Site Selection

Purpose

To choose a site for your Carbon Cycle Field Measurements. *Note: Sample site selection can be completed with or without student involvement.*

Time

2 hours

Science Concepts

NGSS (Black- covered directly, gray- addressed, but not directly covered)

Science and Engineering Practices

- Asking questions
- Planning and carrying out investigations

Crosscutting Concepts

- Patterns

Frequency of Measurement

Once per sampling site.

Level

Secondary [Middle and High School]

Prerequisites

None

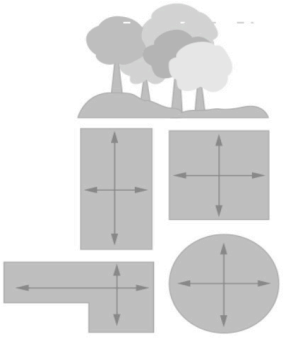
Materials and Tools

❑ Local maps and/or satellite images (i.e. Google Maps or Google Earth)

Start with local maps and satellite images (i.e. using Google Maps and Google Earth) to get a basic idea of the vegetation in your schoolyard area and surrounding region.

If there is an accessible area of at least 225m^2 of contiguous vegetation, you will perform Standard Sample Site Set-up.

1. Choose a location in your schoolyard or at a near by property that will help you address your research question of interest. A good place to start might be to select a natural site that is representative of the regional biome and local vegetation (i.e. if you live in a forest biome, try not to include field or wetland areas in your primary carbon cycle site). Although you might also create additional sites in these local ecosystems, which could provide great comparison studies. Alternatively, you may have a contiguous site that is heavily managed such as a tree farm or other type of cultivated area in which a standard site set-up could also be used.



2. Visit potential locations and make the following considerations before selecting a site:

   a. Aim for an area of 30m x 30m, buffered by similar vegetation on all sides (for a total of 90m x90m).*This size and shape is highly recommended if you wish to also participate in the GLOBE Landcover Investigation.*

      - A smaller or different shaped area will work if necessary. However, if you choose something other than 30m x 30m you will need to alter the Tree Mapping protocol to suit your site & students.

   b. Check with school or local authorities to make sure the area you have selected will not be cleared, at least in the relative short term, for logging, construction of buildings, sports fields, etc. The collection of a long-term data set allows for more interesting and relevant research questions.

   c. Check with the school or local authorities before marking the site (flags, stakes, etc).

If there is not an accessible area of at least 225m^2 of contiguous vegetation, (forest, shrubland, etc) but rather an area with some vegetation and some human interference, i.e. a local park, city block, or the school area itself, then you will perform Non-Standard Sample Site Set-up

1. Use aerial maps to make a rough count of the number of trees in the schoolyard, park, or neighborhood of interest.

   a. If the number of trees is < 150, your sample site size will be the entire area (i.e. A city block).

   b. If the number of trees is ≥ 150, select 1-2 smaller areas in which to perform all field measurements for carbon.