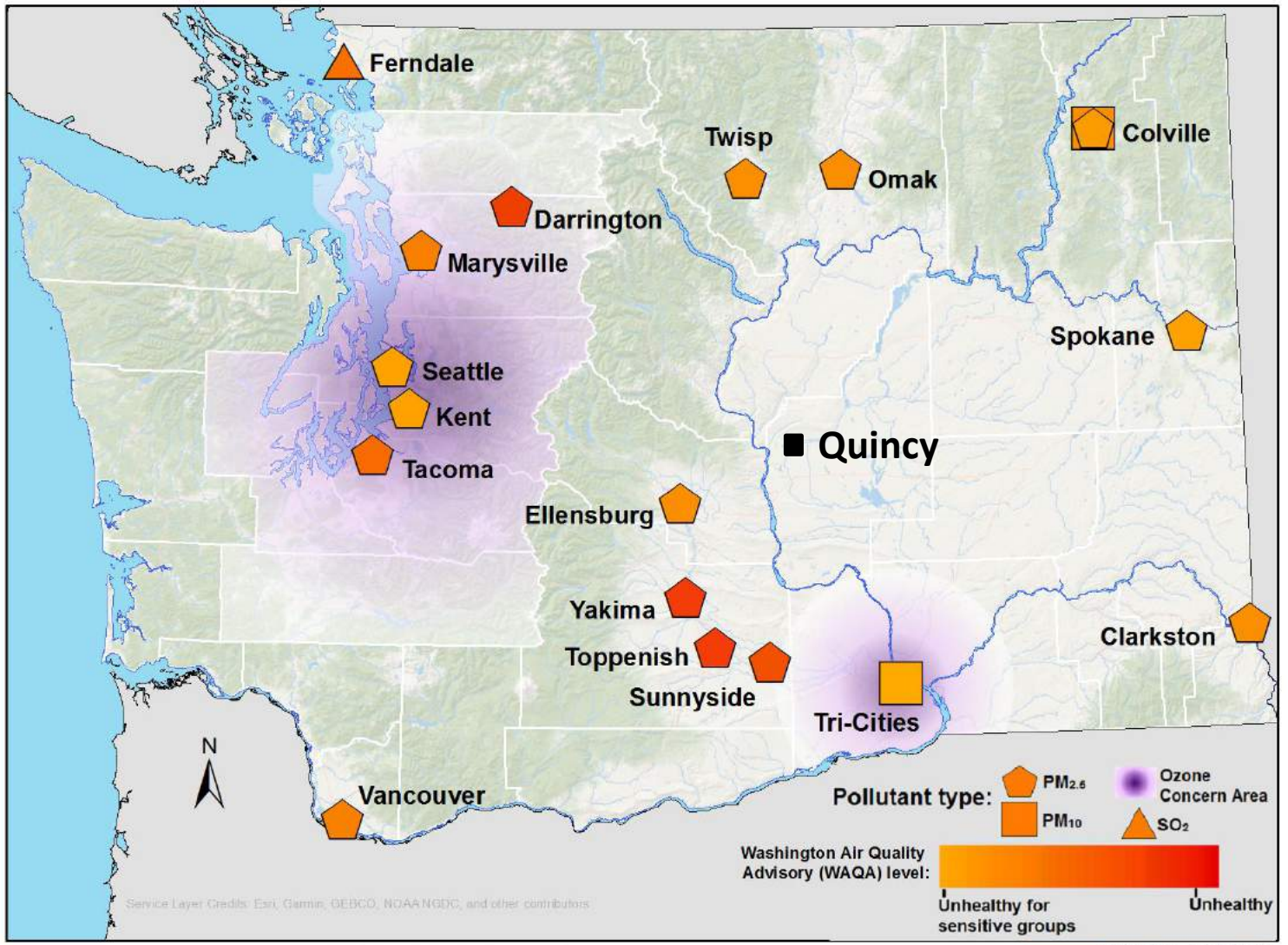
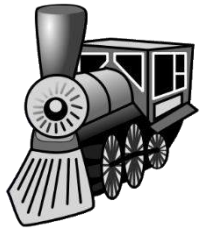
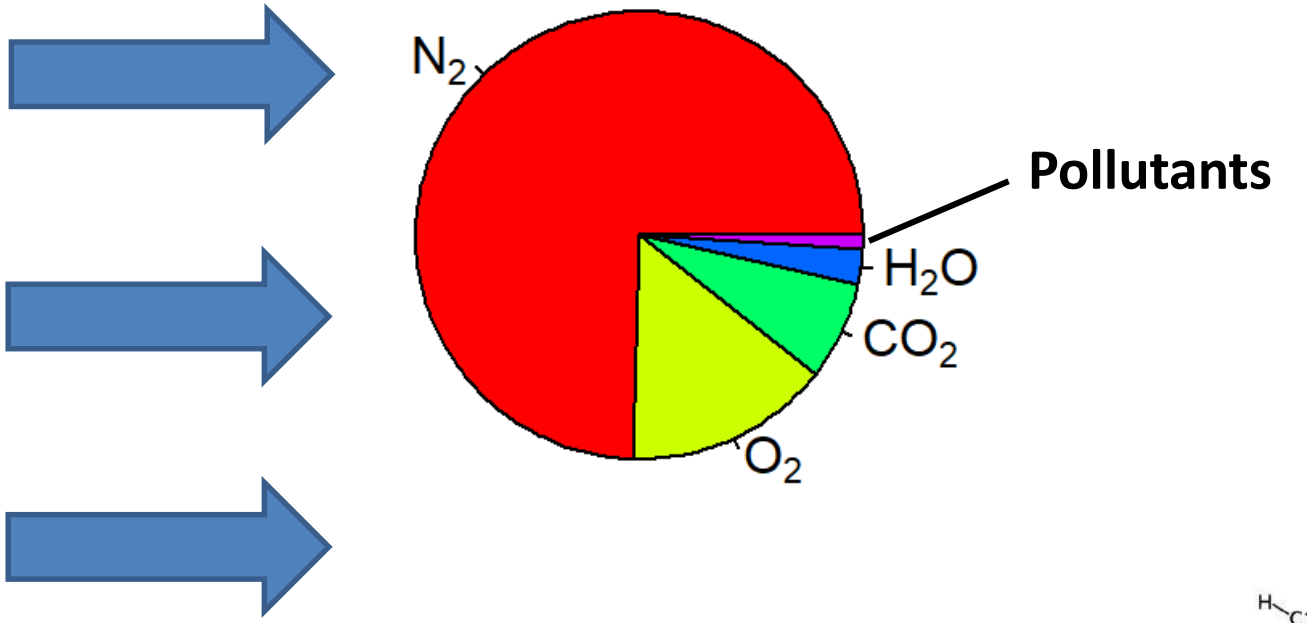
Diesel $PM_{2.5}$ emissions in Quincy, WA

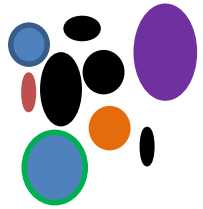
Beth Friedman
Washington State Department of Ecology

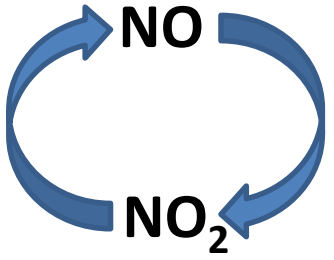

Ferndale
Twisp
Colville
Omak
Darrington
Marysville
Spokane
Seattle
Kent
Quincy
Tacoma
Ellensburg
Yakima
Clarkston
Toppenish
Sunnyside
Tri-Cities
N
Vancouver
Pollutant type:
PM2.6
PM10
Ozone Concern Area
SO2
Washington Air Quality Advisory (WAQA) level:
Unhealthy for sensitive groups
Unhealthy
Service Layer Credits: Esri, Garmin, GEBCO, NOAA NGDC, and other contributors
Miles
0
25
50
Wildfire influences have been removed from dataset.
This map does not constitute a formal determination
of compliance with federal air quality standards.
May 2019
DEPARTMENT OF
ECOLOGY
State of Washington

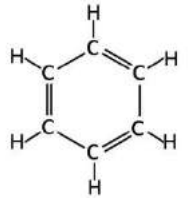
Diesel Exhaust Emissions

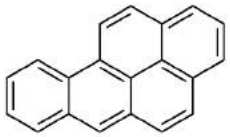










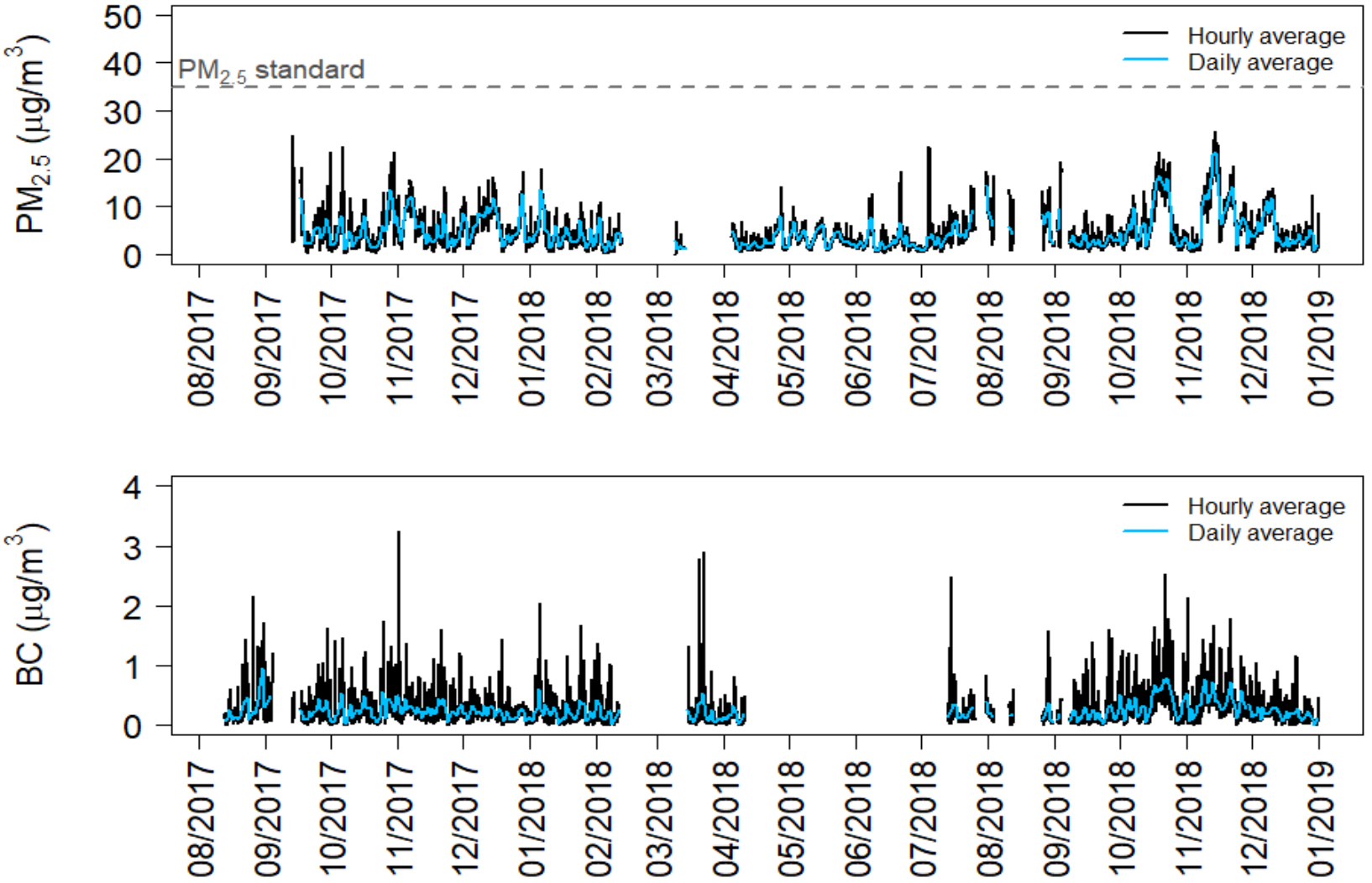


Pollution sources in Quincy

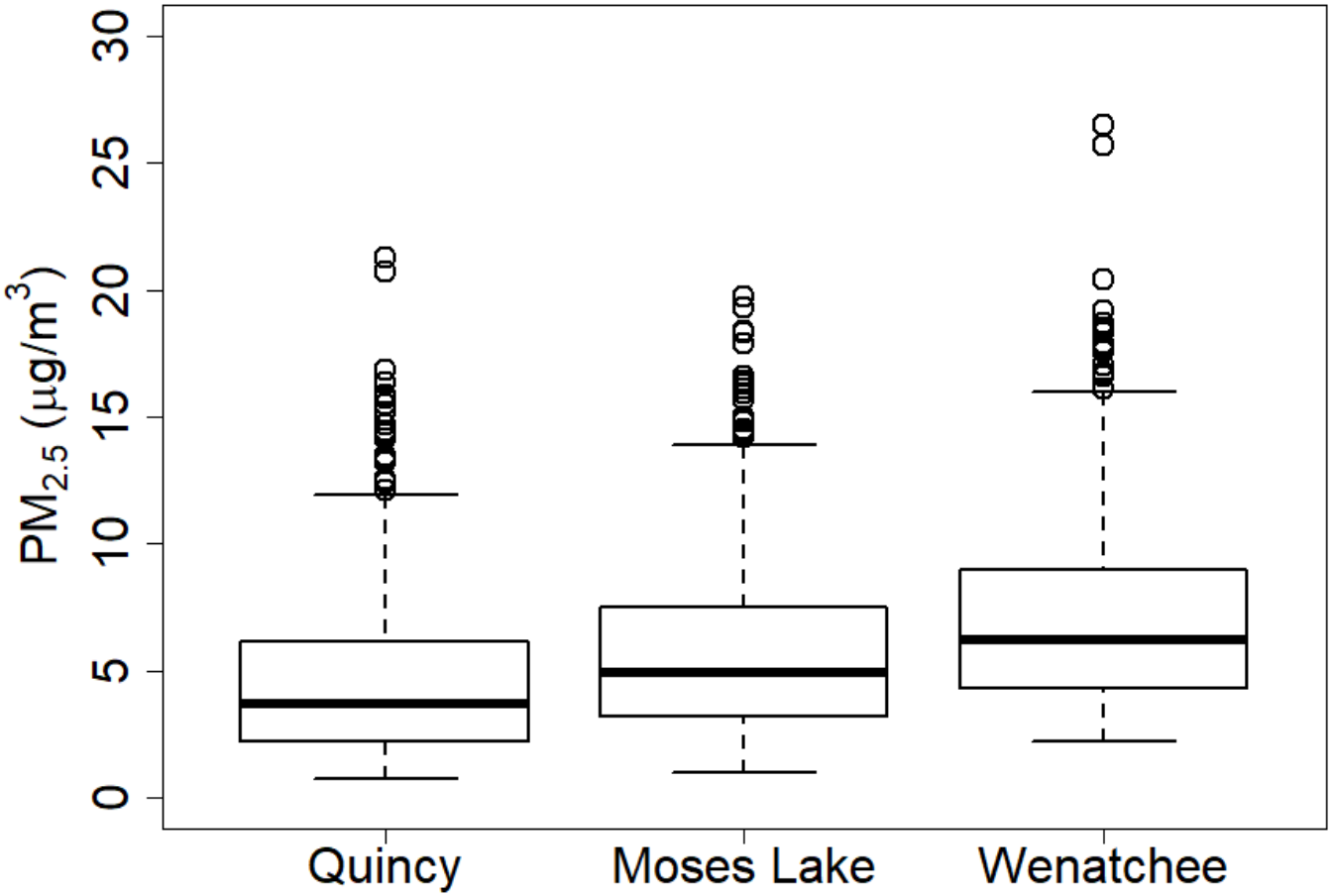
Quincy Monitoring Site: Aug 2017-Dec 2018

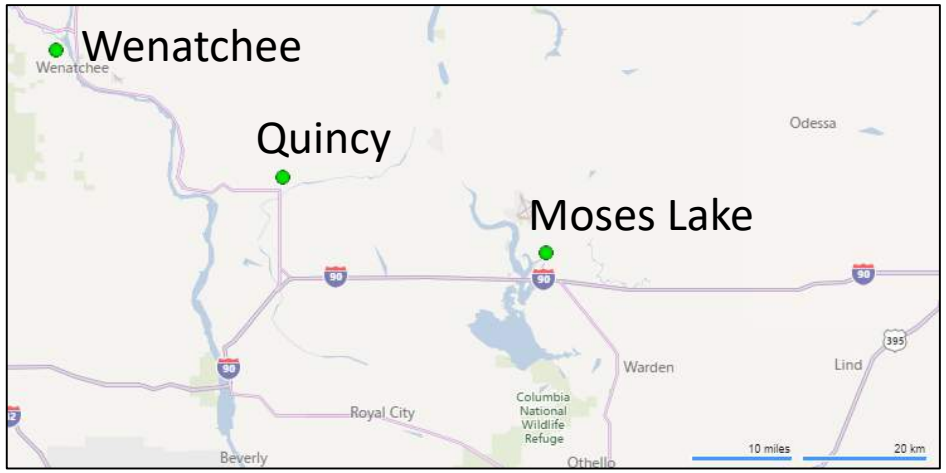
- NO_x
- Black Carbon
- $PM_{2.5}$
- Meteorology

Concentrations are low

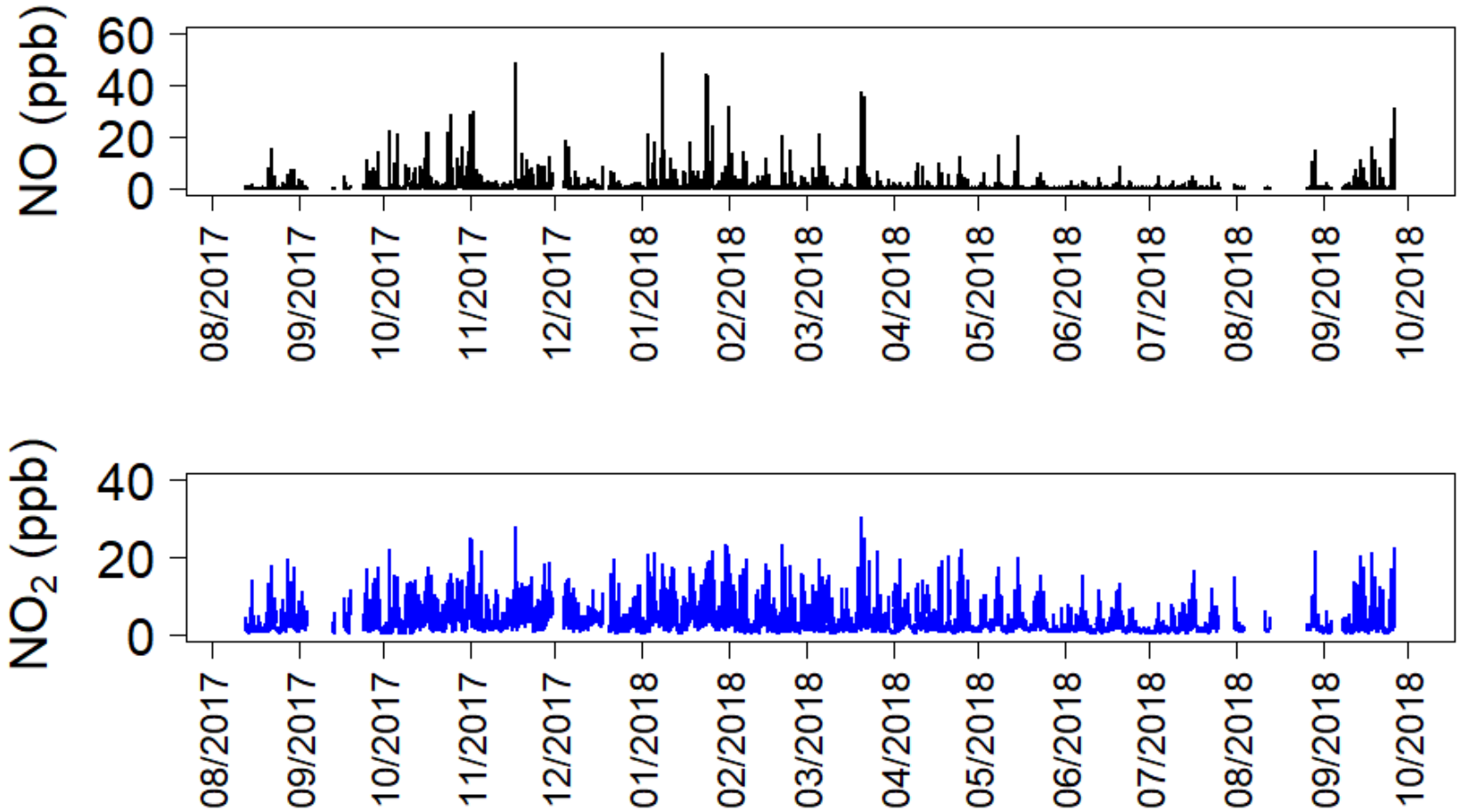


PM2.5 concentrations similar to nearby sites



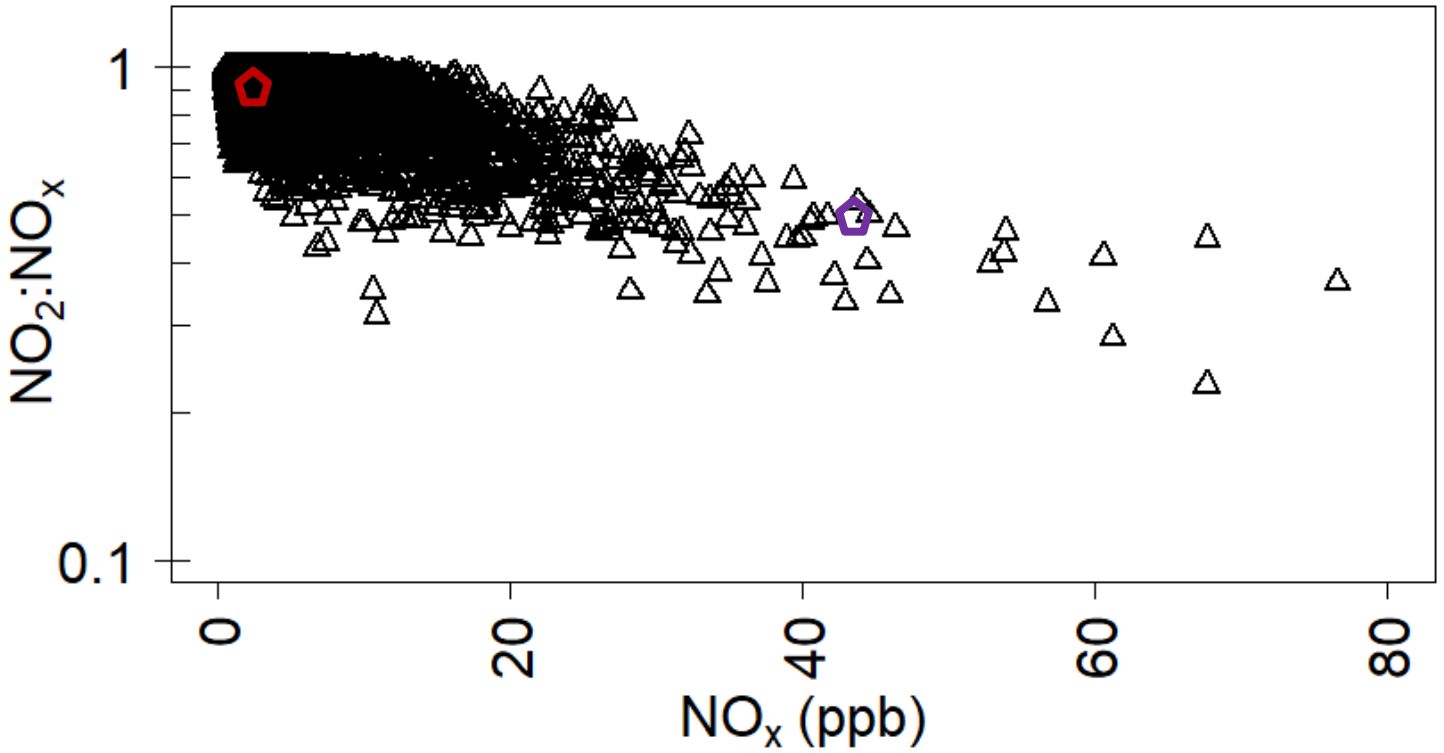


Hourly NOx concentrations are also low…



NO_2 standard (1-hour daily maximum) = 100 ppb

…and not indicative of fresh emissions

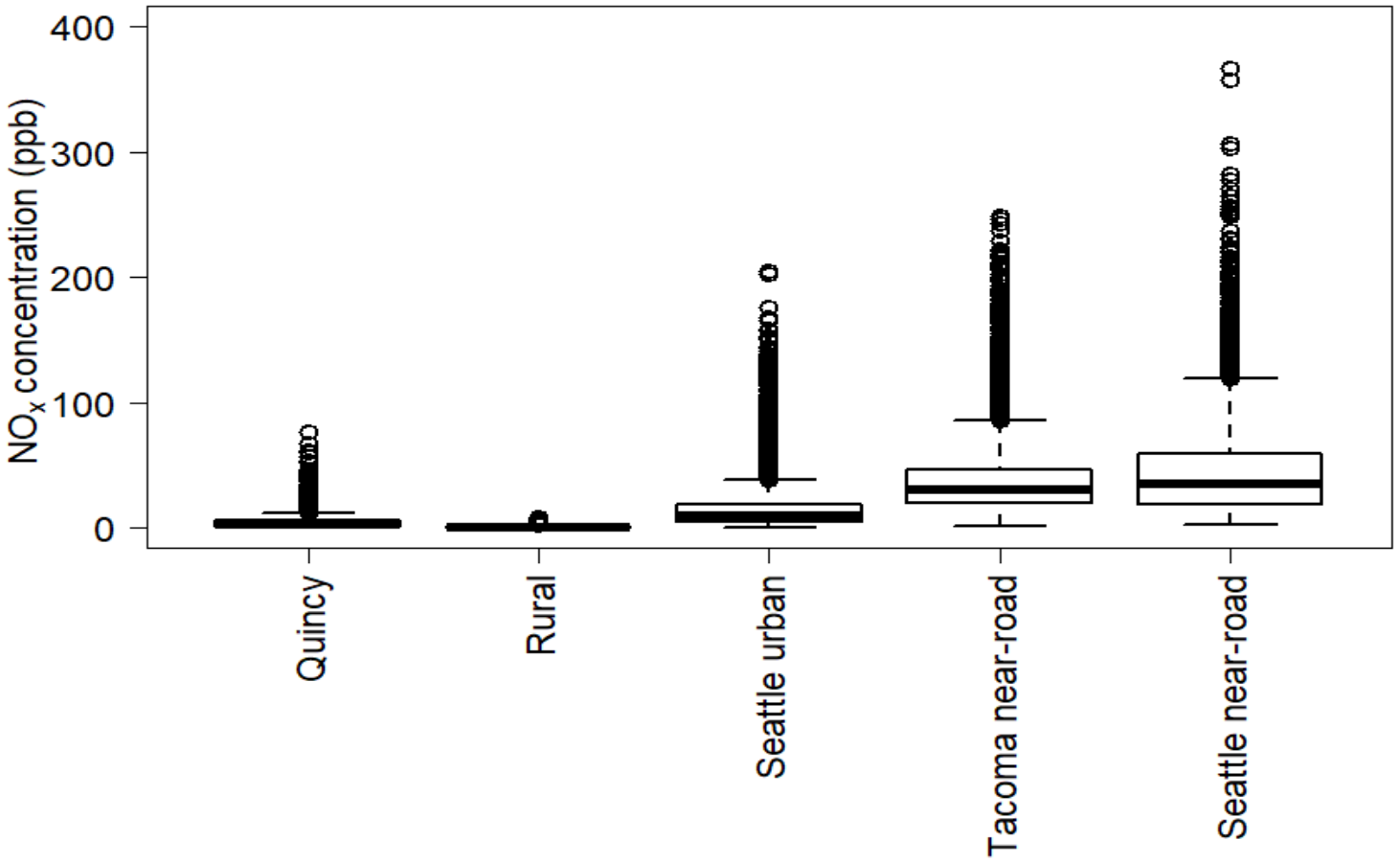


Seattle near-road

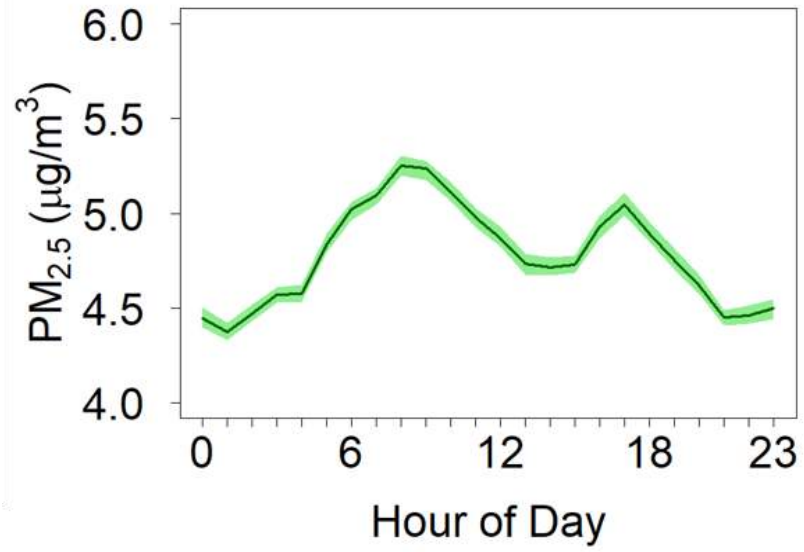
Quincy

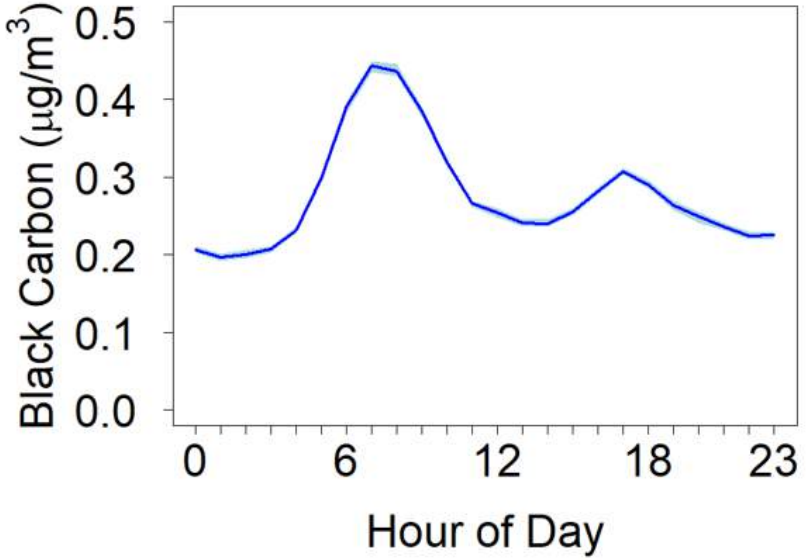
Diesel engine generators, combustion turbine, in-stack: **0.1-0.4**

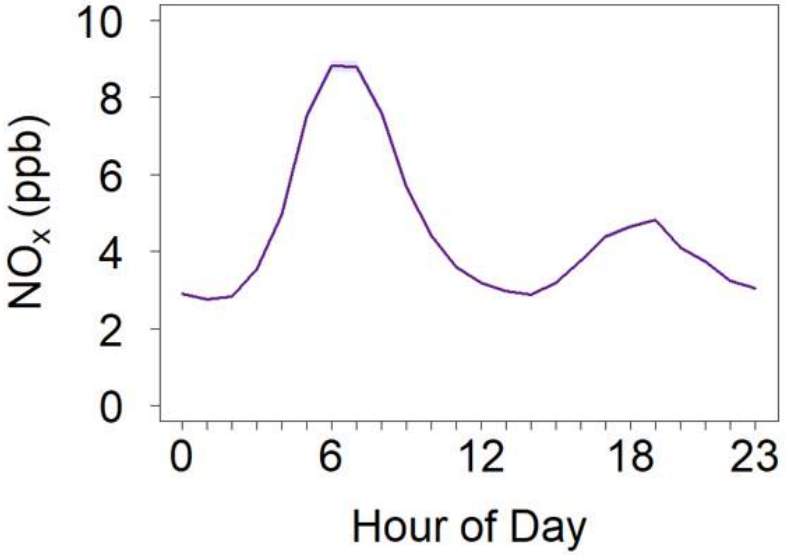
NOx concentrations lower than urban sites



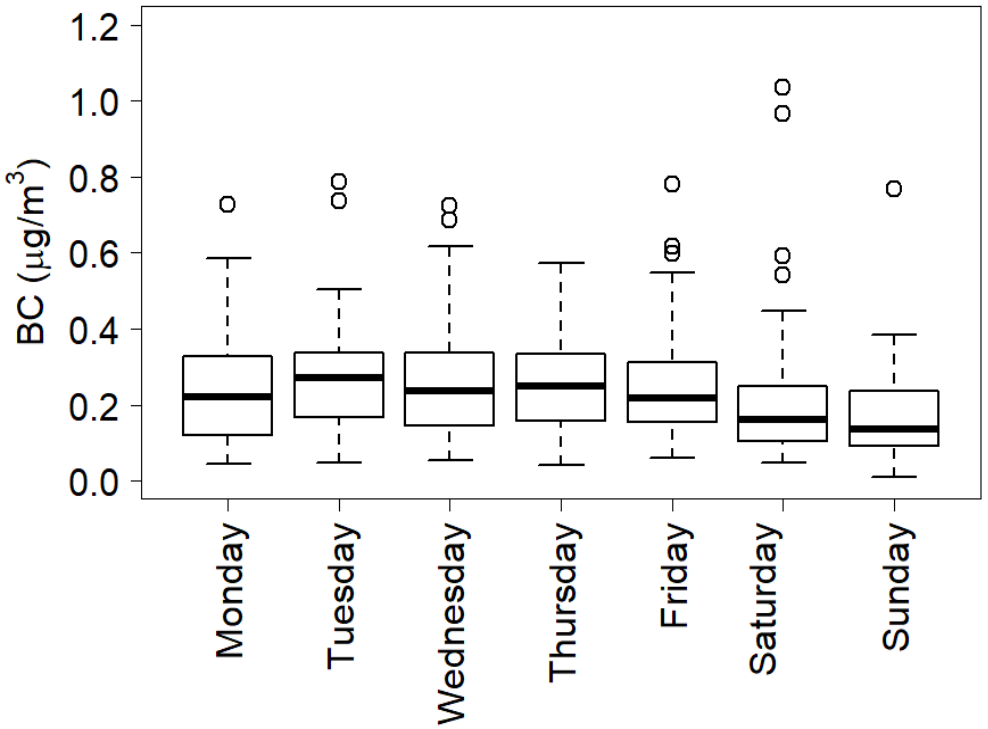
Diurnal cycles consistent with local traffic emissions

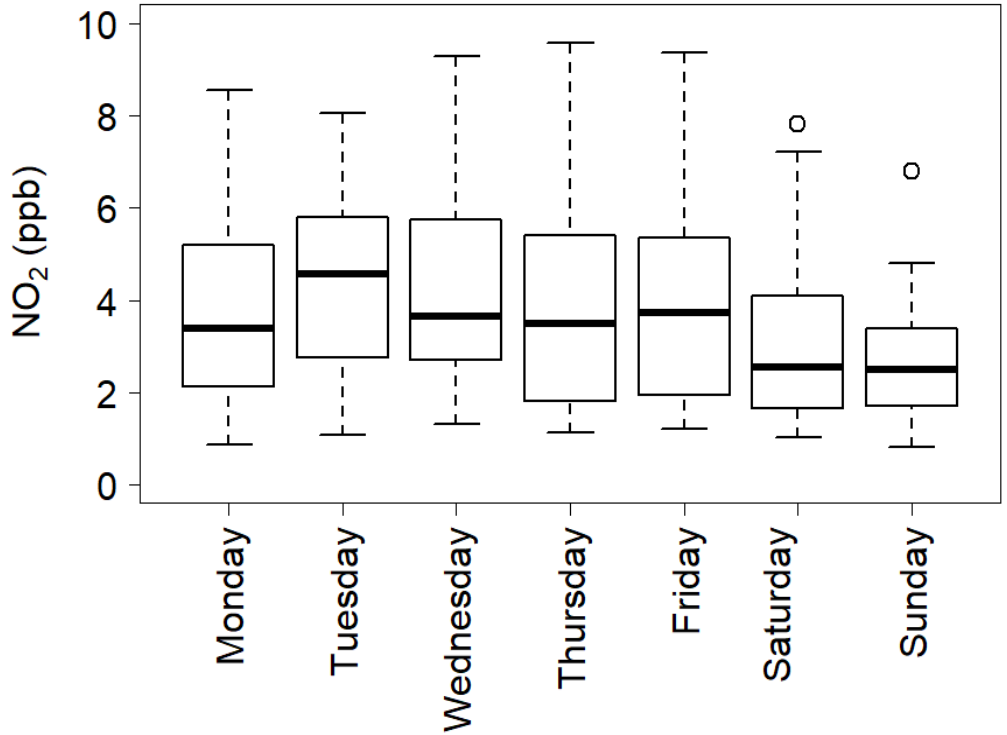






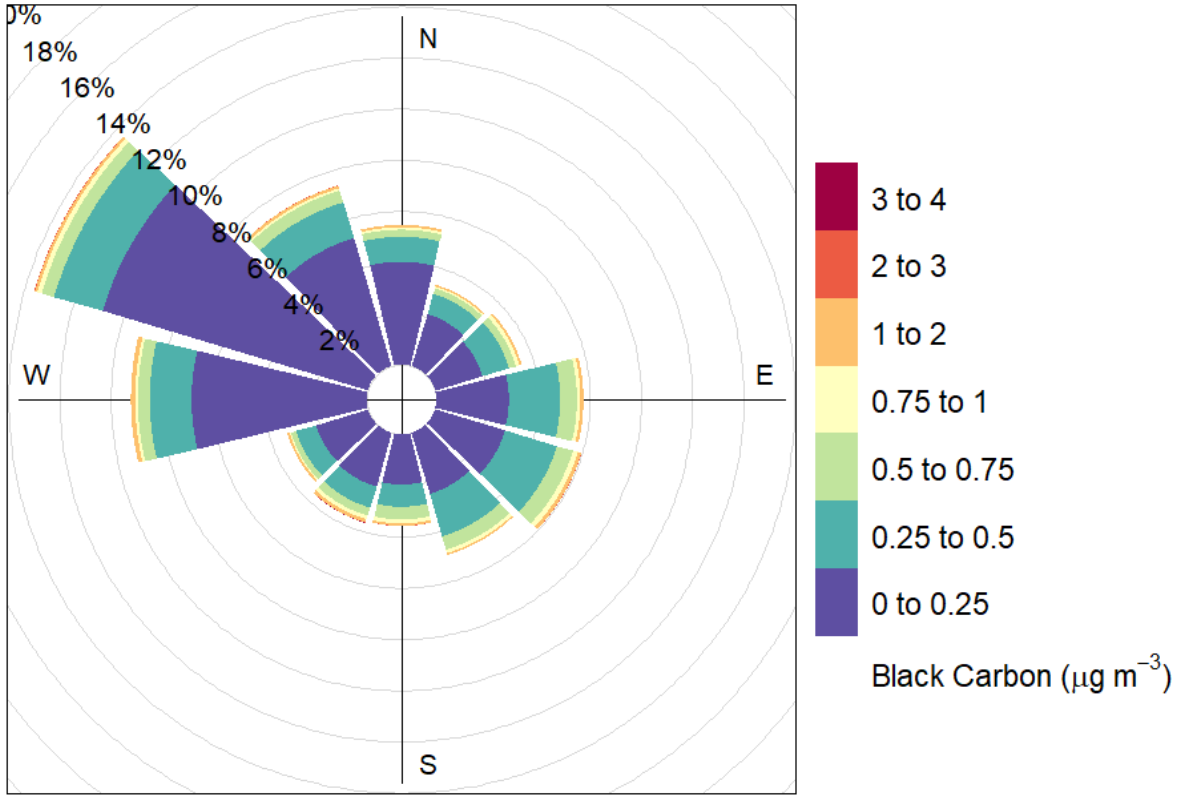
Concentrations slightly lower on the weekends



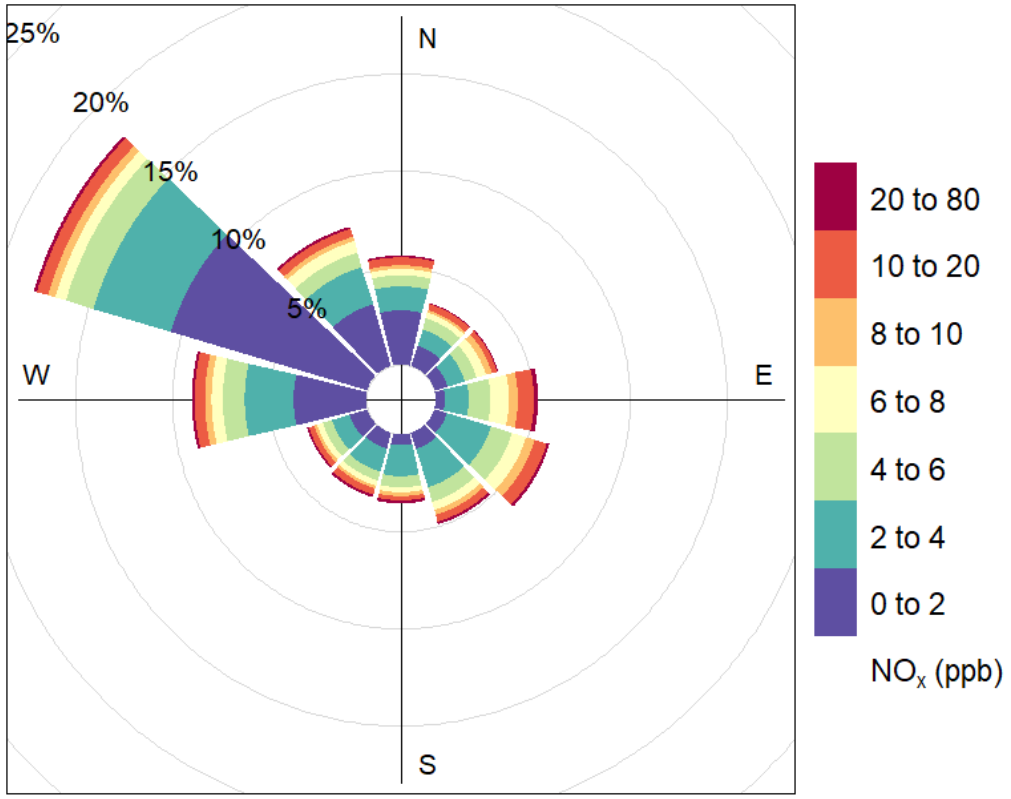


No distinct diesel exhaust emission source

Black Carbon



NO_x



Summary

- Concentrations of diesel exhaust components low
- No distinct source of diesel exhaust emissions
- How much of PM2.5 is Diesel PM25?

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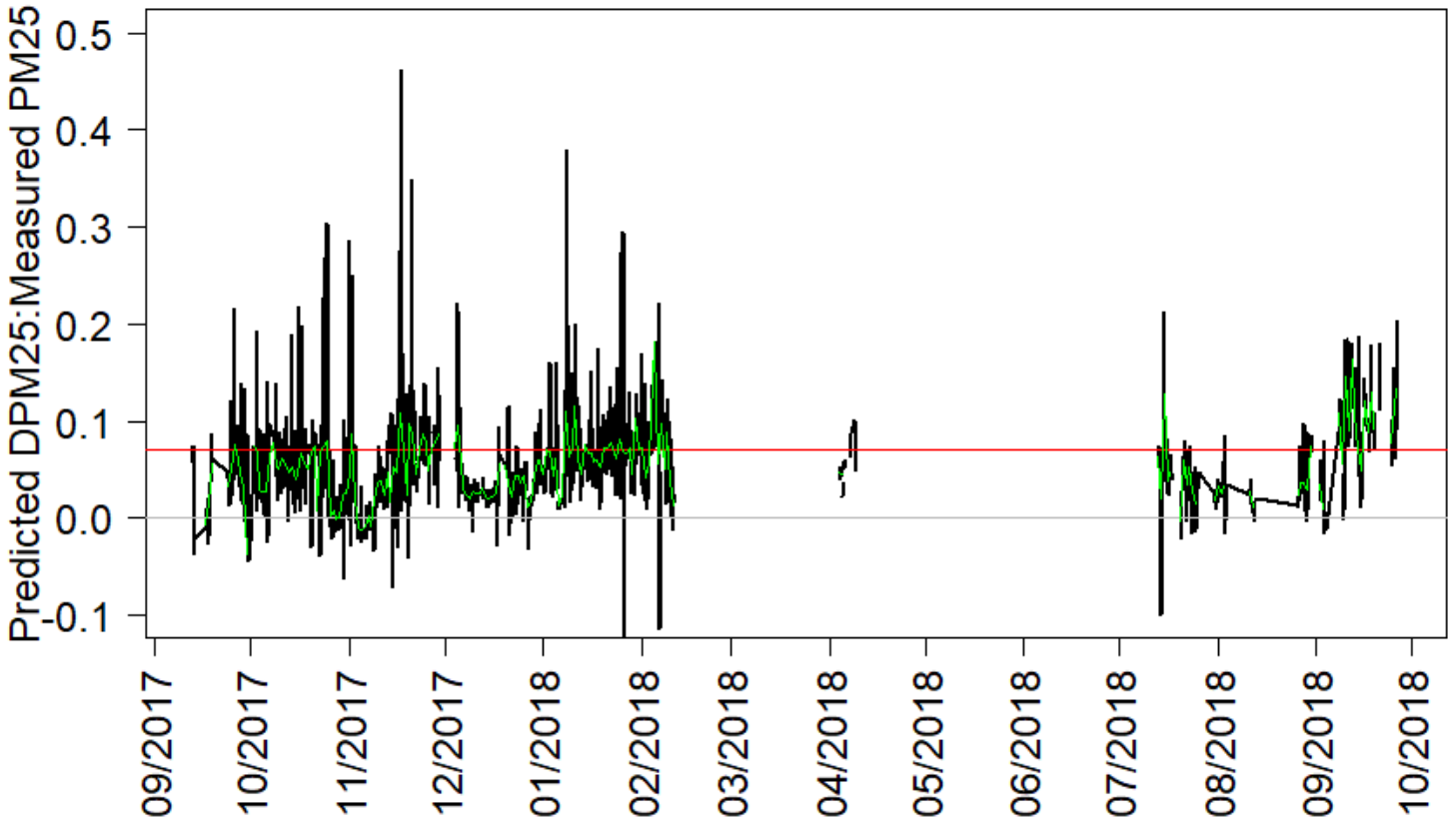

How much of PM2.5 is Diesel PM2.5?