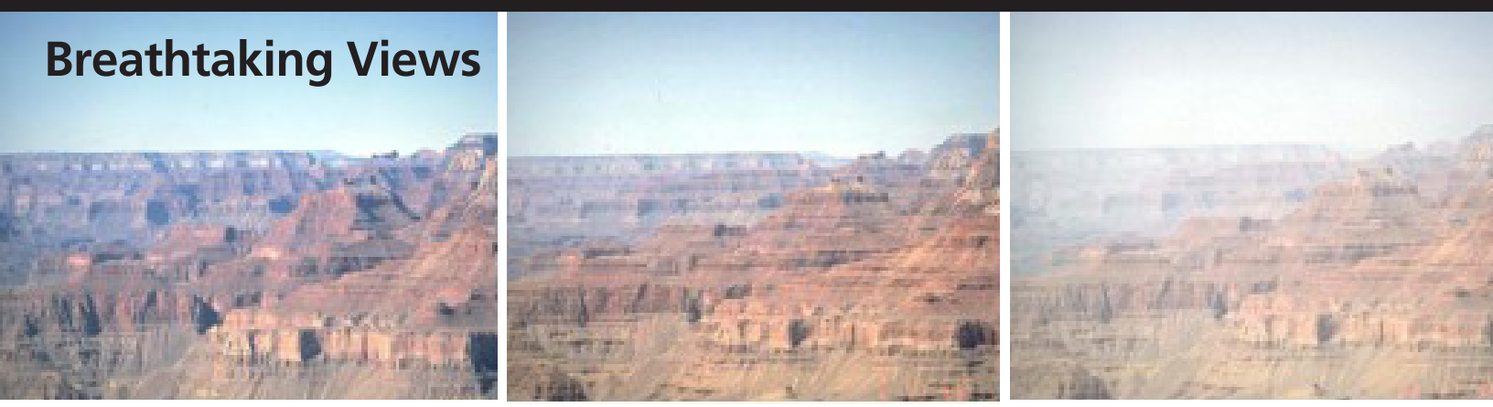
Grand Canyon

National Park Service
U.S. Department of the Interior

Grand Canyon National Park
Arizona

Breathtaking Views



Fading away…Good, fair, and poor visibility from the South Rim of Grand Canyon National Park

Clean Air — An Important Natural Resource

Take a deep breath. Do you notice anything? Grand Canyon National Park has some of the freshest air in the lower 48 states. Chances are it is much cleaner than the air you breathe back home. But when you look through miles and miles of it to distant horizons, it becomes clear that it is not perfectly clear! In the recent past, Grand Canyon's air quality was poorer; these days it's good, but it could be better. Diminished visibility at Grand Canyon National Park is evidence that national parks are not immune to outside threats. We are the only ones who can protect our breathtaking views from harm.

Impaired Air

Some haze at the canyon is natural. The earliest canyon dwellers would have seen dust from desert windstorms, smoke from forest fires, and weather-related inversions. In modern times, however, pollution has been added to the mix. Grand Canyon, while still somewhat remote, is no longer isolated.

Increasing development and industrialization in the West are affecting our ability to see this canyon at its best. Ninety percent of the time Grand Canyon's air is impaired by civilization's pollutants. Particulates, primarily sulfates, scatter light and obscure the view.

Seasonal Differences

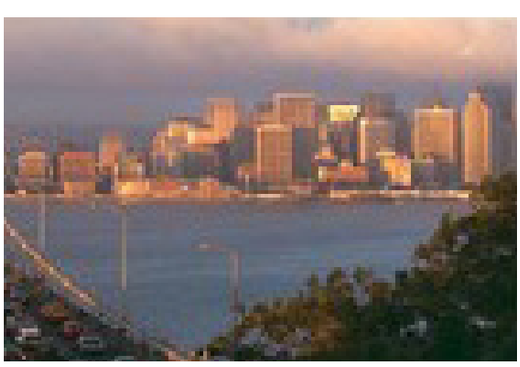
In the summer prevailing winds are from the southwest, where there are large urban and industrial areas. Visibility is reduced to an average of only 100 miles and can drop below 70 miles ten percent of the time. Within the canyon it is even worse, with trapped smog being even thicker. On the worst days, the view is extremely impaired. We lose the ability to see the vast landscapes, intense colors, rough textures, and intricate details that have delighted people and taken their breath away for generations. In the winter, strong cold fronts bring in clean, crisp air from sparsely populated areas to the northwest. The average visibility is 160 miles, and it can improve to a nearly ideal 210 miles at times. In comparison, the average visibility in the East is 15 – 20 miles.

Sources of Haze

Industrial sources such as coal-burning power plants are a major source of particulate matter. Their emissions sometimes create plumes of haze that drift as far as 100 miles. The Environmental Protection Agency, implementing the Clean Air Act, requires nearby power plants to limit their pollution emissions. Some plants are putting filters on their smokestacks. The cost may be passed on to customers in the form of rate increases, but we have already seen improved air quality since one of the two major power plants in the area was upgraded in 1999.

Other sources of regional haze are population centers, where toxic factory chemicals and diesel exhaust fumes are produced. The smog is thickest in the valleys where it originates, but it spreads to scenic vistas throughout the Grand Canyon region and beyond. In fact, Los Angeles' dirty air has been traced as far as South Dakota! Large cities like Phoenix are working on reducing ugly brown clouds through newer technologies, improved traffic flow, and restrictions on fireplaces in new homes.

Some power plants emit sulfates that scatter light and create haze.



Smog created in urban areas can spread long distances.

The Transportation Connection

Traditional motor vehicles burn oil and gas. While laws are in place to create more fuel-efficiency and less emissions, concerned consumers are largely responsible for buying cars with better gas mileage, keeping them running efficiently, and limiting use when possible. Grand Canyon National Park will soon be encouraging this by implementing a new transportation plan that will reduce private automobiles in the park and emphasize mass transit. This way each visitor can do his or her part to keep the skies clear! You can help this effort today by using the free park shuttle buses to get around. When you return home, remember the beauty you have witnessed at the canyon and consider ways to reduce your driving in cities and on highways, to preserve the views here and where you live.

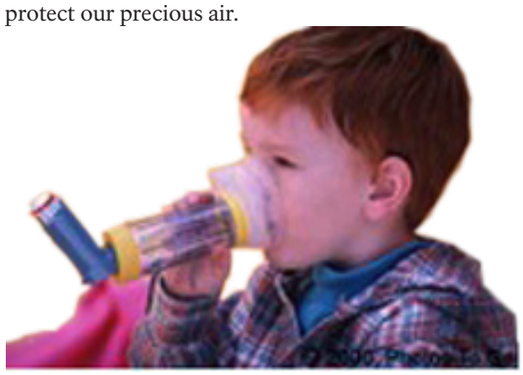
Traffic jams in national parks contribute to poor air quality.

Grand Canyon Visitors can ride low emission shuttle busses.

Health Concerns

Grand Canyon National Park's spectacular landscape is an international treasure. As such, it has been designated a Class I airshed by Congress, which means that human-caused haze must be removed and may not be allowed to increase in the future. The National Park Service actively monitors the canyon's air quality on a daily basis. As can be clearly seen, it is impossible for the National Park Service alone to protect the air above the canyon from outside sources of pollution. Grand Canyon's diminished visibility may be a warning of deteriorating air quality nationwide. If we do not halt this trend, will the time come when Grand Canyon's stunning scenery is merely a memory? Will our grandchildren wonder why we left them only faded panoramas?

Only through public and personal actions can we ensure our continued enjoyment of wide vistas and preserve the opportunity for our children to see the one and only Grand Canyon. By supporting cleaner technologies and conserving our planet's resources, we can improve the view and the air we all must breathe! Take a deep, exhilarating breath and consider what responsible actions you can take to help protect our precious air.



Boy with asthma uses an inhaler to help him breathe.

While Grand Canyon's air is generally very clean, a concern in cities with dirty air is that the pollutants released are bad for residents' health. Air pollution can cause trouble breathing, and some chemicals found in polluted air cause cancer, birth defects, brain and nerve damage, and long-term injury to the lungs and breathing passages. We all want to live long, healthy lives. We know clearing the air is essential, but with ever-increasing populations in the West, and energy consumption growing, can any clean-up keep pace?