

Analyze and Interpret Your AirCasting Data

Congratulations on completing your AirCasting session.

As a team, take a look at your data and tell us what you did and what you learned.

CONNECT TO AIRCASTING

Search For & View Your Mobile AirCasting Session

- Launch a web browser and navigate to aircasting.org
- At the top of the page, hover your mouse over the text reading “AirCasting” and select “AirCasting Maps” from the dropdown
- By default, you will be on the “MOBILE” tab of the maps page.
- By default, the “Parameter” selection will be “Particulate Matter” and the “Sensor” selection will be “AirBeam-PM2.5 (ug/m3)”. If these are not the default selections, please update them accordingly. If you recorded with an instrument other than the AirBeam3, please update the selections accordingly.
- Under “Location”, enter a city or zip code then select the correct suggestion from the dropdown.
- Click the refresh icon inside the “Time Frame” field to ensure you’re searching for sessions recorded during the past year, including today.
- Under “Profile Names”, enter your AirCasting profile name then select the correct suggestion from the dropdown.
- Once you’ve completed your search, a list of session cards matching your search criteria will appear along the bottom of the screen and the map will display the starting location of each mobile session. Click on the card for the session you plan to analyze and interpret.
- Along the bottom of the screen, identify the horizontal colored line; this is referred to as the Heat Legend. In the lower right hand corner, click the connected up and down arrow to the right of the Heat Legend; this will fit the graph to your measurements. Sometimes this can help visually highlight where measurements were highest and lowest. If it doesn’t help, try adjusting the thresholds between colors manually using the Heat Legend sliders, these are the white dots with black numbers above them. Drag the sliders or update the min/max values on the Heat Legend to adjust the relationship between measurements and colors on the graph and map. If it doesn’t help, simply click the refresh arrow to reset the thresholds on the Heat Legend.
- Hover your mouse over the graph to see the corresponding location on the map.
- Click and drag your mouse over the graph to zoom to a specific time frame or use the zoom buttons along the top of the graph. Drag the scroll bar along the bottom of the graph to make further adjustments to the time frame.
- Zoom and pan the map to explore your mapped measurements.

CrowdMap Your Group’s Air Quality Data

- Open a new tab inside the browser window and navigate to aircasting.org
- At the top of the page, hover your mouse over the text reading “AirCasting” and select “AirCasting Maps” from the dropdown
- By default, you will be on the “MOBILE” tab of the maps page.

- By default, the “Parameter” selection will be “Particulate Matter” and the “Sensor” selection will be “AirBeam-PM2.5 (ug/m3)”. If these are not the default selections, please update them accordingly. If you recorded with an instrument other than the AirBeam3, please update the selections accordingly.
- Under “Location”, enter a city or zip code then select the correct suggestion from the dropdown.
- Click the refresh icon inside the “Time Frame” field to ensure you’re searching for sessions recorded during the past year, including today.
- Under “Profile Names”, enter your AirCasting profile name then select the correct suggestion from the dropdown. If your group’s AirCasting teams did not all record their mobile sessions using the same profile name, then enter the other profile names one at a time, selecting the correct suggestion from the dropdown each time.
- Once you’ve completed your search, a list of session cards matching your search criteria will appear along the bottom of the screen and the map will display the starting location of each session. Under CrowdMap click “On”; this will CrowdMap your group’s air quality data.
- The CrowdMap averages together all the measurements from all the sessions listed on the sessions list and displays these averages as colored grid cells. The color of each grid cell corresponds to the average intensity of all the measurements recorded in that area. Click on a grid cell to view the underlying data.
- Along the bottom of the screen, identify the horizontal colored line; this is referred to as the heat legend. Drag the Heat Legend sliders, these are the white dots with black numbers above them, or update the min/max values on the Heat Legend to adjust the relationship between measurements and colors on the CrowdMap. Adjusting the thresholds between colors can visually highlight where measurements were highest and lowest. If it doesn’t help, simply click the refresh arrow in the lower right hand corner to reset the heat legend.

Search For & View Data from the Closest Government Monitoring Station

- Open a new tab inside the browser window and navigate to aircasting.org
- At the top of the page, hover your mouse over the text reading “AirCasting” and select “AirCasting Maps” from the dropdown
- Click the “FIXED” tab at the top left hand side of the AirCasting maps page
- By default, the “Parameter” selection will be “Particulate Matter” and the “Sensor” selection will be “OpenAQ-PM2.5 (µg/m³)”. If these are not the default selections, please update them accordingly.
- Under “Location”, enter a city or zip code then select the correct suggestion from the dropdown.
- Click the refresh icon inside the “Time Frame” field to ensure you’re searching for sessions recorded during the past year, including today.
- Once you’ve completed your search, a list of session cards matching your search criteria will appear along the bottom of the screen and the map will display the location of each fixed session. Using the map, click on the air monitoring station located closest to where you recorded your mobile AirCasting session.
- Click and drag your mouse over the graph to zoom to the specific time frame during which you recorded your mobile session. You can also use the zoom buttons along the top of the graph and then drag the scroll bar along the bottom of the graph to make further adjustments to the time frame.

- Once the time frame on the graph roughly corresponds with the time frame during which you recorded your mobile session, note the average measurement value located to the left of the graph. Then compare this number to the average measurement value from your mobile session.

ANALYZE YOUR DATA

You now have three browser tabs open. Each tab offers you a different view of the air quality in your community on the day you sampled. Using the below prompts, explore these visualizations, analyze and discuss your mobile AirCasting session with your team, and answer the below questions. Feel free to continue your answers on an extra sheet of paper if the space provided is inadequate.

On a separate sheet of paper, answer the following questions.

Team Name:

Team Members:

Analysis & Interpretation

1. Were the PM2.5 measurements from your mobile AirCasting session what you expected? If so, why? If not, why not?
2. Where were PM2.5 levels highest? Where were they lowest? Why do you think this was?
3. Did any measurements surprise you? If so, why?
4. How do you think the time of day, day of the week, and season may have affected your measurements?
5. Were the particle sources you could identify the ones you were expecting to find?
6. Looking at the CrowdMap, where were PM measurements highest? Where were they lowest? Why do you think this was?
7. Was the average measurement value at the closest government monitoring station higher, lower, or nearly the same as the average value during your mobile session? Why do you think this was?
8. If you went AirCasting again, would you change anything?

After you're done answering the questions discuss your findings and analysis as a group. Use aircasting.org as a visual aid to the share air quality data you gathered and/or as a way to compare your air to that of other areas. Wrap up with a few key takeaways and your group's next steps. Then share your analysis and interpretation.