Data Entry

(Field Data Sheets to GLOBE Online Science Database)

Time: 20 - 50 Minutes

After students have returned from the field with their paper data sheets, data can be shared with the GLOBE and scientific community by entering it into the GLOBE online science database (https://data.globe.gov). **When you submit your data through GLOBE, the calculations to convert your raw data to biomass and carbon storage values will be completed for you.**

Entry into the computer can be logistically difficult for a whole class. Below are a few suggestions.

1. Collect data sheets from all groups and enter data into database yourself.

2. Have one central computer where two students from each group can come up and enter field data. Groups can rotate until all field data is entered.

Notes on data entry.

- If you have not entered data on the GLOBE Data Entry website before, you must add your site and complete the 'Site Definition' *before* you can enter your data. Go to https://data.globe.gov and click 'Add Site' to get started. Use your *Site Set-up Data Sheet* to supply the necessary information. This is where you will designate if you have completed the Standard or Non-Standard Carbon protocols.

- Tree, shrub/sapling, and herbaceous data are all entered on the same page. Have all data sheets on hand for each vegetation type you sampled.

- If trees die on your site in subsequent years, they will not be entered into the GLOBE Database. However, keep track of dead trees for your own record, as it is useful information in the field the next year, and that information is needed when comparing results year to year or calculating Net Primary Productivity (NPP).

- For more information on entering Carbon Cycle data on the GLOBE website, see the Carbon Cycle Protocol eTrainings.

While data are being entered.

- Students complete unfinished activities from earlier in the unit and work in their groups to review methods for determining carbon stock before beginning analysis.

- The *Determining Scale & Calculating Area* activity could be completed simultaneously if students require this information to answer their research question.

Data Reviewed.

1. Review data as a class, checking for data quality including precision and typos.

2. After the initial site set-up year, you can compare previous years' data.

   a. Increases in circumference. How much did a tree grow in 1 year? Is this what you expected? Could there be any errors in measurement? What factors might have affected the growth rate? How does the increase in circumference of a small tree compare to the increase in circumference of a large tree?

   b. Decreases in circumference. Are any trees smaller this year? Did anyone check to see if the tree had died? Was the bark difficult to deal with during measurement, wavy, peeling, bumpy? Was the circumference measurement taken at the exact same height? Was the measuring tape read correctly?

   c. Differences in recorded species. Who is right?

   d. Important notes. Are there new trees that have come in? Have one or several trees died? Were there any other factors that might have played a role in this year's measurements - insect infestation, ice storm, hurricanes.

After Data Entry.

1. Use the GLOBE Visualization System (https://vis.globe.gov/GLOBE) to view and retrieve your data, complete with biomass and carbon information. You can also use this system to compare your site with other Carbon Cycle sites around the world.

2. Conduct data analysis. See the suggestions and activities on the GLOBE Carbon Cycle website under Supporting Protocols — Data Analysis.

Resources.

• Carbon Cycle eTraining: https://www.globe.gov/get-trained/protocol-etraining/etraining-modules/16867717/3099387