Department of Environmental Conservation's Air Monitoring Program
Community-Based Air Monitoring Project

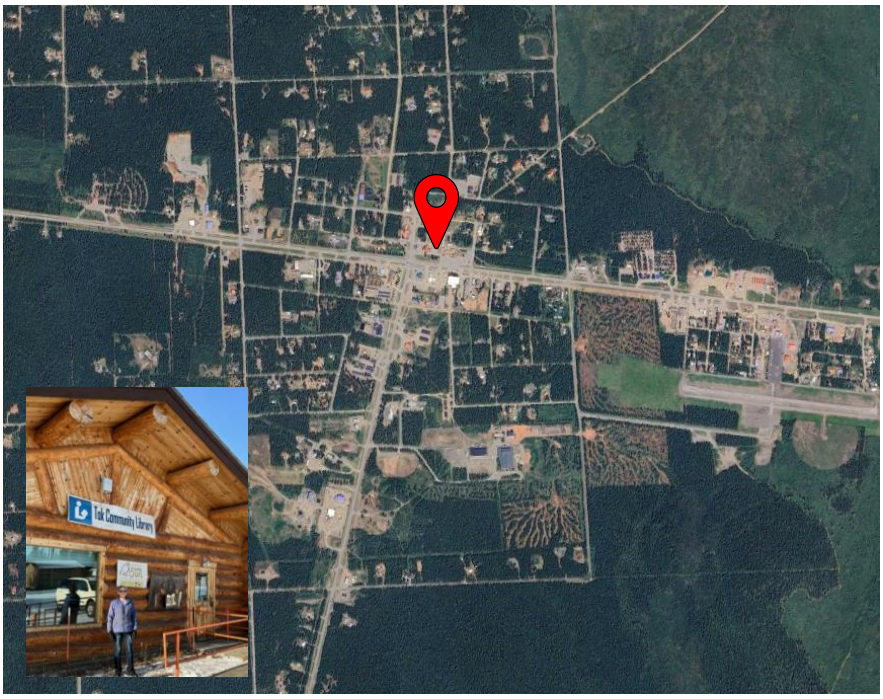
2024 Summer Season Air Quality Report for Tok

The QuantAQ MODULAIR sensor in Tok (63.3360 ° N, 142.9860 ° W) was installed on 10/26/2023.

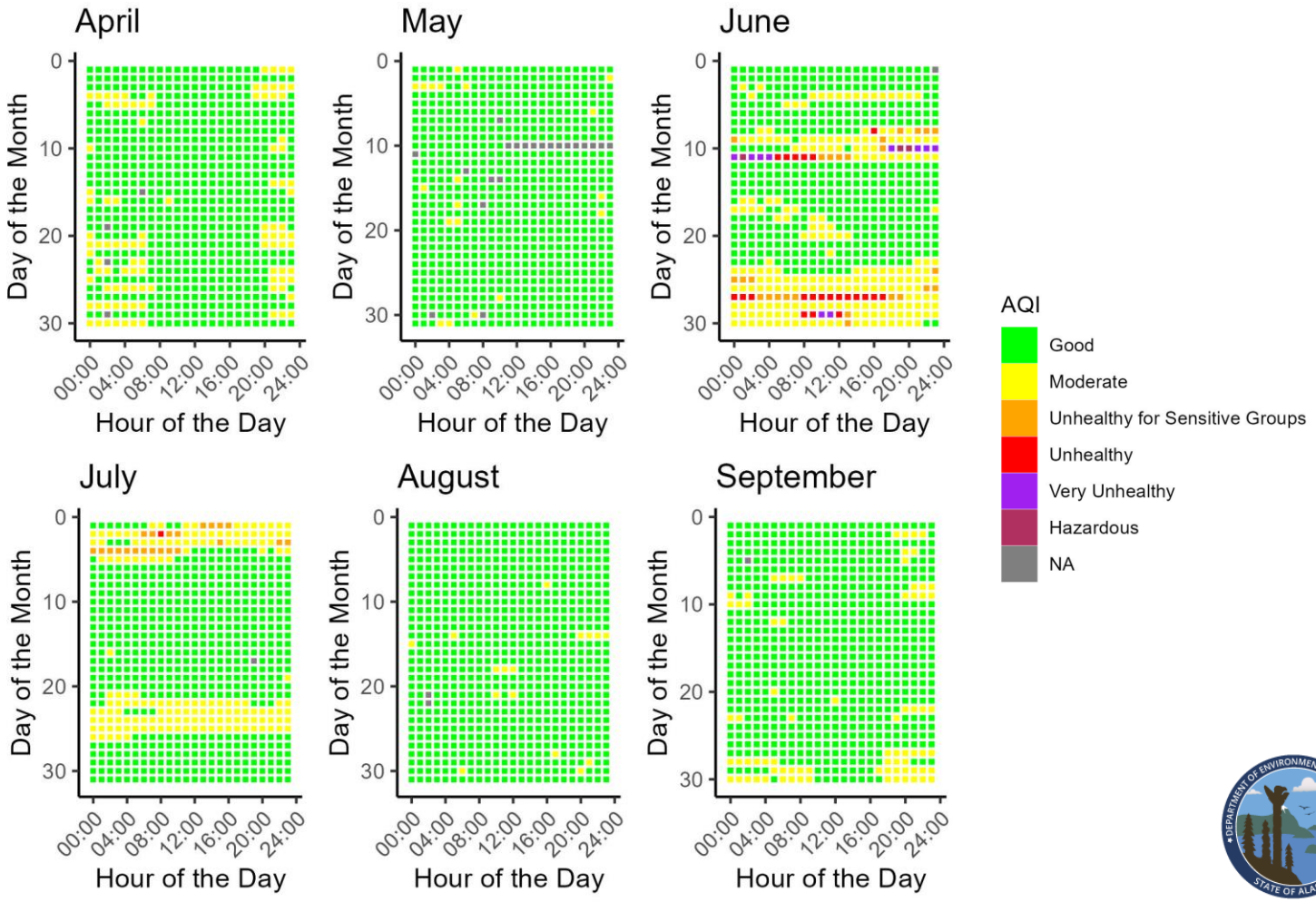
The sensor measures for carbon monoxide (CO), ozone (O_3), nitrogen oxide (NO), nitrogen dioxide (NO_2), particulate matter ($PM_{2.5}$ and PM_{10}), temperature (°C), and relative humidity (RH). Data is collected every minute and is then processed into hourly averages.

The sensor in Tok has run well since it began sampling on 10/26/2023; there have been no physical issues with the sensor during this reporting period.

This data report covers the date range of April 1, 2024, to September 30, 2024.

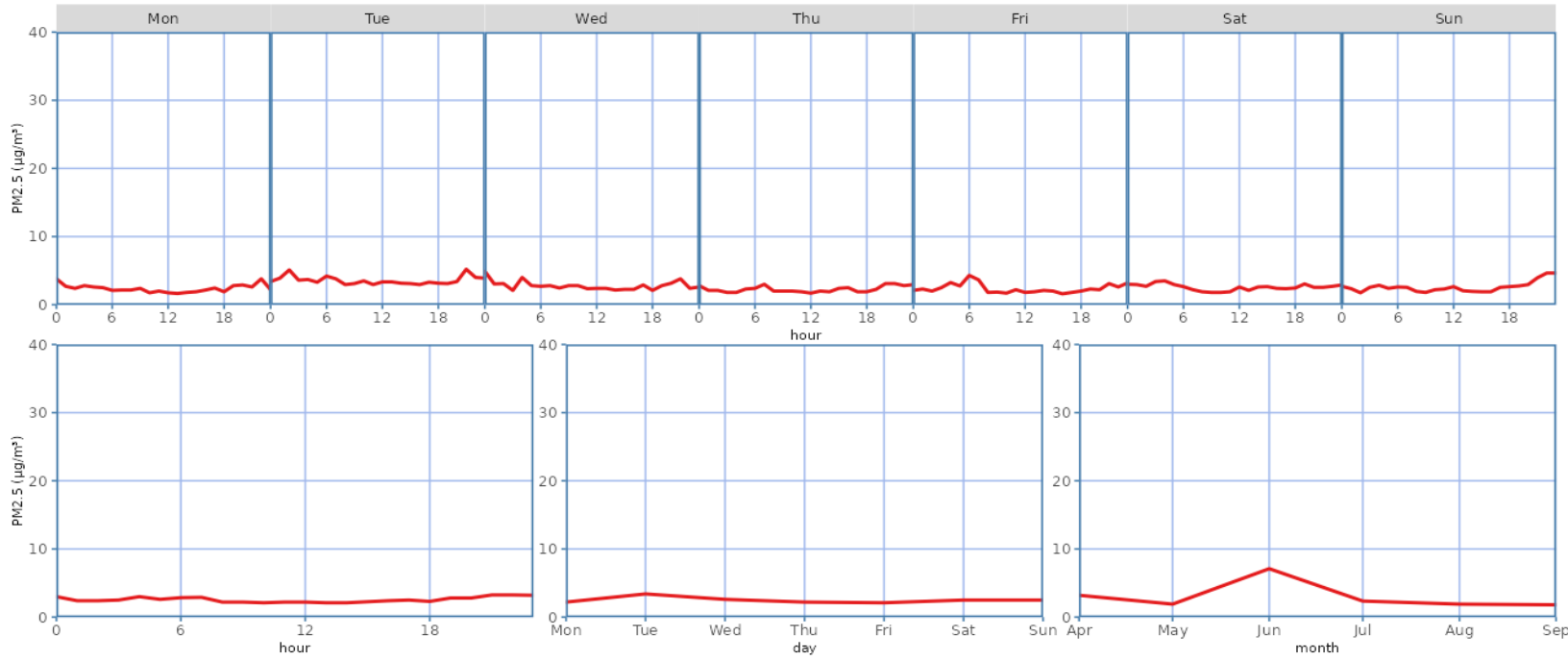


Daily $PM_{2.5}$ Air Quality Index (AQI) for April 1, 2024 - September 30, 2024



2024 Summer Season Air Quality Report for Tok

Median $PM_{2.5}$ Concentrations for April 1, 2024 - September 30, 2024



Descriptive Statistics of Air Pollutants*

Parameter	1-hr $PM_{2.5}$ (µg/m³)	24-hr $PM_{2.5}$ (µg/m³)	1-hr PM_{10} (µg/m³)	24-hr PM_{10} (µg/m³)	1-hr O_3 (ppb)	1-hr NO_2 (ppb)	1-hr NO (ppb)	1-hr CO (ppb)
Min	0.00	0.40	0.00	0.40	10.61	1.49	1.38	40.18
Mean	6.08	6.07	24.81 **	24.63 **	33.55	16.35	2.27	342.32
1st Max	276.70	69.30	861 **	143 **	56.73	33.61	18.54	1586.26
2nd Max	255.60	62.90	678 **	112 **	56.69	32.58	17.74	1450.54

Data Discussion

Tok's $PM_{2.5}$ ambient air quality for the summer 2024 season fell mostly in the "good" range of the Air Quality Index (AQI; more information about the AQI is provided on page 3) throughout May and August with elevated periods of $PM_{2.5}$ concentrations throughout April, June, July, and September. April and September saw AQI levels in the "moderate" range in the late night/early morning hours, with "good" AQI during the daytime. This pattern is likely caused by increased home heating during cooler weather, potentially coupled with inversions that trap pollutants near the ground's surface. Both June and July experienced higher $PM_{2.5}$ concentrations with the AQI ranging into "unhealthy" and "very unhealthy" levels for multiple hours on several occasions; this can be attributed to smoke from wildfire activity across Interior Alaska and western Canada. Diurnal patterns show little variability of $PM_{2.5}$ concentrations across different times of day or days of the week.

* These statistics are based on preliminary data readings and are intended to provide a brief overview of sensor activity. Finalized data may be obtained upon request and through our annual statistical reports. Data from the community sensor network is non-regulatory and not comparable to the EPA's National Ambient Air Quality Standards (NAAQS; more information about the EPA NAAQS is provided on page 3).

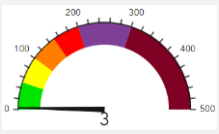
** PM_{10} particle sensors are influenced by weather events such as fog and snow due to hygroscopic effects, creating false maximum values that do not pose health risks.

Resources

Alaska Department of Environmental Conservation

EPA NAAQS Information

Air Quality Index (AQI) Basics



Real-Time AQI Data

Data Access

To access historical data for your community's sensor, please email a request to: AMQA-Data-Request@alaska.gov . Data will be provided in Excel or .csv format.

Questions or Comments?

Please contact us!

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