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# METAL POLLUTION ASSESSMENT IN SEDIMENTS OF THE BULGARIAN BLACK SEA COASTAL ZONE

Poster №134

*The investigated parameters are: Zn, Pb, Ni, Cu, Cd and Al.*

A different approaches to estimating the contamination of sediments were used, such as:

- ✓ the geoaccumulation index **(Igeo)** by Müller (1969)**;**
- ✓ the enrichment factor **(EF)** by Windom et al. 1989; Din 1992;
- ✓ the degree of contamination **(Cd)** by Hakanson (1980) ;
- ✓ the modified degree of contamination **(mCd)** by Abrahim (2005);
- ✓ the pollution load index **(PLI)** by Tomlinson et al. (1980) **;**

*Fig.1. Location of the BBSMC stations*

Fig.2. The EF$^{Pb}$ (2016)



Fig.3. The CF$^{Pb}$ (2005)



Fig.4 The mCd
for 2005 and 2016
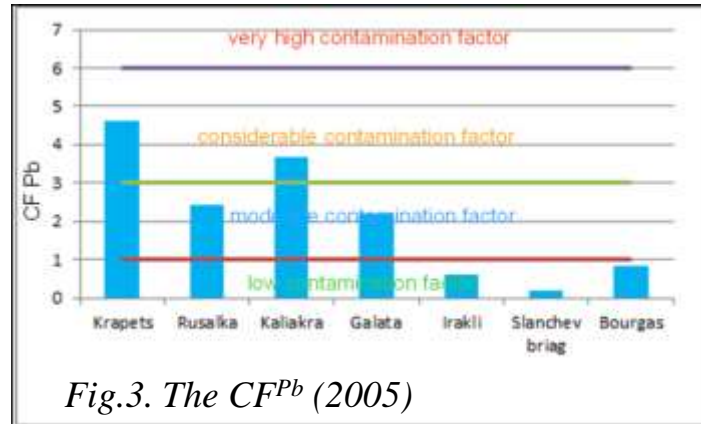
## Conclusions:

- Among the five metals, studied Pb had the highest **Igeo** values. The Igeo sediment classification of **Pb** is „moderately to strongly contaminated" and „moderately contaminated";
- According to values of **EF$^{Pb}$**, st. Varna bay is classified as „moderately severe contaminated" (Fig.2);
- **CF -** The criterion "considerable contamination factor" was used to describe the values of Pb for two sampling stations for 2005 (Fig.3);
- **mCd** values for **Cu, Pb, Zn, Cd** indicates a very low degree of contamination and only st. Kaliakra and st. Krapets were defined with low degree of contamination (Fig.4).