Supplementary information:

**Carbon stocks of mangroves and salt marshes of the Amazon Region, Brazil**

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| *Field sampling* At each mangrove and salt marsh, six sub-plots were established 20 m apart along a 100 m transect positioned in a perpendicular direction from the mangrove/estuary ecotone. At each plot, we collected data necessary to calculate total carbon stocks. In mangroves this consisted of standing live and dead tree biomass (above and belowground), downed wood (dead wood on forest floor), and soils to the depth of an indurated horizon composed of marine sands. Carbon stocks of marshes consisted only of herbaceous plants and soil carbon; no wood or trees were found these sampled stands. Aboveground herbaceous mass were an insignificant component of the total carbon pool (<2% of the total) and far less than the standard error term of the belowground carbon. Therefore, we only collected the belowground carbon for these sites. We estimated that aboveground plant carbon in the sampled marshes was ≈2 Mg C ha-1.  *Biomass of trees and shrubs*  Three species of mangroves were encountered in the sampled mangrove stands: *Rhizophora mangle L*. (Rhizophoraceae), *Avicennia germinans (L.)* Stearn (Avicenniaceae), and *Laguncularia racemosa (L.)* Gaertn., (Combretaceae). Composition, tree density, and basal area of the mangroves were quantified through identification of the species and measurements of diameter at 1.3 m height (diameter at breast height, hereafter dbh) of all trees rooted within each sub-plot of each transect. Plot size for tree measurements was 154 m2 (7 m radius) for trees >5 cm dbh and a nested plot with a radius of 2 m for trees with a dbh of <5 cm. The diameter of trees of *R. mangle* was measured at the main branch, 30 cm above the highest prop root [1].  Allometric equations were used to calculate tree biomass based on several equations specifically developed for the species encountered in this study. For *L. racemosa* we used an equation developed in Florida [2]. For *R. mangle* and *A. germinans* we used the equations developed in French Guiana [3]. These equations were selected for analysis as they represented the best combination of diameter range and sample size.  Belowground root biomass for mangrove trees was calculated using generalized formula for all mangrove species [4]. Tree carbon content (C) was calculated by multiplying biomass by 0.48 for aboveground and 0.39 for belowground biomass (i.e., the mean carbon concentration of mangrove plant tissues [1]; Standing dead trees were included in aboveground biomass calculations. For each dead tree, the dbh was measured and assigned to one of three decay classes: Status 1- dead trees without leaves, Status 2- dead trees without secondary branches, and Status 3- dead trees without primary or secondary branches [1]. Biomass of class I dead trees was estimated to be 97.5% of a live tree, class II - 80% of a live tree, and class III - 50% of a live tree. *Downed wood* We used the planar intersect technique adapted for mangroves to calculate mass of dead and downed wood [1, 5]. At the center of each sub-plot, four 14 m transects were established. The first was established in a direction that was offset 45o from the azimuth of the main transect. The other three were established 90o clockwise from the first transect. Along each transect, the diameter of any downed wood intersecting the transect was measured. Downed wood ≥2.5 cm but <7.5 cm in diameter at the point of intersection was measured along the last 5 m of the transect. Downed wood ≥7.5 cm in diameter at the point of intersection was measured from the second meter to the end of the transect (12 m length in total). Large downed wood was separated in two decay categories: sound and rotten. Wood was considered rotten if it visually appeared decomposed and broke apart when impacted. To determine wood mass, we used data of specific gravity of downed wood from mangroves of the Yucatan, Mexico [5]. Downed wood was converted to C using factor of 0.50 [4]. *Soil carbon*  At each plot, fixed-volume soil samples were collected for bulk density and nutrient concentration using a peat auger consisting of an open-faced cylindrical chamber with a 6.4 cm radius. This auger is efficient for collecting relatively undisturbed cores from wet soils in mangroves [6]. The core was systematically divided into depth intervals of 0-15 cm, 15-30 cm, 30-50 cm, 50-100 cm and >100 cm (if parent materials or an indurated horizon were not encountered before 100 cm depth). At each sampling site, the depth to an indurated horizon was measured. The soil depth was measured at three locations near the center of each plot using a graduated aluminum probe. When soils were >3m in depth we limited the calculation of soil carbon pools to 3m. Samples of a known volume were collected in the field, dried at 60oC to constant mass, and then weighed to determine bulk density. Laboratory analysis was conducted at the University of Sao Paulo and at the Seagrass Analytical Lab, Florida International University, Miami, USA. Soil concentration was determined using a Thermo Flash EA 1112 series C-N Soil Analyzer.  We sampled interstitial salinity and pH of the ground water collected in the bore holes using methods described in [6]. A portable handheld refractometer (VEE GEE STX-3, range - 0-100 parts per thousand) and pH meter (Milwaukee Instruments, Inc., pH56, pH -Temperature meter) were used for measuring salinity and pH of the soil pore water. Care was taken to ensure that no surface water mixed with the sampled soil porewater as surface water was usually lower in salinity. Porewater was sampled at each soil sampling plot (n = 6 in each sampled stand). |

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|  | Supplementary Table 1. Summary of plant carbon (Mg C ha-1), basal area (m2 ha-1), and density (numbers ha-1) of mangroves of the Legal Amazon (Para) and Northeastern Brazil (Ceara). Detailed methods are described in references 4 and 7. | | | | | | | | | | |
|  | | Total carbon | | Belowground | | Aboveground | | Basal area | | Density |  |
|  | | Mean | SE | Mean | SE | Mean | SE | Mean | SE | Mean | SE |
| Barreto | | 114.44 | 19.61 | 9.64 | 1.72 | 104.80 | 18.91 | 19.41 | 3.22 | 2168. | 1302 |
| Boca Grande | | 165.98 | 42.65 | 10.55 | 1.52 | 155.43 | 42.10 | 26.21 | 5.74 | 958. | 345 |
| Caetano | | 238.98 | 66.36 | 15.58 | 2.65 | 223.41 | 64.50 | 42.33 | 12.46 | 4606. | 1610 |
| Caete | | 133.68 | 38.97 | 11.83 | 3.33 | 121.85 | 37.34 | 19.05 | 4.51 | 3816 | 211 |
| Furo do Chato | | 156.00 | 30.34 | 10.32 | 2.05 | 145.68 | 28.57 | 27.20 | 5.64 | 562 | 146 |
| Furo Grande | | 105.72 | 20.93 | 9.25 | 1.78 | 96.47 | 19.16 | 20.47 | 4.37 | 563 | 113 |
| Mangue Sul | | 209.98 | 50.38 | 15.14 | 2.39 | 194.84 | 48.54 | 36.84 | 9.05 | 1805 | 311 |
| Maruipe | | 159.47 | 17.22 | 11.85 | 1.36 | 147.62 | 17.04 | 25.87 | 2.50 | 1857 | 1351 |
| Salinas | | 127.51 | 20.30 | 11.06 | 1.28 | 116.45 | 20.61 | 19.62 | 2.28 | 2915 | 823 |
| **Mean Amazon Mangrove** | | **156.86** | **5.62** | **11.69** | **0.22** | **145.17** | **5.47** | **26.33** | **1.11** | **2139** | **241** |
|  | |  |  |  |  |  |  |  |  |  |  |
|  | |  |  |  |  |  |  |  |  |  |  |
|  | | Total carbon | | Belowground | | Aboveground | | Basal area | | Density |  |
|  | | Mean | SE | Mean | SE | Mean | SE | Mean | SE | Mean | SE |
| Acarau Boca | | 98.07 | 17.02 | 9.17 | 1.00 | 88.89 | 16.19 | 18.58 | 2.67 | 1015 | 407 |
| Manguezal Caussau | | 75.60 | 5.52 | 10.83 | 1.22 | 64.77 | 5.52 | 18.54 | 1.51 | 1397 | 411 |
| Manguinho | | 88.00 | 11.24 | 15.37 | 4.78 | 72.64 | 7.10 | 22.22 | 2.74 | 5714 | 4006 |
| Porto Ceu mangrove | | 89.66 | 19.34 | 28.54 | 3.56 | 61.12 | 16.40 | 34.45 | 9.95 | 6650 | 945 |
| Quatro Bocas | | 114.26 | 16.46 | 10.88 | 1.50 | 103.37 | 15.57 | 21.06 | 2.82 | 1602 | 443 |
| Rego Escuro | | 54.64 | 8.81 | 12.46 | 0.88 | 42.18 | 8.02 | 20.16 | 2.09 | 2187 | 391 |
| **Mean Northeast Mangrove** | | **86.70** | **2.20** | **14.54** | **0.66** | **72.16** | **2.08** | **22.50** | **1.28** | **3094** | **588** |

Supplementary Table 2. Ecosystem carbon stocks (Mg C ha-1) of sampled mangroves and salt marshes, in Amazonia, Brazil. Data are means ± one standard error.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Site | Soils 0-15 cm | 15-30 cm | 30-50 cm | 50-100 cm | >100 | Downed Wood | Total belowground | Total aboveground | Total |
| Mangroves | | | | | | | | | |
| Mean all Mangroves | 24.8 ± 3.6 | 24.3 ± 3.8 | 33.2 ± 4.9 | 82.9 ± 12.0 | 179.9 ± 42.0 | 13.6 ± 6.3 | 11.7 ± 2.1 | 145.2 ± 37.3 | 510.9 ± 62.6 |
| Boca Grande | 16.8 ± 1.5 | 17.5 ± 3.0 | 20.9 ± 1.4 | 56.0 ± 4.4 | 233.7 ± 27.0 | 18.4 ± 6.0 | 10.5 ± 1.5 | 155.4 ± 42.1 | 522.8 ± 56.6 |
| Caetano | 30.6 ± 4.9 | 31.7 ± 5.6 | 37.8 ± 3.5 | 85.9 ± 8.2 | 304.0 ± 30.3 | 17.2 ± 6.4 | 15.6 ± 2.7 | 223.4 ± 64.5 | 746.2 ± 84.4 |
| Caete | 24.8 ± 1.3 | 24.6 ± 1.6 | 35.1 ± 1.9 | 82.1 ± 9.9 | 204.6 ± 38.3 | 15.7 ± 6.1 | 11.8 ± 3.3 | 121.8 ± 37.3 | 520.7 ± 25.6 |
| Furo de Chato | 20.6 ± 2.3 | 26.6 ± 6.8 | 29.1 ± 4.2 | 73.8 ± 6.6 | 63.4 ± 14.2 | 8.7 ± 2.8 | 10.3 ± 2.0 | 145.7 ± 28.6 | 361.6 ± 16.6 |
| Furo Grande | 18.3 ± 1.3 | 17.7 ± 0.7 | 28.3 ± 2.6 | 64.8 ± 6.5 | 202.7 ± 32.3 | 20.3 ± 12.5 | 9.3 ± 1.8 | 96.5 ± 19.2 | 457.8 ± 30.5 |
| Mangue Sul | 24.0 ± 1.3 | 25.2 ± 1.9 | 29.7 ± 1.0 | 59.4 ± 8.4 | 181.9 ± 41.8 | 22.7 ± 6.3 | 15.1 ± 2.4 | 194.8 ± 48.5 | 543.0 ± 69.2 |
| Maruipe | 29.8 ± 3.6 | 21.1 ± 4.0 | 34.2 ± 3.3 | 104.4 ± 14.0 | 57.1 ± 19.1 | 2.8 ± 0.9 | 11.9 ± 1.4 | 147.6 ± 17.0 | 408.9 ± 34.6 |
| Barreto | 25.3 ± 2.1 | 24.3 ± 2.4 | 32.2 ± 1.6 | 98.7 ± 10.0 | 201.7 ± 34.4 | 4.6 ± 2.6 | 9.6 ± 1.7 | 104.8 ± 18.9 | 501.1 ± 37.9 |
| Salino | 33.0 ± 5.7 | 28.8 ± 3.1 | 49.1 ± 10.3 | 115.4 ± 13.9 | 170.3 ± 35.9 | 12.1 ± 3.5 | 11.1 ± 1.3 | 116.4 ± 20.6 | 536.1 ± 57.3 |
| Marshes | | | | | | | | | |
| Mean all Marshes | 34.8 ± 8.2 | 18.2 ± 3.2 | 16.3 ± 1.8 | 35.3 ± 6.9 | 152.8 ± 36.7 | 0.0 ± 0.0 | -- | -- | 257.3 ± 35.9 |
| Marisma Medium | 28.9 ± 3.6 | 20.5 ± 2.4 | 15.2 ± 2.1 | 30.7 ± 2.1 | 127.5 ± 10.9 | 0.0 ± 0.0 | -- | -- | 222.8 ± 15.4 |
| Marisma Low | 17.4 ± 1.3 | 14.8 ± 1.4 | 17.2 ± 1.4 | 49.3 ± 9.1 | 253.8 ± 26.2 | 0.0 ± 0.0 | -- | -- | 352.6 ± 29.0 |
| Marisma High | 58.0 ± 6.1 | 19.4 ± 4.9 | 16.4 ± 1.9 | 26.0 ± 3.9 | 76.9 ± 1.3 | 0.0 ± 0.0 | -- | -- | 196.7 ± 22.9 |
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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Supplementary Table 3. Soil properties of sampled mangrove and salt marshes of Amazonia. | | | | | | | | | | | | | |
| Site | Nitrogen (%) | SE | | Nitrogen mass | SE | Carbon (%) | SE | Carbon mass | SE | Carbon density | SE | Soil bulk density | SE |
| Mangroves | | | | | | | | | | | | | | |
|  |  |  | |  |  |  |  |  |  |  |  |  |  |
| Boca Grande  0-15 | 0.13 | 0.01 | | 1.44 | 0.12 | 1.49 | 0.32 | 16.78 | 3.31 | 0.01 | 0.00 | 0.78 | 0.05 |
| 15-30 | 0.13 | 0.01 | | 1.39 | 0.05 | 1.60 | 0.19 | 17.53 | 1.56 | 0.01 | 0.00 | 0.75 | 0.07 |
| 30-50 | 0.11 | 0.01 | | 1.69 | 0.13 | 1.32 | 0.24 | 20.88 | 4.40 | 0.01 | 0.00 | 0.82 | 0.06 |
| 50-100 | 0.12 | 0.01 | | 4.62 | 1.31 | 1.50 | 0.20 | 56.00 | 20.41 | 0.01 | 0.00 | 0.79 | 0.03 |
| >100 | 0.10 | 0.01 | | 16.26 | 0.06 | 1.43 | 0.20 | 233.70 | 1.49 | 0.01 | 0.00 | 0.94 | 0.06 |
| São Caetano |  |  | |  |  |  |  |  |  |  |  |  |  |
| 0-15 | 0.19 | 0.01 | | 1.83 | 0.13 | 3.07 | 0.64 | 30.65 | 5.60 | 0.02 | 0.00 | 0.67 | 0.08 |
| 15-30 | 0.18 | 0.02 | | 1.69 | 0.15 | 3.37 | 0.41 | 31.68 | 3.49 | 0.02 | 0.00 | 0.65 | 0.07 |
| 30-50 | 0.17 | 0.02 | | 2.17 | 0.42 | 3.01 | 0.48 | 37.82 | 8.18 | 0.02 | 0.00 | 0.67 | 0.11 |
| 50-100 | 0.15 | 0.00 | | 4.76 | 0.81 | 2.74 | 0.09 | 85.92 | 14.70 | 0.02 | 0.00 | 0.72 | 0.02 |
| >100 | 0.13 | 0.01 | | 19.45 | 0.16 | 2.02 | 0.35 | 304.03 | 4.90 | 0.02 | 0.00 | 0.76 | 0.06 |
| Caeté |  |  | |  |  |  |  |  |  |  |  |  |  |
| 0-15 | 0.20 | 0.01 | | 1.65 | 0.08 | 3.05 | 0.16 | 24.84 | 1.59 | 0.02 | 0.00 | 0.55 | 0.03 |
| 15-30 | 0.19 | 0.01 | | 1.66 | 0.11 | 2.87 | 0.26 | 24.65 | 1.93 | 0.02 | 0.00 | 0.58 | 0.05 |
| 30-50 | 0.18 | 0.01 | | 2.04 | 0.43 | 3.17 | 0.27 | 35.14 | 9.92 | 0.02 | 0.00 | 0.57 | 0.03 |
| 50-100 | 0.16 | 0.01 | | 4.69 | 0.28 | 2.79 | 0.23 | 82.08 | 5.35 | 0.02 | 0.00 | 0.58 | 0.05 |
| >100 | 0.17 | 0.00 | | 11.47 | 0.07 | 3.09 | 0.14 | 204.63 | 1.29 | 0.02 | 0.00 | 0.58 | 0.03 |
| Furo do Chato |  |  | |  |  |  |  |  |  |  |  |  |  |
| 0-15 | 0.11 | 0.01 | | 1.41 | 0.10 | 1.69 | 1.03 | 20.60 | 7.44 | 0.01 | 0.00 | 0.84 | 0.07 |
| 15-30 | 0.12 | 0.02 | | 1.29 | 0.16 | 2.70 | 0.41 | 26.63 | 4.19 | 0.02 | 0.00 | 0.73 | 0.07 |
| 30-50 | 0.12 | 0.01 | | 1.67 | 0.10 | 2.08 | 0.25 | 29.11 | 7.20 | 0.01 | 0.00 | 0.76 | 0.09 |
| 50-100 | 0.10 | 0.01 | | 4.22 | 0.93 | 1.83 | 0.10 | 73.84 | 14.43 | 0.01 | 0.00 | 0.84 | 0.05 |
| >100 | 0.06 | 0.01 | | 3.13 | 0.09 | 1.12 | 0.27 | 63.44 | 2.33 | 0.01 | 0.00 | 1.19 | 0.04 |
| Furo Grande |  |  | |  |  |  |  |  |  |  |  |  |  |
| 0-15 | 0.15 | 0.02 | | 1.39 | 0.10 | 1.91 | 0.21 | 18.28 | 0.65 | 0.01 | 0.00 | 0.66 | 0.06 |
| 15-30 | 0.14 | 0.01 | | 1.25 | 0.16 | 1.96 | 0.28 | 17.74 | 2.60 | 0.01 | 0.00 | 0.63 | 0.16 |
| 30-50 | 0.15 | 0.01 | | 1.98 | 0.54 | 2.16 | 0.10 | 28.27 | 6.52 | 0.01 | 0.00 | 0.74 | 0.04 |
| 50-100 | 0.11 | 0.01 | | 3.79 | 0.75 | 1.94 | 0.18 | 64.77 | 13.95 | 0.01 | 0.00 | 0.66 | 0.05 |
| >100 | 0.11 | 0.02 | | 13.22 | 0.14 | 1.73 | 0.20 | 202.72 | 1.30 | 0.01 | 0.00 | 0.77 | 0.06 |
| Mangue Sul |  |  | |  |  |  |  |  |  |  |  |  |  |
| 0-15 | 0.18 | 0.02 | | 1.56 | 0.07 | 2.83 | 0.39 | 23.97 | 1.93 | 0.02 | 0.00 | 0.62 | 0.11 |
| 15-30 | 0.16 | 0.02 | | 1.44 | 0.09 | 2.84 | 0.25 | 25.19 | 0.97 | 0.02 | 0.00 | 0.66 | 0.08 |
| 30-50 | 0.17 | 0.02 | | 1.81 | 0.46 | 2.83 | 0.41 | 29.72 | 8.37 | 0.01 | 0.00 | 0.56 | 0.11 |
| 50-100 | 0.13 | 0.01 | | 3.78 | 0.57 | 2.14 | 0.10 | 59.37 | 8.09 | 0.01 | 0.00 | 0.65 | 0.03 |
| >100 | 0.09 | 0.02 | | 9.78 | 0.10 | 1.54 | 0.32 | 181.94 | 1.30 | 0.01 | 0.00 | 0.76 | 0.10 |
| Maruipe |  |  | |  |  |  |  |  |  |  |  |  |  |
| 0-15 | 0.09 | 0.01 | | 1.41 | 0.17 | 1.95 | 0.38 | 29.78 | 4.02 | 0.02 | 0.00 | 1.08 | 0.09 |
| 15-30 | 0.08 | 0.01 | | 0.96 | 0.12 | 1.73 | 0.21 | 21.10 | 3.26 | 0.01 | 0.00 | 0.82 | 0.04 |
| 30-50 | 0.10 | 0.01 | | 1.56 | 0.41 | 2.17 | 0.28 | 34.20 | 13.96 | 0.02 | 0.00 | 0.80 | 0.05 |
| 50-100 | 0.08 | 0.01 | | 4.36 | 0.84 | 1.90 | 0.14 | 104.43 | 14.37 | 0.02 | 0.00 | 1.12 | 0.05 |
| >100 | 0.02 | 0.01 | | 1.87 | 0.22 | 0.53 | 0.25 | 57.14 | 3.65 | 0.01 | 0.00 | 1.40 | 0.17 |
| Barreto |  |  | |  |  |  |  |  |  |  |  |  |  |
| 0-15 | 0.16 | 0.02 | | 1.69 | 0.12 | 2.34 | 0.28 | 25.32 | 2.43 | 0.02 | 0.00 | 0.77 | 0.07 |
| 15-30 | 0.12 | 0.02 | | 1.49 | 0.12 | 1.92 | 0.23 | 24.26 | 1.56 | 0.02 | 0.00 | 0.88 | 0.08 |
| 30-50 | 0.13 | 0.02 | | 1.97 | 0.47 | 2.12 | 0.36 | 32.18 | 10.00 | 0.02 | 0.00 | 0.80 | 0.12 |
| 50-100 | 0.14 | 0.01 | | 5.51 | 0.70 | 2.37 | 0.34 | 98.72 | 12.68 | 0.02 | 0.00 | 0.90 | 0.05 |
| >100 | 0.09 | 0.02 | | 11.31 | 0.13 | 1.43 | 0.33 | 201.65 | 2.08 | 0.02 | 0.00 | 1.18 | 0.07 |
| Salina |  |  | |  |  |  |  |  |  |  |  |  |  |
| 0-15 | 0.13 | 0.02 | | 1.47 | 0.12 | 2.86 | 0.56 | 32.98 | 3.12 | 0.02 | 0.00 | 0.83 | 0.09 |
| 15-30 | 0.12 | 0.03 | | 1.26 | 0.19 | 2.87 | 1.22 | 28.81 | 10.34 | 0.02 | 0.01 | 0.75 | 0.12 |
| 30-50 | 0.15 | 0.02 | | 1.88 | 0.48 | 3.96 | 0.66 | 49.08 | 13.91 | 0.02 | 0.00 | 0.75 | 0.08 |
| 50-100 | 0.14 | 0.01 | | 5.12 | 0.78 | 3.21 | 0.09 | 115.39 | 17.95 | 0.02 | 0.00 | 0.79 | 0.03 |
| >100 | 0.10 | 0.02 | | 8.79 | 0.17 | 1.89 | 0.57 | 170.25 | 5.67 | 0.01 | 0.00 | 0.95 | 0.10 |
| Marshes | | | | | | | | | | | | | | |
| Marisma Medium |  |  | |  |  |  |  |  |  |  |  |  |  |
| 0-15 | 0.12 | 0.01 | | 2.00 | 0.17 | 1.74 | 0.14 | 28.89 | 2.39 | 0.02 | 0.00 | 1.14 | 0.04 |
| 15-30 | 0.08 | 0.00 | | 1.51 | 0.13 | 1.07 | 0.07 | 20.46 | 2.09 | 0.01 | 0.00 | 1.29 | 0.04 |
| 30-50 | 0.05 | 0.00 | | 1.34 | 0.10 | 0.61 | 0.04 | 15.23 | 2.13 | 0.01 | 0.00 | 1.24 | 0.06 |
| 50-100 | 0.05 | 0.03 | | 2.68 | 0.46 | 0.56 | 0.29 | 30.71 | 6.18 | 0.01 | 0.00 | 1.10 | 0.05 |
| >100 | 0.05 | 0.02 | | 9.38 | 0.22 | 0.72 | 0.26 | 127.53 | 3.58 | 0.01 | 0.00 | 0.92 | 0.05 |
| Marisma High |  |  | |  |  |  |  |  |  |  |  |  |  |
| 0-15 | 0.37 | 0.03 | | 5.22 | 0.58 | 4.15 | 0.25 | 58.03 | 4.93 | 0.04 | 0.00 | 0.94 | 0.07 |
| 15-30 | 0.10 | 0.01 | | 2.13 | 0.17 | 0.93 | 0.08 | 19.42 | 1.94 | 0.01 | 0.00 | 1.44 | 0.04 |
| 30-50 | 0.06 | 0.01 | | 1.92 | 0.36 | 0.53 | 0.05 | 16.37 | 3.85 | 0.01 | 0.00 | 1.56 | 0.06 |
| 50-100 | 0.04 | 0.01 | | 3.41 | 0.33 | 0.34 | 0.15 | 25.96 | 7.19 | 0.01 | 0.00 | 1.57 | 0.06 |
| >100 | 0.03 | 0.06 | | 5.88 | 0.76 | 0.37 | 0.48 | 76.88 | 6.11 | 0.00 | 0.00 | 1.43 | 0.02 |
| Marisma Low |  |  | |  |  |  |  |  |  |  |  |  |  |
| 0-15 | 0.12 | | 0.01 | 1.51 | 0.15 | 1.41 | 0.14 | 17.45 | 1.37 | 0.01 | 0.00 | 0.86 | 0.06 |
| 15-30 | 0.08 | | 0.01 | 1.30 | 0.10 | 0.93 | 0.13 | 14.76 | 1.43 | 0.01 | 0.00 | 1.10 | 0.08 |
| 30-50 | 0.08 | | 0.02 | 1.45 | 0.56 | 0.92 | 0.27 | 17.23 | 9.06 | 0.01 | 0.00 | 0.98 | 0.04 |
| 50-100 | 0.08 | | 0.00 | 3.66 | 0.23 | 1.13 | 0.06 | 49.28 | 3.97 | 0.01 | 0.00 | 0.91 | 0.02 |
| >100 | 0.06 | | 0.01 | 11.94 | 0.10 | 1.35 | 0.19 | 253.85 | 1.31 | 0.01 | 0.00 | 0.95 | 0.06 |

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