The study of metal contamination in surface sediments of Nayband marine coastal national park using metal pollution index

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Sediments represent one of the ultimate sinks for heavy metals discharged into the environment from anthropogenic activities [1]. The elevation of metal levels in coastal ecosystems are regarded as serious pollutants, because they can be toxic and incorporated into the food chain [2].

The Nayband marine coastal national park is a good example of a site where is located in close proximity to the Asaluyeh industrial zone. the degree of metal contamination was assessed using the metal pollution index (MPI) calculated according to formula: $MPI = (Cf_1 \times Cf_2 \times \ldots \times Cf_n)^{1/n}$, where Cf_n is the concentration of the metal *n* in the surface sediment [3]. To achieve this aim, samples from five locations were collected in 2010 and characterized for metal content (e.g. Cu, Ni, Pb, Zn and Cd) using atomic absorption spectroscopy [4].

Zn (54-82 ?g/g) was present at the highest concentrations in all investigated samples. lowest average MPI was at the station next to the mangrove ecosystem (station 1) . The order of stations from highest to lowest MPI values was St 5>St 3>St 4>St 2>St 1; The measure of the degree of overall contamination (MPI) indicated signs of pollution by the five measured metals at station 5. This index is a suitable tool to classifying study areas according to the level of contamination.

References:

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