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# Fluxes and burial of particulate organic carbon along the Adriatic mud-wedge (Mediterranean Sea)

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Clinoform-shaped deposits are ubiquitous sedimentological bodies of modern continental margins, including both carbonate and silicoclastic platforms. They formed after the attainment of the modern sea level high-stand (mid-late Holocene) when river outlets and shoreline migrated landward. As clinoform-shape deposits are essential building blocks of the infill of sedimentary basins, they are sites of intense organic carbon (OC) deposition and account for a significant fraction of OC burial in the ocean during interglacial periods. In this study, we focused on sigmoid clinoforms that are generally associated with low-energy environments. In particular, we characterized the modern accumulation and burial of OC along the late-Holocene sigmoid in the Western Adriatic Sea (Mediterranean Sea). This sedimentary body consists of a mud wedge recognizable on seismic profiles as a progradational unit lying on top the maximum flooding surface that marks the time of maximum landward shift of the shoreline attained around 5.5 kyr cal BP. In the last two decades, several projects have investigated sediment dynamics and organic geochemistry along the Adriatic mud wedge (e.g., PRISMA, EURODELTA, EuroSTRATAFORM, PASTA, CIPE, VECTOR). All these studies increased our understanding of strata formation and organic matter cycling in this epicontinental margin. The overarching goal of this study was to combine the results gained during these projects with newly acquired data to assess fluxes to seabed and burial efficiency of organic carbon along the uppermost strata of the Adriatic mud-wedge. Our study benefited of an extensive number of radionuclide-based (Pb-210, and Cs-137) sediment accumulation rates and numerous biogeochemical data of surface sediments and sediment cores (organic carbon, total nitrogen, radiocarbon measurements, carbon stable isotopes, and biomarkers). In addition, because the accumulation of river-borne sediment may or may not be linked to a specific source, another important goal of this study was to characterize the spatial distribution of OC deposition/burial along the Adriatic mud wedge.