

Navigating COMET-Planner Global

Welcome To COMET-Planner Global (BETA)

COMET-Planner Global provides estimates of carbon sequestration for common conservation agriculture practices across the world. Estimates were generated for broad climate and soil categories using [UNFCCC Intergovernmental Panel on Climate Change Guidelines for National Greenhouse Gas Inventories](#).

For sites within the **continental United States**, please use comet-planner.com to obtain more accurate results.

1 Find Farm Location

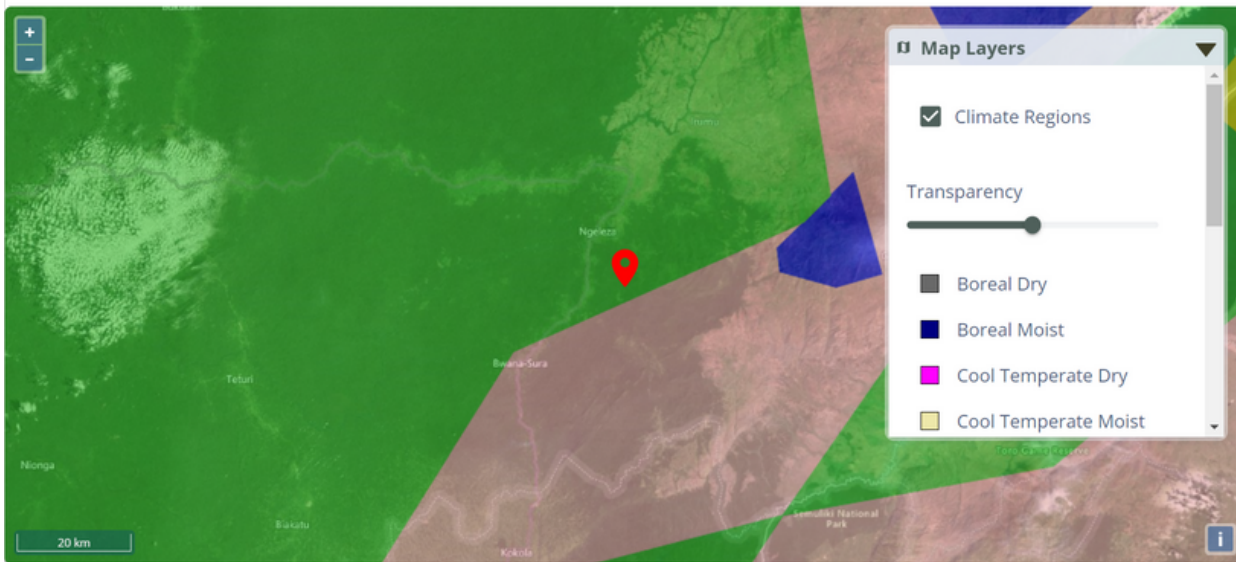
The red marker must be placed within a region where climate and soil classifications are defined prior to proceeding to step 2.

Drag and zoom the map to place the marker on your farm



In this scenario, the map is zoomed into the *Democratic Republic of the Congo*.

Drag and zoom the map to place the marker on your farm



If desired, use the Map Layers to view climate regions at levels below 100km scale.

Farm or ranch location is used to determine the climate zone and soil classification for carbon sequestration calculations. Climate and soil classifications are described in [IPCC Guidelines chapter 3](#) in annex 3A.5.

Drag and zoom the map to place the marker on your farm



Users may only view climate regions OR soil classifications at a time.

Soil classifications are only loaded for the country in which the marker is located.

Use the "transparency" bar to adjust the transparency of each layer.

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2 Choose Farm Type

Farm Type is used to determine baseline plant residue inputs. Select the info button to learn more.

Smallholder **Commercial / Plantation**

4 Select Conservation Practice

Select as many or as few conservation practices as desired. These practices promote maintenance of permanent soil cover, minimize soil disturbance, and diversify plant species. Select the info button to learn more.

- Add seasonal cover crops
- Apply compost or manure
- Convert annual cropland to permanent pasture
- Convert from full tillage to no-till
- Convert from full tillage to reduced till
- Reduce bare-fallowing or use perennial grasses in crop rotations

5 Carbon Sequestration Estimation

Downloaded (pdf) report. See below.

Climate zone and soil classification determined by location of marker on map in Step 1.

Clear all practices selected in Step 4.

Results **Methodology**

Climate | Tropical Moist Soil | Low Activity Clay Mineral

Conservation Practice	Field Size (hectares)	Soil Carbon Sequestration (Tonnes CO ₂ e per year)*
Add seasonal cover crops	100	46.3

Select each practice to view the baseline and scenario: land use, input class, and management class

Soil carbon estimates will only populate when hectares are entered (max 1000 ha).

Downloaded pdf of COMET-Planner Global Report will include location details, all conservation practices selected with their respective field size and soil carbon sequestration estimates.

COMET-Planner Global | Carbon Sequestration Estimation Report

Location: lat -0.3662, lon 24.2124
 Climate: Tropical Moist
 Soil: Low Activity Clay Mineral

Farm Type: Smallholder
 Current Land Use: Cultivated Annual Croplands
 Date and Time: 5/10/2023, 10:12:02 AM

Conservation Practice	Field Size (ha)	Soil Carbon Sequestration (Tonnes CO ₂ e per year)*
Add seasonal cover crops	100	46.3

Results **Methodology**

Climate | Tropical Moist Soil | Low Activity Clay Mineral

Review the IPCC Guidelines for National Greenhouse Gas Inventories used to generate estimates for how conservation practices may impact carbon stocks within broad climate zones and soil classifications.

Methodology

Carbon stock changes due to adoption of conservation agriculture practices were estimated using [UNFCCC Intergovernmental Panel on Climate Change \(IPCC\) Guidelines for National Greenhouse Gas Inventories](#). This methodology was designed for national inventories and not site level quantification, however it was used in COMET-Planner Global as a general estimate for planning purposes and to understand how conservation practices may impact carbon stocks within broad climate and soil categories. The analyses for this tool employed the Tier 1 methods, as described in the [Introduction of Volume 4: Agriculture, Forestry and Other Land Use](#).

In the initial version of the tool, only emissions for carbon stock changes in mineral soils were evaluated, but future versions of the tool will include additional greenhouse gas emission source categories related to agricultural land use. The Tier 1 method for soil carbon stock changes can be found in [Chapter 2, Generic Methodologies Applicable to Multiple Land-Use Categories](#). Additional details related to specific land use categories for this tool can be found in [Chapter 5, Cropland](#) and [Chapter 6, Grassland](#). Additional land use categories may be added in future versions of the tool.

Conservation agriculture practices included are those that are common and have been shown to increase soil carbon stocks, according to the IPCC Tier 1 method. According to that method, not all practices increase soil carbon in all climate zones, therefore practices were only included in climate zones where they have a carbon benefit relative to conventional practices.

Additional documentation is under development that will provide more detail on the calculations, as well as assumptions for baseline carbon stocks, and descriptions of the conservation agriculture practices.