

NCRMP Atlantic Benthic metadata

How are the data calculated:

In each region (or sub-region), NCRMP domain estimates were calculated for each indicator as the sum of the weighted means of each strata. Strata means were calculated as the mean of all primary sample units (surveyed sites) within a given strata. Weighting values were calculated as the proportion of the strata within the entire sampling domain (Smith et al 2011a).

Disease or bleaching prevalence were calculated as the proportion (%) of colonies with any bleaching or disease out of the total number of corals for each species for all surveyed sites in a given region (or sub-region) per year.

Smith SG, Swanson DS, Chiappone M, Miller SL, Ault JS. 2011. Probability sampling of stony coral populations in the Florida Keys. *Environ Monit and Assess.* 183:121-138.
<https://doi.org/10.1007/s10661-011-1912-2>

How are the data collected:

Corals and benthic communities are monitored using a Benthic Community Assessment survey and a Coral Demographics survey (NOAA NCCOS 2020a, b). The Benthic Community Assessment survey includes: (1) benthic cover (%) measurements along a 15-m line-point intercept (LPI) transect, (2) presence/absence of Endangered Species Act (ESA)-listed coral species, (3) abundance of key macroinvertebrates, and (4) reef height measurements within a 15 m x 2 m belt-transect area. In Coral Demographics surveys, within a 10 x 1 m belt-transect area, all coral colonies ≥ 4 cm are counted, identified to species, measured to the nearest cm (length, width, height), and estimates are made of the proportion per colony of any present mortality (recent or old), disease (present, slow, fast), and/or bleaching (total, partial, paling). Only live coral colonies are included in the survey; dead colonies with 100% mortality are not surveyed (e.g., colonies killed by coral disease). Juvenile corals (<4 cm) are reported for species richness only, and are not included in counts, size measurements, or estimates of condition.

NOAA NCCOS. 2020a. CRCP. 2022. National Coral Reef Monitoring Program (NCRMP) Benthic Community Assessment Survey Field Protocols for U.S. Atlantic: Florida, Flower Garden Banks, Puerto Rico, and U.S. Virgin Islands–2022. NOAA Coral Reef Conservation Program. 29 pp. doi: 10.25923/0708-8333

NOAA NCCOS. 2020b. CRCP. 2022. National Coral Reef Monitoring Program (NCRMP) Coral Demographics Survey Field Protocols for U.S. Atlantic: Florida, Flower Garden Banks, Puerto Rico, U.S. Virgin Islands. 2022. NOAA Coral Reef Conservation Program. 27 pp. doi: 10.25923/9a1r-m911

Disclaimers and caveats:

- Due to the sampling design, NCRMP data are meant to be summarized at the strata or sub-regional or regional level. It is rarely statistically feasible to calculate a robust estimate of an indicator value within a custom geographic area..
- NCRMP sampling missions occur in each sub-region every other year. Sometimes due to weather or more recently, COVID-19, sampling efforts have extended beyond the intended years. Data are presented under the intended sampling year, which may not represent the year the data were collected. See archived data for actual sampling dates.
- There was a break in NCRMP sampling in Puerto Rico between 2016 and 2019.
- There was a break in NCRMP sampling in the FGB between 2018 and 2022.
- Very limited sampling occurred in 2020 or 2021 in the Florida Keys; the sites that were sampled have been combined with the 2022 data.
- Species specific sub-regional means are subsamples of the entire population and do not directly represent that species contribution to the composite sub-regional mean.
- In addition to the coral and macroalgae cover presented here, NCRMP benthic community assessment data also includes CCA, sponges, gorgonians, and other broad categories. See archived data for cover categories.
- Benthic community assessment data (coral and macroalgae) are collected adjacent to coral demographics data, but not in the exact same area. Because the same set of corals are not sampled, this can lead to data values for density, bleaching and disease (i.e., from the Coral Demographics survey), while coral cover remains 0% (from the Benthic Community Assessment survey).