## **Supplementary Information**

**Table S1**: Biome-level slope estimates from the biome-taxa hierarchical model. Biomes were ecological biomes from (<http://maps.tnc.org/gis_data.html>). Start and end year show the earliest and latest year of observations for time series; *n* cells is the number of time series; realm is one of marine, terrestrial or freshwater; richness is the biome-level slope coefficient and the 90% credible interval from the model of species richness change that assumed poisson error and a logit link function; turnover is the biome-level slope coefficient from the model of the turnover component of Jaccard’s dissimilarity modeled assuming Gaussian error and an identity link function; nestedness is the biome-level slope coefficient from the model of the nestedness component of Jaccard’s dissimilarity modeled assuming Gaussian error and an identity link function.

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Biome** | **Start year** | **End year** | **Realm** | ***n* cells** | **Richness change (90% CI)** | **Turnover (90% CI)** | **Nestedness (90% CI)** |
| Andaman | 2006 | 2016 | Marine | 18 | 0.0036 (-0.0131, 0.0143) | 0.0245 (0.014, 0.0368) | 0.0051 (0.0027, 0.0073) |
| Arctic | 1934 | 2004 | Marine | 4143 | 0.0066 (-0.0028, 0.0228) | 0.0242 (0.0161, 0.0337) | 0.0058 (0.0042, 0.0093) |
| Black Sea | 1985 | 1994 | Marine | 36 | 0.0037 (-0.0126, 0.015) | 0.0272 (0.0192, 0.0465) | 0.0052 (0.0029, 0.0076) |
| Boreal Forests Taiga | 1960 | 2011 | Terrestrial | 232 | 0.005 (-0.0069, 0.0179) | 0.0221 (0.0097, 0.0298) | 0.0048 (0.0022, 0.0066) |
| Central Polynesia | 2001 | 2010 | Marine | 13 | 0.0049 (-0.0073, 0.0182) | 0.0251 (0.0158, 0.0385) | 0.005 (0.0026, 0.0072) |
| Cold Temperate Northeast Pacific | 1979 | 2012 | Marine | 3736 | 0.0035 (-0.0098, 0.014) | 0.024 (0.0152, 0.0333) | 0.0054 (0.0037, 0.0082) |
| Cold Temperate Northwest Atlantic | 1900 | 2012 | Marine | 19924 | 0.0051 (-0.0059, 0.0174) | 0.0228 (0.0129, 0.0298) | 0.005 (0.003, 0.0066) |
| Cold Temperate Northwest Pacific | 1977 | 2014 | Marine | 43 | 0.0048 (-0.0073, 0.0171) | 0.023 (0.0116, 0.0322) | 0.0051 (0.0029, 0.0073) |
| Continental High Antarctic | 1932 | 2015 | Marine | 2168 | 0.0052 (-0.0066, 0.0182) | 0.0242 (0.0155, 0.0333) | 0.0049 (0.0024, 0.0065) |
| Deserts and Xeric Shrublands | 1978 | 2011 | Terrestrial | 45 | 0.0045 (-0.0079, 0.0169) | 0.0229 (0.0103, 0.0322) | 0.005 (0.0027, 0.0072) |
| East Central Australian Shelf | 1963 | 2016 | Marine | 71 | 0.0049 (-0.007, 0.0172) | 0.0247 (0.0158, 0.0367) | 0.0049 (0.0023, 0.0068) |
| Hawaii | 1979 | 2010 | Marine | 80 | 0.0054 (-0.0065, 0.019) | 0.0241 (0.0135, 0.0344) | 0.0051 (0.003, 0.0075) |
| large lakes | 1917 | 2012 | Freshwater | 8 | 0.005 (-0.0071, 0.0179) | 0.0235 (0.0121, 0.0336) | 0.005 (0.0024, 0.007) |
| Lusitanian | 1987 | 2009 | Marine | 1433 | 0.0049 (-0.0075, 0.0176) | 0.0264 (0.0183, 0.0411) | 0.0051 (0.003, 0.0072) |
| Mangroves | 1993 | 2005 | Terrestrial | 5 | 0.0047 (-0.0087, 0.0179) | 0.0248 (0.0153, 0.0384) | 0.0051 (0.0025, 0.0072) |
| Mediterranean Forests Woodlands and Scrub | 1966 | 2007 | Terrestrial | 49 | 0.0039 (-0.011, 0.0154) | 0.0225 (0.0098, 0.0312) | 0.005 (0.0027, 0.0069) |
| Mediterranean Sea | 1990 | 2012 | Marine | 95 | 0.0042 (-0.0104, 0.0162) | 0.0263 (0.0182, 0.0412) | 0.0053 (0.0033, 0.008) |
| Montane Grasslands and Shrublands | 1980 | 2006 | Terrestrial | 69 | 0.004 (-0.0104, 0.0164) | 0.0237 (0.0126, 0.0341) | 0.0052 (0.0031, 0.0076) |
| North Brazil Shelf | 1977 | 2005 | Marine | 126 | 0.0044 (-0.0095, 0.0169) | 0.0237 (0.0126, 0.0338) | 0.0055 (0.0037, 0.0088) |
| Northeast Australian Shelf | 1928 | 2014 | Marine | 100 | 0.0043 (-0.0097, 0.0165) | 0.0233 (0.012, 0.0333) | 0.0049 (0.0022, 0.0069) |
| Northern European Seas | 1919 | 2015 | Marine | 6064 | 0.0058 (-0.0043, 0.0185) | 0.023 (0.0141, 0.0307) | 0.0054 (0.0038, 0.0076) |
| Northern New Zealand | 1965 | 2002 | Marine | 105 | 0.005 (-0.0069, 0.0175) | 0.024 (0.0138, 0.0346) | 0.0049 (0.0021, 0.0069) |
| Northwest Australian Shelf | 1978 | 1995 | Marine | 49 | 0.0077 (-0.0029, 0.0311) | 0.0277 (0.0194, 0.0467) | 0.0054 (0.0035, 0.0085) |
| polar freshwaters | 1969 | 2010 | Freshwater | 4 | 0.0043 (-0.0097, 0.0168) | 0.0241 (0.0139, 0.0356) | 0.0051 (0.0027, 0.0075) |
| Sahul Shelf | 1975 | 2004 | Marine | 40 | 0.0051 (-0.0064, 0.0176) | 0.026 (0.0179, 0.0395) | 0.0051 (0.0029, 0.0072) |
| Scotia Sea | 2009 | 2016 | Marine | 33 | 0.0052 (-0.007, 0.019) | 0.0243 (0.0133, 0.0368) | 0.0051 (0.0028, 0.0074) |
| South Kuroshio | 2004 | 2014 | Marine | 10 | 0.0047 (-0.0083, 0.0175) | 0.0234 (0.0109, 0.034) | 0.0051 (0.0026, 0.0072) |
| Southeast Australian Shelf | 1971 | 2014 | Marine | 453 | 0.0024 (-0.0139, 0.0127) | 0.0242 (0.0157, 0.0337) | 0.0053 (0.0034, 0.0074) |
| Southern New Zealand | 1959 | 2002 | Marine | 252 | 0.0051 (-0.0069, 0.0172) | 0.0239 (0.0126, 0.0349) | 0.0049 (0.0023, 0.0069) |
| Southwest Australian Shelf | 1979 | 2015 | Marine | 21 | 0.0052 (-0.007, 0.0185) | 0.0248 (0.016, 0.0367) | 0.0048 (0.0018, 0.0066) |
| Subantarctic Islands | 1932 | 2006 | Marine | 479 | 0.0047 (-0.008, 0.017) | 0.025 (0.0168, 0.0356) | 0.005 (0.0028, 0.0069) |
| Subantarctic New Zealand | 1959 | 2003 | Marine | 19 | 0.0052 (-0.0068, 0.0193) | 0.024 (0.0137, 0.0347) | 0.005 (0.0023, 0.007) |
| Sunda Shelf | 2005 | 2012 | Marine | 11 | 0.0051 (-0.0071, 0.0181) | 0.0245 (0.0142, 0.0376) | 0.005 (0.0024, 0.0071) |
| Temperate Broadleaf and Mixed Forests | 1923 | 2016 | Terrestrial | 2021 | 0.0049 (-0.0072, 0.0164) | 0.0205 (0.008, 0.0278) | 0.0049 (0.0028, 0.0066) |
| temperate coastal rivers | 1984 | 2016 | Freshwater | 1016 | 0.0049 (-0.0069, 0.0192) | 0.0235 (0.0124, 0.0338) | 0.0053 (0.0033, 0.0079) |
| Temperate Conifer Forests | 1910 | 2015 | Terrestrial | 695 | 0.0036 (-0.0112, 0.0144) | 0.0218 (0.01, 0.03) | 0.0048 (0.002, 0.0066) |
| temperate floodplain rivers and wetlands | 1969 | 2014 | Freshwater | 7 | 0.0039 (-0.011, 0.0156) | 0.0231 (0.0104, 0.0329) | 0.0051 (0.0028, 0.0071) |
| Temperate Grasslands Savannas and Shrublands | 1924 | 2008 | Terrestrial | 147 | 0.0042 (-0.0084, 0.0167) | 0.0229 (0.0105, 0.0325) | 0.0049 (0.0023, 0.0069) |
| temperate upland rivers | 1962 | 2013 | Freshwater | 17 | 0.005 (-0.0074, 0.0188) | 0.0226 (0.0092, 0.0318) | 0.005 (0.0026, 0.0071) |
| Tropical and Subtropical Grasslands Savannas and Shrublands | 1975 | 2016 | Terrestrial | 24 | 0.0036 (-0.0108, 0.0151) | 0.0224 (0.0096, 0.0305) | 0.0049 (0.0022, 0.0068) |
| Tropical and Subtropical Moist Broadleaf Forests | 1971 | 2016 | Terrestrial | 69 | 0.005 (-0.0063, 0.0186) | 0.0222 (0.0102, 0.0307) | 0.0049 (0.0023, 0.0067) |
| Tropical Northwestern Atlantic | 1975 | 2010 | Marine | 2805 | 0.0038 (-0.0102, 0.0143) | 0.0249 (0.017, 0.0358) | 0.0055 (0.0038, 0.0084) |
| Tropical Northwestern Pacific | 2003 | 2009 | Marine | 15 | 0.0041 (-0.0099, 0.0162) | 0.0253 (0.0161, 0.0401) | 0.0051 (0.0026, 0.0073) |
| Tropical Southwestern Atlantic | 1975 | 2004 | Marine | 38 | 0.0043 (-0.0085, 0.0164) | 0.0224 (0.0085, 0.031) | 0.005 (0.0023, 0.007) |
| Warm Temperate Northeast Pacific | 1982 | 2014 | Marine | 1356 | 0.0055 (-0.0056, 0.0181) | 0.0239 (0.0152, 0.0326) | 0.0049 (0.0027, 0.0068) |
| Warm Temperate Northwest Atlantic | 1972 | 2008 | Marine | 4579 | 0.0063 (-0.0045, 0.0219) | 0.0295 (0.0209, 0.0481) | 0.0054 (0.0036, 0.0078) |
| Warm Temperate Northwest Pacific | 2004 | 2014 | Marine | 92 | 0.0044 (-0.0085, 0.0169) | 0.0241 (0.014, 0.035) | 0.0052 (0.003, 0.0076) |
| Warm Temperate Southwestern Atlantic | 1972 | 2002 | Marine | 59 | 0.0067 (-0.0038, 0.0273) | 0.0256 (0.0171, 0.0397) | 0.0051 (0.0028, 0.0073) |

**Table S2**: Taxa-level slope estimates from the biome-taxa hierarchical model. Groupings of taxa were based on the metadata of BioTIME, and included: amphibians, benthos, birds, fish, invertebrates, mammals, marine plants/invertebrates, plants, and multiple taxa for studies that measured more than one taxa group. Start and end year show the earliest and latest year of observations for time series; *n* cells is the number of time series; realm is one of marine, terrestrial or freshwater; richness is the taxa-level slope coefficient and the 90% credible interval from the model of species richness change that assumed poisson error and a logit link function; turnover is the taxa-level slope coefficient from the model of the turnover component of Jaccard’s dissimilarity modeled assuming Gaussian error and an identity link function; nestedness is the taxa-level slope coefficient from the model of the nestedness component of Jaccard’s dissimilarity modeled assuming Gaussian error and an identity link function.

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| **Biome** | **Taxa** | **Start year** | **End year** | ***n* cells** | **Realm** | **Richness (90%CI)** | **Turnover (90%CI)** | **Nestedness (90%CI)** |
| Andaman | Fish | 2006 | 2016 | 18 | Marine | -0.0413 (-0.0543, -0.0246) | 0.034 (0.0174, 0.051) | 0.0041 (-8e-04, 0.0092) |
| Arctic | Benthos | 1971 | 2004 | 833 | Marine | 0.0339 (0.018, 0.0408) | 0.0178 (0.0089, 0.0261) | 0.0124 (0.0088, 0.0141) |
| Arctic | Birds | 1966 | 1987 | 1354 | Marine | -0.0121 (-0.0273, -0.0041) | 0.0358 (0.0269, 0.0441) | 0.0165 (0.0128, 0.0184) |
| Arctic | Fish | 1970 | 1995 | 1922 | Marine | -0.0167 (-0.0323, -0.0098) | 0.0256 (0.0168, 0.0338) | 0.0075 (0.0038, 0.0089) |
| Arctic | Invertebrates | 1934 | 2003 | 26 | Marine | -0.0053 (-0.0269, 0.0149) | 0.0028 (-0.0082, 0.0129) | 0.0014 (-0.0034, 0.0057) |
| Arctic | Plant | 1993 | 2003 | 8 | Marine | 0.1042 (0.0663, 0.1428) | 0.0369 (0.0117, 0.0634) | 0.0098 (0.0027, 0.0171) |
| Black Sea | Plant | 1985 | 1994 | 36 | Marine | -0.0365 (-0.0618, -0.01) | 0.0727 (0.0502, 0.0953) | 0.0064 (-8e-04, 0.0136) |
| Boreal Forests Taiga | Amphibians | 1995 | 2011 | 16 | Terrestrial | 0.0081 (-0.0166, 0.0338) | 0.0136 (4e-04, 0.0289) | 0.0053 (2e-04, 0.0105) |
| Boreal Forests Taiga | Birds | 1960 | 2011 | 206 | Terrestrial | 0.0031 (-0.0095, 0.0143) | 0.0085 (0.0016, 0.0215) | 0.0019 (-2e-04, 0.0046) |
| Boreal Forests Taiga | Plant | 1975 | 2008 | 8 | Terrestrial | 0.0097 (-0.0086, 0.0273) | 0.016 (0.0057, 0.0293) | 0.0016 (-0.0029, 0.0063) |
| Central Polynesia | Fish | 2001 | 2010 | 10 | Marine | 0.0153 (-0.0031, 0.034) | 0.0407 (0.0221, 0.0588) | 0.0033 (-0.0025, 0.0091) |
| Cold Temperate Northeast Pacific | Benthos | 1980 | 2011 | 585 | Marine | -3e-04 (-0.0083, 0.0129) | 0.0304 (0.0217, 0.0392) | 0.0078 (0.0049, 0.0098) |
| Cold Temperate Northeast Pacific | Birds | 1987 | 2012 | 2980 | Marine | 0.0078 (-2e-04, 0.0209) | 0.0319 (0.0233, 0.0406) | 0.0022 (-7e-04, 0.0035) |
| Cold Temperate Northeast Pacific | Fish | 1979 | 1981 | 149 | Marine | -0.0068 (-0.066, 0.0536) | 0.0222 (-0.0087, 0.0533) | 0.0046 (-0.0038, 0.0129) |
| Cold Temperate Northeast Pacific | Invertebrates | 1979 | 1988 | 22 | Marine | -0.0387 (-0.0637, -0.0143) | 0.0087 (-0.0049, 0.0225) | 0.017 (0.0107, 0.0236) |
| Cold Temperate Northwest Atlantic | Multiple taxa | 1988 | 2009 | 418 | Marine | 0.0584 (0.0469, 0.068) | 0.0169 (0.0107, 0.0276) | 0.0048 (0.0031, 0.0068) |
| Cold Temperate Northwest Atlantic | Benthos | 1948 | 2008 | 2957 | Marine | 0.0061 (-0.0056, 0.0152) | 0.0095 (0.0034, 0.0202) | 0.0013 (-2e-04, 0.0032) |
| Cold Temperate Northwest Atlantic | Birds | 1965 | 1992 | 2731 | Marine | -0.0138 (-0.0255, -0.0043) | 0.0389 (0.0328, 0.0497) | 0.0071 (0.0055, 0.009) |
| Cold Temperate Northwest Atlantic | Fish | 1970 | 2010 | 11832 | Marine | -0.0018 (-0.0135, 0.0074) | 0.0096 (0.0036, 0.0204) | 0.0053 (0.0038, 0.0071) |
| Cold Temperate Northwest Atlantic | Invertebrates | 1900 | 2012 | 1780 | Marine | -0.0193 (-0.0311, -0.0099) | -0.0019 (-0.0079, 0.0089) | 0.0025 (0.001, 0.0044) |
| Cold Temperate Northwest Atlantic | Marine invertebrates/plants | 1998 | 2010 | 206 | Marine | -0.0021 (-0.0141, 0.0084) | 0.0393 (0.0313, 0.0503) | 0.008 (0.0049, 0.0111) |
| Cold Temperate Northwest Pacific | Birds | 2004 | 2014 | 32 | Marine | -0.0031 (-0.0169, 0.0108) | 0.0166 (0.0057, 0.0299) | 0.0088 (0.0046, 0.0129) |
| Cold Temperate Northwest Pacific | Invertebrates | 1977 | 2013 | 4 | Marine | 0.0252 (9e-04, 0.0522) | 0.0164 (0.0033, 0.031) | 0.001 (-0.0043, 0.0062) |
| Continental High Antarctic | Birds | 1977 | 2006 | 1759 | Marine | -0.0169 (-0.0289, -0.0068) | 0.0361 (0.0275, 0.045) | 0.0066 (0.0049, 0.0089) |
| Continental High Antarctic | Fish | 1968 | 1999 | 29 | Marine | 0.0542 (0.0313, 0.0781) | 0.0224 (0.0114, 0.0338) | 0.0077 (0.0031, 0.0123) |
| Continental High Antarctic | Invertebrates | 2009 | 2015 | 4 | Marine | -0.0013 (-0.0451, 0.043) | 0.012 (-0.0102, 0.0347) | 0.0032 (-0.0028, 0.0093) |
| Continental High Antarctic | Mammals | 1932 | 1980 | 376 | Marine | -0.0118 (-0.0236, -0.0016) | 0.0222 (0.0137, 0.031) | -0.0035 (-0.005, -0.0012) |
| Deserts and Xeric Shrublands | Birds | 1978 | 2011 | 39 | Terrestrial | -0.0118 (-0.0234, 1e-04) | 0.005 (-0.0036, 0.0182) | 0.0035 (8e-04, 0.0061) |
| East Central Australian Shelf | Fish | 2008 | 2016 | 12 | Marine | 0.0038 (-0.0166, 0.0235) | 0.0377 (0.019, 0.0568) | 0.0025 (-0.0027, 0.0078) |
| East Central Australian Shelf | Invertebrates | 1963 | 2016 | 53 | Marine | 0.0283 (0.008, 0.0484) | 0.0262 (0.0138, 0.037) | 0.0021 (-0.0016, 0.006) |
| East Central Australian Shelf | Plant | 1998 | 2015 | 6 | Marine | 0.0033 (-0.0198, 0.0255) | 0.0274 (0.0101, 0.0452) | 0.0037 (-0.0016, 0.0092) |
| Hawaii | Fish | 2000 | 2010 | 18 | Marine | 0.0297 (0.0078, 0.0506) | 0.041 (0.0246, 0.0579) | 0.0059 (5e-04, 0.0116) |
| Hawaii | Invertebrates | 1979 | 1988 | 55 | Marine | 0.0055 (-0.0325, 0.0462) | 0.0107 (-0.012, 0.0342) | 0.0059 (-0.0017, 0.0138) |
| large lakes | Invertebrates | 1917 | 2012 | 6 | Freshwater | 0.0093 (-0.0087, 0.0266) | 0.0106 (5e-04, 0.0228) | 0.0024 (-0.0012, 0.006) |
| Lusitanian | Multiple taxa | 1998 | 2009 | 1262 | Marine | 0.0031 (-0.009, 0.0144) | 0.0584 (0.0439, 0.0655) | 0.0021 (0, 0.0042) |
| Lusitanian | Fish | 1987 | 2007 | 133 | Marine | 0.0139 (0.0017, 0.0258) | 0.0265 (0.0122, 0.0361) | 0.0079 (0.0042, 0.0117) |
| Mangroves | Birds | 1993 | 2005 | 5 | Terrestrial | -0.0089 (-0.0555, 0.0377) | 0.0357 (0.0133, 0.0584) | 0.0031 (-0.0039, 0.0101) |
| Mediterranean Forests Woodlands and Scrub | Birds | 1978 | 2007 | 40 | Terrestrial | -0.01 (-0.0211, 0.0039) | 0.0033 (-0.0049, 0.016) | 0.0052 (0.0026, 0.0079) |
| Mediterranean Forests Woodlands and Scrub | Plant | 1966 | 2002 | 5 | Terrestrial | -0.012 (-0.0275, 0.006) | 0.0154 (0.0036, 0.0294) | 0.0033 (-0.0018, 0.0084) |
| Mediterranean Sea | Multiple taxa | 1990 | 2012 | 19 | Marine | 0.0334 (0.0213, 0.0472) | 0.0109 (-0.0035, 0.0194) | 0.0045 (0.001, 0.0078) |
| Mediterranean Sea | Birds | 1999 | 2002 | 46 | Marine | -0.0436 (-0.0931, 0.0027) | 0.0786 (0.0536, 0.1064) | 0.0108 (0.0043, 0.0179) |
| Montane Grasslands and Shrublands | Birds | 1980 | 2006 | 69 | Terrestrial | -0.0423 (-0.061, -0.0224) | 0.0187 (0.0081, 0.0306) | 0.007 (0.0032, 0.0106) |
| North Brazil Shelf | Fish | 1977 | 2005 | 126 | Marine | -0.0216 (-0.0393, -0.0032) | 0.0195 (0.009, 0.0312) | 0.0151 (0.0107, 0.019) |
| Northeast Australian Shelf | Plant | 1928 | 2014 | 10 | Marine | -0.0223 (-0.0417, -0.0028) | 0.0132 (0.003, 0.0248) | 3e-04 (-0.0034, 0.0041) |
| Northern European Seas | Benthos | 1976 | 2012 | 61 | Marine | 0.0117 (-6e-04, 0.021) | 0.0137 (0.0066, 0.0232) | 0.0031 (5e-04, 0.0053) |
| Northern European Seas | Birds | 1992 | 1999 | 128 | Marine | -0.0038 (-0.0301, 0.0208) | 0.0643 (0.0486, 0.08) | 0.0133 (0.0069, 0.02) |
| Northern European Seas | Fish | 1919 | 2015 | 5758 | Marine | 0.0071 (-0.0051, 0.0149) | 0.0081 (0.0016, 0.0177) | 0.0017 (-6e-04, 0.003) |
| Northern European Seas | Invertebrates | 1934 | 2012 | 92 | Marine | -3e-04 (-0.0138, 0.0114) | 0.0214 (0.0139, 0.0311) | -0.0015 (-0.0045, 0.001) |
| Northern European Seas | Mammals | 1997 | 2010 | 20 | Marine | 0.0209 (-0.0065, 0.0473) | 0.0104 (-0.001, 0.0228) | 0.0149 (0.0101, 0.0199) |
| Northern European Seas | Plant | 1982 | 2009 | 5 | Marine | 0.0384 (0.0186, 0.0576) | 0.0154 (-1e-04, 0.031) | 0.0072 (9e-04, 0.0133) |
| Northern New Zealand | Fish | 1997 | 2002 | 92 | Marine | 0.0077 (-0.0338, 0.046) | 0.0277 (0.001, 0.0556) | 0.0042 (-0.0032, 0.0114) |
| Northern New Zealand | Invertebrates | 1965 | 2002 | 13 | Marine | 0.0121 (-0.0116, 0.0368) | 0.0185 (0.0071, 0.0297) | 8e-04 (-0.0033, 0.0051) |
| Northwest Australian Shelf | Fish | 1978 | 1995 | 46 | Marine | 0.1506 (0.1233, 0.1731) | 0.0744 (0.0517, 0.0951) | 0.0136 (0.0067, 0.0211) |
| polar freshwaters | Invertebrates | 1969 | 2010 | 4 | Freshwater | -0.0114 (-0.0387, 0.0146) | 0.025 (0.0094, 0.0405) | 0.0051 (-0.001, 0.0112) |
| Sahul Shelf | Fish | 1979 | 1988 | 12 | Marine | 0.0842 (0.0518, 0.1167) | 0.0646 (0.038, 0.0929) | 0.009 (0.0014, 0.017) |
| Sahul Shelf | Invertebrates | 1975 | 2004 | 28 | Marine | -0.0508 (-0.0724, -0.0297) | 0.0126 (-0.0015, 0.0244) | 0.0018 (-0.0029, 0.0065) |
| Scotia Sea | Invertebrates | 2009 | 2016 | 32 | Marine | 0.0201 (-0.0017, 0.0406) | 0.0319 (0.0153, 0.0491) | 0.0051 (6e-04, 0.01) |
| South Kuroshio | Birds | 2004 | 2014 | 8 | Marine | 0.0068 (-0.0109, 0.025) | 0.0159 (2e-04, 0.0329) | 0.0045 (-6e-04, 0.0098) |
| Southeast Australian Shelf | Birds | 1981 | 2005 | 372 | Marine | -0.0104 (-0.0196, 0.0064) | 0.0443 (0.0352, 0.0531) | 0.0074 (0.0048, 0.0096) |
| Southeast Australian Shelf | Fish | 1978 | 1989 | 9 | Marine | -0.1336 (-0.1731, -0.094) | 0.0213 (-9e-04, 0.0429) | 0.0127 (0.0049, 0.0214) |
| Southeast Australian Shelf | Invertebrates | 1971 | 2012 | 56 | Marine | 0.0303 (0.0045, 0.0594) | 0.0138 (0.0027, 0.0247) | 0.0012 (-0.0027, 0.0052) |
| Southeast Australian Shelf | Plant | 1996 | 2014 | 16 | Marine | 0.0241 (0.0085, 0.0431) | 0.0173 (0.0027, 0.0318) | 0.0029 (-0.002, 0.0078) |
| Southern New Zealand | Invertebrates | 1959 | 2002 | 37 | Marine | 0.0065 (-0.0114, 0.0223) | 0.0171 (0.0068, 0.0292) | 0.0016 (-0.0015, 0.0049) |
| Southwest Australian Shelf | Birds | 1982 | 2003 | 8 | Marine | -0.0065 (-0.0447, 0.0328) | 0.0529 (0.0361, 0.0689) | 0.0026 (-0.0041, 0.0091) |
| Southwest Australian Shelf | Fish | 1979 | 2015 | 7 | Marine | 0.024 (0.0025, 0.044) | 0.0071 (-0.0058, 0.0189) | 1e-04 (-0.0047, 0.0051) |
| Subantarctic Islands | Birds | 1977 | 2006 | 394 | Marine | -0.0393 (-0.0508, -0.0267) | 0.0484 (0.0381, 0.0569) | 0.0043 (0.0021, 0.0067) |
| Subantarctic Islands | Fish | 1968 | 1999 | 35 | Marine | 0.0208 (-0.0073, 0.0479) | 0.019 (0.0051, 0.0328) | 0.0079 (0.0019, 0.0138) |
| Subantarctic Islands | Mammals | 1932 | 1977 | 50 | Marine | -0.0033 (-0.0162, 0.0096) | 0.018 (0.0076, 0.0265) | 9e-04 (-0.0013, 0.0034) |
| Subantarctic New Zealand | Invertebrates | 1959 | 2003 | 7 | Marine | 0.0133 (-0.0135, 0.0403) | 0.0201 (0.0072, 0.0335) | 0.0027 (-0.0024, 0.0079) |
| Sunda Shelf | Fish | 2005 | 2012 | 11 | Marine | 0.0309 (0.0151, 0.0469) | 0.0333 (0.014, 0.0525) | 0.0024 (-0.0032, 0.008) |
| Temperate Broadleaf and Mixed Forests | Amphibians | 1976 | 2011 | 351 | Terrestrial | -0.0071 (-0.0186, 0.0039) | 0.0157 (0.0095, 0.0289) | 0.009 (0.0071, 0.0112) |
| Temperate Broadleaf and Mixed Forests | Birds | 1923 | 2015 | 1522 | Terrestrial | -0.0026 (-0.0138, 0.0085) | 0.0081 (0.0024, 0.0212) | 0.0029 (0.0014, 0.0049) |
| Temperate Broadleaf and Mixed Forests | Invertebrates | 1959 | 2015 | 63 | Terrestrial | 0.0063 (-0.0054, 0.0185) | 0.0138 (0.0073, 0.0272) | 6e-04 (-0.0015, 0.0029) |
| Temperate Broadleaf and Mixed Forests | Mammals | 1955 | 2013 | 35 | Terrestrial | 0.0191 (0.0034, 0.0341) | 0.0053 (-0.0018, 0.0185) | 0.0045 (0.0019, 0.0072) |
| Temperate Broadleaf and Mixed Forests | Plant | 1962 | 2016 | 50 | Terrestrial | 0.0057 (-0.0059, 0.0182) | 0.0144 (0.0074, 0.0277) | 0.0018 (-6e-04, 0.0045) |
| temperate coastal rivers | Fish | 1984 | 2016 | 1015 | Freshwater | 0.0015 (-0.0113, 0.0121) | 0.0187 (0.0094, 0.0299) | 0.0094 (0.0068, 0.0112) |
| Temperate Conifer Forests | Birds | 1977 | 2013 | 611 | Terrestrial | 0.0014 (-0.0063, 0.0157) | 0.0101 (0.0035, 0.0227) | 0.0034 (0.0018, 0.0061) |
| Temperate Conifer Forests | Invertebrates | 1977 | 2014 | 10 | Terrestrial | -0.0333 (-0.0496, -0.0149) | 0.0201 (0.0091, 0.0335) | 0.0037 (-6e-04, 0.0081) |
| Temperate Conifer Forests | Plant | 1910 | 2015 | 72 | Terrestrial | 0.0103 (0.0016, 0.0246) | 0.0034 (-0.0033, 0.016) | 2e-04 (-0.0016, 0.0029) |
| temperate floodplain rivers and wetlands | Invertebrates | 1969 | 2014 | 5 | Freshwater | -0.0236 (-0.0395, -0.0067) | 0.008 (-0.0024, 0.0217) | 0.004 (1e-04, 0.0079) |
| Temperate Grasslands Savannas and Shrublands | Birds | 1924 | 2008 | 138 | Terrestrial | 2e-04 (-0.0099, 0.0121) | 0.0045 (-0.0036, 0.0172) | 0.0014 (-5e-04, 0.0039) |
| temperate upland rivers | Fish | 1962 | 2013 | 17 | Freshwater | 0.0044 (-0.009, 0.0167) | 0.0027 (-0.0059, 0.0165) | 0.0045 (0.0016, 0.0074) |
| Tropical and Subtropical Grasslands Savannas and Shrublands | Birds | 1978 | 2007 | 11 | Terrestrial | -0.0308 (-0.0526, -0.0078) | 0.0116 (8e-04, 0.0256) | 0.0021 (-0.0026, 0.0068) |
| Tropical and Subtropical Grasslands Savannas and Shrublands | Plant | 1975 | 2016 | 11 | Terrestrial | 0.0015 (-0.0128, 0.0171) | 0.009 (-5e-04, 0.0226) | 0.0024 (-0.0016, 0.0064) |
| Tropical and Subtropical Moist Broadleaf Forests | Amphibians | 2014 | 2016 | 10 | Terrestrial | 0.0093 (-0.0328, 0.0511) | 0.0186 (-0.0018, 0.0405) | 0.0032 (-0.002, 0.0082) |
| Tropical and Subtropical Moist Broadleaf Forests | Birds | 1993 | 2013 | 27 | Terrestrial | 0.0321 (0.0067, 0.0561) | 0.0248 (0.0116, 0.0394) | 0.005 (0, 0.0103) |
| Tropical and Subtropical Moist Broadleaf Forests | Plant | 1971 | 2016 | 27 | Terrestrial | -2e-04 (-0.0123, 0.0104) | 0.0061 (-0.0015, 0.0186) | 0.0014 (-0.0011, 0.0041) |
| Tropical Northwestern Atlantic | Multiple taxa | 2000 | 2005 | 8 | Marine | -0.0555 (-0.0812, -0.0299) | 0.0263 (0.0017, 0.0506) | 0.0055 (-9e-04, 0.0122) |
| Tropical Northwestern Atlantic | Fish | 1992 | 2010 | 2708 | Marine | 0.0064 (-0.0021, 0.0195) | 0.0178 (0.0075, 0.0255) | 0.0212 (0.0183, 0.0229) |
| Tropical Northwestern Atlantic | Invertebrates | 1975 | 1978 | 28 | Marine | 0.0216 (2e-04, 0.0438) | 0.0543 (0.0256, 0.0876) | 0.0043 (-0.0029, 0.0112) |
| Tropical Northwestern Atlantic | Mammals | 1991 | 2008 | 50 | Marine | -0.0142 (-0.0357, 0.0068) | 0.0149 (0.0034, 0.025) | 0.0026 (-0.0016, 0.0067) |
| Tropical Northwestern Atlantic | Plant | 2006 | 2008 | 8 | Marine | 0.0312 (-0.0153, 0.08) | 0.0245 (4e-04, 0.05) | 0.0026 (-0.0036, 0.0088) |
| Tropical Northwestern Pacific | Fish | 2003 | 2009 | 14 | Marine | -0.0158 (-0.0407, 0.0102) | 0.0473 (0.0251, 0.0693) | 0.0037 (-0.0021, 0.0097) |
| Tropical Southwestern Atlantic | Fish | 1975 | 2004 | 37 | Marine | -0.0182 (-0.0359, 3e-04) | -0.0028 (-0.0126, 0.0112) | 0.0028 (-0.0011, 0.0066) |
| Warm Temperate Northeast Pacific | Benthos | 1982 | 2011 | 7 | Marine | 0.0106 (-0.0178, 0.0388) | 0.0282 (0.0164, 0.0397) | 0.0026 (-0.0022, 0.0076) |
| Warm Temperate Northeast Pacific | Birds | 1987 | 2006 | 1318 | Marine | 0.0014 (-0.01, 0.0106) | 0.031 (0.0226, 0.0397) | 0.0013 (-4e-04, 0.0034) |
| Warm Temperate Northeast Pacific | Fish | 2000 | 2014 | 14 | Marine | 0.0311 (0.0174, 0.0442) | 0.0213 (0.01, 0.0331) | 0.0083 (0.004, 0.0126) |
| Warm Temperate Northeast Pacific | Invertebrates | 2000 | 2014 | 12 | Marine | -0.0052 (-0.02, 0.0089) | 0.0135 (0.0024, 0.0248) | 0.0026 (-0.0019, 0.0068) |
| Warm Temperate Northwest Atlantic | Benthos | 1972 | 2008 | 233 | Marine | -0.0012 (-0.0161, 0.0079) | 0.0156 (-0.0029, 0.0235) | 0.003 (4e-04, 0.005) |
| Warm Temperate Northwest Atlantic | Birds | 1980 | 1988 | 38 | Marine | 0.0408 (-0.0043, 0.0889) | 0.0811 (0.0591, 0.1026) | 0.0112 (0.0042, 0.0185) |
| Warm Temperate Northwest Atlantic | Fish | 1973 | 2005 | 4253 | Marine | -0.0202 (-0.0346, -0.0119) | 0.0036 (-0.0149, 0.011) | 0.0104 (0.0079, 0.0119) |
| Warm Temperate Northwest Atlantic | Invertebrates | 1974 | 1978 | 55 | Marine | 0.0816 (0.0642, 0.0973) | 0.0808 (0.0524, 0.1125) | 0.0047 (-0.0021, 0.0117) |
| Warm Temperate Northwest Pacific | Birds | 2004 | 2014 | 77 | Marine | -0.0104 (-0.0218, 0.0013) | 0.014 (0.0032, 0.0247) | 0.0098 (0.0063, 0.0133) |
| Warm Temperate Northwest Pacific | Invertebrates | 2008 | 2013 | 8 | Marine | 0.0214 (-0.0043, 0.048) | 0.0384 (0.017, 0.0602) | 0.0019 (-0.0036, 0.0073) |
| Warm Temperate Southwestern Atlantic | Fish | 1972 | 2002 | 57 | Marine | 0.0934 (0.0707, 0.1131) | 0.0411 (0.0263, 0.053) | 0.0051 (6e-04, 0.0098) |