Wildfire Smoke and Air Quality

There are many different sources of information on air quality, including local radio and television broadcasts, smartphone apps, and websites. Knowing where to find reliable information about the air quality is a first step to understanding wildfire smoke and protecting your health.

Smoke

Wildfire smoke is a complex mixture of pollutants, but fine particulate matter ($PM_{2.5}$) poses the greatest risk to human health. Currently $PM_{2.5}$ concentrations are only measured in Whitehorse. If your community does not have a PM2.5 monitoring station, there are other tools that can help you to understand the current air quality.

- Trust your senses. Human eyes and noses are excellent smoke detectors. If you see smoke smell smoke, the air is being affected.
- The $PM_{2.5}$ concentration is usually in the moderate health risk category of the Air Quality Health Index (AQHI) when you can first smell smoke (Table 1).
- Smoke in the air affects how far you can see into the distance, and visibility decreases as $PM_{2.5}$ levels increase. The visibility ratings for Yukon airports can be found here.
- The WeatherCAN smartphone app may provide information about local visibility, air quality, and smoke in your area.

Visibility Index

In Yukon, visibility ratings can be used to estimate the current air quality.

Table 1: Visibility Index for wildfire smoke

Distance You Can See	Approximant PM2.5 Concentrations 1-3 hour average ($\mu g/m^3$)	Air Quality Category	At-Risk Population*	General Population
35KM or more	0-15	Good	**Enjoy** your usual activities	**Ideal** air quality
8 to 35KM	15-65	Moderate	**Consider reducing** strenuous outdoor activity if you experience symptoms	**No need to modify** your usual activities unless you experience symptoms
3.5 to 8KM	65-150	Unhealthy	**Reduce** strenuous outdoor activities	**Consider reducing** strenuous outdoor activities; reduce if any symptoms
Less than 3.5KM	>150	Very Unhealthy	**Avoid** strenuous outdoor activities	**Avoid** strenuous outdoor activities

Small Air Sensors

Many inexpensive PM2.5 sensors are now available for personal use, but they should be used with caution. The estimates are not always reliable when compared to instruments used by the government. They can be helpful for assessing whether PM2.5 concentrations are in the low, moderate, high or, very high ranges. Check out the Map for real-time air quality information.

Smoke Forecasts

Below are some forecasting tools which help show the predicted movement of wildfire smoke through the territory in a 48-hour period.

- FireSmoke
- FireWork

FOR MORE INFORMATION:
https://yukon.ca/wildfire-smoke

BC Centre for Disease Control