

# United States 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, **United States**.

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

Resources referenced to calculate estimates for **United States** 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 **United States** contains between c(892048447.53, 3819188.27, 83700.85, 13955.25, 12217.62, 0, 0) to c(520307455.76, 2719710.52, 59870.01, 9981.99, 8739.09, 0, 0) metric tonnes of soil C to a depth of 1 m, with a mean estimate of c(706177951.65, 3269449.39, 71785.43, 11968.62, 10478.36, 0, 0) metric tonnes C.

country	territory	habitat	total_stock	total_stocks_low	total_stocks_high	total_stocks_se
United States	United States	total	706177951.65	892048447.53	5.203075e+08	9.483189e+07
United States	Puerto Rico	total	3269449.39	3819188.27	2.719711e+06	2.804790e+05
United States	US Virgin Islands	total	71785.43	83700.85	5.987001e+04	6.079296e+03
United States	Guam	total	11968.62	13955.25	9.981988e+03	1.013587e+03
United States	Northern Mariana Islands	total	10478.36	12217.62	8.739089e+03	8.873809e+02
United States	American Samoa	total	0.00	0.00	0.000000e+00	0.000000e+00
United States	United States Minor Outlying Islands	total	0.00	0.00	0.000000e+00	0.000000e+00

This total estimate includes total mangrove carbon stocks, from c(NA, NA, NA, NA, NA, NA, NA) to c(NA, NA, NA, NA, NA, NA, NA) metric tonnes of soil C to a depth of 1 m, with a mean estimate of c(11968.62, 10478.36, 71785.43, NA, NA, 3201614.7, 58607190.45)

country	territory	habitat	total_stocks	total_stocks_low	total_stocks_high	total_stocks_se
United States	Guam	mangrove	11968.62	NA	NA	1034.703
United States	Northern Mariana Islands	mangrove	10478.36	NA	NA	905.868
United States	US Virgin Islands	mangrove	71785.43	NA	NA	6205.948
United States	American Samoa	mangrove	NA	NA	NA	NA
United States	United States Minor Outlying Islands	mangrove	NA	NA	NA	NA
United States	Puerto Rico	mangrove	3201614.70	NA	NA	276783.934
United States	United States	mangrove	58607190.45	NA	NA	8186797.721

This total estimate also includes total tidal marsh carbon stocks, ranging from c(NA, NA, NA, NA, NA, NA, NA) to c(NA, NA, NA, NA, NA, NA, NA) metric tonnes of soil C to a depth of 1 m, with a mean estimate of c(0, 0, 0, NA, NA, 67834.69, 647570761.2)

country	territory	habitat	total_stocks	total_stocks_low	total_stocks_high	total_stocks_se
United States	Guam	marsh	0.00	NA	NA	NA
United States	Northern Mariana Islands	marsh	0.00	NA	NA	NA
United States	US Virgin Islands	marsh	0.00	NA	NA	NA
United States	American Samoa	marsh	NA	NA	NA	NA
United States	United States Minor Outlying Islands	marsh	NA	NA	NA	NA
United States	Puerto Rico	marsh	67834.69	NA	NA	9538.397
United States	United States	marsh	647570761.20	NA	NA	88620752.220

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 **United States** are explored in the following ‘Wetland Areas and Activities’ section.

## Wetland Areas and Activities

We estimate mangrove area in **United States** to be c(27.2259249675607, 23.8359098513251, 163.295759167418, NA, NA, 7282.95585416578, 206233.738355796) to c(0, 0, 0, NA, NA, 300.729585958869, 2244681.42223506) hectares, with a mean estimate of c(31.0067841857192, 27.1459982906327, 185.972611361419, NA, NA, 8294.33860092178, 234873.379862442) hectares according to Global Mangrove Watch Bunting et al. (2018).

We estimate tidal marsh area in **United States** to be c(0, 0, 0, NA, NA, 161.130288361703, 1202695.64995298) to c(0, 0, 0, NA, NA, 300.729585958869, 2244681.42223506) hectares, with a mean estimate of hectares according to Worthington et al. (2024).

We estimate seagrass area to be **United States** to be a mean of c(307, 670, 8409, 38114, 48716, 60392, 1442238) 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 **United States** 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 **United States**.

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 **United States** includes 1107 soil profiles from 540 watersheds. This data comes from 5 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: Availability of Tier I and Tier II Data

Country	Territory	Habitat	Tier	Overlap
United States	Guam	mangrove	Tier I	NA
United States	Guam	marsh	Tier I	NA
United States	Guam	seagrass	Tier I	NA
United States	Northern Mariana Islands	mangrove	Tier I	NA
United States	Northern Mariana Islands	marsh	Tier I	NA
United States	Northern Mariana Islands	seagrass	Tier I	NA
United States	US Virgin Islands	mangrove	Tier I	NA
United States	US Virgin Islands	marsh	Tier I	NA
United States	US Virgin Islands	seagrass	Tier I	NA

Country	Territory	Habitat	Tier	Overlap
United States	American Samoa	mangrove	Tier I	NA
United States	American Samoa	marsh	Tier I	NA
United States	American Samoa	seagrass	Tier I	NA
United States	United States Minor Outlying Islands	mangrove	Tier I	NA
United States	United States Minor Outlying Islands	marsh	Tier I	NA
United States	United States Minor Outlying Islands	seagrass	Tier I	NA
United States	Puerto Rico	mangrove	Tier I	NA
United States	Puerto Rico	marsh	Tier I	NA
United States	Puerto Rico	seagrass	Tier I	NA
United States	United States	mangrove	Tier II	Country-specific average is significantly less than Tier I
United States	United States	marsh	Tier II	Country-specific average is significantly greater than Tier I
United States	United States	seagrass	Tier II	Country-specific average overlaps Tier I

### Tier I Carbon Stocks

This table includes Tier I Carbon Stocks included for **United States**.

country	territory	habitat	stock_MgHa_ <u>stock</u>	stock_MgHa_ <u>stock</u>	stock_MgHa_ <u>stock</u>	upperCarbon_pool
United States	Guam	mangrove	386	351	424	TierI soil
United States	Guam	marsh	255	254	297	TierI soil
United States	Guam	seagrass	108	84	139	TierI soil
United States	Northern Mariana Islands	mangrove	386	351	424	TierI soil
United States	Northern Mariana Islands	marsh	255	254	297	TierI soil
United States	Northern Mariana Islands	seagrass	108	84	139	TierI soil
United States	US Virgin Islands	mangrove	386	351	424	TierI soil
United States	US Virgin Islands	marsh	255	254	297	TierI soil
United States	US Virgin Islands	seagrass	108	84	139	TierI soil
United States	American Samoa	mangrove	386	351	424	TierI soil

country	territory	habitat	stock_MgHa	stock_MgHa_lowerCI	stock_MgHa_upperCI	Carbon_pool
United States	American Samoa	marsh	255	254	297	TierI soil
United States	American Samoa	seagrass	108	84	139	TierI soil
United States	United States Minor Outlying Islands	mangrove	386	351	424	TierI soil
United States	United States Minor Outlying Islands	marsh	255	254	297	TierI soil
United States	United States Minor Outlying Islands	seagrass	108	84	139	TierI soil
United States	Puerto Rico	mangrove	386	351	424	TierI soil
United States	Puerto Rico	marsh	255	254	297	TierI soil
United States	Puerto Rico	seagrass	108	84	139	TierI soil

## Tier II Carbon Stocks

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

country	territory	habitat	tier	carbon_pool	stock_MgHa	stock_MgHa_lowerCI	stock_MgHa_upperCI
United States	United States	mangrove	TierII	soil	249.5267	29.909237	308.1478
United States	United States	marsh	TierII	soil	326.1347	9.264096	344.2920
United States	United States	seagrass	TierII	soil	206.0485	35.789039	276.1937

## 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 **United States**, 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	stock_MgHa_lowerCI	stock_MgHa_upperCI	tierIII	tierIII_gt_tierII	tierIII_overlap_tierI
United States	United States	mangrove	493.9744	406.4623	581.4857	greater than	Remote-sensing estimate is significantly greater than country-specific average	Tier III overlaps Tier I

