

عنوان مقاله:

Microplastic particles in coastal waters of the southern Caspian Sea

محل انتشار:

ششمین کنفرانس بین المللی مهندسی محیط زیست و منابع طبیعی (سال: 1399)

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خلاصه مقاله:

This study assesses the occurrence of microplastic (MP) particles in water samples, collected from the coastal region of the southern Caspian Sea, Mazandaran province, Iran. A total of 7100 MP items were visually detected in 10 water samples. The mean abundance of MP particles in the water was 710 items m⁻³. The MP particles were mainly fibers, and black color dominated. Dominant size class of MP particle in the water samples was greater than 1000 μ m. Polyethylene terephthalate (PET), polystyrene (PS), and nylon (NYL) were the major polymers and/or copolymers comprising MP particles. The MP particles had a relatively smooth surface morphology, although signs of different types of weathering (i.e. grooves, pits, etc.) were observed. The number of MP particles in water samples showed a general decrease from west to east in the study area. This may be reflecting the spreading of MP loading from the outlets of Sefidrud, Tonekabon, Chalus, the major rivers entering the Caspian Sea just west of the study area, and the overall decrease in the spatial distribution of touristic and fishery activity. A few locations in the east of the study area had a moderate frequency of MP particles. This is likely due to local emissions of MP from a large number of domestic wastewater effluents and urban surface runoff due to high population density, and industrial and commercial activities in this region. This is the second and most comprehensive research on the status of MP particles in coastal waters of the southern Caspian Sea.

کلمات کلیدی:

Microplastic (MP), coastal water, Caspian Sea

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