S7 Appendix. Complementary results of the clustering performed on ECIR.

Statistical tests of supplementary qualitative variables in the clustering performed on ECIR.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Cluster** | **Main significant modalities of the qualitative supplementary variables** | **% of occurrence in the cluster** | **% of global occurrence** | **Global** | **p.value** |
| **1****7LMEs** | TCI increaseTCI stablePP stableLow LindexModerate ECIRecent PPR/PP<10%PPR/PP<10%TCI decrease | 66.728.60.00.00.00.00.02.6 | 28.657.10.00.00.00.00.014.3 | 5.425.026.826.830.433.935.769.6 | 0.040\*0.0660.0970.0970.0660.044\*0.036\*0.002\*\* |
| **2****29LMEs** | Recent PPR/PP>50%Moderate ECI+0.1°C< SST increase <+0.7°CTemperate ecosystemsRecent very high LindexFraction of cephalopods : 1-5%0< Correlation to Shannon <0.5Moderate recent catch+0.7°C< SST increase <2°CRecent PPR/PP: 10-25%FiB decreaseFraction of cephalopods: 0-1%Low ECI | 90.076.565.676.970.065.465.435.035.028.60.034.627.8 | 31.044.872.434.548.358.648.324.124.113.80.031.017.2 | 17.930.457.123.235.746.437.535.735.725.07.146.432.1 | 0.009\*\*0.017\*0.020\*0.045\*0.049\*0.0660.0950.0700.0700.0540.048\*0.020\*0.016\* |
| **3****10LMEs** | Catch increase+Tropical ecosystemsLow ECICatch increase++Fraction of fishes <80%Temperate ecosystems | 32.129.633.35.30.00.0 | 90.080.060.010.00.00.0 | 50.048.232.133.921.423.2 | 0.006\*\*0.033\*0.0550.0860.0700.054 |
| **4****9LMEs** | Fraction of fishes decreaseFiB decreaseFraction of fishes <80%PPR/PP decreaseTCI decreaseRecent PPR/PP<10%Correlation to Shannon >0.5Recent LindexPPR/PP<10%Fraction of cephalopods <1%Fraction of shrimps 5-40%Low LindexTCI stableFiB increaseFraction of fishes stablePPR/PP increase0< Correlation to Shannon <0.5 | 27.375.041.760.023.132.631.635.730.026.933.333.30.010.60.010.20.0 | 100.033.355.633.3100.066.766.755.666.777.855.655.60.055.60.055.60.0 | 58.97.121.48.969.633.933.925.035.746.426.826.825.083.932.187.537.5 | 0.0051\*\*0.011\*0.018\*0.027\*0.028\*0.037\*0.040\*0.040\*0.0510.0510.0560.0560.0590.032\*0.022\*0.010\*0.009\*\* |
| **5****1LME** | - | - | - | - | - |

Qualitative variables modalities that explain the cluster common patterns*‘\*’ stands for p.value<0.05, ‘\*\*’ for p.value<0.01, ‘\*\*\*’ for p.value<0.001*

Statistical tests of supplementary quantitative variables in the clustering performed on ECIR.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Cluster** | **Main signifiant quantitative supplementary variables** | **Mean in category** | **Overall mean** | **p.value** |
| **1****7LMEs** | TCI relative to 1950 | 1.14 | 0.93 | 0.00005\*\*\* |
| **2****29LMEs** | Mean fraction of fish relative to 1950Recent LindexRecent PPR/PPLindex Mean recent catchMean MTLFraction of shrimp species | 1.010.0639.3%0.0482.0 t/km²3.42.3% | 0.980.0429.5%0.0381.6 t/km²3.53.9% | 0.020\*0.031\*0.036\*0.0750.0810.0960.037\* |
| **3****10LMEs** | SST difference between 2010 and 1950 | 0.76 | 0.56 | 0.066 |
| **4****9LMEs** | Recent PPR/PPTCI relative to 1950Mean fraction of fish relative to 1950 | 8.3%0.790.87 | 29.5%0.930.98 | 0.0540.002\*\*0.0002\*\*\* |
| **5****1LME** | - | - | - | - |

Quantitative variables modalities that explain the cluster common patterns*‘\*’ stands for p.value<0.05, ‘\*\*’ for p.value<0.01, ‘\*\*\*’ for p.value<0.001*