**Table S5.** Point estimates (standard error) for the marginal effect of exposure to an additional 100 barrels of oil equivalent (BOE) of total upwind oil and gas production within each distance bin, 2006-2019. Each row presents results for each pollutant in annuli bins out to 4 km, with different model specifications (1-3); model 3 is the primary model discussed in the text. Note that for PM2.5, CO, and VOCs, there were no monitor-days with a preproduction well within 1 km.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Dependent variable (units) | n | 0-1 km | | | 1-2 km | | | 2-3 km | | | 3-4 km | | |
|  |  | (1) | (2) | (3) | (1) | (2) | (3) | (1) | (2) | (3) | (1) | (2) | (3) |
| PM2.5 (µg/m3) | 454,722 | 0.34 (0.34) | 0.23 (0.32) | 1.93\*\*\* (0.43) | -0.33\*\* (0.06) | -0.33\*\*\* (0.06) | -0.20\*\* (0.07) | -0.02  (0.01) | -0.03\* (0.01) | -0.01 (0.01) | 0.16\*\*\* (0.01) | 0.17\*\*\* (0.01) | -0.04\* (0.02) |
| CO (ppm) | 327,811 | 0.01\*\*\* (0.003) | 0.01\*\*\* (0.003) | -0.01 (0.006) | 0.002\*\* (0.001) | 0.003\*\*\* (0.001) | -0.01\*\*\* (0.001) | 0.004\*\*\* (0.001) | -0.003\*\*\* (0.0005) | -0.001· (0.0004) | -0.01\*\*\* (0.001) | -0.01\*\*\* (0.001) | 0.001 (0.001) |
| NO2 (ppb) | 454,764 | 0.46\*\*\* (0.11) | 0.42\*\*\* (0.10) | 0.62\*\*\* (0.12) | 0.48\*\*\* (0.03) | 0.50\*\*\* (0.03) | 0.04· (0.02) | 0.08\*\*\* (0.02) | -0.05\*\* (0.02) | 0.003 (0.01) | -0.36\*\*\* (0.03) | -0.03 (0.03) | -0.02 (0.02) |
| O3 (ppb) | 841,020 | -0.82\*\*\* (0.08) | -0.87\*\*\* (0.07) | -0.09 (0.06) | 0.04\* (0.02) | 0.09\*\*\* (0.02) | 0.11\*\*\* (0.01) | -0.21\*\*\* (0.01) | -0.11\*\*\* (0.01) | 0.004 (0.009) | 0.24\*\*\* (0.01) | 0.12\*\*\* (0.01) | 0.002 (0.01) |
| VOCs (ppb C)a | 94,349 | 0.09\*\*\* (0.02) | 0.09\*\*\* (0.02) | 0.04\* (0.02) | -0.01\*\*\* (0.002) | -0.01\*\*\* (0.002) | -0.004\*\* (0.001) | 0.009\*\*\* (0.0001) | 0.01\*\*\* (0.007) | 0.001 (0.001) | -0.005\*\*\* (0.0006) | -0.003\*\*\* (0.0006) | -0.0002 (0.0006) |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Controlsb |  | N | Y | Y | N | Y | Y | N | Y | Y | N | Y | Y |
| Monitor-mo. + basin-yr. FE |  | N | N | Y | N | N | Y | N | N | Y | N | N | Y |

·p < 0.1; \*p < 0.05; \*\*p < 0.01; \*\*\*p< 0.001

a VOCs data were for 1999-2019

b Controls include daily precipitation, mean temperature, wind speed, day-of-week, and number of overhead smoke plumes