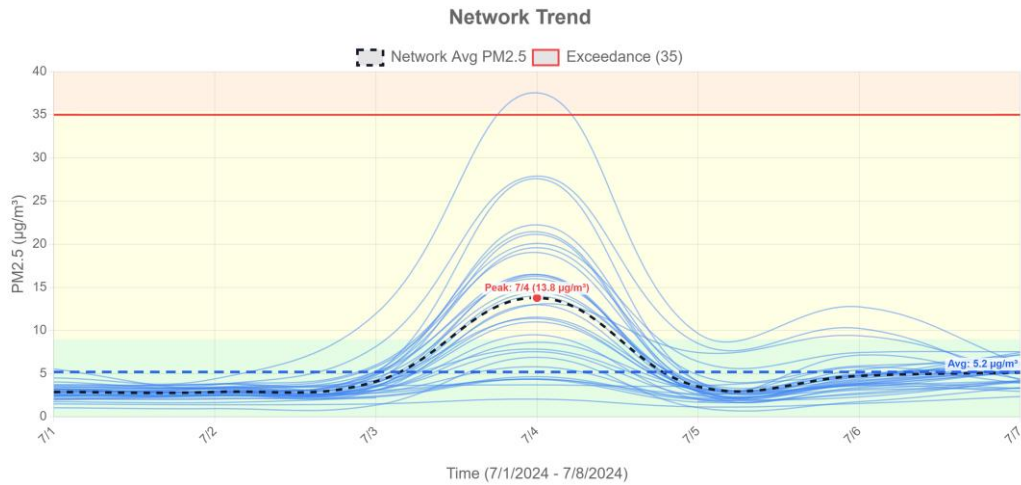


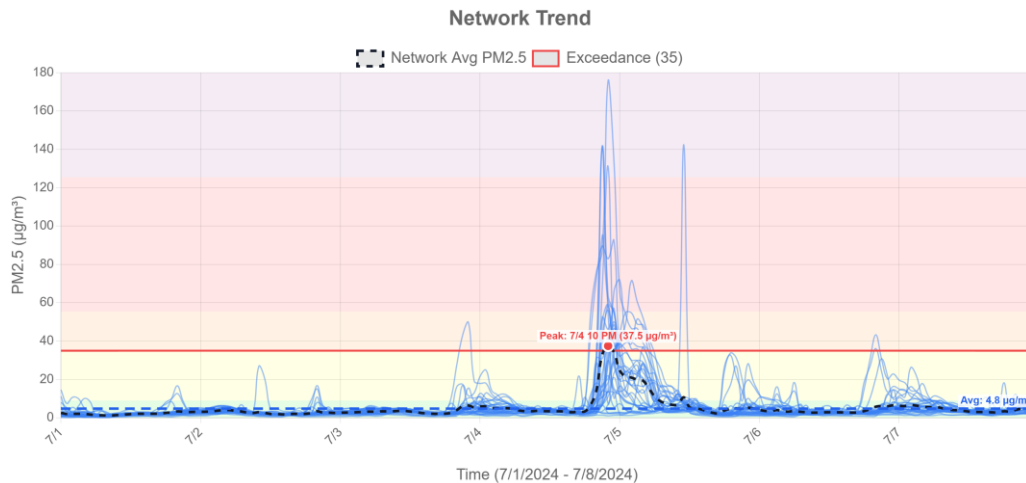
The impact of fireworks on air quality in Whatcom County during the first week of July

Northwest Clean Air Agency (NWCAA) maintains a network of over 40 air quality sensors distributed across Whatcom County that measure particulate such as that generated from the use of fireworks. The graph of that sensor data below depicts fine particulate matter levels during the first week of July 2024¹ with each blue line representing one sensor and the black dashed line representing the average across the network.



As shown above, the average across this network does not exceed the shortest-interval, health-based air quality standard of 35 $\mu\text{g}/\text{m}^3$ averaged over a 24-hour period and would not trigger NWCAA action.

When viewing data for this same period using 1-hour averages, the smoke impacts resulting from fireworks is more apparent. Spikes in particulate matter are observed on July 3rd, 5th, and beyond² likely resulting from neighborhood or individual fireworks displays.



Smoke such as that from fireworks has been shown to have negative impacts on human health. Fine particulates, also known as PM2.5, can enter the body through inhalation and cause breathing difficulty, tissue inflammation, and other acute and chronic health issues.

¹ 2024 was chosen as having representative weather and free from impacts of wildfire smoke.

² Note that in the 1-hour averaging graph, the dates on the axis begin at midnight, so fireworks begin in the evening and measurable impacts go beyond midnight and into the next day.