 

**CARBON CALCULATOR TOOL**

**PROJECT TITLE:** Implementation of a Carbon Calculator within the InterAmerican Development Bank Decision Support System (IDB-DSS): Phase I

**CLIENT:** InterAmerican Development Bank (IDB)

**FUNDING SOURCE:** German Society for International Cooperation (GIZ)

**Lead PI:** Dr. Dennis Grossman, Conservation Biology Institute (CBI)

[denny@consbio.org](mailto:denny@consbio.org); (571) 216-2651

**Project Overview**

The InterAmerican Development Bank (IDB) is committed to identify and address potential environmental risks associated with development projects for which their financial support has been requested. A number of methods and tools have been developed for IDB to assist in this due diligence process. In 2012, the German Society for International Cooperation (GIZ) funded CBI to evaluate options for the development of a practical Carbon Calculator tool for IDB. This evaluation resulted in this new project, ***Implementation of a Carbon Calculator within the IDB-DSS: Phase I***, which will help IDB identify and address potential impacts of development projects on the local carbon budget and greenhouse gas emissions. This project phase will be completed in January 2014.

**Project Objective**

The objective of this project is to develop the basic elements of a Carbon Calculator tool for IDB staff use. The carbon calculator will be developed as an integrated component of the IDB Decision Support toolkit (IDB-DSS) that is currently being used by the IDB-Environmental Safeguards Group (ESG).

The carbon calculator will provide a risk screening function in the IDB-DSS to indicate the potential amount of above ground carbon that might be affected by an IDB funded project in Latin America and the Caribbean. The best available carbon databases will be used to quantify current carbon stocks and highlight below ground carbon hotspots in the project area.

The carbon calculator will let users delineate the geographic extent of the proposed operation (project, program or policy) and its expected area of impact (the broader project footprint). It will summarize carbon estimates from available peer-reviewed and geo-referenced carbon datasets for the area. The operation footprint will be described in terms of the potential carbon loss and estimated GHG emissions with documented uncertainty inherent with the source data and subsequent processing.

The calculator is meant to support high-level risk assessment analyses for development projects. The output will indicate whether the risk of carbon loss is ranked in the “medium to high” category. Range thresholds for this “medium to high” category will be defined in concert with IDB. The calculator is not being developed to provide a robust detailed calculation of carbon stocks and greenhouse gas emissions that will result from a specific development activity, but to flag projects that represent institutional risk from climate change impacts.

Phase I of this carbon calculator tool project will provide a prototype carbon risk-screening tool for IDB projects. It will be available to all IDB units and will be designed to meet the requirements of ESG (Environment and Safeguards), CCS (Climate Change Science) and RND (Research and Development) project leading units. This prototype will allow IDB to test the tool’s ability to provide sufficient information to assess the carbon footprint of development projects.

CBI hopes this current project will lead to the development of carbon calculator application in the future that will address the broader needs of the user community.

**Datasets that will be used in this project**

Datasets that will be used for carbon calculations

* Tropical above ground woody biomass carbon from Woods Hole Research Center (Baccini et al., 2012)
* Non-tropical above ground carbon biomass from Global IPCC Carbon Dataset (Reusch and Gibbs, 2007)

Datasets that will be used for geographic context

* Land cover change from CIAT Terra-i deforestation dataset (Reymondin et al., 2012)
* Below ground carbon biomass from Global IPCC Carbon Dataset (Reusch and Gibbs, 2007)
* Soil types from Harmonized World Soil Database, version 1.1, (FAO/IIASA/ISRIC/ISSCAS/JRC, 2009)

**Tool Evaluation**

One or two pilot projects with well-documented and ground-truthed datasets will be selected by the project team to evaluate the effectiveness of the Carbon Calculator. Evaluation results will be used by CBI to revise the current and future versions of the tool as required.

**CBI Technical Staff for this project**

* Dr. Dennis Grossman, Senior Scientist and Director of International Conservation Programs
* Dr. Dominique Bachelet, Senior Climate Change Scientist
* Brendan Ward, Conservation Biologist and Software Engineer
* Rebecca Degagne, Conservation Biologist and GIS Analyst
* Mike Lundin, Software Engineer