

Air quality social media toolkit

Utah Department of Health and Human Services (DHHS)

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I. About the air quality toolkit

A. The need

Air quality in Utah

What causes poor air quality in Utah?

[Vehicle](#) emissions, fuel oils and natural gas to heat homes; by-products of manufacturing and power generation, particularly coal-fueled power plants; and fumes from chemical production are the primary sources of human-made air pollution in Utah.

PM2.5 and winter inversions

Particulate matter (PM) is any solid or liquid particle present in the air. PM is categorized by size. For example, PM2.5 means each particle's diameter is 2.5 micrometers and smaller. PM2.5 can be hazardous to an individual's health and the climate. It is made up of metals, allergens, nitrates, sulfates, organic chemicals, soil, and dust particles emitted from sources such as combustion products, wildfires, and dust from construction sites and mining operations. It is the principal pollutant in Utah's wintertime inversion.

[Utah](#) inversions often occur in the winter, usually after a snowstorm. The bowl-like shape of the Salt Lake and Uintah valleys results in inversions. An inversion is where a dense layer of cold air becomes trapped under a layer of warm air. The warm layer acts much like a lid and traps pollutants in the cold air near the valley floor.

Ozone in the summer

Higher in the atmosphere, the ozone layer protects us from the harmful ultraviolet rays of the sun. However, when ozone builds up at ground-level, where we can breathe it in, it can cause respiratory conditions or make them worse in people. This ground-level ozone is produced when pollutants emitted by cars, power plants, industrial boilers, refineries, chemical plants, and other sources react in the presence of sunlight. In the summer, increased sunlight and stagnant hot air, coupled with pollution from transportation and industry, leads to the build-up of ground-level ozone. Ground-level [ozone](#) is a key ingredient in Utah's summertime smog and haze.

Wildfire smoke

[Wildfires](#) impact air quality and put people's health at risk from smoke exposure. Smoke exposure can be sudden, last for days or weeks, and affect indoor and outdoor air quality. Smoke can travel great distances and become trapped in areas far from the source of the wildfire by weather patterns.

[Wood](#) smoke contains harmful air pollutants including benzene, formaldehyde, acrolein, and polycyclic aromatic hydrocarbons (PAHs). Wood smoke makes up about 6% of the Wasatch Front's air pollution in the winter.

Air quality and public health

Like much of the country, the [primary air pollutants of concern in Utah](#) are ozone and particulate matter (PM2.5). Levels of these pollutants can vary by season, with ozone higher in the summer and PM2.5 higher during the winter. PM2.5 can cause shortness of breath, wheezing, coughing, chest pain, fatigue, and heart attacks. PM2.5 can worsen cardiovascular and heart disease, asthma, and chronic obstructive pulmonary disease (COPD). Ground-level ozone can also cause difficulty breathing, shortness of breath, sore throat, wheezing, coughing, and fatigue. Ozone can worsen asthma, COPD, emphysema, and chronic bronchitis.

B. The response

Air quality messaging

Accurate, timely, and easy-to-understand information can be a powerful tool to reduce the harmful effects of air pollution on the public's health. This toolkit provides ready-to-use captions and images about air quality topics. These messages have already been reviewed and approved by a DHHS Public Information Officer (PIO). Post these any time and in a frequency that makes sense for your organization. We have included a suggested time frame for posting in the Utah air quality toolkit calendar in section III below.

II. Air pollution and the Air Quality Index (AQI)

A. Air pollution

Air pollution occurs when harmful substances in the atmosphere contaminate the air, which can affect human health. [Common](#) air pollutants in the U.S. are ground-level ozone, particulate matter (PM), carbon monoxide, sulfur dioxide, nitrogen dioxide, and lead. These 6 pollutants are also known as criteria pollutants. Under the U.S. Clean Air Act, the Environmental Protection Agency (EPA) requires criteria pollutants be measured and regulated.

Air pollution directly affects the air quality outside and inside. This is especially a concern for sensitive groups affected by poor air quality. [Sensitive](#) groups include those with lung disease, heart disease, adults who are 65 and older, women who are pregnant, and young children and infants.

B. Air Quality Index (AQI) information

The [Air Quality Index \(AQI\)](#) is the Environmental Protection Agency's (EPA) index to report daily air quality among communities and the associated risks to a person's health. The AQI is divided into 6 color-coded categories and values range from 0 to 500 to quickly inform communities if the air quality is reaching unhealthy levels and whether sensitive groups are likely to be affected. The greater the AQI value, the greater the level of air pollution and the greater the health concern for communities.

The EPA has partnered with organizations like the National Oceanic and Atmospheric Association (NOAA) and the National Aeronautics and Space Administration (NASA) to develop their AirNow air quality monitoring system, searchable by ZIP code.

- To check current air quality conditions by ZIP code, go to <https://www.airnow.gov/>

At the local level, the Utah Department of Environmental Quality has an air quality monitoring website to provide information about air quality conditions by county.

- To check current air quality conditions in your area, go to air.utah.gov

- To sign up for air quality forecasts in your area, go to <https://air.utah.gov/forecast.php#ctct-inline-form>

C. Air Action Days

The Utah Department of Environmental Quality (DEQ) Division of Air Quality issues mandatory no burn days when fine particulate pollution builds up to unhealthy levels. No-burn days are usually during winter inversions between November and March, but can occur any time during the year. No solid fuel burning devices, such as fireplaces, wood burning stoves, pellet stoves, and coal burning stoves (including EPA certified units) are allowed to burn during a mandatory action period unless the device was registered as a sole source of heating for the residence with the Director of the Division of Air Quality. If someone is found violating the ban, then households can be fined up to \$150.

DEQ has 3 action levels they can issue:

1. Unrestricted action: Wood, pellet, and coal burning stoves and fireplaces may be used but use them in a proper manner to reduce smoke emissions.
2. Voluntary action: People are asked to voluntarily avoid using wood, pellet, coal burning stoves or fireplaces.
3. Mandatory action: Wood, pellet and coal burning stoves or fireplaces are prohibited.

Where to receive alerts:

- The DAQ reports current action levels twice a day to local media outlets (newspapers, TV, and radio stations)
- Go to [DAQ's website](#) to see current action levels
- Register to receive [free email air quality alerts](#)
- Download the UtahAir app to get current conditions and air quality actions by county

III. Sample communications calendar

Month	Topics/subjects
January	<ul style="list-style-type: none"> • National Radon Action Month
February	<ul style="list-style-type: none"> • Inversions
March	<ul style="list-style-type: none"> • AQI • Severe weather
April	<ul style="list-style-type: none"> • Spring safety
May	<ul style="list-style-type: none"> • National Asthma and Allergy Awareness Month • Wildfire Awareness Month • Air Quality Awareness Week • World Asthma Day
June	<ul style="list-style-type: none"> • National Healthy Homes Month (Indoor air quality) • National Fireworks Safety Month
July	<ul style="list-style-type: none"> • Fireworks • Wildfire preparedness
August	<ul style="list-style-type: none"> • Wildfire prevention • Wildfire exposure
September	<ul style="list-style-type: none"> • National Preparedness Month • World Environmental Health Day
October	<ul style="list-style-type: none"> • National Fire Prevention Week
November	<ul style="list-style-type: none"> • COPD awareness month • Mandatory air action days
December	<ul style="list-style-type: none"> • PM pollution

IV. Sample captions and images

**These captions and images have already been reviewed and approved by DHHS PIO, Charla Haley. You can download the social media images and graphics from the DHHS Air Quality workgroup [Google Folder](#).*

A. General air quality messaging

- **Caption:** The Utah APPLETREE website is a great resource to learn about air pollution in Utah. This website includes information about common air pollutants, inversions, health effects from air pollution, wildfire smoke, and indoor air quality.
<https://appletree.utah.gov/air-pollution/>
 - **Suggested image:** [APPLETREE website \(gray\)](#); [APPLETREE website \(navy\)](#)
- **Caption:** Those who have heart or lung disease, who are older, pregnant, and children should avoid spending a great deal of time outside, avoid heavy exertion, and either reschedule outdoor activities or move them to an indoor location.
 - **Suggested image:** [Poor AQ days \(graphics; teal\)](#); [Poor AQ days \(graphics; aqua\)](#); [Poor AQ days \(graphics; purple\)](#); [Poor AQ days \(photos; aqua\)](#); [Poor AQ days \(photos; teal\)](#); [Poor AQ days \(photos; purple\)](#)
- **Caption:** Groups sensitive to poor air quality include persons who are elderly, pregnant women, children, and individuals with heart or lung disease. They are particularly susceptible to elevated air pollution levels and should take extra precautions to avoid exposure.
 - **Suggested image:** [Sensitive groups \(graphics; navy\)](#); [Sensitive groups \(graphics; purple\)](#); [Sensitive groups \(graphics; teal\)](#); [Sensitive groups \(photos; navy\)](#); [Sensitive groups \(photos; purple\)](#); [Sensitive groups \(photos; teal\)](#)
- **Caption:** Air pollution is bad for you and should be avoided. Take action to ensure you protect your health and the health of your children:
 - Stay informed on air quality alerts to reduce your exposure to air pollution. Reduce prolonged periods of time spent outside, reduce wood smoke, and consider using a home air purifying system or a low cost alternative such as a [DIY HEPA-Filter Box Fan](#).
 - Do what you can personally to reduce air pollution including following air action alerts, carpool, use public transportation, and visit the DEQ website for more ways to take action.

- **Suggested image:** [Reduce air pollution exposure \(1\)](#); [Reduce air pollution exposure \(2\)](#); [Reduce air pollution exposure \(3\)](#)

B. Preparedness

- **Caption:** Stay informed about air quality this summer. Sign up for alerts from the [Utah DEQ website](#).
 - **Suggested image:** [DEQ Alert \(1\)](#), [DEQ Alert \(2\)](#)
- **Caption:** Stay informed about air quality in your area at [AirNow](#).
 - **Suggested image:** [AirNow](#)
- **Caption:** In preparation for wildfire season, weatherize your home to help protect your family during poor air quality days. Local resources on weatherization opportunities can be found through the [Department of Workforce Services](#).
 - **Suggested image:** [Weatherization \(1\)](#), [Weatherization \(2\)](#)
- **Caption:** Improve indoor air quality on bad air quality days with a DIY HEPA-filter box fan or portable indoor air purifier. Learn how to make your own [DIY HEPA-filter box fan](#).
 - **Suggested image:** [HEPA filter \(aqua\)](#), [HEPA filter \(navy\)](#), [HEPA filter \(purple\)](#)

C. Air Quality Index

- **Caption:** Local air quality can change from day to day. The Environmental Protection Agency's (EPA) national standard is the AQI, which has 6 color-coded categories. The AQI helps you understand your local air quality conditions and what that means for your health. Check your local AQI on the [Utah DEQ website](#) or the [AirNow website](#) to help you reduce your exposure to unhealthy air.
 - **Suggested image:** [What is AQI? \(black title\)](#), [What is AQI? \(multicolored title\)](#)
- **Caption:** (AQI orange) The air quality is unhealthy for sensitive groups [today/tomorrow] in [list areas/counties]. For active individuals with lung or heart disease it is recommended you reduce extended outdoor activities. It's okay to be active outside, just take more breaks. Visit the DHHS [Air pollution and public health website](#) for more information.
 - **Suggested image:** [AQI orange exercise \(yoga\)](#)
- **Caption:** (AQI orange) The air quality is unhealthy for sensitive groups [today/tomorrow] in [list areas/counties]. Stay informed about air quality this summer and sign up for alerts from the [Utah DEQ website](#).

- **Suggested image:** [AQI orange](#)
- **Caption:** (AQI red) Air quality is unhealthy [today/tomorrow] in [list areas/counties]. Sensitive groups should avoid extended outdoor exposure and activities. Everyone else should limit strenuous outdoor activities such as running or biking. Visit the DHHS [Air pollution and public health website](#) for more information.
 - **Suggested image:** [AQI red exercise \(bikes\)](#), [AQI red exercise \(yoga\)](#)
- **Caption:** Air quality is unhealthy [today/tomorrow] in [list areas/counties]. Stay indoors to reduce your exposure to bad air quality. Improve your indoor air quality by using a portable high efficiency HEPA air cleaner or a do-it-yourself HEPA-filter box fan. Find additional resources at the DHHS [Air pollution and public health website](#).
 - **Suggested image:** [Indoor AQ \(aqua\)](#), [Indoor AQ \(navy\)](#)
- **Caption:** Air quality is unhealthy [today/tomorrow] in [list areas/counties]. Stay informed about air quality this summer and sign up for alerts from the [Utah DEQ website](#).
 - **Suggested image:** [AQI yellow](#), [AQI orange](#), [AQI red](#)

D. Wildfire smoke

- **Caption:** The fine particles in smoke can penetrate deep into your lungs and cause a range of health problems. Follow these tips to keep you and your family healthy during wildfire season.
 - **Suggested image:** [Limit smoke exposure](#)
- **Caption:** During wildfire season, individuals with health conditions should talk to their physicians to develop a personal plan to deal with smoke in the air.
 - **Suggested image:** [Wildfire smoke](#)
- **Caption:** Did you know 70% of Utah wildfires are human-caused? Don't be part of the problem. Be part of the solution. Follow these tips to prevent Utah wildfires. Learn more: <https://utahfiresense.org/>
 - **Suggested image:** [Prevent wildfires \(yellow/aqua\)](#), [Prevent wildfires \(multicolored\)](#)
- **Caption:** Wildfires give very little warning and spread rapidly. It's never too early to prepare your home and family for a wildfire. Follow these tips on how to prepare. Learn more: <https://www.ready.gov/wildfires>

- **Suggested image:** [Prepare for wildfires \(aqua\)](#), [Prepare for wildfires \(yellow\)](#)

E. Air quality in the summer

- **Caption:** Ground-level ozone is formed when nitrogen oxides (NOx) and volatile organic compounds (VOCs) released by cars, power plants, industrial boilers, and refineries combine and react in the presence of sunlight. Ozone contributes to what we typically experience as smog or haze, which occurs most frequently in the summertime, but can occur throughout the year in some southern and mountain regions. Breathing in ozone can harm our health and cause lung irritation, especially on hot, sunny days when ozone can reach unhealthy levels.
 - **Suggested image:** [What is ozone?](#)
- **Caption:** Help reduce ozone pollution levels. Drive less, carpool, turn your vehicle off instead of letting it idle, and do required emissions tests for your vehicle.
 - **Suggested image:** [Car releasing ozone](#)
- **Caption:** Keep your vehicles well-maintained to help reduce ozone pollution levels.
 - **Suggested image:** [Help reduce ozone \(yellow background\)](#); [Help reduce ozone \(aqua letters\)](#)
- **Caption:** The Utah Department of Environmental Quality's Division of Air Quality website can help you make decisions to protect your health on bad air quality days.
 - You can check the [current AQI and ozone levels](#).
 - You can learn more about where ozone comes from, the health effects of ozone, ways to reduce your exposure, and trends in ozone levels.
 - **Suggested image:** [DEQ air quality alerts](#)
- **Caption:** Keep your vehicles well-maintained to help reduce ozone pollution levels.
 - **Suggested image:** [Keep vehicles maintained \(aqua\)](#); [Keep vehicles maintained \(yellow\)](#)
- **Caption:** Avoid idling your vehicles to help reduce ozone pollution levels.
 - **Suggested image:** [Avoid idling \(gray car\)](#)
- **Caption:** How does ground-level ozone impact your health?
appletree.utah.gov/air-pollution/
 - **Suggested image:** [Ozone health effects](#)

F. Air quality in the winter

- **Caption:** Ever wonder what an inversion is? Under normal atmospheric conditions, air is warmer near the ground and colder at higher altitudes. In a temperature inversion, the situation inverts, and cold air at the surface gets trapped under a layer of warmer air. Unhealthy levels of PM2.5 in outdoor air occur most frequently during winter inversions. Learn more about inversions:
<https://deq.utah.gov/air-quality/inversions>
 - **Suggested image:** [Inversion \(navy\)](#), [Inversion \(purple\)](#)
- **Caption:** During the inversion season, the primary pollutant of concern is particulate matter (PM2.5). Exercise indoors to reduce your exposure to PM2.5. Stay current on AQI and PM2.5 levels, and do your part to reduce adding to poor air quality. Turn your car off instead of letting it idle, combine trips, and telecommute if possible.
 - **Suggested image:** [PM2.5](#)
- **Caption:** Avoid idling your vehicles to help reduce PM2.5 pollution levels.
 - **Suggested image:** [PM2.5 \(parked cars\)](#); [Avoid idling \(yellow text\)](#)
- **Caption:** Keep your vehicles well-maintained to help reduce PM2.5 pollution levels.
 - **Suggested image:** [Keep vehicle maintained \(mechanic photo\)](#)
- **Caption:** Limit the use of vehicles to help reduce PM2.5 pollution levels.
 - **Suggested image:** [Limit use of vehicle \(yellow text\)](#)
- **Caption:** How does poor air quality impact your health?
appletree.utah.gov/air-pollution/
 - **Suggested image:** [PM2.5 health effects \(1\)](#); [PM2.5 health effects \(2\)](#)
- **Caption:** Check air quality alerts regularly to stay informed: air.utah.gov
 - **Suggested image:** [Air quality alerts \(1\).png](#); [Air quality alerts \(2\).png](#)

G. Air action days

- **Caption:** The Utah Department of Environmental Quality (DEQ) Division of Air Quality issues mandatory no burn days when air pollution builds up to unhealthy levels. DEQ has 3 action levels they can issue: unrestricted action, voluntary action, and mandatory action. Learn what each action level means.

Find out the air quality and action level in your area at

<https://air.utah.gov/forecast.php>

- **Suggested image:** [Air action levels \(yellow\)](#); [Air action levels \(aqua\)](#)
- **Caption:** The Utah Department of Environmental Quality (DEQ) Division of Air Quality issues mandatory no burn days when fine particulate pollution builds up to unhealthy levels. No-burn days are usually during winter inversions between November to March, but can be issued any time of the year. Learn what is prohibited on no burn days.

Learn the air quality and action level in your area at

<https://air.utah.gov/forecast.php>

- **Suggested image:** [No burn days \(aqua\)](#); [No burn days \(teal\)](#)

V. Resources

- A. Utah APPLETREE—[Air pollution](#)
- B. Utah DEQ: Division of Air Quality—[Inversions](#)
- C. Utah DEQ: Division of Air Quality—[Understanding Utah's air quality](#)
- D. Utah DEQ: Division of Air Quality—[Wildfires](#)
- E. Environmental Protection Agency—[Managing air quality—air pollutant types](#)
- F. Environmental Protection Agency—[Research on health effects from air pollution](#)
- G. EPA AirNow—[Air Quality Index basics](#)
- H. Utah Environmental Public Health Tracking Network—[The human health effects of climate change in Utah](#) (must download)