

An example of hourly pollution data for an international project is available here:
http://www.itreetools.org/eco/resources/Eco_hourly_pollution_data_example_London.xlsx

Table 2—Air Quality Data Format for International Projects

Column	Column name	Format	Description
A	Year	Number	The year the data were recorded
B	Month	Number	The month the data were recorded
C	Spname	Text	Name of pollutant; must be CO, NO ₂ , O ₃ , PM _{2.5} , or SO ₂
D	NationName	Text	The name of the nation where the pollution monitor is located
E	PrimaryPartitionName	Text	The name of the primary partition where the pollution monitor is located
F	SecondaryPartitionName	Text	The name of the secondary partition where the pollution monitor is located
G	TertiaryPartitionName	Text	The name of the tertiary partition where the pollution monitor is located
H	Addr	Text	The address of the pollution monitor (cannot exceed 5 characters including spaces)
I	Units	Number	1 indicates µg/m ³ ; 7 indicates ppm
J	Quantity	Number	The concentration of the pollutant in ppm for CO, NO ₂ , O ₃ , SO ₂ ; and in µg/m ³ for PM _{2.5}
K	Day	Number	The day the data were recorded (1-31)
L	Hour	Number	The hour the data were recorded (1-24)

Your Excel spreadsheet should include an individual sheet for information about your air quality data. Label this sheet “Monitor Information” and include the following information:

- Address – address of the pollutant monitor corresponding to column H
- NationName – country in which the pollutant monitor is located
- PrimaryPartitionName – primary partition (e.g., state, province, territory) in which the pollutant monitor is located
- SecondaryPartitionName – secondary partition (e.g., county) in which the pollutant monitor is located
- TertiaryPartitionName – tertiary partition (e.g., place, town, city) in which the pollutant monitor is located
- Coordinates – latitude and longitude of the pollutant monitor’s location

The air quality data that you would like to use should be included in your project submission email to the i-Tree team along with your other formatted datasets.

Avoiding Common Air Quality Data Problems

Providing properly formatted pollution data consistently causes the most problems for international users. Submitting incorrect or incomplete pollution datasets may require corrections, resubmission, or reprocessing and influences the amount of manual processing time required for an international project. Here are a couple items to keep in mind to avoid common issues while you gather your pollution data and ensure timely processing of your project:

- **Complete calendar year** – Eco requires hourly pollution data for a complete calendar year (Jan1 – Dec 31). The year does not have to be recent, but it needs to be complete and within the same calendar year for all pollutants. For example, although data available for June 1, 2014 to May 31, 2015 spans 365 days, the Eco model cannot process this data because it is taken from two separate calendar years. It is not possible for the i-Tree team to piece together parts of pollution data from different years if data is incomplete from one station.
- **Pollution data gaps** - The pollution model can handle some time gaps without pollutant values for several hours (e.g., 2-3 hour gaps in data) as this is typical with most external pollution data sets. In these cases, the model will interpolate to fill data gaps over short time frames.



Caution

Gaps in pollution data should be avoided as much as possible. Frequent data gaps and gaps over long time frames diminish the accuracy of ecosystem service estimates and may not work with the pollution model.

- **Missing pollutants** - If you are missing data for a pollutant such as PM_{2.5}, the model will exclude that pollutant from the analysis.
- **Units** – Eco requires pollution data in the proper units. This may require you to convert data as needed. The following pollutants should be reported in parts per million (ppm): carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), and sulfur dioxide (SO₂). Particulate matter less than 2.5 microns (PM_{2.5}) should be reported in micrograms per cubic meter (µg/m³).

Radioonde Data

Radioonde data consists of upper air observations, including atmospheric boundary layer height measurements. Radioonde data for international projects can be downloaded and