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The water mass variability on the Romanian Black Sea shelf

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The long-term trends in the water mass thermohaline structure and the effect of Danube River freshwater discharge into the western Black Sea during the last four decades (1971 – 2010) are analyzed using the data collected on the Romanian shelf (NIMRD data base). The variations of the temperature and salinity over the studied period are relatively small. The temperature data reveal a slightly warming trend for the upper mixed layer (UML) while for the shelf cold water (SCW) - identified by the 8°C upper isotherm depth - thermohaline structure remains practically constant. At the same time the salinity exhibits a decreasing trend in the entire water column.