

## Good Up High, Bad Nearby

Ozone is a gas that occurs both in the Earth's upper atmosphere and at ground level. Ozone can be good or bad, depending on where it is found:

- **"Good Ozone"** occurs naturally in the Earth's upper atmosphere—10 to 30 miles above the Earth's surface—where it shields us from the sun's harmful ultraviolet rays.
- **"Bad Ozone"** is formed in the Earth's lower atmosphere, near ground level, when pollutants, such as gasoline vapors, react with nitrogen oxides in the presence of sunlight. Bad ozone is a concern during summer when the weather conditions needed to form ozone—lots of sun and hot temperatures—normally occur.

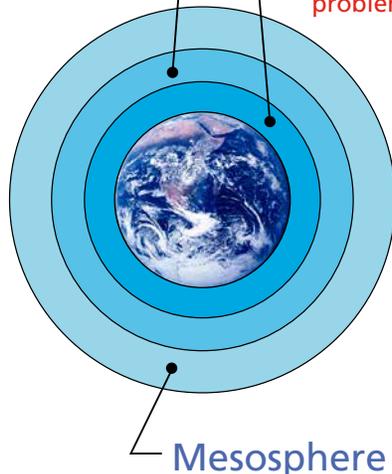
## Good and Bad Ozone

### Stratosphere

In this region ozone is good, protecting us from harmful ultraviolet radiation.

### Troposphere

In this region ozone is bad, damaging lung tissue, and making breathing problems worse.



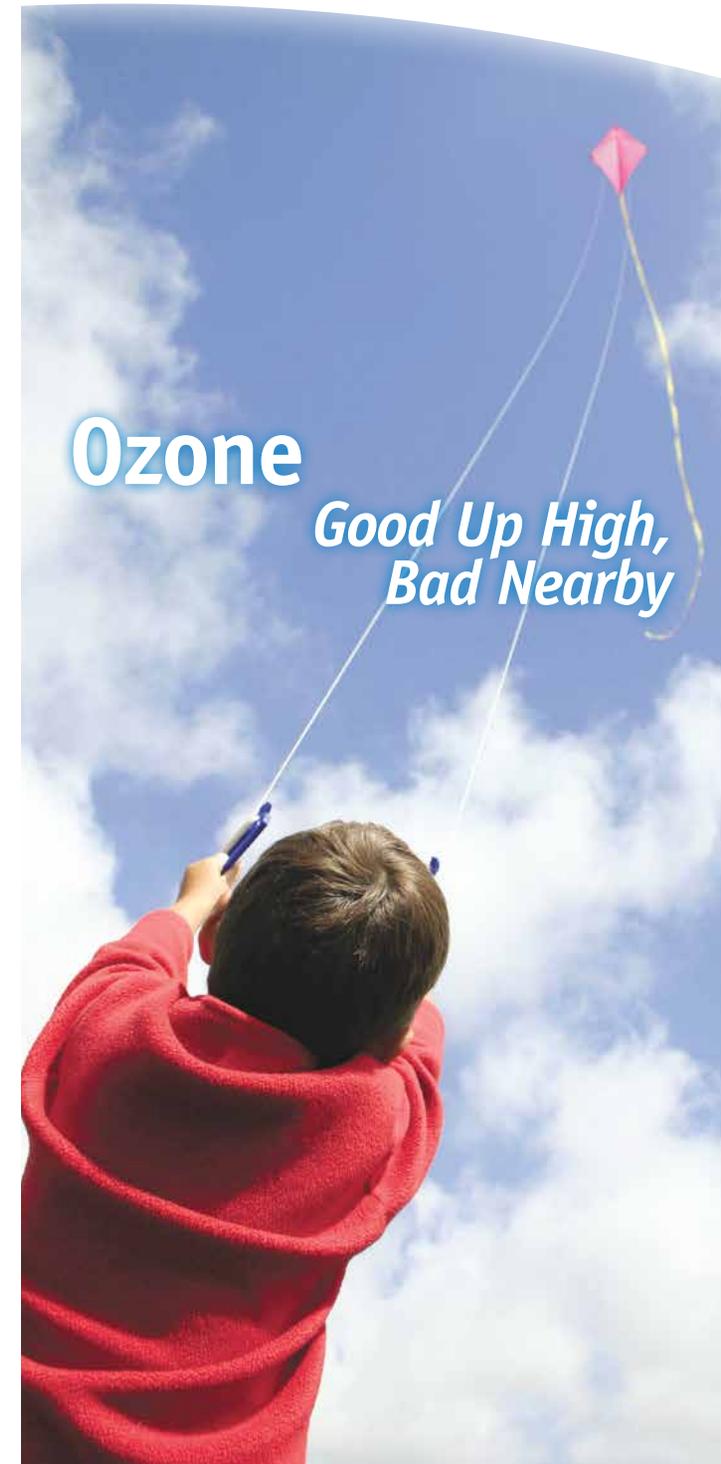
### Tips to reduce ozone pollution:

- Reduce unnecessary car trips by combining errands.
- Travel Green: bus, bike, walk, or carpool.
- Avoid "topping off" your gas tank. Stop at the first "click" and be sure your gas cap is sealed tightly.
- Keep tires properly inflated.
- Don't idle your car for more than 30-seconds.
- Delay using gasoline-powered yard equipment when it's hot (over 90 degrees) until evening or a cooler day.
- Store gasoline and other solvents in tightly-closed containers.
- Use manual or electric yard and garden tools.
- Switch to gas or electric outdoor grills. If you stick with charcoal, start it with an electric probe instead of lighter fluid.
- Purchase household products that have zero or low volatile organic compounds.
- Refuel your vehicle at stations that use vapor-recovery nozzles. A list of these stations is available by contacting Spokane Clean Air.



For more information, visit us at  
[SpokaneCleanAir.org](http://SpokaneCleanAir.org)

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## How does ozone affect your health?

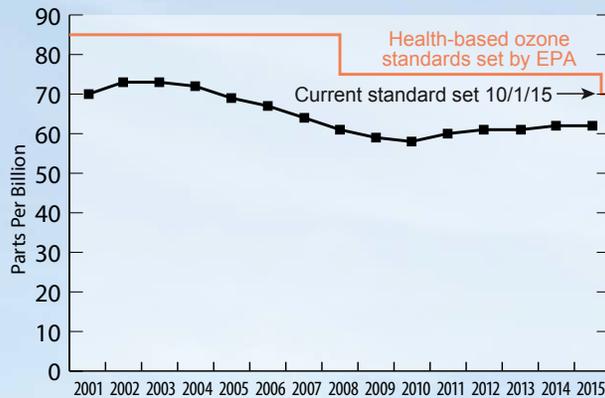
## Are you at risk from ozone?

### What is ozone?

Ground-level ozone is a harmful air pollutant and a key component of smog. Monitoring ozone is conducted during the warmest months, when ozone is most prevalent.

### Ozone in Spokane

The Spokane-area has not exceeded the national, health-based standards for ozone, though we've come close. Even at low levels, ozone can cause a number of respiratory effects, which is why the United States Environmental Protection Agency adopted new, tougher standards for ozone in 2015.



### Current ozone levels

Ozone levels are monitored from May through September.

**Website** – [SpokaneCleanAir.org](http://SpokaneCleanAir.org) and click on “Current Air Quality.”

**E-mail Notification** – From our website, you can sign up to receive air quality forecasts by e-mail.

Ozone can inflame the airway, causing symptoms such as chest pain, coughing, wheezing and shortness of breath. It can worsen bronchitis, emphysema, and asthma. Ozone also can reduce lung function and inflame the linings of the lungs. Repeated exposure may permanently scar lung tissue.

**Ozone can reduce lung function.** This makes it more difficult for you to breathe as deeply and vigorously as you normally would.

**Ozone can aggravate asthma.** When ozone levels are high, more people with asthma have attacks that require a doctor's attention or the use of additional medication.

**Ozone can inflame and damage cells that line your lungs.** Within a few days, the damaged cells are replaced and the old cells are shed – much in the way your skin peels after a sunburn.

**Ozone can aggravate chronic lung diseases** such as emphysema and bronchitis and reduce the immune system's ability to fight off bacterial infections in the respiratory system.

Several groups of people are particularly sensitive to ozone – especially when they are active outdoors because physical activity causes people to breathe faster and more deeply.

**Children**, whose lungs are still developing, are at highest risk from ozone exposure because they often spend a large part of the summer playing outdoors. Children are also more likely to have asthma, which is aggravated by ozone exposure.

**People with asthma or other lung diseases** are more vulnerable to the effects of ozone and will generally experience health effects at lower ozone levels than less sensitive individuals.

**Active adults** of all ages who exercise or work vigorously outdoors have

greater exposure to ozone than people who are less active.

In general, as concentrations of ground-level ozone increase, more and more people experience health effects, the effects become more serious, and more people are admitted to the hospital for respiratory problems. When ozone levels are very high, everyone should be concerned about the risks of ozone exposure to their health.



Learn more  
about ozone at  
[SpokaneCleanAir.org](http://SpokaneCleanAir.org)