Atmospheric
Chemistry
and Physics

Supplement of

Reduction in vehicular emissions attributable to the Covid-19 lockdown in Shanghai: insights from 5 years of monitoring-based machine learning

Meng Wang et al.

Correspondence to: Qingyan Fu (qingyanf@sheemc.cn) and Shun-cheng Lee (shun-cheng.lee@polyu.edu.hk)

Table S1. Correlation coefficient R and root mean square error (RMSE in μg m^{-3}) between predicted and measured NO$_x$ and EC using the random forest model and the multilinear regression model.

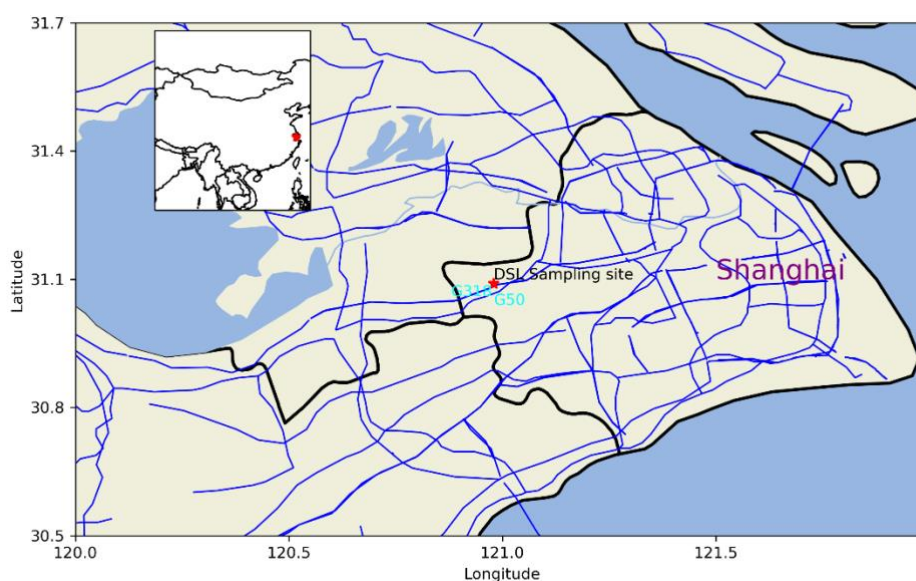| R (RMSE)	Random Forest	Multilinear regression
NO$_x$	0.89-0.98 (12.94-29.34)	0.48 (47.6)
EC	0.90-0.98 (0.27-0.51)	0.45 (0.96)

Figure S1. The location of Dianshan Lake (DSL) supersite in west Shanghai. Blue lines represent roads. The DSL sampling site is approximately 1 km away from the nearest highways (G318 and G50). The Inset shows the location of the sampling site in China. (The map was created using a Python package of Cartopy).
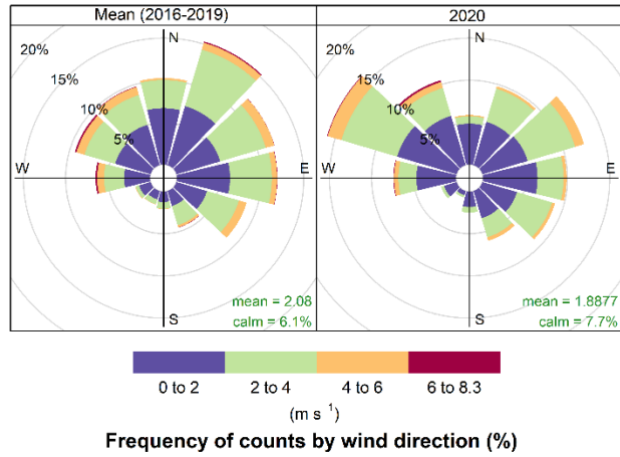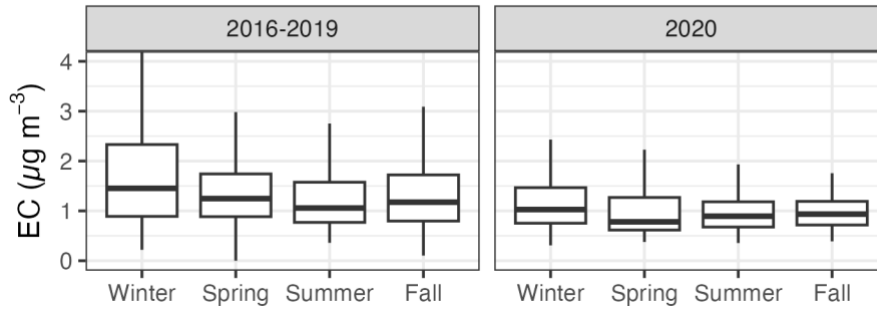
Figure S2. Wind roses for the period between 2016 and 2019 (left), and the year of 2020 with the Covid-19 lockdown (right).
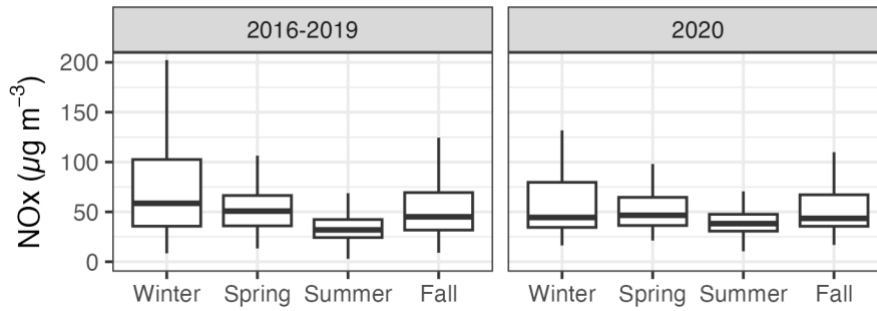

Figure S3. Seasonal variation of EC and NOx for 2016-2019 and 2020.
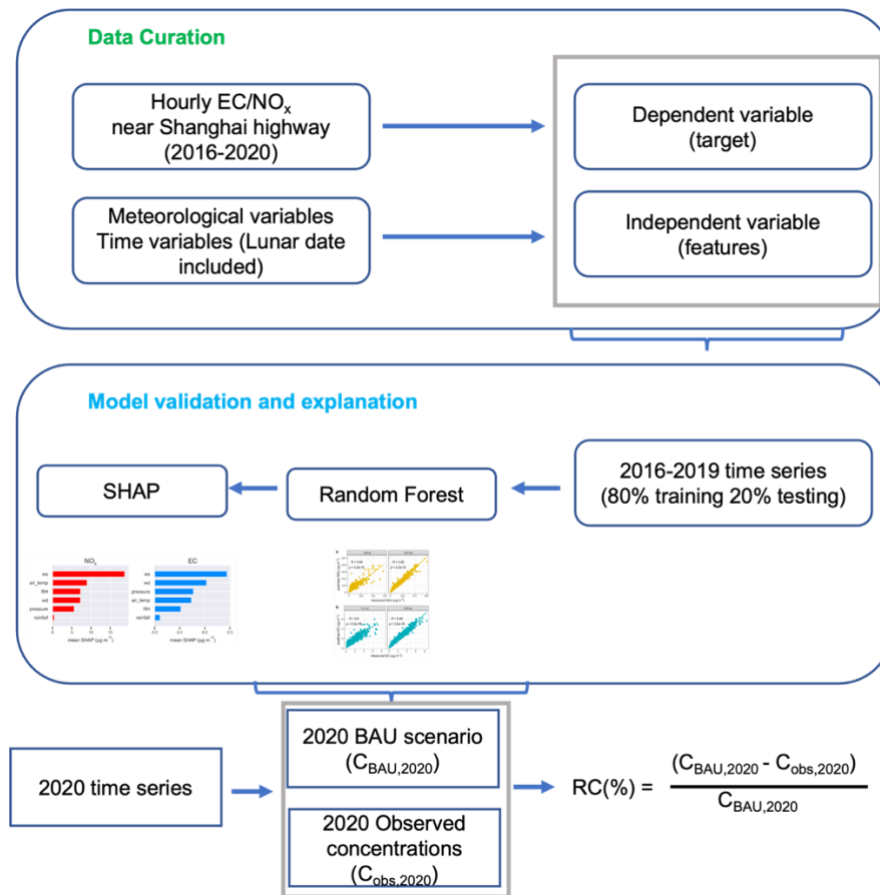
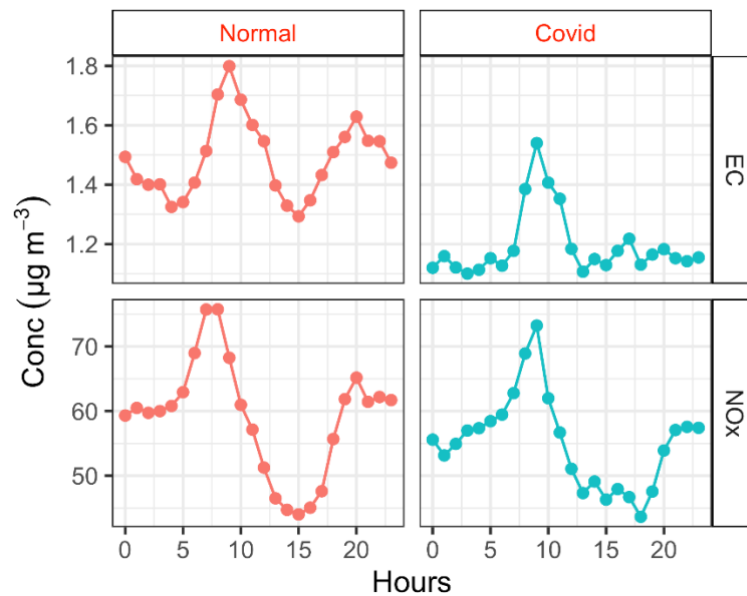**Figure S4. Flow chart of the method. RC standards for relative change in %.**

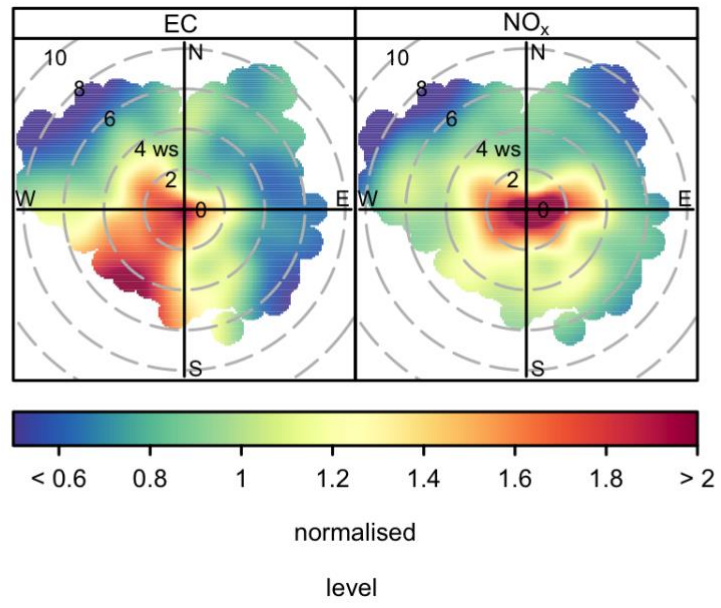**Figure S5. Averaged diurnal cycle of NOx and EC during the normal years (2016-2019) and 2020 with Covid.**

Figure S6. Polar plot of the normalized EC and NOx as a function of wind speed and direction.