Exploring the Structure of Aquatic Food Webs: A Network-based Analysis

Supplementary Materials

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1 Data

Table 1 includes the entire dataset used in the analysis. In all, it consists of 173 graphs taken from 5 sources: the R package `igraphdata` [33], the Cohen et al. book [29], the Ecopath with Ecosim database [31], and two datasets taken directly from the papers [59, 74]

Table 1: Dataset of food webs. S is the number of compartments between compartments, L is the number of links, C is the connectance ($C = L/S^2$), and D is the number of non-living nodes, B the number of basal nodes (that is the nodes with null in-degree in the living nodes subgraph), $GSCC$ is the Giant Strongly Connected Component ratio, i.e. the ratio between the nodes in Giant Strongly Connected Component and the total number of nodes. Max TL is the maximum trophic level.

Food web name	**Ref**	S	L	C	D	B	$GSCC$	Max TL
Lower Chesapeake Bay	[33, 49]	29	115	0.14	3	4	0.79	4.44
Middle Chesapeake Bay	[33, 49]	32	149	0.15	3	4	0.88	4.45
Upper Chesapeake Bay	[33, 49]	33	158	0.15	3	4	0.73	4.63
Chesapeake Bay Mesohaline	[33, 12]	36	122	0.09	3	2	0.44	4.53
Crystal River Creek - Control	[33, 108]	21	81	0.18	1	2	0.90	4.07
Crystal River Creek - Delta Temp	[33, 108]	21	60	0.14	1	2	0.86	3.69
Charca de Maspalomas	[33, 5]	21	55	0.12	3	6	0.33	3.68
Lake Michigan	[33, 63]	34	172	0.15	1	3	0.88	4.98
Mondego Estuary - Zostrea site	[33, 89]	43	348	0.19	1	6	0.81	3.77
Narragansett Bay Model	[33, 75]	32	158	0.15	1	2	0.94	4.29
St. Marks River (Florida)	[33, 11]	51	270	0.10	3	5	0.65	4.82
Aegean Sea (2003)	[31, 62]	44	354	0.18	2	2	0.95	4.53

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Food web name	**Ref**	S	L	C	D	B	$GSCC$	**Max TL**
Albatross Bay (1986)	[31, 83]	99	1382	0.14	7	8	0.88	4.96
Aleutian Islands (1963)	[31, 46]	40	391	0.24	1	4	0.90	5.10
Alto Golfo de California	[31, 76]	29	277	0.33	1	2	0.86	4.17
Antarctic (1970)	[31, 56]	59	749	0.22	1	4	0.90	4.51
Apalachicola Bay (2000)	[31, 4]	54	622	0.21	1	2	0.96	3.99
Arctic seas	[31]	22	57	0.12	1	0	1.00	5.50
Australia North West Shelf (1986)	[31, 21]	37	370	0.27	1	3	0.92	4.49
Azores (1997)	[31, 77]	45	450	0.22	1	2	0.96	4.64
Azores archipelago (1997)	[31, 45]	44	381	0.20	1	2	0.91	5.30
Baie de Seine (2000)	[31, 50]	42	374	0.21	1	2	0.93	5.00
Bamboung (2003)	[31, 30]	31	333	0.35	1	2	0.94	4.07
Bamboung (2006)	[31, 30]	31	333	0.35	1	2	0.94	4.28
Barnegat Bay (1981)	[31, 112]	27	135	0.19	1	3	0.78	4.22
Barra Del Chuy (1992)	[31, 68]	20	77	0.19	1	1	0.95	3.14
Bay of Biscay (1970)	[31, 1]	37	499	0.36	1	1	0.86	4.14
Bay of Biscay (1980)	[31, 79]	43	382	0.21	2	4	0.91	4.71
Bay of Biscay (1994)	[31, 64]	32	223	0.22	2	3	0.91	5.18
Bay of Biscay (1998)	[31, 1]	37	492	0.36	1	1	0.86	4.15
Bay of Biscay (2013)	[31, 79]	43	383	0.21	2	4	0.91	4.73
Florida Bay - dry season	[33, 109]	125	1969	0.13	3	14	0.82	4.53
Florida Bay - wet season	[33, 109]	125	1938	0.12	3	14	0.82	4.60
Bolinao Coral Reef (1980)	[31, 3]	26	133	0.20	1	4	0.81	3.75
British Columbia coast (1950)	[31, 94]	53	513	0.18	1	2	0.83	4.96
Calvi Bay (1998)	[31, 92]	27	195	0.27	1	2	0.93	4.25
Cap de Creus MPA - whole (2008)	[31, 32]	67	768	0.17	2	7	0.90	4.19
Cape Verde (1981)	[31, 102]	31	250	0.26	1	2	0.94	4.59
Celtic Sea-Biscay (1980)	[31, 15]	38	487	0.34	1	2	0.95	4.75
Celtic Sea-Biscay (2012)	[31, 15]	38	490	0.34	1	2	0.95	4.77
Celtic Sea (1980)	[31, 79]	48	522	0.23	2	4	0.92	4.71
Celtic Sea (1985)	[31, 53]	54	760	0.26	2	2	0.94	4.79
Celtic Sea (2013)	[31, 79]	48	531	0.23	2	4	0.92	4.77
Central Atlantic (1950)	[31]	38	270	0.19	1	1	0.97	5.02
Central Atlantic (1990)	[31]	38	271	0.19	1	1	0.97	5.02
Central Baltic Sea (1974)	[31, 107]	22	114	0.24	1	3	0.86	4.58
Central Chile (1998)	[31, 80]	21	80	0.18	1	1	0.52	3.90
Central Gulf of California (1978)	[31, 10]	27	180	0.25	2	1	0.93	4.00
Cerbère-Banyuls MPA (2013)	[31, 32]	64	728	0.18	2	5	0.92	4.18
Chesapeake (1950)	[31, 28]	45	259	0.13	1	3	0.73	4.26
Contemporary Alosine (2000)	[31, 35]	59	991	0.28	1	1	0.98	4.64
Cypress Dry Season	[33, 109]	68	554	0.12	3	12	0.78	3.92
Cypress Wet Season	[33, 109]	68	545	0.12	3	12	0.78	3.83
Deep Western Mediterranean sea (2009)	[31, 106]	21	144	0.33	2	1	0.95	4.32

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Table 1 – continued from previous page

Food web name	Ref	S	L	C	D	B	$GSCC$	Max TL
Denmark, Faroe Islands (1997)	[31, 120]	20	146	0.36	1	1	0.70	4.67
East Bass Strait (1994)	[31, 19]	59	628	0.18	2	3	0.86	5.09
Eastern Corsican Coast (2012)	[31, 111]	39	413	0.27	1	4	0.85	4.81
Falkland Islands (1990)	[31, 25]	44	373	0.19	1	1	0.75	4.62
Lake Paajarvi, littoral zone, Finland	[29]	27	122	0.17	2	3	0.89	4.46
Lake Pyhajarvi, littoral zone, Finland	[29]	25	115	0.18	2	2	0.84	3.39
Florida Bay (2006)	[31, 101]	47	318	0.14	2	4	0.81	4.02
Galapagos (2006)	[31, 95]	33	183	0.17	1	3	0.91	4.18
Galapagos, Floreana rocky reef (2000)	[31, 84]	43	327	0.18	1	3	0.91	4.41
Everglades Graminoids	[33, 109]	66	793	0.18	3	3	0.91	3.83
Greenland, West Coast (1997)	[31, 90]	22	151	0.31	1	1	0.95	4.40
Guinea (1985)	[31, 42]	35	434	0.35	1	1	0.97	4.48
Guinea (1998)	[31, 88]	44	507	0.26	1	1	0.98	4.72
Guinea (2004)	[31, 42]	35	433	0.35	1	1	0.97	4.48
Gulf of California (1990)	[31, 67]	34	371	0.32	1	2	0.94	4.03
Gulf of Carpentaria (1990)	[31, 85]	83	1138	0.17	4	5	0.90	5.04
Gulf of Gabes (2000)	[31, 52]	41	453	0.27	2	4	0.90	4.42
Gulf of Mexico (1950)	[31, 118]	48	337	0.15	1	3	0.85	3.98
Gulf of Thailande (1963)	[31, 26]	29	163	0.19	1	1	0.97	4.88
Hudson Bay (1970)	[31, 57]	40	449	0.28	2	2	0.95	4.93
Huizache-Caimanero (1984)	[31, 122]	26	215	0.32	1	2	0.92	3.56
Humboldt Current (1995)	[31, 103]	33	204	0.19	1	2	0.94	4.74
Iceland (1950)	[31, 18]	24	194	0.34	1	2	0.79	4.12
Icelandic shelf (1997)	[31, 98]	21	140	0.32	1	1	0.76	3.72
Independence Bay (1996)	[31, 104]	20	97	0.24	1	2	0.90	3.57
Irish Sea (1973)	[31, 65]	53	690	0.25	3	3	0.94	4.66
Jalisco and Colima Coast (1995)	[31, 40]	38	396	0.27	2	2	0.89	4.10
Jurien Bay (2007)	[31, 70]	80	749	0.12	7	11	0.85	4.28
Kaloko Honokohau (2005)	[31, 116]	26	141	0.21	1	5	0.81	3.89
Lesser Antilles (2001)	[31, 71]	31	287	0.30	1	1	0.77	5.13
Little Rock Lake, Wisconsin	[74]	182	2612	0.08	1	62	0.53	4.41
Looe Key National Marine Sanctuary (1980)	[31, 113]	20	144	0.36	1	2	0.90	4.29
Malangen Fjord (2017)	[31, 115]	36	240	0.19	4	2	0.92	4.65
Tasek Bera swamp, Malaysia	[29]	27	97	0.13	2	6	0.41	4.55
Mangrove Estuary - Dry Season	[33, 109]	94	1339	0.15	3	5	0.91	4.45
Mangrove Estuary - Wet Season	[33, 109]	94	1340	0.15	3	5	0.91	4.53
Mauritania (1987)	[31, 100]	38	374	0.26	1	1	0.95	4.36
Mauritania (1998)	[31, 100]	38	372	0.26	1	1	0.95	4.45

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Table 1 – continued from previous page

Food web name	**Ref**	S	L	C	D	B	$GSCC$	**Max TL**
Mauritanie (1991)	[31, 47]	51	635	0.24	1	3	0.94	4.16
Medes Island MPA (2000)	[31, 32]	67	767	0.17	2	7	0.90	4.23
Morocco (1985)	[31, 45]	38	378	0.26	1	1	0.95	4.35
Mount St Michel Bay (2003)	[31, 66]	24	89	0.15	1	4	0.75	3.20
Ningaloo (2007)	[31, 61]	53	628	0.22	3	6	0.83	4.12
North Atlantic (1950)	[31, 88]	38	269	0.19	1	1	0.97	5.01
North Atlantic (1997)	[31, 88]	38	269	0.19	1	1	0.97	5.02
North Benguela (1600)	[31, 119]	26	208	0.31	1	1	0.96	4.42
North Benguela (1967)	[31, 119]	26	208	0.31	1	1	0.96	4.53
North Benguela (1990)	[31, 119]	26	208	0.31	1	1	0.96	4.58
North East Pacific (1950)	[31, 119]	56	559	0.18	1	2	0.84	4.97
North Sea (1974)	[31, 14]	32	241	0.24	1	1	0.97	4.55
North Sea (1981)	[31, 27]	29	152	0.18	1	3	0.90	5.07
North South of China Sea (1970)	[31, 24]	38	471	0.33	1	2	0.95	4.15
Northern Benguela (1956)	[31, 55]	32	234	0.23	1	2	0.81	4.23
Northern British Columbia (1950)	[31, 2]	53	483	0.17	2	3	0.83	4.32
Northern British Columbia (2000)	[31, 2]	53	487	0.17	2	3	0.83	4.12
Northern Californian Current (1960)	[31, 117]	36	152	0.12	1	2	0.94	4.10
Northern Californian Current (1990)	[31, 38]	63	775	0.20	3	2	0.87	4.88
Northern Gulf of Mexico (2005)	[31, 96]	75	2244	0.40	1	3	0.96	4.25
Northern Gulf of St Lawrence (1990)	[31, 99]	32	343	0.33	1	1	0.97	4.71
Northern Gulf St Lawrence (1985)	[31, 78]	32	308	0.30	1	1	0.97	4.86
Northern Humboldt Current (1997)	[31, 103]	33	210	0.19	1	2	0.94	4.51
Paraná River Floodplain (1992)	[31, 6]	40	224	0.14	1	3	0.88	4.02
Peru (1953)	[31, 60]	20	108	0.27	1	2	0.90	3.37
Peru (1960)	[31, 60]	20	109	0.27	1	2	0.90	3.58
Peru (1973)	[31, 60]	20	113	0.28	1	2	0.90	3.80
Port Cros (1998)	[31, 110]	41	356	0.21	1	4	0.85	4.38
Port Phillip Bay (1994)	[31, 39]	34	331	0.29	1	4	0.82	4.36
Prince William Sound (1994)	[31, 86]	48	404	0.18	3	3	0.79	5.45
Raja Ampat (1990)	[31, 93]	98	2614	0.27	2	5	0.91	4.31
Raja Ampat (2005)	[31, 93]	98	2612	0.27	2	5	0.91	4.18
Restored Alosine Biomass (2000)	[31]	59	991	0.28	1	1	0.98	4.49
Ria-Lake Tapajos (2013)	[31, 22]	35	341	0.28	1	3	0.91	3.70
River Rheido, Wales	[29]	18	92	0.28	1	4	0.72	3.36
Rocky shore, Monterey Bay, California	[29]	35	167	0.14	1	15	0.57	3.99

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Table 1 – continued from previous page

Food web name	Ref	S	L	C	D	B	$GSCC$	Max TL
Salt meadow, New Zealand	[29]	45	89	0.04	1	6	0.44	4.00
Sand beach, South Africa	[29]	21	76	0.17	2	0	1.00	3.29
Santa Pola Bay (2001)	[31, 13]	41	331	0.20	2	3	0.80	3.89
Sechura Bay (1996)	[31, 105]	21	101	0.23	1	2	0.90	3.74
Shallow sublittoral, Cape Ann, Massachusetts	[29]	25	92	0.15	2	2	0.40	4.00
Sierra Leone (1964)	[31, 54]	44	449	0.23	1	1	0.98	4.78
Sierra Leone (1978)	[31, 54]	44	458	0.24	1	1	0.98	4.63
Sierra Leone (1990)	[31, 54]	44	459	0.24	1	1	0.98	4.69
Sinaloa sur Mexico (1994)	[31, 97]	37	347	0.25	1	2	0.95	4.16
Sirinhaém River (2013)	[31, 69]	25	178	0.28	1	3	0.88	3.31
Sítios Novos reservoir (2011)	[31, 16]	31	206	0.21	1	1	0.97	3.79
Sonda Campeche Act (1988)	[31, 121]	25	187	0.30	1	2	0.92	4.33
South Benguela (1600)	[31, 119]	32	263	0.26	1	2	0.94	4.97
South Benguela (1900)	[31, 119]	32	263	0.26	1	2	0.94	4.97
South Benguela (1978)	[31, 119]	32	263	0.26	1	2	0.94	4.97
South East Alaska (1963)	[31, 44]	40	514	0.32	1	4	0.88	5.35
South of Benguela (1960)	[31, 119]	32	263	0.26	1	2	0.94	4.94
South Shetlands (1990)	[31, 17]	30	238	0.26	1	1	0.97	4.70
South western Gulf of Mexico (1970)	[31, 9]	24	152	0.26	1	2	0.92	4.78
Sri Lanka (2000)	[31, 51]	39	375	0.25	1	2	0.95	3.87
Strait of Georgia (1950)	[31, 94, 73]	55	523	0.17	1	2	0.85	4.81
Swamp, south Florida	[29]	27	74	0.10	1	2	0.52	5.66
Sørfjord (1993)	[31, 37]	25	159	0.25	1	1	0.96	4.35
Tampa Bay (1950)	[31, 118]	52	442	0.16	1	3	0.88	3.88
Tagus estuary, Portugal	[29]	29	136	0.16	2	1	0.76	4.15
Tasmanian Seamounts Marine Reserve (1992)	[31, 20]	25	138	0.22	1	1	0.96	4.75
Terminos Lagoon (1980)	[31, 72]	20	163	0.41	1	2	0.90	3.31
Thermaikos Gulf (1998)	[31, 36]	33	357	0.33	2	2	0.94	4.46
Tropical plankton community, Pacific	[29]	23	155	0.29	1	3	0.87	3.99
USA, Mid Atlantic Bight (1995)	[31, 81]	55	650	0.21	1	3	0.89	4.53
USA, South Atlantic Continental Shelf (1995)	[31, 82]	42	514	0.29	1	4	0.88	4.31
Virgin Islands (1960)	[31, 87]	21	161	0.37	1	2	0.90	4.61
West Baffin Bay, Coastal and Shelf (2016)	[31, 91]	30	222	0.25	1	2	0.93	5.23
West coast of Sabah (1972)	[31, 41]	29	243	0.29	1	2	0.93	4.40
West Florida Shelf (1985)	[31, 114]	83	1045	0.15	2	4	0.94	4.54
West Florida Shelf Historic Model (1950)	[31, 23]	70	1232	0.25	3	4	0.94	4.39
West Scotland (2000)	[31, 48]	37	407	0.30	1	1	0.97	5.00
West scotland DeepSea (1974)	[31, 58]	34	322	0.28	1	1	0.94	4.83

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Table 1 – continued from previous page

Food web name	Ref	S	L	C	D	B	$GSCC$	Max TL
Western Antarctic Peninsula (1996)	[31, 34]	35	198	0.16	1	3	0.91	4.72
Western Channel (1973)	[31, 7]	52	475	0.18	2	2	0.94	4.63
Western Channel (1993)	[31, 7]	52	475	0.18	2	2	0.94	4.66
Western Tropical Pacific Ocean (1990)	[31, 43]	20	150	0.38	1	2	0.85	4.91
Ythan estuary, Aberdeenshire, Scotland	[59]	134	721	0.04	1	29	0.74	4.91
Yucatan (1987)	[31, 8]	21	131	0.30	1	2	0.86	4.94

2 Core Periphery

Food web name	Core periphery composition
Lower Chesapeake Bay	
Middle Chesapeake Bay	
Upper Chesapeake Bay	
Chesapeake Bay Mesohaline	
Crystal River Creek - Control	
Crystal River Creek - Delta Temp	
Charca de Maspalomas	
Lake Michigan	
Mondego Estuary - Zostrea site	
Narragansett Bay Model	
St. Marks River (Florida)	
Aegean Sea (2003)	
Albatross Bay (1986)	
Aleutian Islands (1963)	
Alto Golfo de California	
Antarctic (1970)	
Apalachicola Bay (2000)	
Arctic seas	
Australia North West Shelf (1986)	

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Table 2 – continued from previous page

Food web name	Core periphery composition
Azores (1997)	
Azores archipelago (1997)	
Baie de Seine (2000)	
Bamboung (2003)	
Bamboung (2006)	
Barnegat Bay (1981)	
Barra Del Chuy (1992)	
Bay of Biscay (1970)	
Bay of Biscay (1980)	
Bay of Biscay (1994)	
Bay of Biscay (1998)	
Bay of Biscay (2013)	
Florida Bay - dry season	
Florida Bay - wet season	
Bolinao Coral Reef (1980)	
British Columbia coast (1950)	
Calvi Bay (1998)	
Cap de Creus MPA - whole (2008)	
Cape Verde (1981)	
Celtic Sea-Biscay (1980)	
Celtic Sea-Biscay (2012)	
Celtic Sea (1980)	
Celtic Sea (1985)	
Celtic Sea (2013)	
Central Atlantic (1950)	
Central Atlantic (1990)	
Central Baltic Sea (1974)	
Central Chile (1998)	
Central Gulf of California (1978)	
Cerbère-Banyuls MPA (2013)	

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Table 2 – continued from previous page

Food web name	Core periphery composition
Chesapeake (1950)	
Contemporary Alosine (2000)	
Cypress Dry Season	
Cypress Wet Season	
Deep Western Mediterranean sea (2009)	
Denmark, Faroe Islands (1997)	
East Bass Strait (1994)	
Eastern Corsican Coast (2012)	
Falkland Islands (1990)	
Lake Paajarvi, littoral zone, Finland	
Lake Pyhajarvi, littoral zone, Finland	
Florida Bay (2006)	
Galapagos (2006)	
Galapagos, Floreana rocky reef (2000)	
Everglades Graminoids	
Greenland, West Coast (1997)	
Guinea (1985)	
Guinea (1998)	
Guinea (2004)	
Gulf of California (1990)	
Gulf of Carpentaria (1990)	
Gulf of Gabes (2000)	
Gulf of Mexico (1950)	
Gulf of Thailande (1963)	
Hudson Bay (1970)	
Huizache-Caimanero (1984)	
Humboldt Current (1995)	
Iceland (1950)	

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Table 2 – continued from previous page

Food web name	Core periphery composition
Icelandic shelf (1997)	
Independence Bay (1996)	
Irish Sea (1973)	
Jalisco and Colima Coast (1995)	
Jurien Bay (2007)	
Kaloko Honokohau (2005)	
Lesser Antilles (2001)	
Little Rock Lake, Wisconsin	
Looe Key National Marine Sanctuary (1980)	
Malangen Fjord (2017)	
Tasek Bera swamp, Malaysia	
Mangrove Estuary - Dry Season	
Mangrove Estuary - Wet Season	
Mauritania (1987)	
Mauritania (1998)	
Mauritanie (1991)	
Medes Island MPA (2000)	
Morocco (1985)	
Mount St Michel Bay (2003)	
Ningaloo (2007)	
North Atlantic (1950)	
North Atlantic (1997)	
North Benguela	
North Benguela (1900)	
North Benguela (1967)	
North Benguela (1990)	
North East Pacific (1950)	
North Sea (1974)	
North Sea (1981)	

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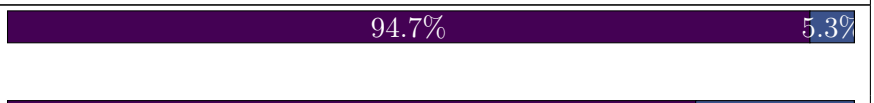
Table 2 – continued from previous page

Food web name	Core periphery composition
North South of China Sea (1970)	
Northern Benguela (1956)	
Northern British Columbia (1950)	
Northern British Columbia (2000)	
Northern Californian Current (1960)	
Northern Californian Current (1990)	
Northern Gulf of Mexico (2005)	
Northern Gulf of St Lawrence (1990)	
Northern Gulf St Lawrence (1985)	
Northern Humboldt Current (1997)	
Paraná River Floodplain (1992)	
Peru (1953)	
Peru (1960)	
Peru (1973)	
Port Cros (1998)	
Port Phillip Bay (1994)	
Prince William Sound (1994)	
Raja Ampat (1990)	
Raja Ampat (2005)	
Restored Alosine Biomass (2000)	
Ria-Lake Tapajos (2013)	
Rocky shore, Monterey Bay, California	
Salt meadow, New Zealand	
Sand beach, South Africa	

Continued on next page

Table 2 – continued from previous page

Food web name	Core periphery composition
Santa Pola Bay (2001)	
Sechura Bay (1996)	
Shallow sublittoral, Cape Ann, Massachusetts	
Sierra Leone (1964)	
Sierra Leone 1978 (1978)	
Sierra Leone (1990)	
Sinaloa sur MEXICO (1994)	
Sirinhaém River (2013)	
Sítios Novos reservoir (2011)	
Sonda Campeche Act (1988)	
South Benguela	
South Benguela (1900)	
South Benguela (1978)	
South East Alaska (1963)	
South of Benguela (1960)	
South Shetlands (1990)	
South western Gulf of Mexico (1970)	
Sri Lanka (2000)	
Strait of Georgia (1950)	
Swamp, south Florida	
Sørfjord (1993)	
Tampa Bay (1950)	
Tagus estuary, Portugal	
Tasmanian Seamounts Marine Reserve (1992)	
Terminos Lagoon (1980)	
Thermaikos Gulf (1998)	
Tropical plankton community, Pacific	
USA, Mid Atlantic Bight (1995)	

Continued on next page

Table 2 – continued from previous page

Food web name	Core periphery composition
USA, South Atlantic Continental Shelf (1995)	88.1% 11.9%
Virgin Islands (1960)	90.5% 9.5%
West Baffin Bay, Coastal and Shelf (2016)	93.3% 6.7%
West coast of Sabah (1972)	93.1% 6.9%
West Florida Shelf (1985)	94.0% 6.0%
West Florida Shelf Historic Model (1950)	94.3% 5.7%
West Scotland (2000)	97.3% 2.7%
West scotland DeepSea (1974)	94.1% 5.9%
Western Antarctic Peninsula (1996)	91.4% 8.6%
Western Channel (1973)	94.2% 5.8%
Western Channel (1993)	94.2% 5.8%
Western Tropical Pacific Ocean (1990)	85.0% 15.0%
Ythan estuary, Aberdeenshire, Scotland	73.9% 26.1%
Yucatan (1987)	85.7% 14.3%

2.1 Change in binary interaction in the net measured in the same geographic area

In the following list we report the differences between seasonal and yearly food webs. In particular we look for the differences in the sets of species (**Nodes**), binary interactions (**Edges**) and differences in the core periphery compositions. If a difference is measured in one of these food web attribute, we will report those elements that are not common in the pair of network we are comparing.

2.1.1 Networks measured in different seasons

- Cypress Wet Season vs. Cypress Dry Season:

Nodes: No nodes differences

Edges: 55 edges difference out of 545 and 554 respectively

Cypress Wet Season : [(Salam. L, Alligators), (Anseriformes, Alligators), (Tadpoles, Turtles), (Anseriformes, Snakes), (Salam. L, Salamanders), (Tadpoles, Salamanders), (Caprimulgiformes, Egrets), (Woodpeckers, Egrets), (Shrews, Egrets), (Rabbits, Wood stork), (Salam. L, White ibis), (S Frog, Owls), (Alligators, Black Bear), (Rabbits, Black

Bear), (Anseriformes, G Fox), (Alligators, Raccoon), (Turtles, Raccoon), (Snakes, Raccoon), (Alligators, Mink), (Turtles, Mink), (Snakes, Mink), (Anseriformes, Hogs), (Anseriformes, Armadillo)]

Cypress Dry Season : [(Galliformes, Raccoon), (Galliformes, Mink), (Egrets, Raccoon), (Egrets, Mink), (Egrets, Hogs), (Egrets, Armadillo), (Great blue heron, Snakes), (Great blue heron, Raccoon), (Other herons, Alligators), (Other herons, Snakes), (Other herons, Kites & Hawks), (Other herons, Owls), (Other herons, Raccoon), (Other herons, Mink), (Other herons, Hogs), (Other herons, Armadillo), (Wood stork, Snakes), (Wood stork, G. Fox), (Wood stork, Raccoon), (Wood stork, Mink), (Wood stork, Hogs), (Wood stork, Armadillo), (White ibis, Raccoon), (White ibis, Mink), (Gruiformes, Raccoon), (Passeriformes onniv., Raccoon), (Passeriformes pred., Raccoon), (Shrews, Turtles), (Shrews, Snakes), (Shrews, Bobcat), (Mink, Bobcat), (Armadillo, Black Bear)]

Core periphery: No core-periphery differences

- Mangrove Estuary - Dry Season vs. Mangrove Estuary - Wet Season:

Nodes: No nodes differences

Edges: 37 edges difference out of 1339 and 1340 respectively

ngrove Estuary - Dry Season : [(SCRUST, TURT), (SCRUST, SNKS), (SCRUST, DUCK2), (SCRUST, RACO), (SCRUST, M & O), (SCRUST, MANA), (JLOBST, M & O), (ANCH, M & O), (KILLI, DUCK2), (SLVR, M & O), (BENTH, M & O), (DUCK1, BEAR), (DUCK2, BEAR), (GUIF, BEAR), (SSBIRDS, K & H), (SSBIRDS, OWLS), (WOODP, FOX), (POC, DCRAB)]

ngrove Estuary - Wet Season : [(OTH. PP, FWFSH), (AGAST, SCIAE), (AGAST, PIN), (FWINV, SCIAE), (FWINV, PIN), (FWINV, DUCK2), (FWINV, DUCK3), (LARV, GOBY), (INSCT, SNKS), (RAYS, MRAPT), (FWFSH, SCIAE), (FWFSH, DUCK2), (FWFSH, G & T), (COCO, BH & E), (COCO, SE & E), (COCO, OPSU), (COCO, FOX), (COCO, BEAR), (COCO, RACO)]

Core periphery: No core-periphery differences

- Florida Bay - dry season vs. Florida Bay - wet season:

Nodes: No nodes differences

Edges: 45 edges difference out of 1969 and 1938 respectively

Florida Bay - dry season : [(Acartia Tonsa, Needlefish), (Oithona nana, Needlefish), (Paracalanus, Needlefish), (Other Copepoda, Needlefish), (Meroplankton, Needlefish), (Meroplankton, Other Pelagic Fishes), (Other Zooplankton, Needlefish), (Predatory Shrimp, Needlefish), (Lizardfish, Big Herons & Egrets), (Lizardfish, Dolphin), (Toadfish, Big Herons & Egrets), (Brotalus, Big Herons & Egrets), (Halfbeaks, Big Herons & Egrets), (Halfbeaks, Dolphin), (Other Killifish, Greeb), (Other Killifish, Pelican), (Other Killifish, Comorant), (Other Killifish, Big Herons & Egrets), (Other Killifish, Ibis), (Other Killifish, Roseate Spoonbill), (Other Killifish, Kingfisher), (Sailfin Molly, Comorant), (Sailfin Molly, Big Herons & Egrets), (Dwarf Seahorse, Pelican), (Dwarf Seahorse, Big Herons & Egrets), (Pompano, Raptors), (Gray Snapper, Big Herons & Egrets), (Gray Snapper, Dolphin), (Porgy, Loon), (Porgy, Pelican), (Porgy, Comorant), (Porgy, Predatory Ducks), (Porgy, Raptors), (Porgy, Crocodiles), (Porgy, Dolphin), (Mullet, Big Herons & Egrets), (Code Goby, Other Cnidaridae), (Clown Goby, Dolphin)]

Florida Bay - wet season : [(Rays, Benthic POC), (Dwarf Seahorse, Comorant), (Mojarra, Loggerhead Turtle), (Parrotfish, Greeb), (Other Pelagic Fishes, Pelican), (Other Pelagic Fishes, Big Herons & Egrets), (Other Pelagic Fishes, Crocodiles)]

Core periphery: No core-periphery differences

2.1.2 Networks measured in different years

- Bay of Biscay (1970) vs. Bay of Biscay (1998):

Nodes: No nodes differences

Edges: 7 edges difference out of 499 and 492 respectively

Bay of Biscay (1970) : [(Detritus, Benthic Infauna), (Zooplankton Large, Extra Large Demersal High Troph), (Detritus, Really Small Demersal High Troph), (Zooplankton Large, Really Small Demersal High Troph), (Detritus, Small Demersal), (Medium Deepwater, Small Sharks), (Medium Pelagic, Small Sharks)]

Bay of Biscay (1998) : []

Core periphery: No core-periphery differences

- Bamboung (2003) vs. Bamboung (2006):

Nodes: No nodes differences

Edges: No edges differences

Core periphery: No core-periphery differences

- Peru (1960) vs. Peru (1953):

Nodes: No nodes differences

Edges: 5 edges difference out of 109 and 108 respectively

Peru (1960) : [(Hake, Booby), (Hake, Cormorant), (Hake, Pelican)]

Peru (1953) : [(Horse Mackerel, Hake), (Mackerel, Hake)]

Core periphery: No core-periphery differences

- Peru (1960) vs. Peru (1973):

Nodes: No nodes differences

Edges: 4 edges difference out of 109 and 113 respectively

Peru (1960) : []

Peru (1973) : [(Hake, Fur seal), (Horse mackerel, Hake), (Mackerel, Hake), (Hake, Sea lion)]

Core periphery: No core-periphery differences

- Peru (1953) vs. Peru (1973):

Nodes: No nodes differences

Edges: 5 edges difference out of 108 and 113 respectively

Peru (1953) : []

Peru (1973) : [(Hake, Booby), (Hake, Cormorant), (Hake, Fur seal), (Hake, Pelican), (Hake, Sea lion)]

Core periphery: No core-periphery differences

- Celtic Sea-Biscay (1980) vs. Celtic Sea-Biscay (2012):

Nodes: No nodes differences

Edges: 3 edges difference out of 487 and 490 respectively

Celtic Sea-Biscay (1980) : []
Celtic Sea-Biscay (2012) : [(Hake, Monkfish), (Hake juv, Monkfish), (Hake, Toothed whales)]

Core periphery: No core-periphery differences

- Mauritania (1987) vs. Mauritania (1998):

Nodes: No nodes differences

Edges: 2 edges difference out of 374 and 372 respectively

Mauritania (1987) : [(mugilides, sabres), (Detritus, Selaciens L pred)]
Mauritania (1998) : []

Core periphery: No core-periphery differences

- Central Atlantic (1990) vs. Central Atlantic (1950):

Nodes: No nodes differences

Edges: 1 edges difference out of 271 and 270 respectively

Central Atlantic (1990) : [(Detritus, Detritus)]
Central Atlantic (1950) : []

Core periphery: No core-periphery differences

- Sierra Leone (1964) vs. Sierra Leone (1990):

Nodes: No nodes differences

Edges: 18 edges difference out of 449 and 459 respectively

Sierra Leone (1964) : [(Groupers, Large pelagic predators), (Mullets and other herbivores, M Bathypelagic invert feeders), (Carnivorous zooplankton, Small pelagic predators), (Small Bathypelagic predators, Toothed whales and dolphins)]

Sierra Leone (1990) : [(Benthos, Cephalopods), (Carnivorous zooplankton, Cephalopods), (Cephalopods, Cephalopods), (Crustaceans, Cephalopods), (Small demersal invert feeders, Cephalopods), (Large pelagic predators, Croackers), (Medium demersal predators, Croackers), (Large pelagic predators, Large Tuna), (Bongo shad, L Coastal Sharks and Rays), (Seabirds, L Coastal Sharks and Rays), (Small demersal predators, Medium demersal invert feeders), (Detritus, Small Tuna), (Toothed whales and dolphins, Toothed whales and dolphins), (Turtles, Toothed whales and dolphins)]

Core periphery: No core-periphery differences

- Sierra Leone (1964) vs. Sierra Leone (1978):

Nodes: No nodes differences

Edges: 19 edges difference out of 449 and 458 respectively

Sierra Leone (1964) : [(Groupers, Large pelagic predators), (Mullets and other herbivores, M Bathypelagic invert feeders), (Groupers, M Coastal Sharks and Rays), (Carnivorous zooplankton, Small pelagic predators), (Small Bathypelagic predators, Toothed whales and dolphins)]

Sierra Leone (1978) : [(Benthos, Cephalopods), (Carnivorous zooplankton, Cephalopods), (Cephalopods, Cephalopods), (Crustaceans, Cephalopods), (Small demersal invert feeders, Cephalopods), (Large pelagic predators, Croackers), (Medium demersal predators, Croackers), (Large pelagic predators, Large Tuna), (Bongo shad, L Coastal Sharks and Rays), (Seabirds, L Coastal Sharks and Rays), (Small demersal predators, Medium demersal invert feeders), (Detritus, Small Tuna), (Toothed whales and dolphins, Toothed whales and dolphins), (Turtles, Toothed whales and dolphins)]

Core periphery: No core-periphery differences

- Sierra Leone (1990) vs. Sierra Leone (1978):

Nodes: No nodes differences

Edges: 1 edges difference out of 459 and 458 respectively

Sierra Leone (1990) : [(Groupers, M Coastal Sharks and Rays)]
Sierra Leone (1978) : []

Core periphery: No core-periphery differences

- Bay of Biscay (2013) vs. Bay of Biscay (1980):

Nodes: No nodes differences

Edges: 3 edges difference out of 383 and 382 respectively

Bay of Biscay (2013) : [(Hake adulte, Detritus), (Hake juv, Detritus)]
Bay of Biscay (1980) : [(Sea bass, Toothed whales)]

Core periphery: No core-periphery differences

- North Benguela (1900) vs. North Benguela (1990):

Nodes: No nodes differences

Edges: No edges differences

Core periphery: No core-periphery differences

- North Benguela (1900) vs. North Benguela (1967):

Nodes: No nodes differences

Edges: No edges differences

Core periphery: No core-periphery differences

- North Benguela (1900) vs. North Benguela (1600):

Nodes: No nodes differences

Edges: No edges differences

Core periphery: No core-periphery differences

- North Benguela (1990) vs. North Benguela (1967):

Nodes: No nodes differences

Edges: No edges differences

Core periphery: No core-periphery differences

- North Benguela (1990) vs. North Benguela (1600):

Nodes: No nodes differences

Edges: No edges differences

Core periphery: No core-periphery differences

- North Benguela (1967) vs. North Benguela (1600):

Nodes: No nodes differences

Edges: No edges differences

Core periphery: No core-periphery differences

- Raja Ampat (2005) vs. Raja Ampat (1990):

Nodes: No nodes differences

Edges: 2 edges difference out of 2612 and 2614 respectively

Raja Ampat (2005) : []
Raja Ampat (1990) : [(Adult large pelagic, Detritus), (Juvenile large pelagic, Detritus)]

Core periphery: No core-periphery differences

- Celtic Sea (2013) vs. Celtic Sea (1980):

Nodes: No nodes differences

Edges: 41 edges difference out of 531 and 522 respectively

Celtic Sea (2013) : [(Boarfish, Blue whitting), (Herring, Blue whitting), (Herring, Cephalopods), (Boarfish, Cod ad), (Cod ad, Cod juvenile), (Herring, Cod juvenile), (Blue whitting, Demersal L), (Boarfish, Demersal L), (Detritus, Demersal L), (Herring, Demersal L), (Horse Mackerel, Demersal L), (Mackerel, Demersal L), (Sprat, Demersal L), (Boarfish, Demersal M), (Boarfish, Haddock), (Boarfish, Hake juvenile), (Herring, Horse Mackerel), (Boarfish, Megrim), (Boarfish, Sea bass), (Herring, Sharks L), (Boarfish, Sharks/rays), (Cod ad, Sharks/rays), (Boarfish, Toothed whales), (Boarfish, Whitting), (Plaice, Whitting)]
Celtic Sea (1980) : [(Cod ad, Anglerfish), (Mesozooplankton, Cephalopods), (Cod juvenile, Cod juvenile), (Suprabenthic invertebrates, Cod juvenile), (Anglerfish, Demersal L), (Haddock, Demersal L), (Hake adulte, Demersal L), (Pelagic M, Demersal L), (Demersal S, Demersal S), (Pelagic L, Hake adulte), (Plaice, Hake adulte), (Sole, Hake adulte), (Horse Mackerel, Sea bass), (Sharks/rays, Sharks/rays), (Macrozooplankton, Toothed whales), (Sole, Toothed whales)]

Core periphery: No core-periphery differences

- North Atlantic (1950) vs. North Atlantic (1997):

Nodes: No nodes differences

Edges: No edges differences

Core periphery: No core-periphery differences

- Western Channel (1973) vs. Western Channel (1993):

Nodes: No nodes differences

Edges: No edges differences

Core periphery: No core-periphery differences

- Northern British Columbia (2000) vs. Northern British Columbia (1950):

Nodes: No nodes differences

Edges: 6 edges difference out of 487 and 483 respectively

hern British Columbia (2000) : [(Eulachon, Detritus), (Macrophytes, Detritus), (Sea Otters, Detritus), (Small squid, Detritus), (Transient salmon, Detritus)]
hern British Columbia (1950) : [(Juvenile herring, Juvenile sablefish)]

Core periphery: No core-periphery differences

- South Benguela (1978) vs. South Benguela (1600):

Nodes: No nodes differences

Edges: No edges differences

Core periphery: No core-periphery differences

- South Benguela (1978) vs. South Benguela (1900):

Nodes: No nodes differences

Edges: No edges differences

Core periphery: No core-periphery differences

- South Benguela (1600) vs. South Benguela (1900):

Nodes: No nodes differences

Edges: No edges differences

Core periphery: No core-periphery differences

- Guinea (2004) vs. Guinea (1985):

Nodes: No nodes differences

Edges: 7 edges difference out of 433 and 434 respectively

Guinea (2004) : [(Bathy-dem invert.eaters, Carangids), (Mullets+, Seabream+), (Detritus, Sea catfish)]

Guinea (1985) : [(Giant Afr. threadfin, L. demersal pred.eaters), (Grunts+, Rays+), (Bobo croaker, Sharks+), (Mullets+, Sharks+)]

Core periphery: No core-periphery differences

3 Node sequence of most critical nodes

Table 3: Sequence of most critical nodes. On top the name of the food web and its robustness followed by the sequence of most critical living compartment according to the method described the article. The food webs have been sorted according to the robustness.

Sand beach, South Africa, $\rho = 0.369615$
Gastrosaccus, Callianassa, Donax; bacteria; Cumacea; Turbellaria; Nemertea; Bathyporeia; Bullia; Ovalipes; Talorchestia; sedentary polychaeta; errant polychaete; isopods; Larus nematode worms; protozoa; nematode; Curlew sandpiper; Sanderling; elasmobranch fishes; predatory fishes
Sítios Novos reservoir (2011), $\rho = 0.335623$
Camarão; Cladocera; Copepoda; M. tuberculata; Ostracoda; Outros Invertebrados; Rotifera; Insecta; P.brevis; O.niloticus juvenil; O.niloticus adulto; L.piau; Other Birds; Caracara plancus; Poecilia; A. gigas 1; A.brasiliensis juvenil; Cichla sp. juvenil; A.bimaculatus; Pescada; A.brasiliensis adulto; Cichla sp. adulto; Phytoplankton; A. gigas 3; A. gigas 4; A.gigas 2; Ardea alba; Egretta thula; Phalacrocorax brasilianus; Butorides Striata
Terminos Lagoon (1980), $\rho = 0.321184$
Meiofauna; Polychaetes; Zooplankton; Microcrustaceans; Molluscs; Sparidae; Other macroinvertebrates; Penaeids; Brachyurans; Tetraodontidae; Engraulidae; Ariidae; Gerreidae; Haemulidae; Other fish; Scianidae; Benthic autotrophs; Phytoplankton; Lutjanidae
Continued on next page

Table 3 – continued from previous page

Huizache-Caimanero (1984), $\rho = 0.305621$
Gastropods; Polychaets; Microcrustaceans; Chanids; Zooplankton; Bivalvs; Penaeids; Palaemonids; Mugilids; Gobioidei; Clupeidei; Gerreids; Callinectes; Pleuronectoidei; Haemulids; Ariids; Centropomids; Carangids; Lutjanids; Elopids; Sciaenids; Macrophytes; Poeciliids; Phytoplankton; Belonoidei
Northern Gulf of Mexico (2005), $\rho = 0.303594$
SEP; INF; ZOO; MEP; MUL; MEN; SHP; CPH; ReO; CoO; BUT; ASK; GTR; DCIF; SHS; BCIF; ReIF; BeP; SRF; CRB; ST; CoP; BGR3; YEG3; OSN; VSN; RAY; MSN; TLF; RD; BGR0; ReP; TUR; YEG1; RSN6; GGR0; RGR0; RGR1; RGR3; SBD; OcP; SWG; GOL; RSN0; GGR3; SCS; ASN; PCP; AMB; DWG; SNB; SM3; BFT; DOL; COB; KM3; BIL; TUN; SWO; LCS; YFT; BKT; DUS; LOS; BGR1; OPL; YEG0; SGR; GGR1; PHY; ALG; LOP; SM0; KM0
Gulf of California (1990), $\rho = 0.299334$
Zooplankton; Farfantepenaeus californiensis (ADULTS); Benthic inv.; Litopenaeus stylirostris (ADULTS); Stomatopoda; Polychaeta; Callinectes sp.; Mojarras; Myctophidos; Flat fishes; Cephalopoda; Farfantepenaeus californiensis (JUVENILES); Litopenaeus stylirostris (JUVENILES); Sicyonia penicillata; Other fishes; Sciaenidae; Haemulidae; Elasmobranchi (SHARKS); Totoaba macdonaldi (ADULTS); Elasmobranchi (RAYS); Serranidae; Rhinobatidae; Small pelagics; Odontoceti; Merluccidae; Totoaba macdonaldi (JUVENILES); Macrophytes; Phytoplankton; Coastal birds; Mysticeti; Phocoena sinus; Marine birds; Zalophus californianus
West coast of Sabah (1972), $\rho = 0.298921$
Zooplankton; Meiobenthos; Macrobenthos; Small crsustaceans; Octopus sepia; Shrimps; Crabs Lobsters; Squids; Engraulids Clupeids; Mullids; Small pelagics; Lactarids; Leiognathids; Balistids; Demersal zoobenthos feeders; Nemipterids; Reef associated fish; Large zoobenthos feeders; Sciaenids; Flatfishes Soles; Intermediate predators; Carangids; Macrobenthic flora; Phytoplankton; Lutjanids; Serranids; Tuna; Large predators
Barra Del Chuy (1992), $\rho = 0.298553$
Birds; Atlantorchestoidea brasiliensis; Carabide; Euzonus furciferus; Excirolana armata; Excirolana braziliensis; Macrochiridiotea giambiagiae; Phoxocephalopsis sp.; Scolelepis gaucha; Donax hanleyanus; Emerita brasiliensis; Mesodesma mactroides; Zooplankton; Hemipodus olivieri; Buccinanops duartei; Phytoplankton; Olivella formicacorsii; Fishes; Olivancillaria vesica auricularia
Tropical plankton community, Pacific, $\rho = 0.293951$
bacteria; Appendicularia large; Radiolaria; Acartia large; Infusoria; copepodites; nauplii; Appendicularia small; Oithona-Oncaea large; Calanus small; Acartia small; Amphipoda; Euchaeta; Euphausia; Calanus large; Centropages; Medusae; Oithona-Oncaea small; small-size phytoplankton; medium-size phytoplankton; large-size phytoplankton; Chaetognatha
Sørfjord (1993), $\rho = 0.292600$
small zooplankton; detrivore echinoderms; detrivore polychaetes; large bivalves; other benthic invert; other large zooplantkon; euphausiids; small molluscs; small benthic crustaceans; shrimps; predatory benthos; large decapoda; schypomedusae; small king crab; large cod; large other fish; small cod; small other fish; mammals; phytoplankton; Large King crab; chaetognaths; herring; Cormorants
Malangen Fjord (2017), $\rho = 0.290582$
Continued on next page

Table 3 – continued from previous page

Bacteria; Microzooplankton; Detritivore polychaetes; Sea cucumbers; Small krill; Benthic detritivore echinoderms; Hagfish; Other benthic detritivore invertebrates; Meiofauna; Suprabenthos; Macro mesozooplankton; Large krill; Heterotrophic nanofl.; Benthopelagic shrimps; Witch flounder; Predatory invertebrates; Redfishes; Pelagic shrimps; Mesopelagic fishes; Rabbit fish; Other commercial demersal fishes; Benthopelagic cephalopods; Marine mammals; Jellyfish and ctenophores; Pouts; Greater argentine; Large phytoplankton; Blue whiting; Rays and skates; Seabirds; Velvet belly; Large fish feeders
Bamboung (2003), $\rho = 0.290392$
Macrobenthos; Tilapias; Zooplancton; Meiobenthos; Petits benthoph; Crevettes; Ethmalose; Mulets; Crabes; Sardinelle +; Gerres; Mâchoirons mari; Pomadasys; Diagramme +; Raies; Pompaneau +; Carangues; Requins; Grand capitaine; Barracudas +; Oiseaux; Dauphins; Otolithes +; Breton africain; Microphytobenth; Phytoplancton; Sole-langue +; Vivaneaux +; Tétrodon +; Elops
Bamboung (2006), $\rho = 0.290392$
Macrobenthos; Tilapias; Zooplancton; Meiobenthos; Petits benthoph; Crevettes; Ethmalose; Mulets; Crabes; Sardinelle +; Gerres; Mâchoirons mari; Diagramme +; Pomadasys; Raies; Pompaneau +; Carangues; Requins; Grand capitaine; Barracudas +; Oiseaux; Dauphins; Otolithes +; Breton africain; Microphytobenth; Phytoplancton; Sole-langue +; Vivaneaux +; Tétrodon +; Elops
Sirinhaém River (2013), $\rho = 0.285667$
Zooplakton; Bivalves; Gastropods; Fiddler crabs; Mullet ; Polychaetas; Croaker; Shrimp ; Blue crab ; Mojarra(Diapterus spp); Puffer; Pemecou sea catfish; Others Catfish; Mojarra(Eucinostomus spp); Flatfish; Drum ; Snapper; Snook; Grunt; jack; Phythoplankton; Epiphyton; Microphytobenthos ; Sardines
Central Gulf of California (1978), $\rho = 0.285322$
Zooplankton; Shrimp; Meiobenthos; Stomatopods; Polychaeta; Crabs; Red crab; Paralichthydae; Myctophidae; Other macrocrus; Other fish; Lutjanidae; Haemulidae; Serranidae; Sciaenidae; Scombridae; Carangidae; Clupaeidae; Sharks / Rays; Squid; Sea birds; Phytoplankton; Other molluscs; Scorp/Triglidae; Sea mammals
Deep Western Mediterranean sea (2009), $\rho = 0.284998$
Mesopelagic crustacea; Meiobenthos; Benthic invertebrates, other; Benthic invertebrates, crustacea; Aristeus antennatus; Macrourids; Other demersal, small; Lepidion lepidion; Mora moro; Benthopelagic fish; Phycis blennoides; Alepocephalus rostratus; Monkfish; Cephalopods; Zooplankton, BBL; Surface production; Demersal sharks; Zooplankton, gelatinous; Bluntnose sixgill shark
Jalisco and Colima Coast (1995), $\rho = 0.284357$
Otros peces; Braquiuros; Infauna; Equinodermos; Otros macroinve; Moluscos; Estomatópodos; Peneidos; Otros crustáceo; Otros lutjánido; Pulpo; Pleuronéctidos; Rayas; Ophidiidos; Gerreidos; Tetraodóntidos; Haemúlidos; Sciánidos; Serranidos; Carángidos; Escómbridos; Anguilas y more; Adultos Lutjanu; Dorado; Juveniles Lutja; Tiburones; Zooplancton; Sardinas; Mamíferos marin; Aves marinas; Synodontidos; Tortugas marina; Sierra; Gasterosteidos; Fitoplancton; Picudos
Contemporary Alosine (2000), $\rho = 0.281390$
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Bacteria; Small Copepods; Megabenthos filters; Microzooplankton; Large Copepods; Macrobenthos mollusks; Macrobenthos polychaete; Macrobenthos others; Small Atlantic menhaden; Macrobenthos crustaceans; Medium Atlantic menhaden; Micronekton; Large Atlantic menhaden; Shrimp; Gelatinous Zooplankton; Megabenthos others; Small pelagics; Atlantic herring; Mesopelagic; Alosines; Baleen whales; Butterfish; Anchovies; Squid; Demersal piscivores - other; Demersal omnivores - other; Hake; Sharks - pelagic; Small dogfish; Large dogfish; Demersal benthivores - other; Small weakfish ; Large cod; Large summer flounder; Medium bluefish; Skate; Sharks - coastal; Mackerel; Croaker; Medium cod; Small bluefish; Haddock; Small cod; Small summer flounder; Small yellowtail flounder; Small striped bass; Medium weakfish; Medium striped bass; Odontocetes; Phytoplankton; Large yellowtail flounder; Large striped bass; Seabird; Large pelagics (HMS); Large weakfish; Pinnipeds; Medium pelagic - other; Large bluefish
North South of China Sea (1970), $\rho = 0.276372$
Zooplanktons; Polychaetes; Non-ceph molluscs; Benthic crustaceans; Shrimps; Echinoderms; Crabs; Sessile/other invertebrates; Pelagic fish (less than 30cm); Benthopelagic fish; Juvenile large pelagic fish; Seaturtles; Demesral fish (less than 30 cm); Juv demersal fish (30+cm); Cephalopods; Lizard fish (Synodontids); Pelagic fish (30+cm); Melon seed; Adult demersal fish (30+cm); Threadfin bream (Nemipterids); Seabirds; Croakers (30+cm); Pelagic sharks and rays; Croakers (less than 30cm); Other mammals; Juv large croakers; Demersal sharks and rays; Jellyfish; Adult groupers; Juv Hairtail (Trichiurids); Phytoplanktons; Bigeyes (Priacanthids); Adult hairtail (Trichiurids); Benthic producers; Pomfret (Stromateids); Snappers; Pinnipeds
Restored Alosine Biomass (2000), $\rho = 0.275154$
Bacteria; Copepods S; Megabenthos filters; Microzooplankton; Copepods L; Macrobenthos mollusks; Macrobenthos polychaete; Macrobenthos others; Atlantic menhaden S; Macrobenthos crustaceans; Micronekton; Atlantic menhaden M; Atlantic menhaden L; Shrimp; Megabenthos others; Small pelagics; Gelatinous Zooplankton; Atlantic herring; Anchovies; Squid; Butterfish; Mesopelagic; Demersal piscivores; Demersal omnivores; Hake; Baleen whales; Sharks pelagic; Dogfish S; Dogfish L; Demersal benthivores; Weakfish S ; Cod L; Anadromous alosines; Summer flounder L; Bluefish M; Skate; Sharks coastal; Mackerel; Croaker; Cod M; Bluefish S; Haddock; Cod S; Summer flounder S; Yellowtail flounder S; Striped bass S; Weakfish M; Striped bass M; Odontocetes; Phytoplankton; Yellowtail flounder L; Weakfish L; Striped bass L; Large pelagics HMS; Seabird; Pinnipeds; Medium pelagic; Bluefish L
Central Atlantic (1990), $\rho = 0.272142$
Sm. Zoop. shlw; Het. bacteria; Sm. Zoop. deep; Megabenthos; Meiobenthos; Macrobenthos; Lg. Bathyd. abs; Lg. Zoop. deep; Lg. Bathyp. fish; Sm. Bathyp. fish; Sm. Epi. fish; Sm. Meso fish; Md. Bathyp.fish; Md. Epi. fish; Sm. Bathyd. slp; Sm. Bathyd. abs; Lg. Bathyd. slp; Seabirds; Pelagic sharks; Sm Squids; Lg. Epi. fish; Lg. Zoop. shlw; Toothed whales; Benth. ceph.; Skipjack; Lg Squids; Phytoplankton; Lg. Meso fish; Baleen whales; Lg. Plank. fish; Bluefin; Bigeye; Yellowfin; Albacore; Swordfish; Beaked whales; Billfishes
Central Atlantic (1950), $\rho = 0.271786$
Sm. Zoop. shlw; Het. bacteria; Sm. Zoop. deep; Megabenthos; Meiobenthos; Macrobenthos; Lg. Bathyd. abs; Lg. Zoop. deep; Lg. Bathyp. fish; Sm. Bathyp. fish; Sm. Epi. fish; Sm. Meso fish; Md. Bathyp.fish; Md. Epi. fish; Sm. Bathyd. slp; Sm. Bathyd. abs; Lg. Bathyd. slp; Seabirds; Pelagic sharks; Sm Squids; Lg. Epi. fish; Lg. Zoop. shlw; Toothed whales; Benth. ceph.; Skipjack; Lg Squids; Phytoplankton; Lg. Meso fish; Baleen whales; Lg. Plank. fish; Bluefin; Bigeye; Yellowfin; Albacore; Swordfish; Beaked whales; Billfishes
North Atlantic (1950), $\rho = 0.271674$
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Sm. Zoop. shlw; Het. bacteria; Sm. Zoop. deep; Megabenthos; Meiobenthos; Macrobenthos; Lg. Bathyd. abs; Lg. Zoop. deep; Lg. Bathyp. fish; Sm. Bathyp. fish; Sm. Epi. fish; Sm. Meso fish; Md. Bathyp.fish; Md. Epi. fish; Sm. Bathyd. slp; Sm. Bathyd. abs; Lg. Bathyd. slp; Seabirds; Pelagic sharks; Sm Squids; Lg. Zoop. shlw; Lg. Epi. fish; Toothed whales; Benth. ceph.; Lg Squids; Skipjack; Phytoplankton; Lg. Meso fish; Baleen whales; Lg. Plank. fish; Bluefin; Bigeye; Yellowfin; Albacore; Beaked whales; Swordfish; Billfishes
North Atlantic (1997), $\rho = 0.271674$
Sm. Zoop. shlw; Het. bacteria; Sm. Zoop. deep; Megabenthos; Meiobenthos; Macrobenthos; Lg. Bathyd. abs; Lg. Zoop. deep; Lg. Bathyp. fish; Sm. Bathyp. fish; Sm. Epi. fish; Sm. Meso fish; Md. Bathyp.fish; Md. Epi. fish; Sm. Bathyd. slp; Sm. Bathyd. abs; Lg. Bathyd. slp; Seabirds; Pelagic sharks; Sm Squids; Lg. Zoop. shlw; Lg. Epi. fish; Toothed whales; Benth. ceph.; Skipjack; Lg Squids; Phytoplankton; Lg. Meso fish; Baleen whales; Lg. Plank. fish; Bluefin; Bigeye; Yellowfin; Albacore; Swordfish; Beaked whales; Billfishes
Lake Pyhajarvi, littoral zone, Finland, $\rho = 0.270052$
Cyclopoida; Keratella, Kellicottia; Codonella, Vorticella; Lymnaea; chironomids; Pisidium; Stylodrilus; Ephemera; Nematoda; Asellus; Erpobdella; Ablabesmyia; Polycentropus; Coregonus albula; Coregonus lavaretus; Sida, Eurycercus; Daphnia, Bosmina; young fish; phytoplankton; aquatic plants; Rutilus rutilus; Gymnocephalus cemus; Perea fluviatilis
Alto Golfo de California, $\rho = 0.268430$
Infauna; Mojarras; Haemulidos; Poliquetos; Myctophidos; Cefalópodos; C. azul; C. cafe; Otros peces; C. de roca; Stomatópodos; Peces planos; Mantarayas; Serranidos; Rhinobatidos; Sciaenidos; Zooplancton; Pelágicos; Ballenas dentadas; Tiburón; Totoaba; Jaibas; Merlucciidos; Fitoplancton; Macrofitas; Ballenas barbadas; Lobo marino; Vaquita
Guinea (2004), $\rho = 0.267419$
Large zooplankton; Small zooplankton; Benthos; Crustacea; Cephalopods; Mullets+; Sardinella+; Horse mackerels+; ML demersal invert.eaters; S. demersal invert.eaters; Seabream+; SM demersal pred.eaters; Bobo croaker; Grunts+; Sea catfish; Sharks+; Sea birds; Barracudas+; Carangids; L. demersal pred.eaters; Large pelagics; Other croakers; Ethmalosa; Rays+; Dolphins; Bathy-dem pred.eaters; Primary producers; Giant Afr. threadfin; Bathy-dem invert.eaters; Turtles; Soles+; Lesser Afr. threadfin; Royal threadfin; Whales
Port Cros (1998), $\rho = 0.265184$
Foraminifera; Brittle stars +; Sea cucumbers; Small zooplankton; Bivalves; Small crustaceans; Sea urchins; Gorgonians; Amphipods; Gastropods; Mullets; Suspensivores; Sea worms; Crabs; Decapods; Cephalopods; Stripped red mulet +; Sea stars; Large zooplankton; Horse mackerels and sand smelts +; Wrasses; Blennies +; Gobies; Pipefishes +; Scorpionfishes and combers +; Large-scaled scorpionfish +; Amberjack and dentex +; Posidonia; Shallow seaweeds; Salema - adults; Salema - juveniles; Diplodus +; Pagellus; Deep seaweeds; Phytoplankton; Dusky grouper - small; Seabirds; Dusky grouper - medium; Dusky grouper - large; Rays
Virgin Islands (1960), $\rho = 0.263946$
I7 Decom/Microf; F9 ReefherbBG; F8 ReefherbSM; I5 Sess.Animals; I3 Crustacea; I4 Worm/-Mollusc; I2 Echinoderms; F6 ReefomniSM; F1 Sharks/Rays; F4 ReefcarnBG; F3 Schoolfish1; F2 Scombr/Jacks; F5 Schoolfish2; I6 Zoopankton; Benthic prod.; I1 Cephalopods; Phytoplankton; R1 Sea turtles; F7 Biggroupers; B1 Sea birds
Looe Key National Marine Sanctuary (1980), $\rho = 0.263026$
Decomp/Microf; LgReefHerbivore; SmReefHerbivore; Sessile Animals; Crustaceans; Worms/-Molluscs; Echinoderms; SmReefCarnivore; Sharks/Rays; LgReefCarnivore; Large Planktiv.; Sm.Planktivores; Zooplankton; Cephalopods; Benthic prod.; Midwater Pisc.; Phytoplankton; Sea Turtles; Lg.Groupers
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Thermaikos Gulf (1998), $\rho = 0.262715$
Zooplankton; Benthic small crustaceans; Benthic invertebrates; Polychaetes; Shrimps; Crabs; Seabirds; Red mullets; Loggerhead turtle; Other small pelagics; Octopuses and cuttlefish; Horse mackerels; Mackerels; Other gadiforms; Flatfishes; Squids; Hake; Rays and skates; Demersal fishes 2; Sardine; Sharks; Demersal fishes 3; Picarels and bogue; Anchovy; Demersal fishes 4; Demersal fishes 1; Anglerfish; Medium pelagics; Phytoplankton; Large pelagics; Dolphins
Guinea (1985), $\rho = 0.260576$
Large zooplankton; Small zooplankton; Benthos; Crustacea; Cephalopods; Mullets+; Sardinella+; Horse mackerels+; ML demersal invert.eaters; S. demersal invert.eaters; Seabream+; SM demersal pred.eaters; L. demersal pred.eaters; Bobo croaker; Sea birds; Barracudas+; Carangids; Other croakers; Sharks+; Large pelagics; Primary producers; Rays+; Sea catfish; Dolphins; Ethmalosa; Bathy-dem pred.eaters; Grunts+; Giant Afr. threadfin; Bathy-dem invert.eaters; Turtles; Soles+; Lesser Afr. threadfin; Royal threadfin; Whales
Bay of Biscay (1970), $\rho = 0.260490$
Small Deepwater; Worms; Zooplankton Large; Molluscs; Sponges/Epibenthic; Shrimps/Prawns; Echinoderms; Crabs; Benthic Infauna; Cephalopods; Medium (Big end) Demersal High Troph; Small Demersal; Medium Pelagic; Really Small Demersal High Troph; Extra Large Demersal Low Troph; Medium (Small end) Demersal; Large Pelagic; Large Demersal; Rays/Skates; Small Sharks; Extra Large Demersal High Troph; Large Deepwater; Large Sharks; Zooplankton Small; Small Pelagic Low Troph; Anchovy; Really Small Demersal Low Troph; Sardine; Small Pelagic High Troph; Toothed Cetaceans; Primary Producers; Medium Deepwater; Baleen Whales; Birds; Extra Large Pelagic; Tuna-like fish
Bolinao Coral Reef (1980), $\rho = 0.259586$
Molluscs; Sea cucumber; Sea Urchins; Siganus fusc.; Zooplankton; Ot.invertebr.; Siganus spinus; Damselfishes; Coral.cons.; Crustaceans; Ot.herbiv.f.; Ot.omniv.f.; Ot.planktiv.f.; Ot.pisciv.f.; Gobies; Moray; Cardinalfishes; Parrotfish; Squid; Coral.prod.; Phytoplankton; Seagrass; Seaweeds; Wrasse (c.a.); Groupers (e.m.)
Mauritanie (1991), $\rho = 0.259077$
mesozooplankton; BA mesozooplankton; BA meiobenthos; shelf meiobenthos; shelf molluscs; shelf worms; BA worms; BA molluscs; Mullets; BA crustaceans; shelf crustaceans; shelf other inverts; BA other inverts; Cephalopods; macrozooplankton; BA macrozooplankton; BA L crustaceans; shelf L crustaceans; Horse mackerels; Coastal M; Shelf M; Mackerel; Croakers ad; Sardinelles; Sparids ad; Coastal birds; Catfish ad; Groupers ad; Shelf L; Seabreams ad; Coastal selacians; Shelf S ; Coastal S; Sparids juv; Seabreams juv.; Sardine; Shelf soles; Shelf selacians; Croakers juv; Catfish juv; Pelagic L; algae and eelgrass; BA phytoplankton; phytoplankton; Octopus vulgaris; Scianids; Grouper juv; Meagre juv; Meagre ad; Marine mammals
Sinaloa sur Mexico (1994), $\rho = 0.258644$
Gastropoda; Macrocrustáceos; Polychaeta; Zooplancton; Penaeidae; Celenterata; Porifera; Bivalvia; Stomatopoda; Otros peces; Portunidae; Pleuronectiform; Carangidae; Echinodermata; Serranidae; Lutjanidae; Coryphaenidae; Mugilidae; Gerreidae; Clupeidae; Ariidae; Rajiformes; Macrofitas; Sciaenidae; Cephalopoda; Cheloniidae; Haemulidae; Poly./Mullidae; Scorp./Triglida; Scombridae; Fitoplancton; Palinura; Tetraodontidae; Centropomidae; Aves; Synodontidae
South western Gulf of Mexico (1970), $\rho = 0.255661$
Annelids; Zooplankton; Microcrustacean; Molluscs; Crabs; Shrimps; Other fishes; Herrings; Jacks; Flounder; Catfish; Red grouper; Sharks; Benthic prod.; Anchovies; Red snapper; Mojarra; Phytoplankton; Seatrout; Grunts; Lizard fish; Span. mackerel; King mackerel
Hudson Bay (1970), $\rho = 0.255132$
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MicroZooplankton; Copepods; Other Benthos; Bivalves; Marine Worms; Other MesoZooplankton; Crustaceans; Euphausids; MacroZooplankton; Other Marine Fish; Sandlance; Capelin; Brackish Fish; Seabirds; Echinoderms; Cephalopods; Atlantic Salmon; Arctic Char; Gadiformes; Sculpins/ Zoarcids; Killer Whale; SH Polar Bear; Polar Bear WHB; Polar Bear Foxe; Sharks/Rays; Walrus S; Ice Algae; Primary Production; Walrus N; Bowhead; Beluga E; Bearded Seal; Beluga James; Beluga W; Harbour Seal; Narwhal; Ringed Seal; Harp seal
West Florida Shelf Historic Model (1950), $\rho = 0.254249$
Microbial Heterotrophs; Mullets; Bivalves; Small Copepods; Sessile epibenthos; Meiofauna; Small infauna; Other Mesozooplankton; Small mobile epifauna; Echinoderms Large gastropods; Ichthyoplankton; CarnivZooplank; Anchovies and silversides; Adult Shrimps; coastal omnivores; Sardine Herring Scad complex; Stomatopods; Squid; Large Crabs; small coastal carnivores; reef carnivores; large coastal carnivores; oceanic small pelagics; black grouper 0; jacks wahoo dolphinfish tunnies; black grouper 1; other snapper; Rays skates; Red snapper juv; reef omnivores; Billfish Tuna; CarnivJellyfish; tilefish; Large coastal sharks; Black sea bass; king mackerel adult; Small coastal sharks; Octopods; Lobsters; other shallow water grouper; red grouper 1; amberjacks/rudderfish; coastal piscivores; red grouper 0; Vermilion snapper; gag 0; Spanish mackerel juv; gag 1; yellowedge grouper 0; king Mackerel juv; red snapper adult; Spanish mackerel adult; Phytoplankton; triggerfish; Yellowedge grouper 1; Cobia; red grouper 3; other deep water grouper; black grouper 3; goliath grouper; yellowedge grouper 3; gag 3; Dolphins; Seabirds; Macroalgae; Sea grasses; Microphytobenthos
West Scotland (2000), $\rho = 0.253368$
Epifauna; Infauna; Small zooplankton; Polychaetes; Large zooplankton; Euphausiids; Prawns/shrimps; Halibut/turbot/brill; Other benthic inverts; Echinoderms; Other demersals; Gurnards; Other pelagics; Cod; Saithe; Herring; Sharks; Seals; Cetaceans; Haddock; Seabirds; Cephalopods; Rays/Skates; Whiting; Mackerel; Crabs/lobsters; Salmo; Trachurus; Phytoplankton; Sprat; Sandeel; Norway pout; Nephrops; Sole; Plaice; Inshore fish
Celtic Sea (1985), $\rho = 0.252559$
Bacteria; Commercial bivalves; Suspension/Surface detritus feeder benth. inv.; Mesozooplankton - Small; Benthic meiofauna; Microzooplankton; Mesozooplankton - Large; Macrozooplankton; Suprabenthos; Subsurface deposit feeder benth. inv.; Carnivorous/Necrophagous benth. inv.; Shrimps; Horse mackerel; Benthic cephalopods; Commercial crustaceans; Mackerel; Nephrops; Squids; Epibenthivorous demer. fish; Pouts; Pelagic sharks; Benthivorous demer. elasmobranchs; Hake large; Pilchard; Cod small; Hake small; Cod large; Anglerfish large; Anglerfish small; Pelagic fish - Medium; Small benthivorous demer. fish; Sea bass; Toothed cetaceans / Seals; Megrim; Carnivorous demer. elasmobranchs; Piscivorous demer. fish; Whiting; Pelagic fish - Large; Herring; Suprabenthivorous demer. fish; Sprat; Endobenthivorous demer. fish; Blue whiting; Seabirds - Surface feeders; Seabirds - Divers; Phytoplankton - Large; Phytoplankton - Small; Boarfish; Sole; Plaice; Haddock; Baleen whales
Galapagos, Floreana rocky reef (2000), $\rho = 0.250728$
Herbivorous zooplankton; Small benthic invertebrate eaters; Filter + suspension feeders; Lytechinus urchin; Other sea cucumbers; Small crustaceans; Shrimps and small crabs; Tripneustes urchin; Parrotfishes; Other urchins; Pepino sea cucumber; Small gastropods; Detritivorous fish; Chitons; Stony corals; Worms and ophioroids; Anemones; Eucidaris urchin; Other herbivorous fish; Asteroids; Omnivorous reef fishes; Large benthic invertebrate eaters; Non-commercial reef predators; Octopods; Slipper lobster; Spiny lobsters; Hexaplex gastropod; Sharks; Carnivorous zooplankton; Planktivorous reef fish; Pelagic planktivores; Sea lions; Birds; Toothed cetaceans; Benthic algae; Microphytobenthos; Phytoplankton; Marine iguana; Sea turtles; Other commercial reef predators; Pelagic predators; Bacalao
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USA, South Atlantic Continental Shelf (1995), $\rho = 0.250650$
Zooplankton; Bivalves; Benthic macrofauna (and meiofauna); Sessile epibenthos; Echinoderms and gastropods; Demersal omnivores; Shrimp; Crabs; Other fishes; Jellies; Forage fishes; Stomatopods; Demersal invertebrate-eaters; Lobsters; Benthic piscivores; Benthic rays/skates; Flounder; Drum and croaker; Marine birds; Demersal piscivores; Snappers; Mackerel; Groupers; Pelagic planktivores; Toothed cetaceans; Sharks (and alligators); Tuna; Macroalgae; Squid; Jacks; Benthic invertebrate-eaters; Pelagic piscivores; Microphytobenthos; Sea grasses; Billfishes; Phytoplankton; Manatees; Sea turtles; Demersal planktivores; Baleen whales; Octopods
Mondego Estuary - Zostrea site, $\rho = 0.249118$
Hydrobia ulvae; Melita palmata; Ampithoe ferox; Gibulla; Littorina; Cyathura carinata; Scrobicularia plana; Cerastoderma edule; Modiolus; Amage adspersa; Capitella capitata; Heteromastus filifor; Oligochaeta; Other detrivors; Sphaeroma hookeri; Idotea chelipes; Lumbrineris impatien; Microalgae and detri; Diopatra neapolitana; Nereis diversicolor; Carcinus maenas; Crangon crangon; Macrofauna predators; Nephtys; Other predatory inve; Endofauna consumers; Larus fuscus; Zooplankton; Trigla lucerna; Larus ridibundus; Phytoplankton; Enteromorpha sp; Ulva lactuca; Zostera; Epiphytes; Gracilaria; Kentish Plover; Zooplankton consumer; Pomatoschistus minut; Grey Plover; Dunlin; Ringed Plover
Northern Gulf of St Lawrence (1990), $\rho = 0.245275$
Echinoderms; Molluscs; Other bent. invert.; Small zooplankton; Large zooplankton; Shrimp; Polychaetes; Large crustacea; Flounders; Sand lance; S. demersals; Skates; American plaice; Capelin; Redfish; Small cod; S. Greenland halibut; Arctic cod; Planktivorous small pelagics; Piscivorous small pelagics; Large pelagics; Large cod; L. demersals; L. Greenland halibut; Phytoplankton; Cetacea; Seabirds; Harp seals; Harbour seals; Grey seals; Hooded seals
Sonda Campeche Act (1988), $\rho = 0.244000$
Infauna; Zooplancton; Epifauna; Camarón; Pulpo; Mojarras; Bagres; Lenguados; Roncos; Meros; Sierras; Tiburones; Otros peces; Pargos; Sardinas; Corvinas; Jureles; Macrofítas bent.; Sargos; Fitoplancton; Tortugas marinas; Calamar; Aves marinas; Delfines
Crystal River Creek - Control, $\rho = 0.243537$
benthic invertebrates; mullet; zooplankton; sheepshead killifish; goldspotted killifish; striped anchovy; bay anchovy; silver jenny; moharra; silverside; pinfish; longnosed killifish; microphytes; gulf killifish; macrophytes; sheepshead; blacktip shark; needlefish; stingray; gulf flounder
Raja Ampat (2005), $\rho = 0.242949$
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Infaunal invertebrates; Jellyfish and hydroids; Shrimps and prawns; Penaeid shrimps; Hermatypic scleractinian corals; Non reef building scleractinian corals; Azooxanthellate corals; Soft corals; Sea cucumbers; Epifaunal detritivorous invertebrates; Epifaunal carnivorous invertebrates; Bivalves; Sessile filter feeders; Adult scraping grazers; Juvenile macro algal browsing; Detritivore fish; Juvenile scraping grazers; Juvenile medium reef associated; Adult macro algal browsing; Small crabs; Large crabs; Juvenile small planktivore; Juvenile small reef asociated; Juvenile small pelagic; Adult small reef associated; Juvenile butterflyfish; Juvenile small demersal; Juvenile large reef associated; Adult large reef associated; Adult medium reef associated; Octopus; Adult small demersal; Adult butterflyfish; Adult large demersal; Anemonies; Adult small planktivore; Juvenile deepwater fish; Adult small pelagic; Cleaner wrasse; Adult large planktivore; Squid; Juvenile medium pelagic; Adult medium pelagic; Juvenile Napoleon wrasse; Adult large sharks; Juvenile small sharks; Adult rays; Juvenile large planktivore; Juvenile large demersal; Subadult Napoleon wrasse; Skipjack tuna; Adult snappers; Juvenile large pelagic; Adult large pelagic; Adult deepwater fish; Subadult snappers; Birds; Adult Napoleon wrasse; Juvenile large sharks; Mackerel; Other tuna; Lobsters; Adult eroding grazers; Giant triton; Carnivorous zooplankton; Large herbivorous zooplankton; Small herbivorous zooplankton; Phytoplankton; Adult anchovy; Herbivorous echinoids; Juvenile anchovy; Subadult groupers; Adult groupers; Green turtles; Juvenile eroding grazers; Crown of thorns; Billfish; Crocodiles; Juvenile groupers; Juvenile snappers; Sea grass; Reef associated turtles; Juvenile rays; Oceanic turtles; Manta ray; Whale shark; Juvenile coral trout; Adult coral trout; Adult small sharks; Macro algae; Calcareous algae; Mangroves; Dugongs; Mysticetae; Deepdiving odontocetae; Piscivorous odontocetae
Independence Bay (1996), $\rho = 0.242895$
zooplankton; littoral fish ; benthic detrivores; herbivorous gastropods; scallops; polychaetes; sea urchins; misc. filter feeders; predatory gastropods; small carnivores; sea stars; predatory crabs; small pelagic fish; pelagic predatory fish ; octopus ; macroalgae; Phytoplankton; sea birds; marine mammals
Raja Ampat (1990), $\rho = 0.242618$
Infaunal invertebrates; Jellyfish and hydroids; Shrimps and prawns; Penaeid shrimps; Hermatypic scleractinian corals; Non reef building scleractinian corals; Azooxanthellate corals; Soft corals; Sea cucumbers; Epifaunal detritivorous invertebrates; Epifaunal carnivorous invertebrates; Bivalves; Sessile filter feeders; Adult scraping grazers; Juvenile macro algal browsing; Detritivore fish; Juvenile scraping grazers; Juvenile medium reef associated; Adult macro algal browsing; Small crabs; Large crabs; Juvenile small planktivore; Juvenile small reef asociated; Juvenile small pelagic; Adult small reef associated; Juvenile butterflyfish; Juvenile small demersal; Adult large reef associated; Adult medium reef associated; Adult butterflyfish; Adult large demersal; Juvenile large reef associated; Octopus; Adult small demersal; Anemonies; Juvenile deepwater fish; Adult small planktivore; Cleaner wrasse; Adult small pelagic; Adult large planktivore; Juvenile Napoleon wrasse; Birds; Adult large sharks; Squid; Juvenile medium pelagic; Adult medium pelagic; Juvenile small sharks; Adult rays; Juvenile large planktivore; Juvenile large pelagic; Juvenile large demersal; Adult large pelagic; Skipjack tuna; Adult deepwater fish; Juvenile large sharks; Mackerel; Adult snappers; Subadult snappers; Herbivorous echinoids; Other tuna; Adult eroding grazers; Giant triton; Carnivorous zooplankton; Large herbivorous zooplankton; Subadult Napoleon wrasse; Adult Napoleon wrasse; Small herbivorous zooplankton; Phytoplankton; Subadult groupers; Adult groupers; Adult anchovy; Juvenile anchovy; Green turtles; Juvenile eroding grazers; Lobsters; Crown of thorns; Crocodiles; Billfish; Juvenile groupers; Juvenile snappers; Sea grass; Reef associated turtles; Juvenile rays; Oceanic turtles; Manta ray; Whale shark; Juvenile coral trout; Adult coral trout; Adult small sharks; Macro algae; Calcareous algae; Mangroves; Dugongs; Mysticetae; Deepdiving odontocetae; Piscivorous odontocetae
Tagus estuary, Portugal , $\rho = 0.242040$
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Crassostrea angulata; Scrobicularia plana, Cerastodenlla; Mytilus; bacteria; Gammaridae; Coropllium; Cirratulidae, Capitellidae, Maldanidae; meiofauna; Carcillus maellas; Crangon; Nereis diversicolor; Nereis succinea; Chelon labrosus, Liza ramada, L. aurata; Ulva, Iteromoplla; Conter conger; phytoplankton; birds; Mysidacea; Copepoda; Ciliata mustela; Dicentrarcllus labrax; Pomatoscllistus minutus; Ellgraulis encrasicolus; Sardina pilcllardus; Clupeidae; Solea vulgaris; Trigla lucerna
Morocco (1985), $\rho = 0.241521$
Lg. zooplankton; Other benthos; Worms; Sm. deep water bottom; Detrital feeders; Shrimp; Crabs; Predatory echinoderms; Sm. demersal; Cephalopods; Med. demersal comm.; Sardines; Med. demersal; Tunas; Lg. demersal comm.; V. lg. demersal comm.; Lg. demersal sharks/rays; Sm. zooplankton; Sm. bathypelagic; Med. pelagic comm.; Pelagic sharks; Mesopelagic prey; Lg. bathypelagic; Toothed whales/dolphins; Lg. demersal; Med. pelagic; Sm. demersal sharks/rays; Lg. pelagic; Primary producers; Turtles; Lobsters; Lg. deep water bottom; Med. bathypelagic; V. lg. demersal; Seabirds; Lg. deep water comm.; Baleen whales
Calvi Bay (1998), $\rho = 0.240741$
Protozoa; Ot. Crustacea; Pel. Bacteria; Herb. Fish; Echinoderms; Amphipods; Gastropods; Polychaetes; Susp. Feeders; Decapods; Inv. Feeders 4; Zooplankton; Sea Birds; Macroalgae; Piscivores; M-carnivores; Inv. Feeders 1; Macro-Plankton; Phytoplankton; Inv. Feeders 3; Plankt. Fish; Mugil spp.; Blennies; D. puntazzo; Inv. Feeders 2; Cephalopods
Mangrove Estuary - Dry Season, $\rho = 0.240059$
INSCT; MICR. H2O; EPIFN; BACT.SED.; VULT; TCRAB; BVLVS; AMPHI; SCRUST; PENAID; DCRAB; CARID; MANA; LARV; POEC; BEAR; FWINV; OSHMP; MERO; ZOOPL.; AGAST; OPSU; TGAST; OCRAB; PCRAB; DUCK1; FLA. SED.; CIL. SED.; KILLI; MULL; POLY; MEIOF.; MBENTH; DUCK2; GOBY; TURT; JLOBST; PIN; RACO; HERR; ANCH; FWFSH; BENTH; MOJA; RAYS; SNKS; SLVR; COCO; OFISH; MRAPT; FOX; CATS; HRSE; OTH. PP; K & H; OWLS; SPIDR; SCIAE; EFISH; SNAP; NEED; AMPH; SNOOK; LZRD; TARP; LEAF; CUDA; PASSOMN; WOODP; C & C; PASSPERD; SSBIRDS; G & T; GUIF; SE & E; IBIS; BH & E; SHRK; L & G; DUCK3; CORM; PELC; DOLP; PHY; WOOD; ROOT; RABT; SQIUR; DERS; M & R; M & O
Mangrove Estuary - Wet Season, $\rho = 0.239816$
INSCT; MICR. H2O; EPIFN; BACT.SED.; VULT; TCRAB; BVLVS; AMPHI; SCRUST; PENAID; CARID; DCRAB; MANA; LARV; POEC; FWINV; BEAR; OSHMP; OCRAB; PCRAB; MERO; ZOOPL.; AGAST; DUCK1; TGAST; OPSU; FLA. SED.; KILLI; CIL. SED.; POLY; MEIOF.; MBENTH; MULL; DUCK2; GOBY; TURT; RACO; JLOBST; HERR; ANCH; PIN; FWFSH; BENTH; MOJA; RAYS; SNKS; COCO; SLVR; OFISH; MRAPT; HRSE; OTH. PP; CATS; FOX; K & H; OWLS; SPIDR; SCIAE; EFISH; SNAP; NEED; AMPH; SNOOK; LZRD; TARP; LEAF; CUDA; PASSOMN; WOODP; C & C; PASSPERD; SSBIRDS; G & T; GUIF; SE & E; IBIS; BH & E; SHRK; L & G; DUCK3; PELC; CORM; DOLP; PHY; WOOD; ROOT; RABT; SQIUR; DERS; M & R; M & O
Mauritania (1987), $\rho = 0.238115$
micro zooplancton; meso zooplancton; mugilides; macrobenthos; crustaces non-comm; crustaces comm; dem S inv; dem L pred; cephalopodes comm; macrozooplancton; clupeides; maquereau; chinchards; cephalopodes non-comm; mesopel pred; dem M inv; bathydem S pred; Selaciens L pred; sabres; dauphins; merlu; Selaciens L inv; pel L pred; mesopel inv; pel M planc; dem S pred; dem M pred; sparides comm; thon hauturier; producteurs primaires; bathydem S inv; dem L inv; pel L inv; thon cotier; raie M; oiseaux; orque
Mauritania (1998), $\rho = 0.237872$
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micro zooplancton; meso zooplancton; mugilides; macrobenthos; crustaces non-comm; crustaces comm; dem S inv; dem L pred; cephalopodes comm; macrozooplancton; clupeides; maquereau; chinchards; cephalopodes non-comm; mesopel pred; dem M inv; bathydem S pred; sabres; Selaciens L pred; dauphins; merlu; Selaciens L inv; pel L pred; mesopel inv; pel M planc; dem S pred; dem M pred; sparides comm; thon hauturier; producteurs primaires; bathydem S inv; dem L inv; pel L inv; thon cotier; raie M; oiseaux; orque
Bay of Biscay (1998), $\rho = 0.237602$
Zooplankton Large; Small Deepwater; Crabs; Worms; Molluscs; Sponges/Epibenthic; Shrimps/Prawns; Echinoderms; Cephalopods; Medium Pelagic; Medium (Big end) Demersal High Troph; Extra Large Demersal Low Troph; Medium (Small end) Demersal; Large Pelagic; Large Demersal; Rays/Skates; Small Sharks; Extra Large Demersal High Troph; Large Deepwater; Really Small Demersal High Troph; Large Sharks; Zooplankton Small; Small Pelagic Low Troph; Small Demersal; Small Pelagic High Troph; Really Small Demersal Low Troph; Anchovy; Sardine; Benthic Infauna; Toothed Cetaceans; Primary Producers; Baleen Whales; Medium Deepwater; Birds; Extra Large Pelagic; Tuna-like fish
Cape Verde (1981), $\rho = 0.237253$
Zooplankton; Microfauna; Herbivores; Heterotrophic b; Molluscs/Worms; Echinoderms; Crustaceans; Small pelagics; O Demersal fish; Demersal sharks; Flatfish; Rays; Pelagic sharks; Benthic autotro; Sparids; Reef feeders; Large Tuna; Demersal predat; Pelagic predato; Small tuna; Demersal fish; Flyingfish; Jacks; Bathydemersal; Phytoplankton; Turtles; Sea birds; Moray eels; Billfish; Mammals
Galapagos (2006), $\rho = 0.235595$
Predatory zooplankton; Herbivorous zooplankton; Mullets; Herbivorous benthic fishes; Sea cucumbers; Small herbivorous gastropods; Sponges and polychaetes; Stony corals; Sea stars and sea urchins; Benthic omnivorous fishes; Small benthic predatory fishes; Benthic predatory fishes; Shrimps and small crabs; Anemones and zoanthids; Small predators gastropods; Parrotfishes; Lobsters; Sharks; Predatory macroinvertebates; Rays; Planktivorous reef fishes; Small planktivorous reef fishes; Macroalgae; Predatory marine mammals; Phytoplankton; Zooxanthella; Sea turtles; Groupers; Pelagic predatory fish; Dolphins; Hammerhead sharks; Seabirds
Irish Sea (1973), $\rho = 0.233265$
Infauna (Polycheate); Herbivorous Zooplankton; Meiofauna; Infaunal Mesobenthos; Prawns and Shrimp; Sessile Epifauna; Lobster and Large Crabs; Omnivorous Zooplankton; Carnivorous Zooplankton; Epifaunal Macrobenthos; Gelatinous Zooplankton; Cephalopods; Infaunal Macrobenthos; Sandeels; Nephrops; Mackerel; Other Small Gadoids; Whiting; Skates and Rays; Epifaunal Mesobenthos; Adult Cod 2+; Seabirds; Baleen Whales; Toothed Whales; Medium Flatfish; Small Pelagic Planktivorous Fish; Adult Haddock 2+; Other Small Demersal; Dragonets; Phytoplankton; Other Large Gadoids; Monkfish; Juvenile Haddock Age 1; Juvenile Cod Age 1; Gurnards; Juvenile Plaice Age 1; Small Flatfish; Sole; Adult Plaice 2+; Other Large Demersals; Mullet; Seatrout; Small Sharks; Large Flatfish; Large Sharks; Bass; Microflora; Seaweed; Basking Sharks; Seals
Antarctic (1970), $\rho = 0.232855$
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Copepods; Hemichordata; Holothuroidea; Micro-Zooplankton; Macro-Zooplankton; Porifera; Bryozoa; Mollusca; Urochordata; Krill Sub-adult; Brachiopoda; Asteroidea; Arthropod Crustecea; Crinoidea; Worms; Krill Adult; Arthropod Other; Cnidaria; Small Nototheniidae; Salps; Pleuragramma antarcticum; Other Pelagics; Cephalopods; Other Icefish; Large Nototheniidae; Toothfish; Ophiuroidea; Echinoidea; Killer Whales; Leopard Seal; Notothenia gibberifrons; Deep demersals Small; Deep demersals Large; Myctophids; Champsocephalus gunnari; Cryptophytes; Other Phytoplankton; Diatoms; Ice algae; Shallow Demersals; Flying birds; Krill Juvenile; Krill Larvae; Minke whales; Fin Whales; Humpback whales; Blue Whales; Crabeater Seal; Adelie Penguins; Macaroni Penguin; Antarctic Fur Seals; Emperor penguins; Chinstrap Penguins; Gentoo Penguins; Weddell Seal; Ross Seal; Sperm whales; Southern Elephant Seals
Peru (1973), $\rho = 0.232368$
Zooplankton; Meiobenthos; Makrobenthos; Anchoveta; Sardine; Other pelagics; Hake; Other demersals; Horse mackerel; Mackerel; Benthic prod.; Phytoplankton; Cormorant; Booby; Pelican; Bonito; Fur seal; Other mammals; Sea lion
Albatross Bay (1986), $\rho = 0.229843$
Benthic herbivores; Estuarine microbial heterotrophs; Estuarine zooplankton; Estuary detritivores; Insects; Marine microbial heterotrophs; Marine zooplankton; All other non-commercial prawns; Small benthopelagic invert feeders; Small benthic invert feeders; Small pelagic piscivores; Turtles; Small benthic piscivores; Echinoids; Estuary pelagic herbivores; Estuarine bivalves; Banana prawn adult; Marine bivalves; Ophioroids; Holothurians; Marine worms; Estuarine worms; Marine small crustaceans; Marine small gastropods; Other large crabs; Marine meiofauna; Estuarine meiofauna; Sessile epibenthos; estuarine small crustaceans; Estuarine small gastropods; Spatangoids; Estuary small benthic invert feeders; Squid and cuttlefishes; Estuarine ichthyoplankton; Small jellies; Asteriods; Marine ichthyoplankton; Large jellies; Crayfish; The mud crab; Red mud crab; Sand crab; Thallasinid prawns (Callianassa); All other commercial prawns; Estuary large benthic pisc/prawn feeders; Stomatopods; Octopus; Dolphins; Estuary planktivores; Small pelagic planktivores; Estuary lg teleost benthopelagic posc/prawn feeder; Medium pelagic piscivores; Estuary lg elasmo benthopelagic pisc/prawn feeders; Estuary benthic herbivores; Crocodiles; Marine forams; Mangroves; Seagrass; Estuary insectivores; Large elasmo benthopelagic piscivores; Large benthopelagic invert feeders; Large teleost benthopelagic piscivores; Estuarine macroalgae; Banana prawn juvenile; Tiger prawn subadults; Tiger prawn juvenile; Dugongs; Tiger prawn adult; Polychaete feeders; Estuarine phytoplankton; Large gastropods; Estuary polychaete feeders; Banana prawn subadults; Estuary large benthic invert feeders (Rays); Estuary large benthopelagic invert feeders; Scavengers; Large teleost benthic piscivores; Microphytobenthos; Marine phytoplankton; Marine macroalgae; Large pelagic planktivores; Large elasmo benthic invert feeders; Small benthopelagic piscivores; Large teleost benth invert feeders; Common terns; Large pelagic piscivores; Brown boobies; Sawfishes; Crested terns; Lesser frigates; Sea snakes; Estuarine forams
Peru (1960), $\rho = 0.228684$
Meiobenthos; Makrobenthos; Zooplankton; Anchoveta; Sardine; Other pelagics; Other demersals; Horse Mackerel; Mackerel; Hake; Benthic prod.; Phytoplankton; Bonito; Sea lion; Other mammals; Fur seal; Booby; Cormorant; Pelican
Sechura Bay (1996), $\rho = 0.228458$
Zooplankton; littoral fish; Benthic detrivores; Herbivorous gastropods; Scallops; Polychates; Sea urchins; Misc. filter feeders; Small carnivores; Pedratory gastropods; Predatory crabs; sea stars; small pelagic fish; pelagic predatory fish; octopus; Macroalgae; Phytoplankton; cephalopods; sea birds ; marine mammals
Western Tropical Pacific Ocean (1990), $\rho = 0.228158$
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mesozooplankton; crustacea; epipelagic fish; mesopelagic fish; piscivorous fish; small sharks; other sharks; small scombrids; Other billfish; cephalopods; small billfish; skipjack tuna; yellowfin tuna; small phytoplankton; bigeye tuna; large phytoplankton; microzooplankton; Blue shark; Swordfish
Middle Chesapeake Bay, $\rho = 0.227775$
Free Bacteria; Particle Attached Bacteria; Benthic Bacteria; Suspension Feeding Benthos; Deposit Feeding Benthos; Menhaden; Meiofauna; Meroplankton; Mesozooplankton; Bay anchovy; Spot; Blue Crab; Croaker; Hogchoker; Catfish; White Perch; Rotifers; Ciliates; Ctenophores; Net Phytoplankton; Picoplankton; Heteroflagellates; American eel; Striped Bass; Weakfish; Bluefish; Chrysaora; Microphytobenthos; SAV
Peru (1953), $\rho = 0.227763$
Meiobenthos; Makrobenthos; Zooplankton; Anchoveta; Sardine; Other pelagics; Other demersals; Horse Mackerel; Mackerel; Hake; Benthic prod.; Phytoplankton; Cormorant; Booby; Pelican; Sea lion; Fur seal; Other mammals; Bonito
Sierra Leone (1990), $\rho = 0.226960$
Carnivorous zooplankton; Herbivorous zooplankton; Benthos; Mullets and other herbivores; Sardinellas; Scads and mackerels; Crustaceans; Cephalopods; Small pelagic invert feeders; Small demersal predators; Small demersal invert feeders; Medium demersal invert feeders; Sickle-and spadefish; L Coastal Sharks and Rays; Large pelagic predators; Croackers; Large demersal predators; Large demersal invert feeders; Jacks; Small Tuna; L Deep Sharks and Rays; Bongo shad; Large Tuna; M Coastal Sharks and Rays; Mesopelagics; M Deep Sharks and Rays; Catfish; Toothed whales and dolphins; Baleen whales; Royal Threadfin; Lesser African Threadfin; Large Bathypelagic predators; Large Bathydem predators; Primary producers; Small pelagic predators; Turtles; M Bathypelagic invert feeders; SM Bathydem invert feeders; Seabirds; Medium demersal predators; Small Bathypelagic predators; Gaint African Threadfin; Groupers
Narragansett Bay Model, $\rho = 0.226941$
Mesozooplankton; Microzooplankto; Shrimp(Pal,Crg); Menhaden; Bay Anchovy; Pelag Bacteria; SusPoc Bacteria; SedPOC Bacteria; Hard Clam; Ben Meiofauna; Ben Macrofauna; Cancer Crabs; Mummichog; Hetero Microflag; Striped Bass; Dogfish; Phytoplankton; Butterfish; Am. Lobster; Longfin Squid; Bluefish; Fish Larvae; Benthic Alage; Softshell Clam; Atl Silversides; Windowpane; Ctenophores; Scup; Skates; Winter Flounder; Tautog
Sierra Leone (1978), $\rho = 0.226864$
Carnivorous zooplankton; Herbivorous zooplankton; Benthos; Mullets and other herbivores; Sardinellas; Scads and mackerels; Crustaceans; Cephalopods; Small pelagic invert feeders; Small demersal predators; Small demersal invert feeders; Medium demersal invert feeders; Sickle-and spadefish; L Coastal Sharks and Rays; Large pelagic predators; Croackers; Large demersal predators; Large demersal invert feeders; Jacks; Small Tuna; L Deep Sharks and Rays; Bongo shad; Large Tuna; Mesopelagics; M Coastal Sharks and Rays; M Deep Sharks and Rays; Catfish; Toothed whales and dolphins; Baleen whales; Royal Threadfin; Lesser African Threadfin; Large Bathypelagic predators; Large Bathydem predators; Primary producers; Small pelagic predators; Turtles; M Bathypelagic invert feeders; SM Bathydem invert feeders; Seabirds; Medium demersal predators; Gaint African Threadfin; Small Bathypelagic predators; Groupers
West Baffin Bay, Coastal and Shelf (2016), $\rho = 0.225939$
Bacteria; Microzooplankton; Calanus; Omnivorous zooplankton; Other benthos; Bivalves; Polychaetes; Echinoderms; Large crustaceans; Greenland shark; Sculpins/Eelpouts; Carnivorous zooplankton; Greenland halibut; Cephalopods; Killer whale; Polar bear; Arctic/Polar cod; Small demersal fish; Small pelagic fish; Arctic char; Large demersal fish; Ice algae; Phytoplankton; Walrus; Bowhead whale; Seabirds; Ringed seal; Other seals; Narwhal
North Benguela (1967), $\rho = 0.224793$
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Microzooplankto; Meiobenthos; Pelagic Goby; Macrobenthos; Gelatinous zoop; Other small pel; Large M. capens; Large M. parado; cephalopods; Chondrichthyans; Benthic-feeding; Phytoplankton; Mesozooplankton; Macrozooplankto; Pelagic-feeding; Cetaceans; Seabirds; Seals; Large pelagics; Mesopelagics; Sardine; Anchovy; Juvenile horse; Adult horse mac; Small M. capens
North Benguela (1900), $\rho = 0.224793$
Microzooplankto; Meiobenthos; Pelagic Goby; Macrobenthos; Gelatinous zoop; Other small pel; Large M. capens; Large M. parado; cephalopods; Chondrichthyans; Benthic-feeding; Phytoplankton; Mesozooplankton; Macrozooplankto; Pelagic-feeding; Cetaceans; Seabirds; Seals; Large pelagics; Mesopelagics; Sardine; Anchovy; Juvenile horse; Adult horse mac; Small M. capens
North Benguela (1600), $\rho = 0.224793$
Microzooplankto; Meiobenthos; Pelagic Goby; Macrobenthos; Gelatinous zoop; Other small pel; Large M. capens; Large M. parado; cephalopods; Chondrichtians; Benthic-feeding; Phytoplankton; Mesozooplankton; Macrozooplankto; Pelagic-feeding; Cetaceans; Seabirds; Seals; Large pelagics; Mesopelagics; Sardine; Anchovy; Small Horse mac; Large horse mac; Small M. capens
North Benguela (1990), $\rho = 0.224793$
Microzooplankto; Meiobenthos; Pelagic Goby; Macrobenthos; Gelatinous zoop; Other small pel; Large M. capens; Large M. parado; cephalopods; Chondrichthyans; Benthic-feeding; Phytoplankton; Mesozooplankton; Macrozooplankto; Pelagic-feeding; Cetaceans; Seabirds; Seals; Large pelagics; Mesopelagics; Sardine; Anchovy; Juvenile horse; Adult horse mac; Small M. capens
Guinea (1998), $\rho = 0.223753$
Benthos; Zool S; Zool L; Crustacés; Céphalopodes; Côtier pel S inv; Côtier S inv; Mulets; Dem L inv; Pel S inv; Côtier pel L pred; Pel L pred; Dem M inv; Dem S pred; Disques; Côtier M pred; Bars; Sélaciens L côtiers; Thons mineurs; Sélaciens L prof; Côtier L pred; Dem L pred; Producteurs primaires; Sélaciens M côtiers; Sélaciens M prof; Dem S inv; Mésopélagiques; Ethmalose; Côtier M inv; Bathy SM inv; Mâchoiron; Bathy S pred; Dauphins; Bathy L pred; Oiseaux; Capitaine royal; Dem M pred; Tortues; Côtier S pred; Petit capitaine; Baleines; Gros capitaine; Thons majeurs
Northern Gulf St Lawrence (1985), $\rho = 0.223034$
Echinoderms; Molluscs; Other ben. inver.; Small zooplankton; Large zooplankton; Shrimp; Polychaetes; Sand lance; Small demersals; Redfish; American plaice; Skates; Small Green. halibut; Large crustacea; Capelin; Small cod; Flounders; Plank. small pelagics; Pisci. small pelagics; Large pelagics; Large cod; Large demersals; Arctic cod; Large Green. halibut; Phytoplankton; Cetacea; Seabirds; Harbour seals; Harp seals; Grey seals; Hooded seals
Greenland, West Coast (1997), $\rho = 0.222550$
Small Zooplankton; Large Zooplankton; Benthos; Other bot fish; Northern shrimp; Long rough Dab; Thorny ray; Grl. halibut juv; Other pel fish; Squids; Redfish juv less 15cm; Polar cod; Redfish larger than 14cm; Cod juv; Toothed whales; Phytoplankton; Baleen whales; Seabirds; Cod 4+; Grl. halibut 5+; Seals
South East Alaska (1963), $\rho = 0.222404$
Benthic inverts; L zoo; Epibenthic carnivorous; Shrimps; Sablefish; Deep S; Dem S; Pollock juv; Arrowtooth; Flatfish; Pollock adult; Baleen whales; Rockfish slope; Rockfish shelf; Halibut; Shark and skate; Birds; Dem L; S zoo; Shark mammal eater; Cephalopods; Deep L; Transient orca; Pel S; Salmon; Pacific cod; Pel L; Herring; POP; Sandlance; Marine plants; Phyto; Sea lions embryo; Sea lions pup; Sea otters; Small mammals; Sea lions adults; Sea lions juv; Toothed whales
Barnegat Bay (1981), $\rho = 0.222275$
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Benthic infauna/epifauna; Bay anchovy; Amphipods; Hard clams; Oyster; Non-piscivorous seabirds; Atlantic Menhaden; Mummichog; Blue crabs; Winter flounder; Atlantic silversides; Spot; River herring; Copepods; Bluefish; Summer flounder; Microzooplankton; Atlantic Croaker; Weakfish; Ctenophores; Striped bass; Benthic algae; Phytoplantkon; SAV; Sea nettles; Piscivorous seabirds
Gulf of Carpentaria (1990), $\rho = 0.221083$
Small crustaceans; Microbial heterotrophs; Zooplankton; Echinoids; Bivalves; Ophioroids; Holothurians; Worms; Meiofauna; Sessile epibenthos; Small gastropods; All other non-commercial prawns; Small jellies; Ichthyoplankton; Asteriods; Large jellies; Turtles; Spatangoids; Other large crabs; Sand crab; Stomatopods; Sardines and pilchards; Whitings, goatfishes and flounders; Ponyfishes, pinkies and trumpters; Small tunas and bonitos; Lizardfishes; Octopus; Pelagic scads; The mud crab; All other commercial prawns; Thallasinid prawns (Callianassa); Catfish and flatheads; Dolphins; Large trevallies and barracudas; Sweetlips and grunters; Silver biddies and small catfishes; Large mackerels and tunas; Slipper lobsters; Cobia, groupers and jacks; Red snappers; Black-tip sharks; Jewfishes; Rock lobster; Forams; Squid and cuttlefishes; Banana prawn adult; Garfishes, rabbitfishes and batfishes; Small rays; Seagrass; Tiger prawn adult; Mullets; Large gastropods; Banana prawn subadults; Mangroves; Microphytobenthos; Medium coastal sharks; Phytoplankton; Macroalgae; Dugongs; Insects; Tiger prawn subadults; Benthic shark / rays; Common terns; Crested terns; Brown boobies; Lesser frigates; Sea snakes; Manta rays; Tiger prawn juvenile; Banana prawn juvenile; Large rays; Eagle rays; Small sharks; Sawfishes; Billfishes; Weasel sharks; Large sharks; Reef sharks; Crocodiles
Sri Lanka (2000), $\rho = 0.220838$
zooplankton; zoobenthos; molluscs; crabs; annelids; shrimps; mugilids; bigeye scad; milk fish ; thrissa spp; other clupeids; drums; ponyfishes; other carangids; ribbonfish; sea cat fish; Large tunas; false trevallie; needlefish; medium tunas; yellowstripe; phytoplankton; small barracudas; dolphinfishes; pomfrets, torps; large barracudas; wolf herrings; small tunas; phytobenthos; cephalopods; halfbeaks; flying fishes; herrings; sardines; anchovies; terapontids; indian mackerel; soles
River Rheido, Wales, $\rho = 0.220407$
Rhithrogena; Baetis; Chironomidae; Leuctra, Protonemeura, Amphinemura; Oligochaeta; CoperwcIa, Cladocera; Hydropsyche; Chloroperla; Simulium; Isoperla; Dystiscidae (Deronectes, Oreonectes); Polycentropus; green algae; agmented leaf, stem tissue, moss; diatoms; Batrachospermum, Lemanea; Perlodes
Paraná River Floodplain (1992), $\rho = 0.220000$
Insects; Zooplankton; Astyanax altiparanae; Other benthos feeders; Benthos; Hypostomus spp; Cyphocharax modesta; Steindacchnerina insculpta; Prochilodus lineatus; Acestrorhyncus lacustris; Other detritus feeders; Loricariichthys platymetopon; Pterodoras granulosus; Leporinus obtusidens; Other omnivores; Plagioscion squamisissimus; Pseudoplatystoma corruscans; P maculatus; Trachydoras paraguayensis; Leporinus friderici; Hoplosternum littorale; Iheringichthys labrosus; Aquatic macrophytes; Phytoplankton; Other insectivores; Other piscivores; Serrasalmus marginatus; Rhaphiodon vulpinis; Salminus brasiliensis; Serrasalmus spiloptera; Brycon orbignyanus; Hoplias malabaricus; Periphyton; Schizodon altoparanae; Schizodon borelii; Parauchenipterus galeatus; Hypophthalmus edentatus; Auchenipterus nuchalis; Hemisorubin platyrhynchos
Sierra Leone (1964), $\rho = 0.218468$
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Carnivorous zooplankton; Herbivorous zooplankton; Benthos; Mullets and other herbivores; Sardinellas; Scads and mackerels; Crustaceans; Small pelagic invert feeders; Small demersal predators; Small demersal invert feeders; Medium demersal invert feeders; Large demersal predators; Sickle-and spadefish; Jacks; Croackers; Cephalopods; Large pelagic predators; Large demersal invert feeders; Bongo shad; L Coastal Sharks and Rays; L Deep Sharks and Rays; Large Tuna; M Coastal Sharks and Rays; Mesopelagics; M Deep Sharks and Rays; Catfish; Small Bathypelagic predators; SM Bathydem invert feeders; Royal Threadfin; M Bathypelagic invert feeders; Small pelagic predators; Lesser African Threadfin; Primary producers; Turtles; Seabirds; Medium demersal predators; Baleen whales; Large Bathypelagic predators; Gaint African Threadfin; Groupers; Small Tuna; Large Bathydem predators; Toothed whales and dolphins
Ningaloo (2007), $\rho = 0.217195$
Adult Turtles; Dugongs; Urchins; Benthos; Herbivores; Zooplankton; Small reef fish; Squid; Manta Rays; Sm Coral; Lobster; Shells; Lg Coral; Kingprawn; Crabs; Octopus; Bananaprawn; Demersal sharks; Shallow demersal fish; Hatchlings; Foxes; Saurids; Lethrinids juv; Whales; Dolphins; Pelagic sharks; Ospreys; Queenfish; Serranids; Small lutjanids; Reef Associated Pelagics; Small pelagics; Mackerels; Tuskfish; Trevallies; Coastal seabird; Nemipterids; Buffell grass; Native grass; Phytoplankton; Lethrinids adults; Coral Spawn; Macrophytes; Goats and sheep; Marsupial grazers; Whale sharks; Turtle eggs; L nebulosus juv; Tuna and billfish; L nebulosus adult
Mount St Michel Bay (2003), $\rho = 0.216561$
juvenile cephal; juvéniles poiss; Moules; macrobenthos; Mulets; huîtres2; huîtres; petites espèces; Macrobenthos2; poissons adulte; gros crustacés; zooplancton her; Meiobenthos; Crepidule; Macrophytes; phoques; Phytobenthos1; mouton; phytobenthos 2; Phytoplancton; anatidés; oiseaux limicol; céphalopodes
Azores (1997), $\rho = 0.216027$
Small Zooplankton; Benthic filter feeders; Other benthos; Benthic worms; Crabs; Large Zooplankton; Shrimp; Demersal S; Cephalopods; Mesopelagics; Pelagic M; Shallow water S; Shallow water M; DW sharks; Pelagic S; Pelagic sharks; Rays and other sharks; H. dactylopterus; Bahtydemersal L; Beryx decadactylus; Toothed whales; Conger conger; Pelagic L; Bathydemersal S; Shallow water L; Demersal M; Algae; Bathydemersal M; Bathypelagic; Pagellus bogaraveo; Demersal L; Lepidopus caudatus; Phytoplankton; Pagrus pagrus; Baleen whales; Turtles; Beryx splendens; Pontinus kuhlii; Phycis phycis; Tunas; Seabirds; Raja clavata; Mora moro; Dolphins
Icelandic shelf (1997), $\rho = 0.215079$
Benthos; Nothern shrimp; Other flatfish; Nephros; Molluscs; Grrenland halibut; Other dem fish; Saithe; Nekton; Seabirds; Redfish; Cod; Phytoplankton; Zooplankton; Marine mammals; Capelin; Other pelagics; Herring; Juvenile cod; Haddock
Australia North West Shelf (1986), $\rho = 0.215019$
LgZooplankton; SmZooplankton; Megabenthos; Macrofauna; SmallPelagics; SessEpibenthos; DpPonyfish; ComPrawns; ShTriggerFish; JuvCarangids; ShLutjanids; ShSmFish; ShMedFish; ShLizard; DpSmFish; ShNemipterirds; ShLgFish; Squid; DpLizard; ShSerranids; ShMullidae; ShLethrinids; DpMedFish; DpLgFish; DpNemipterids; Coastal sharks; BenPhytoplankton; Microphytobenthos; PelPhytoplankton; Rays; RedEmperor; ShSweetlip; DpMullidae; SmTunas; AdCarangids; FryPBream
Bay of Biscay (1980), $\rho = 0.214697$
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Table 3 – continued from previous page

Bacteria; Surface suspension and deposit feeders; Subsurface deposit feeders invertebrates; Shrimps; Benthic meiofauna; Suprabenthic invertebrates; Microzooplankton; Mesozooplankton; Demersal S; Carnivorous and necrophagous benthic invertebrates; Lobsters/Crabs; Demersal M; Demersal L; Whitting; Norway lobster; Sharks/rays; Macrozooplankton; Sharks L; Sardine; Cephalopods; Hake adulte; Toothed whales; Anchovy; Pouts; Pelagic M; Horse mackerel; Mackerel; Anglerfish; Blue whitting; Pelagic L; Sole; Surface feeders seabirds; Plunge and pursuit divers seabirds; Benthic producers ; Phytoplankton L; Phytoplankton S; Plaice; Baleen whales; Hake juvenile; Megrim; Sea bass
Bay of Biscay (2013), $\rho = 0.214658$
Bacteria; Surface suspension and deposit feeders; Subsurface deposit feeders invertebrates; Shrimps; Benthic meiofauna; Suprabenthic invertebrates; Microzooplankton; Mesozooplankton; Demersal S; Carnivorous and necrophagous benthic invertebrates; Lobsters/Crabs; Demersal M; Demersal L; Whitting; Norway lobster; Sharks/rays; Macrozooplankton; Sharks L; Sardine; Cephalopods; Hake adulte; Toothed whales; Anchovy; Pouts; Pelagic M; Horse mackerel; Mackerel; Blue whitting; Sole; Hake juv; Pelagic L; Surface feeders seabirds; Plunge and pursuit divers seabirds; Benthic producers ; Phytoplankton L; Phytoplankton S; Plaice; Baleen whales; Megrim; Sea bass; Anglerfish
Tasmanian Seamounts Marine Reserve (1992), $\rho = 0.209733$
Zooplankton; Gelatinous zooplankton; Benthopelagic fish; Megabenthos; Epibenthos; Infauna; Corals; Pelagic crustaceans; Small squid; Scavengers; Demersal sharks; Pelagic sharks; Shallow migratory small fish; Deep migratory small fish; Non-migratory small fish; Lge squid; Lge pelagic fishes; Phytoplankton; Benthic fish; Alepocephalids; Other oreos; Roughy; Warty oreo; Tunas billfishes
Lake Paajarvi, littoral zone, Finland, $\rho = 0.209547$
bacterioplankton; Copepoda; Mollusca; Anodonta; Nematoda; Asellus; Ephemeroptera; Chironomidae - Microtendipes; Sida; Perea; Asplanchna, Polyphemus; Acanthocyclops; Chironomidae - Procladius; Rutilus rutilus; terrestrial adult insects; phytoplankton; Potamogeton, Lobelia, lsoetes, Sparganiwn; Hirudinea; Mermithidae; Trichoptera; Turbellaria; salakka; Gymnocephalus cemus; Perca fluviatilis; Coregonus lavaretus
Port Phillip Bay (1994), $\rho = 0.209080$
Large zooplankton; Deposit Feeders; Filter Feeders; Epi. Predators; Other Grazers; Mullet and Garfish; Scavengers; Scallops and mussels; Juvenile Mullet; Rays; Snapper; Clupeoids; Juvenile Snapper; Abalone; Birds; Other demersals; Southern calamari; Flatfish; Juvenile Flatfish; Inf. Predators; Sharks; Other cepahalopods; Piscivores; Juvenile Piscivores; Small zooplankton; Marine mammals; Macroalgae; Microphytobenthos; Phytoplankton; Seagrass; KG Whiting; Juvenile KG Whiting; Sth Rock Lobster
Eastern Corsican Coast (2012), $\rho = 0.208329$
Worms; Benthic crustaceans; Echinoderms; Cnidaria; Zooplankton; Shrimps; Bivalvia; Gelatinous; European lobster; Spiny lobster; Piscivorous fish; Benthic cephalopods; Suprabenthic cephalopods; Seriola; Planktivorous fish; BIF; Gasteropods; Sparidae; E. marginatus; Labridae; SIF; Purple sea urchin; European Shag; Rays; Sea grass; Chromis chromis; Macroalgae; Mullus surmuletus; Phytobenthos; Phytoplankton; Sarpa salpa; Sciaena umbra; Serranidae; Benthic sharks; Scorpaena scrofa; Bottlenose dolphin; Dentex dentex; Sphyranidae
Celtic Sea-Biscay (1980), $\rho = 0.206689$
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Zooplankton S; Benthos; Zooplankton L; Shrimps/crabs; Lobsters/crabs; Cephalopods; Demersal M; Demersal L; Whiting; Cod; Pouts; sharks/rays; Demersal S; Sharks L; Herring; Mackerel; Hake; Hake juv; Monkfish; Bathy M; Sprat; Pelagic L; Bathy S; Toothed whales; Horse mackerel; Bathy L; Anchovy; Pelagic M; Blue whiting; Benthic producers; Phytoplankton; Sardine; Plaice; Sole; Baleen whales; Cod juv; Megrim
Celtic Sea-Biscay (2012), $\rho = 0.206689$
Zooplankton S; Benthos; Zooplankton L; Shrimps/crabs; Lobsters/crabs; Cephalopods; Demersal M; Demersal L; Whiting; Cod; Pouts; sharks/rays; Demersal S; Sharks L; Herring; Mackerel; Hake; Hake juv; Monkfish; Bathy M; Sprat; Pelagic L; Bathy S; Toothed whales; Horse mackerel; Bathy L; Anchovy; Pelagic M; Blue whiting; Benthic producers; Phytoplankton; Sardine; Plaice; Sole; Baleen whales; Cod juv; Megrim
USA, Mid Atlantic Bight (1995), $\rho = 0.205308$
Bivalves; Small crustaceans; Polychaetes; Euphausiids; Sessile epibenthos; Jellies; Echonoderms; Shrimp; Spot; Forage fish; Crabs; Lobsters; Demersal invertebrate eaters; Demersal piscivores; Benthic piscivores; Stomatopods; Snapper / grouper; Flounders; Mysids; Rays and skates; Ocean pout; Drum / croaker; Spiny dogfish; Macrozooplankton; Microzooplankton; Cods and hakes; Squid; Coastal sharks; Goosefish; Tunas; Atlantic menhaden; Med. pel. pisc (Mackerel); Striped bass; Billfishes; Seals; Butterfishes; Benthic invertebrate eaters; Demersal planktivores; Atlantic salmon; Large pelagic planktivores; Bluefish; Macrophytes; Microphytobenthos; Phytoplankton; Scup; Tilefish; Redfish; Octopods; Black seabass; Jacks; Baleen whales; Weakfish; Marine birds; Dolphins and porpoise
Bay of Biscay (1994), $\rho = 0.204753$
Mesozooplankton; Microzooplankton; Bacteria; Benthic meiofauna; Necrophagous benthic invertebrates; Surface suspension and deposit feeders inv; Sub-surface deposit feeders invertebrates; Carnivorous benthic invertebrates; Benthivorous demersal fish; Piscivorous and benthivorous demersal fish; Suprabenthivorous demersal fish; Pelagic cephalopods; Horse mackerel; Mackerel; Benthic cephalopods; Sardine; Piscivorous demersal fish; Anchovy; Macrozooplankton; Sprat; Large phytoplankton; Surface feeders seabirds; Pursuit divers seabirds; Small phytoplankton; Suprabenthic invertebrates; Common dolphins; Long-finned pilot whales; Harbour porpoises; Striped dolphins; Bottlenose dolphins
Celtic Sea (2013), $\rho = 0.203465$
Bacteria; Surface suspension and deposit feeders; Sub-surface deposit feeders invertebrates; Shrimps; Benthic meiofauna; Suprabenthic invertebrates; Microzooplankton; Mesozooplankton; Carnivorous and necrophagous invertebrates; Lobsters/Crabs; Demersal L; Whitting; Cod ad; Haddock; Norway lobster; Sharks/rays; Sharks L; Cephalopods; Macrozooplankton; Demersal S; Hake juvenile; Toothed whales; Hake adulte; Anglerfish; Mackerel; Pelagic L; Herring; Sprat; Demersal M; Sardine; Pouts; Pelagic M; Boarfish; Horse Mackerel; Sole; Surface feeders seabirds; Plunge and pursuit divers seabirds; Blue whitting; Benthic producers; Phytoplankton L; Phytoplankton S; Plaice; Baleen whales; Cod juvenile; Megrim; Sea bass
Jurien Bay (2007), $\rho = 0.202384$
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Small Zooplankton; Small mobil epifauna; Chaetognaths; Large Herb. Gastropods; Inshore reef ass. herbivore; Microbial heterotrophs; Large mobile herb. invert.; NDR sand ass. omnivore; Photo. corals/sponges; Sessile bivalves; Roe abalone; Small Gastropods; Infaunal bivalves; Infauna; Lobster-post puerulus; Deposit feed. invert.; Inshore seagrass ass. zoob. feed.; Small mobile herbivores; Large Crabs; Sessile epibenthos; NDR reef ass. omnivore; Lobster- Juvenile; Lobster - Adolescent; Octopus; NDR reef ass. zoobenthos feed.; Inshore reef ass. zoobenthos feed.; NDR pelagic zooplankton Feed.; Inshore seagrass ass. omnivore; Inshore reef ass. omnivore; NDR sand ass. zoobenthos feed.; Large mobile carn. invert.; NDR seagrass ass. omnivore; Rays; Pink snapper; Inshore ass. carnivore; Lobster Adult; Dhufish; Large coastal sharks; Large Zooplankton; Cuttlefish; NDR reef ass. herbivore; Squid; Inshore sand ass. omnivore; Small coastal sharks; Baldchin grouper; Sea turtles; King wrasse; Inshore pelagic zooplankton feed; Large Carn. Gastropods; NDR reef aa. zooplankton feed; Small Phytoplankton; Ecklonia; Sargassum; Large Phytoplankton; Western foxfish; Perenial seagrasses; Corraline algae; Microphytobenthos; Ephemeral seagrasses; Turfs; Low algae; Seagrass epiphytes; Carnivorous Jellyfish; Intertidal birds; NDR seagrass ass. carnivore; Inshore benthopelagic carnivore; Breaksea cod; NDR reef ass. carnivore; NDR sand ass. carnivore; Surface diving birds; NDR benthopelagic carnivore; Sea lions; Dolphins
Cerbère-Banyuls MPA (2013), $\rho = 0.202074$
Meso and microzooplankton; Macrozooplankton; Other macro-benthos; Suprabenthos; Other sea urchin; Purple sea urchin; Sea cucumbers; Bivalves; Gastropods; Benthopelagic cephalopods; Non-commmercial decapods; No commercial small demersal fish; Labridae and Serranidae; Other commercial decapods; Coastal benthic cephalopods; Other medium pelagic fishes; Flatfishes; Mugilidae; Other corals and gorgonians; Red coral; Sparidae; Common two-banded seabream; White seabream; Other commercial medium demersal fish; Brown meagre; No commercial medium demersal fish; European hake; European conger; Anglerfish; Horse mackerels; Mackerels; European sardine; Other benthic cephalopods; Salema; Common pandora; Other large pelagic fishes; European anchovy; Other small pelagic fish; Jellyfish; Salps and other gelatinous zooplankton; Scorpaenidae; Red mullet; European lobster; Surmulet; Poor cod; Red scorpionfish; Rays and skates; Terns; Endangered and pelagic seabirds; Gulls and cormorants; Striped dolphins; Bottlenose dolphins; Large phytoplankton; Mediterranean seagrass; Seaweeds; Small phytoplankton; Loggerhead turtles; Small-spotted catshark; Non-commercial large pelagic fishes; Common dentex; Groupers; Torpedos
Celtic Sea (1980), $\rho = 0.201644$
Bacteria; Surface suspension and deposit feeders; Sub-surface deposit feeders invertebrates; Shrimps; Benthic meiofauna; Suprabenthic invertebrates; Microzooplankton; Mesozooplankton; Carnivorous and necrophagous invertebrates; Lobsters/Crabs; Demersal L; Whitting; Haddock; Cod ad; Norway lobster; Sharks/rays; Sharks L; Macrozooplankton; Demersal S; Cephalopods; Hake adulte; Anglerfish; Hake juvenile; Pelagic L; Mackerel; Toothed whales; Pouts; Horse Mackerel; Pelagic M; Herring; Demersal M; Sardine; Sprat; Sole; Blue whitting; Cod juvenile; Surface feeders seabirds; Plunge and pursuit divers seabirds; Benthic producers; Phytoplankton L; Phytoplankton S; Plaice; Boarfish; Baleen whales; Megrim; Sea bass
Iceland (1950), $\rho = 0.200785$
Benthos; Northern Shrimp; Nephrops; Molluscs; Baleen whales; Other Dem. Fish; Saithe; Seabirds; Other Fish; Redfish; Adult Cod; Pinnipeds; Toothed whales; Phytoplankton; Zooplankton; Greenland Halibut; Other Flatfish; Other Pelagics; Capelin; Benthic producers; Herring; Juvenile Cod; Haddock
Azores archipelago (1997), $\rho = 0.200377$
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large zoopl; small zoopl; other benthos; sea stars; coastal M herb; shrimps crabs; Loligo; lobsters; demersal M pred; pelagic M pred; demersal M inv; demersal L pred; cephalop s; coastal L pred; Dolphins; coastal S inv; coastal S pred; coastal M inv; pelagic S pred; coastal M pred; pelagic S inv; deepwater S; mesopelagics; demersal S inv; sharks L; deepwater M; Phycis phycis; cephalop L; macrophytes; phytoplankton; rays; pelagic L pred; coastal S herb; Octopus; Helicolenus; tunas; sharks M; baleen whales; Pagellus bogaraveo; birds; deepwater L; killer whales; turtles
Baie de Seine (2000), $\rho = 0.198924$
Meszooplankton and Macrozooplancton; Suprabenthos; Bacteria; Benthic inv. deposit feeders (Subsurface); King scallop; Meiofauna; Benthic inv. bivalves filter feeders; Benthic inv. deposit feeders (Surface); Benthic inv. predators; Benthic inv. filter feeders; Fish piscivorous; Benthopelagic cephalopods; Fish benthos feeders; Microzooplankton; Fish planctivorous; Fish atlantic horse mackerel; Fish sharks; Benthic cephalopods; Fish atlantic cod; Fish european pilchard; Fish european sprat; Fish whiting; Harbour porpoises; Bottlenose dolphins; Phocidae; Fish mackerel; Discards; Fish rays; Phytoplancton; Fish sole; Fish limande ; Fish sea bream; Fish european plaice; Benthic feeders seabirds; Fish flounder; Fish gurnard; Fish poor cod; Fish pouting; Fish european seabass; Plunge and pursuit divers seabirds; Surface feeders seabirds
North Sea (1974), $\rho = 0.198148$
Polychaetes; Echinoderms; Copepods; O.crustaceans; O.invertebrates; Whiting; Dab; O.macrobenthos; Herring; Gurnards; Juv. cod; Juv. whiting; Euphausiids; Sandeel; Norway pout; Juv. haddock; Sprat; Seals; Haddock; Cod; Phytoplankton; Sole; Plaice; Juv. saithe; Horsemackerel; Mackerel; Raja; O. predators; Birds; West mackerel; Saithe
Ria-Lake Tapajos (2013), $\rho = 0.196423$
Zooplankton; Aquatic invertebrates; Others algivores/detritivores; Semaprochilodus spp. ; Schizodon spp.; Laemolyta spp.; Loricariichthys spp.; Mesonauta festivus; Geophagus spp.; Acarichthys heckelii; Satanoperca acuticeps; Hemiodus spp.; Others piscivores; Igapo Forest; Acaronia nassa; Plagioscion squamosissimus; Pellona castelnaeana; River dolphins; Terrestrial invertebrates; Cichla spp.; Otters; Arapaima gigas; Brachyplatystoma rousseauxii; Brachyplatystoma filamentosum; Periphyton; Phytoplankton; Others frugivores; Pacu; Colossoma macropomum; Turtles; Bryconops spp.; Leporinus spp.; Hypophthalmus marginatus; Others invertivores
Gulf of Gabes (2000), $\rho = 0.193932$
Micro and mesozooplankton; Amphipoda and Isopoda; Polychaetes; Benthic molluscs; Foraminifera; Echinoderms; Invertebrate suspension feeders ; Crabs; Mullets; Benthic cephalopods; Mantis shrimp; Benthopelagic cephalopods; Macro-carnivorous Fish (1); Sharks; Macrozooplankton; Medium pelagic fish; Macro-carnivorous Fish (2); Small tuna ; Sea birds; Rays (2) ; Rays (1); Piscivorous Fish; Atlantic bluefin tuna; Sparidae; Dolphins; Benthic invertebrate feeders (2); Macro-algae; Alien shrimps ; Benthic invertebrate feeders (1); Horse mackerel; Phytoplankton; Picarel; Deep shrimps ; Caramote prawn; Posidonia oceanica; European anchovy; European pilchard; Round sardinella; Bogue
Apalachicola Bay (2000), $\rho = 0.192937$
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Macrozooplankton; Microzooplankton; Zoobenthos; Blue crab; Oysters; Atlantic bumper; Mullet; Arrow shrimp; Adult white shrimp; Pink shrimp; Brown shrimp; Roughback shrimp; Brief squid; Adult spot; Juvenile pigfish; Juvenile spot; Juvenile silver perch; Hogchoker; Juvenile Atlantic croaker; Red drum; Adult sand seatrout; Adult pigfish; Adult Atlantic croaker; Large coastal sharks; Snapper; Dolphins; Southern kingfish; Small coastal sharks; Adult silver perch; Seabirds; Adult hardhead catfish; Inshore lizardfish; Seagrass; Juvenile white shrimp; Adult bay anchovy; Phytoplankton; Adult pinfish; Menhaden; Mojarra; Juvenile bay anchovy; Juvenile striped anchovy; Sardines; Menidia silversides; Adult striped anchovy; Gulf butterfish; Juvenile pinfish; Fringed flounder; Gulf flounder; Black drum; Juvenile sand seatrout; Juvenile hardhead catfish; Atlantic stingray; Mantis shrimp
Denmark, Faroe Islands (1997), $\rho = 0.191579$
Benthos; Other demersal fish; Other deep water; Greenland Halibut; Saithe; Seabirds; Sm. Zooplankton; Lrg. Zooplankton; Nekton; Toothed mammals; Other pelagics; Herring; Blue Whiting; Haddock; Mackerel; Redfish; Phytoplankton; Baleen whales; Cod
Lake Michigan, $\rho = 0.190600$
Rotifers; Cladocerans; Cyclopoids; Sphae/Gast; Benthic microin; Diporeia; Mysis; Other fish; Oligoch/Chiron; Calanoids; Leptodora; Alewife; Rainbow smelt; Bloater; Slimy sculpin; Deepwater sculp; Sea lamprey; Juv. Lake Trout; Flagellates; Blue-greenGree; Diatoms; Lake Whitefish; Yellow perch; Burbot; Coho; Juv. Brown trou; Juv. Chinook; Juv. Steelhead; Brown trout; Steelhead; Lake trout; Chinook; Juv. Coho
Gulf of Thailande (1963), $\rho = 0.186385$
Zooplankton; Scad; Benthos; O.fish; Shrimps; Sm.dem.benth.; Med.dem.benth.; Flatfish; Crab, lobster; Rays; Tuna; Cephalopods; Phytoplankton; Sharks; M. mammals; Mackerel; Sm. pelagics; Med.dem.pisc.; Ponyfishes; Sm.dem.pisc.; Molluscs; Jellyfish; Juv.Lg.Pisciv.; Juv. sharks; Juv. groupers; Lg. piscivores; Grouper/snapper; Scomberomorus
North Sea (1981), $\rho = 0.186258$
PT pico; Polychaeta; Echinodermata; O.macrobenthos; O.invertebrates; O.crustaceans; Copepoda; O.prey fish; Cod; Whiting; Haddock; Juvenile fish; Mackerel; Saithe; PT nano; Euphausiacea; PS nano; Sandeel; PS micro; PS pico; PT micro; Sole; Plaice; Sprat; Ray; Norway pout; O.pred.fish; Herring
Lower Chesapeake Bay, $\rho = 0.183984$
Free Bacteria; Ctenophores; Particle Attached Bacteria; Benthic Bacteria; Suspension Feeding Benthos; Menhaden; Meiofauna; Deposit Feeding Benthos; Bay anchovy; Blue Crab; Meroplankton; Mesozooplankton; Ciliates; Spot; Net Phytoplankton; Croaker; Picoplankton; Heteroflagellates; Hogchoker; Striped Bass; Weakfish; Bluefish; Microphytobenthos; SAV; Rotifers; Chrysaora
Gulf of Mexico (1950), $\rho = 0.183215$
18+ Mullet; Benthic Invertebrates; Macro Zooplankton; Shrimp; Caridan Shrimp; Catfish; Lobster; Stone Crab; juv Menhaden; Menhaden; Pin Fish; Small fish; Bay Anchovy; 0-6 Mullet; 6-18 Mullet; Blue Crab; 0-3 Red Drum; 3-8 Red Drum; Micro Zoolplankton; Silver Perch; Pigfish; Scaled Sardine; Jacks; Infauna; Atlantic croaker; 3-18 Sea Trout; Rays; 18+ Sea Trout; Attached Microalgae; Phytoplankton; Sea Grass; red snapper 0-6; Grouper 0; 0-3 Sea Trout; Pompano; red snapper 6-24; Mackrel 0-3; Ladyfish 0-10; Ladyfish 10+; Grouper 1-3; 8-18 Red Drum; 36+ Red Drum; 18-36 Red Drum; red snapper older; Grouper 3+; Mackrel 3+; LCsharks
Florida Bay - wet season, $\rho = 0.182947$
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Benthic Flagellates; Herbivorous Amphipods; Detritivorous Gastropods; Water Flagellates; Halfbeaks; Sponges; Bivalves; Suspension Feeding Polych; Manatee; Mullet; Meiofauna; Detritivorous Polychaetes; Detritivorous Crabs; Omnivorous Crabs; Pink Shrimp; Herbivorous Ducks; Echinoderma; Benthic Ciliates; Macrobenthos; Detritivorous Amphipods; Benthic Crustaceans; Predatory Gastropods; Predatory Shrimp; Predatory Polychaetes; Coral; Other Cnidaridae; Callinectus sapidus; Predatory Crabs; Catfish; Other Copepoda; Acartia Tonsa; Oithona nana; Paracalanus; Other Zooplankton; Meroplankton; Eels; Isopods; Other Demersal Fishes; Pinfish; Herbivorous Shrimp; Sailfin Molly; Rainwater killifish; Other Killifish; Water Cilitaes; Parrotfish; Epiphytes; Thor Floridanus; Epiphytic Gastropods; Raptors; Crocodiles; Goldspotted killifish; Other Pelagic Fishes; Code Goby; Clown Goby; Blennies; Bay Anchovy; Free Bacteria; Mojarra; Sardines; Lobster; Barracuda; Flatfish; Gulf Pipefish; Silverside; Dwarf Seahorse; Other Horsefish; Toadfish; Anchovy; Puffer; Dolphin; Grunt; Filefishes; Needlefish; Scianids; Other Snapper; Lizardfish; Stone Crab; Brotalus; Thalassia; Halodule; Syringodium; Spotted Seatrout; Drift Algae; Porgy; Green Turtle; Omnivorous Ducks; Hawksbill Turtle; Bonefish; Pompano; Rays; Loggerhead Turtle; Red Drum; Spadefish; Small Shorebirds; Gruiformes; Gray Snapper; Gulls Terns; Snook; Grouper; Tarpon; Jacks; Ibis; Small Herons Egrets; Roseate Spoonbill; Big Herons Egrets; Kingfisher; Greeb; Predatory Ducks; Loon; Comorant; Pelican; Sharks; Mackerel; 2um Spherical Phytoplankt; Synedococcus; Oscillatoria; Small Diatoms (<20um); Big Diatoms (>20um); Dinoflagellates; Other Phytoplankton; Benthic Phytoplankton; Roots
Florida Bay (2006), $\rho = 0.182928$
Caridean shrimp; Small crustaceans; Bivalves; Annelids; Mud crabs; Gastropods; Sessile epibenthos; Mullet; Portunid crab; Echinoderm; Pink shrimp; Lobster; Gulf toadfish; Pinfish; Sheepshead minnow; Rainwater killifish; Mojarras; Clown goby; Mesozooplankton; Spider crabs; Hardhead catfish; Lemon shark; Clupeids; Goldspotted killifish; Hardhead silverside; Bay anchovy; Bonnethead shark; Phytoplankton; Red drum; Spotted seatrout; Macroalgae; Seagrass; Sheepshead; Grunts; Redfin needlefish; Octopods; Epiphytes; Hardhead halfbeak; Microzooplankton; Common snook; Crevalle jack; Gray snapper; Atlantic tarpon; Great barracuda; Seabirds
Everglades Graminoids, $\rho = 0.182405$
Mesoinverts; Terrestrial Inverts; Fishing spider; Passerines; Mink; Living Sediments; Living POC; Other Macroinverts; Crayfish; Tadpoles; Turtles; Flagfish; Opossum; Gruiformes; Poecilids; Ducks; Mosquitofishes; Other Small Fishes; Chubsuckers; Bluefin killifish; Killifishes; Shiners Minnows; Other Centrarchids; Catfish; Large Aquatic Insects; Alligators; Freshwater Prawn; Apple snail; Raccoons; Rats Mice; Otter; Snakes; Grebes; Gar; Macrophytes; Topminnows; Floating Veg.; Bitterns; Periphyton; Bobcat; Panthers; Pigmy Sunfish; Bluespotted Sunfish; Utricularia; Small frogs; Medium frogs; Salamanders; Muskrats; Rabbits; W-T Deer; CSSsparrow; Salamander larvae; Nighthawks; Dollar Sunfish; Snailkites; Redear Sunfish; Spotted sunfish; Warmouth; Cichlids; Largemouth Bass; Other Large Fishes; Large frogs; Lizards
Tampa Bay (1950), $\rho = 0.181945$
Benthic Invertebrates; Macro Zooplankton; Caridan Shrimp; Catfish; Bay Anchovy; 18+ Mullet; Stone Crab; Shrimp; Pin Fish; Blue Crab; Spot; Menidia (silverside); 0-6 Mullet; 0-3 Red Drum; Micro Zoolplankton; Manhaden; 6-18 Mullet; 3-12 Snook; Bumper; 3-8 Red Drum; 0-12 Snook; Silver Perch; Pigfish; Jacks; 3-18 Sea Trout; Mojarra; Cyprinodontids; Poecilids; Threadfin Herring; Scaled Sardine; 3-12 Sand Trout; Gobies; Infauna; 90+ Snook; Ladyfish 0-10; 18+ Sea Trout; Attached Microalgae; Phytoplankton; Sea Grass; Rays; 0-3 Sand Trout; 0-3 Sea Trout; Mackrel 0-3; Ladyfish 10+; 12-48 Snook; 36+ Red Drum; 18-36 Red Drum; 8-18 Red Drum; 12+ Sand Trout; 48-90 Snook; Mackrel 3+
Lesser Antilles (2001), $\rho = 0.178564$
Continued on next page

Table 3 – continued from previous page

Small zooplankton; Large zooplankton; Small offshore pelagics; Small coastal pelagics; Coastal predators; Other offshore predators; Mackerels; Billfishes; Pelagic sharks; Dolphinfish; Bigeye; Albacore; Large mesopelagics; Small squids; Large squids; Skipjack; Deep-diving whales; Small mesopelagics; Flyingfish; Swordfish; Shallow-diving cetaceans; Wahoo; Blackfin tuna; Phytoplankton; Baleen whales; Yellowfin; Other turtles; Leatherback turtle; Seabirds; Killer whales
Florida Bay - dry season, $\rho = 0.178345$
Benthic Flagellates; Herbivorous Amphipods; Detritivorous Gastropods; Detritivorous Crabs; Water Flagellates; Halfbeaks; Sponges; Manatee; Suspension Feeding Polych; Bivalves; Mullet; Detritivorous Polychaetes; Meiofauna; Omnivorous Crabs; Echinoderma; Pink Shrimp; Herbivorous Ducks; Benthic Ciliates; Macrobenthos; Other Copepoda; Other Zooplankton; Acartia Tonsa; Oithona nana; Paracalanus; Predatory Polychaetes; Benthic Crustaceans; Detritivorous Amphipods; Predatory Shrimp; Meroplankton; Predatory Gastropods; Callinectus sapidus; Predatory Crabs; Catfish; Eels; Other Cnidaridae; Isopods; Other Demersal Fishes; Pinfish; Herbivorous Shrimp; Sailfin Molly; Water Cilitaes; Other Pelagic Fishes; Rainwater killifish; Other Killifish; Epiphytes; Raptors; Crocodiles; Thor Floridanus; Epiphytic Gastropods; Coral; Dolphin; Goldspotted killifish; Code Goby; Barracuda; Clown Goby; Blennies; Bay Anchovy; Mojarra; Free Bacteria; Parrotfish; Sardines; Lobster; Flatfish; Gulf Pipefish; Silverside; Other Horsefish; Dwarf Seahorse; Toadfish; Anchovy; Puffer; Grunt; Filefishes; Needlefish; Other Snapper; Scianids; Lizardfish; Porgy; Brotalus; Stone Crab; Thalassia; Halodule; Syringodium; Spotted Seatrout; Drift Algae; Gray Snapper; Green Turtle; Omnivorous Ducks; Hawksbill Turtle; Bonefish; Pompano; Rays; Loggerhead Turtle; Spadefish; Red Drum; Small Shorebirds; Grouper; Gruiformes; Gulls Terns; Snook; Jacks; Tarpon; Sharks; Ibis; Big Herons Egrets; Small Herons Egrets; Roseate Spoonbill; Kingfisher; Greeb; Predatory Ducks; Loon; Pelican; Comorant; Mackerel; 2um Spherical Phytoplankt; Synedococcus; Oscillatoria; Small Diatoms (<20um); Big Diatoms (>20um); Dinoflagellates; Other Phytoplankton; Benthic Phytoplankton; Roots
South Shetlands (1990), $\rho = 0.177854$
Other zooplankton; Salps; Krill; Small invertebrates; Large invertebrates; Other birds; Small demersals; Myctophids; Large demersals; Killer whales; Small pelagics; Small squid; Mackerel icefish; Marbled rockcod; Leopard seals; Large squid; Toothfish; pinguins; Phytoplankton; Minke whales; Crabeater seals; Baleen whales; Anctarctic fur seals; Albatrosses; King pinguins; Weddell and Ross seals; Small cetaceans; Elephant seals; Sperm whales
Cap de Creus MPA - whole (2008), $\rho = 0.176870$
Meso and microzooplankton; Macrozooplankton; Other macro-benthos; Suprabenthos; Other sea urchin; Purple sea urchin; Sea cucumbers; Bivalves; Gastropods; Non-commmercial decapods; Benthopelagic cephalopods; No commercial small demersal fish; Labridae and serranidae; Sparidae; Other commercial decapods; Other medium pelagic fishes; Flatfishes; Mugilidae; Brown meagre; Other corals and gorgonians; Red coral; Coastal benthic cephalopods; Other commercial medium demersal fish; No commercial medium demersal fish; European hake; European conger; Anglerfish; Horse mackerels; Other large pelagic fishes; Mackerels; European sardine; Other benthic cephalopods; Rays and skates; Common dentex; Gulls and cormorants; Groupers; Torpedos; Common pandora; European anchovy; Jellyfish; Salps and other gelatinous zooplankton; Salema; Other small pelagic fish; Round sardinella; White seabream; Common two-banded seabream; Poor cod; Seaweeds; Terns; Endangered and pelagic seabirds; Bottlenose dolphins; Striped dolphins; Erected algae; Large phytoplankton; Mediterranean seagrass; Other seagrasses; Small phytoplankton; Red mullet; European lobster; Surmulet; Loggerhead turtles; Red scorpionfish; Scorpaenidae; Small-spotted catshark; Non-commercial large pelagic fishes
Central Baltic Sea (1974), $\rho = 0.176800$
Continued on next page

Table 3 – continued from previous page

Mysids; macrozoobenthos; Detritus-water column; meiozoobenthos; Ad. Sprat; microzooplankton; Cod 0 / Cod 1; Cod 2 / Cod 3; Ad. Cod; Ad. Herring; Herring 0 / Herring 1 / Herring; Sprat 0 / Sprat 1; Cod larvae; Cyanobacteria; other phytoplankton; spring phytoplankton; Acartia sp; other mesozooplankton; Temora sp; Pseudocalanus sp.; Seals
Medes Island MPA (2000), $\rho = 0.176483$
Meso and microzooplankton; Macrozooplankton; Other macro-benthos; Suprabenthos; Other sea urchin; Purple sea urchin; Sea cucumbers; Bivalves; Gastropods; Non-commmercial decapods; Benthopelagic cephalopods; No commercial small demersal fish; Labridae and serranidae; Sparidae; Other commercial decapods; Other medium pelagic fishes; Flatfishes; Mugilidae; Brown meagre; Other corals and gorgonians; Red coral; Coastal benthic cephalopods; Common dentex; Rays and skates; European conger; European hake; Anglerfish; Other commercial medium demersal fish; No commercial medium demersal fish; Horse mackerels; Mackerels; European sardine; Gulls and cormorants; Groupers; Other benthic cephalopods; Torpedos; Common pandora; European anchovy; Jellyfish; Salps and other gelatinous zooplankton; Other small pelagic fish; Round sardinella; Salema; White seabream; Common two-banded seabream; Poor cod; Seaweeds; Terns; Endangered and pelagic seabirds; Striped dolphins; Bottlenose dolphins; Erected algae; Large phytoplankton; Mediterranean seagrass; Other seagrasses; Small phytoplankton; Red mullet; European lobster; Surmulet; Loggerhead turtles; Scorpaenidae; Red scorpionfish; Small-spotted catshark; Non-commercial large pelagic fishes; Other large pelagic fishes
Aegean Sea (2003), $\rho = 0.176198$
Micro/Mesozooplankton; Macrozooplankton; Benthic invertebrates; Squids; Benthic small crustaceans; Polychaetes; Shrimps; Shelf crabs; Lobsters; Flatfishes; Slope crabs; Seabirds; Norway lobster; Dolphins; European hake; Monk seal; Phytoplankton; Jellyfish; Small demersals 2; European pilchard; European anchovy; Other small pelagics; Medium pelagics; Small demersals 1; Octopus and cuttlefish; Other gadiforms; Picarels and bogue; Mackerels; Sea turtles; Planktivorous deep sea fish; Red mullets; Horse mackerels; Small demersals 3; Gurnards; Piscivorous deep sea fish; Medium-large demersals 2; Rockfish; Rays and skates; Medium-large demersals 1; Anglerfish; Sharks; Large pelagics
Western Antarctic Peninsula (1996), $\rho = 0.175318$
Benthic invertbrates; Micro-Zool; Meso zooplankton; Krill Small; Krill Large; Other Euphausiids; Macro-zoopl; On-shelf fish; G gibberifrons; Killer whales; Myctophids; Cephalopods; N. rossii; Antarctic fur seals; Salps; Leopard Seal; C gunnari; Ice Algae; Large phytoplankton; Small phytoplankton; Adelie Penguins; Chinstrap Penguins; Minke Whales; Fin Whales; Blue Whales; Humpback whales; Gentoo Penguins; Crabeater Seal; Macaroni Penguins; Emperor Penguins; Flying Birds; Sperm Whales; Weddell Seal; S Elephant Seals
Upper Chesapeake Bay, $\rho = 0.175268$
Free Bacteria; Ctenophores; Suspension Feeding Benthos; Bay anchovy; Particle Attached Bacteria; Menhaden; Meroplankton; Mesozooplankton; Hogchoker; Spot; Croaker; Herrings and Shads; White Perch; Deposit Feeding Benthos; Blue Crab; Benthic Bacteria; Meiofauna; Net Phytoplankton; Rotifers; Catfish; Ciliates; Microphytobenthos; SAV; Picoplankton; Heteroflagellates; American Eel; Striped Bass; Weakfish; Bluefish; Chrysaora
Northern British Columbia (2000), $\rho = 0.174572$
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Carnivorous jellyfish; Epifaunal invertebrates; Forage fish; Infaunal carnivorous invertebrates; Infaunal invertebrate detritivores; Commercial shrimp; Juvenile lingcod; Corals and sponges; Large crabs; Shallowwater benthic fish; Juvenile Pacific cod; Small squid; Squid; Juvenile turbot; Adult picivorous rockfish; Dogfish; Adult sablefish; Adult turbot; Skates; Seals, sea lions; Adult halibut; Juvenile halibut; Adult Pacific cod; Adult lingcod; Phytoplankton; Copepods; Euphausiids; Odontocetae; Eulachon; Small crabs; Adult herring; Juvenile herring; Juvenile pollock; Juvenile sablefish; Seabirds; Macrophytes; Juvenile POP; Mysticetae; Juvenile planktivorous rockfish; Transient salmon; Juvenile flatfish; Adult POP; Juvenile picivorous rockfish; Adult flatfish; Ratfish; Adult planktivorous rockfish; Pollock; Sea Otters; Chinook salmon; Inshore rockfish; Coho salmon
Aleutian Islands (1963), $\rho = 0.174167$
Small zooplankton; Cephalopods; Benthic inverts; Shrimps; Epiben carnivores; Large pred demersals; Atka mackerel; Adult pollock; Rockfish; Pacific cod; Shark and skates; Arrowtooth; Large zooplankton; Dem S M; Halibut; Shark mammal eater; Transient orca; Macrophytes; Flatfish; Myctophids; Salmon; Sandlance; Juvenile pollock; Small pelagics; Herring; POP; Sablefish; Large pelagics; Phytoplankton; SSL embryo; SSL pups; Sea otters; Baleen whales; Deep L; Birds; Toothed whales; Small mammals; SSL juveniles; SSL Adults
West scotland DeepSea (1974), $\rho = 0.174007$
Large zooplankton; Polychaetes; Prawns and shrimp; Other benthic inverts; Echinoderms; Intermediate sharks; Shallow sharks; Kaups arrowtooth eel; Small zooplankton; Gelatinous plankton; Monkfish; Cephalopods; Blue ling; Deep sharks; Large demersals; Mesopelagic fish; Benthopelagic fish; Ling; Blue whiting; Megrim L. whiffiagonis; Skates and rays; Black scabbard fish; Phytoplankton; Greater forkbeard; Chimeras; Coryphanoides S; Bulls eye black cardinalfish; Orange roughy; Bairds smoothhead; Argentine; Coryphanoides L; Cetaceans; Benthic teleosts
West Florida Shelf (1985), $\rho = 0.173017$
anthozoans; microbes; mullet; sessile epibenthos; herbivorous zooplankton; meiobenthos; omnivorous zooplankton; small infauna; mobile epifauna; gastropods; ichthyoplankton; carnivorous zooplankton; echinoderms; large crabs; squid; stomatopods; offshore demersal carnivores; jellyfish; reef invertivores; demersal omnivores; bivalves; shrimp; reef planktivores; nearshore demersal carnivores; medium reef omnivores; nearshore small pelagics; sardine herring scad; small reef omnivores; vermilion snapper; reef crustacean eaters; reef carnivores; pelagic piscivores; offshore small pelagics; king mackerel adult; small sharks and rays; other snapper; other SWG; pelagic sharks; coastal piscivores; lionfish juv; gray triggerfish; black sea bass; red porgy; Spanish mackerel adult; red grouper 5+; seabirds; red grouper 0; red snapper 0; macroalgae; phytoplankton; hogfish; red grouper 2; red grouper 1; grey snapper; red grouper 3; goliath grouper; red snapper 1-2; red grouper 4; gag 0; king mackerel juv; red snapper 3+; other DWG; cobia; blueline tilefish; yellowedge grouper; gag 3; scamp; lionfish adult; gag 1; coastal dolphins; gag 2; gag 4; Spanish mackerel juv; golden tilefish; black grouper; gag 5+; greater amberjack; offshore dolphins; large demersal sharks; microphytobenthos; seagrass
Kaloko Honokohau (2005), $\rho = 0.171243$
Sharks and jacks; Zooplankton; Corals; Benthic Invts; Urchins; Octocoral; Zoo; Detritivores; Herbivores; MIF; Sea birds; Piscivores; Green sea turtles; Turf algae; CCA; Macroalgae; Phytoplankton; Crown of thorns; Corallivores; SIF; Spinner dolphins; Monk seals; Turf algae LB; Rays; Hawksbills
Northern British Columbia (1950), $\rho = 0.169504$
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Carnivorous jellyfish; Epifaunal invertebrates; Forage fish; Infaunal carnivorous invertebrates; Infaunal invertebrate detritivores; Commercial shrimp; Juvenile lingcod; Odontocetae; Corals and sponges; Small squid; Squid; Juvenile Pacific cod; Juvenile turbot; Large crabs; Shallowwater benthic fish; Adult picivorous rockfish; Adult sablefish; Dogfish; Adult turbot; Skates; Adult Pacific cod; Juvenile halibut; Adult lingcod; Adult halibut; Phytoplankton; Copepods; Euphausiids; Seals, sea lions; Eulachon; Adult herring; Small crabs; Juvenile herring; Juvenile pollock; Seabirds; Juvenile sablefish; Juvenile POP; Mysticetae; Juvenile planktivorous rockfish; Adult POP; Juvenile flatfish; Juvenile picivorous rockfish; Adult flatfish; Ratfish; Adult planktivorous rockfish; Pollock; Chinook salmon; Coho salmon; Inshore rockfish; Macrophytes; Transient salmon; Sea Otters
Yucatan (1987), $\rho = 0.165533$
Annelids; Microcrustacean; Octopus; Shrimps; Zooplankton; Other mollusks; Red grouper; Benthic prod.; Crabs; Sharks; Herrings; Grunts; Snappers; Mojarra; Phytoplankton; Lobsters; Seatrout; Porgies; Jacks; King mackerel
Prince William Sound (1994), $\rho = 0.164979$
Shal Sm Epibent; Shal sm Infauna; Deep Epibent; Shal Lg Epibent; Rockfish; Sharks; Shal lg infauna; Deep Lg Infauna; Meiofauna; Deep sm infauna; Deep demersals; Pinnipeds; Transient Orca; Seabirds; Avian Predators; Pollock 1+; Sablefish; Pac. Cod; Halibut; Herbi-Zooplankt; Omni-zooplankto; Near Omni-zoo; Near Herbi-zoo; Salmon Fry 0-12; Porpoise; Adult Salmon; Nshore Demersal; Juv. Herring; Adult Herring; Sandlance; Eulachon; Pollock 0; Capelin; Jellies; Squid; Baleen Whales; Lingcod; Resident Orca; Macroalgae/gras; Near Phytoplktn; Offshore Phyto.; Invert-eat Bird; Sea otters; Juv. Atooth.; Adult Atooth
Northern Californian Current (1990), $\rho = 0.164840$
amphipods; cephalopods; pandalid shp; juv rock; mackerel; infauna; epibenthic; benthic shp; small flat; benthic fish; dungeness; sablefish; tanner crb; halibut; sperm whales; macrourids; lsthorny; shelf rock; carniv-zoops; micro-zoop; small jellies; arrowtooth; salmon; phytoplankton; copepods; euphausiids; orcas; mesopelagics; forage fish; coastal sharks; dogfish; sea lions; toothed whales; lingcod; harbor seals; fur seals; rex; large jellies; juv flat; juv round; hake; ssthorny; gulls; sardine; english; dover; albacore; skates; grey whales; canary; slope rock; POP; juv thorny; widow; yellowtail; baleen whales; black; petrale; murres; shearwaters
South Benguela (1600), $\rho = 0.161542$
Microzooplank.; Gelatinous zoo.; Macrobenthos; Benthicdemers; Meiobenthos; SmallM.parad; Snoek; LargeM.capens; Phytoplankton; Mesozooplank.; Macrozooplank.; SmallM.capens; Seals; Apexchond; Pelagicchond; Cephalopods; Pelagicdemers; Ad.hmack.; Otherlargepel; Seabirds; LargeM.parad; Cetaceans; Chubmackerel; Benthicchond; Benth.producers; Sardine; Anchovy; Othersmallpel; Juv.hmack.; Redeye; Mesopelagics
South Benguela (1900), $\rho = 0.161542$
Microzooplankto; Gelatinous zoop; Macrobenthos; Benthic-feedi23; Meiobenthos; Small M. parado; Snoek; Large M. capens; Phytoplankton; Mesozooplankton; Macrozooplankto; Small M. capens; Seals; Apex chondricht; Pelagic-feeding; Cephalopods; Pelagic-feedi22; Adult horse mac; Other large pel; Seabirds; Large M. parado; Cetaceans; Chub mackerel; Benthic-feeding; Benthic produce; Sardine; Anchovy; Other small pel; Juvenile horse; Redeye; Mesopelagics
South Benguela (1978), $\rho = 0.161542$
Microzooplank.; Gelatinous zoo.; Macrobenthos; Benthicdemers; Meiobenthos; SmallM.parad; Snoek; LargeM.capens; Phytoplankton; Mesozooplank.; Macrozooplank.; SmallM.capens; Seals; Apexchond; Pelagicchond; Cephalopods; Pelagicdemers; Ad.hmack.; Otherlargepel; Seabirds; LargeM.parad; Cetaceans; Chubmackerel; Benthicchond; Benth.producers; Sardine; Anchovy; Othersmallpel; Juv.hmack.; Redeye; Mesopelagics
South of Benguela (1960), $\rho = 0.161542$
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Microzooplankto; Gelatinous zooz; Macrobenthos; Benthic-feedi23; Meiobenthos; Small M. parado; Snoek; Large M. capens; Phytoplankton; Mesozoozooplank; Macrozoozooplan; Small M. capens; Seals; Apex chondricht; Pelagic-feeding; Cephalopods; Pelagic-feedi22; Adult horse mac; Seabirds; Other large pel; Large M. parado; Cetaceans; Chub mackerel; Benthic-feeding; Benthic produce; Sardine; Anchovy; Other small pel; Juvenile horse; Redeye; Mesopelagics
Northern Benguela (1956), $\rho = 0.159211$
Mesozooplankton; Macrobenthos; Cephalopods; Jellyfish adults; Anchovy adults; Sardine adults; A hake; Other demersals; Crabs; Gobies adults; Macrozooplankton; Snoek; Seals; Sharks; Mesopelagics; Other sm pelagics; J hake; Phytoplankton; Juv. h mackerel; Adult h mackerel; Benthic producers; Birds; Monkfish; Anchovy juvs; Gobies juvs; Jellyfish juvs; Sardine juvs; Lobster; Other linefish; Tuna; Marine Mammals
Humboldt Current (1995), $\rho = 0.149248$
Microzooplankton; macrobenthos; horse mackerels; large hake; medium sciaenids; jumbo squid; butter fishes; gelatinous zooplankton; catfish; conger; mesozooplankton; macrozooplankton; anchovy; Diatoms; medium demersal fish; small hake; small demersals; benthic elasmobranchs; other small pelagics; mackerels; medium hake; other cephalopods; Dino and silicoflagellates; pinnipeds; sardine; seabirds; sea robin; mesopelagics; other large pelagics; flatfishes; cetaceans; chondrichtlyans
Western Channel (1993), $\rho = 0.146664$
Mesozooplankton; deposit feeders; Bivalves; Scallops; Echinoderms; Shrimp and Praw; Crab; suspension feed; Cephalopods; Commercial crab; Cod Juv; Small demersals; Sharks; Microzooplankton; Pollack; Scad; Sprat; Mackerel; Small gadoids; Herring; Pilchard; Whiting Juv; Sandeels; Seals; Cod Ad; Dab; Lobster; Lemon Sole; Dogfish; Hake; Whiting Ad; John Dory; Seabreams; Rays; Seabirds; Primary produce; Plaice Ad; Plaice Juv; Sole Juv; Sole Ad; Whelk; Basking shark; Marozooplankton; Mullet; Gurnards; Bass; Large Flatfish; Large bottom; Monkfishes; Toothed cetaceans
Western Channel (1973), $\rho = 0.146664$
Mesozooplankton; deposit feeders; Bivalves; scallops; Echinoderms; Shrimp and Praw; Crab; suspension feed; Cephalopods; Commercial crab; Cod Juv; small demersals; Sharks; Microzooplankton; Pollack; Scad; Sprat; Mackerel; small gadoids; Herring; pilchard; Whiting Juv; Sandeels; seals; Cod Ad; Dab; lobster; Flatfish 1; Dogfish; Hake; Whiting Ad; John Dory; Seabreams; Rays; seabirds; Primary produce; Plaice Ad; Plaice Juv; Sole Juv; Sole Ad; Whelk; Basking shark; Marozooplankton; mullet; Gurnards; Bass; Flatfish 2; Large bottom; Monkfishes; toothed mammals
Santa Pola Bay (2001), $\rho = 0.145762$
Bivalvos; Copepodos planct.; Anfipodos; Misidaceos; Poliquetos; Gastropodos; Crabs; Cefalópodos; Shrimps; Equinodermos; Pomatomus saltarix; Sphyraena sphyraena; Seriola dumerilii; juv. T. mediterraneus; Serranus; juv. T. ovatus; Trachurus mediterraneus; juv Pelag. planct.; S. scrofa; A regius cultiv.; D. labrax cultiv.; Mugilidae; Sardinella aurita; S. aurata cultiv.; S. aurata salvaje; Trachinotus ovatus; Boops boops; Pelágicos planctivoros; Mullus surmeletus; Sparidae; Algas; Fitoplancton; juv. Mugilidae; juv. B. boops; juv Sparidae; Myliobatis aquila; juv S. aurata; G. buccichi; Balistes capriscus
Chesapeake (1950), $\rho = 0.142525$
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Other in/epi fauna; Littoral forage fish; Reef assoc. fish; Atl. croaker; Other suspension feeders; Spot; Non reef assoc. fish; Blue crab YOY; American eel; Other flatfish; Blue crab adult; Black drum; Hard clam; Weakfish Adult; Soft clam; Non-piscivorous seabirds; American shad; Mesozooplankton; Microzooplankton; Oyster 1+; Phytoplankton; Piscivorous birds; Bay anchovy; Menhaden adult; Striped bass migratory; Menhaden 0-1; Striped bass resident; Catfish; Summer flounder; Sandbar shark; Ctenophores; White perch YOY; Benthic algae; SAV; Gizzard shad; Alewife and herring; Other elasmobranchs; White perch adult; Striped bass YOY; Bluefish adult; Sea nettles; Bluefish YOY; Weakfish YOY; Oyster YOY
Rocky shore, Monterey Bay, California, $\rho = 0.142209$
other phytoplankton; Suidasia sp.; Acmaea pella; Tegula funebralis; Acmaea digitalis; Acmaea scabra; Littorina planaxis; Littorina littorea; Diaulota densissima; Cyanoplar dientens; Dynamenella; Lasaea cistula; zooplankton; Mytilus califomianus; Pagurus samuelis; Chthamalus dalli, C. microtretus; Filicrisia franciscana, Musculus; Ptilocercus ; diatoms, blue-green algae; Gigartina; Endocladia muricata; Perinereis monterea; Nereis grubei; Notoplana acticola; Syllis vittata; Nemenopsis gracilis; Syllis spencer; Thais emarginata; Acanthina spirata; Rhombognathus; Tipulidae; Pachygrapsus; Emplectonema gracili; Balanus glandula
Northern Humboldt Current (1997), $\rho = 0.142045$
Microzooplankton; macrobenthos; gelatinous zooplankton; horse mackerels; medium sciaenids; catfish; benthic elasmobranchs; conger; small hake; mesozooplankton; macrozooplankton; anchovy; Diatoms; mackerels; medium demersal fish; jumbo squid; chondrichtlyans; small demersals; other small pelagics; sardine; mesopelagics; other cephalopods; sea robin; Dino and silicoflagellates; butter fishes; pinnipeds; medium hake; other large pelagics; seabirds; cetaceans; flatfishes; large hake
Falkland Islands (1990), $\rho = 0.132328$
benthic crustaceans; small demersal; grenadier; small cephalopods; dogfish; codling; small zoobenthos; large zoobenthos; hagfish; toothfish ad; rays and sharks; krill; Herbivorous zooplank; carnivorous zooplank; seals and sea lions; toothed whales; jellyfish; hoki juv; hoki ad; penguins; large bathydemersal fish; myctophidae; merluccius hubbsi; large cephalopods; merluccius australis; rock cod; pelagic fish; patagonian squid; baleen whales; Phytopl; small bathydemersal fish; flounder; shorebirds; large demersal; southern blue whiting ad; snoek ad; southern blue whiting juv; toothfish juv; illex squid; basking shark; bathypelagic fish; seabirds; snoek juv
Crystal River Creek - Delta Temp, $\rho = 0.131519$
benthic invertebrates; bay anchovy; zooplankton; sheepshead killifish; goldspotted killifish; silverside; moharra; mullet; gulf killifish; microphytes; macrophytes; molly; catfish; longnosed killifish; spot; black drum; red drum; pinfish; stingray; needlefish
Cypress Dry Season, $\rho = 0.125725$
Ter. Invertebrates; Aquatic Invertebrates; Mink; Living POC; Living sediment; Vultures; Tadpoles; Crayfish; Apple Snail; Prawn; Black Bear; Opossum; Hogs; Small Fish, herb + omniv; Small Fish, prim. carniv; Snakes; Turtles; Alligators; Other herons; Raccoon; Armadillo; Mice Rats; G. Fox; Understory; Hardwoods Leaves; Bobcat; Medium Frogs; Lizards; Small Frogs; Salamanders; Passeriformes onniv.; Passeriformes pred.; Large Fish; Squirrels; Rabbits; Anseriformes; Large Frogs; White-Tailed Deer; Salamander L; Galliformes; Woodpeckers; Hummingbirds; Caprimulgiformes; Bats; Shrews; Otter; Egrets; Great blue heron; Wood stork; Gruiformes; Florida Panther; Owls; Kites Hawks; Pelecaniformes; White ibis; Phytoplankton; Float. vegetation; Periphyton/Macroalgae; Macrophytes; Epiphytes; Vine Leaves; Cypress Leaves; Cypress Wood; HW Wood; Roots
Central Chile (1998), $\rho = 0.120181$
Continued on next page

Table 3 – continued from previous page

Carrot prawn (a); Carrot prawn (j); Yellow prawn; Chilean hake (j); Chilean hake (a); Copepopds; Phytoplankton; Euphausiids; Sea Lion; Anchovy (a); Anchovy (j); Pilchard (a); Pilchard (j); Rattail fish; Skates; Pacific sand perch; Big-eye flounder; Horse mackerel; Cardinal fish; Black conger
Cypress Wet Season, $\rho = 0.118429$
Terrst. I; White ibis; Aquatic I; Raccoon; Living POC; Living SED; Vultures; Tadpoles; Prawn; Crayfish; Apple Snail; Black Bear; Opossum; Fish HO; Fish PC; Snakes; Alligators; Turtles; G Fox; Mice Rats; Understory; Hardwood L; Salamanders; Anseriformes; M Frog; S Frog; Rabbits; Passeriformes onniv.; Lizards; Squirrels; Passeriformes pred.; L Fish; Galliformes; Other Herons; Egrets; Florida Panther; L Frog; White-Tailed Deer; Salam. L; Hogs; Hummingbirds; Woodpeckers; Armadillo; Caprimulgiformes; Bats; Shrews; Bobcat; Otter; Mink; Kites Hawks; Owls; Pelecaniformes; GB Heron; Wood stork; Gruiformes; Phytoplankton; Float Veg.; Periphyton; Macrophytes; Epiphytes; Vine L; Cypress L; Cypress W; Hardwood W; Roots
British Columbia coast (1950), $\rho = 0.118322$
other benthos; shrimps; misc. small pelagics; misc. small demersals; crabs; echinoderms; bivalves; sablefish ad.; carn. zooplankton; krill; herb. zooplankton; jellies; small squids; arrowtooth ad.; dogfish; sea lions; myctophids; chinook; pollock ad.; herring ad.; herring juv.; pollock juv.; seals; odontocetae; P. halibut ad.; lingcod; pelagic sharks; salmon shark; P. halibut juv.; Pac. hake; large squids; Pac. Ocean perch; macrophytes; phytoplankton; rajidae / ratfish; yellowfin sole; rock sole; flatfish other; mysticetae; birds zooplanktiv; rockfish other; P. cod ad.; P. cod juv.; arrowtooth juv.; sablefish juv.; sockeye; coho; birds pelag pisciv; birds demer pisciv; misc. pred. pelagics; chum; pink
East Bass Strait (1994), $\rho = 0.112511$
Squid; Macrobenthos; Cardinal; Megabenthos; Polychaeta; ShMedPredator; ShLPredator; ShSmPredator; ShMedInvertFeeder; SlopeMPredator; Pelagic sharks; Primary producers; Sm zooplankton; Mesopelagics; Toothed whale; L zooplankton; Gelatinous nekton; Euphausids; Demersal sharks; PelagicPrawns; Redfish; SlopeLPredator; Seal; ShSmInvertFeeder; SlopeSmPredator; Flathead; PelSmInvertFeeder; SlopeSmInvertFeeder; Cucumberfish; Redbait; SlopeMInverFeeder; Blue grenadier; Jack mackerel; SlopeLInvertFeeder; Warehous; Whiting; SlopeOceanPerch; Seabirds; PelMInvertFeeder; ShLInvertFeeder; Rays; PelMPredator; Benthic producer; PelLInvertFeeder; Jackass morwong; Oreos; Baleen whale; Deepsea Cod; Blue-eye trevalla; PelLPredator; Chinaman leatherjacket; ShOceanPerch; Penguins; Ling; Tuna/billfish; Dories; Gemfish
Charca de Maspalomas, $\rho = 0.112245$
Benthic Deposit Feeders; Benthic Microfauna; Liza Aurata; Dicentratus punctatus; Pelagic Bacteria; Microzooplankton; Mesozooplankton; Diplodus Sargus; Cyanobacteria; Eukaryotic Phyto; Gallinula chloropus; Benthic Suspension Feeder; Macrozooplankton; Chara globularis; Ruppia Maritima; Cladophora; Periphyton; Benthic Invertebrate Car.
North East Pacific (1950), $\rho = 0.111416$
other benthos; shrimps; misc. small pelagics; misc. small demersals; crabs; echinoderms; bivalves; sablefish ad.; carn. zooplankton; krill; herb. zooplankton; jellies; small squids; arrowtooth ad.; odontocetae; sea lions; salmon shark; myctophids; seals; lingcod; pollock juv.; dogfish; P. halibut ad.; pelagic sharks; herring ad.; herring juv.; P. halibut juv.; Pac. hake; Pac. Ocean perch; P. cod ad.; large squids; pollock ad.; rockfish other; macrophytes; phytoplankton; northern rockfish; plaice; rajidae / ratfish; yellowfin sole; rock sole; flatfish other; mysticetae; birds zooplanktiv; atka mackerel; P. cod juv.; arrowtooth juv.; sablefish juv.; sockeye; chinook; coho; birds pelag pisciv; birds demer pisciv; misc. pred. pelagics; chum; pink
Strait of Georgia (1950), $\rho = 0.106097$
Continued on next page

Table 3 – continued from previous page

other benthos; crabs; misc. small demersals; shrimps; bivalves; echinoderms; sablefish ad.; carn. zooplankton; krill; herb. zooplankton; jellies; herring ad.; misc. small pelagics; small squids; pollock ad.; dogfish; myctophids; herring juv.; flatfish other; sea lions; arrowtooth ad.; odontocetae; seals; P. halibut ad.; pelagic sharks; salmon shark; lingcod; P. halibut juv.; pollock juv.; Pac. hake; birds pelag pisciv; rockfish other; large squids; macrophytes; phytoplankton; rajidae / ratfish; yellowfin sole; Pac. Ocean perch; rock sole; mysticetae; birds zooplanktiv; P. cod ad.; P. cod juv.; arrowtooth juv.; sablefish juv.; chinook ad.; coho ad.; sockeye; birds demer pisciv; misc. pred. pelagics; chum; coho juv.; pink; chinook juv.
Northern Californian Current (1960), $\rho = 0.105776$
zooplankton; forage fish and mesopels; benthic invertebrates; shrimps; cephalopods; abalone adult; abalone juvenile; benthic fish; hake; jellyfish; flatfish; sardine; crabs; widow rockfish juvenile; cabezon juvenile; Phytoplankton; cabezon larvae; lingcod larvae; nearshore rockfish larvae; shortbelly rockfish larvae; widow rockfish larvae; lingcod juvenile; mackarel; widow rockfish adult; nearshore rockfish adult; nearshore rockfish juvenile; cabezon adult; shortbelly rockfish juvenile; shortbelly rockfish adult; salmon; dogfish; sablefish; seals and sealions; lingcod adult; Macroalgae
Arctic seas, $\rho = 0.102912$
phytoplankton; benthonic invertebrates; bacteria; larger zooplankton; Greenland shark; killer whale; caplin; smaller zooplankton; benthoni vertebrates; narwhal; walrus; bearded seals; beluga; right whales; clupeid fishes; rorquals; artic char; ringed seal; cod; harp seal; harbour seal
Shallow sublittoral, Cape Ann, Massachusetts, $\rho = 0.099548$
annelids; Myoxocephalus; Pomatomus, Poronatus; isopods, Gammarus, Caprella; Crago; Pagurus, Cancer; plankton and detritus; Polinices; Fundulus, fish fry; macroalgae; Mytilus, Gemma; Scomber, Qupea; Loligo; Chalina; Abietinaria, Sertularia, Metridium; Lichenophora; Littorina littorea; Strongylocentrotus; Limulus; Raja; Asterias; Phoca; Sterna
Ythan estuary, Aberdeenshire, Scotland, $\rho = 0.096430$
Continued on next page

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Flounder Platichthyes fiesus; Corophium volutator; Ragworm Nereis diversicolor; Barnacles Semibalanus balanoides; Gammurus sp.; Hydrobia ulvae; Macoma balthica; Mytilus edulis; Cerastoderma edule; Nematodes; Brown shrimp Crangon crangon; Ostracods; Brown shrimp Crangon crangon; Oppossum shrimp Neomysis integer; Formaifera; Butterfish Pholis gunnellus; Viviparous blenny Zoarces viviparous; Fatherlasher Myxocephalus scorpius; Calanoid copepods; Harpacticoid copepods; Sand goby Pomatoschistus minutus; Sandeel Ammodytes tobianus; Common goby Pomatoschistus microps; Jaera albifrons; Talitrus saltator; Bathyporeia pilosa; Idotea emariginata; Eurydice pulchra; Nototropis sp.; Pygospio elegans; Manayunkia aestuarina; Parathemisto sp.; Capitella capitata; Arenicola marina; Chironomidae; Aricia sp.; Mya arenaria; Dipteran larvae; Acarina; Hesionidae; King ragworm Nereis virens; Phyllodoce mucosa; Littorina littorea; Herring Clupea harengus; Spratt Sprattus sprattus; Eel Anguilla anguilla; Podocotyle staffordi; Redshank Tringa totanus; Saithe Pollachius virens; Common gull Larus canus; Herring gull Larus argentatus; Enteromorpha; Oystercatcher Haematopus ostralegus; Catatropis verrucosa; Black headed gull Larus ridibundus; Levinseniella brachysoma; Amidostomum sp.; Five bearded rockling Ciliata mustella; Maritrema gratiosum; Trout Salmo trutta; Hysterothylacium aduncum; Spelotrema claviforma; Cryptocotyle lingua; Himasthla elongata; Profilicollis botulus; Haploparaksis crassirostris; Littorina saxatilis; Renicola roscovita; Maritrema subdolum; Levinseniella sp. no.17; Psilostomum brevicolle; Eteone longa; Hymenolepis sp. 1; Cercariae lebouri; Cryptocotyle jejuna; Himasthla continua; Maritrema oocysta; Microphallid sp. no.15; Notocotyledae sp. no.14; Himasthla interrupt; Ophryocotyle insignis; Parvatrema affine; Apophallus lerouxi; Maritrema humile; Tubificoides benedini; Tubifex costatus; Phytoplankton; Brown algae; Mute swan Cygnus olor; Wigeon Anas penelope; Hyale nilssoni; Alderia modesta; Eider Somateria mollissima; Shelduck Tadorna tadorna; Echinorynchus gadi; Turnstone Arenaria interpres; Retusa obtusa; Lapwing Vanellus vanellus; Eider juvenile; Three-spined stickleback Gasterosteus aculeatus; Flounder juvenile; Plaice juvenile Pleuronectes platessa; Rook Corvus frugilegus; Crow Corvus corone; Nilsson's pipefish Sygnathus rostellatus; Ringed plover Charadris hiaticula; Golden plover Pluvialis apricaria; Grey plover Pluvialis squatarola; Dunlin Calidris alpina; Curlew Numenius arquata; Pogge Agonus cataphractus; Cormorant Phalacrocorax carbo; Great black-backed gull Larus marinus; Lacunovermis macomae; Cucullanus minutus; Pomphorynchus sp.; Corynosoma strumosum; Cestode sp.1; Lecithaster gibbosus; Tetraphyllidean larvae; Heron Ardea cinerea; Cucullanus heterochrous; Derogenes varicus; Hemiuris communis; Bar-tailed godwit Limosa lapponica; Opacelididii sp.; Otter Lutra lutra; Anisakis sp.; Zoogonoides viviparus; Spiruroid larvae; Sandwich tern Sterna sandvicensis; Common tern Sterna hirundo; Arctic tern Sterna paradise
Little Rock Lake, Wisconsin, $\rho = 0.092640$
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Alona affinis; Alona quadrangularis; Alona rustica; Alona intermedia; Alonella excisa; Disparalona acutirostris; Chydorus sp1; Chydorus sp2; Acantholeberis curvirostris; Ophryoxus gracilis; Scapholeberis kingi; Sida crystallina; Tanytarsus; Oligochaete; Cyclopoid *copepodids; Harpacticoid copepods; Harpacticoid copepodids; Sphaeromais; Leptophlebia; Caenis; Limnephilus; Polycentropus; Chaetocladius; Corynoneura; Cricotopus; Nanocladius; Micropsectra; Paratanytarsus; Chironomus; Cladopelma; Endochironomus; Glyptotendipes; Microtendipes; Paratendipes; Pseudochironomus; Stenochironomus; Stictochironomus; Bivalvia; Campeloma decisum; Sphaeriidae; Spongilla lacustris; Ephydatia muelleri; Corvomyenia everetti; Epischura lacustris; Parachironomus; Polypedilum; Crangonyx gracilis; Hirudinea; Gyrinus; Largemouth bass (Micropterus salmoides); Largemouth bass (Micropterus salmoides); Leptodora kindtii; Polyphemus pediculus; Mudminnow (Umbra); Black crappie (Pomoxis nigromaculatus); Yellow perch (Perca flavescens); Rock bass (Ambloplites rupestris),; Rock bass (Ambloplites rupestris); Yellow perch (Perca flavescens); Black crappie (Pomoxis nigromaculatus); Asplanchna; Shiner (Notemigonus crysoleucus); Tropocyclops prasinus; Cryptochironomus; Diaptomus *bithomasi; Mesocyclops edax; Diaptomus minutus; Gerris; Veliidae; Notonectids; Daphnia galeata mendotae; Daphnia parvula; Diaphanosoma birgei; Holopedium gibberum; Ablabesmyia; *Djalmabatista; Guttipelopia; Bosmina longirostris; Eubosmina; Larsia; Chroococcus; Merismopedia; Gomphosphaeria; Rhabdoderma; Aphanothece; Crucigenia; Euastrum; O"cystis; Schroederia; Tetra‰dron; Ankistrodesmus; Elaktothrix; Scenedesmus; Chroomonas; Cryptomonas; Clinotanypus; Macropelopis; Procladius; Eucyclops serrulatus; Acanthocyclops; Xenochironomus; Chaoborus *albatus; Chaoborus *punctipennis; Bezzia; Macrocyclops albidus; Microcyclops rubellus; LEPIDOPTERA Pyralidae eoparagyractis; Fish eggs; Hydroporus; Bambusina; Batrachospermum; Binuclearia; Bulbochaete; Desmidium; Geminella; *Greonbladia; Hapalosiphon; Hyalotheca; Lyngbya; Microchaete; Microcoleus; Mougeotia; Oedogonium; Oscillatoria; Phormidium; Plectonema; Radiofilum; Rhizoclonium; Schizothrix; Scytonema; Sphaerozosma; Spirogyra; Tribonema; Zygnema; Gloeothece; Aphanocapsa; Coelosphaerium; Anabaena; Arthrodesmus; Cosmarium; Pediastrum; Quadrigula; Spondylosium; Staurastrum; Xanthidium; Phacus; Trachelomonas; Asterionella; Dinobryon; Mallomonas; Synedra; Synura; Tabellaria; Conochilus unicornis; Conochiloides; Kellicottia longispina; Kellicottia bostoniensis; Keratella cochlearis; Keratella taurocephala; Keratella crassa; Keratella hiemalis; Polyarthra remata; Polyarthra vulgaris; Trichocerca cylindrica; Gastropus; Synchaeta; Nauplii; Calanoid *copepodids; Oecetis; Mystacides; Agrypnia; Climacia; Tricladida; Enallagma; Anisoptera epitheca; Libellula; Sympetrum; Hydracarina; Banksiola; Molanna; Sialis
Tasek Bera swamp, Malaysia, $\rho = 0.081756$
bacteria, fungi; detriuvorous invertebrates; detritivorous fishes; carnivorous fishes; emergent herbivorous insects; benthic carnivores; snakes; invertebrate defoliators; benthic herbivores; emergent carnivorous insects; periphyton; submerged macrophytes; vertebrate herbivores; spiders; phytoplankton; Utricularia; Pandanus; swamp forest; zooplankton; herbivorous fishes; shrimps; carnivorous invertebrates; frogs; swallows; Martin pescatore
Swamp, south Florida, $\rho = 0.074074$
insect larvae; crayfish; plecopterans, odonates, hemipterans; cyprinodontids; amphipods; bobcats; snakes, turtles; centrarchids; dipterans; alligators; phytoplankton, periphyton; vascular plants; coleopterans; pickerel; copepods; coadocerans; waterfowl, marsh rabbits, deer, water rat; mosquitofish; hemipterans; raccoons; bowfin; gar; opossum; Accipitridae; egrets; herons, ibises
Chesapeake Bay Mesohaline, $\rho = 0.063669$
bacteria in sediment poc; zooplankton; blue crab; bay anchovy; menhaden; ctenophores; free bacteria; mya arenaria; bacteria in suspended poc; ciliates; spot; phytoplankton; other polychaetes; nereis; crustacean deposit feeder; oysters; other suspension feeders; benthic diatoms; heterotrophic microflagel; alewife
Continued on next page

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blue herring; sea nettle; weakfish; meiofauna; macoma spp.; fish larvae; shad; striped bass; hogchoker; white perch; summer flounder; croaker; catfish; bluefish
St. Marks River (Florida), $\rho = 0.061475$
Benthic bact; Bacterio plankton; Micro protozoa; Predatory polycht; Predatory gastropod; Benthic algae; Omnivorous crabs; Zooplankton; Microfauna; Micro-epiphytes; Halodule; Predatory shrimp; Meiofauna; Spot; Pinfish; Atl. silverside bay anc; Benthos-eating birds; suspension-feed molluscs; Sheepshead minnow; Herbivorous shrimp; Epiphyte-graz amphipods; Hermit crab; Deposit feed amphipods; Macro-epiphytes; Deposit-feed polycht; Phytoplankton; Isopod; Spider crab; Killifish; Gulf flound needle fish; Deposit-feed gastropod; Blue crab; Gobies blennies; Southrn hake sea robins; Catfish stingrays; Epiphyte-graz gastropod; Other gastropods; Suspension-feed polychts; Detritus feed crust.; Brittle stars; Tongue fish; Pipefish seahorses; Red Drum; Herbivorous ducks; Gulls; Fish crust. eating bird; Fish-eating birds; Raptors
Salt meadow, New Zealand, $\rho = 0.043401$
amphipods; collembola; mites; fungi; harpacticoids; staphylinids; dipterous larvae; haplotaxid worms; oribatids; leaves; Dotterel; roots; phytophagus nematodes; rabbits; flowers; rotifers; parasitic hymenopterous larvae; seeds; algae; bacteria; weevil larvae; coccids; lepidopterus larvae; other hemiptera; Uromyces scaevolae; bumblebees; adult hymenopterans; tartigrades; Trichostrongylus retortaeformis; Graphidium strigosum; Passalurus ambiguus; stoats; ants; carnivorous namatodes; trombidiform mites; spiders; Hymenolepididae; nematode; analgesid mites; other mites; lice; redpolls; starlings; harrier hawks

We report how the reachable pairs changes in the top 3 and bottom 3 food webs sorted by robustness in Figure 1.

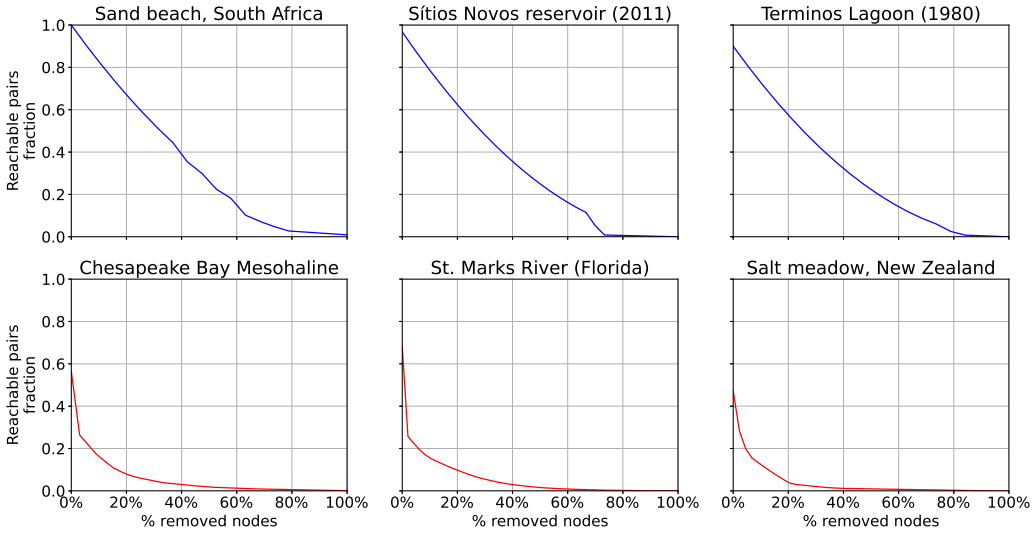

Figure 1: Variation in the fraction of reachable pairs vs. percentage of removed nodes for 6 different web food ordered by robustness value. The top three graphs refer to the three most robust food webs, the bottom three to the three least robust food webs.

3.1 Variability of trophic level of critical nodes and species feeding on non-living compartments

We first investigated what is the role of the most critical nodes within the food webs. In Figure 2 we have graphed the distributions of the normalised trophic levels of the top 5 most critical species. The normalisation is done by mapping the trophic levels of these nodes in the interval $[0, 1]$, where 0 corresponds to the lowest trophic level in the network and 1 to the highest level. We chose this normalisation in order to make these results comparable. In the fugure, we grouped the data by food web, sorting them according to the value of their robustness. We note that in the most robust food webs have little variability in trophic level and remain at the highest end, while in the less robust food webs we measure great variability in trophic level of the most critical species occupy the lower trophic levels. However, since in choosing the most critical sequences we select those nodes that once removed most rapidly decrease the fraction of reachable pairs, it is fair to expect that in less robust networks there will be nodes specialised in exporting biomass from the lowest part of the food webs (i.e. from the lowest trophic level species) to the top of the food webs.

Table 4: Pearson correlation coefficients between the robustness of each network (ρ_G) and the normalized trophic level of the top 5 critical nodes (s_1^G,s_2^G,s_3^G,s_4^G,s_5^G). The **AVG** represents the correlation of the average normalized trophic level of these top 5 nodes, while **STD** refers to the correlation of the variability (standard deviation) in trophic level among these critical nodes.

Variable	ρ_G
s_1^G	0.110633
s_2^G	-0.228810
s_3^G	-0.283943
s_4^G	-0.333114
s_5^G	-0.056993
AVG	-0.260360
STD	-0.475258

3.2 Critical nodes sequence and out-degree correlation

To assess the similarity between the node sequence list obtained through our method ($CSeq_G$) and sequences ordered by in-degree, out-degree, and combined in-degree plus out-degree, we calculated the Kendall's Tau coefficient for each comparison across networks. The table below presents the Kendall's Tau coefficients for each network, providing a measure of correlation (or lack thereof) between the node sequences. A low or negative Kendall's Tau indicates minimal correlation, highlighting the distinctiveness of the node order in $CSeq_G$. Results are shown in Table 5.

Table 5: Kendall's Tau coefficients comparing the node sequence $CSeq_G$ with sequences sorted by in-degree ($CSeq_G$ - ind), out-degree ($CSeq_G$-outd), and combined in-degree plus out-degree ($CSeq_G$ - ind + outd) for each network.

Food web name	$CSeq_G$ - ind	$CSeq_G$ - outd	$CSeq_G$ - ind + outd
Gulf of Mexico (1950)	0.102683	0.017576	0.060130
Looe Key National Marine Sanctuary (1980)	0.157895	-0.005848	-0.040936
Paraná River Floodplain (1992)	0.141700	-0.101215	0.147099

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Table 5 – continued from previous page

Food web name	$CSeq_G$ - ind	$CSeq_G$ - outd	$CSeq_G$ - ind + outd
Cypress Wet Season	0.009615	-0.004808	0.097115
Icelandic shelf (1997)	0.105263	-0.105263	-0.073684
Baie de Seine (2000)	0.041463	0.082927	-0.078049
Northern Gulf of Mexico (2005)	0.056646	0.176601	0.075157
Iceland (1950)	0.027668	-0.138340	0.027668
Sri Lanka (2000)	0.007112	0.251778	-0.027027
Ria-Lake Tapajos (2013)	-0.065954	0.030303	-0.090909
Bay of Biscay (1970)	0.050794	0.180952	-0.155556
Falkland Islands (1990)	-0.063123	-0.043189	-0.114064
Sítios Novos reservoir (2011)	-0.108046	0.098851	0.135632
Middle Chesapeake Bay	-0.339901	-0.064039	-0.472906
Jalisco and Colima Coast (1995)	-0.152381	0.022222	-0.034921
Sechura Bay (1996)	-0.242105	0.115789	0.178947
Mauritanie (1991)	-0.031837	0.098776	0.015510
Shallow sublittoral, Cape Ann, Massachusetts	0.146245	0.328063	0.059289
East Bass Strait (1994)	0.091479	0.027569	0.008772
West Florida Shelf Historic Model (1950)	0.071009	0.011307	0.005880
Malangen Fjord (2017)	0.000000	0.133065	0.076613
North South of China Sea (1970)	-0.096096	-0.009009	-0.099099
Bamboung (2003)	0.108046	-0.020690	0.172414
Crystal River Creek - Control	-0.031579	0.273684	0.136842
Greenland, West Coast (1997)	-0.495238	-0.057143	0.038095
Narragansett Bay Model	-0.040860	0.019355	0.066667
Calvi Bay (1998)	-0.218462	0.046154	-0.076923
Central Chile (1998)	-0.115789	-0.326316	0.157895
Cape Verde (1981)	-0.034483	0.057471	-0.154023
Mangrove Estuary - Dry Season	0.083761	-0.035897	-0.096947
Strait of Georgia (1950)	-0.059399	-0.060797	-0.044025
Deep Western Mediterranean sea (2009)	-0.005848	0.157895	-0.052632
Eastern Corsican Coast (2012)	0.052632	0.169275	0.052632
West scotland DeepSea (1974)	-0.102273	-0.113636	0.147727
Gulf of California (1990)	0.170455	-0.132576	0.090909
Northern Gulf of St Lawrence (1990)	0.212903	0.113978	-0.212903
Peru (1960)	-0.076023	-0.029240	0.029240
USA, South Atlantic Continental Shelf (1995)	-0.009756	-0.170732	-0.075610
Celtic Sea-Biscay (1980)	0.030030	0.108108	0.168168
Mauritania (1987)	-0.084084	-0.144144	-0.018018
Central Atlantic (1990)	-0.120120	-0.048048	0.021021
Central Baltic Sea (1974)	0.028571	-0.085714	0.085714
Tampa Bay (1950)	-0.104314	0.033725	0.091765
West Florida Shelf (1985)	0.095679	-0.098765	0.122840
Sand beach, South Africa	-0.040936	-0.146199	0.005848
Terminos Lagoon (1980)	-0.368421	0.076023	-0.052632
Contemporary Alosine (2000)	0.028433	0.050212	-0.010284

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Table 5 – continued from previous page

Food web name	$CSeq_G$ - ind	$CSeq_G$ - outd	$CSeq_G$ - ind + outd
Sierra Leone (1964)	0.047619	0.029900	-0.021041
Denmark, Faroe Islands (1997)	-0.228070	-0.333333	-0.017544
Aegean Sea (2003)	-0.022067	-0.052265	-0.005807
West coast of Sabah (1972)	0.089947	0.068783	0.084656
Hudson Bay (1970)	-0.029872	-0.012802	-0.177809
Lake Michigan	-0.049242	0.204545	0.079545
Tasmanian Seamounts Marine Reserve (1992)	-0.239130	0.456522	0.268116
Independence Bay (1996)	-0.181287	0.169591	0.192982
Western Antarctic Peninsula (1996)	-0.073084	0.297683	0.055258
Mondego Estuary - Zostrea site	0.029036	0.063879	0.112660
Lake Pyhajarvi, littoral zone, Finland	-0.169960	-0.114625	-0.011858
Central Atlantic (1950)	-0.120120	-0.048048	0.021021
Florida Bay - dry season	0.012329	0.005284	0.044303
Lake Paajarvi, littoral zone, Finland	-0.240000	0.000000	-0.020000
Lower Chesapeake Bay	0.120000	0.261538	-0.113846
Cerbère-Banyuls MPA (2013)	0.096774	-0.040719	0.105235
Cypress Dry Season	0.027885	0.025000	0.055769
Celtic Sea (1985)	0.158371	-0.039216	0.096531
Bay of Biscay (2013)	-0.078049	-0.160976	0.012195
Kaloko Honokohau (2005)	-0.013333	0.160000	-0.060000
Florida Bay (2006)	0.070707	0.048485	0.074747
West Baffin Bay, Coastal and Shelf (2016)	0.137931	-0.064039	-0.029557
Albatross Bay (1986)	0.130913	-0.013378	-0.025800
South Shetlands (1990)	0.088670	0.088670	-0.009852
North Sea (1981)	0.211640	-0.047619	0.100529
Barra Del Chuy (1992)	0.076023	0.029240	0.169591
Restored Alosine Biomass (2000)	-0.172414	0.144586	-0.017544
Gulf of Thailande (1963)	-0.100529	0.074074	-0.021164
North Benguela (1900)	0.093333	0.106667	-0.006667
Gulf of Gabes (2000)	-0.101215	-0.020243	0.136302
Sirinhaém River (2013)	0.014493	-0.231884	0.130435
Bay of Biscay (1998)	0.006349	0.060317	-0.339683
Raja Ampat (2005)	-0.017982	-0.117982	0.017105
Port Cros (1998)	-0.048718	-0.084615	-0.041026
Humboldt Current (1995)	0.161290	0.036290	-0.096774
Medes Island MPA (2000)	0.050962	0.103846	0.064423
North Sea (1974)	-0.045161	-0.058065	0.079570
Bay of Biscay (1994)	0.034483	0.034483	0.011494
Thermaikos Gulf (1998)	0.152688	0.092473	-0.156989
Northern Benguela (1956)	0.032258	0.105376	-0.277419
Australia North West Shelf (1986)	0.266667	0.133333	0.079365
Aleutian Islands (1963)	0.079622	-0.006748	-0.068826
Chesapeake (1950)	0.093023	0.042283	0.078224
Galapagos (2006)	0.004032	0.008065	0.052419
Celtic Sea (2013)	-0.169082	-0.095652	0.020290
Chesapeake Bay Mesohaline	-0.045455	0.106061	-0.162879

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Table 5 – continued from previous page

Food web name	$CSeq_G$ - ind	$CSeq_G$ - outd	$CSeq_G$ - ind + outd
North Atlantic (1950)	-0.171171	0.057057	0.156156
Northern Gulf St Lawrence (1985)	-0.079570	0.255914	-0.139785
Little Rock Lake, Wisconsin	0.055382	0.037453	-0.042979
Western Channel (1973)	-0.004082	-0.136327	0.049796
Antarctic (1970)	-0.119177	0.012704	0.059891
Bamboung (2006)	-0.016092	-0.108046	0.195402
Virgin Islands (1960)	0.147368	-0.105263	0.073684
St. Marks River (Florida)	-0.023050	0.021277	-0.111702
Florida Bay - wet season	-0.046471	-0.061645	0.022355
Santa Pola Bay (2001)	-0.031039	0.103914	0.074224
Tropical plankton community, Pacific	0.177489	-0.038961	0.012987
Upper Chesapeake Bay	0.135632	0.094253	-0.075862
Barnegat Bay (1981)	-0.292308	0.156923	0.236923
Prince William Sound (1994)	-0.056566	-0.056566	0.012121
Central Gulf of California (1978)	0.200000	0.113333	0.106667
Ythan estuary, Aberdeenshire, Scotland	0.040788	0.033269	0.051498
Irish Sea (1973)	0.046531	-0.053061	-0.113469
Jurien Bay (2007)	-0.066971	0.143836	0.052511
Northern British Columbia (2000)	0.024314	-0.101176	0.005490
North Benguela (1990)	0.093333	0.106667	-0.006667
Mount St Michel Bay (2003)	0.162055	0.201581	0.075099
Azores archipelago (1997)	-0.063123	0.133998	-0.018826
Azores (1997)	-0.069767	0.198732	0.188161
Huizache-Caimanero (1984)	-0.193333	0.020000	0.033333
Northern British Columbia (1950)	0.019608	0.126275	0.018039
USA, Mid Atlantic Bight (1995)	0.088749	0.141859	0.084556
Northern Humboldt Current (1997)	0.302419	-0.193548	-0.177419
South Benguela (1978)	0.015054	0.161290	0.221505
Sørfjord (1993)	-0.014493	0.028986	-0.007246
Sierra Leone (1990)	-0.058693	0.038760	-0.096346
Raja Ampat (1990)	-0.017544	-0.103509	0.033772
Mangrove Estuary - Wet Season	0.071551	0.041758	-0.107204
Apalachicola Bay (2000)	-0.079826	0.124819	-0.068215
South of Benguela (1960)	0.002151	0.148387	0.217204
Morocco (1985)	-0.030030	0.105105	0.006006
Sinaloa sur Mexico (1994)	0.180952	-0.073016	0.073016
Tasek Bera swamp, Malaysia	-0.120000	0.053333	0.266667
Northern Californian Current (1960)	-0.159664	0.062185	-0.028571
Port Phillip Bay (1994)	0.087121	0.068182	-0.007576
River Rheido, Wales	-0.029412	0.058824	0.191176
Mauritania (1998)	-0.021021	0.006006	0.144144
Galapagos, Floreana rocky reef (2000)	-0.094077	0.182346	0.175377
Sierra Leone (1978)	0.021041	0.014396	-0.040975
Everglades Graminoids	0.051715	-0.004608	0.168459
South East Alaska (1963)	0.095816	0.103914	0.171390
Swamp, south Florida	-0.187692	0.027692	0.058462
Sonda Campeche Act (1988)	-0.050725	-0.065217	0.094203

Continued on next page

Table 5 – continued from previous page

Food web name	$CSeq_G$ - ind	$CSeq_G$ - outd	$CSeq_G$ - ind + outd
Salt meadow, New Zealand	-0.169133	0.224101	0.156448
Celtic Sea (1980)	-0.078261	-0.047343	-0.230918
Alto Golfo de California	-0.005291	0.185185	-0.137566
North Atlantic (1997)	-0.123123	-0.063063	-0.006006
Crystal River Creek - Delta Temp	-0.105263	0.221053	0.084211
South Benguela (1600)	0.015054	0.161290	0.221505
Western Tropical Pacific Ocean (1990)	0.040936	0.017544	0.099415
North East Pacific (1950)	0.045118	-0.008754	-0.070707
West Scotland (2000)	-0.009524	0.028571	-0.053968
Western Channel (1993)	-0.077551	-0.160816	0.090612
Gulf of Carpentaria (1990)	-0.029536	0.185979	0.117170
North Benguela (1967)	0.093333	0.106667	-0.006667
Ningaloo (2007)	-0.123265	-0.190204	-0.082449
Bay of Biscay (1980)	-0.070732	0.007317	-0.036585
Peru (1953)	-0.005848	0.087719	0.146199
Guinea (2004)	0.115865	0.115865	0.101604
Arctic seas	-0.142857	0.133333	0.180952
South western Gulf of Mexico (1970)	-0.138340	-0.122530	0.185771
North Benguela (1600)	0.140000	0.126667	-0.006667
Cap de Creus MPA - whole (2008)	-0.011538	-0.011538	-0.032692
Celtic Sea-Biscay (2012)	0.057057	0.102102	0.162162
British Columbia coast (1950)	0.190045	0.022624	-0.102564
Tagus estuary, Portugal	0.236467	-0.225071	-0.111111
Rocky shore, Monterey Bay, California	-0.108734	0.101604	-0.133690
Guinea (1985)	0.083779	0.033868	0.254902
Bolinao Coral Reef (1980)	0.066667	0.093333	-0.080000
Guinea (1998)	0.089701	-0.131783	0.027685
Northern Californian Current (1990)	-0.120904	0.068927	-0.062147
Peru (1973)	0.017544	0.052632	-0.146199
Yucatan (1987)	0.189474	-0.010526	0.010526
South Benguela (1900)	0.015054	0.152688	0.212903
Lesser Antilles (2001)	0.287356	0.075862	-0.195402
Charca de Maspalomas	-0.137255	0.267974	0.254902
Averages	-0.005175	0.033758	0.022279

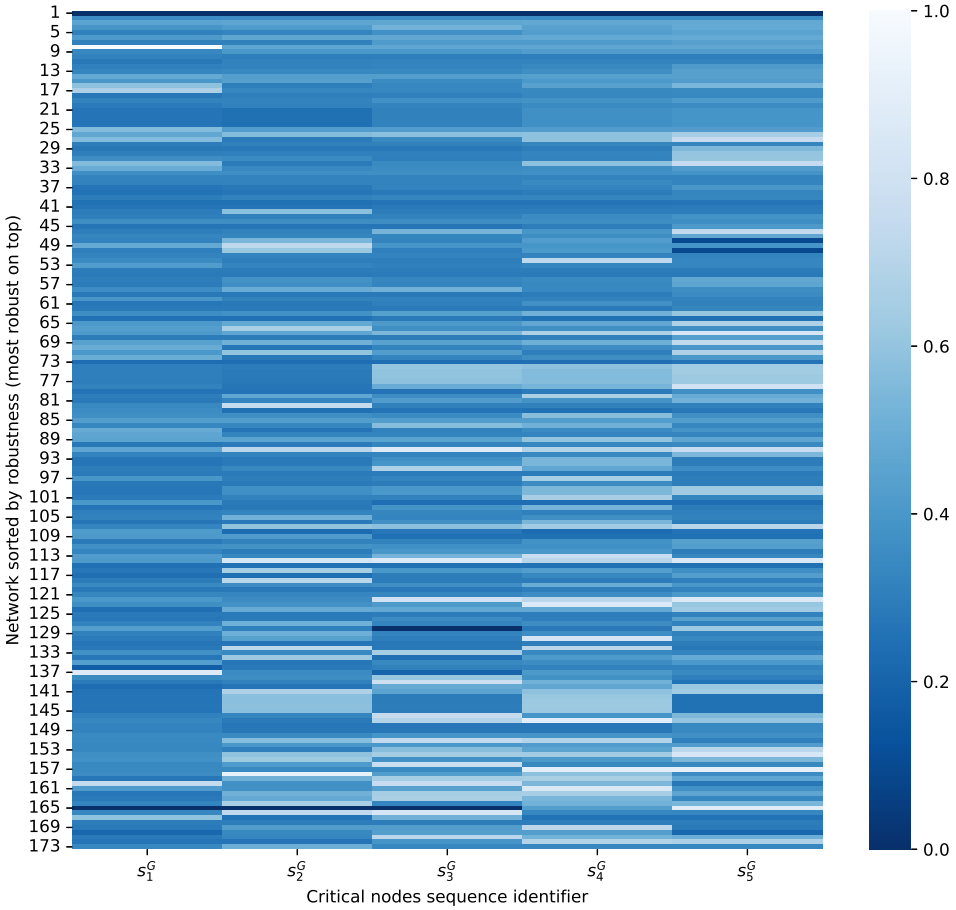

Figure 2: Normalized trophic level of the top 5 most critical nodes per food web. The food web are sorted in descending order of robustness from top to bottom.

4 Motif representation

Table 6: Z-scores sorted by $S2$

Food web name	$S1$	$S2$	$S3$	$S4$	$S5$	$D1$	$D2$	$D3$	$D4$	$D5$	$D6$	$D7$	$D8$
Cape Verde (1981)	↓	↑	↓	↓	↓	–	–	–	–	–	–	–	–
Independence Bay (1996)	↓	↑	↓	↓	↓	–	–	–	–	–	–	–	–
Charca de Maspalomas	↓	↑	↓	↓	↓	–	–	–	–	–	–	–	–
Narragansett Bay Model	↓	↑	↓	↓	↓	–	–	–	–	–	–	–	–
Tasek Bera swamp, Malaysia	↓	↑	↓	↓	↓	–	–	–	–	–	–	–	–
Sechura Bay (1996)	↓	↑	↓	↓	↓	–	–	–	–	–	–	–	–
Falkland Islands (1990)	↓	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↓	↑
North Atlantic (1950)	↓	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	–	–
Central Atlantic (1950)	↓	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	–	–
North Atlantic (1997)	↓	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	–	–
Salt meadow, New Zealand	↓	↑	↓	↓	↓	–	–	–	–	–	–	–	–
Middle Chesapeake Bay	↑	↑	↓	↓	↓	–	–	–	–	–	–	–	–
Sand beach, South Africa	↓	↑	–	↓	↓	–	–	–	–	–	–	–	–
Central Atlantic (1990)	↓	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	–	–
West Scotland (2000)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↓	↑	↓
North Benguela (1967)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↑	↓
Chesapeake Bay Mesohaline	↓	↑	↓	↓	↓	–	–	–	–	–	–	–	–
Chesapeake (1950)	↓	↑	↓	↓	↓	–	–	–	–	–	–	–	–
Bay of Biscay (2013)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↓	↑
Sørfjord (1993)	↓	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	–	–
Guinea (1998)	↓	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↑	↓
Iceland (1950)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↑	↓
North Benguela	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↑	↓
East Bass Strait (1994)	↓	↑	↓	↓	↓	↑	↑	↓	↓	↓	↓	↑	↓
Alto Golfo de California	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↑	↓
North Benguela (1900)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↑	↓
Celtic Sea (2013)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↑	↓
Bay of Biscay (1980)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↓	↑
Sierra Leone (1990)	↓	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↓	↑
North Benguela (1990)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↑	↓
St. Marks River (Florida)	↑	↑	↓	↓	↓	–	↓	↑	↑	↓	–	–	–
Bay of Biscay (1998)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↓	↓	↑
Mount St Michel Bay (2003)	↑	↑	↓	↓	↓	–	–	–	–	–	–	–	–
Upper Chesapeake Bay	↑	↑	↓	↓	↓	–	–	–	–	–	–	–	–
Celtic Sea (1980)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↑	↓
Northern Californian Current (1990)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↓	↑
Galapagos, Floreana rocky reef (2000)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↑	↓

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Table 6 – continued from previous page

Food web name	$S1$	$S2$	$S3$	$S4$	$S5$	$D1$	$D2$	$D3$	$D4$	$D5$	$D6$	$D7$	$D8$
Northern Humboldt Current (1997)	↑	↑	↓	↓	↓	–	–	–	–	–	–	–	–
Northern Californian Current (1960)	↑	↑	↓	↓	↓	–	–	–	–	–	–	–	–
Mauritanie (1991)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↓	↓	↑
Sierra Leone 1978 (1978)	↓	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↓	↑
North Sea (1974)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↑	↓
Galapagos (2006)	↑	↑	↓	↓	↓	–	↑	–	↓	–	–	–	–
Bay of Biscay (1970)	↑	↑	↓	↓	↓	↑	↑	↑	↓	↓	↑	↓	↑
Cerbère-Banyuls MPA (2013)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↑	↓
Ningaloo (2007)	↓	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↑	↓
Western Tropical Pacific Ocean (1990)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↑	↓
Azores archipelago (1997)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↓	↑
Central Gulf of California (1978)	↓	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↓	↓
Prince William Sound (1994)	↑	↑	↓	↓	↓	↑	↑	↓	↑	↓	–	–	–
Sierra Leone (1964)	↓	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↓	↑
Lower Chesapeake Bay	↑	↑	↓	↓	↓	–	–	–	–	–	–	–	–
Jurien Bay (2007)	↑	↑	↓	↓	↓	↑	↑	↑	↓	↓	–	–	–
North Sea (1981)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	–	–
West Baffin Bay, Coastal and Shelf (2016)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↓	↓
Cap de Creus MPA - whole (2008)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↑	↓
South western Gulf of Mexico (1970)	↑	↑	↓	↓	↓	–	–	–	–	–	–	–	–
Port Phillip Bay (1994)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↑	↓
Azores (1997)	↑	↑	↓	↓	↓	↑	↑	↓	↑	↓	↑	↓	↑
Malangen Fjord (2017)	↑	↑	↓	↓	↓	↑	↑	↓	↑	↓	–	–	–
Western Antarctic Peninsula (1996)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	–	–
Thermaikos Gulf (1998)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↓	↑	↓
Northern Benguela (1956)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↓	↓
Terminos Lagoon (1980)	↑	↑	↓	↓	↓	↑	↑	↑	↓	↓	–	–	–
USA, South Atlantic Continental Shelf (1995)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↓	↑	↓
Medes Island MPA (2000)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	–	–
Albatross Bay (1986)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↑	↓
Shallow sublittoral, Cape Ann, Massachusetts	↑	↑	↓	↓	↓	–	–	–	–	–	–	–	–
USA, Mid Atlantic Bight (1995)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↓	↑	↓
Aleutian Islands (1963)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↑	↓
South East Alaska (1963)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↓	↑	↓
Mauritania (1998)	↑	↑	↓	↓	↓	↑	↑	↓	↑	↓	↑	↓	↓
Mauritania (1987)	↑	↑	↓	↓	↓	↑	↑	↓	↑	↓	↑	↓	↓
Central Baltic Sea (1974)	↑	↑	↓	↓	↓	–	↑	↑	↓	↑	–	↓	↑

Continued on next page

Table 6 – continued from previous page

Food web name	$S1$	$S2$	$S3$	$S4$	$S5$	$D1$	$D2$	$D3$	$D4$	$D5$	$D6$	$D7$	$D8$
Celtic Sea-Biscay (1980)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↑	↓
South of Benguela (1960)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↑	↓
Tropical plankton community, Pacific	↑	↑	↓	↓	↓	–	–	–	–	–	–	–	–
Celtic Sea-Biscay (2012)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↓	↓
Northern Gulf St Lawrence (1985)	↑	↑	↓	↓	↓	–	–	–	–	–	–	–	–
Antarctic (1970)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↑	↓
Contemporary Alosine (2000)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↓	↓
Icelandic shelf (1997)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↓	↑
Rocky shore, Monterey Bay, California	↑	↑	↓	↓	↓	–	–	–	–	–	–	–	–
Port Cros (1998)	↑	↑	↓	↓	↓	↑	↑	↓	↑	↓	–	–	–
West Florida Shelf Historic Model (1950)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↑	↓
Raja Ampat (2005)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↑	↓
Bay of Biscay (1994)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↑	↓
Jalisco and Colima Coast (1995)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↑	↓
Gulf of California (1990)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↓	↑	↓
Mondego Estuary - Zostrea site	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↑	↓
South Benguela (1900)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↑	↓
Raja Ampat (1990)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↑	↓
Restored Alosine Biomass (2000)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↓	↓
South Benguela	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↓	↑	↓
Gulf of Carpentaria (1990)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↑	↓
Sonda Campeche Act (1988)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	–	–
Hudson Bay (1970)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↑	↓
Guinea (1985)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↑	↓
Little Rock Lake, Wisconsin	↓	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↓	↓
Baie de Seine (2000)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↑	↓
Guinea (2004)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↑	↓
Celtic Sea (1985)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↑	↓
Deep Western Mediterranean sea (2009)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	–	–
Northern Gulf of St Lawrence (1990)	↑	↑	↓	↓	↓	↑	↑	↓	↑	↓	–	↑	↓
Yucatan (1987)	↑	↑	↓	↓	↓	↑	↓	↓	↑	↓	–	–	–
Gulf of Thailande (1963)	↑	↑	↓	↓	↓	–	–	–	–	–	–	–	–
Northern British Columbia (1950)	↑	↑	↓	↓	↓	↑	↓	↓	↑	↓	–	↑	↓
Virgin Islands (1960)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↓	↑
North South of China Sea (1970)	↑	↑	↓	↓	↓	↑	↑	↓	↑	↓	↑	↓	↑
South Benguela (1978)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↓	↑	↓
Morocco (1985)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↓	↑	↑
Eastern Corsican Coast (2012)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↓	↑
Western Channel (1993)	↑	↑	↓	↓	↓	↑	↓	↓	↑	↓	–	↑	↓
Western Channel (1973)	↑	↑	↓	↓	↓	↑	↓	↓	↑	↓	–	↑	↓

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Table 6 – continued from previous page

Food web name	$S1$	$S2$	$S3$	$S4$	$S5$	$D1$	$D2$	$D3$	$D4$	$D5$	$D6$	$D7$	$D8$
Calvi Bay (1998)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↓	↑	↓
Cypress Dry Season	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↑	↓
Northern British Columbia (2000)	↑	↑	↓	↓	↓	↑	↓	↓	↑	↓	–	↑	↓
Sinaloa sur Mexico (1994)	↑	↑	↓	↓	↓	↑	↑	↓	↑	↓	↑	↑	↓
Gulf of Gabes (2000)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↓	↑
Northern Gulf of Mexico (2005)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↓	↓
Greenland, West Coast (1997)	↑	↑	↓	↓	↓	↑	↑	↓	↑	↓	–	–	–
Lesser Antilles (2001)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↑	↓
Australia North West Shelf (1986)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↓	↑	↑
Bolinao Coral Reef (1980)	↑	↑	↓	↓	↓	↑	↑	↑	↓	↓	–	↑	↓
Cypress Wet Season	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↑	↓
Tasmanian Seamounts Marine Reserve (1992)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↑	↓
Aegean Sea (2003)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	–	–
Looe Key National Marine Sanctuary (1980)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↓	↓
Sirinhaém River (2013)	↑	↑	↓	↓	↓	↑	↑	↑	↓	↓	–	–	–
Denmark, Faroe Islands (1997)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↑	↓
Irish Sea (1973)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	↑	↑	↓
South Shetlands (1990)	↑	↑	↓	↓	↓	–	–	–	–	–	–	–	–
Humboldt Current (1995)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	–	–
Kaloko Honokohau (2005)	↑	↑	↓	↓	↓	↑	↑	↓	↓	↓	–	↓	↑
West Florida Shelf (1985)	↑	↓	↓	↓	↓	↑	↑	↓	↓	↓	↑	↓	↓
Mangrove Estuary - Wet Season	↑	↓	↓	↑	↑	↑	↑	↓	↓	↓	–	↑	↓
Mangrove Estuary - Dry Season	↑	↓	↓	↑	↑	↑	↑	↓	↓	↓	–	↑	↓
Huizache-Caimanero (1984)	↑	↓	↓	↑	↑	↓	↑	↑	↓	↓	–	↓	↑
Peru (1973)	↑	↓	↓	↓	↑	↑	↑	↓	↓	↓	–	↓	↑
West coast of Sabah (1972)	↑	↓	↓	↑	↑	–	–	–	–	–	–	–	–
Strait of Georgia (1950)	↑	↓	↓	↑	↑	↑	↑	↓	↓	↓	–	–	–
West scotland DeepSea (1974)	↑	↓	↓	↑	↑	↑	↑	↓	↓	↓	↑	↑	↓
Barnegat Bay (1981)	↑	↓	↓	↑	↑	–	–	–	–	–	–	–	–
British Columbia coast (1950)	↑	↓	↓	↑	↑	↑	↑	↓	↓	↓	–	↓	↑
North East Pacific (1950)	↑	↓	↓	↑	↑	↑	↑	↓	↓	↓	–	↓	↑
Peru (1960)	↑	↓	↓	↑	↑	↑	↑	↓	↓	↓	–	↓	↑
Peru (1953)	↑	↓	↓	↑	↑	↑	↑	↓	↓	↓	–	↓	↑
Florida Bay (2006)	↑	↓	↓	↑	↑	–	–	–	–	–	–	–	–
Sri Lanka (2000)	↑	↓	↓	↑	↑	↑	↑	↓	↓	↓	–	–	–
Santa Pola Bay (2001)	↑	↓	↓	↑	↑	↑	↑	↓	↓	↓	↑	↑	↓
Bamboung (2006)	↑	↓	↓	↑	↑	↑	↑	↓	↓	↓	–	–	–
Gulf of Mexico (1950)	↑	↓	↓	↑	↑	↑	↑	↓	↓	↓	–	–	–

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Table 6 – continued from previous page

Food web name	$S1$	$S2$	$S3$	$S4$	$S5$	$D1$	$D2$	$D3$	$D4$	$D5$	$D6$	$D7$	$D8$
Florida Bay - dry season	↑	↓	↓	↑	↑	↑	↑	↓	↓	↓	–	–	–
Bamboung (2003)	↑	↓	↓	↑	↑	↑	↑	↓	↓	↓	–	–	–
Tagus estuary, Portugal	↑	↓	↓	↑	↑	–	–	–	–	–	–	–	–
Florida Bay - wet season	↑	↓	↓	↑	↑	↑	↑	↓	↓	↓	–	–	–
Central Chile (1998)	↑	↓	↓	↑	↑	–	–	–	–	–	–	–	–
Everglades Graminoids	↑	↓	↓	↑	↑	↑	↑	↓	↓	↑	–	–	–
Apalachicola Bay (2000)	↑	↓	↓	↑	↑	↑	↑	↑	↓	↓	↑	↓	↑
Ria-Lake Tapajos (2013)	↑	↓	↓	↑	↑	–	–	–	–	–	–	–	–
Tampa Bay (1950)	↑	↓	↓	↑	↑	↑	↑	↓	↓	↓	–	–	–
Arctic seas	↑	↓	↓	↑	↑	–	–	–	–	–	–	–	–
Lake Michigan	↑	↓	↓	↑	↑	–	–	–	–	–	–	–	–
Swamp, south Florida	↑	↓	↓	↑	↑	–	–	–	–	–	–	–	–
Paraná River Floodplain (1992)	↑	↓	↓	↑	↑	↑	↑	↑	↓	↓	↓	↓	↑
Ythan estuary, Aberdeenshire, Scotland	↑	↓	↓	↑	↑	↑	↑	↓	↓	↓	–	–	–
Crystal River Creek - Control	↑	↓	↓	↑	↑	–	↑	↑	↓	↓	–	–	–
Sítios Novos reservoir (2011)	↑	↓	↓	↑	↑	–	–	–	–	–	–	–	–
Lake Pyhajarvi, littoral zone, Finland	↑	↓	↓	↑	↑	–	–	–	–	–	–	–	–
Lake Paajarvi, littoral zone, Finland	↑	↓	↓	↑	↑	–	–	–	–	–	–	–	–
Crystal River Creek - Delta Temp	↑	↓	↓	↑	↑	–	–	–	–	–	–	–	–
Barra Del Chuy (1992)	↑	↓	↓	↑	↑	–	–	–	–	–	–	–	–

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