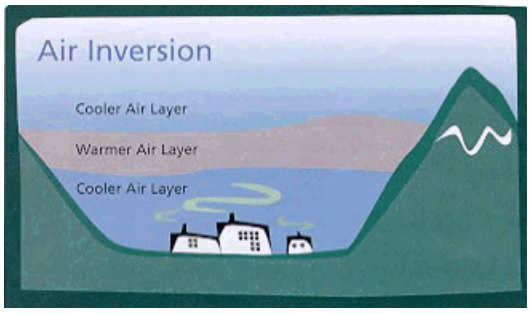
FROM THE AIR PROGRAM

Winter Air Quality

Winter has brought in winds and rain with pacific storms, and also a typical winter inversion pattern. All can be seen in measurements from the tribal weather station.



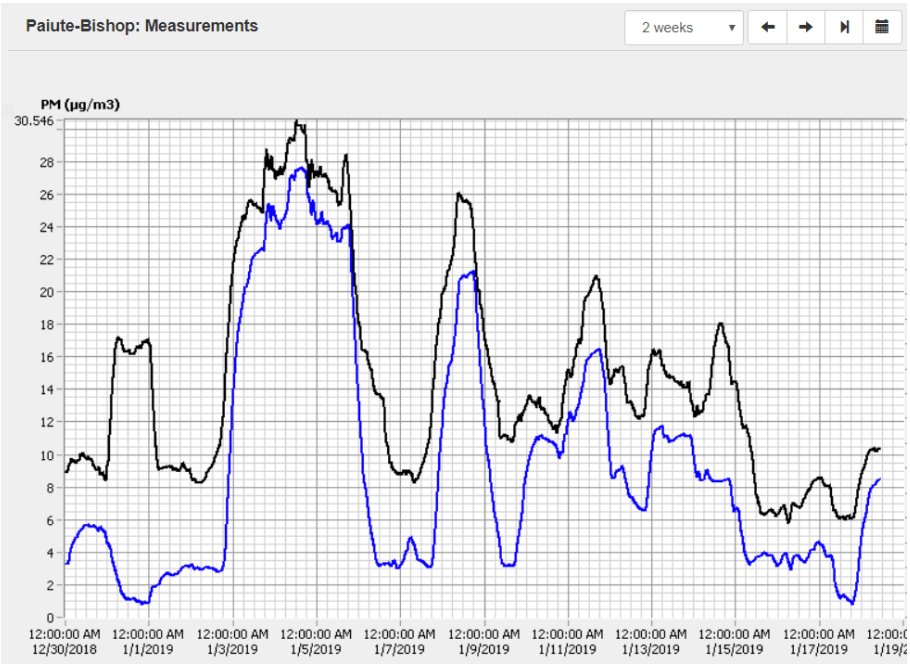
Particulate Matter

On cold, calm evenings, smoke from home heating can be a factor of pollution in the Owens Valley. Smoke is often approximated by measuring PM-2.5, particles under 2.5 microns in diameter. The combined effects of wood smoke, and the valley air stability patterns in winter (when cold, dense air becomes trapped in the valley below a layer of warmer air, trapping household fire smoke with it) can be seen outside, and by looking at levels measured by the Tribal air monitors. This smoke appears at soot in the monitor filtration components.

The graph below shows PM levels over the last 2 weeks, and shows how PM-2.5 tracks as part of overall PM. This is because much of what both stations are measuring lately is smoke. An exception was on Dec 31 when the station captured wind gusts up to 40 mph, and PM concentrations were likely due to dust. The scale is in micrograms/cubic meter, and the Tribal health standards are **50 for PM-10** and **35 for PM-2.5** respectively, per 24 hrs. The data is recorded by the Air Program's PM monitors at the EMO-A building. The **black lines are PM-10 24-hr concentrations**, which is overall smoke and dust up to that size. The **blue lines are PM-2.5 24-hr concentrations**, which can be used to approximate smoke. If/when the lines meet, it means that most if not all the particulates in the air being measured then are <2.5 micron in diameter and so most likely smoke. Keep in mind that residential fires also generate PM-10, especially when the combustion is just getting under way or throws ashes. You can see high PM-10 concentrations on Jan 3; during calm conditions with breeze from the West, and WNW breeze in similar conditions on Jan 4.

Precipitation

During Jan 15 - 17 a back-to-back system of pacific storms brought approximately 1.5 inches of rain to the reservation, as measured by the Tribe's manual NWS gauge. During January, the electronic gauge was relocated on the rooftop platform with good results following.



Winds

Wind gusts of approximately 39 mph from SSE were measured at the station on Jan 8, and from the SE on Jan 17, as storm fronts passed through the area.

2018 Totals

Results are in, and 2018 was the first year since monitoring began on the reservation that any PM10 daily averages reached within the "unhealthy" range on the AQI– Air Qualtiy Index. This occurred during the wildfire season, when 22 separate exceedances of either standard occurred, on 13 non-consecutive days from June to August.

Graphing software: T&B Systems