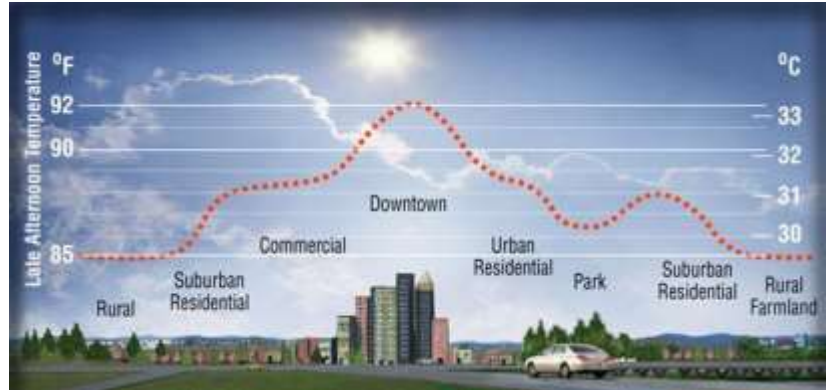


## The Health Impacts of Climate Change

### How does climate change affect your health?

Every day, millions of combustion activities in Denver send tiny particles and contaminants into the air. On poor air quality days, they stay in the lower atmosphere and form a visible haze. Public health officials are learning more about the negative health impacts associated with even low levels of these pollutants. Even if air pollution stays at the same level, climate change will continue to worsen these health impacts, with greater effects on the poor and vulnerable.

A recent [report from the White House](#) indicates that increased ozone related to climate change will lead to more premature deaths, hospital admissions, and cases of acute respiratory illnesses. Allergy sufferers will be exposed to longer periods of pollen. Heat-related illnesses and deaths are also projected to rise. Denver has the [third worst urban heat island effect](#) in the country, with high temperatures near the urban core.



Source: Berkeley Lab, Heat Island Group <https://heatisland.lbl.gov/coolscience>

Many of the activities that contribute to climate change produce other pollutants that harm our health. Fossil fuel energy production, gasoline and diesel vehicles, braking and tire wear, wildfires, and other combustion processes release carbon into the atmosphere with other pollutants like nitrogen oxides, sulfur oxides, carbon monoxide and particulate matter. When these particles enter the lungs and bloodstream, they cause inflammation and cardiovascular damage. Taking actions to mitigate our impact on the climate will also benefit air quality and public health.

### WHAT ARE THE HEALTH RISKS OF PARTICULATE MATTER?

Particulate matter poses a serious health risk because it can travel into the respiratory tract. PM2.5 is especially dangerous because it can penetrate deep into the lungs and sometimes even into the bloodstream.

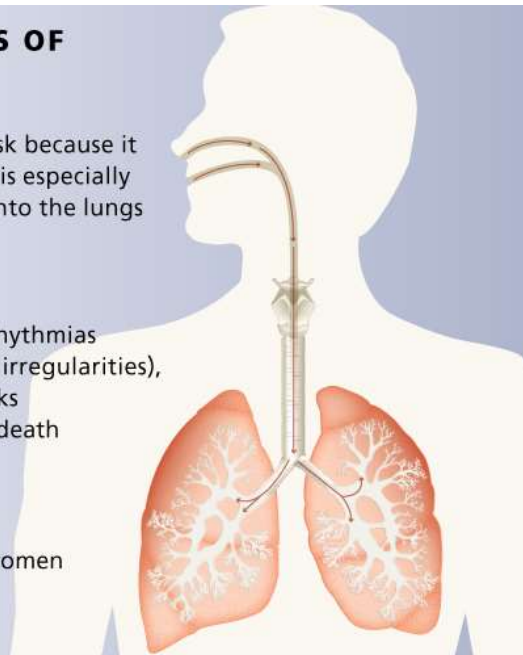
#### HEALTH EFFECTS

- » Decreased lung function
- » Chronic bronchitis
- » Increased respiratory symptoms
- » Cardiac arrhythmias (heartbeat irregularities),
- » Heart attacks
- » Premature death

#### GROUPS SENSITIVE TO PM2.5

- » People with heart or lung disease
- » Older adults
- » Children
- » Pregnant women

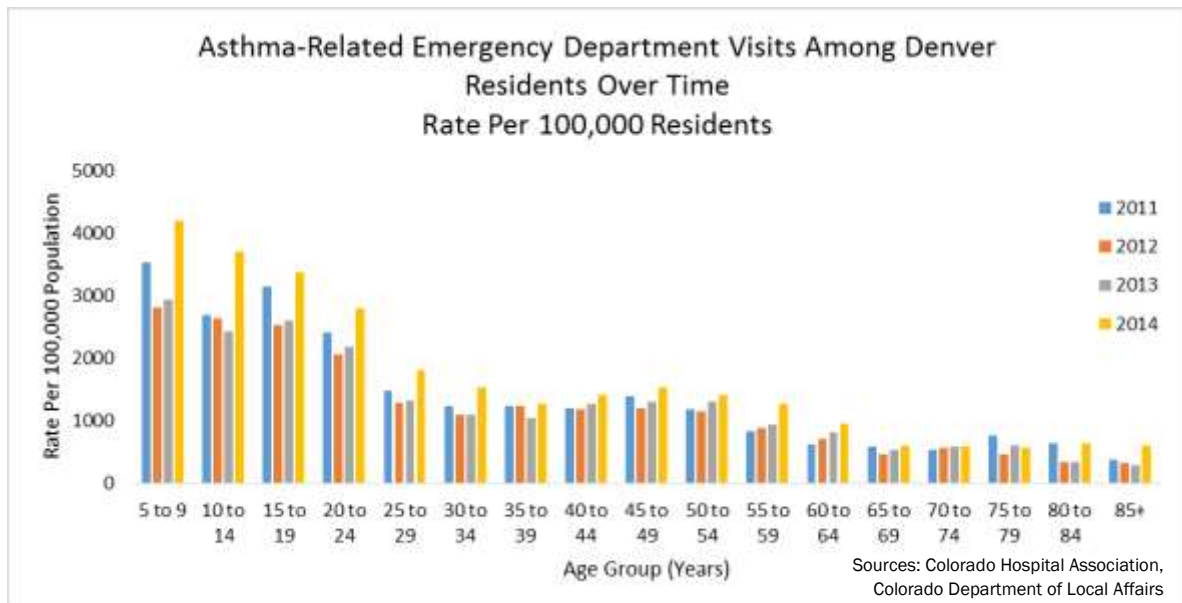
Source: [www.epa.gov](http://www.epa.gov)



## Climate Change and Respiratory Health

Climate change may cause several respiratory diseases to become more common and more severe. High ozone levels can worsen bronchitis and emphysema, trigger asthma attacks, cause coughing, reduce lung function and damage lung tissues. Children, the elderly and those in poverty are more vulnerable.

A 2012 study showed that Denver residents had significantly higher asthma hospitalization rates than other Colorado counties. Among children, asthma is a leading cause of chronic illness. Ten percent of youth younger than 14 and 19.7% of high school students in Denver have asthma. The graph below shows that Denver children and young adults consistently have very high asthma-related emergency department visit rates. Although the 2014 increase was likely related to an enterovirus outbreak, high pollen counts, ozone and tiny particulates make children and others more susceptible to asthma. Climate change can worsen droughts and increase the frequency of wildfires that release particulate matter into the air. It is common to see increases in respiratory emergency department visits due to wildfires. In fact, during recent California wildfires, emergency departments reported double the number of emergency department visits for asthma.



### What are we doing?

- Building “[Ultra Urban Green Infrastructure](#)” to help improve air and water quality, reduce urban heat islands, reduce flooding, and enhance community livability.
- Promoting biking, walking and transit use to reduce driving and improve air quality through programs like [B-cycle](#) bike sharing, [Safe Routes to School](#), and the [Community Active Living Coalition](#).
- Promoting local food production through the [Residential Sales Ordinance](#).

### What can you do?

- Encourage policy makers, funders and community organizations to take action to reduce emissions that harm our health.
- Take public transportation, bike, walk, or ride share to get to work. Visit <https://mywaytogo.org/> to plan your commute.
- Don't idle! Those extra emissions cost money and harm our air quality. <http://enginesoff.com/>