Guinea-Bissau Country Insights

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Congratulations! This country has available data.

This page includes country-specific insights and more detailed analysis, including carbon stocks, emissions factors, and ecosystem wetland area for mangrove, marsh, and seagrass ecosystems. This report details information for the selected country, **Guinea-Bissau**.

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

Resources referenced to calculate estimates for **Guinea-Bissau** are listed below under 'References' at the bottom of this document.

Total Carbon Stock Estimates

Total Carbon stock estimates were calculated for each country and habitat At this time total Carbon stock estimates do not include seagrass

We estimate that **Guinea-Bissau** contains between 29335618.91 to 28413848.01 metric tonnes of soil C to a depth of 1 m, with a mean estimate of 28874733.46 metric tonnes C.

country	territory	habitat	total_stocks	total_stocks_lower	total_stocks_upper	total_stocks_se
Guinea-Bissau	Guinea-Bissau	total	28874733	29335619	28413848	235145.6

This total estimate includes total mangrove carbon stocks, from NA to NA metric tonnes of soil C to a depth of 1 m, with a mean estimate of 27167597.03

country	territory	habitat	total_stocks	total_stocks_lower	total_stocks_upper	total_stocks_se
Guinea-Bissau	Guinea-Bissau	mangrove	27167597	NA	NA	NA

This total estimate also includes total tidal marsh carbon stocks, ranging from NA to NAmetric tonnes of soil C to a depth of 1 m, with a mean estimate of 1707136.43

country	territory	habitat	total_stocks	total_stocks_lower	total_stocks_upper	total_stocks_se
Guinea-Bissau	Guinea-Bissau	marsh	1707136	NA	NA	240044.5

Seagrass carbon stocks were not included in the total value due to lack of a global, transparent, and independently assessed seagrass habitat map, however, best available areas and stocks for **Guinea-Bissau** are explored in the following 'Wetland Areas and Activities' section.

Wetland Areas and Activities

We estimate mangrove area in **Guinea-Bissau** to be 305322.809306121 to 7568.19847698006 hectares, with a mean estimate of 347722.931963277 hectares according to Global Mangrove Watch Bunting et al. (2018).

We estimate tidal marsh area in **Guinea-Bissau** to be 4055.02504546122 to 7568.19847698006 hectares, with a mean estimate of hectares according to Worthington et al. (2024).

We estimate seagrass area to be **Guinea-Bissau** to be a mean of 1539714 hectares, according to McKenzie et al. (2020), aggregating data from multiple sources.

McKenzie et al. (2020) classifies seagrass area estimates as either high or medium to low confidence. seagrass_area_high_confidence % of the estimated seagrass area of **Guinea-Bissau** is considered high to medium confidence, while seagrass_area_low_confidence % of the estimated seagrass area is categorized as low confidence.

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 **Guinea-Bissau**.

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.

Data from **Guinea-Bissau** includes 3 soil profiles from 3watersheds. This data comes from 1 different habitat types.

If there is not yet any country specific information in the Coastal Carbon Atlas, we instead applied IPCC Tier I estimate. IPCC Tier I estimates for mangrove, marsh, and seagrass ecosystems are listed below. **SOURCE**

The table in this section also details whether the calculated Tier II value is significantly different from the estimated Tier I values. This is observed in the "Overlap" column.

Table 4: IPCC Tier I Value Estimates

Habitat	Mean	Lower_CI	Upper_CI
mangrove	386	351	424
marsh	255	254	297
seagrass	108	84	139

Table 5: Availiability of Tier I and Tier II Data

Country	Territory	Habitat	Tier	Overlap
Guinea-Bissau	Guinea-Bissau	mangrove	Tier II	Country-specific average is significantly less than Tier I
Guinea-Bissau	Guinea-Bissau	marsh	Tier I	NA
Guinea-Bissau	Guinea-Bissau	seagrass	Tier I	NA

Tier I Carbon Stocks

This table includes Tier I Carbon Stocks included for **Guinea-Bissau**.

country	territory	habitat	stock_MgHa_mean	stock_MgHa_lowerCI	stock_MgHa_upperCI	tierCI	carbon_pool
Guinea-Bissau	Guinea-Bissau	marsh	255	254	297	TierI	soil
Guinea-Bissau	Guinea-Bissau	seagrass	108	84	139	TierI	soil

Tier II Carbon Stocks

This table includes Tier II Carbon Stock estimates for **Guinea-Bissau**. Estimates in this table were derived from data queried from the Coastal Carbon Atlas. SOURCE

country	territory	habitat	tier	carbon_pool	stock_MgHa_mean	stock_MgHa_lowerCI	stock_MgHa_upperCI
Guinea-Bissau	Guinea-Bissau	mangrove	TierII	soil	78.13001	34.62409	NA

Tier III Carbon Stocks

Tier III carbon stocks were estimated, when available, from remote sensing data from Maxwell et al 2021 and Sanderman et al 2018. The table below details whether estimated values are available for **Guinea-Bissau**, 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 Tier II tables.

country	territory	habitat	stock_MgHa_mean	stock_MgHa_lowerCI	stock_MgHa_upperCI	tierIII_greaterTierII	tierIII_overlaps_tierIII	tierIII_greaterTierI	tierIII_overlaps_tierI
Guinea-Bissau	Guinea-Bissau	mangrove	297.3296	210.2793	384.3799	greater than	Remote-sensing esimate is significantly greater than country-specific average	less than	Remote-sensing esimate overlaps Tier I	Tier III

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.

McKenzie, Len J, Lina M Nordlund, Benjamin L Jones, Leanne C Cullen-Unsworth, Chris Roelfsema, and Richard K F Unsworth. 2020. "The Global Distribution of Seagrass Meadows." *Environmental Research Letters* 15 (7): 074041. https://doi.org/10.1088/1748-9326/ab7d06.

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.