S6 Appendix. Complementary results of the clustering performed on TCIR.

Statistical test of supplementary qualitative variables in the clustering performed on TCIR.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Cluster** | **Main significant modalities of the qualitative supplementary variables** | **% of occurrence in total** | **% of****occurrence in cluster** | **Global** | **p.value** |
| **1 16LMEs** | Fraction of cephalopods stableFiB decreasingHigh SSPPPR/PP decreasingMTL decreasingRecent SSP: 50-75%Fraction of fishes decreasingRecent Lindex lowLow catchFraction of fishes <80%Polar ecosystemsLow LindexFraction of fishes >90%Fraction of cephalopods increaseHigh recent catchVery high recent LindexPPR/PP increaseMTL stableFiB increaseSSP moderateRecent SSP : 25-50% | 85.7100.052.680.044.041.439.450.055.650.050.046.716.722.717.210.022.513.821.312.28.3 | 37.525.062.525.068.875.081.343.831.337.537.543.825.062.531.312.568.825.062.537.512.5 | 12.57.133.98.944.651.858.925.016.121.421.426.842.878.651.835.787.551.883.966.142.9 | 0.002\*\*0.005\*\*0.007\*\*0.021\*0.027\*0.033\*0.036\*0.0570.0760.0870.0870.0900.0980.0870.0610.023\*0.018\*0.013\*0.013\*0.007\*\*0.004\*\* |
| **2 21LMEs** | MTL stableModerate TCITropical ecosystemsHigh TCIFraction of cephalopods stablePolar ecosystemsMTL decrease | 51.751.951.917.70.08.320.0 | 71.466.766.714.30.04.823.8 | 51.848.248.230.412.521.444.6 | 0.027\*0.038\*0.038\*0.047\*0.029\*0.019\*0.018\* |
| **3****17LMEs** | Very high recent LindexHigh recent catchVery high catchFraction of fish stableHigh LindexPPR/PP increaseFraction of shrimps: 0-1%Recent PPR/PP<10%Moderate recent catchPPR/PP<10%Low recent LindexFraction of fish decreaseLow Lindex | 55.044.853.350.050.034.745.015.815.015.07.118.26.7 | 64.776.547.152.947.1100.052.917.717.717.75.935.35.9 | 35.751.826.832.128.687.535.733.935.735.725.058.926.8 | 0.004\*\*0.017\*0.034\*0.038\*0.0570.0660.0910.0980.0690.0690.029\*0.023\*0.019\* |
| **4****2LMEs** | High MTLSST stablePolar ecosystemsHigh TCI | 18.2100.016.711.8 | 100.050.0100.0100.0 | 19.61.821.430.4 | 0.036\*0.036\*0.043\*0.088 |

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 TCIR.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Cluster** | **Main signifiant quantitative supplementary variables** | **Mean in category** | **Overall****Mean** | **p.value** |
| **1 16LMEs** | SSPFraction of shrimpsRecent SSPMean TCIRecent LindexMean recent catchRecent PPR/PPMean fraction of fish relative to 1950 | 28.97.356.92.990.020.712.40.90 | 23.03.950.22.660.051.629.50.98 | 0.006\*\*0.007\*\*0.034\*0.0730.0540.042\*0.024\*0.0002\*\*\* |
| **2 21LMEs** | Mean fraction of fish relative to 1950Mean MTL relative to 1950Mean correlation to Shannon | 1.021.01-0.46 | 0.980.99-0.33 | 0.029\*0.0620.071 |
| **3****17LMEs** | Recent LindexMean recent catchRecent PPR/PP | 0.0632.342.7 | 0.0441.629.5 | 0.042\*0.0550.072 |
| **4****2LMEs** | Mean TCIRecent PPR/PP | 4.1071.9 | 2.6629.5 | 0.017\*0.091 |

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*