Detailed Insights: Peru

Contents

Welcome!

You have reached the CCN Inventory Tool Detailed Insights Report.

Congratulations! This geography has available data.

Potential data availability within the Inventory Tool ranges from Tier I, Tier II, or Tier III Carbon stock estimates.

This is a downloadable document which includes country-specific insights and more detailed analysis, including carbon stocks, emissions factors, and ecosystem wetland area for mangrove, marsh, and seagrass habitats. This report details information for the selected geography, **Peru**.

Explore the rest of the dashboard for more exciting visualizations, map features, and data.

Resources referenced to calculate Carbon stock estimates for **Peru** are listed below 'References' at the end of this document.

If you have any questions or data you would like to add to the Coastal Carbon Network, please reach out to us at CoastalCarbon@si.edu.

Total Carbon Stock Estimates

Total Carbon stock estimates were calculated for each geography in total, and for mangrove, tidal marsh, and seagrass habitats, if applicable. At this time total Carbon stock estimates for each country do not include seagrass estimates due to the lack of a global, transparent, and independently assessed seagrass habitat map. However, best available areas and stocks for **Peru** are explored in the following 'Wetland Areas and Activities' section.

Country Level Total Stock Estimates

We estimate that **Peru** contains between 2.23486×10^6 to 1.54715×10^6 metric tonnes of soil Carbon to a depth of 1 meter, with a mean estimate of 1.89101×10^6 metric tonnes soil Carbon.

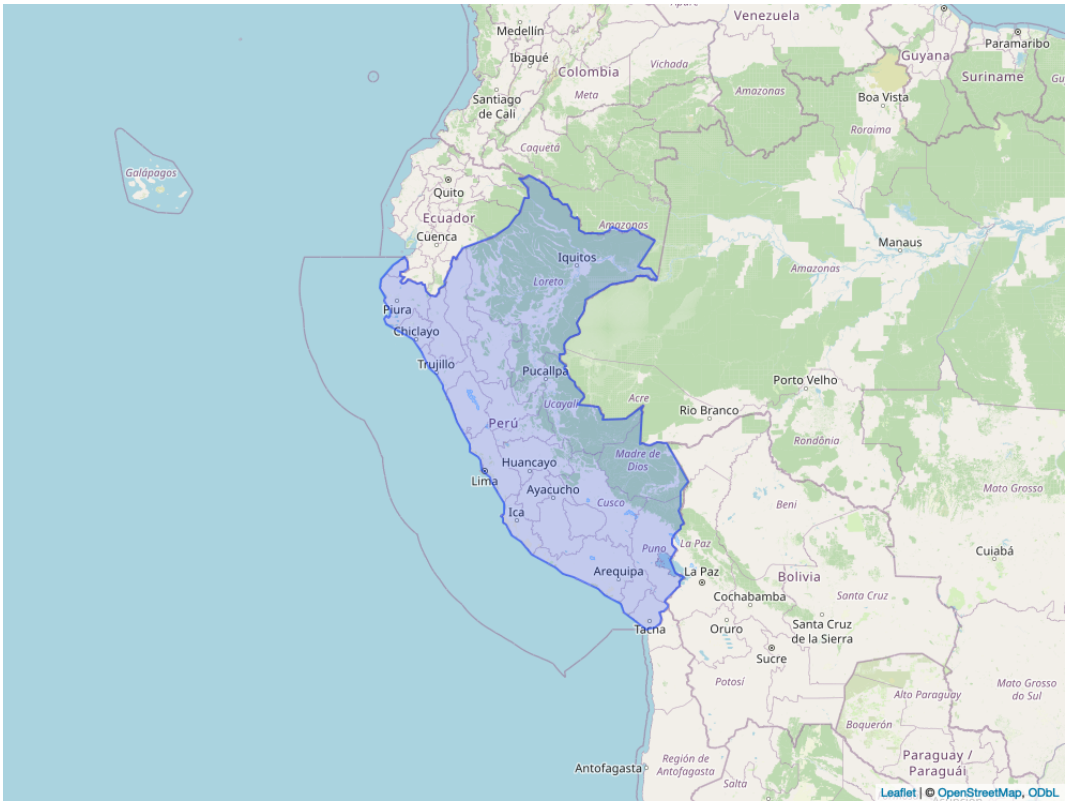


Figure 1: Peru

Table 1: Total Geography Level Stocks

Territory	Country	Habitat	Total Stock	Upper CI	Lower CI	Standard Error
Peru	Peru	mangrove	1602780	1868820	1336740	138560
Peru	Peru	marsh	288226	366040	210412	40528
Peru	Peru	seagrass	NA	NA	NA	NA

Mangrove Estimates

This total estimate includes country-level mangrove carbon stock estimates, with a mean estimate of 1.60278×10^6 metric tonnes soil Carbon in mangrove habitats.

Tidal Marsh Estimates

This total estimate includes country-level mangrove carbon stock estimates, with a mean estimate of 2.88226×10^5 metric tonnes soil Carbon in tidal marsh habitats.

Seagrass Estimates

This total estimate includes country-level mangrove carbon stock estimates, with a mean estimate of **0** metric tonnes soil Carbon in seagrass habitats.

Wetland Areas and Activities

Mangrove Area

We estimate mangrove area in Peru to be 3646 to 4814 hectares with a mean estimate of 4152 hectares according to Global Mangrove Watch, Bunting et al 2018.

Tidal Marsh Area

We estimate tidal marsh area in Peru to be 684.6 to 1278 hectares with a mean estimate of 1130 hectares according to Worthington et al 2024.

Seagrass Area

We estimate seagrass area in Peru to be approximately 0 hectares according to McKenzie et al 2020.

Calculated Stocks and Emissions Factors

This section of the report details whether data is available to estimate Tier I, Tier II, or Tier III value estimates for tidal marsh, mangrove, and seagrass ecosystems in **Peru**.

If data for the selected country is available in the Coastal Carbon Atlas, we have applied a Tier II emission factor based on a simple average of country specific data queried from the Atlas.

Country-specific soil cores from **Peru** have not yet been included in the Coastal Carbon Atlas. In this case, we have instead applied the IPCC Tier I estimated value. IPCC Tier I estimates for mangrove, marsh, and seagrass habitats are listed below. **SOURCE IPCC**

Table 2: IPCC Tier I Value Estimates

Habitat	Mean	Lower CI	Upper CI
mangrove	386	351	424
marsh	255	254	297
seagrass	108	84	139

Tier I Carbon Stocks

This table includes Tier I Soil Carbon Stocks included for **Peru**.

Territory	Country	Habitat	Mean Stock (MgHa)	Lower CI	Upper CI
Peru	Peru	mangrove	386	351	424
Peru	Peru	marsh	255	254	297
Peru	Peru	seagrass	108	84	139

Tier II Carbon Stocks

Tier II carbon stocks were estimated, when available, from soil core data currently housed in the Coastal Carbon Atlas.

Tier II Data Availability for **Peru**: The selected geography, **Peru** does not currently have available Tier II carbon stock estimates at a depth of 1 meter. Please refer to Tier I values.

Tier III Carbon Stocks

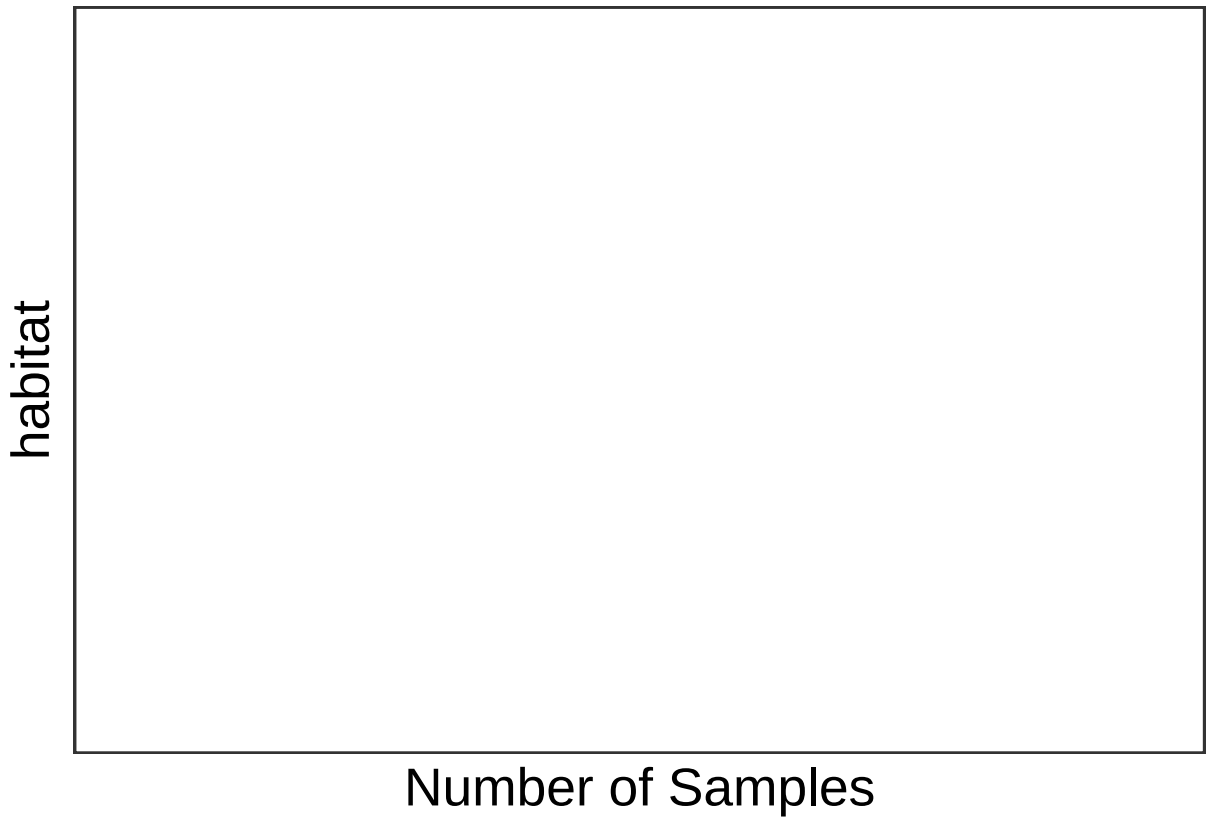
Tier III carbon stocks were estimated, when available, from remote sensing data from Maxwell et al 2021 for mangrove habitats, and Sanderman et al 2018 for tidal marsh habitats. The following details whether estimated values are available for **Peru**, and any overlap with associated Tier I or Tier II values.

If there are no Tier III estimates associated with the selected country, please refer to Tier I and/or Tier II tables.

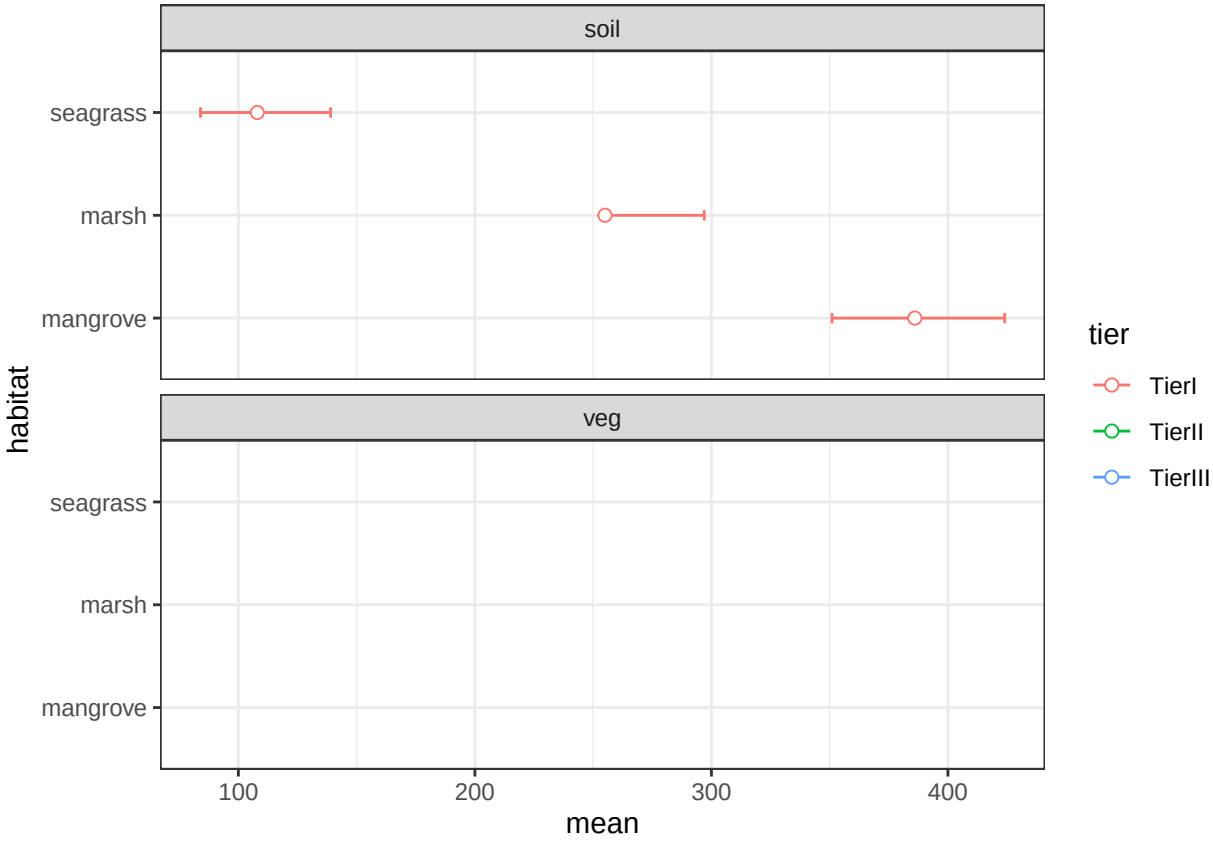
Tier III Data Availability for **Peru**: There are currently no Tier III values for **Peru** in the CCN Inventory Dashboard. Please refer to Tier I values.

Visualizations

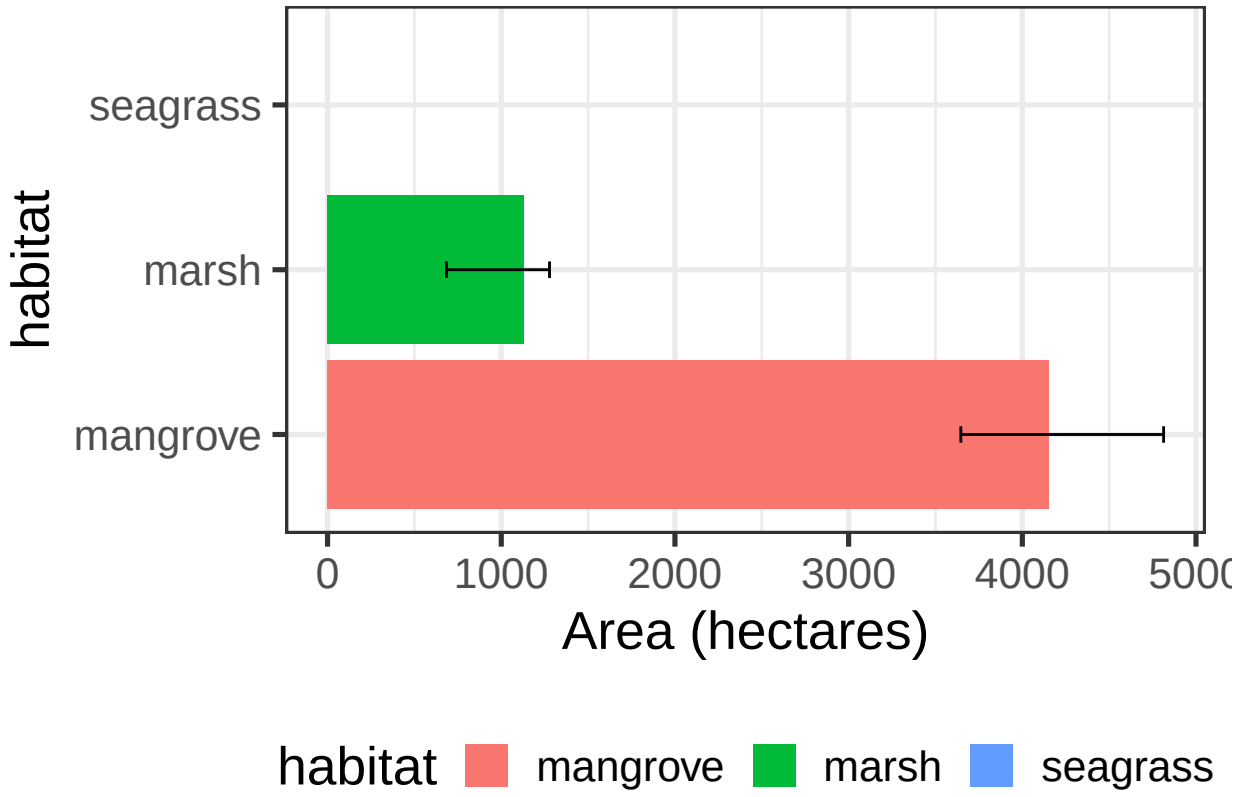
1. Data Metrics



2. Emissions Factors



3. Activity Data



References

Bunting, Pete, Ake Rosenqvist, Richard M. Lucas, Lisa-Maria Rebelo, Lammert Hilarides, Nathan Thomas, Andy Hardy, Takuya Itoh, Masanobu Shimada, and C. Max Finlayson. 2018. "The Global Mangrove Watch—a New 2010 Global Baseline of Mangrove Extent." *Remote Sensing* 10 (10): 1669. https://doi.org/10.3390/rs10101669.

Worthington, Thomas A., Mark Spalding, Emily Landis, Tania L. Maxwell, Alejandro Navarro, Lindsey S. Smart, and Nicholas J. Murray. 2024. "The Distribution of Global Tidal Marshes from Earth Observation Data." *Global Ecology and Biogeography* 33 (8). https://doi.org/10.1111/geb.13852.