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Contribution Of Local Processes In Marine Environmental Pollution

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Determination of background concentration of pollutants and the contribution of local processes in marine environmental pollution plays an important part in diagnostics of marine environmental pollution. However the term background concentration can be used in different meanings, and thus calculation methods vary as well. Here background concentration is regarded as the pollution level within the area conditioned by entry of pollutants from outer sources and used as a reference point to assess the pollution introduced by local sources. It is supposed that the impact of local factors is expressed in faults of homogeneity of the parameter distribution within a spatial field or a time series, i.e. in emerging asymmetry in distribution. Taking into account the fact that background concentration must be characterized by a parameter least dependent on variability at distribution edges, a median was selected as a background characteristic. The contribution of local processes in overall pollution of the marine environment is evaluated on the basis of the data on average and background concentration of a pollutant. As in case of asymmetric distribution, the mean value (C) and the median (Me) differ from each other, and this difference increases with the increase of asymmetry, the contribution of local processes (E) can be estimated by means of formula: E=[(C-Me)/C]x100(%). E can take both positive and negative values. It means that local processes can mean either local enrichment (pollution) or local depletion (purification) of the marine environment with pollutants. In course of environmental studies we should note that local pollution or purification can be either anthropogenic (discharges of pollutants into water or vice versa dilution of polluted water with clean water) or natural (self purification or vice versa secondary pollution). Keywords: marine pollution, local processes, background concentration, background characteristic