



GULF OF MEXICO
COASTAL OCEAN
OBSERVING SYSTEM



OCEANOGRAPHY
TEXAS A&M UNIVERSITY

Darwin Core Data Alignment Demonstration

Marion Stössel,
Gulf of Mexico Coastal Ocean Observing System (GCOOS),
at Texas A&M University, Department of Oceanography

MBON

Marine Biodiversity
Observation Network

Data example

- 1999 Dry Tortugas Coral reef data from the Coral Reef Evaluation and Monitoring Project (CREMP)

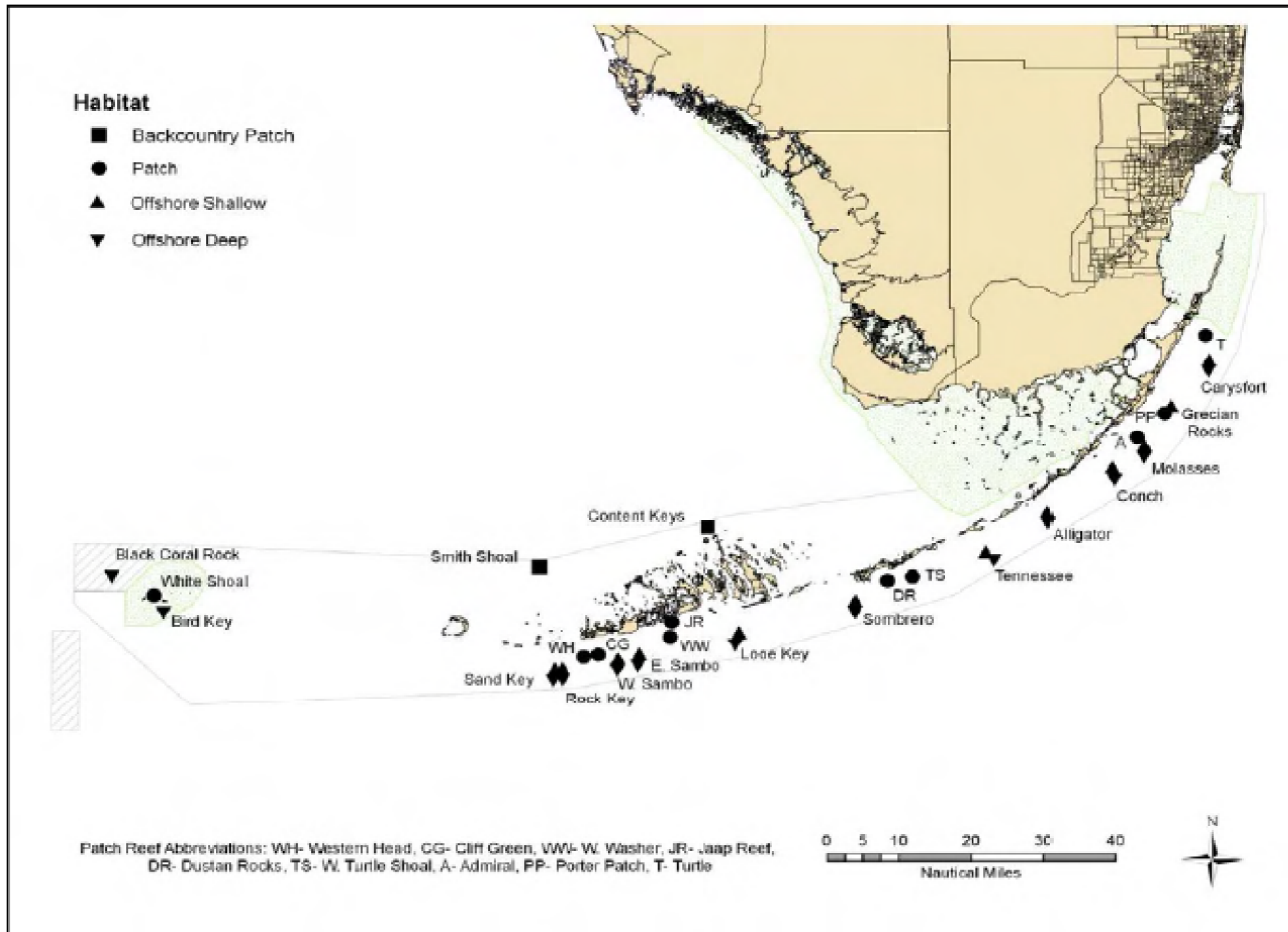


Figure 2. Location of 34 CREMP sites sampled from 1996 through 2008 in the Florida Keys and three sites sampled from 1999 through 2008 in the Dry Tortugas.

Measuring Method

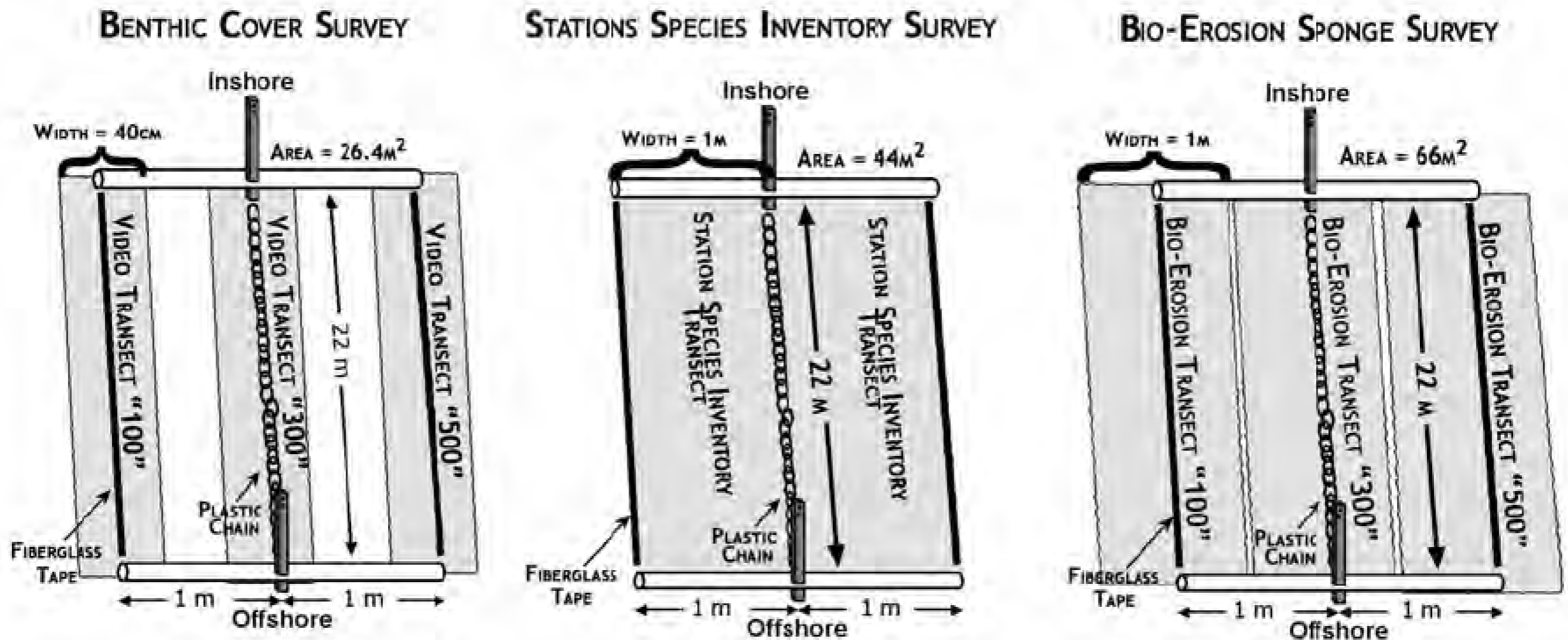


Figure 1: CREMP sites consist of two to four monitoring stations delineated by permanent markers. Stations are approximately 2m x 22m and are generally perpendicular to the shoreline. Three video (benthic survey) transects, a station species inventory (SSI), and a cloniad sponge survey are conducted annually at each station.

- Figure from: Coral Reef Evaluation & Monitoring Project , 2009 Annual Report

CREMP data for 1999 Dry Tortugas

Sample Year	subRegionId	habitatid	Site Code	siteid	sitename	Station ID	AvgOfpoints	Acropora cervicornis	Acropora palmata	Acropora prolifera
1999	DT	P	1P1	41	White Shoal	411	580	0.0207	0	0
1999	DT	P	1P1	41	White Shoal	412	589	0.0747	0	0
1999	DT	P	1P1	41	White Shoal	413	589	0.0866	0	0

Agaricia lamarcki	Colpophyllia natans	Dichocoenia stokesii	Diploria labyrinthiformis	Eusmilia fastigiata	Favia fragum	Helioseris cucullata	Isophyllia rigida	Madracis auretenra	Madracis decactis complex	Manicina areolata
0	0	0	0	0	0	0	0	0	0	0
0	0.0034	0	0	0.0017	0	0	0	0	0	0
0	0.0034	0	0	0	0	0	0	0	0	0

Meandrina meandrites	Millepora alcicornis	Millepora complanata	Montastraea cavernosa	Mussa angulosa	Mycetophyllia aliciae	Mycetophyllia ferox	Mycetophyllia lamarckiana complex	Oculina diffusa	Oculina robusta	Orbicella annularis complex
0	0.0224	0	0.0086	0	0	0	0	0.0052	0	0.0034
0.0017	0.0238	0	0.0017	0	0	0	0	0	0	0
0	0.0034	0	0	0	0	0	0	0	0	0.0017

Porites astreoides	Porites porites complex	Pseudodiploria clivosa	Pseudodiploria strigosa	Scleractinia	Scolymia sp_	Siderastrea radians	Siderastrea siderea	Solenastrea bournoni	Stephanocoenia intersepta	Undaria agaricites complex
0.0017	0.0034	0	0	0.0052	0	0	0.019	0	0	0
0	0.0034	0	0	0.0051	0	0	0	0	0	0
0.0051	0.0051	0	0.0017	0	0	0	0.0017	0	0	0

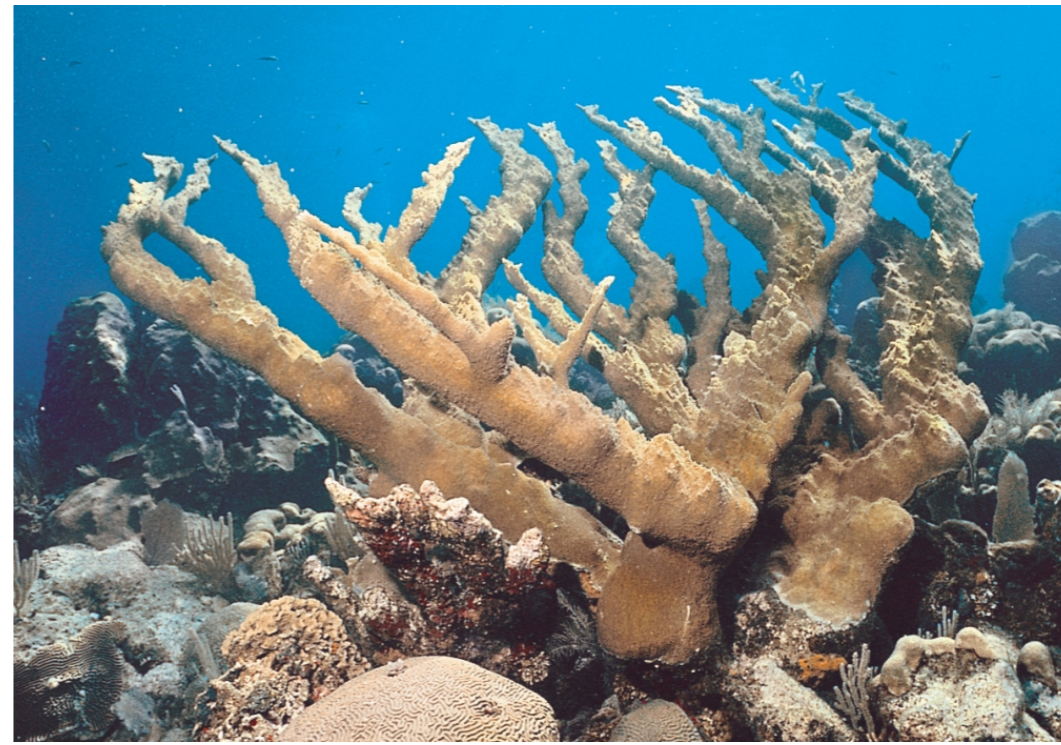
Species taxonomic tree

ScientificName	CommonName	Genus	Species	Family	Order	Class	Phylum	Kingdom	AphiaID	TSN	Authority		taxonomic Status	AcceptedName	AcceptedID
Acropora cervicornis	Staghorn coral	Acropora	cervicornis	Acroporidae	Scleractinia	Anthozoa	Cnidaria	Animalia	206989	52862	Lamarck	1816	accepted	Acropora cervicornis	206989
Acropora palmata	Elkhorn coral	Acropora	palmata	Acroporidae	Scleractinia	Anthozoa	Cnidaria	Animalia	288227	52861	Lamarck	1816	accepted	Acropora palmata	288227
Acropora prolifera	fused Staghorn coral	Acropora	prolifera	Acroporidae	Scleractinia	Anthozoa	Cnidaria	Animalia	288235	52863	Lamarck	1816	accepted	Acropora prolifera	288235
Agaricia agaricites complex	Lettuce corals	Agaricia		Agariciidae	Scleractinia	Anthozoa	Cnidaria	Animalia			Linnaeus	1758	accepted	Agaricia agaricites complex	
Agaricia fragilis	fragile saucer coral	Agaricia	fragilis	Agariciidae	Scleractinia	Anthozoa	Cnidaria	Animalia	287912	53055	Dana	1848	accepted	Agaricia fragilis	287912
Agaricia lamarcki	Lamarcks sheet coral	Agaricia	lamarcki	Agariciidae	Scleractinia	Anthozoa	Cnidaria	Animalia	287915	53058	Milne Edwards & Haime	1851	accepted	Agaricia lamarcki	287915
Astrangia poculata	Northern star coral	Astrangia	poculata	Rhizangiidae	Scleractinia	Anthozoa	Cnidaria	Animalia	157967	53370	Ellis and Solander	1786	accepted	Astrangia poculata	157967
Cladocora arbuscula	Tube coral	Cladocora	arbuscula	Caryophylliina	Scleractinia	Anthozoa	Cnidaria	Animalia	286778	53248	Le Sueur	1821	accepted	Cladocora arbuscula	286778
Colpophyllia natans	Boulder brain coral	Colpophyllia	natans	Mussidae	Scleractinia	Anthozoa	Cnidaria	Animalia	289697	53289	Houttuyn	1772	accepted	Colpophyllia natans	289697
Dendrogyra cylindrus	Pillar coral	Dendrogyra	cylindrus	Meandrinidae	Scleractinia	Anthozoa	Cnidaria	Animalia	418865		Ehrenberg	1834	accepted	Dendrogyra cylindrus	418865
Dichocoenia stokesii	Pineapple cora	Dichocoenia	stokesii	Meandrinidae	Scleractinia	Anthozoa	Cnidaria	Animalia	289807	53420	Milne Edwards & Haime	1848	accepted	Dichocoenia stokesii	289807
Diploria clivosa	Knobby brain coral	Diploria	clivosa	Mussidae	Scleractinia	Anthozoa	Cnidaria	Animalia	289825	53285	Ellis & Solander	1786	unaccepted	Pseudodiploriaeclivosa	828326
Diploria labyrinthiformis	Grooved brain coral	Diploria	labyrinthiformis	Mussidae	Scleractinia	Anthozoa	Cnidaria	Animalia	289826	53286	Linnaeus	1758	accepted	Diploria labyrinthiformis	289826
Diploria strigosa	Symmetrical brain coral	Diploria	strigosa	Mussidae	Scleractinia	Anthozoa	Cnidaria	Animalia	289827	53287	Dana	1846	unaccepted	Pseudodiploriaestrigosa	718718
Eusmilia fastigiata	Smooth flower coral	Eusmilia	fastigiata	Caryophylliidae	Scleractinia	Anthozoa	Cnidaria	Animalia	289939	53622	Pallas	1766	accepted	Eusmilia fastigiata	289939
Favia fragum	Golfball coral	Favia	fragum	Mussidae	Scleractinia	Anthozoa	Cnidaria	Animalia	207432	53267	Esper	1795	accepted	Favia fragum	207432
Helioseris cucullata	Sunray lettuce coral	Helioseris	cucullata	Agariciidae	Scleractinia	Anthozoa	Cnidaria	Animalia	290083	53037	Ellis and Solander	1786	accepted	Helioseris cucullata	290083
Isophyllastrea rigida	Rough star coral	Isophyllastrea	rigida	Mussidae	Scleractinia	Anthozoa	Cnidaria	Animalia	292162	53495	Dana	1846	unaccepted	Isophylliaerigida	287850
Isophyllia rigida	Rough star coral	Isophyllia	rigida	Mussidae	Scleractinia	Anthozoa	Cnidaria	Animalia	287850	53494	Dana	1848	accepted	Isophyllia rigida	287850
Isophyllia sinuosa	Sinuuous cactus coral	Isophyllia	sinuosa	Mussidae	Scleractinia	Anthozoa	Cnidaria	Animalia	216134	53476	Ellis & Solander	1786	accepted	Isophyllia sinuosa	216134
Leptoseris cucullata	Sunray lettuce coral	Leptoseris	cucullata	Agariciidae	Scleractinia	Anthozoa	Cnidaria	Animalia	418864	53036	Ellis & Solander	1786	unaccepted	Helioseris cucullata	290083
Madracis auretenra	Yellow pencil coral	Madracis	auretenra	Astrocoeniidae	Scleractinia	Anthozoa	Cnidaria	Animalia	430664		Locke, Weil & Coates	2007	accepted	Madracis auretenra	430664
Madracis decactis	Ten-ray star coral	Madracis	decactis	Astrocoeniidae	Scleractinia	Anthozoa	Cnidaria	Animalia	287107	53009	Lyman	1859	accepted	Madracis decactis	287107
Madracis decactis complex	Ten-ray star coral	Madracis		Astrocoeniidae	Scleractinia	Anthozoa	Cnidaria	Animalia			Lyman	1859	accepted	Madracis decactis complex	
Madracis mirabilis	Yellow pencil coral	Madracis	mirabilis	Astrocoeniidae	Scleractinia	Anthozoa	Cnidaria	Animalia	479012	53011	Duchassaing and Michel	1860	unaccepted	Madracis myriaster	287111
Madracis pharensis	Star coral	Madracis	pharensis	Astrocoeniidae	Scleractinia	Anthozoa	Cnidaria	Animalia	135212	53014	Heller	1868	accepted	Madracis pharensis	135212
Manicina areolata	Rose coral	Manicina	areolata	Mussidae	Scleractinia	Anthozoa	Cnidaria	Animalia	290327	53281	Linnaeus	1758	accepted	Manicina areolata	290327
Meandrina meandrites	Maze coral	Meandrina	meandrites	Meandrinidae	Scleractinia	Anthozoa	Cnidaria	Animalia	289232	53423	Linnaeus	1758	accepted	Meandrina meandrites	289232
Millepora alcicornis	Fire coral	Millepora	alcicornis	Milleporidae	Anthoathecata	Hydrozoa	Cnidaria	Animalia	210726	50877	Linnaeus	1758	accepted	Millepora alcicornis	210726
Millepora complanata	Bladed fire coral	Millepora	complanata	Milleporidae	Anthoathecata	Hydrozoa	Cnidaria	Animalia	287421	50880	Lamarck	1816	accepted	Millepora complanata	287421
Montastraea annularis complex	Caribbean star corals	Montastraea		Montastraeidae	Scleractinia	Anthozoa	Cnidaria	Animalia			Ellis & Solander	1786		Montastraea annularis complex	
Montastraea cavernosa	Great star coral	Montastraea	cavernosa	Montastraeidae	Scleractinia	Anthozoa	Cnidaria	Animalia	287962	53255	Linnaeus	1767	accepted	Montastraea cavernosa	287962
Mussa angulosa	Spiny flower coral	Mussa	angulosa	Mussidae	Scleractinia	Anthozoa	Cnidaria	Animalia	216135	53474	Pallas	1766	accepted	Mussa angulosa	216135
Mycetophyllia aliciae	Knobby cactus coral	Mycetophyllia	aliciae	Mussidae	Scleractinia	Anthozoa	Cnidaria	Animalia	290424	53482	Wells	1973	accepted	Mycetophyllia aliciae	290424
Mycetophyllia danaana	Lowridge cactus coral	Mycetophyllia	danaana	Mussidae	Scleractinia	Anthozoa	Cnidaria	Animalia	290425	53480	Milne Edwards & Haime	1849	accepted	Mycetophyllia danaana	290425
Mycetophyllia ferox	Rough cactus coral	Mycetophyllia	ferox	Mussidae	Scleractinia	Anthozoa	Cnidaria	Animalia	290426	53481	Wells	1973	accepted	Mycetophyllia ferox	290426
Mycetophyllia lamarcki	Ridged cactus coral	Mycetophyllia	lamarckiana	Mussidae	Scleractinia	Anthozoa	Cnidaria	Animalia	290427	53479	Milne Edwards & Haime	1848	accepted	Mycetophyllia lamarckiana	290427
Mycetophyllia lamarcki complex	Ridged cactus coral	Mycetophyllia		Mussidae	Scleractinia	Anthozoa	Cnidaria	Animalia			Milne Edwards & Haime	1848	accepted	Mycetophyllia lamarckiana complex	
Oculina diffusa	Ivory bush coral	Oculina	diffusa	Oculinidae	Scleractinia	Anthozoa	Cnidaria	Animalia	287097	53395	Lamarck	1816	accepted	Oculina diffusa	287097
Oculina robusta	Robust ivory tree coral	Oculina	robusta	Oculinidae	Scleractinia	Anthozoa	Cnidaria	Animalia	287099	53396	Pourtales	1871	accepted	Oculina robusta	287099
Orbicella annularis complex	Caribbean star coral	Orbicella		Merulinidae	Scleractinia	Anthozoa	Cnidaria	Animalia			Ellis & Solander	1786		Orbicella annularis complex	
Porites astreoides	Yellow porites	Porites	astreoides	Poritidae	Scleractinia	Anthozoa	Cnidaria	Animalia	288889	53184	Lamarck	1816	accepted	Porites astreoides	288889
Porites branneri	Blue crust coral	Porites	branneri	Poritidae	Scleractinia	Anthozoa	Cnidaria	Animalia	288892	53186	Rathbun	1888	accepted	Porites branneri	288892
Porites porites	Clubtip finger coral	Porites	porites	Poritidae	Scleractinia	Anthozoa	Cnidaria	Animalia	207238	53180	Pallas	1766	accepted	Porites porites	207238
Porites porites complex	Hump coral	Porites		Poritidae	Scleractinia	Anthozoa	Cnidaria	Animalia			Pallas	1766	accepted	Porites porites complex	
Phyllangia americana	Hidden cup coral	Phyllangia	americana	Caryophylliidae	Scleractinia	Anthozoa	Cnidaria	Animalia	346430	53378	Milne Edwards and Hain	1849	accepted	Phyllangia americana	346430
Pseudodiploria clivosa	Knobby brain coral	Pseudodiploria	clivosa	Mussidae	Scleractinia	Anthozoa	Cnidaria	Animalia	828326		Ellis & Solander	1786	accepted	Pseudodiploria clivosa	828326
Pseudodiploria strigosa	Symmetrical brain coral	Pseudodiploria	strigosa	Mussidae	Scleractinia	Anthozoa	Cnidaria	Animalia	718718		Dana	1846	accepted	Pseudodiploria strigosa	718718
Scleractinia	Stony coral				Scleractinia	Anthozoa	Cnidaria	Animalia	1363	52839	Bourne	1900	accepted	Scleractinia	1363

Species taxonomic tree cont.

ScientificName	CommonName	Genus	Species	Family	Order	Class
<i>Acropora cervicornis</i>	Staghorn coral	<i>Acropora</i>	<i>cervicornis</i>	Acroporidae	Scleractinia	Anthozoa
<i>Acropora palmata</i>	Elkhorn coral	<i>Acropora</i>	<i>palmata</i>	Acroporidae	Scleractinia	Anthozoa

Phylum	Kingdom	AphiaID	TSN	Authority		taxonomic Status	AcceptedName	AcceptedID
Cnidaria	Animalia	206989	52862	Lamarck	1816	accepted	<i>Acropora cervicornis</i>	206989
Cnidaria	Animalia	288227	52861	Lamarck	1816	accepted	<i>Acropora palmata</i>	288227



Station list for the CREMP Dry Tortugas data

ProjectRegion	subRegion Id	habitat id	Site Code	siteid	sitename	station id	First_Year	Latest_Year _whole_stn	length	offshor eDepth	latDD	lonDD
NPSDT/FKNMS	DT	OD	1D1	82	Bird Key Reef	821	1999	2016	22	45	24.6117	-82.8702
NPSDT/FKNMS	DT	OD	1D1	82	Bird Key Reef	822	1999	2016	22	40	24.6117	-82.8702
NPSDT/FKNMS	DT	OD	1D1	82	Bird Key Reef	823	1999	2016	23	43	24.6117	-82.8702
NPSDT/FKNMS	DT	OD	1D1	82	Bird Key Reef	824	1999	2016	25	45	24.6117	-82.8702
FKNMS	DT	OD	1D2	83	Black Coral Rock	831	1999	2016	19	71	24.6993	-83.0022
FKNMS	DT	OD	1D2	83	Black Coral Rock	832	1999	2016	19	70	24.6993	-83.0022
FKNMS	DT	OD	1D2	83	Black Coral Rock	833	1999	2016	20	71	24.6993	-83.0022
FKNMS	DT	OD	1D2	83	Black Coral Rock	834	1999	2016	20	71	24.6993	-83.0022
NPSDT/FKNMS	DT	P	1P1	41	White Shoal	411	1999	2016	23	29	24.6414	-82.8962
NPSDT/FKNMS	DT	P	1P1	41	White Shoal	412	1999	2016	23	24	24.6414	-82.8962
NPSDT/FKNMS	DT	P	1P1	41	White Shoal	413	1999	2016	22	18	24.6414	-82.8962
NPSDT/FKNMS	DT	P	1P1	41	White Shoal	414	1999	2016	23	15	24.6423	-82.8971
NPSDT	DT	P	1P2	42	Palmata Patch	421	2004	2016	20	9	24.6207	-82.8673
NPSDT	DT	P	1P2	42	Palmata Patch	422	2004	2016	25	9	24.6207	-82.8673
NPSDT	DT	P	1P3	43	Prolifera Patch	431	2004	2016	18	7	24.6206	-82.8696
NPSDT	DT	P	1P3	43	Prolifera Patch	432	2004	2016	22	5	24.6206	-82.8696
NPSDT	DT	P	1P3	43	Prolifera Patch	433	2004	2016	21	7	24.6206	-82.8696
NPSDT	DT	P	1P4	44	Temptation Rock	441	2004	2016	20	23	24.6431	-82.9307
NPSDT	DT	P	1P4	44	Temptation Rock	442	2004	2016	21	22	24.6431	-82.9307
NPSDT	DT	P	1P4	44	Temptation Rock	443	2004	2016	23	21	24.6431	-82.9307
NPSDT	DT	P	1P4	44	Temptation Rock	444	2004	2016	22	28	24.6431	-82.9307
NPSDT	DT	P	1P5	45	Mayer's Peak	451	2004	2016	21	31	24.608	-82.944
NPSDT	DT	P	1P5	45	Mayer's Peak	452	2004	2016	21	32	24.608	-82.944
NPSDT	DT	P	1P5	45	Mayer's Peak	453	2004	2016	22	30	24.608	-82.944

Darwin Core alignment levels

- Event
- Occurrence
- MeasurementsOrFacts

Event variables

- **EventDate and Time = 1999**
- **Latitude =**
- **Longitude =**
- **DateModified =**
- **Type = Event**
- **Language = en (english)**
- **License = 'http://creativecommons.org/publicdomain/zero/1.0/legalcode'**
- **OwnerInstitutionCode = FWC-FWRI (Florida Fish and Wildlife Conservation Commission-
Fish and Wildlife Research Institute)**
- **ParentEventID = 1999_DT_P_1P1_41 (=Year_subRegionID_habitatID_SiteCode_siteID)**
- **EventID = 1999_DT_P_1P1_41_411 (=Year_subRegionID_habitatID_SiteCode_siteID_station#)**
- **samplingProtocol = 'Video Transect Method for Coral Reef Monitoring'**
- **sampleSizeValue = transectLengthInMeters**
- **sampleSizeUnit = meters**
- **samplingEffort =**
- **geodeticDatum = WGS84**
- **Country = United States**
- **StateProvince = Florida**
- **waterBody = Gulf of Mexico**
- **locality = White_Shoal_Dry_Tortugas (= siteName_subRegionName)**
- **Habitat = Patch Reef (=HabitatClassName)**

ERDDAP Event data view



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Samples	time	latitude	longitude	modified	type	language	license
	UTC	degrees_north	degrees_east				
0	1999-01-01T00:00:00Z	24.6414	-82.8962	2018-02-01 12:58:30	Event	en	http://creativecommons.org/publicdomain/zero/1.0/legalcode

datasetID	datasetName	references
CoralReefEvaluationAndMonitoringProject-1999	Coral Reef Evaluation and Monitoring Project (CREMP)	Ruzicka R, Colella M, Semon K, Brinkhuis V, Morrison J,

Kidney J, Porter J, Meyers M, Christman M, and Colee J. 2010. CREMP 2009 Final Report. Fish & Wildlife Research Institute/Florida Fish & Wildlife Conservation

ownerInstitutionCode	parentEventID	eventID	eventDate	firstYear	lastYear	samplingProtocol
FWC-FWRI	1999_DT_1P1_41	1999_DT_1P1_41_411	1999	1999	2016	Video Transect Method for Coral Reef Monitoring

sampleSizeValue	sampleSizeUnit	
23.0	meters	CREMP sites consist of two to four monitoring stations delimited by permanent markers. Stations are approximately 2m x 22m

and are generally perpendicular to the shoreline. Three video transects (benthic survey), a station species inventory (SSI), and a clioniad sponge survey are conducted annually at each

geodeticDatum	country	stateProvince	waterBody	locality	habitat	depth
WGS84	United States	Florida	Southeast Gulf of Mexico; Florida keys; Dry Tortugas	White Shoal,Dry_Tortugas	Patch Reef	29.0

Occurrence variables

- **EventDate and Time = 1999**
- **Latitude =**
- **Longitude =**
- **DateModified =**
- **Type = Event**
- **Language = en (english)**
- **dataSetID = CoralReefEvaluationAndMonitoringProject-1999**
- **DataSetName = Coral Reef Evaluation And Monitoring Project-1999**
- **ownerInstitutionCode = FWC-FWRI (Florida Fish and Wildlife Conservation Commission - Fish and Wildlife Research Institute)**
- **ParentEventID = 1999_DT_P_1P1_41 (= Year_subRegionID_habitatID_SiteCode_siteID)**
- **EventID = 1999_DT_P_1P1_41_411
(= Year_subRegionID_habitatID_SiteCode_siteID_station#)**
- **EventDate = '1999'**
- **basicOfRecord = 'Human Observation'**
- **recordedBy = 'CREMP'**
- **OccurrenceID = 1999_DT_P_1P1_41_411_206989
(= Year_subRegionID_habitatID_SiteCode_siteID_station#_aphiaID)**
- **OrganismQuantity = 'Organisms per sample area'**
- **OrganismQuantityType = 'organism per area'**

Occurrence variables cont.

- **occurrenceStatus = present or absent**
- **scientificName =**
- **acceptedName =**
- **scientificNameID = urn:lsid:marinespecies.org:taxname:AphiaID**
- **acceptedID =**
- **kingdom =**
- **phylum =**
- **class =**
- **order =**
- **family =**
- **genus =**
- **specificEpithet =**
- **taxonRank =**
- **scientificNameAuthorship =**
- **vernacularName =**
- **taxonomicStatus = accepted/unaccepted**

ERDDAP Occurrence data view



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Samples	time	latitude	longitude	modified	type	language	datasetID
	UTC	degrees_north	degrees_east				
0	1999-01-01T00:00:00Z	24.6414	-82.8962	2018-02-01 11:48:59	Event	en	CoralReefEvaluationAndMonitoringProject-1999

datasetName	ownerInstitutionCode	parentEventID	eventID	eventDate	basisOfRecord
Coral Reef Evaluation and Monitoring Project (CREMP)	FWC-FWRI	1999_DT_1P1_41	1999_DT_1P1_41_411	1999	Human Observation

recordedBy	occurrenceID	organismQuantity	organismQuantityType	occurrenceStatus	scientificName
CREMP	1999_DT_1P1_41_411_206989	0.0207	Organisms per sample Area	present	Acropora cervicornis

acceptedName	acceptedID	kingdom	phylum	class	order
Acropora cervicornis	urn:lsid:marinespecies.org:taxname:206989	Animalia	Cnidaria	Anthozoa	Scleractinia

family	genus	specificEpithet	taxonRank	scientificNameAuthorship	vernacularName	taxonomicStatus
Acroporidae	Acropora	cervicornis	Species	Lamarck, 1816	Staghorn coral	accepted

MeasurementsOrFacts variables

- **EventDate and Time = 1999**
- **Latitude =**
- **Longitude =**
- **modified =**
- **ParentEventID = 1999_DT_P_1P1_41**
(= Year_subRegionID_habitatID_SiteCode_siteID)
- **EventID = 1999_DT_P_1P1_41_411**
(= Year_subRegionID_habitatID_SiteCode_siteID_station#)
- **MeasurementType = Average number of points**
- **MeasurementValue =**
- **MeasurementUnit =**
- **MeasurementDeterminedDate = Event Date**
- **MeasurementRemark =**

ERDDAP MeasurementsOrFacts data view



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Samples	time	latitude	longitude	modified	parentEventID	eventID
	UTC	degrees_north	degrees_east			
0	1999-01-01T00:00:00Z	24.6414	-82.8962	2018-02-01 13:30:23	1999_DT_1P1_41	1999_DT_1P1_41_411

measurementType	measurementValue	measurementUnit	measurementDeterminedDate	measurementRemark
Number of Points analyze for each transect	580.0		1999	

Thank You

Questions?



From :Florida's Spectacular Coral Reef System | The Nature Conservancy