



Seasonal variation of Black Sea Water inflow into the North Aegean Sea

S.Uckac, E. Garcia-Gorriz, A.Stips

Joint Research Centre, Institute for Environment and Sustainability, Italy, (seniz.uckac@jrc.it / Phone: +39 0332 786124)

This study aims to identify the seasonal behavior of Black Sea Water (BSW) inflow into the North Aegean. Monthly Pathfinder AVHRR Sea Surface Temperature (SST) data and SeaWiFS chlorophyll images are used together with the General Estuarine Transport Model (GETM) results. European Centre for Medium-Range Weather Forecast (ECMWF) 40 year reanalysis data (ERA40) comprising air temperature, precipitation, evaporation and wind speeds are used as surface forcing in the model and also used to see long-term climatic variations in the study area. The comparison of surface velocity fields computed with GETM are compared with SST data and SeaWiFS chlorophyll maps show that BSW occupying the upper layer significantly alters the dynamics in the area. The thermohaline front between colder BSW and warmer Eastern Mediterranean Water (EMW) at the mouth of Dardanelles changes seasonally. In winter, BSW is mainly confined to the northern region whereas summer colder waters tend to flow southwards. The potential impact of the BSW inflow onto the chlorophyll distribution is also discussed with regard to physical properties. SeaWiFS images show that chlorophyll concentrations are higher in the northern Aegean due to the discharge of the BSW and rivers.