



Analysis of the trends in the Black Sea water column temperature and heat content using CMEMS products

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Copernicus Marine Environment Monitoring Services products for the Black Sea are used to reveal the trends in the water temperature for a period of 35 years (1981-2016). The surface sea temperature is analyzed for three decades (1986-1995, 1996-2005 and 2006-2015) and different trends are found: within the first period strongest warming (of ~ 1.8 degC/decade) occurs in the central north part near the Crimean Peninsula, during second decade the warming is mostly in the north-western part, and in the third decade – in the center of the eastern gyre (~ 1.2 degC/decade). However, the deeper layers show opposite tendency: the observations indicate that the water temperature at 500 m and 1500 m depth slightly decreases during the latest decade 2006-2015. Reanalysis data are used to investigate the Heat Content and the Cold Intermediate Layer evolution during the latest decade. The results of the analysis are used in the EMODNET Black Sea Checkpoint project.