EVIDENCES OF THE LATE HOLOCENE SEDIMENTATION ALONG THE COAST OF SOUTHERN CASPIAN SEA, IRAN

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The South Caspian coastal area, which located in north of Iran, is characterized by high terrigenous sediment flux, different coastal slope, and high influence of wave and wave induced currents. Main part of the coast has been developed during the Holocene under changing the Caspian Sea level. Nearshore surface and core samples from marine sediments and samples from outcrops of marine terraces were used for quantitative and chemical analysis. Data from the sediment samples provide evidence of the Caspian Sea level change and pattern of sedimentation on the Iranian coast. The evidence of the late Holocene highstand found in accumulative parts which mainly seen in western and eastern of the coastal area. Shape and orientation of shoreline in these areas has an important influence on trapping of sediments which transport by longshore currents. High sedimentation rate (4- 8 mm year-1) is calculated based on 14C dating of bivalve mollusk where the rate of sedimentation on the west and eastern part of the coast (with moderate to gently slope and high reverine influx) is greater than the central part (with steep slope, direct wave approach and low sediment supply). 2m core samples where collected from depth of 20- 50 m present low organic matter silt-sandy layers with bivalve mollusks. Variations in grain size, organic matters, and carbonate content of different layers within the total sequence of the core clearly shows the sea level fluctuation. Late Holocene and modern sediments of the Iranian coast mainly characterized by sand-silt deposits with abundant of heavy minerals and low carbonate content. The content of carbonate progressively increases toward the eastern part of the coast where the fine grained materials are present. Composition of
the marine and reverine sediments demonstrate that the rivers are main source of the sediments for coastal depositions. Changing in sedimentary facies from clastic (in the west) to carbonate (in the east) indicate a change in sediment provenance from Alborz Mountain (humid climate) to Copet Dagh (arid climate) respectively.

The late Holocene sediments from the Iranian coast contain combined evidence of the last sea level fluctuations, fluvial influx and wave induced currents. These influencing factors determined the mode and pattern of clastic and carbonate sediments along the Iranian coast.