



Revealing Risk Groups under Condition of Pollution of Cities with Heavy Metals

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Heavy metals are attributed to stable environmental pollutants. Special attention paid to them when assessing ecological state of territories is conditioned by their specific impact upon human organism.

In cities, reappearance of processed substances in the environment and their re-involvement in natural cycles have acquired a of large-scale character, this resulting in formation of man-made geochemical associations of heavy metals on urbanized sites.

The picture of heavy metal pollution of territories is identified through geochemical mapping of soils. The relevant maps show pollution sources and structure, and based on them territory zoning is carried out by level of pollution with separate elements or their associations. Environmental risk assessment in such zones is based on geo-ecological principle regarding data spatial and temporal timing and reflection on specialized maps.

Thus, treating the territory as objectifying factor we may collate geochemical and other ecologically significant factors with medical and biological indices of the populace. In particular, we have established the increase in occurrence rate of perinatal mortality in the zones of intense lead and copper anomalies.

Geochemical maps may easily be transformed to sanitary-hygienic ones, this making it possible to operatively reveal groups exposed to top risk and requiring thorough examination.

Under condition of social and economic crisis, a new large risk group has been formed among urban population: a so-called “urban home-gardeners” who - to survive- have

to grow agricultural crops on small plots of land within the bounds of the city.

Biogeochemical mapping of vegetation and studying mobile forms of metals in soils allowed contouring the areas where agricultural crops polluted with heavy metals are grown and revealing risk groups with whom preventive work should be conducted so as to rise their awareness. These investigations are especially topical for regions where mining industry is developed.