

# The Witset Wind

## A Summary of Outdoor Air Particulate Sensor Data

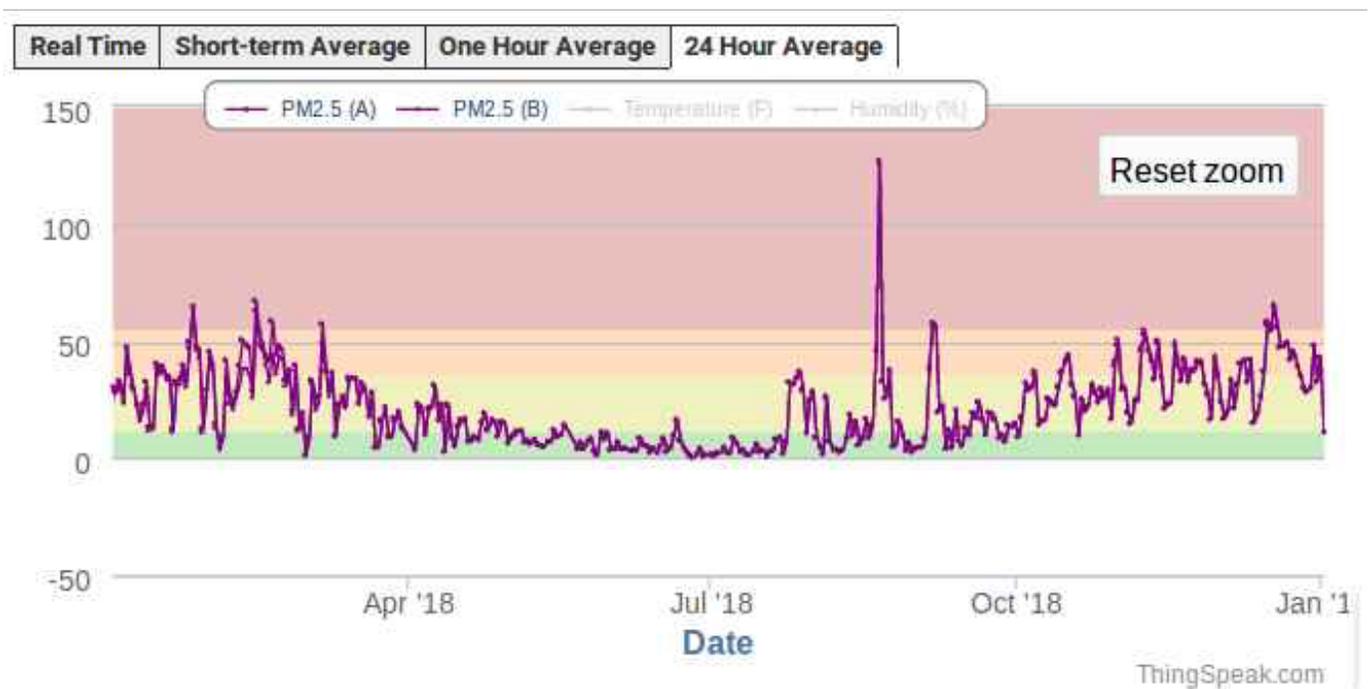
Prepared for Beverly Clifton Percival, the Witset Health Director  
Prepared by Sue Brookes Spring 2022

### What is this?

Our society tracks particulate matter, written PM2.5 because it is small and dangerous to our health. Our not for profit is called the Bulkley Valley Lakes District Airshed Management Society. The sensors we help install are owned by either us or other individuals, Bands, The First Nation Health Authority, the BC Ministry of the Environment, the Regional District Governments or others. We try to coordinate knowledge and use of these sensors. Sensors measure a density of tiny particles in outdoor air. They also measure temperature and humidity. For more information about particles, sources of particles and health impacts look up our micro emission inventory: <https://cleanairplan.ca/plain>.

**Sensor:** there is 1 Purple Air Sensor in Witset so far. To find others in the valley, look up air sensors in the BVLD area at: [cleanairplan.ca/pollutionmaps](https://cleanairplan.ca/pollutionmaps).

The Witset instrument is owned by us and was installed December 11, 2017. It has run most the time since then. It's mounted on the roof of the health centre. It's managed by volunteers. We have complete readings for 2018 like this:



The **annual 24 hour averages** are a yearly average of daily (24 hour) averages.

The big forest fire spike in August is clear as are the high winter seasonal values. Elders confirm the usual wind direction is down the valley along the river out toward the Skeena.

The sensor has provided annual averages in Witset:

2018: 24.9 micrograms per cubic metre,  $\mu\text{g}/\text{m}^3$

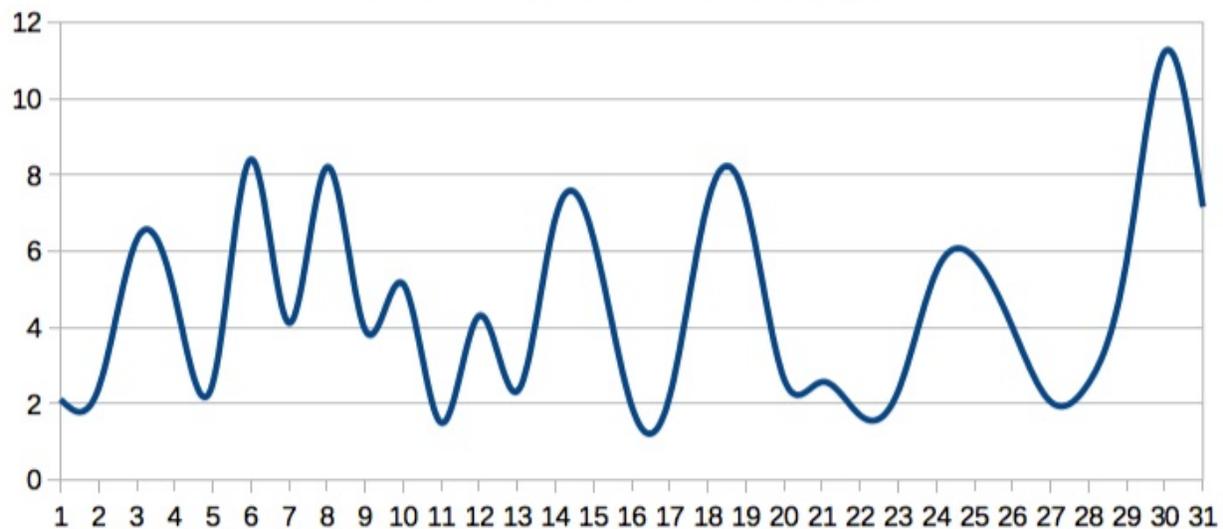
2019: 12.1  $\mu\text{g}/\text{m}^3$

2020: 10.6  $\mu\text{g}/\text{m}^3$

The annual Provincial air quality objective for PM2.5 is  $8\mu\text{g}/\text{m}^3$ .

#### Witset PM2.5 for July 2020

raw Purple Air data with no corrections



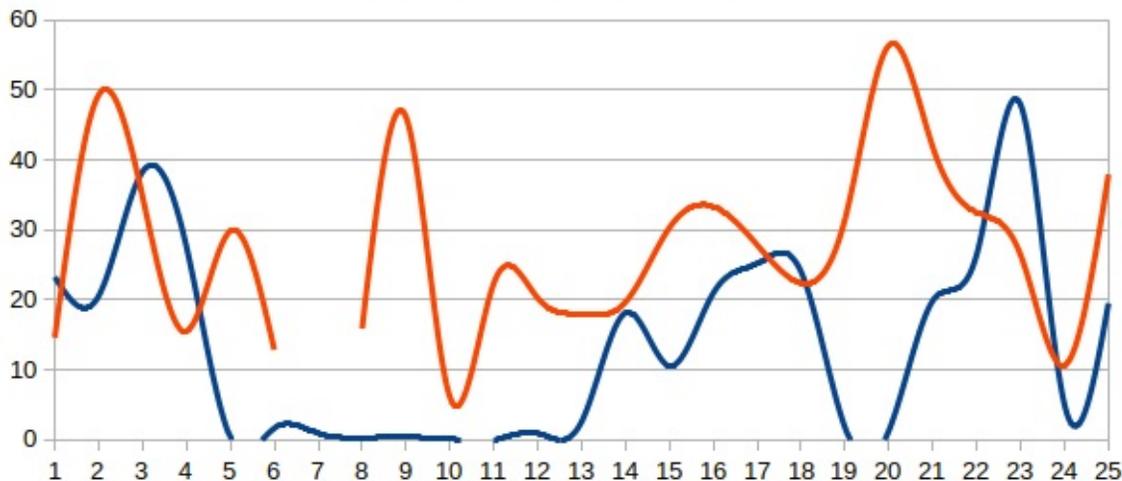
Please note: Witset numbers are meant to paint a picture. For more on data, interpretation and caveats contact us or try the link: <https://cleanairplan.ca>.

July figures are way lower than February figures.  
February readings are on the next page.

For February 2021 the monthly PM2.5 average was 18.4.  
The February 2022 average was 12.8.

Witset PM2.5 February 11th to March 8th 24 hour averages, 2021 and 2022

blue line is 2021, orange is 2022



We expect these readings are largely influenced by residential wood heat and Witset had a lot of upgrades of wood burning appliances in 2021.

Now that it's May we are moving into a period of Open Burning. This is the largest source of air emissions in our airshed and the drift of the smoke travels far. Forestry, other industrial and wildfire service burning, grass and backyard burning all contribute to levels this month. Although with it being so chilly wood stove usage is also going on.

## WOW:

The Elders Safe at Home Project by the Housing Department (led by Priscilla Naziel) included 75 home inspections of plumbing and heating related issues. Repairs, fire safety issues, maintenance and upgrade requirements were identified and rectified. The Bulkley Valley Lakes District Airshed Management Society was able to donate a total of \$8850 towards this program using funds they



have from an annual Wood Stove Exchange Program and other donations to the society. The rest of the Housing department's money likely came from INAC and the Band. Priscilla and her team are now working on doing the same type of thing for others in the community.

Firewood for Elders: the Band coordinates getting wood to homes too! Sometimes Elders get wood from their Yintah but Elders also get bucked loads from the Band (wood is donated by logging outfits). Seasoned dry wood really helps better the community air. The loads for Witset were donated by the forestry operators in the area – I think the major donor this year was PIR but wood comes from other local operators too – ask Priscilla!

## Misiyh

Many thanks to those of you willing to support sensor projects and our efforts to improve air quality.

Kwin: Fire, open fire, wildfire, fire in wood stove  
Tsiz dīzggin: the firewood burns...  
lhëz: ash, particulate

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Words were provided by an Elder, we respect the work of the Witsuwit'en Language and Culture Society so know these are not officially adopted.

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FYI – a user group for purple air sensor questions is on facebook:<https://www.facebook.com/groups/purpleair/>

Thank-you to Dave Stevens for providing purple air data.