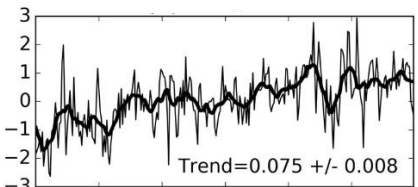


E. Peneva¹, L. Lima², A. Aydogdu², S. Masina², E. Stanev³, S. Ciliberti², L. Stefanizzi², D. Azevedo², G. Coppini², A. Palazov⁴, V. Marinova⁴ and N. Valcheva⁴

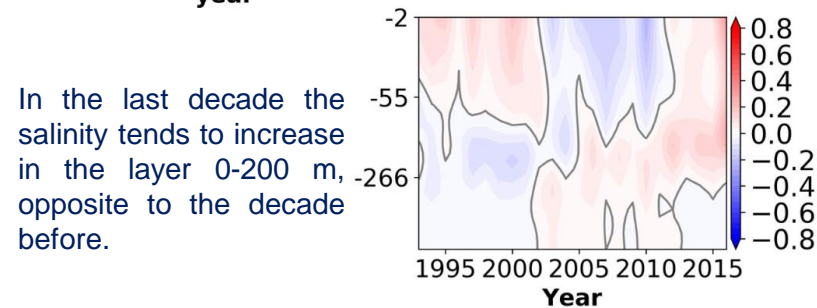
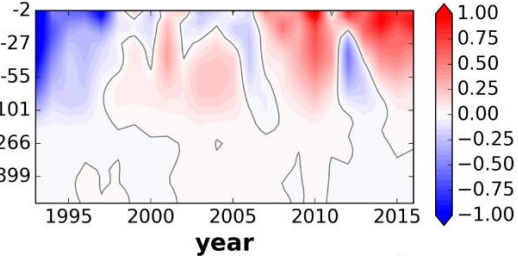
The recently upgraded CMEMS product Black Sea Physical Reanalysis covers the period 1993-2019 presenting a base for reliable long-term estimates of the Black Sea physical parameters. The data archive provides monthly and daily fields for the Black Sea - temperature, salinity, zonal and meridional velocity components, mixed layer depth, bottom temperature and sea surface height.

The good spatial and temporal resolution of the reanalysis gave possibility to evaluate the trends and interannual variations of subsurface temperature and salinity, ocean heat content and the Rim current velocity over the last almost 3 decades. The material is published in the CMEMS Ocean State Reports, Issue 2 (2018), Issue 4 (2020) and Issue 5 (2021).

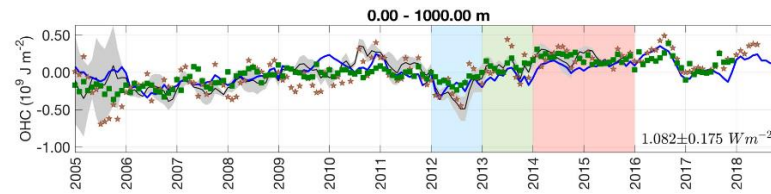
TEMPERATURE AND SALINITY TRENDS



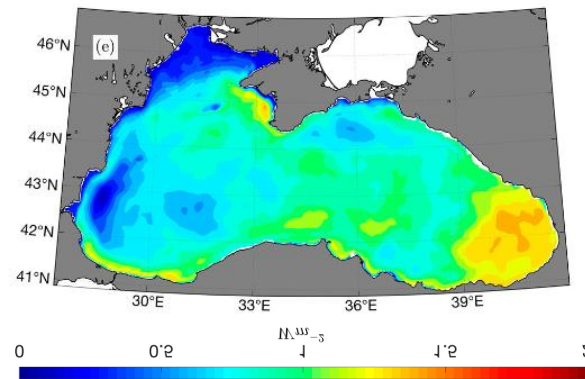
A clear warming signal is observed until 100 m depth over the last decade.



BLACK SEA HEAT CONTENT

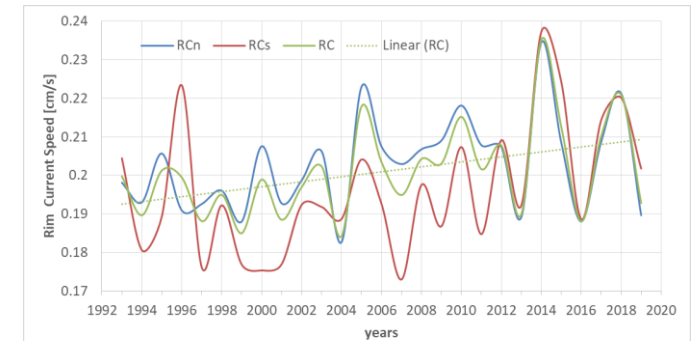


The calculated heat content for the layer 0-1000 m reveals a weak warming trend and expressed interannual variability which clearly shows the cold 2006, 2012 and 2017 winters.

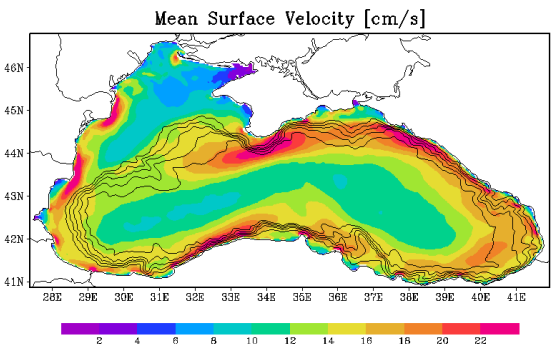


The map of the heat content in the layer 0-200 m shows that the warming near the surface is mainly due to the Eastern basin.

RIM CURRENT VELOCITY



The Rim current average speed in the north and south parts reveals significant interannual variability in close relation to the wind forcing.



The map shows the average position of the Rim current (bathymetry isolines are shown). OSR #5, 2021

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