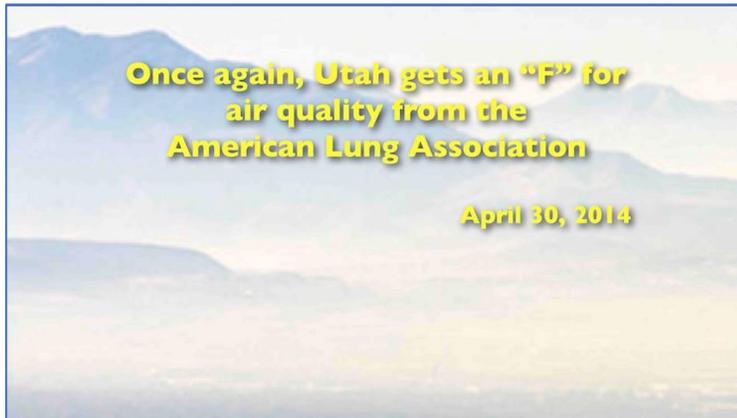




## Utah Physicians for a Healthy Environment

### What exactly is an Inversion?

Utah's winter climate and air quality are often negatively affected by what's known as our winter "inversions" which are a product of geography, high barometric



pressure, and emissions from multiple sources. Within a bowl (mountainous valley), the cold air sinks to the ground, mixes with the various sources of pollution (factories, cars, buildings, etc.) and becomes trapped by a layer of warm air. The longer the high pressure stays in place, less air moves

and pollutants build-up. It doesn't dissipate until a low-pressure system and accompanying storm move in and forces the inverted bowl of pollutants out.

- **The most common and dangerous pollutant during Utah's winter inversions is PM<sub>2.5</sub> (particulate levels 2.5  $\mu$  (microgram) or smaller. While the current regulatory threshold for the 24-hr average of PM<sub>2.5</sub> is 35  $\mu\text{g}/\text{m}^3$ , it's not uncommon for these levels to double or even triple during severe long-lasting inversions. In actuality, there is really is no safe level of air pollution. In fact, a study recently done in Salt Lake City looked at more than 16,000 heart patients and determined that even moderate rises in PM<sub>2.5</sub> can result in a 15% increase in the risk of a heart attack.**
- **PM 2.5 particles are small enough to pass from our lungs to bloodstream and then into our organs, and can alter the body's defense systems against foreign materials, damage lung tissues, aggravate existing respiratory and cardiovascular disease, and lead to cancer. In some cases, PM exposure can even lead to premature death. Adverse health effects have been associated with exposures to PM over both short periods (such as a day) and longer periods (a year or more).**
- **Those most at risk are people with asthma, influenza, lung, heart, or cardiovascular disease, the elderly, and children.**

## **What YOU can do to protect yourself during an inversion:**

- The most sensitive populations should avoid prolonged periods outdoors, and particularly activities requiring above normal inhalation.
- A good indoors HEPA filter that is designed to address PM2.5 is well advised.
- Avoid exposure to idling car engines or wood smoke.
- To help address the problem, avoid using the car if possible, use mass transit, car pool, or plan trips to minimize unnecessary automobile use.

## **How can YOU help?**

- **Urge regulators** to implement more restrictions on wood smoke, reduce speed limits, and expand mass transit.
- **Join and support UPHE.** Go to [www.uphe.org](http://www.uphe.org) and sign up to become a member. You'll receive our newsletters, email updates, and 'take action' alerts. Your contribution enables UPHE to continue fighting for clean air. We NEVER share your information.
- **Follow us on Facebook** for up-to-date information and upcoming events: <https://www.facebook.com/utahphysiciansforhealthyenvironment/>
- **Let your voice be heard.** Watch for opportunities to participate, announced via our website, Facebook and email.

### **Utah Physicians for a Healthy Environment**

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**We can't do this work without your help! Please consider making a donation today.**

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