Netherlands 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, **Netherlands**.

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

Resources referenced to calculate estimates for **Netherlands** 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 **Netherlands** contains between c(2063769, 98643.4, 35308.8, 26.61) to c(2063769, 70558.2, 25255.88, 19.04) metric tonnes of soil C to a depth of 1 m, with a mean estimate of c(2063769, 84600.8, 30282.34, 22.82) metric tonnes C.

country	territory	habitat	total_stocks	total_stocks_lower	total_stocks_upper	total_stocks_se
Netherlands	Netherlands	total	2.063769e+06	2.063769e+06	2.063769e+06	0.000000
Netherlands	Bonaire	total	8.460080e+04	9.864340e+04	7.055820e+04	7164.591692
Netherlands	Curacao	total	3.028234e+04	3.530880e+04	2.525588e+04	2564.521706
Netherlands	Sint Maarten	total	2.282459e+01	2.661316e+01	1.903601e+01	1.932947

This total estimate includes total mangrove carbon stocks, from c(NA, NA, NA, NA) to c(NA, NA, NA, NA) metric tonnes of soil C to a depth of 1 m, with a mean estimate of c(84600.8, 30282.34, 22.82, 0)

country	territory	habitat	total_stocks	total_stocks_lower	total_stocks_upper	total_stocks_se
Netherlands	Bonaire	mangrove	84600.80113	NA	NA	7313.854019
Netherlands	Curacao	mangrove	30282.33850	NA	NA	2617.949241
Netherlands	Sint Maarten	mangrove	22.82459	NA	NA	1.973216
Netherlands	Netherlands	mangrove	0.00000	NA	NA	NA

This total estimate also includes total tidal marsh carbon stocks, ranging from c(NA, NA, NA, NA) to c(NA, NA, NA, NA)metric tonnes of soil C to a depth of 1 m, with a mean estimate of c(0, 0, 0, 2063769)

country	territory	habitat	total_stocks	total_stocks_lower	total_stocks_upper	total_stocks_se
Netherlands	Bonaire	marsh	0	NA	NA	NA
Netherlands	Curacao	marsh	0	NA	NA	NA
Netherlands	Sint Maarten	marsh	0	NA	NA	NA
Netherlands	Netherlands	marsh	2063769	NA	NA	NA

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 **Netherlands** are explored in the following 'Wetland Areas and Activities' section.

Wetland Areas and Activities

We estimate mangrove area in **Netherlands** to be c(192.447860717157, 68.8855328137538, 0.051920815680083, 0) to c(0, 0, 0, 22611.7226564372) hectares, with a mean estimate of c(219.173059918811, 78.4516541501991, 0.0591310498525582, 0) hectares according to Global Mangrove Watch Bunting et al. (2018).

We estimate tidal marsh area in **Netherlands** to be c(0, 0, 0, 12115.3140964484) to c(0, 0, 0, 22611.7226564372) hectares, with a mean estimate of hectares according to Worthington et al. (2024).

We estimate seagrass area to be **Netherlands** to be a mean of c(NA, 800, 2734, 276) 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 **Netherlands** 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 **Netherlands**.

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 **Netherlands** includes 0 soil profiles from 0watersheds. This data comes from 0 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
Netherlands	Bonaire	mangrove	Tier I	NA
Netherlands	Bonaire	marsh	Tier I	NA
Netherlands	Bonaire	seagrass	Tier I	NA
Netherlands	Curacao	mangrove	Tier I	NA
Netherlands	Curacao	marsh	Tier I	NA
Netherlands	Curacao	seagrass	Tier I	NA
Netherlands	Sint Maarten	mangrove	Tier I	NA
Netherlands	Sint Maarten	marsh	Tier I	NA
Netherlands	Sint Maarten	seagrass	Tier I	NA
Netherlands	Netherlands	mangrove	Tier I	NA
Netherlands	Netherlands	marsh	Tier II	NA
Netherlands	Netherlands	seagrass	Tier I	NA

Tier I Carbon Stocks

This table includes Tier I Carbon Stocks included for **Netherlands**.

country	territory	habitat	stock_MgHa_mean	stock_MgHa_lowerCI	stock_MgHa_upperCI	tier	carbon_pool
Netherlands	Bonaire	mangrove	386	351	424	TierI	soil
Netherlands	Bonaire	marsh	255	254	297	TierI	soil
Netherlands	Bonaire	seagrass	108	84	139	TierI	soil
Netherlands	Curacao	mangrove	386	351	424	TierI	soil
Netherlands	Curacao	marsh	255	254	297	TierI	soil
Netherlands	Curacao	seagrass	108	84	139	TierI	soil
Netherlands	Sint Maarten	mangrove	386	351	424	TierI	soil
Netherlands	Sint Maarten	marsh	255	254	297	TierI	soil
Netherlands	Sint Maarten	seagrass	108	84	139	TierI	soil
Netherlands	Netherlands	mangrove	386	351	424	TierI	soil
Netherlands	Netherlands	seagrass	108	84	139	TierI	soil

Tier II Carbon Stocks

This table includes Tier II Carbon Stock estimates for **Netherlands**. 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	stock_MgHa_lowerCI
Netherlands	Netherlands	marsh	TierII	soil	103.1791	NA	NA	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 **Netherlands**, 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_vs_tierI	tierIII_vs_tierII	overlaps_tierI	tier
Netherlands	Netherlands	marsh	264.241	189.7984	338.6837	greater than	NA	greater 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.