

**NCCOS Metadata:
NCRMP USVI 2021 Fish**

Item Identification

*Dataset Title	National Coral Reef Monitoring Program: Assessment of coral reef fish communities in the U.S. Virgin Islands from 2021-06-14 to 2021-08-13
Short Title	NCRMP USVI 2021 Fish
*Status <i>Complete, In Work, Planned</i>	Complete
*Abstract <i>Dataset description</i> ● <i>Parameters included</i> ● <i>Scientific keywords</i>	<p>The National Coral Reef Monitoring Program (NCRMP) assessed coral reef fish communities in St. Croix, St. Thomas, and St. John, U.S. Virgin Islands using the stationary point count method (7.5m radius cylinder).</p> <p>This method collects and reports information on species composition, density, size structure, abundance and derived metrics (e.g., species richness, diversity). Data are collected using a 2-stage, stratified random survey design in hardbottom and coral reef habitats less than 30m in depth.</p> <p>Data provided in this dataset are from St. Croix, St. Thomas, and St. John, and surrounding Sail Rock and mid-shelf reef region. Lead agencies involved include the National Oceanic and Atmospheric Administration's (NOAA) National Centers for Coastal Ocean Science (NCCOS), NOAA Southeast Fisheries Science Center (SEFSC) and the National Park Service (NPS).</p>
*Purpose <i>Project overview</i> ● <i>Partnerships</i> ● <i>Dataset purpose</i>	The National Coral Reef Monitoring Program (NCRMP) details a long-term approach to provide an ecosystem perspective via monitoring climate, fish, benthic, and socioeconomic variables in a consistent and integrated manner. The NCRMP is intended to coordinate various Coral Reef Conservation Program (CRCP) biological, physical, and human dimensions activities into a cohesive NOAA-wide effort. Through the implementation of the NCRMP, NOAA will be able to clearly and concisely communicate results of national-scale monitoring to national, state, and territorial policy makers, resource managers, and the public on a periodic basis.
Cited Publications	[blank]
Supplemental Information ● <i>Collaborators</i> ● <i>Partner Entities</i> ● <i>Base Funding</i> ● <i>NCCOS Project</i> ● <i>Additional Funding</i> ● <i>Additional Projects</i>	The National Coral Reef Monitoring Program (NCRMP) is a framework for conducting sustained observations of biological, climate, and socioeconomic indicators at 10 priority coral reefs across the U.S. and its territories. This integrated approach will consolidate monitoring of coral reefs under a uniform method in the Pacific, Atlantic, Caribbean, and the Gulf of Mexico for the first time. NCRMP is funded by the NOAA Coral Reef Conservation Program (CRCP) under CRCP Project #743 "National Coral Reef Monitoring Plan (NCRMP) Implementation," and supported by NOAA's National Centers for Coastal Ocean Science (NCCOS) under NCCOS Project #180 "National Coral Reef Monitoring Program Implementation: Biological and Socioeconomic Monitoring" and NOAA Southeast Fisheries Science Center (SEFSC). These biological monitoring missions gather data on coral reef benthic and fish communities in the U.S. Caribbean, Florida, and the Gulf of Mexico. Each year, NOAA scientists work closely with CRCP and local partners to collect biological data from strategically selected sites. We then develop products that give fellow scientists, managers, decision makers and the public a better understanding of a region's resources and how they are changing over time. The biological component of NCRMP provides a biennial ecological characterization at a broad spatial scale of general reef condition for reef fishes, corals and benthic habitat (i.e., fish species composition/density/size, benthic cover, and coral density/size/condition). Data collection occurs at stratified random sites where the sampling domain for each region is partitioned by habitat type and depth, sub-regional location (e.g., along-shelf position) and management zone.
DOI (Digital Object Identifier)	https://doi.org/10.7289/V5F769MM

Keywords

NCCOS Keywords See Appendix	<p>NCCOS Research Priority > Marine Spatial Ecology</p> <p>NCCOS Research Topic > Ecological and Biogeographic Assessments</p> <p>NCCOS Research Location > Region > Caribbean Sea</p> <p>NCCOS Research Location > U.S. States and Territories > U.S. Virgin Islands</p> <p>NCCOS Research Data Type > Field Observation</p>
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	NCCOS Research Data Type > Long-term Monitoring
CoRIS Keywords (Required if CRCP-funded) See link for CoRIS keywords. Select at least one each for Theme, Discovery, and Place (include both COUNTRY/TERRITORY and matching OCEAN BASIN).	<p>CoRIS Theme Thesaurus: EARTH SCIENCE > Biosphere > Zoology > Corals > Reef Monitoring and Assessment > Reef Fish Census > Stationary EARTH SCIENCE > Oceans > Marine Biology > Fish EARTH SCIENCE > Oceans > Marine Biology > Fish > Fish Census</p> <p>CoRIS Discovery Thesaurus: Numeric Data Sets > Fish Census</p> <p>CoRIS Place Keywords: COUNTRY/TERRITORY > United States of America > U. S. Virgin Islands > St. Croix > St. Croix (17N064W0003) COUNTRY/TERRITORY > United States of America > U. S. Virgin Islands > St. John > St. John (18N064W0011) COUNTRY/TERRITORY > United States of America > U. S. Virgin Islands > St. Thomas > St. Thomas (18N064W0033) OCEAN BASIN > Atlantic Ocean > Caribbean Sea > Virgin Islands > Virgin Islands > St. Croix (17N064W0003) OCEAN BASIN > Atlantic Ocean > Caribbean Sea > Virgin Islands > Virgin Islands > St. John (18N064W0011) OCEAN BASIN > Atlantic Ocean > Caribbean Sea > Virgin Islands > Virgin Islands > St. Thomas (18N064W0033)</p> <p>CRCP Project: 743 National Coral Reef Monitoring Plan (NCRMP) Implementation</p>
GCMD Keywords Use the current list	<p>Earth Science: Earth Science > Biosphere > Ecosystems > Marine Ecosystems > Reef > Coral Reef Earth Science > Biological Classification > Animals/Vertebrates > Fish</p> <p>Location: Ocean > Atlantic Ocean > North Atlantic Ocean > Caribbean Sea > Virgin Islands</p>
Sea Areas or Regions	[blank]
Marine Protected Areas	[blank]
NOAA Ships	[blank]
Other Ships or Platforms	[blank]

Physical Location

*Organization	National Centers for Coastal Ocean Science (NCCOS) Silver Spring, MD
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Data Set Information

Data Set Scope Code	Data Set
Data Set Type	CSV Files
Maintenance Frequency	None Planned
*Data Set Publication Status Published, Unpublished, or Unknown	Published
*Data Set Publication Date	2021
*Data Presentation Form Document, Image, Map, Profile, Table, Video, Audio, Other	Table (digital)
Entity Attribute Overview	<p>Three datasets are provided under the stationary point count fish protocols and are distributed as one compiled package: (1) Analysis Ready dataset, (2) Boatlog/Station dataset, and (3) raw QAQC'd sample data file. The methodology used for these surveys can be found in the point count fish protocols.</p> <p>All three datasets contain data fields on general station information (survey strata, depth, rugosity). Each of these data tables contain additional survey-specific data fields. For complete information and</p>

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	<p>descriptions of attributes and data fields for all data tables, refer to the data dictionaries.</p> <p>Fish protocols for 2021:</p> <p>CRCP. 2022. National Coral Reef Monitoring Program (NCRMP) Reef Visual Census (RVC) Fish Survey Protocols U.S. Atlantic: Florida, Flower Garden Banks, Puerto Rico, and U.S. Virgin Islands. 2022. NOAA Coral Reef Conservation Program. 21 pp. doi: 10.25923/1baa-5g44</p>
Distribution Liability	NOAA makes no warranty, expressed or implied, regarding these data, nor does the fact of distribution constitute such a warranty. NOAA cannot assume liability for any damages caused by any errors or omissions in these data.
Data Set Credit	Lead agencies NOAA NCCOS and SEFSC, and National Park Service, USVI Department of Planning and Natural Resources, University of the Virgin Islands, University of Miami, and U.S. Environmental Protection Agency.

Support Roles

*Data Steward	<p>2021</p> <p>Jay Grove</p> <p>jay.grove@noaa.gov</p> <p>Southeast Fisheries Science Center (SEFSC)</p> <p>www.sefsc.noaa.gov</p>
*Distributor	<p>2014</p> <p>National Centers for Environmental Information - Silver Spring, Maryland (NCEI-MD)</p> <p>(301) 713-3277</p>
*Metadata Contact	<p>2021</p> <p>Jay Grove</p> <p>jay.grove@noaa.gov</p> <p>Southeast Fisheries Science Center (SEFSC)</p> <p>www.sefsc.noaa.gov</p>
Originator	<p>2014</p> <p>NOAA Coral Reef Conservation Program (CRCP)</p> <p>http://coralreef.noaa.gov</p>
Originator	<p>2014</p> <p>NCCOS Scientific Data Coordinator</p> <p>nccos.data@noaa.gov</p> <p>National Centers for Coastal Ocean Science (NCCOS)</p> <p>http://coastalscience.noaa.gov/</p>
Originator	<p>2016</p> <p>Southeast Fisheries Science Center (SEFSC)</p> <p>www.sefsc.noaa.gov</p>
Point of Contact	<p>2021</p> <p>Jay Grove</p> <p>jay.grove@noaa.gov</p> <p>Southeast Fisheries Science Center (SEFSC)</p> <p>www.sefsc.noaa.gov</p>
!Principal Investigator	<p>2016</p> <p>Kimberly Edwards</p> <p>kimberly.edwards@noaa.gov</p> <p>National Centers for Coastal Ocean Science (NCCOS)</p> <p>http://coastalscience.noaa.gov/</p>
Additional Principal Investigator(s)	<p>2021</p> <p>Jay Grove</p> <p>jay.grove@noaa.gov</p> <p>Southeast Fisheries Science Center (SEFSC)</p> <p>www.sefsc.noaa.gov</p>

Extents

Extent Group 1

Currentness Reference	Ground Condition
*Western Boundary	-64.89849

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*Eastern Boundary	-64.45164
*Northern Boundary	17.83434
*Southern Boundary	17.64926
Description	Data were collected in the shallow (<30m) hardbottom shelf habitats around St. Croix, U.S. Virgin Islands
*Time Frame Type <i>Continuing, Range, Discrete</i>	Range
*Start Date	2021-06-14
*End Date	2021-06-25
Description	

Extent Group 2

Currentness Reference	Ground Condition
*Western Boundary	-65.14848
*Eastern Boundary	-64.64971
*Northern Boundary	18.40468
*Southern Boundary	18.19912
Description	Data were collected in the shallow (<30m) hardbottom shelf habitats around St. Thomas and St. John, U.S. Virgin Islands
*Time Frame Type <i>Continuing, Range, Discrete</i>	Range
*Start Date	2021-08-02
*End Date	2021-08-13
Description	

Access Information

*Security Class	Unclassified
Security Classification System	Not applicable
Security Handling Description	Not applicable
*Data Access Procedure	Data can be accessed via the NOAA National Centers for Environmental Information (NCEI) Ocean Archive.
*Data Access Constraints	None
*Data Use Constraints	<p>Please reference NOAA/NOS/NCCOS and NOAA/NMFS/SEFSC when utilizing these data in a report or peer reviewed publication.</p> <p>Cite as: National Centers for Coastal Ocean Science (NCCOS) and Southeast Fisheries Science Center (SEFSC). 2021. National Coral Reef Monitoring Program: Assessment of coral reef fish communities in the U.S. Virgin Islands from 2021-06-14 to 2021-08-13 (NCEI Accession XXXXXXXX). NOAA National Centers for Environmental Information. Dataset. doi: XXXXXXXX [access date]</p> <p>Additionally, knowledge of how this dataset has been of use and which organizations are utilizing it is of great benefit for ensuring this information continues to meet the needs of the management and research communities. Therefore, it is requested but not mandatory, that any user of this data supply this information to the Project Co-Investigators (Atlantic/Caribbean): Jay Grove (jay.grove@noaa.gov) and Kimberly Edwards (kimberly.edwards@noaa.gov).</p>

Distribution Information (copy/paste for each downloadable file)

*Download URL	https://doi.org/10.7289/V5F769MM
File Name	NCRMP USVI Fish Data Collection
Description	NOAA National Centers for Coastal Ocean Science (2016). National Coral Reef Monitoring Program: Assessment of coral reef fish communities in the U.S. Virgin Islands. NOAA National Centers for Environmental Information. Dataset. doi:10.7289/V5F769MM [access date]
*File Type	NCEI Archived Data Accession

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*Download URL	https://www.ncei.noaa.gov/archive/accession/0216069
File Name	NCRMP USVI Fish Data Accession 2019
Description	National Centers for Coastal Ocean Science; Southeast Fisheries Science Center. (2020). National Coral Reef Monitoring Program: Assessment of coral reef fish communities in the U.S. Virgin Islands from 2019-06-08 to 2019-08-09 (NCEI Accession 0216069). NOAA National Centers for Environmental Information. Dataset. [access date]
*File Type	NCEI Archived Data Accession

*Download URL	https://doi.org/10.7289/V5F769MM
File Name	NCRMP USVI Fish Data Accession 2017
Description	National Centers for Coastal Ocean Science; Southeast Fisheries Science Center. (2018). National Coral Reef Monitoring Program: Assessment of coral reef fish communities in the U.S. Virgin Islands from 2017-06-12 to 2017-08-04 (NCEI Accession 0176080). NOAA National Centers for Environmental Information. Dataset. [access date]
*File Type	NCEI Archived Data Accession

*Download URL	https://accession.nodc.noaa.gov/0151727
File Name	NCRMP St. Croix Fish Data Accession 2015
Description	National Centers for Coastal Ocean Science (2016). National Coral Reef Monitoring Program: Assessment of coral reef fish communities in St. Croix, U.S. Virgin Islands from 2015-06-08 to 2015-06-19 (NCEI Accession 0151727). Version 2.2. NOAA National Centers for Environmental Information. Dataset. [access date]
*File Type	NCEI Archived Data Accession

*Download URL	https://accession.nodc.noaa.gov/0151731
File Name	NCRMP St. Thomas and St. John Fish Data Accession 2013-2015
Description	National Centers for Coastal Ocean Science (2016). National Coral Reef Monitoring Program: Assessment of coral reef fish communities in St. Thomas and St. John, U.S. Virgin Islands from 2013-07-08 to 2013-07-19 and from 2015-07-13 to 2015-07-24 (NCEI Accession 0151731). Version 2.2. NOAA National Centers for Environmental Information. Dataset. [access date]
*File Type	NCEI Archived Data Accession

*Download URL	https://doi.org/10.7289/V5WW7FQK
File Name	NCRMP USVI Benthic Data Collection
Description	NOAA National Centers for Coastal Ocean Science (2016). National Coral Reef Monitoring Program: Assessment of coral reef benthic communities in the U.S. Virgin Islands. NOAA National Centers for Environmental Information. Dataset. doi:10.7289/V5WW7FQK [access date]
*File Type	NCEI Archived Data Accession

*Download URL	https://www.ncei.noaa.gov/archive/accession/0215460
File Name	NCRMP USVI Benthic Data Accession 2019
Description	National Centers for Coastal Ocean Science; Southeast Fisheries Science Center. (2018). National Coral Reef Monitoring Program: Assessment of coral reef benthic communities in the U.S. Virgin Islands from 2019-06-08 to 2019-08-09 (NCEI Accession 0215460). NOAA National Centers for Environmental Information. Dataset. [access date]
*File Type	NCEI Archived Data Accession

*Download URL	https://doi.org/10.7289/V5WW7FQK
File Name	NCRMP USVI Benthic Data Accession 2017
Description	National Centers for Coastal Ocean Science; Southeast Fisheries Science Center. (2018). National Coral Reef Monitoring Program: Assessment of coral reef benthic communities in the U.S. Virgin Islands from 2017-06-12 to 2017-08-04 (NCEI Accession 0176081). NOAA National Centers for Environmental Information. Dataset. [access date]

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*File Type	NCEI Archived Data Accession
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*Download URL	https://accession.nodc.noaa.gov/0151730
File Name	NCRMP St. Croix Benthic Data Accession 2015
Description	National Centers for Coastal Ocean Science (2016). National Coral Reef Monitoring Program: Assessment of coral reef benthic communities in St. Croix, U.S. Virgin Islands from 2015-06-08 to 2015-06-19 (NCEI Accession 0151730). Version 2.2. NOAA National Centers for Environmental Information. Dataset. [access date]
*File Type	NCEI Archived Data Accession

*Download URL	https://accession.nodc.noaa.gov/0151728
File Name	NCRMP St. Thomas and St. John Benthic Data Accession 2013-2015
Description	National Centers for Coastal Ocean Science (2016). National Coral Reef Monitoring Program: Assessment of coral reef benthic communities in St. Thomas and St. John, U.S. Virgin Islands from 2013-07-08 to 2013-07-19 and from 2015-07-13 to 2015-07-24 (NCEI Accession 0151728). Version 2.2. NOAA National Centers for Environmental Information. Dataset. [access date]
*File Type	NCEI Archived Data Accession

*Download URL	https://accession.nodc.noaa.gov/0157633
File Name	NCRMP Documentation Accession
Description	Coral Reef Conservation Program (2016). Documentation for NOAA's Coral Reef Conservation Program (CRCP) National Coral Reef Monitoring Program (NCRMP) data archived at NCEI (NCEI Accession 0157633). NOAA National Centers for Environmental Information.
*File Type	NCEI Archived Documentation Accession

URLS - Related Webpages (copy/paste for each URL)

*URL	https://coastalscience.noaa.gov/project/national-coral-reef-monitoring-program-biological-socioeconomic/
Description	National Coral Reef Monitoring Program Implementation: Biological and Socioeconomic Monitoring - NCCOS Project Page
*URL Type	Online Resource

*URL	http://www.coris.noaa.gov/monitoring/
Description	NOAA's National Coral Reef Monitoring Program - CRCP Project Page
*URL Type	Online Resource

*URL	https://grunt.sefsc.noaa.gov/rvc_analysis20/
Description	NOAA's SEFSC Reef Visual Census Fish Analysis Ready datasets and custom R-package
*URL Type	Online Resource

Data Quality

*Completeness Report	[blank]
Quality Control Procedures Employed	<p>Quality control procedures are implemented in four main stages: (1) ongoing routine training of observers (initial detailed training, annual refresher training); (2) data check following data collection, where divers trade datasheets immediately upon returning to boat after dive, to ensure all data were collected accurately and required information is complete; (3) independent reviewers compare datasheets with database entries; and (4) statistical analyses are conducted as the final check before distribution.</p> <p>Before implementation the sampling design was reviewed and agreed upon by representatives from program partners, as well as NCCOS scientists.</p>

**NCCOS Metadata:
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*Lineage Statement	Datasets and protocols are year specific. Datasets are based on year-specific protocols utilized for data collection.
*Source	Title: Sampling Design Protocol for the U.S. Caribbean and Flower Garden Banks National Marine Sanctuary (2018) Originator: National Centers for Coastal Ocean Science (NCCOS) URL: https://coastalscience.noaa.gov/project/national-coral-reef-monitoring-program-biological-socioeconomic/
Additional Source	Title: Reef Visual Census (RVC) Survey Protocol for the U.S. Caribbean and Flower Garden Banks National Marine Sanctuary (2022) Originator: National Centers for Coastal Ocean Science (NCCOS) URL: https://coastalscience.noaa.gov/project/national-coral-reef-monitoring-program-biological-socioeconomic/
*Process Step	<p>Number: 1</p> <p>Description:</p> <p>2021 RVC survey locations were selected using a stratified random sampling design within the USVI study area for St. Croix, St. Thomas and St. John. Locations selected for coral demographic surveys are a subset of fish and benthic assessment survey sites. Detailed information describing the sampling design is provided in the NCRMP Sample Frame Generation Protocols and Workflow document.</p> <p>Briefly, surveys were located on shallow-water coral reefs and hardbottom habitats to a depth of 30 meters. Survey site selection was stratified according to depth classes, benthic habitat types, large marine biotopes and administrative zones. Samples were allocated disproportionate to area and consequently sampling weights are an integral component of data analysis. Variables addressing the sampling design process such as stratum documentation and sampling weights are provided in all data tables as survey attributes</p> <p>Data provided from this process are provided in all data tables as station information in addition to a main survey attribute table (sample strata, sampling weights). Refer to data dictionary for complete listing of terms and descriptions.</p> <p>Process Date/Time: [blank]</p> <p>Process Contact: National Centers for Coastal Ocean Science</p> <p>Citation:</p> <p>Sampling Design Protocol for the U.S. Caribbean and Flower Garden Banks National Marine Sanctuary (2018)</p>
Additional Process Step	<p>Number: 2</p> <p>Description:</p> <p>2021 Stationary Point Count:</p> <p>The Stationary Point Count component of the protocols were modified in 2016 to integrate with similar methods used in Florida, another NCRMP sampling location. These changes were instituted in USVI in 2017 and are reflected in the 2021 USVI data sets. The Stationary Point Count data collection provides information on fish species collects and reports information on species composition, density, size structure, abundance and derived metrics (e.g., species richness, diversity) and of overall species diversity in a stratified random sampling design in hardbottom and coral reef habitats in the U.S. Caribbean and FGBNMS.</p> <p>Stationary point count surveys were conducted at all sample locations and co-located with a subset of Coral Demographic and Benthic Assessment surveys.</p> <p>Process Date/Time: [blank]</p> <p>Process Contact: National Centers for Coastal Ocean Science</p> <p>Citation:</p> <p>Reef Visual Census (RVC) Survey Protocol for the U.S. Caribbean and Flower Garden Banks National Marine Sanctuary (2022)</p>

Appendix: NCCOS Discovery Keywords

Research Priorities

- Marine Spatial Ecology
- Stressor Impacts and Mitigation
- Coastal Change: Vulnerability, Mitigation, and Restoration
- Social Science

Research Topics

- Ecological and Biogeographic Assessments
- Habitat Mapping
- Regional Ecosystem Science
- Coastal Aquaculture Siting and Sustainability
- Harmful Algal Bloom (HAB) Detection and Forecasting
- Biological Effects of Contaminants and Nutrients
- Vulnerability and Risk Assessment
- Natural and Nature-based Features
- Climate Impacts on Ecosystems
- Restoration
- Ecosystem Services Valuation
- Assessing Human Use
- Assessing Vulnerability and Resilience

Research Locations

- Regions
 - Atlantic Ocean
 - Bering Sea
 - Caribbean Sea
 - Great Lakes
 - Gulf of Mexico
 - Pacific Ocean
 - International
- U.S. States and Territories
 - [list all applicable]

Research Data Types

- Field Observation
- Long-term Monitoring
- Geospatial
- Derived Data Product
- Model
- Field Experiment
- Laboratory Experiment