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The effect of the hemispheric climatic oscillations on the Adriatic ichthyofauna

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The hypothesis of an expansive northward movement of thermophilic species and changes in marine biodiver-sity is nowadays supported with numerous records of fish species previously characteristic to the more southern areas. Obviously, this is happening in the Adriatic sea as well, where numerous new species in the area or in the northern sectors were recorded during the last thirty years. Good correlation between mean annual air and sea surface temperature and yearly total number of specimens, as well as between annual sea surface temperature and species richness is obtained for the period 1973-2003. The variations in Adriatic temperature conditions correlate well with the North Atlantic Oscillation (NAO) index showing that local temperature changes at least partly result from hemispheric one. Variations in sea surface temperature conditions mostly result from the heat flux exchanges on the air-sea interface, and since net heat flux is under NAO influence, there is no doubt that recent changes of Adriatic ichthyofauna are partly controlled by hemispheric climate changes. Distribution of warm-water fish records is influenced by overall cyclonic circulation in the Adriatic Sea