

Pinal County Travel Reduction

Clean Air Blue Skies

Monsoon Season

During most of the year, winds over Arizona blow from the west or northwest. During the months of the monsoon, however, the wind flows from a more southerly or easterly direction. These winds bring with them moisture from the Pacific Ocean, the gulf of California, and the Gulf of Mexico. As these moist winds encounter the extreme daytime heat of the summer desert, large clouds form, and intense monsoon storms often result.

The monsoon is more noticeable in southern Arizona than northern Arizona, and usually lasts longer in the south. Though the monsoon officially begins on June 15 each year, the most severe storms do not arrive until July. The official end of the monsoon each year is on September 30.

If You Are Driving



lights and assume you are on the road in motion

1. Slow down! The first rain of summer brings oils and other automotive fluids to the road surfaces, causing unusually slick conditions.
2. Do not attempt to cross flooded roadways. Even shallow running water exerts great pressure and can sweep your car off the road or stall your engine. Under the Arizona "Stupid Motorist Law" a driver requiring rescue from a flooded wash, with posted warning signs or gates, may also be held responsible for the cost of the water rescue.
3. If you can't see due to heavy rain or blowing dust:
 - a. Pull off to the right side as far as possible
 - b. Turn off your engine and lights
 - c. Stay inside your vehicle
 - d. Keep your foot off the brake pedal. Drivers may see your

4. If you approach an intersection with a non-functional traffic signal, treat it as a 4-way stop. Listen to your car radio for the latest traffic and weather conditions. Monsoon storms are big news and you can usually get precise information about where the storms are and what traffic is like.

Monsoon Winds



Monsoon wind gusts can range from 40 to 100 miles per hour. Debris being carried by such winds can cause severe injuries, so if you are outdoors during a monsoon storm, move inside immediately. While making your way to shelter, stay away from trees and downed power lines. Once indoors, move into a central interior room if possible, away from windows. (Windows may shatter as a result of flying debris.)

Monsoon Lightning

If you are able to hear thunder during a storm, you are close enough to be in danger from lightning. If you are indoors during a lightning storm, remain there for at least 30 minutes after the last thunderclap. Additionally: (1) do not handle electrical equipment, plumbing, or wired telephones, as these may conduct electricity; (2) make sure that all computers, appliances, etc., are turned off and unplugged; and (3) avoid sitting near windows.

If you are in a vehicle during a lightning storm: (1) pull safely onto the shoulder of the road, away from any trees or power lines that could fall onto the vehicle; (2) avoid contact with any metal surfaces within the vehicle; (3) avoid flooded roadways; and (4) remain in the vehicle and out of the flow of traffic until the storm subsides.

Cordless telephones rely on electricity and so will not work if the power goes out. A traditional, corded telephone may work in a power outage, assuming there is no damage to phone lines. Phone lines can conduct electricity during a lightning storm, however, so use of corded telephones is not encouraged when there is danger of a lightning strike.

Monsoon Flooding

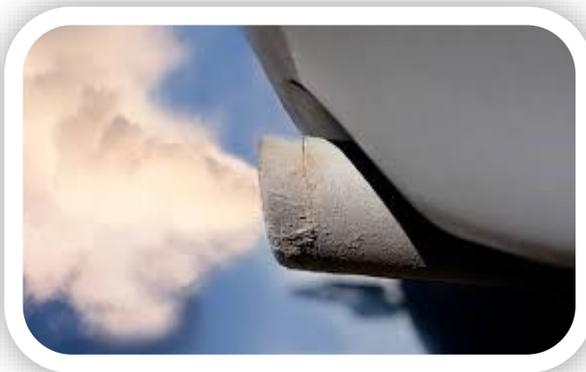
Another major concern during monsoon season is flooding—especially flash floods. Because people and vehicles can be swept away by even small amounts of rapidly moving water, adhere to the following precautions during a flood:

If you are indoors: (1) stay calm; (2) listen to a battery-operated radio or television for the latest emergency information; and (3) if told to evacuate, do so immediately.

If you are outdoors: (1) move to high ground and stay there; and (2) avoid walking through floodwaters. At a depth of only six inches, swiftly moving water can sweep a person off his or her feet.

If you are in a vehicle: (1) turn back if you find yourself approaching a flooded area (as little as two feet of fast-moving flood water can carry a car away); and (2) abandon your vehicle if it stalls, and move immediately to higher ground. Many deaths have resulted from attempts to move stalled vehicles during a flood.





Car Pollution and Our Environment

When a car's engine is running, several different types of gasses and particles are emitted that can have adverse effects on the environment. Of particular concern to the environment are carbon dioxide, a greenhouse gas; hydrocarbons — any of more than a dozen volatile organic compounds, some of which are deadly chemicals; nitrogen oxides; sulfur oxides; and particulate matter, tiny particles of solids, such as metal and soot. Other emissions that affect human health and create smog in-

clude ozone and carbon monoxide. The good news is that despite the increase of vehicles on the road, air quality today is actually better than it was in the 1970s, thanks to the 1970 Clean Air Act. In fact, lead emissions from cars have been almost completely eliminated because of the phasing out of leaded gasoline. "Tetraethyl lead" was used in early model cars to help reduce engine knocking, boost octane ratings, and help with wear and tear on valve seals within the motor. Leaded gasoline has not been totally eliminated. It is still permitted for off road vehicles, aircraft, racing cars, farm equipment, and marine engines, in the United States.

Effects on the Environment

Vehicle emissions can affect the environment in several ways. Cars emit greenhouse gasses, such as carbon dioxide, which contribute to global warming. Some air pollutants and particulate matter from cars can be deposited on soil and surface waters where they enter the food chain; these substances can affect the reproductive, respiratory, immune and neurological systems of animals.

Health Effects from Automobile Emissions

The emissions from millions of vehicles add up. These emissions are byproducts from the engine combustion process and from the evaporation of fuel. Despite the ever-growing number of vehicles on the road, studies show that ten to thirty percent of vehicles cause the majority of vehicle-related air pollution.

The following fact sheet lists some of the air pollutants associated with vehicle emissions. Because exposure to these pollutants can cause serious health problems, the EPA has established air quality standards to protect our health.

Carbon Monoxide	Is a colorless, odorless, poisonous gas emitted from the vehicle's exhaust as a result of incomplete combustion. It interferes with the blood's ability to carry oxygen to the brain, heart, and other tissues.
Ozone	Ozone reacts with lung tissue. It can inflame and cause harmful changes in breathing passages, decrease the lungs' working ability, and cause coughing and chest pains.
Sulfur Dioxide	Exposure constricts air passages, creating problems for people with asthma and for young children, whose small lungs need to work harder than adults' lungs.
Nitrogen Dioxide	The effect of NO _x exposure on the respiratory system is similar to that of ozone and sulfur dioxide.
Lead	Lead poisoning can reduce mental ability, damage blood, nerves, and organs, and raise blood pressure. Even small ingestions or inhalations of lead can be harmful because lead accumulates in the body.
Particulate Matter	Due to the small size of PM, these particles are not stopped in the nose and upper lungs by the body's natural defenses but go deep into the lungs, where they may become trapped and cause irritation. Exposure to particulate matter can cause wheezing and similar symptoms in people with asthma or sensitive airways.
Toxic Air Pollutants	Toxic air pollutants such as benzene and formaldehyde are substances from automobile emissions that are known to cause or are suspected of causing cancer, genetic mutation, birth defects, or other serious illnesses in people even at relatively low levels. The chemicals can be inhaled directly or carried by small particles (dust or lint) into the lungs.
Reducing Risk	How can we reduce the risk of health problems caused by exposure to vehicle emissions? Not driving is the obvious suggestion, but that isn't always practical. Instead, carpool, use transit, bicycle or walk whenever possible. The fewer vehicles on the road, the fewer pollutants emitted to the air.

Hot Summer Car Care Tips

The arrival of summer marks an ideal time to make sure your car or truck is in good working condition. The high temperatures of summer can be tough on a vehicle—everything from the paint down to the tires is subjected to harsher than normal conditions. Gone unchecked, some issues could leave you stranded in the heat.



Fluids like coolant, motor oil and windshield washer fluid are things motorists can regularly check on their own. Engine coolant, sometimes called anti-freeze, is the number one thing motorists should stay on top of in the summer months. Since modern cars have a closed system for coolant, checking or adding coolant is easy. This is generally done through the coolant reservoir located under the hood. Be sure the coolant level is between the minimum and maximum markings, adding more if necessary. But never open the radiator cap or coolant tank lid when the engine is hot.

Tire pressure is also important, especially in summer months. As the outside temperature climbs, the air in your car's tires expands, so check your tire pressure when the tires are at a normal temperature—before you set out on a road trip. Also, be sure to use the proper tire pressure for your car, not the maximum pressure listed on the tire sidewall. Check the recommended tire pressure label in the door jamb or glove compartment, or consult your owner's manual.

Tires that are over or underinflated can reduce the vehicle's handling capability or generate excess heat, causing a blow-out. Although most newer cars have an on-board tire pressure monitoring system, get a good quality tire pressure gauge—a dial type analog unit or digital gauge, not a straight, pen-type one and check them yourself every few months. Don't forget to check the pressure in your spare tire, too.

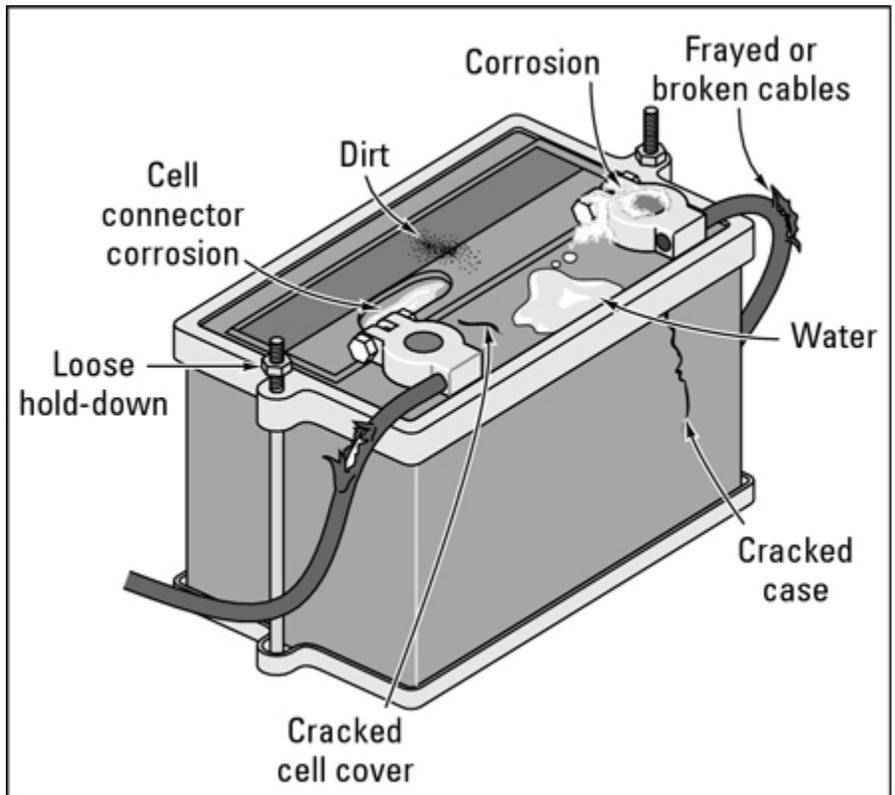


Exterior Car Care

The desert heat is known to drain the life out of a vehicle's battery. Excessive heat and overcharging are the two main reasons for a shortened battery life. Heat causes battery fluid to evaporate, thus damaging the internal structure of the battery. A malfunctioning component in the charging system, usually the voltage regulator, allows to high of a charging rate. That's a slow death for a battery.

To get the most out of your battery:

1. Be sure the electrical system is charging at the correct rate; overcharging can damage a battery as quickly as undercharging.
2. If your battery is the type that needs to be topped off, check it regularly, especially in hot weather. Add distilled water when necessary.
3. Always replace a battery with one that's rated at least as high as the one originally specified.
4. Keep the top of the battery clean. Dirt becomes a conductor, which drains battery power. As corrosion accumulates on battery terminals it comes an insulator, inhibiting current flow.



Wash It!

Dirt and debris on the surface of your car can scrape and scratch the topcoat. Additionally, rain mixed with dust can **leave water spots on the car's paint. Washing your vehicle regularly may help prevent damage to its protective topcoat.**

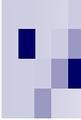
Wax On...Wax Off

A coat of wax can help protect your vehicle's paint from sun and the elements. Wax also helps repel dirt and debris, prevent water spots and keeps your car looking shiny and new. Polishing in the spring and the fall should do it.

Parking In The Shade

Parking in the shade will help keep the sun off your car and keep down the interior temperature. If you have leather or vinyl seats in your vehicle, covered parking will save your legs from getting scorched when you sit down.

Living in the Arizona desert can be rough on your ride. Just like you need protection from the sun, your car also benefits from some protection, too.



Clean Air Blue Skies

Pinal County Travel Reduction
PO Box 987
31 N Pinal St Bldg F
Florence, AZ 85132
Phone: 520.866.6929
Fax: 520.866.6967
E-mail: marie.frazier@pinalcountyaz.gov



P I N A L ♦ C O U N T Y

Wide open opportunity

www.pinalcountyaz.gov