General Tutorial for Using the Carbon Benefits Project, Modelling System Pages
12 June 2011

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Introduction

Thank you for your interest in the Modelling section of the Carbon Benefits Project. This document is organized into the following sections:

1) Overview of the four different data entry sections in the CBP.
2) Details for how to begin working within each section.
3) Instructions for how to report bugs and suggest system improvements.

This document is intended to introduce you to the following CBP system modules: Project Description Module (PDM), Guidance, Simple Assessment, Cost-Benefit Analysis, DPSIR, and Reporting.

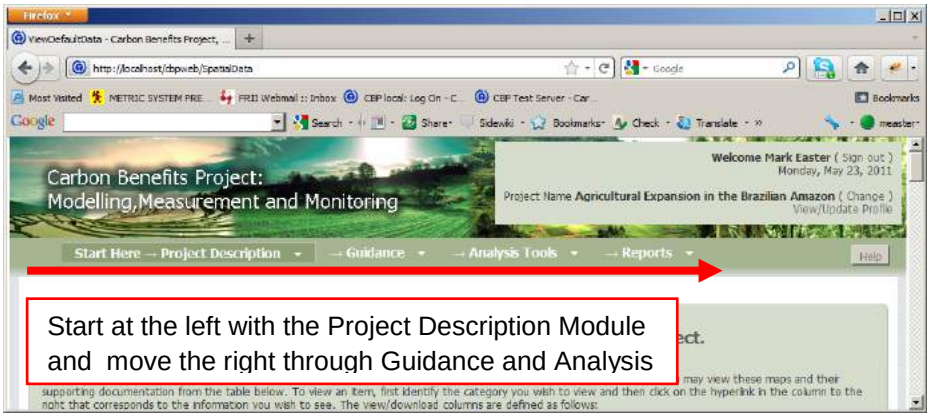
Please note that this is the initial of the CBP Modelling Component toolkit. There may be bugs or workflow issues that you will encounter in the process of using the toolkit or features that may be improved in some way. We are eager to improve the system, and so we encourage you to report bugs or suggest system improvements.

Navigating the System

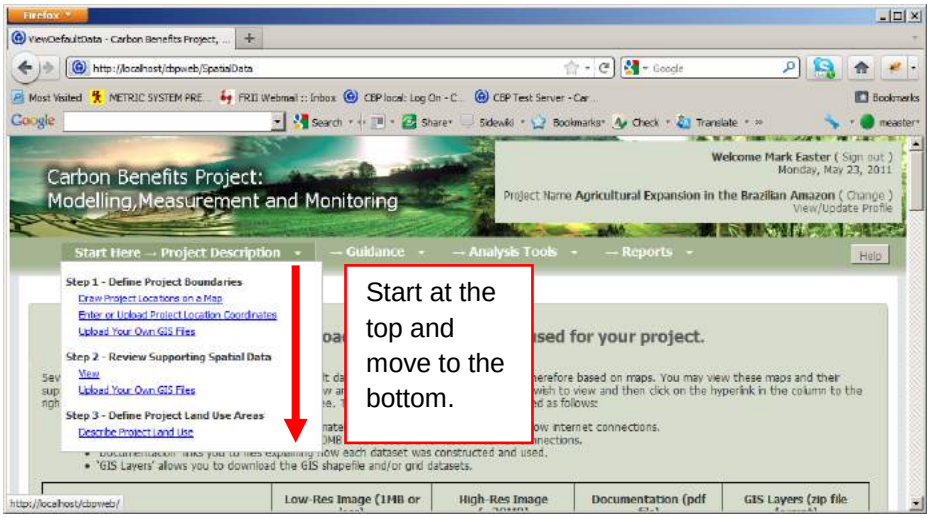
Following are some instructions for navigating the Modelling Component of the system.

How to obtain help: Please note that there is a **Help** button in the upper right corner of each page. Much of the help content has been written however some portions of the content are still being developed. It will eventually include tutorials for every section of the system. At the present time it contains a tutorial for the Project Information Module, Project Description Module, Guidance, Simple Assessment, Cost-Benefit Analysis, DPSIR Framework, and Reports. It also includes a comprehensive glossary that is constantly being revised, frequently asked questions for portions of the system, and links to the IPCC documents being used as primary references for the carbon and greenhouse gas estimation equations.

Data Entry Form Flow: There are a number of forms a user must use to complete data entry for their project. There are two general directions the user should proceed: From left to right on the menu bar, as shown below:

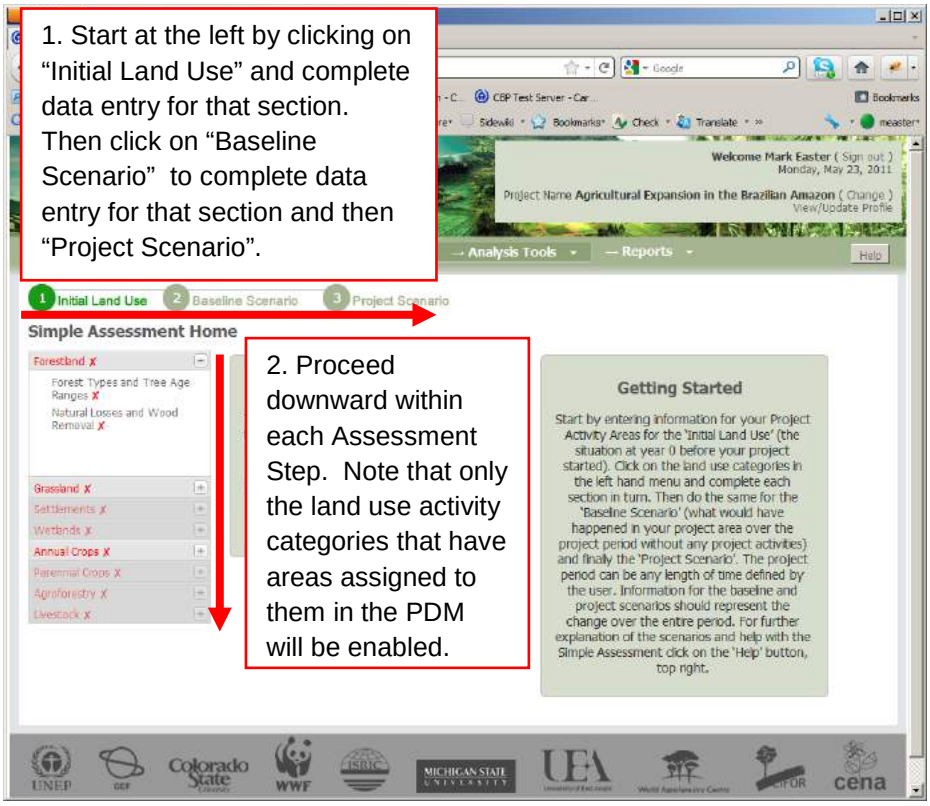


Within each menu section the user should progress from top to bottom. Consider the screen image below:



Within the Analysis Tools module you should work only with the Simple Assessment and then the Socioeconomic Tools. The Detailed Assessment and Dynamic Modelling modules are not completed at this time.

Within the Simple Assessment Module the user's work should begin with the Initial Land Use, followed by the Baseline Scenario and then the Project Scenario.


1. Start at the left by clicking on "Initial Land Use" and complete data entry for that section. Then click on "Baseline Scenario" to complete data entry for that section and then "Project Scenario".
Welcome Mark Easter (Sign out)
Monday, May 23, 2011
Project Name Agricultural Expansion in the Brazilian Amazon (Change)
View/Update Profile
Analysis Tools
Reports
Help
1 Initial Land Use
2 Baseline Scenario
3 Project Scenario
Simple Assessment Home
Forestland
Forest Types and Tree Age Ranges
Natural Losses and Wood Removal
Grassland
Settlements
Wetlands
Annual Crops
Perennial Crops
Agroforestry
Livestock
2. Proceed downward within each Assessment Step. Note that only the land use activity categories that have areas assigned to them in the PDM will be enabled.
Getting Started
Start by entering information for your Project Activity Areas for the 'Initial Land Use' (the situation at year 0 before your project started). Click on the land use categories in the left hand menu and complete each section in turn. Then do the same for the 'Baseline Scenario' (what would have happened in your project area over the project period without any project activities) and finally the 'Project Scenario'. The project period can be any length of time defined by the user. Information for the baseline and project scenarios should represent the change over the entire period. For further explanation of the scenarios and help with the Simple Assessment click on the 'Help' button, top right.
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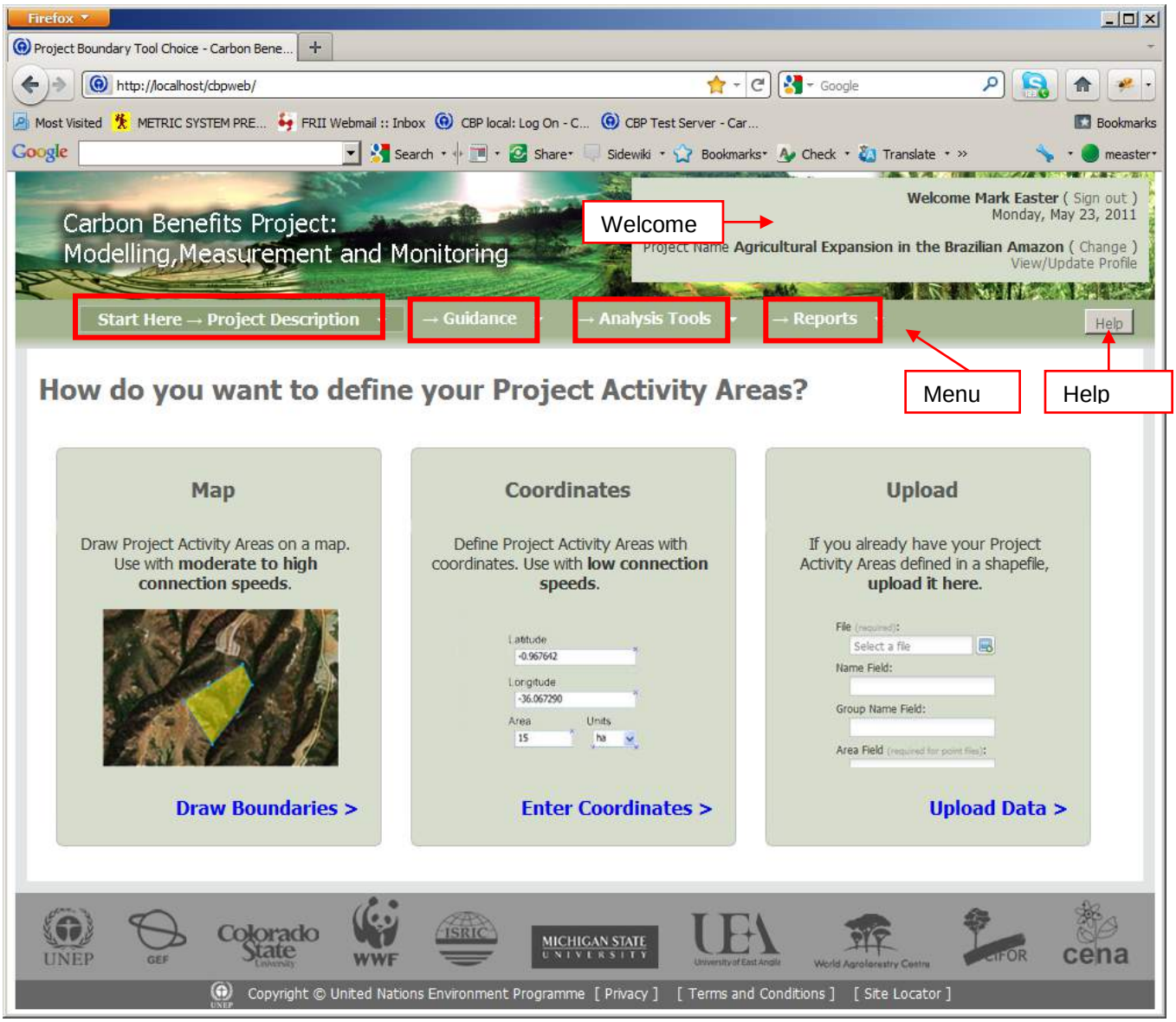
System Overview

The screen images below shows the four major sections within the CBP system. The workflow should proceed in the following order:

1) Project Description Module
2) Guidance
3) Analysis Tools
4) Reporting

Users access the modules described above by clicking on the drop-down menus shown in the image below, highlighted in red:

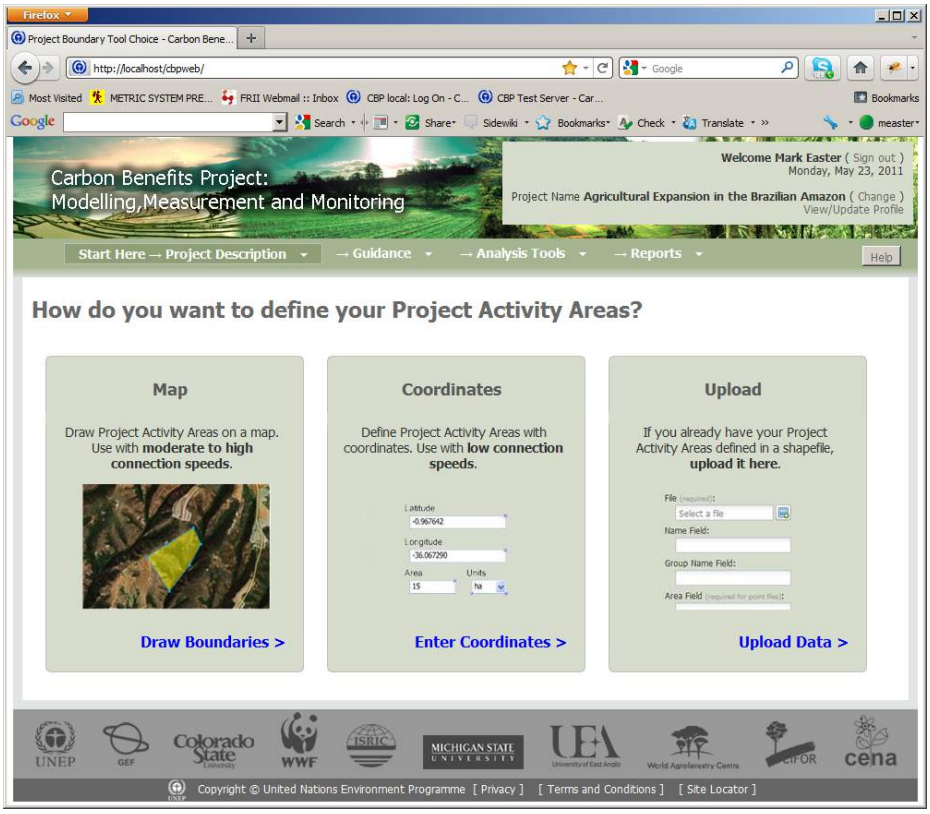


In general, the workflow in the system proceeds ***across*** the menu bars at the top of the page, and then ***down*** through the steps within each menu bar.

Project Description Module (PDM)

The first stop in the CSU-published side of the CBP system is the Project Description Module, or PDM. This module allows users to define the spatial boundaries of their projects, view supporting spatial information used in carbon and greenhouse gas emissions calculations, and initially describe the land area associated with the land use activity data for each project.

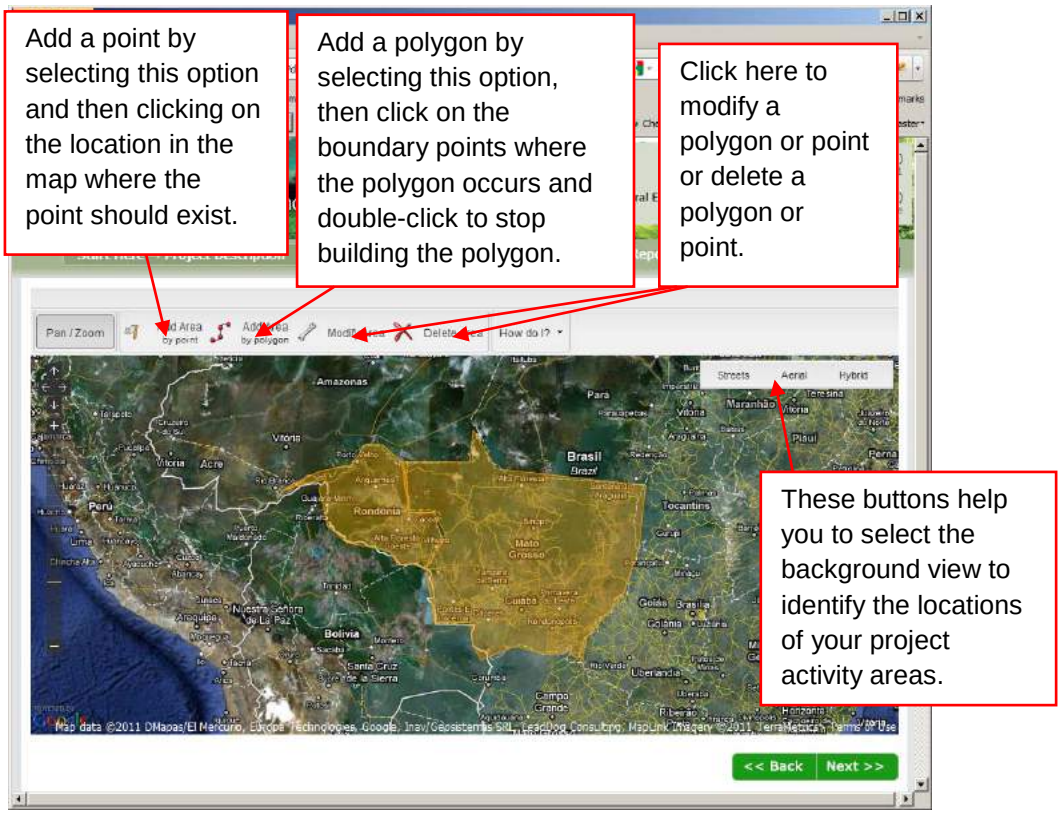
Users can enter their project's spatial boundaries as polygons or points or they can upload existing GIS files for the project area. Following is a screen image of the PDM first page:



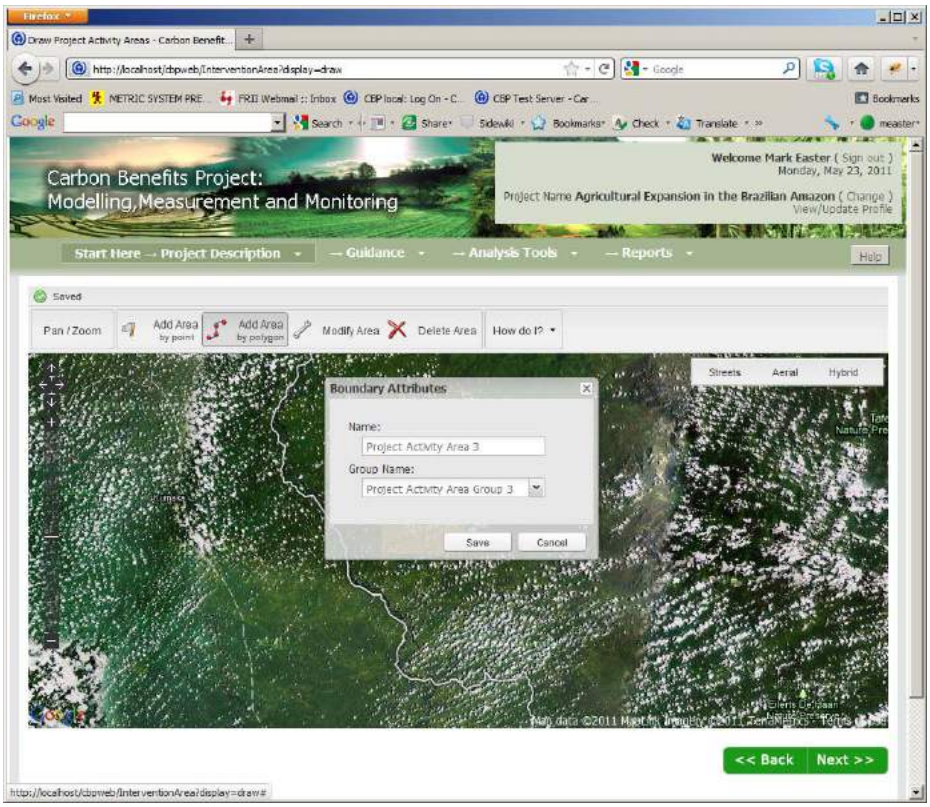
The "Draw Boundaries" tool allows users to draw in their project's spatial boundaries using a web GIS system. The "Enter Coordinates" page allows users to upload sets of points and their coordinates either from a file or as individual points. PLEASE NOTE: Whereas the page has been written, the upload point functionality or enter point functionality has not been implemented yet at this time. The "Upload Data" allows users to upload GIS files for their project.

PLEASE NOTE: The CSU CBP system has been designed around what we call "Project Activity Areas". These are essentially polygons or points at which the project activities are intended to be implemented. These Project Activity Areas can be assigned to Project Activity Area groups in order to reduce the amount of data entry a user has to accomplish. For example, if a project is being implemented in five areas, where three areas involve livestock improvement projects receiving the same management interventions and two areas are the same receiving agroforestry interventions, the user may assign these into two distinct groups and describe the land use and management activities for those groups rather than having to describe land use and management separately for all five project activity areas.

Drawing in a project activity area as a polygon is straightforward. See the screen image below:



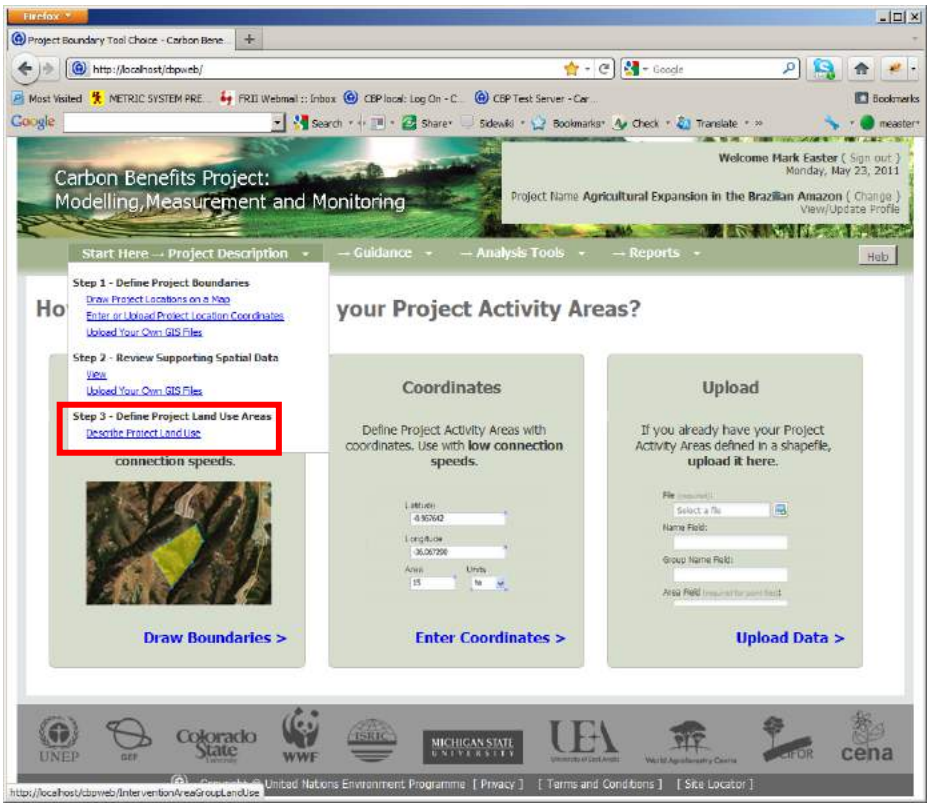
After identifying each project activity area a dialogue box like the one below will appear:



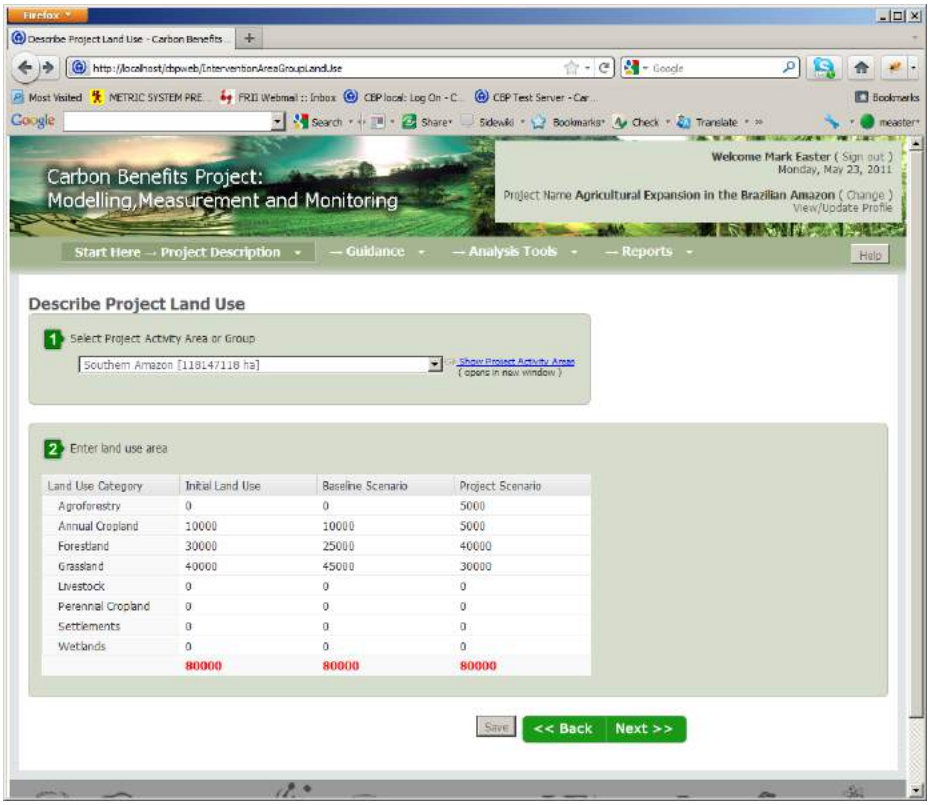
The “Name” field allows the user to enter a descriptive term that describes the project activity area. It might be a community, a watershed, an individual participant’s field, or whatever. The “Group Name” field allows the user to

put this project activity area into a group with other project activity areas receiving the same land use and management interventions.

After drawing in your project's polygons you should describe your project's land use. Consider the screen image below:



This shows were to click to go to the "Describe Project Land Use" Page. The page looks like this:



Consider the following example: A user has a project that is intended to halt deforestation, begin reforestration on degraded rangeland, and introduce agroforestry into cropland. Their initial land use situation is described like this:

- Forestland: 30,000 ha
- Degraded Rangeland: 40,000 ha
- Annual Cropland: 10,000 ha

Under the baseline scenario the following land use transitions are expected:

- Forestland remaining as Forestland: 25,000 ha
- Forestland deforested and converted to Degraded Rangeland: 5,000 ha
- Degraded Rangeland remaining Degraded Rangeland: 40,000 ha
- Annual Cropland remaining as Annual Cropland: 10,000 ha

The user would enter the following acreages under their baseline scenario:

- Forestland: 25,000 ha
- Degraded Rangeland: 45,000 ha
- Annual Cropland: 10,000 ha

Under the project scenario the following land use transitions are expected:

- Forestland remaining as Forestland: 30,000 ha
- Degraded Rangeland afforested to Forestland: 10,000 ha
- Degraded Rangeland remaining Degraded Rangeland: 30,000 ha
- Annual Cropland remaining as Annual Cropland: 5000 ha
- Annual Cropland converted to Agroforestry: 5000 ha

The user would enter the following acreages under their project scenario:

- Forestland: 40,000 ha
- Degraded Rangeland: 30,000 ha
- Cropland: 5,000 ha
- Agroforestry: 5,0000 ha

These data should be entered into the applicable columns in the “Describe Project Land Use” page shown above.

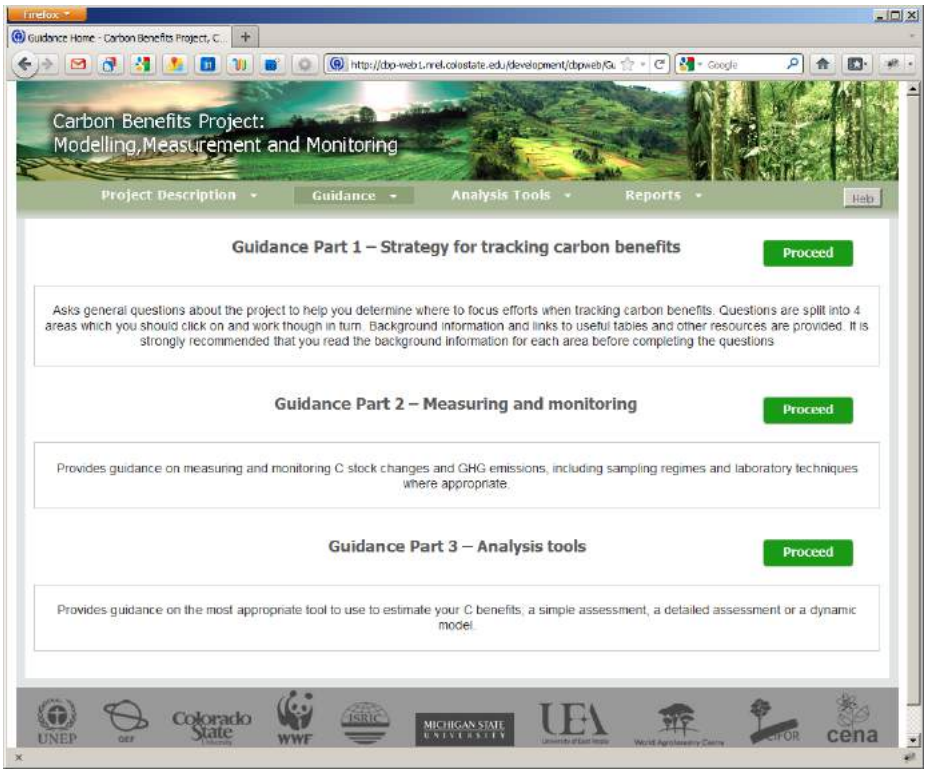
The next step is to move onto the guidance pages.

Guidance

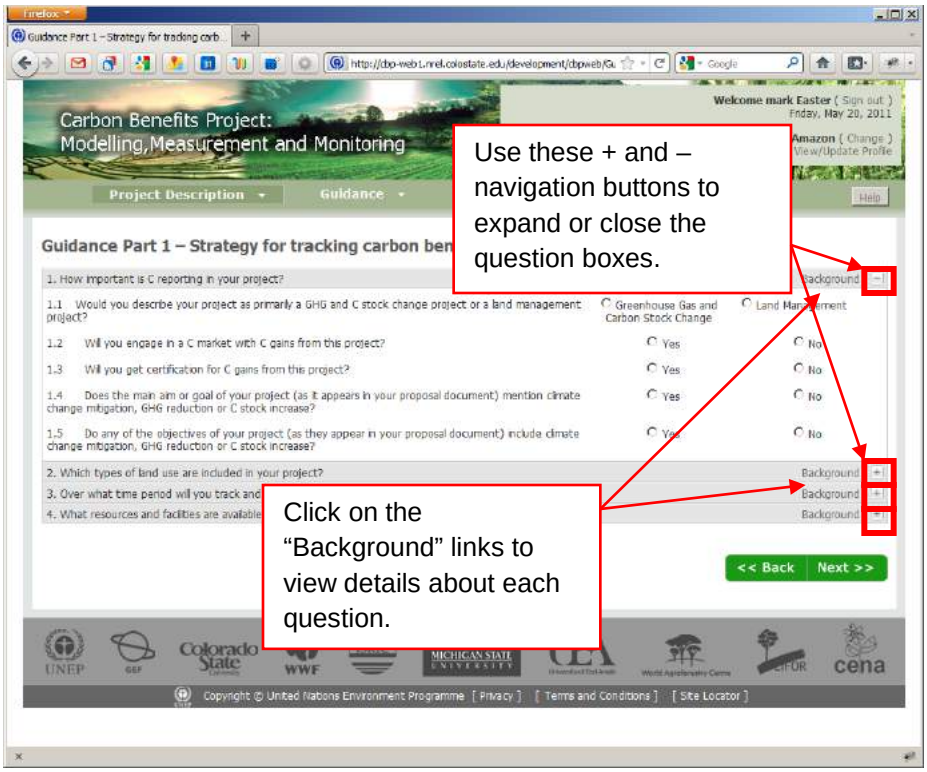
The Guidance section is intended to provide helpful advice for the following issues:

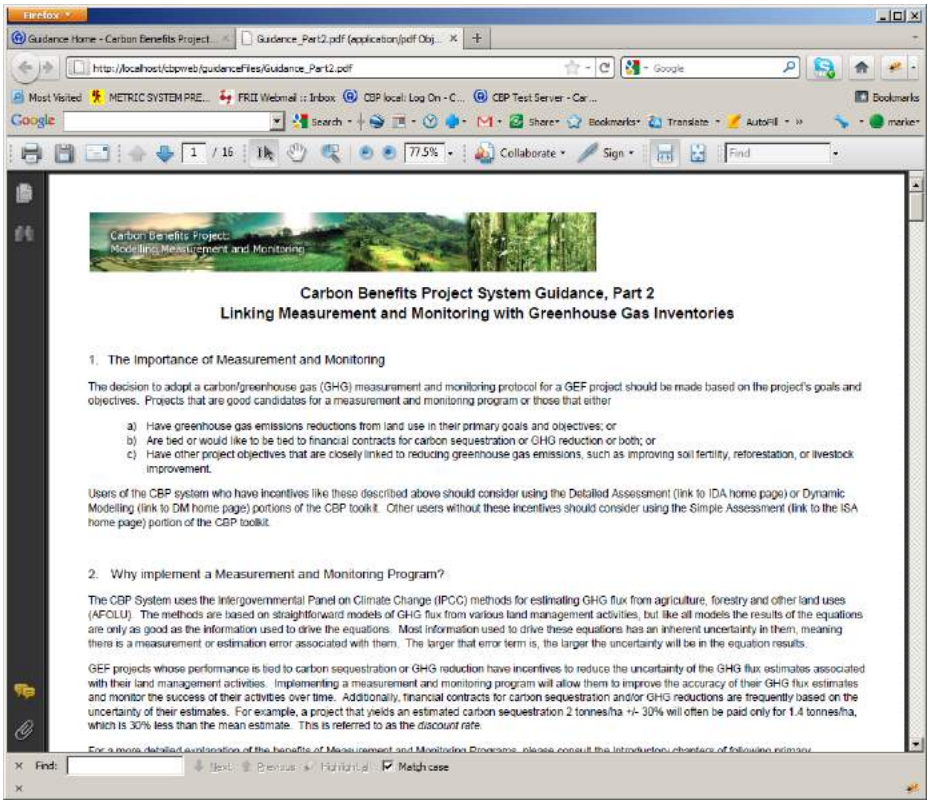
- Tracking a project’s carbon and greenhouse gas balance.
- Measurement and Monitoring methods.
- Which Analysis Tools to use for a project.

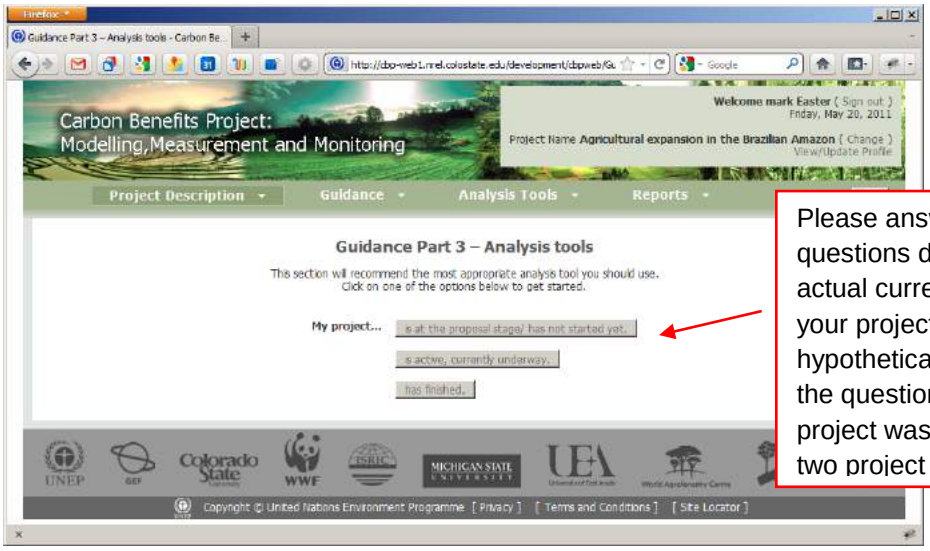
The Guidance Home Page looks as follows:



There are three sections to complete. Workflow proceeds from top to bottom starting with Guidance Part 1 through Guidance Part 3. Following are how the three sections should look, and users should proceed through each section individually, answering all questions within each section.


Carbon Benefits Project:
Modelling, Measurement and Monitoring
Welcome mark Easter (Sign out)
Friday, May 20, 2011
Project Description
Guidance
Guidance Part 1 – Strategy for tracking carbon ben
1. How important is C reporting in your project?
Background
1.1 Would you describe your project as primarily a GHG and C stock change project or a land management project?
Greenhouse Gas and Carbon Stock Change
1.2 Will you engage in a C market with C gains from this project?
Yes
No
1.3 Will you get certification for C gains from this project?
1.4 Does the main aim or goal of your project (as it appears in your proposal document) mention climate change mitigation, GHG reduction or C stock increase?
1.5 Do any of the objectives of your project (as they appear in your proposal document) include climate change mitigation, GHG reduction or C stock increase?
2. Which types of land use are included in your project?
3. Over what time period will you track and
4. What resources and facilities are available
<< Back
Next >>
Use these + and – navigation buttons to expand or close the question boxes.
Click on the "Background" links to view details about each question.
Copyright © United Nations Environment Programme [Privacy] [Terms and Conditions] [Site Locator]


Carbon Benefits Project:
Modelling, Measurement and Monitoring
Carbon Benefits Project System Guidance, Part 2
Linking Measurement and Monitoring with Greenhouse Gas Inventories
1. The Importance of Measurement and Monitoring
The decision to adopt a carbon/greenhouse gas (GHG) measurement and monitoring protocol for a GEF project should be made based on the project's goals and objectives. Projects that are good candidates for a measurement and monitoring program or those that either
a) Have greenhouse gas emissions reductions from land use in their primary goals and objectives; or
b) Are tied or would like to be tied to financial contracts for carbon sequestration or GHG reduction or both; or
c) Have other project objectives that are closely linked to reducing greenhouse gas emissions, such as improving soil fertility, reforestation, or livestock improvement.
Users of the CBP system who have incentives like these described above should consider using the Detailed Assessment (link to IDA home page) or Dynamic Modelling (link to DM home page) portions of the CBP toolkit. Other users without these incentives should consider using the Simple Assessment (link to the ISA home page) portion of the CBP toolkit.
2. Why implement a Measurement and Monitoring Program?
The CBP System uses the Intergovernmental Panel on Climate Change (IPCC) methods for estimating GHG flux from agriculture, forestry and other land uses (AFOLU). The methods are based on straightforward models of GHG flux from various land management activities, but like all models the results of the equations are only as good as the information used to drive the equations. Most information used to drive these equations has an inherent uncertainty in them, meaning there is a measurement or estimation error associated with them. The larger that error term is, the larger the uncertainty will be in the equation results.
GEF projects whose performance is tied to carbon sequestration or GHG reduction have incentives to reduce the uncertainty of the GHG flux estimates associated with their land management activities. Implementing a measurement and monitoring program will allow them to improve the accuracy of their GHG flux estimates and monitor the success of their activities over time. Additionally, financial contracts for carbon sequestration and/or GHG reductions are frequently based on the uncertainty of their estimates. For example, a project that yields an estimated carbon sequestration 2 tonnes/ha +/- 30% will often be paid only for 1.4 tonnes/ha, which is 30% less than the mean estimate. This is referred to as the discount rate.

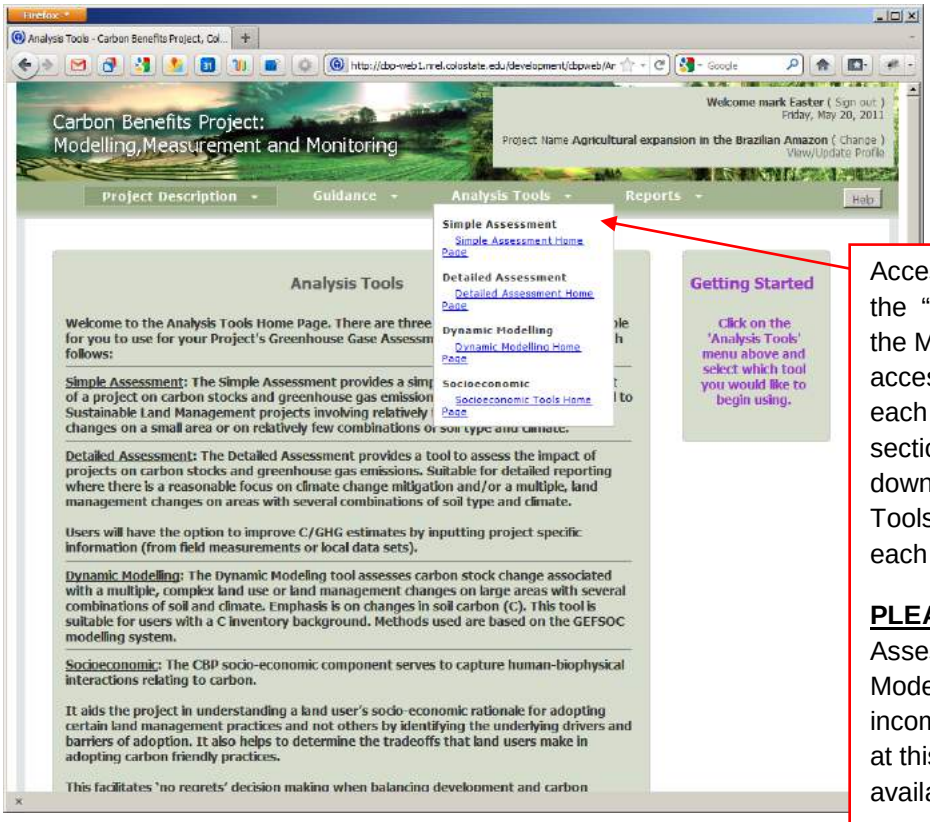


Please answer these questions describing the actual current state of your project, and then hypothetically answer the questions as if your project was in the other two project states.

The next step is to move onto the Analysis Tools.

Analysis Tools

Following is a screen image of the Analysis Tools Home Page. The user accesses this by clicking on the "Analysis Tools" item on the top menu bar.

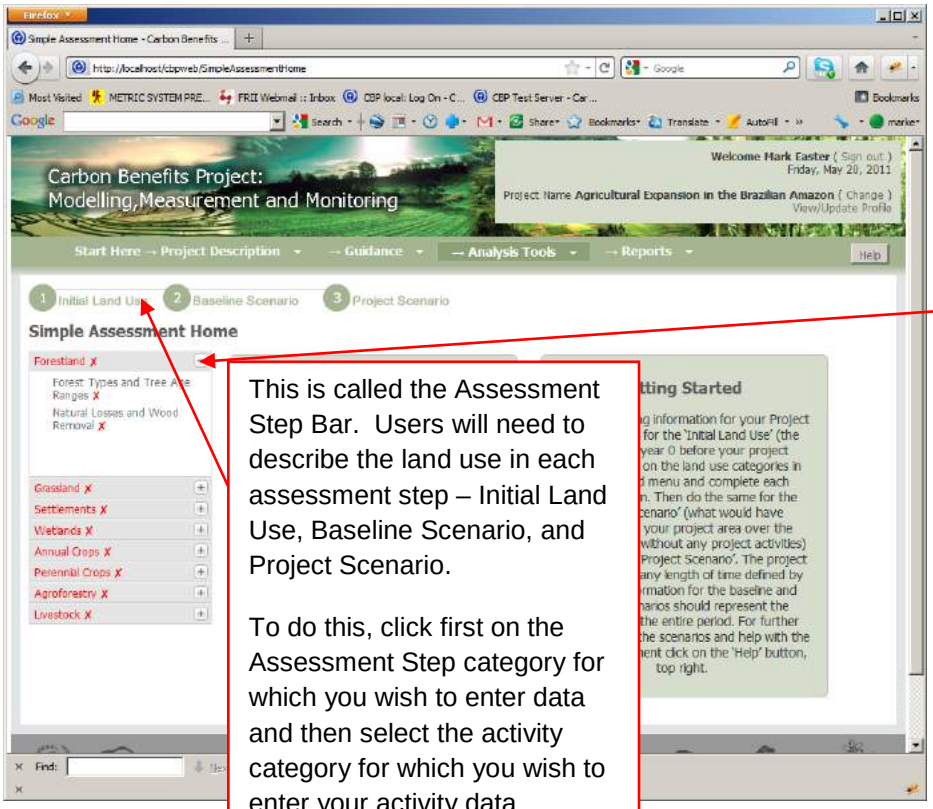


Access this page by clicking on the "Analysis Tools" button on the Menu Bar. You may access the home page for each different analysis tool section by clicking first on the down arrow next to "Analysis Tools" and then on the links for each type of tool.

PLEASE NOTE: The Detailed Assessment" and "Dynamic Modelling" sections are incomplete and not functional at this time, but will be available in late July, 2011.

Analysis Tools: Simple Assessment

Following is a screen image of the Simple Assessment Home Page:



This is called the Assessment Step Bar. Users will need to describe the land use in each assessment step – Initial Land Use, Baseline Scenario, and Project Scenario.

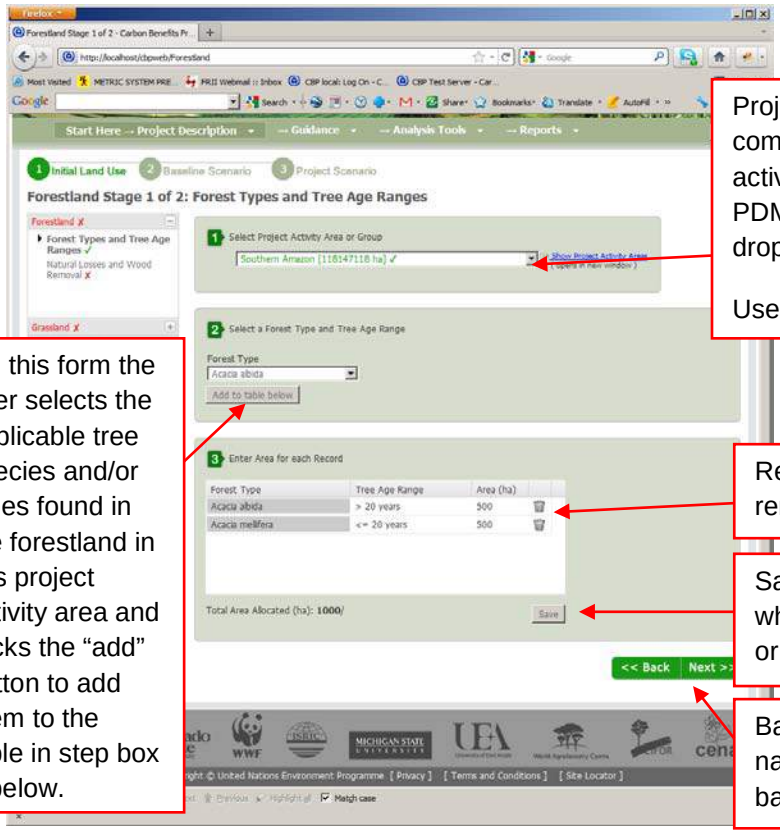
To do this, click first on the Assessment Step category for which you wish to enter data and then select the activity category for which you wish to enter your activity data.

The Activity Data Categories shown in the Left Navigation Bar will be enabled or disabled based on whether land areas were entered into the "Describe Project Land Use" Form (pictured below):

A red X means data entry is incomplete for this activity data category.

Data entry should generally occur in a specific order. The user should describe the land use activity for every Project Activity Area present in each assessment step. We recommend users enter their project's land use activity data by first selecting the Initial Land Use assessment step and then proceeding on to their baseline scenario and project scenario.

Expanding and contracting the activity data categories on the left navigation bar reveals the different data entry stages required to enter data for each activity data category. There is one separate form for each data entry stage. For example, see the form below for entering forestland activity data:



Project Activity Areas List: A complete list of the project activity areas defined in the PDM are shown in this dropdown box.

Users must enter activity data

On this form the user selects the applicable tree species and/or types found in the forestland in this project activity area and clicks the "add" button to add them to the table in step box 3 below.

Remove Button – Use this to remove records from the table.

Save Button – click this whenever you enter new data or change existing data on the

Back/Next Button – click this to navigate forwards or backwards in the data entry

Analysis Tools: Evaluating Data Entry Progress and Status

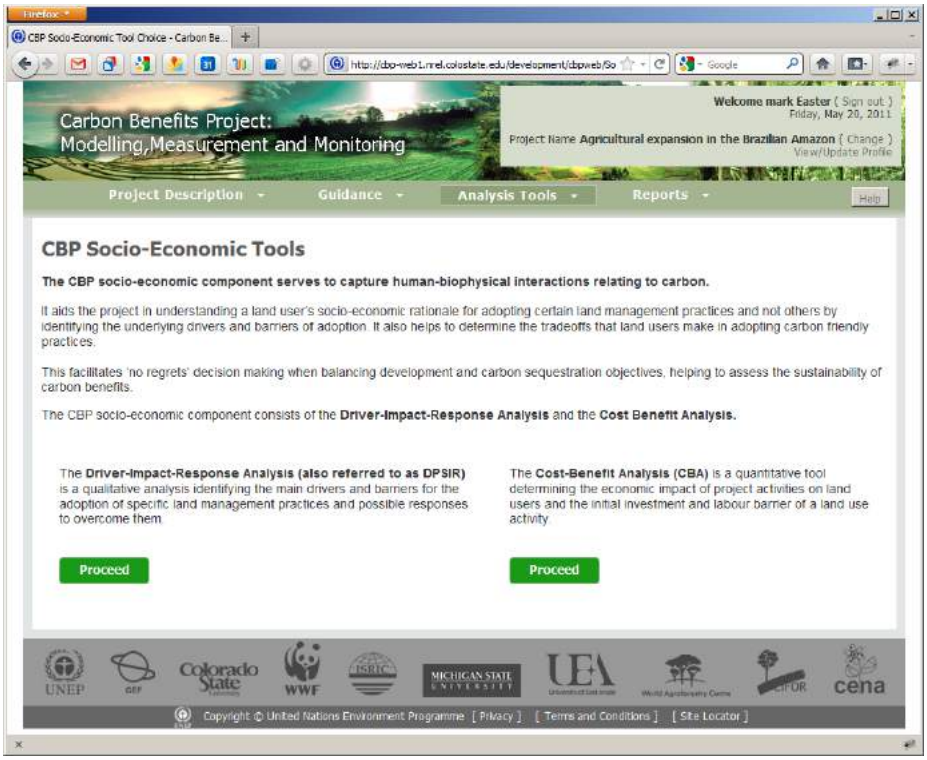
One of the features we are building into the CBP system is a set of visual clues that inform the user of the status of their data entry processes. These include red X marks (✘) indicating data entry is incomplete for a stage, and green check marks (✔) indicating data entry is complete for a stage. The data entry status is shown at four levels:

- Assessment Step
- Land Activity Data Category
- Data Entry Form
- Project Activity Area Group

An ✘ at any of these points indicates that data entry is incomplete for that stage. A ✔ indicates data entry is either complete or is not required for a particular stage since there is no Land Use Activity in a particular Land Use Activity Data Category.

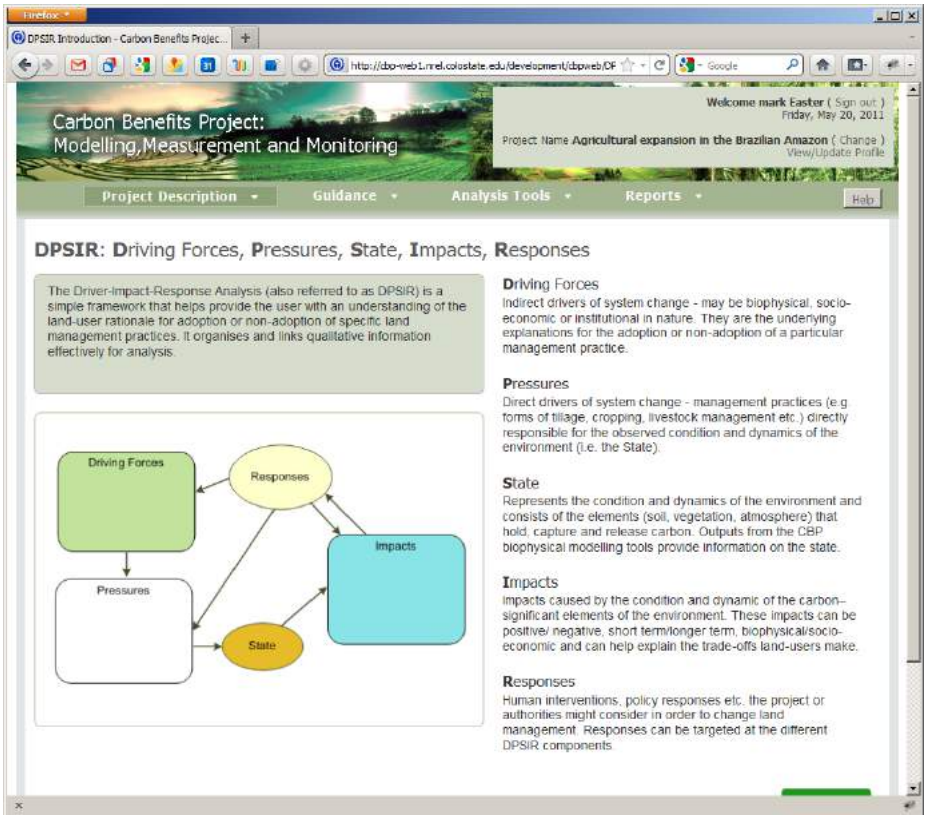
Analysis Tools: Socioeconomic Tools

Following is a screen image of the Socioeconomic Tools Home Page:



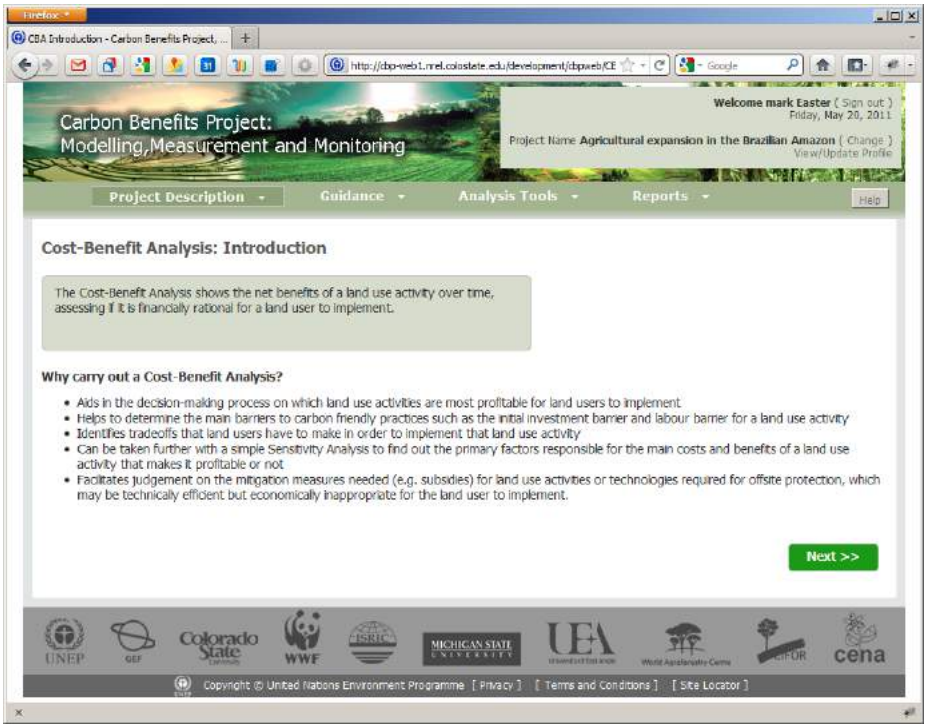
Analysis Tools: Socioeconomic Tools, DPSIR

Following is a screen image of the DPSIR starting page for the socioeconomic tools:



Analysis Tools: Socioeconomic Tools, Cost-Benefit Analysis (CBA)

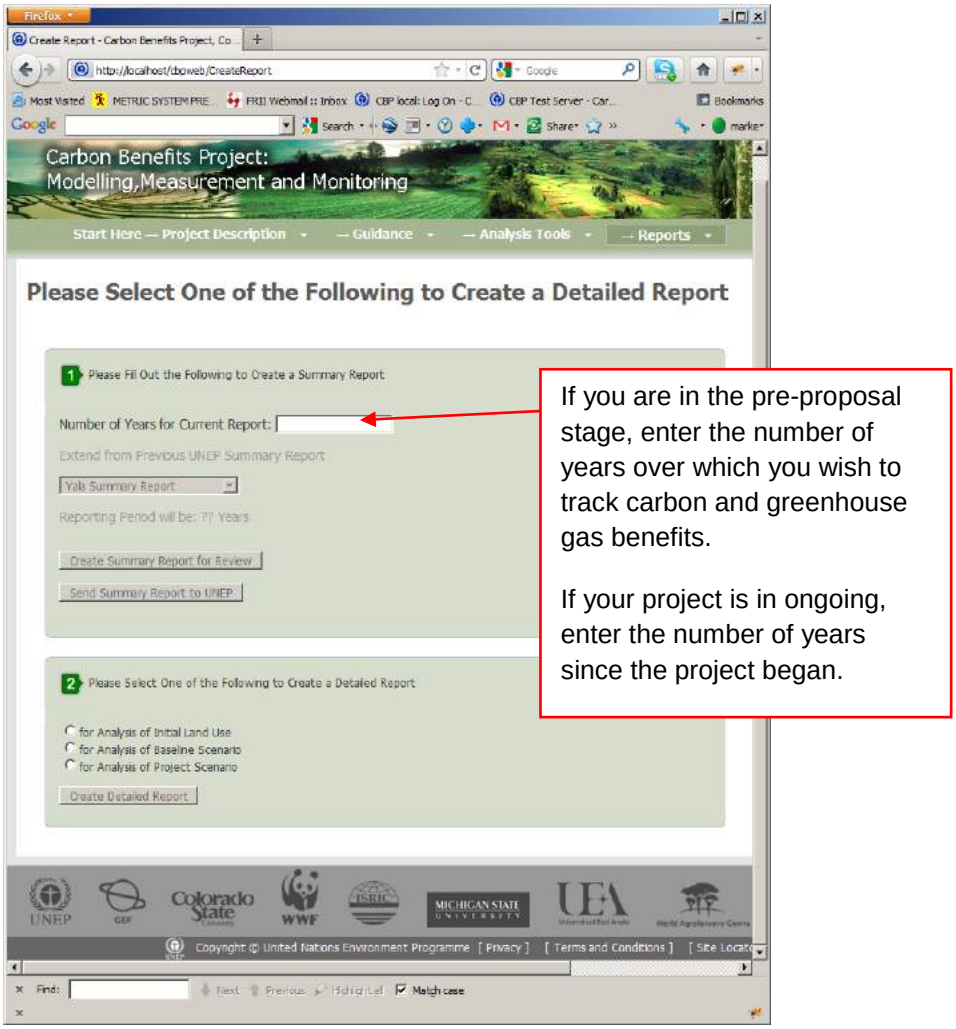
Following is a screen image of the Socioeconomic Tools Cost-Benefit Analysis Start Page:



The next step is to move onto the Reporting pages.

Reporting

Two types of reports may be generated from the Component A toolkits in the CBP. They are a summary report that may be sent to UNEP and the GEF, and a detailed report intended for error-checking, data proofing, and detailed analysis. The report features are currently a work in progress and are partially implemented. The screen image below shows the report page:



If you are in the pre-proposal stage, enter the number of years over which you wish to track carbon and greenhouse gas benefits.

If your project is in ongoing, enter the number of years since the project began.

Please try generating a summary report for your project and then three detailed reports – one for each assessment step. Note that the project details in the summary report will appear to be incomplete, and this is because work on the summary report is ongoing.

Reporting Bugs, Defects and System Improvements

Bugs, defects and system improvements are defined as follows for the purposes of this project:

> A ***bug*** is a computer software problem that causes a feature or a page to behave erratically or not to work at all. For example, a bug exists if clicking on a link leads to a page that reads "http: 404 error, page not found".
> A ***defect*** is a feature the user believes is not behaving like it should or was designed to do. For example, if clicking on a link leads a user to a viable web page but not the page they expected, the actual link may need to be updated or the text describing the link may need to be improved.
> A ***system improvement*** is a suggestion for how to design or implement system features in a different way, or a suggestion for a new feature.

To report a bug, defect or system improvement, please send an email to Mark.Easter@Colostate.Edu. Put the words "CBP Bug Report: < subject >" in the subject line, where you substitute an appropriate subject description for < subject >. For example, a problem validating your login account might have a subject line that reads like this: "CBP Bug Report: Problem with email validation".

Please include the following information in your email:

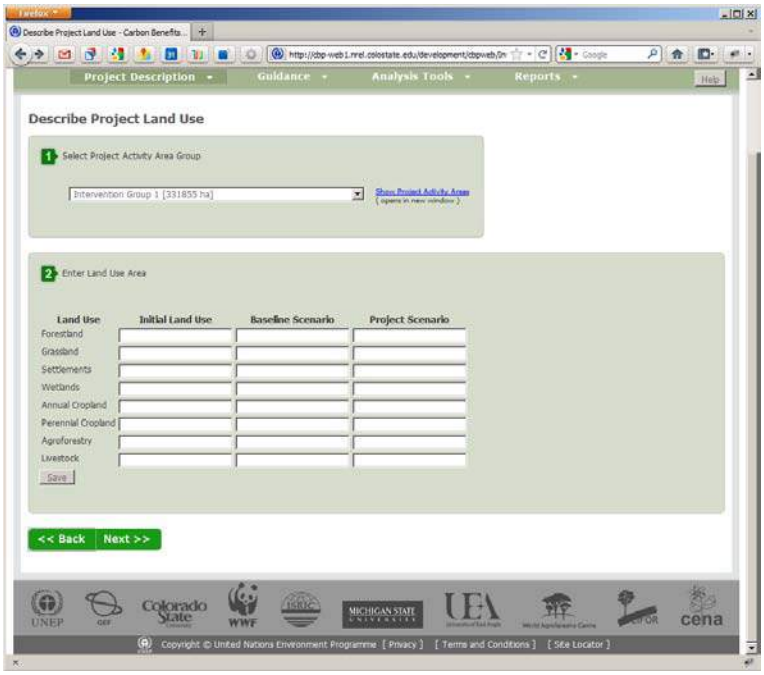
> **Bug, Defect or System Improvement?** State whether you feel the problem is a bug or a defect.
> **Name of the page where the bug/defect occurred or the improvement may be applied:** Ideally you should post a screen image of the page giving you the error. You can produce a screen image by pressing the "PrtScn" or "Print Screen" button on your keyboard. This creates a copy of your screen. Then use the "edit-paste" feature on your email program to paste the image directly into the email.
> **If bug or defect, steps leading up to the issue occurring:** Please describe the steps leading up to the point where the issue occurred.
> **If bug or defect, description of the issue; if system improvement, describe your suggestion:** Describe what you think the problem is. Some problems such as "http: 404 error, file not found" are self-explanatory. Other issues, particularly defects, may require detailed explanation of what happened compared with what you believe the web page should have done.

Example Bug Report

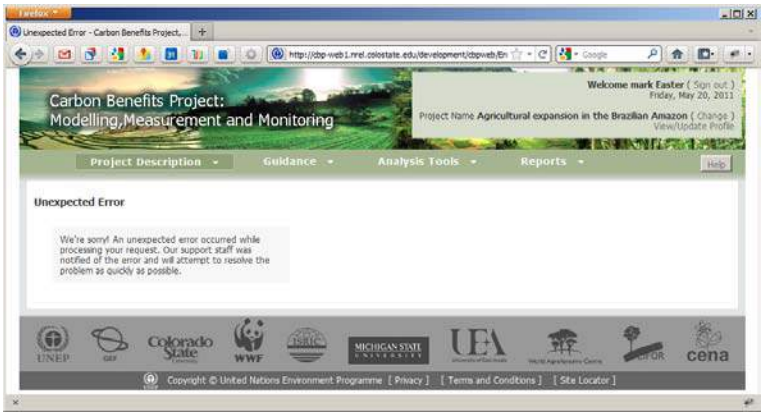
Bug: Back button on the “Describe Project Land Use: page doesn’t work

Name of page where occurred: Project Description Module, “Describe Project Land Use”

Steps leading up to the problem: I clicked on the “Back” navigation button on this page:



The following page then appeared on my screen:



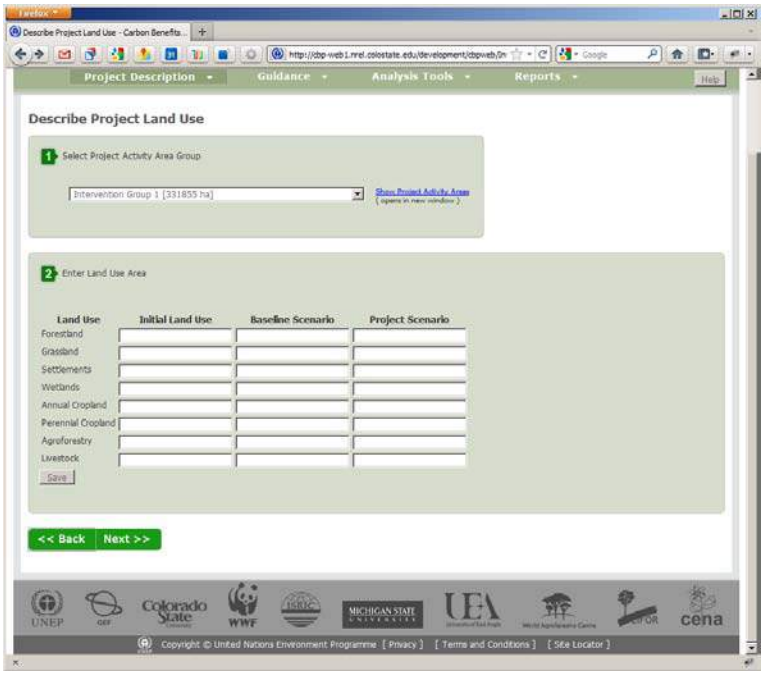
<u>Description of Issue:</u> I expected to return to the PDM Home Page.

Example Defect Report

Defect: Back button on the Describe Project Land Use page is not where expected.

Name of page where occurred: Project Description Module, “Describe Project Land Use”

Steps leading up to the defect: I opened the “Describe Project Land Use” page shown below:



<u>Description of Issue:</u> I expected to see the “Back | Next” button on the lower right side of the screen, since that is where it is in all of the other pages. Instead it is located on the lower left corner of the screen.

CBP Technical staff will take all bug/defect reports seriously and will respond to you as quickly as we are able. We appreciate your help, and thank you!