

Air Quality Program

New Ozone Monitor Installed

In September 2007, the Bishop Tribe's Air Quality Program installed a new monitor for ozone. Ozone is one of five so-called "criteria pollutants" that are closely regulated by the EPA. It is a gas and an ingredient in smog. Chemically, it is made up of 3 oxygen molecules (O₃) and is formed when volatile organic compounds (typically produced by motor vehicles) come into contact with sunshine. Ozone is a respiratory irritant and can aggravate a variety of respiratory conditions, including asthma. High ozone concentrations can be found in Southern California and in the Central Valley.

Ozone can be transported a long way... So, while there are not a lot of motor vehicles in the Owens Valley, ozone concentrations that exceed the federal standard have been observed to the North (in Mammoth Lakes) and to the South (in Death Valley). It is believed that these high concentrations originate from ozone that is transported across the Sierra, most likely from the Central Valley.

The Tribe decided to purchase and install an ozone monitor based on the high concentrations that have been found to the North and the South and because there is the potential that levels on the Reservation could exceed proposed more stringent federal ozone standards. The photograph shows the monitor during the initial calibration.

Data for October 14th through 20th are shown in the graph below. For most of the days, ozone has a regular diurnal pattern with values reaching a minimum around 8:00AM, then increasing during the day as sunshine and volatile organic compounds combine to make ozone. October 17th (in turquoise) and October 20th (in green) stand out because of relatively high values during the early morning hours. These high values are most likely due to transport from the Central Valley.



Ozone Monitor and Calibration Equipment

