



EnviroScreen
Environmental Justice Mapping Tool

Frequently asked questions

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General information

What is Colorado EnviroScreen?

Colorado EnviroScreen is an interactive [environmental justice](#) map. It is a tool for environmental health screening that identifies areas with disproportionate environmental health risks. A team from Colorado State University (CSU) and the Colorado Department of Public Health and Environment (CDPHE) created Colorado EnviroScreen.

Who can use Colorado EnviroScreen?

Colorado EnviroScreen is designed to be useful for many different users within Colorado. In addition to CDPHE, other potential users include state and federal government agencies, local governments, researchers, community organizations, and members of the public. Colorado EnviroScreen has data you can download, and includes several tools to show which communities in Colorado have a greater risk of public health impacts from environmental factors. This data can be used for many purposes, including research, policy actions, and advocacy.

How will CDPHE use Colorado EnviroScreen?

CDPHE will use Colorado EnviroScreen for many purposes. One goal is to identify disproportionately impacted (DI) communities based on the definition in Colorado's [Environmental Justice Act](#) (HB21-1266). Areas that EnviroScreen identifies as Disproportionately Impacted Communities will benefit from:

- Money and resources. For example, CDPHE's Environmental Justice Advisory Board will use EnviroScreen to decide where to award environmental justice grants.
- More opportunities to participate in air quality rulemaking and permitting decisions.
- Priority for emissions cuts during greenhouse gas reduction rulemakings.
- More emissions monitoring and modeling for air pollution permits.
- Priority for enforcement and compliance initiatives under [an agreement](#) between CDPHE and the U.S. Environmental Protection Agency.

Should I be worried about my health if I live in a community with a higher Colorado EnviroScreen score?

No. Colorado EnviroScreen identifies communities where there may be greater environmental health risks, but it can't identify specific health risks for individual people. Not all people living in areas with higher scores will have health problems related to environmental factors. Many people living in areas with lower scores may experience adverse health outcomes connected to environmental factors. If you are experiencing symptoms, please check with your doctor or a medical professional.

What kinds of conclusions can be drawn from Colorado EnviroScreen?

Colorado EnviroScreen is intended to be a screening tool to identify areas of Colorado that are affected by environmental injustice. It does not reflect all potential concerns and may not provide the complete picture. Although the tool brings together the best available data about people, health, and the environment, the data is not perfect. For example, many health and demographic measures are not available at a small geographic scale. This is due to privacy laws. Many of the environmental datasets come from regulatory programs. This means the data was not necessarily collected in a manner that represents actual exposure. Version 1 of Colorado EnviroScreen is the first attempt to share and understand this data to advance environmental justice.

What kinds of conclusions cannot be drawn from Colorado EnviroScreen?

Colorado EnviroScreen does not define a healthy or unhealthy environment. It does not establish causal associations between environmental risks and health. Colorado EnviroScreen does not provide information about an individual person's health status or environment. The tool does not take all environmental exposures into account. Colorado EnviroScreen does not tell us about smaller areas within a census block group that may be more vulnerable to environmental exposures than other areas. It does not define all areas that may be affected by environmental injustice or specific environmental risks, nor does it provide information about non-human health or ecosystem risks.

Training and resources

Will CDPHE provide training to the public about how to use Colorado EnviroScreen?

Yes. CDPHE will offer training for the public about using Colorado EnviroScreen. [Visit the CDPHE Environmental Justice website](#) for a calendar of upcoming training events.

Why is Colorado EnviroScreen only available in English and Spanish?

English and Spanish are the two most commonly spoken languages in Colorado. In 63 out of Colorado's 64 counties, English and Spanish are the languages spoken most often. CDPHE is working hard to advance language justice and ensure all Coloradans can access information in a language that they understand. If you need information in Colorado EnviroScreen translated into another language, please email cdphe_ej@state.co.us.

Tool development

Will Colorado EnviroScreen be upgraded in the future?

Yes. Colorado EnviroScreen version 1.0 launched in June 2022. CDPHE will update Colorado EnviroScreen with more recent data and other content and improve the user experience. These updates about every year or two. If you have ideas for how to improve Colorado EnviroScreen, please email them to cdphe_ej@state.co.us.

Does Colorado EnviroScreen reflect public input?

Yes. The CSU and CDPHE teams conducted a lot of public engagement. In the early stages of creating the tool, the team conducted 10 personal interviews, hosted four focus groups in English and Spanish, and held a

large public meeting to ask for feedback on what should be included in the tool. In February 2022, the team launched a closed-wave beta test where over 100 users tested the tool and the team interviewed people who represented key user categories. In April 2022, the team launched a public beta test and asked for input at a public meeting. At every stage, the team reviewed the feedback and added it to the tool as much as possible. To learn more about public input gathered throughout the development process, read our [Community Engagement Executive Summary](#).

How did you choose the data to include in Colorado EnviroScreen?

Environmental health experts from CSU and technical experts from CDPHE developed a draft list of indicators to include. These were based on data and their professional expertise in factors that most drive environmental health risks in Colorado. We also considered factors that are included in similar mapping tools developed by other states and the federal government. The CSU and CDPHE team also asked for feedback from the public about what indicators they viewed as important. The CSU and CDPHE team adjusted Colorado EnviroScreen to include indicators that were identified as being the most important to the public, such as a drinking water indicator.

Technical information

Please refer to the [Technical Documentation](#) for additional information about data and methodology.

How does Colorado EnviroScreen relate to other mapping tools?

Colorado EnviroScreen builds on CDPHE's previous mapping tools, including the [Climate Equity Data Viewer](#) and the [Data Viewer for Disproportionately Impacted Communities](#). Colorado EnviroScreen identifies a full range of communities that meet the definition of "Disproportionately Impacted Community" under the Colorado Environmental Justice Act.

Colorado EnviroScreen can be used with existing federal maps like [EJScreen](#) and the [Climate & Economic Justice Screening Tool](#). The tool includes Colorado-specific data sets and also combines environmental and socioeconomic markers. Additionally, Colorado EnviroScreen takes race into account as an important measure.

Where can I download the data for the Disproportionately Impacted Community Layer?

You can download the Geographic Information System ("GIS") shapefile for the data in the Disproportionately Impacted Community layer on the [CDPHE Open Data page](#). If you have any questions or problems with downloading the data, please email cdphe_ej@state.co.us.

What demographic data is used in CO EnviroScreen?

CO EnviroScreen v1.0 uses demographic data from the Census Bureau 2015 - 2019 American Community Survey (ACS).

Can I report my own data about my community to Colorado EnviroScreen?

No. Datasets included in Colorado EnviroScreen must be high-quality (quality assured and quality checked), statewide, and updated on a regular basis. While there are many opportunities for communities to use data and information to advocate for environmental policies, CDPHE cannot build information specific to one community into Colorado EnviroScreen. Although we currently do not have the capacity for communities to report their own data, we will work with communities to build data in a way that is most useful for them.

Why does Colorado EnviroScreen include data about the oil and gas and mining industries, but not other industries?

Feedback during our stakeholder process identified these industries as high priorities. Both oil and gas and mining are an important part of Colorado's history and are regulated by different government agencies. They are important for Colorado EnviroScreen users to consider when making decisions about where to direct resources. Both oil and gas development and mining have the potential to cause air, water, and soil pollution if operations are not managed safely and legally. As a result, they are important indicators of environmental health risks.

Does Colorado EnviroScreen display data from areas under the jurisdiction of the Ute Mountain Ute or Southern Ute Tribes?

No. The Ute Mountain Ute and Southern Ute tribes are the two sovereign tribal governments with jurisdiction over lands within the borders of Colorado. CDPHE is committed to respecting the important government-to-government relationship between the state government and our sovereign tribal government partners. One key aspect of that relationship is respect for data sovereignty. Data sovereignty refers to the idea that data should be subject to the laws and governance structures within the nation that is the subject of the data. CDPHE is working with both tribal governments to determine whether each government would like to use Colorado EnviroScreen to display data for lands under their jurisdiction. Until that process is completed and either or both tribes agree to present their data in Colorado EnviroScreen, CDPHE will not display data for tribal lands within EnviroScreen.

Why do rural areas in mountain communities have higher ozone values than areas in the Front Range ozone nonattainment area?

Ozone forms through a series of chemical reactions between volatile organic compounds and nitrogen oxides in the presence of sunlight. We use modeling as one tool to understand where harmful ground-level ozone will form. Modeling is a way to estimate how people and ecosystems are exposed to pollution. Air quality models use math to simulate the important details of the atmosphere. Modeling is helpful for pollutants like ozone where measurements may not tell the whole story.

The ozone indicator in Colorado EnviroScreen comes from the U.S. EPA's EJScreen tool. EPA's ozone indicator was created using EPA's Community Multiscale Air Quality Modeling System ("CMAQ"). The CMAQ model estimates ozone concentrations year round. In high elevation areas in Colorado's mountains, there are often conditions that lend themselves to high levels of ozone during the winter in mountain valleys. These conditions include sunlight reflecting off snow, weather factors that trap pollution below a certain elevation in a valley, ozone precursors that are transported a long distance from other parts of the country or the world, and sometimes stratospheric incursions that allow for mixing between the stratosphere and troposphere. All of these factors lead to mountain counties in Colorado having the potential for high levels of ozone according to the CMAQ model.

Although the CMAQ model registers higher ozone levels in Colorado's mountain counties, the greater risks for public health are often posed by high levels of ozone in areas where there are more people living closer together — cities and suburbs during the summer when more people are exercising or working outdoors. That is why CDPHE's work to reduce ozone concentrations is focused on the Denver-Metro/Northern Front Range Ozone nonattainment area.

Of course, modeling is only one way to understand where ozone may pose a risk for public health. Colorado EnviroScreen also takes into account other indicators of air pollution, such as the reported emissions of the pollutants that can lead to ozone forming in the more densely populated Front Range.

Are all data sets measured at the same geographic scale?

No. Many of the data sets included in Colorado EnviroScreen are only available at the county or census tract level. The county-level measurements are applied uniformly to all areas within the county boundaries (census tracts and census block groups). For example, the drinking water indicator is calculated at the county level. The value is applied to all census tracts and census block groups within the county. The health indicators, like asthma hospitalizations and cancer prevalence, are available at the census tract level. All census block groups within a census tract are given the census tract value.

You can learn more about each dataset by clicking the “Download Indicator Descriptions” button toward the bottom of the Colorado EnviroScreen website, under the data table.