COVID Data Tracker

Maps, charts, and data provided by CDC, updates daily by 8 pm ET

COVID-19 Home

CDC recommends use of COVID-19 Community Levels to determine the impact of COVID-19 and take action. Community Transmission levels are provided for healthcare facility use only.

United States
At a Glance

Cases Total Case Trends **82,522,948**
Deaths Total Death Trends **997,468**
Current Hosp. Admission Trends **16,571**
82.6% of People 5+ with At Least One Vaccination

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Wastewater Surveillance

COVID-19: Wastewater Surveillance

Communities can track the presence of SARS-CoV-2, the virus that causes COVID-19, in wastewater samples. These data can provide an early warning of COVID-19's spread in communities. For more information, visit the Wastewater Surveillance System page.

Monitoring Wastewater Surveillance Data

Wastewater surveillance for COVID-19 is a rapidly developing field. State, tribal, local, and territorial health departments participating in the National Wastewater Surveillance System (NWSS) submit testing data to CDC. CDC then interprets and standardizes these data and presents them in the COVID Data Tracker. How often sites collect wastewater samples and how frequently data are reported to CDC varies by health department.

Wastewater data are meant to be used with other COVID-19 surveillance data to better understand COVID-19's spread in a community. Learn more about wastewater data by exploring each of the charts and maps.

View information about the data and download the data.

On This Page
Monitoring Wastewater Surveillance Data
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About the Data

Maps, charts, and data provided by CDC, updated daily by 8pm ET[1]. This represents all wastewater data submitted directly to CDC's NWSS DORIE platform, with the exception of sites described in the About the Data section below. Each dot on the map represents a site. A site can represent all or part of a "sewershed," which is the area contributing wastewater to a sampling location. Not all communities report wastewater data to CDC. Participation is voluntary, and wastewater samples are collected from sewer systems so communities that rely primarily on septic systems are not represented. In addition, some sites that submit data to NWSS are not represented on the map due to various factors, such as small population size or having facility-specific sampling.

View Footnotes and Download Data

State or territory: Select State or Territory
County: Select State or Territory to Select County(ies)
Reset Selections

Time Period: Apr 30, 2022 – May 14, 2022

Major Cities On
Major Cities Off

Metric:
- Current virus levels in wastewater by site
- Percent change in the last 15 days
- Percent of wastewater samples with detectable virus

Show:
- Sites with no recent data
- Sites that started sampling after 12/1/21

Current virus levels in wastewater by site
This metric shows whether SARS-CoV-2 levels at a site are currently higher or lower than past historical levels at the same site. 0% means levels are the lowest they have been at the site; 100% means levels are the highest they have been at the site. Public health officials watch for increasing levels of the virus in wastewater over time and use these data to help inform public health decisions.

Note: Sites began collecting data at different times. Sites that began reporting wastewater data after December 1, 2021 are not comparable to sites that started reporting data on or before December 1, 2021. The data history for these new sites is not long enough to reflect the same surges as the other sites.

Total sites with current data: 701

Total number of wastewater sampling sites: 897

How is the current SARS-CoV-2 level compared to past levels calculated?

Select legend categories to filter points on the map.
New site · 0% to 19% · 20% to 39% · 40% to 59% · 60% to 79% · 80% to 100% · No recent data

Data Downloads and Footnotes
Expand each accordion to view data table and download data

View Historic Wastewater Data

Data Table for Wastewater Surveillance Current Virus Levels (in %)

Terms to Know

Virus levels: SARS-CoV-2 viral RNA concentrations in wastewater. RNA is the virus's genetic material.

Normalization: A statistical method to account for differences in variables such as wastewater flow rate and number of people served by a sewer system. In other words, normalization reduces excess variation (or "noise") and helps account for things like changing population sizes or weather events that can impact wastewater. Normalized data can be compared over time and between different sites. Metrics presented on this page are based on SARS-CoV-2 viral RNA concentrations in wastewater that have been normalized. See the NWSS Data Analytics page for more information.

Sewershed: The geographic area contributing wastewater to a sampling location. Sewersheds may cross county or state boundaries. Sewersheds are referred to as "sites" on the map.

About the Data

[1]Data will be updated daily as soon as they are reviewed and verified, often before 8 pm ET. However, daily updates might be delayed due to delays in reporting data.

Current virus levels in wastewater by site

- This metric shows whether SARS-CoV-2 levels at a site are currently higher or lower than past levels at the same site. It is calculated by first ordering the SARS-CoV-2 levels in wastewater for all samples collected since December 1, 2021 from the lowest to highest level. The ordered levels are then grouped into five categories (0-19%, 20-39%, 40-59%, 60-79%, and 80-100%) based on how low or high their levels are compared to previous levels. The levels in the 0-19% group represent the lowest levels seen at that sampling site and those in the 80-100% group represent the highest.
- Using December 1, 2021 as a starting date for all sites makes data more comparable between sites. Sites that began reporting wastewater data after December 1, 2021 are not comparable to sites that have been reporting data since December 1, 2021 or earlier because the data history for these new sites is not long enough to reflect the same surges as the other sites.
- The "New site" category means a site just started collecting wastewater samples and has reported fewer than 10 samples, which is not enough samples to meaningfully compare levels at the site over time.

Percent change in the last 15 days

- This metric shows how much normalized SARS-CoV-2 viral levels in wastewater at each site increased or decreased during the current 15-day time period. This metric does not show overall levels of SARS-CoV-2 in wastewater. Percent change compares past data to current data to show changing trends. A large percent increase does not necessarily mean SARS-CoV-2 viral levels in wastewater are high. For instance, a change from 1 unit to 2 units would be a percent change of 100%. A change from 500,000 units to 1 million units is also a percent change of 100%.
- Percent change is calculated as the modeled change over 15 days, based on linear regression of log-transformed SARS-CoV-2 levels. A site must report at least 2 samples over the 15-day period to calculate percent change. Sites with "No recent data" (colored gray on the map) reported fewer than 2 samples for the current 15-day period.

Percent of wastewater samples with detectable virus in the last 15 days

- This metric shows the percent of wastewater samples at each site that were positive for SARS-CoV-2 RNA over the last 15 days. It is calculated by dividing the number of samples in which SARS-CoV-2 was detected at a site by the total number of samples collected for the site during the 15-day period and multiplying by 100.
- Sites with at least one sample and no SARS-CoV-2 viral detections over the past 15 days are listed as "Non-detects" and are shown on the map as hollow circles with a black outline.
- Sites with no samples for the current 15-day period are listed as "No recent data" and colored gray on the map.

SARS-CoV-2 concentrations in wastewater over time

- When a site is selected, a smoothed, spline fit SARS-CoV-2 concentration line is shown for the last 4 months, as reported to CDC by participating jurisdictions. Virus concentration for those NWS-CoV-2 concentrations in wastewater at a sampling site have changed over the last 4 months.
- At least 4 samples are required to produce the smoothed SARS-CoV-2 concentration line. If a major change in laboratory methods is reported, only data since the new laboratory method was reported are shown. Sites labeled as 'New sites' in the current virus levels in wastewater metric should be viewed with caution since they have only a few samples to generate their trends lines.

Category change in the last 7 days

- This metric shows the change in the number of sites (represented as a percent) that are in a specific metric category (for example, the 15-day percent change category of 20%-39% or more) compared to the previous 7 days. In other words, it shows how many sites have been added or removed from the metric category in the past week. It is calculated by subtracting the current number of sites in each metric category from the number of sites in the same category 7 days earlier and dividing by the number of sites in the same category 7 days earlier.
- If a metric category had no sites in it 7 days earlier, the category change in the last 7 days is listed as "N/A*" since you cannot divide by 0.

County-level data

- Data are presented by sewershed (the geographic area contributing wastewater to a sampling location). Sampling locations may be at wastewater treatment plants or upstream in the sewage network. Sewersheds may cross county or state boundaries. This means multiple sewersheds may serve a single county, and a single sewershed may serve multiple counties. Sewersheds are referred to as "sites" on the map.

Sewershed locations

- Data are plotted in the ZIP code of the sampling location, so points on the map do not correspond exactly to sampling locations.
- Sites are represented by a sampling location are highlighted when the sampling location point is selected.
- The District of Columbia (DC) and New York City (NYC) are shown separately on the map to denote sampling locations within DC and NYC. In the "State or Territory" drpodown menu, select "District of Columbia" or "New York City" to zoom to points reported within those areas. Note that some DC sampling locations may receive wastewater from parts of counties in Virginia or Maryland and some NYC sampling locations may receive wastewater from parts of counties in surrounding states.

Data subject to change

- Wastewater disease surveillance data presented are the best available data and are subject to change. These data may be incomplete for the most recent 15-day period due to processing and reporting delays. All data are provisional.

May 2022 Coverage Limitations

- Beginning April 15, 2022, approximately 150 wastewater sites in 29 states began transitioning to a new wastewater testing provider. During this transition, data from these sites will not have recent data displayed and will be colored gray on the map. It will take several weeks for enough data to be collected to calculate the metrics displayed on this page. Results for these sites are expected to be available again between mid-May and June 2022.

Data not shown

- Data from sewersheds that serve fewer than 3,000 people.
- Data from sewersheds where population estimates are missing.
- Data from facility or institution-specific sampling locations.
- Wastewater treatment plant names and the names of upstream sampling sites are made anonymous using a consistent, arbitrary number.
- Approximately 20% of US households are on septic systems; the exact percent varies by location. These systems do not connect to wastewater treatment plants where sampling often occurs. Therefore, households on septic systems are not represented in the data.
- Data from sewersheds currently being monitored but not submitted by health departments to CDC. Certain communities collect wastewater samples but do not submit their data to CDC.
- Data from sewersheds may not be presented if there are data quality issues.

Data source

- Data displayed are derived from two sources:
- Data are submitted to CDC by state, tribal, local, and territorial health departments participating in the National Wastewater Surveillance System. Participation is voluntary, so not all jurisdictions are reporting to CDC.
- Data are reported through a CDC-managed contract for commercial testing, which is intended to supplement the geographic coverage of the STLT wastewater surveillance programs.

Laboratory methods

- SARS-CoV-2 concentrations in wastewater are measured using reverse transcription quantitative polymerase chain reaction (RT-qPCR) or reverse transcription digital polymerase chain reaction (RT-dPCR). Laboratory processing and quantification methods may vary between sampling sites or, less commonly, within a sampling site over time. Since SARS-CoV-2 concentration estimates may differ across these lab methods, concentration values should not be compared across sampling locations. Instead, percent change in SARS-CoV-2 concentration is a more consistent measurement across laboratory methods. Trends in SARS-CoV-2 metrics are more comparable across lab methods. When testing a sample, SARS-CoV-2 is considered detected when any PCR replicates for the sample were positive. Positive is defined for RT-qPCR as a Ct value less than 40 and for RT-dPCR as 1 or more positive droplets/partitions. Learn more on the Wastewater Surveillance Testing Methods page.

Data download

- These data can be downloaded from data.cdc.gov: NWSS Public SARS-CoV-2 Wastewater Metric Data and NWSS Public SARS-CoV-2 Concentration in Wastewater Data.
- The data dictionary for these data (Public Analytics Data Dictionary) is also available.
- To request detailed wastewater data, including a full-time history of raw concentrations, email nwsa@cdc.gov with the subject line "NWSS public data request." You will be required to sign a data use agreement.

Wondering what all the data mean?

CDC's COVID Data Tracker Weekly Review helps you stay up to date on interpretation of key data and trends.

How does wastewater surveillance work?

Wastewater data can show changes in disease trends 4 to 6 days before those changes in trends are seen in clinical cases, and a single wastewater sample captures the infection status of thousands to millions of individuals. Learn more: National Wastewater Surveillance System (NWSS).

If it looks like virus levels in wastewater are rising in my community, what should I do?

Check your county's COVID-19 Community Level and follow the recommended prevention steps. Public health officials watch for sustained increasing levels of the virus in wastewater and use these data to inform public health decisions. State and local health officials track a variety of data and put this information together to understand the local COVID-19 situation and decide how to best respond.

How do I build NWSS in my community?

Wastewater-based disease surveillance is an exciting new tool to help communities monitor their health. Find information on what to consider when implementing a wastewater-based disease surveillance system.

Is there wastewater sampling in my community?

New sampling sites are being added over time as health departments begin sampling and reporting wastewater data. Some communities not represented on this dashboard may be conducting wastewater surveillance. If you would like to know if wastewater surveillance is happening in your community, contact your health department or local government. At this time, CDC does not release the names of the wastewater treatment plants or zip codes where sampling sites are located. However, information on the counties served by the wastewater sampling sites is provided.

Cite COVID Data Tracker
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COVID-19 Home >
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