

Wynd Air Quality Tracker

Wynd Air Quality Tracker Sampling Protocol

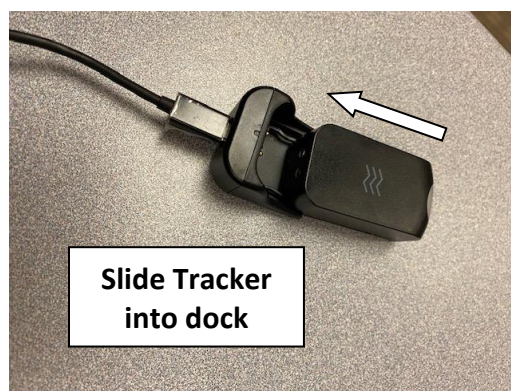
Pre-Sampling and Set-Up

The Wynd Tracker requires the use of the Wynd app which can be downloaded on a phone or tablet by visiting <https://shop.hellowynd.com/pages/app>

1. The Wynd Tracker includes a USB cord and charging dock. The Wynd Tracker should be charged fully before each sampling event.



- a. To charge the Wynd, plug the docking station into a USB outlet and then slide the Wynd into the dock. The metal prongs on both units will touch, and an amber or green light will light up.

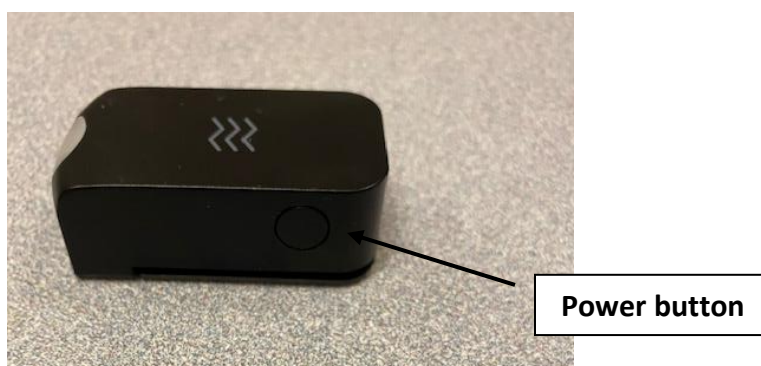


- b. An amber light means that it needs to be charged.
- c. A green light means that the battery is fully charged.

2. The Wynd Tracker must be paired with your phone/tablet before data collection. Follow the instructions in the app to pair the devices. NOTE: Bluetooth on your device needs to be enabled! If the directions do not automatically pop up or you need to pair another device, follow the directions below:
 - a. To manually pair or to unpair one device and pair another, select “my devices” from the bottom menu.
 - b. Select “TRACKER” from the top right corner, and then “Unpair this device and pair another.”
 - c. Follow the directions on the screen to pair the new device.
 - d. Install any available updates and you are ready to go!

Sampling

1. To start sampling, tap the button on the side of the Tracker to power the unit on.



2. If you will be sampling for more than 4 hours without charging the battery, you can adjust the sampling frequency to extend the battery life.
 - a. Using the app, the air sampling frequency can be set by selecting “My Devices” and “TRACKER.”
 - b. Depending on the length of your sampling event and desired battery life, drag the blue marker to the appropriate sampling frequency (i.e., every second, 5 min, 10 min, 15 min, or 30 min).
 - c. Make sure your phone has the correct time displayed!
3. When sampling, you can see real-time air quality data on the paired phone via the Wynd app. Tap the air quality circle to toggle between Air Quality Index (AQI) and PM_{2.5} concentrations.
 - a. You can also access the outside air quality by tapping the number below the tracker data.
NOTE: This does not always display! This feature depends on the type of phone and internet connectivity as well as the proximity of the nearest outdoor, regulatory monitor.
 - b. For best results, keep the paired phone relatively close (within 20 feet) to the Wynd Tracker during air sampling.
4. The Wynd works best if sitting (or clipped) upright (the light on top, and toward you).
5. The Wynd needs to be within 20 feet of the synced phone. If you move further than that, it will not record data.
6. For accurate GPS data, your phone settings need to be set so that the Wynd can access your location (even when not using the app).
7. No data is stored on the Wynd! All of it will end up in the Wynd app on the phone.

Post-Sampling (iPhone)

1. Once sampling is complete, export the collected PM_{2.5} data as a .csv file. This can be done from the settings screen on the app.
 - a. Select the Settings icon on the bottom right corner.
 - b. Select “Export AQI Data” and then the “Mail” icon.
 - c. Enter your email address, the subject, and click send.
2. Download and open the .csv sent to your email.
3. Select “File” and then “Save as” an Excel file or Google Sheets to your computer or storage device.
4. If you are unable to save the .csv as an Excel file directly, you can leave the file in the .csv format and open from Excel directly.
 - a. Select “Data” tab and “From HTML.” Data should import as Excel Spreadsheet.
 - b. If prompted to choose Data Type before importing, select “Delimited,” then select the data delimiter “Comma.”
5. Once imported, delete any unwanted columns from the spreadsheet.
 - a. Note that there is a data point every 30 seconds only. (Not every second.)
 - b. Are the time stamps correct? If downloaded with an iPhone, they are likely off by 5-6 hours, due to time zone differences. See Appendix A for instructions on how to fix it.
6. The data is now ready to analyze and graph per your teacher’s instructions.
7. Be aware that every time you connect the Wynd to your phone and sample, data will add to existing data already in your phone. When you process the data at the end of a sampling event, make sure to capture just the dates/times that you require. Alternatively, you could start a new data set by re-installing the app.

Post-Sampling (Android)

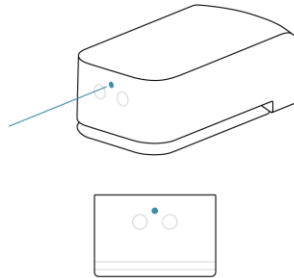
1. Once sampling is complete, export the collected PM_{2.5} data as a .csv file. This can be done from the Insight screen on the app.
 - a. Select the Insight icon on the bottom of the screen.
 - b. On the next screen, click the three lines at the top next to the word INSIGHTS.
 - c. On the following page, click on Export AQI Data. It will give you options to email the data.
2. Download and open the .csv sent to your email.
3. Select “File” and then “Save as” an Excel file to your computer or storage device.
4. If you are unable to save the .csv as an Excel file directly, you can leave the file in the .csv format and open from Excel directly.
 - a. Select “Data” tab and “From HTML.” Data should import as Excel Spreadsheet.
 - b. If prompted to choose Data Type before importing, select “Delimited,” then select the data delimiter “Comma.”
5. Once imported, delete any unwanted columns from the spreadsheet.
 - a. Note that there is a data point every 30 seconds only. (Not every second)
 - b. Are the time stamps correct? If downloaded with an iPhone, they are likely off by 5-6 hours, due to time zone differences. See Appendix A for instructions on how to fix it.
6. The data is now ready to analyze and graph per your teacher’s instructions.
7. Be aware that every time you connect the Wynd to your phone and sample, data will add to existing data already in your phone. When you process the data at the end of a sampling event, make sure to capture just the dates/times that you require.

Troubleshooting

1. Having trouble connecting tracker to phone/tablet via Bluetooth? Try powering off the tracker, turning Bluetooth off on your phone/device, and resetting the tracker.

Reset your tracker

Place a pen (or other sharp pointy object, such as a paper clip) into the small hole in the back.



2. The REACH YouTube channel provides video protocols for the Wynd Tracker which can be accessed by visiting: https://www.youtube.com/watch?reload=9&v=BTr40mGLtlw&feature=emb_logo

APPENDIX A

Changing time stamps from downloaded iPhone data.

The data downloaded from an iPhone will present in the wrong time zone. To fix this in your spreadsheet, follow the following instructions:

1. Start by sorting the data by the time/date column ascending. The export starts with the last data point recorded, so you'll want it to go the other way.
2. Add in a new column to the right of column A.
3. Select the time/date column (column A) and do "text to columns," "delimited," with "space" selected. Click Finish. Now your new column B will have the times in it.
4. Add in a new column to the right of column B.
5. Add this formula in the new column, and drag all the way down: $=B2+1-TIME(6,0,0)$.
6. Your column C now will have the correct times.