

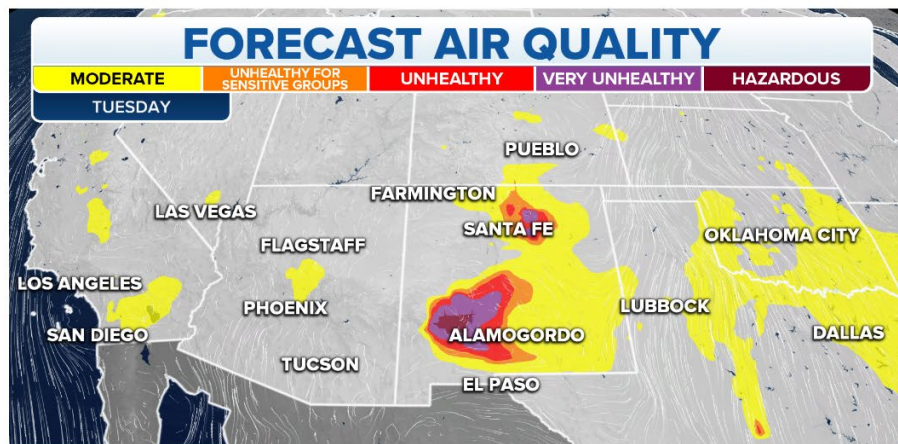


## Learning to Live with Fire...and Smoke (including, how to build DIY air cleaner)

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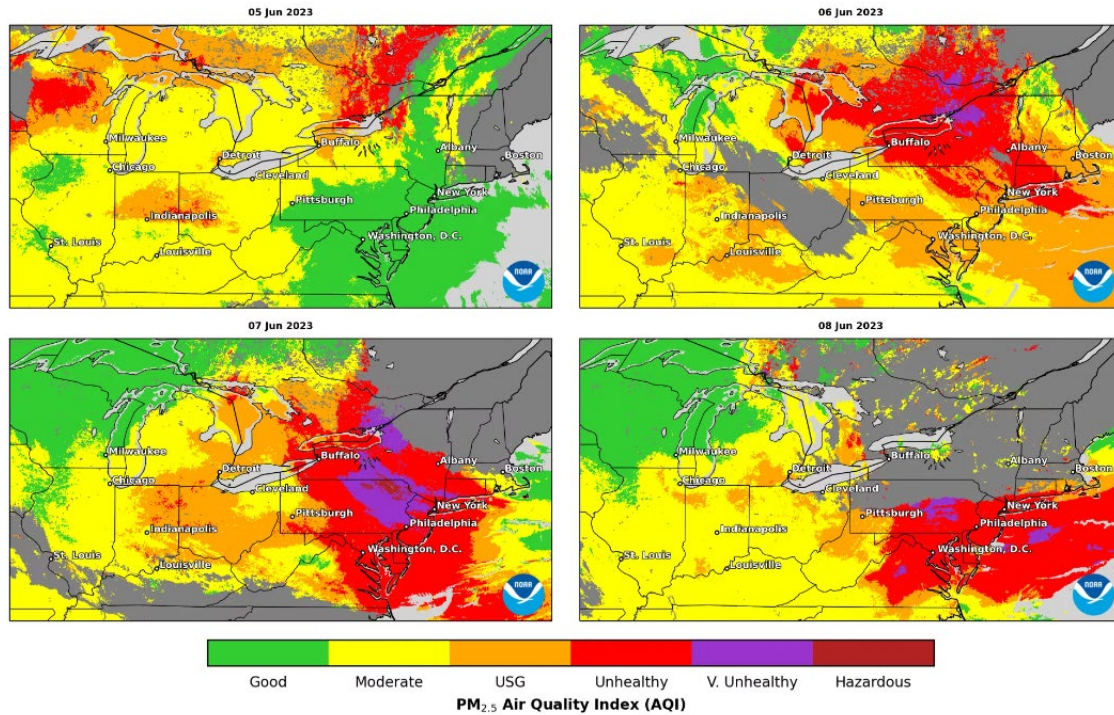
Fortunately for New Mexico, spring 2023 has resulted in significantly less smoke as compared to spring 2022. See this video [link](#) and the figure below for a reminder of what smoke production looked like last spring and summer. At this time last year, 17 fires were burning ~500,000 acres, whereas currently there are only 3 fires burning ~57,000 acres in New Mexico. And while New Mexicans may be thankful for the smoke and fire relief thus far, it is well recognized that the pause is temporary. Inevitably, we will again have to face smoke from wildfires and even occasionally prescribed fires in the years, decades and centuries to come. We live on a fire planet and this natural phenomenon is not going away. As such, we must continue to learn to live with fire AND smoke.

### Snapshot - NM Air Quality during 2022 Fire Season



Speaking of living with smoke, we all saw the stupefying photos from across the Northeast in early June when smoke from Canadian wildfires resulted in historically poor air quality for millions of Americans. See figure below and collage of smoke photos published by the *Atlantic*: [Photos - Smoke from Canada's Wildfires Drifts South](#). Of course, this is the reality of wildland fire smoke – it can reach well beyond the immediate fire danger zone and extend its impact for hundreds of miles. Millions of eye-watering and coughing New Yorkers could attest to this reality in June 2023 as a result of 425 active wildfires burning over 10 million acres in Canada. It also serves as a reminder that forest health and fire management are not isolated issues in far-flung western environments. Rather, these are issues impact all Americans regardless of where they reside.

## Northeast air quality, June 2023 due to Canadian wildfires

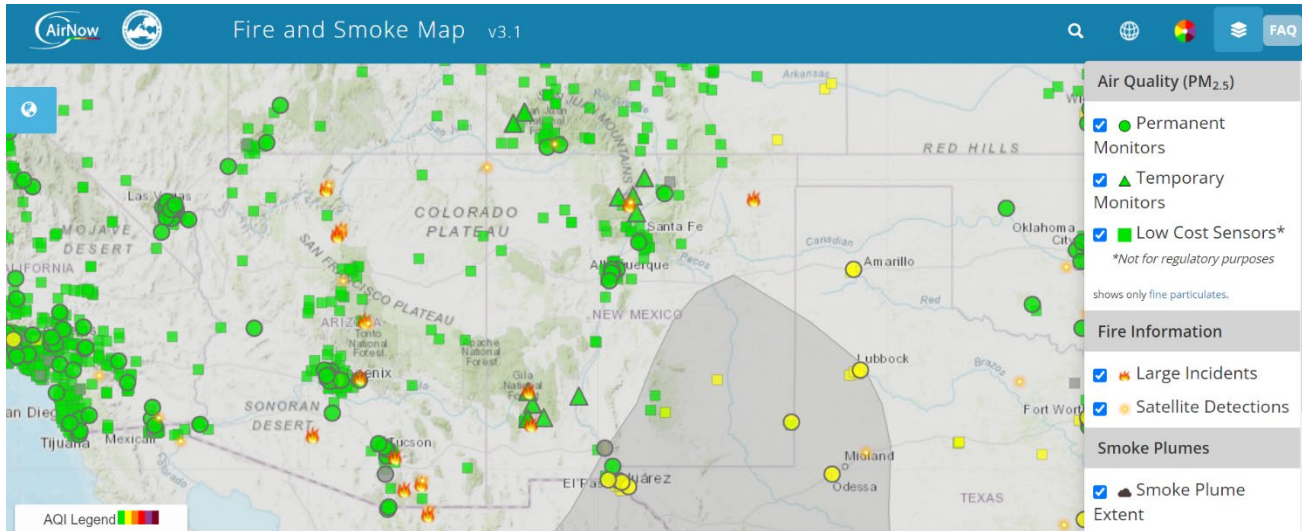
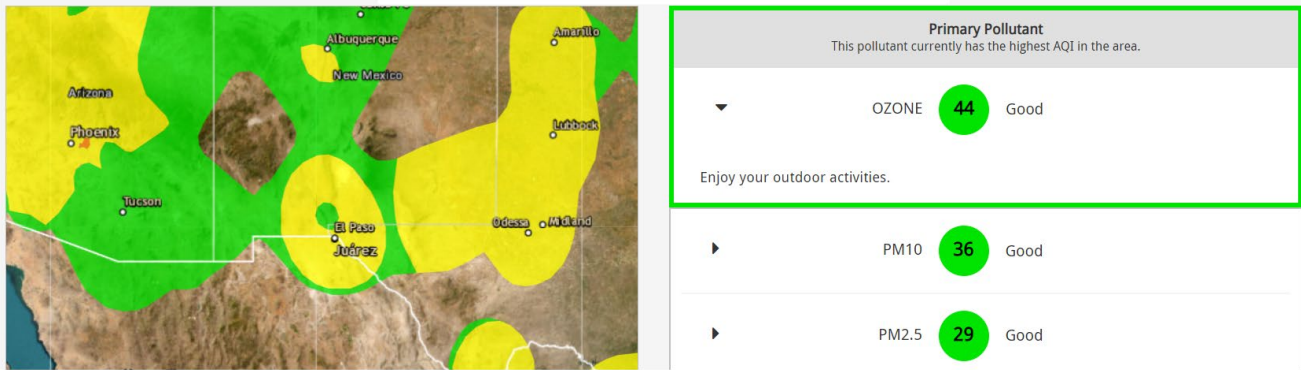


Refocusing on the Southwest, New Mexicans generally expect the monsoon season to arrive during the afternoon of July 4th festivities and last until late August or early September. However, the latest forecast from the National Weather Service's Climate Prediction Center points to below-normal precipitation and a late arriving monsoon for New Mexico. The long-range outlook also favors above-average temperatures over the next three months. A late arriving monsoon and the current heat wave impacting New Mexico can mean drying of forest and rangeland fuels such that increased wildfires can be expected, as well as growth on existing fires. Given what we know about the ability for smoke to travel, how can New Mexicans be prepared for smoke if and when it arrives (this year and beyond)?

Fortunately, the National Weather Service and the National Oceanic and Atmospheric Administration (NOAA) have some remarkable websites replete with satellite derived data that provides a near real-time view of smoke plumes and air quality conditions. Below is a list of steps to follow including links to DIY in-home air cleaner when smoke is in the air.

- Where to obtain air quality information? Getting good information is the first step in order to make informed decisions about air quality.
  - While the National Weather Service usually provides local air quality forecasts and current observations, the following website provides near real-time smoke information: [AirNow](#). Use AirNow to obtain a site-specific air quality report for your location and use the interactive map to visually assess conditions near and far.
  - Air quality can change throughout the day. However, the AirNow map provides up to date air quality conditions. Conditions are based on the fine particulate matter (PM 10.0 and 2.5) and ozone.

## Current Air Quality - Las Cruces



### Outdoor Options:

- When smoke is in the air, reduce outdoor exposure to minimize inhalation. Avoid strenuous activities such as moving the lawn or going for a run.
- N95 masks are effective for reducing particulate inhalation from smoke. Note: cloth masks are not.

### Indoor Options:

- Use “clean air room.”
  - A clean air room is set up to keep levels of smoke and particles as low as possible during wildfire smoke events. Clean air rooms help reduce exposure to smoke while staying indoors. Spend as much time as possible in the clean room to get the most benefit from it.
- Keep clean air space cool.
  - Whenever possible, use air conditioners, heat pumps, fans, and window shades to keep clean air space cool on hot days. Alternatively, seek relief at a clean air shelter or other large building with air conditioning and good filtration, or with friends or family.
- If available, use the central air/HVAC system for filtration purposes.
  - Use high-efficiency filters (rated MERV-13 or higher) and replace the filters frequently. Use the appropriate settings (*i.e.*, “recirculate” and “on” rather than “auto”). If system has a fresh air option, close the intake.

- Use a portable air cleaner.
  - If access is available, use a portable air cleaner in one or more rooms. Portable air cleaners work best when run continuously with doors and windows closed. Alternatively, use a DIY Air Cleaner to reduce wildfire smoke indoors – [see useful links below for more information](#).
  - If necessary, an N95 mask or equivalent can also be worn inside to further mitigate particulate inhalation.
- Avoid activities that create pollution.
  - Avoid activities that create more air pollution, such as frying foods, sweeping, vacuuming, and using gas, propane, or wood-burning stoves and furnaces.

Evacuation/relocation may be necessary depending individual health conditions and air quality.

Useful Links:

[How to Create a Clean Room at Home](#)

[EPA - Research on DIY Air Cleaners to Reduce Wildfire Smoke Indoors](#)

[DIY Air Filter #1](#)

[DIY Air Filter #2](#)

[DIY Air Filter #3 \(for the DIY woodworkers\)](#)

[UC Davis College of Engineering – How to Build a Corsi-Rosenthal Box](#)

[National Collaborating Centre for Environmental Health – Research Review: “DIY Air Cleaners - Evidence on effectiveness and considerations for safe operation”](#)



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