

Witset 2022_PM North

Oct 27 - Nov. 1, 2022

A summary of the village's exposure to outdoor PM_{2.5} during this period.

PM=Particulate Matter

Find this report and more online links at witset.cleanairplan.ca or cleanairplan.ca/blog.

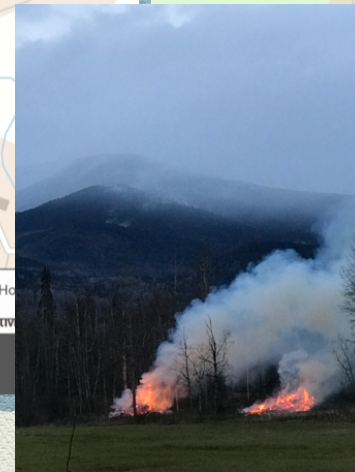
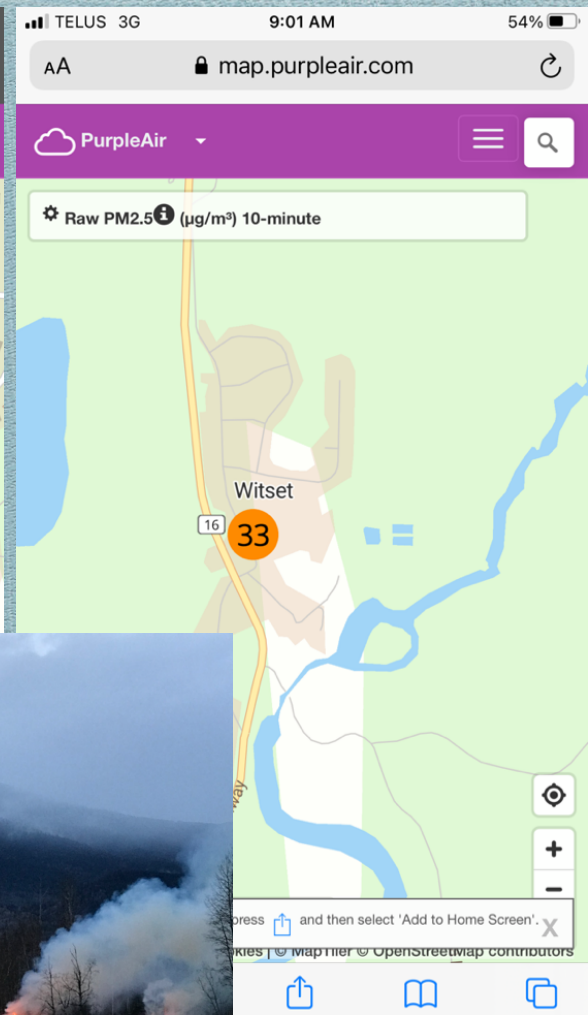
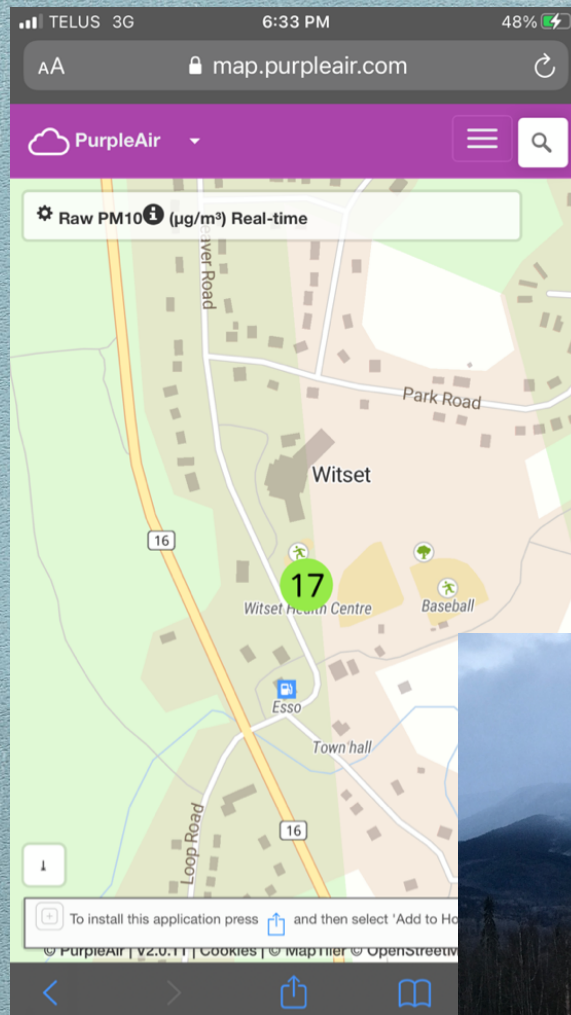
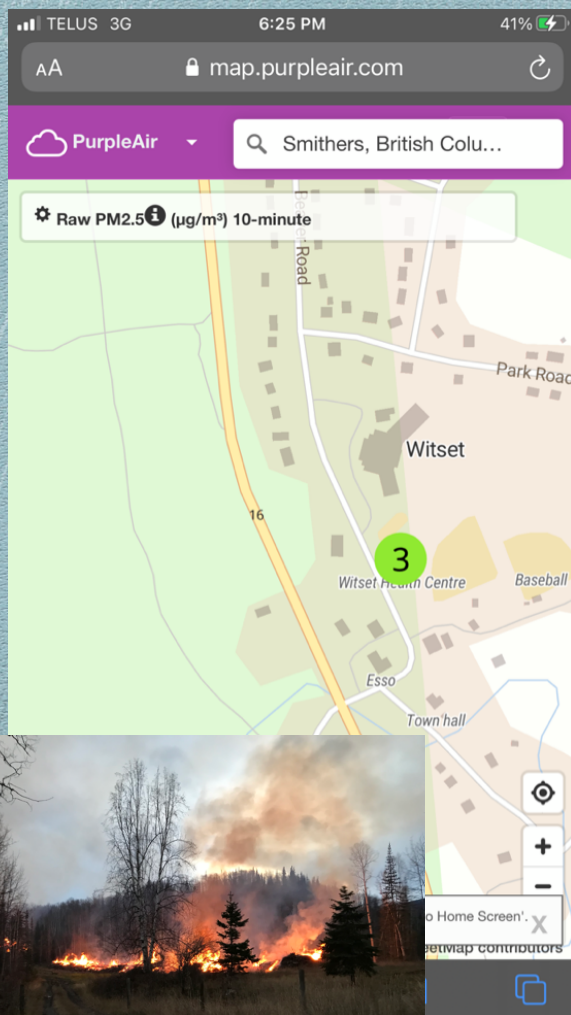
“Kwin: fire, open fire, wildfire, fire
in a wood stove

Tsiz dīzggin: the firewood burns

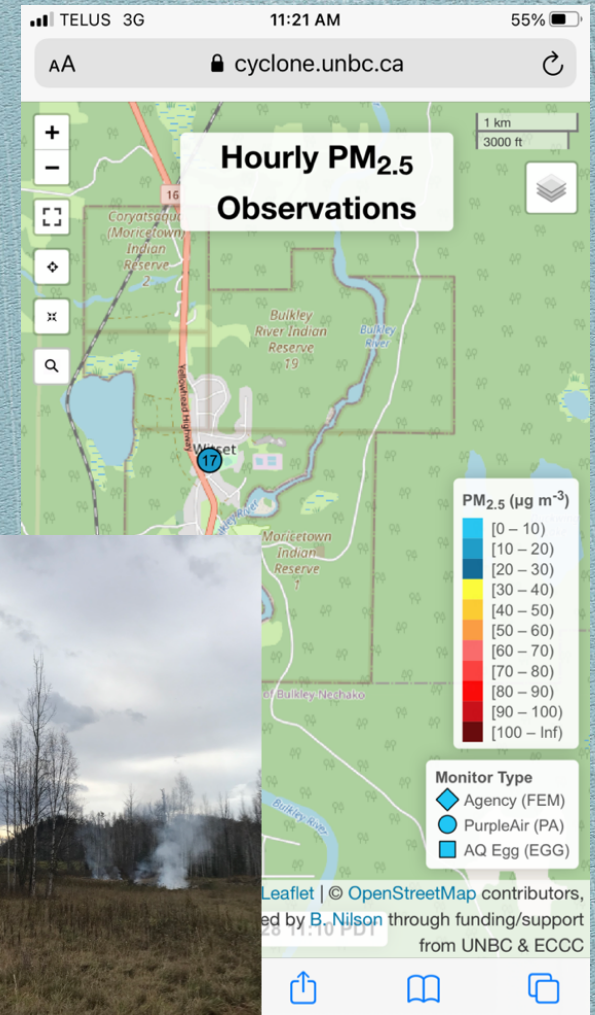
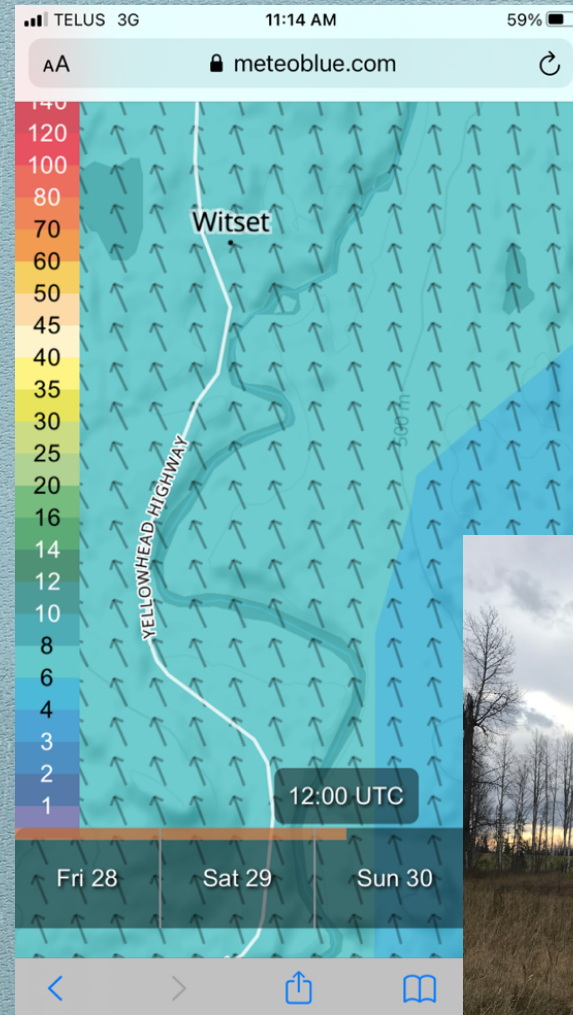
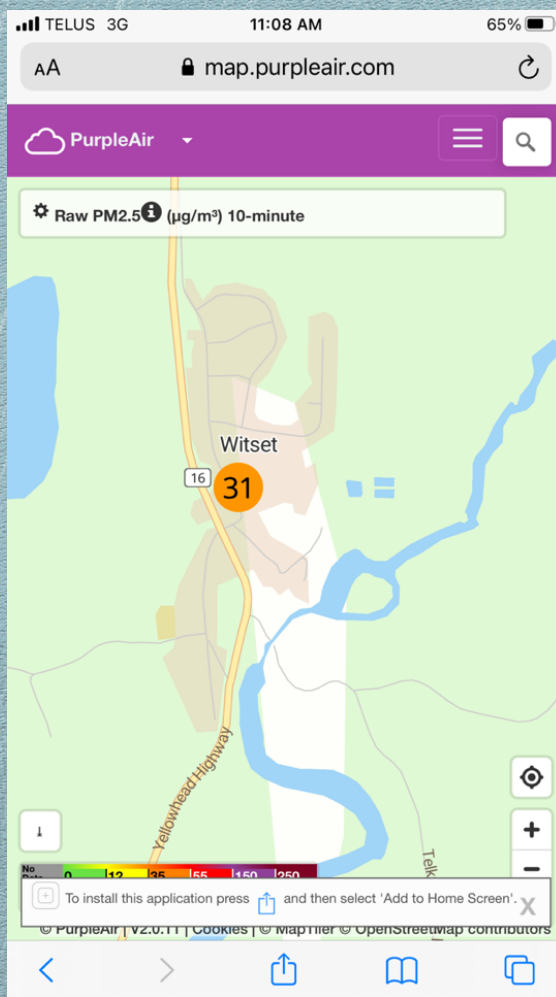
Ihēz: ash, particulate”

—Elder, Kilisēt Vi Gellenbeck

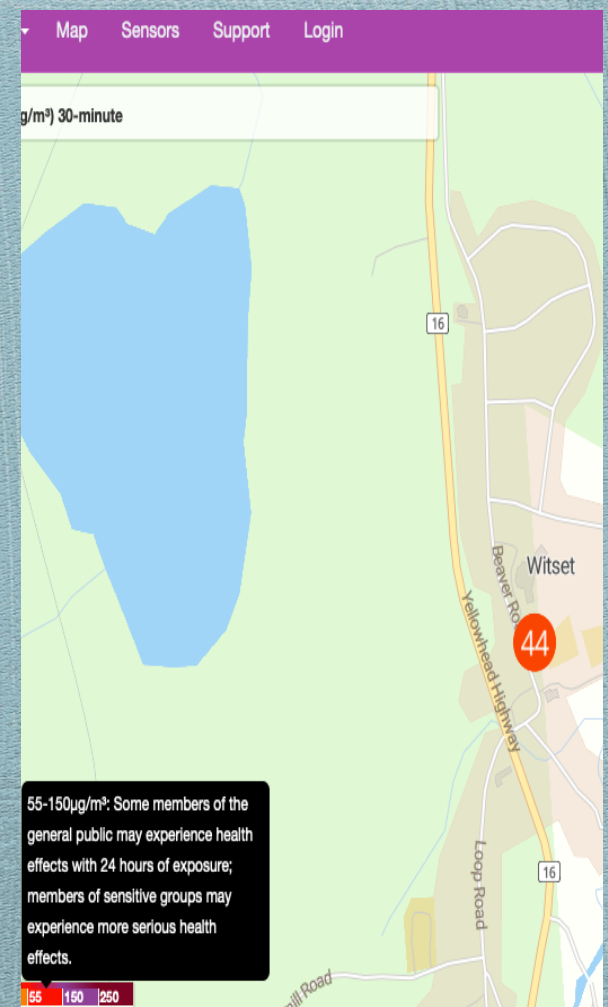
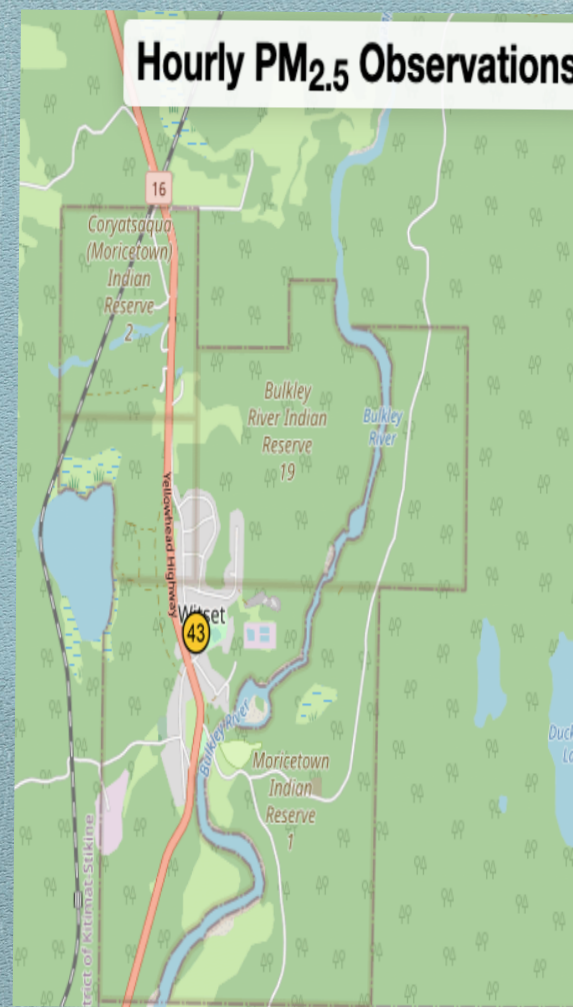
*These are loose translations please lookup the work of
the Witsuwit'en Language and Culture Society for
adopted phrases and language.*



Oct 27 around 3pm there was ignition of slash piles on the Telkwa High Rd., approx. 6 km away from Witset
By noon the 28th the fires were down to embers but still smoking and the wind moved the smoke directly into Witset.



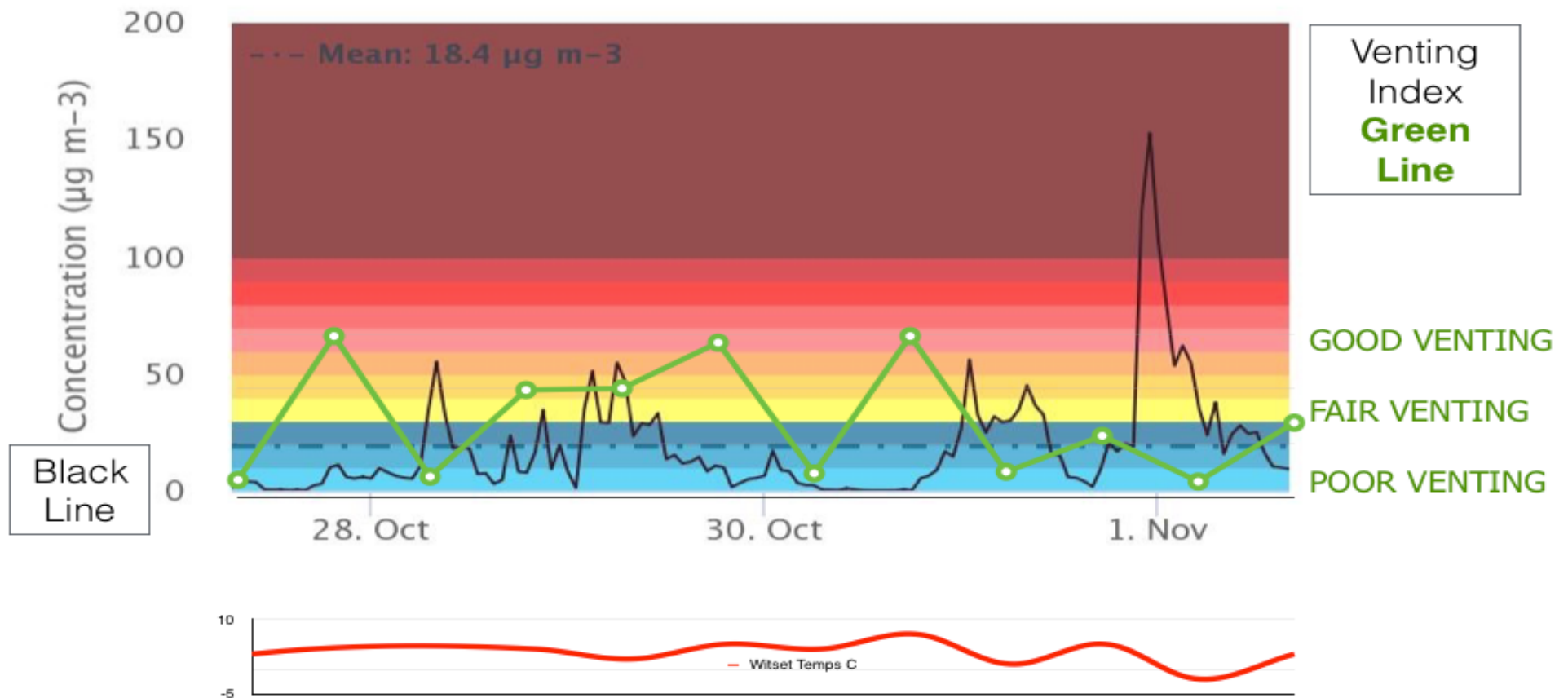
Wind Direction was tracked by various on line web sites.
Two sensors in Witset, on 2 websites tracked PM2.5.
The photos were taken at the same time as the readings.



Oct 31st there was a great fireworks show!

The particulate levels shown here are for Nov. 1st, 9:10pm, 24 hours after the fireworks. The pic is from the InteriorNews.

Corrected Hourly Average PA PM2.5

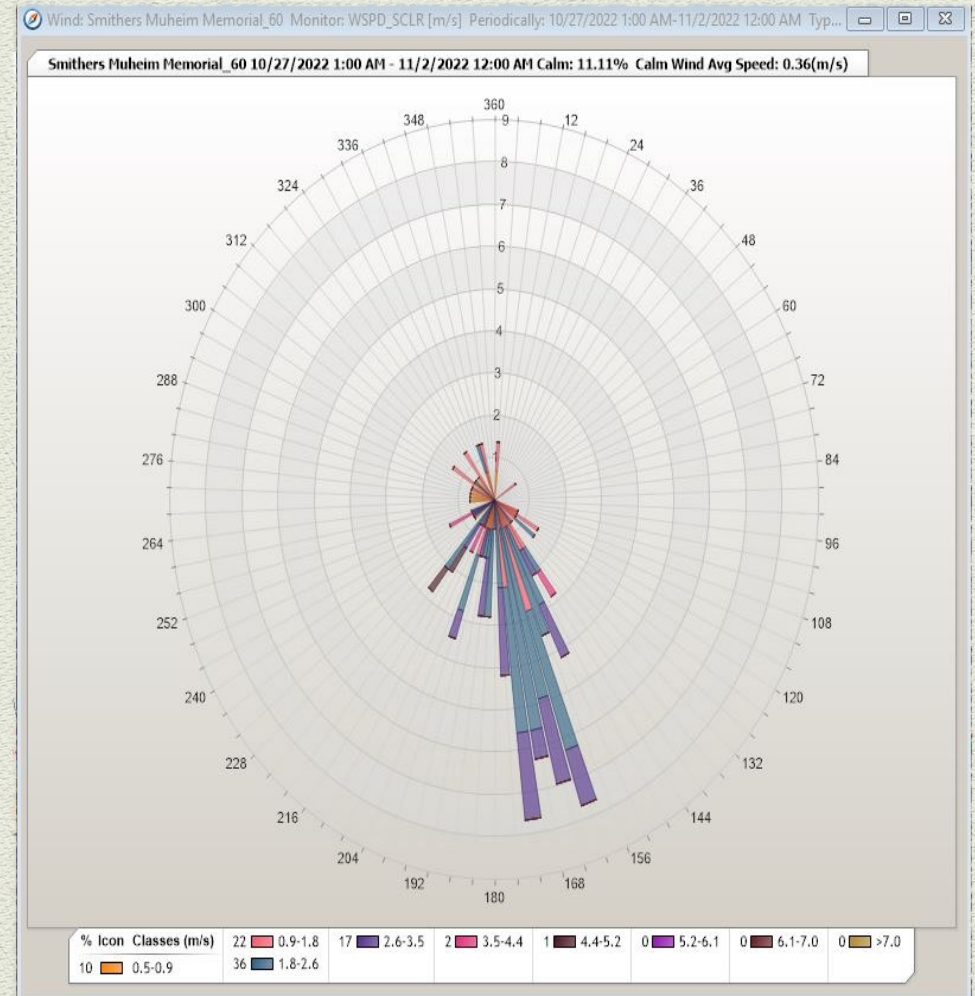


Good venting supports low particulate levels. Venting refers to the movement of air up and away. Venting predictions are used by Burn Operators and the Ministry.

This chart shows PM2.5 from UNBC, Venting Indexes from the Province for Smithers, and Temperature from the Purple Air Sensors

A Wind Rose

- ◆ This is from the Province. It shows winds Oct 27 - Nov. 1st were coming from a SSE direction.
- ◆ An Elder says the usual pattern is SSW.
- ◆ Nov. 1st the weather changed and the wind came from the opposite direction.



Don't worry!

This report has observations for 6 days only. It is meant to show that poor air quality episodes happen. Good planning, neighbourly notice and home health interventions can have positive impacts.

For more about levels, densities and guidelines look up our plain language micro inventory. (<https://cleanairplan.ca/plain/PlainLanguage.pdf>)

From Oct 27 - Nov. 1, 2022 there were

- 4 out of 6 days that had particulate matter (PM2.5) exposure levels above the Provincial daily guideline of $25\mu\text{g}/\text{m}^3$ (microns/ m^3)
- 5 out of 6 days that had particulate matter (PM2.5) exposure levels above the WHO daily guideline of $15\mu\text{g}/\text{m}^3$
- the hours spent over the guidelines in the 6 days equate to roughly 24 hours
- the average exposure for the period is above both the WHO and BC Provincial daily guidelines.



HOW TO BUILD A LOW-COST AIR FILTER



Particulate matter in smoke from wildfires is unhealthy to breathe. A simple box fan filter will help keep your indoor air clean.

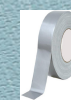
What you'll need:



Box fan



20"x20"x1" furnace filter (MERV 13 or FPR 10)



Optional: Duct tape or bungee cords



- 1 Place filter on back (air intake side) of fan.
- 2 Use the duct tape or bungee cords to attach the filter securely to the fan.



Make sure that the arrow on the side of the filter is pointing towards the fan.



Use tape or cords only around the edges; do not block the air flow through the fan.

- 3 Place in an area away from any obstacles and turn the fan on.
- 4 Keep all windows and doors closed to prevent new pollution from getting into your home!



Run the fan on high for a few hours if your indoor air quality is already poor, then turn it to medium to keep it clean.



The University of Washington EDGE Center
Exposures, Diseases,
Genomics & Environment

Funded by National Institutes of Health grant # P30ES007033 8/2020

Time for the cheap home air filter.

HEPA filters filter smoke and other tiny particles. You only need to run them when necessary. Close the windows, put them in the kids room or yours and breathe easier.

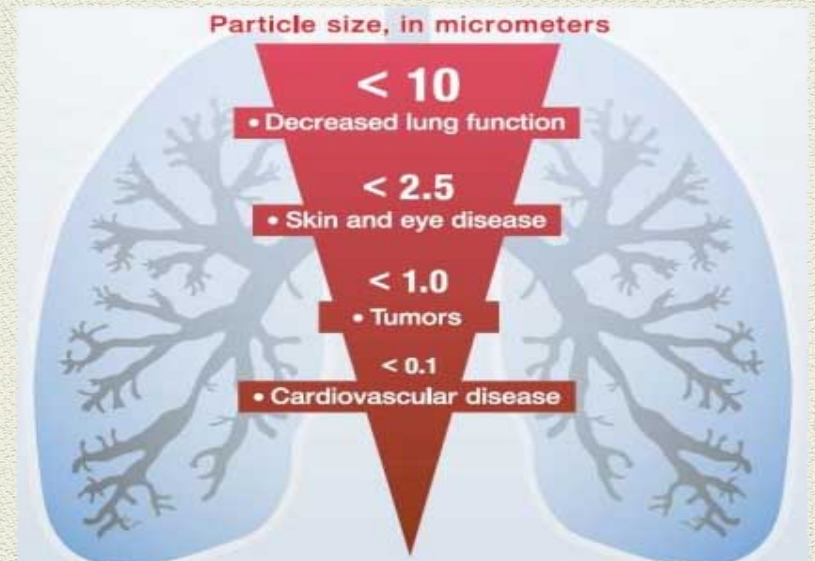
Without local sensors detecting other stuff in the air, there are no air quality health indexes (AQHI) for Witset.

The Purple Air comes with these notes on health effects. The BCCDC has good notes too but none are specific.

For two weeks Oct 27 - Nov 7, Witset has had a daily average of 25.3, above both the WHO and BC Provincial guidelines.

	no data
	0 0-12µg/m³: Air quality is satisfactory, and air pollution poses little or no risk with 24 hours of exposure.
	12 12-35µg/m³: Air quality is acceptable. However, there may be a risk for some people with 24 hours of exposure, particularly those who are unusually sensitive to air pollution.
	35 35-55µg/m³: Members of sensitive groups may experience health effects with 24 hours of exposure. The general public is less likely to be affected.
	55 55-150µg/m³: Some members of the general public may experience health effects with 24 hours of exposure; members of sensitive groups may experience more serious health effects.
	150 150-250µg/m³: Health alert: The risk of health effects is increased for everyone with 24 hours of exposure.
	250 >250µg/m³: Health warning of emergency conditions: everyone is more likely to be affected with 24 hours of exposure.

- ◆ By the end of the 30th PM2.5 levels were nearly 0.
- ◆ Halloween afternoon they started creeping up again, likely from wood stove emissions. This source is likely the reason for above average levels since Nov. 1.
- ◆ Shortly after the fireworks PM levels soared to 196 based on a 10 minute average.
- ◆ Even though this period has an acceptable average level of PM2.5 (according to the guidelines) individual tolerances are unique.
- ◆ Short term and long term exposures to PM also have different consequences.
- ◆ Exposure to fine particles can increase the risk and severity of other ailments, particularly those with respiratory and/or cardiovascular issues. (Author, Updated Micro-emissions Inventory for the Bulkley Valley – Lakes District of BC)



Smoke Management

To find out how to make a positive change share what you know, ask questions, find answers and enable people to improve their air.

- ◆ Each of these groups are already involved
- ◆ Regulators
- ◆ Health Authorities
- ◆ Loggers/Burn Operators
- ◆ Non Profits
- ◆ Volunteers
- ◆ Emergency Service Providers
- ◆ Event Planners
- ◆ the public



The BVLD AMS

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solutions for better air

Author: Sue Brookes
Nov 10, 2022
cleanairplan.ca/blog

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