OPEN SPACE INSTITUTE

Six Simple Steps

Evaluate the Contribution of Your Land Protection Project to a Low Carbon Future

To help stabilize the climate, we need to drastically reduce the carbon atmosphere by 2030 and reach "net-zero" by 2050. By protecting forestland, you are keeping carbon stored in the trees, soil and dead wood. A more detailed overview of how land protection can be an effective tool to maximize forest carbon storage and sequestration is available in this overview.

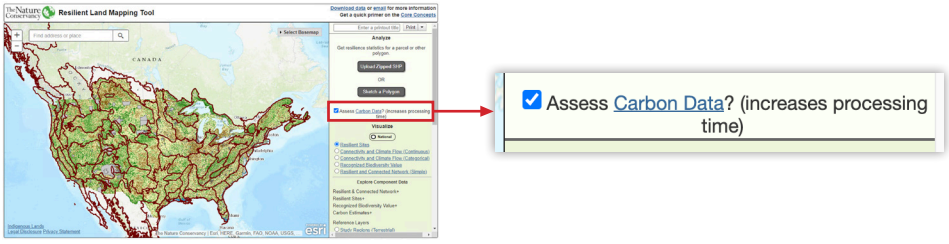
One way to understand the impact of our land protection projects is by using newly available forest carbon datasets. The Nature Conservancy's Resilient Land Mapping Tool now includes estimates of the carbon stored in forest ecosystems for the dates 2010 and 2050[1]. This six-step guide shows you how to determine how much carbon your forests store and how much new carbon can be added by 2050.

Forest Ecosystem Carbon is an estimate of the carbon stored in the soil, roots, trunk, branches and coarse woody debris (i.e. dead wood) found in forests. The data presented here includes forest carbon that was present in 2010[2] and then simulates tree growth into the future to estimate forest carbon storage in 2050. This model assumes all the trees grow without any management intervention or loss from natural disturbances like fire or insect outbreaks.

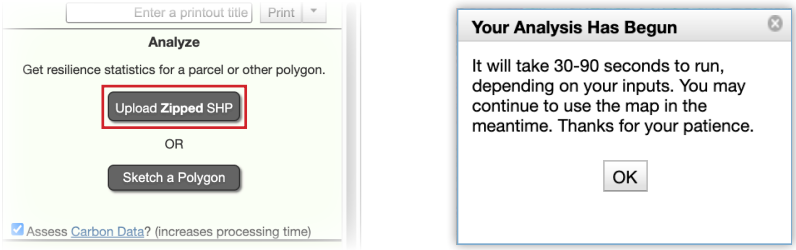
Photo Credit: Brett Cole

STEPS

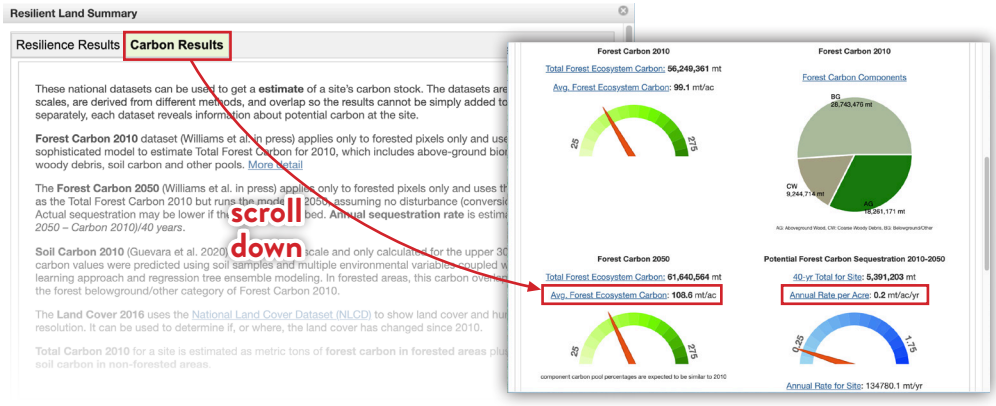
1 Go to the Resilient Lands Mapping Tool. Click the "Assess Carbon Data" box under the Analyze heading.



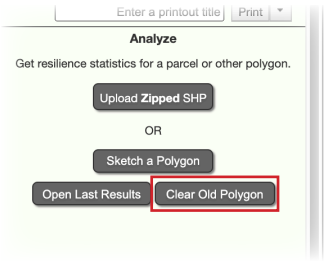
2 Upload a zipped shapefile of your service area[3] by clicking "Upload Zipped SHP." The analysis of the area will automatically start.

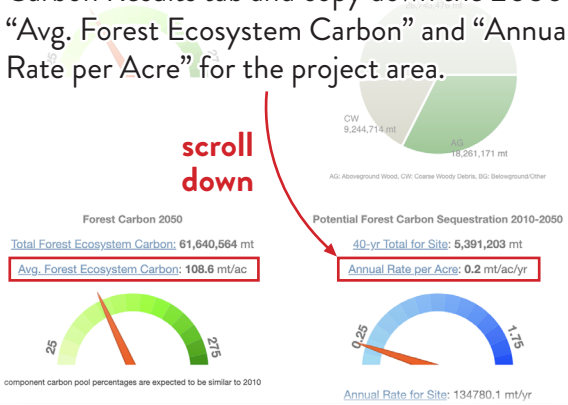


3 Once the results pop up, go to the "Carbon Results" tab and "print" or copy the results for 2050 "Avg. Forest Ecosystem Carbon" and the "Annual Rate per Acre" for sequestration for your service area.



4	5	6
Clear the old polygon and upload a zipped shapefile for a specific land protection project.	Once the new results are available, go to the Carbon Results tab and copy down the 2050 "Avg. Forest Ecosystem Carbon" and "Annual Rate per Acre" for the project area.	Compare the average forest carbon and rate of sequestration for the project to the service area. Is the project expected to store more, less or about the same forest carbon than the average for the service area? Is the project like to increase carbon at the same, higher or lower rate than the service area?





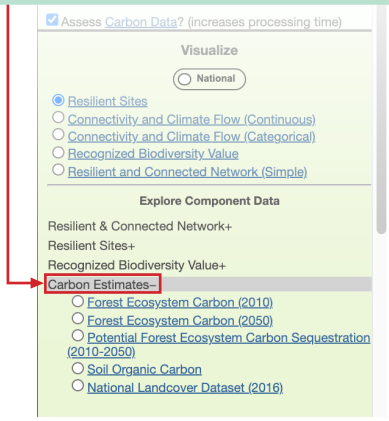
INTERPRETING YOUR RESULTS

If the project's 2050 average carbon per acre is expected to be more than the service area average carbon per acre in 2050, this tells you the project has significant 2050 carbon storage potential for your area. If the annual rate per acre for sequestration is greater, this indicates the project will be taking in carbon from the atmosphere at a greater rate than your service area average. You will also need to consider the following:

1) The management of the forest will determine whether the project meets its 2050 carbon potential. You will need to informally adjust the results based on what type of management will occur. Good management for long-term forest health and/or reforestation of cleared areas may bolster the 2050 carbon potential of your project. In contrast, if the project area will be cleared or harvested for short-lived forest products, the project may not reach the estimated 2050 carbon potential indicated by the tool.

2) The other relevant consideration is what would have happened to the forests on the property if the project land wasn't protected. Would there be any loss of trees due to heavy harvests or development? The risk of forest loss will clarify whether the protection of the land avoids loss of carbon.

You can visualize and further understand the carbon storage and sequestration values across your project and service area by expanding "Carbon Estimates" under the "Exploring Component Data" heading in the sidebar.



When presenting this information:

1. Compare the 2050 carbon per acre and rate of sequestration for the project & service area
2. Clarify if management will maximize forest carbon
3. Confirm if any areas were cleared after 2010 or if existing open areas will reforest
4. Consider if the project avoided development or poor forest management

[1] Clark University developed this data from models based on the US Forest Service Forest Inventory Analysis. This data is not suitable for estimating carbon for credit sales.
[2] The forest ecosystem carbon data only includes forested lands. Cleared areas are excluded from the 2010 and 2050 results. If an area of the project that has been cleared since 2010, adjust the results downward. If you have an area of the project that has been reforested since 2010, adjust the results upward. Consider making adjustments based on the percent of the project area impacted.
[3] If your service area is larger than 10,000 square miles you will need to break it into component parts.