



## **Estimating PM<sub>2.5</sub> Emission from Brick Kiln Industry over Northern India with Numerical Model and Remote Sensing Observation**

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This study examines contribution of brick kiln (BK) industry to PM<sub>2.5</sub> emission over northern part of India. We analyze MODIS LAI, FPAR, global land cover products, as well as NASA's LDAS vegetation and soil datasets with 3887 BK locations over the region in the period of the highest PM<sub>2.5</sub> concentration during December 2016 to February 2017. Our preliminary results show that more than 60% of BK occupied silt-rich areas, with more than 80% of them were located over croplands on the outskirts of urban areas, indicating proxies for PM<sub>2.5</sub> emission over Northern India. Initial WRF-Chem model simulations showed prominent diurnal variation of the pollutant with averaged peak concentration exceeding 1 $\mu$ g/m<sup>3</sup> over the capital city of New Delhi. Future works will introduce the use of Google Earth Engine (GEE) cloud platform for identifying BK locations and incorporate them into the model to improve the simulation results.