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www.fs.fed.us/r2/sanjuan
www.co.blm.gov/sjra/index.html



Information on Smoke-Related Health Issues

It's wildfire season again in the West, and where there's fire, there's smoke. Federal land managers realize that the public has many concerns about smoke from wildfires. Here are some answers to some commonly asked questions.

1. What is in smoke from a wildfire?

Smoke is made up small particles, gases, and water vapor. Water vapor makes up the majority of smoke. The remainder includes carbon monoxide, carbon dioxide, nitrogen oxide, irritant volatile organic compounds, air toxics and very small particles. It's a good idea to avoid breathing smoke if you can help it. If you are healthy, you usually are not at a major risk from smoke. But there are people who are at risk, including people with heart or lung diseases, such as congestive heart disease, chronic obstructive pulmonary disease, emphysema or asthma. Children and the elderly also are more susceptible to smoke. Animals may also be affected. Don't force your pets or livestock to run or work in smoky conditions. Contact your veterinarian or county extension office for more information.

One of the biggest dangers of smoke comes from particulate matter -- solid particles and liquid droplets found in air. In smoke, these particles often are very tiny, smaller than 2.5 micrometers in diameter. The diameter of the average human hair is about 30 times bigger. These particles can build up in your respiratory system, causing a number of health problems, including burning eyes, runny noses and illnesses such as bronchitis. The particles also can aggravate heart and lung diseases, such as congestive heart failure, chronic obstructive pulmonary disease, emphysema and asthma.

2. How do I know if I'm being affected?

You may have a scratchy throat, cough, irritated sinuses, headaches, runny nose and stinging eyes. Children and people with lung diseases, such as asthma, may find it difficult to breathe as deeply or vigorously as normal, and they may cough or feel short of breath. People with diseases such as asthma or chronic bronchitis may find their symptoms worsening.

3. How can I tell when smoke levels are dangerous?

Generally, the worse the visibility is, the worse the smoke. Healthy adults generally find that their symptoms (runny noses, coughing, etc.) disappear after the smoke is gone. The Colorado Air Pollution Control Division offers information on smoke at:

<http://apcd.state.co.us/wildfire.html>

4. What can I do to protect myself?

- Many areas report EPA's Air Quality Index for *particulate matter*, or *PM*, (tiny particles) which is one of the biggest dangers from smoke. As smoke gets worse, that index changes -- and so do guidelines for protecting yourself.

- Use common sense. If it looks smoky outside, that's probably not a good time to go for a run. And it's probably a good time for children to remain indoors.
- If you're advised to stay indoors, keep windows and doors closed. Run your air conditioner, if you have one. Keep the fresh air intake closed and the filter clean.
- Help keep particle levels inside lower by avoiding using anything that burns, such as woodstoves and gas stoves – even candles. And don't smoke. That puts even more pollution in your lungs – and those of the people around you.
- If you have asthma, be vigilant about taking your medicines, as prescribed by your doctor. If you're supposed to measure your peak flows, make sure you do so. Call your doctor if your symptoms worsen.

5. Can smoke affect me inside my home?

The tiny particles in smoke can get inside your home. If smoke levels are high for a prolonged period of time, these particles can build up indoors. If you have symptoms indoors (coughing, burning eyes, runny nose, etc.), talk with your doctor or call your county health department. This is particularly important for people with heart or respiratory diseases, the elderly and children.

6. Do air filters help? What about dust masks?

Indoor air filtration devices with HEPA filters can reduce the levels of particles indoors. Make sure to change your HEPA filter regularly. Don't use an air cleaner that works by generating ozone. That puts more pollution in your home. Paper "comfort" or "nuisance" masks, however, are designed to trap large dust particles -- not the tiny particles found in smoke. These masks generally will not protect your lungs from wildfire smoke.

7. How long is the smoke going to last?

That depends on where you live, the number of fires in your area, fire behavior, weather, and topography. If you live in a region where fire has always been part of the ecosystem, you can expect fire and smoke in summer. The amounts will depend on weather and the amount of fuel (trees, brush, etc.) available to burn. You can protect yourself and your property by following good fire prevention measures, but we never will eliminate fire and smoke from these natural systems. Smoke also can travel long distances, so fires in other areas can affect smoke levels in your area. The National Oceanic and Atmospheric Administration offers real-time satellite maps that show smoke dispersal patterns from wildfires across the country at: www.firedetect.noaa.gov/viewer.htm

8. How is air quality measured?

Local air agencies (or sometimes federal land managers) use monitors to measure the amount of particulates in the air. That amount, measured in micrograms per cubic meter, is compared to a national index designed to protect public health.

9. Where are air monitors installed in southwest Colorado?

Locally, particulate monitors are installed at Park Elementary, the La Plata County Courthouse, River City Hall, the Durango-Silverton Narrow Gauge Roundhouse, Durango Mountain Resort, and Pagosa Middle School. Two additional sites are planned for the Grandview area and another yet-to-be determined location. San Juan Basin Health Department also has a mobile monitor that can be used in different locations. In addition, temporary air samplers are being used in Ignacio and Hermosa to record background air-quality readings. Additional information is available in the Air Quality Section of the San Juan Basin Health website at www.sjbhd.org

Where can I get more information on these issues?

Contact Nathan Ballenger, Air Quality Technician, San Juan Basin Health Department, 970 247-5702.