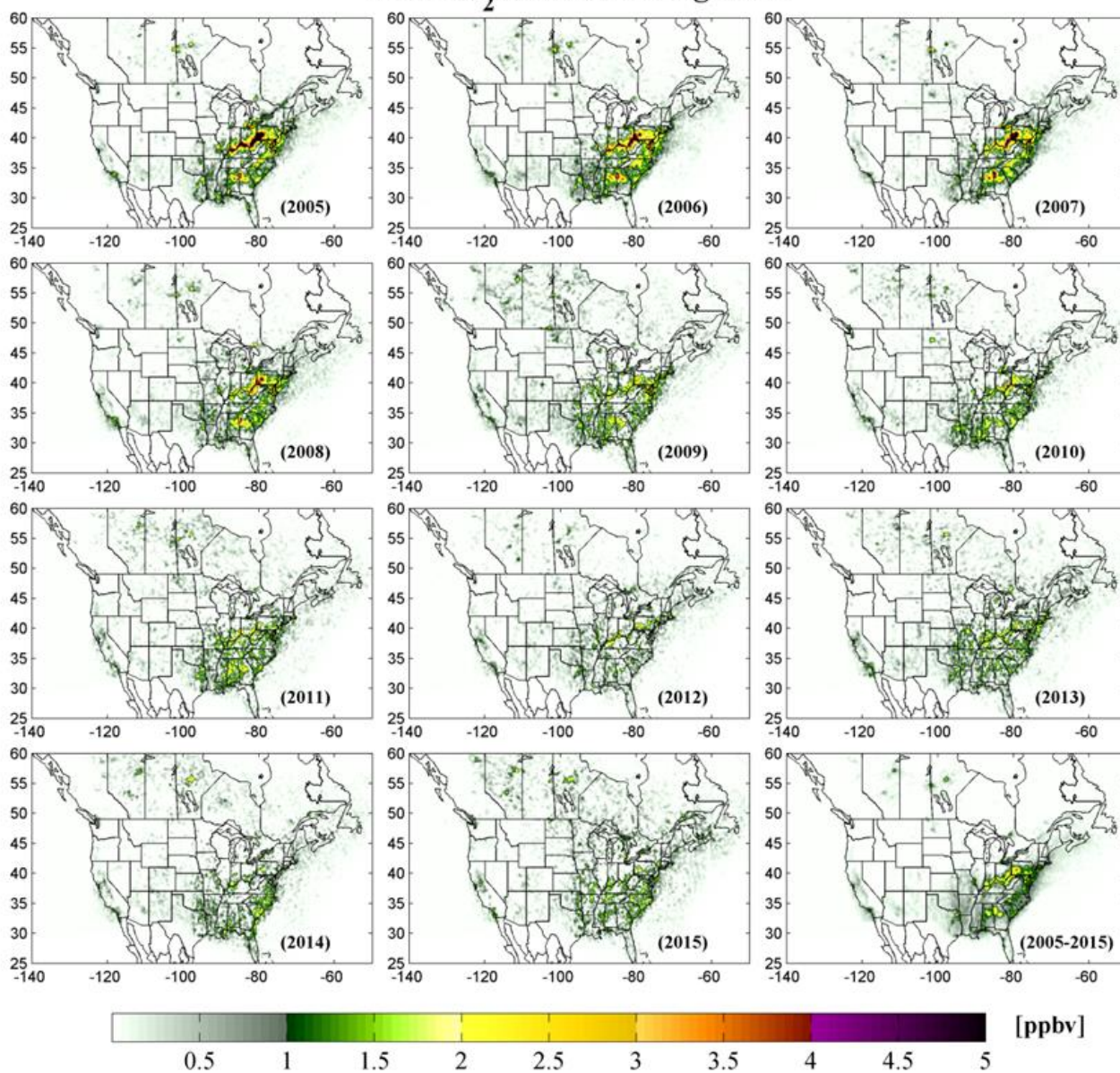
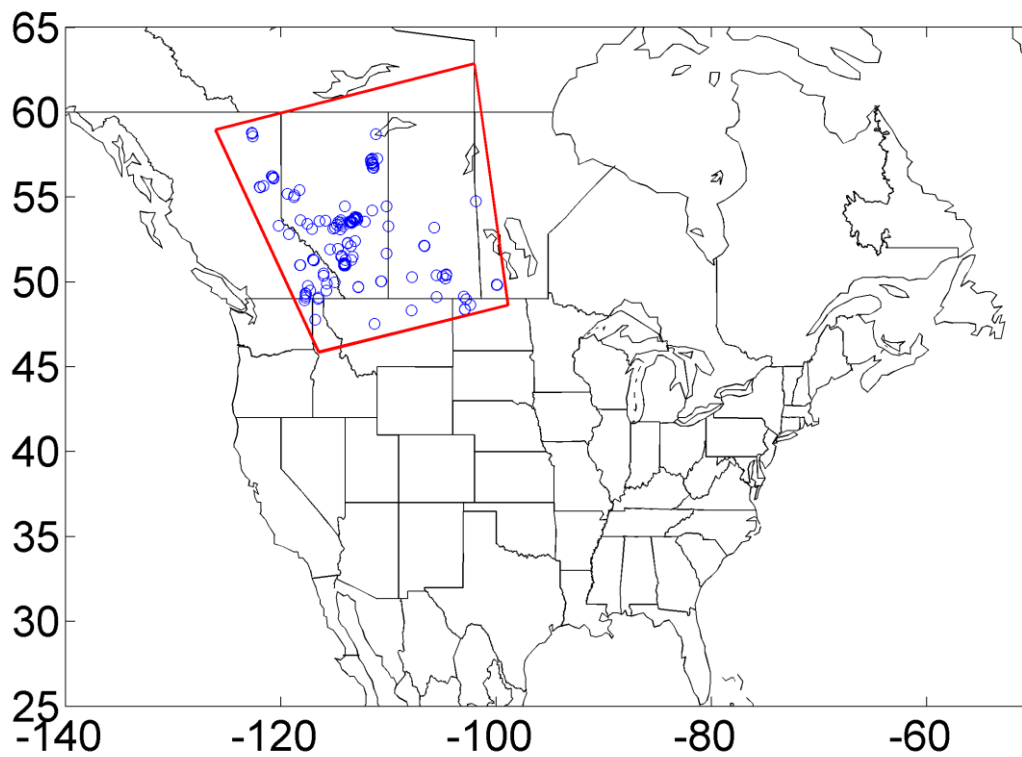


Figure S1: Spatial distribution of annual mean OMI-derived ground-level SO<sub>2</sub> mixing ratio over North America for the period of 2005 to 2015.

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**Figure S2: Geographical location of GEM-MACH model domain is shown with a red polygon. The in-situ monitors locations are shown with blue circles.**

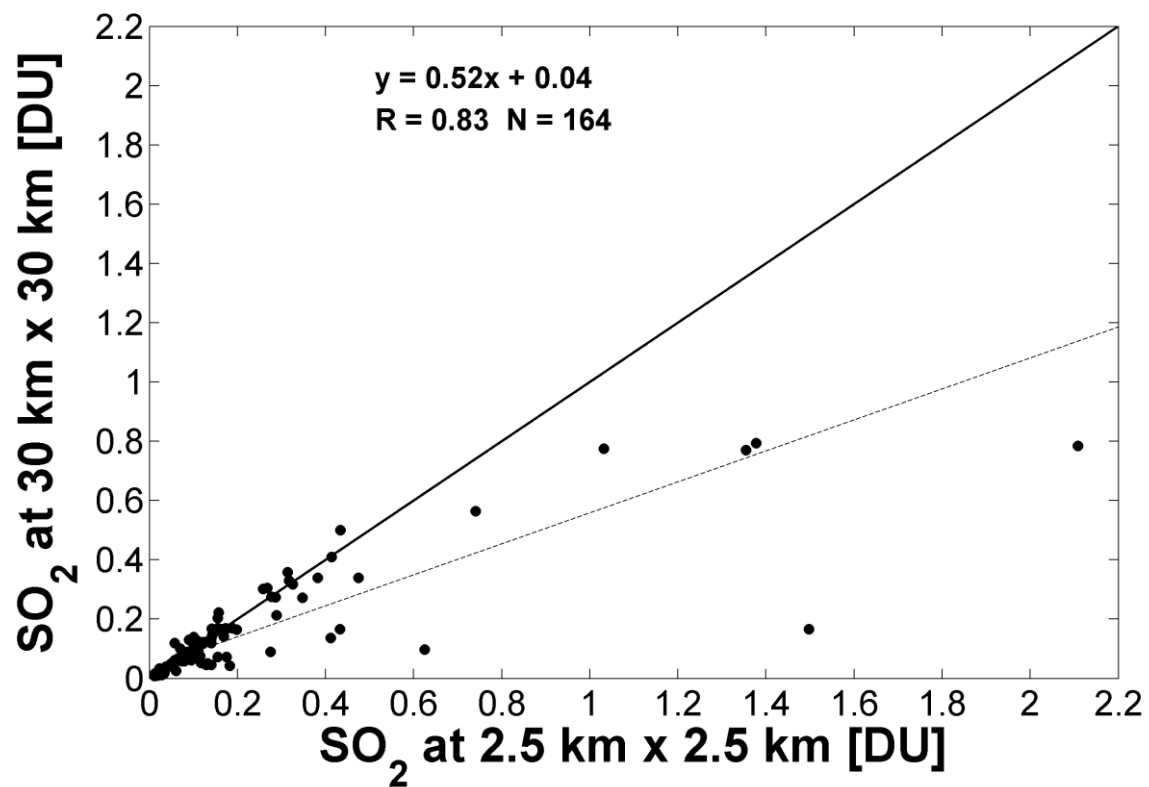


Figure S3: Scatter plot of GEM-MACH SO<sub>2</sub> column.

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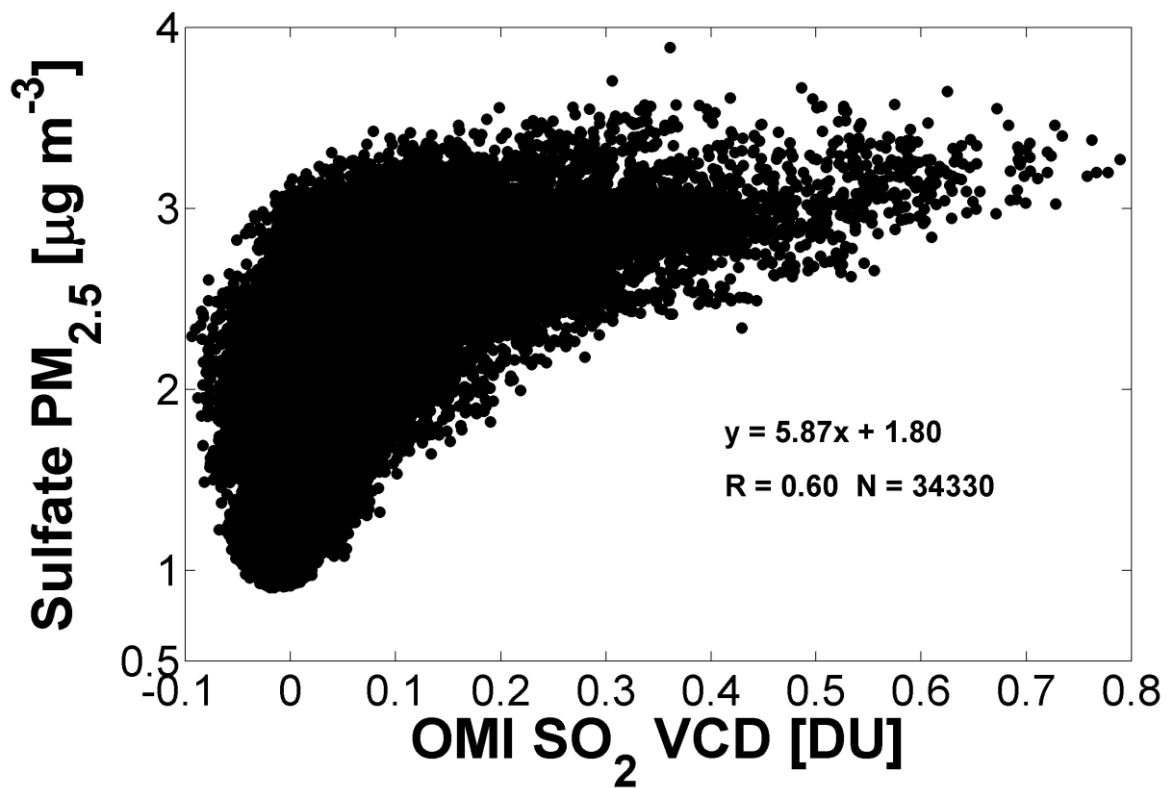


Figure S4: Scatter plot of OMI SO<sub>2</sub> VCD versus sulfate PM<sub>2.5</sub> over eastern North America.