TO ASSESSING THE IMPACTS OF NATURAL AND TECHNOGENIC FACTORS ON MALIGNANT NEOPLASMS INCIDENCE IN ALTAI KRAI

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Abstract. Air pollution by industry and motor vehicles, the use of coal ash for the construction of residential and nonresidential buildings, the presence of dead zones in the residential sector are major factors of carcinogenic risk to human health. Natural factors (topography, prevailing wind directions) contribute to the weakening or strengthening of man-made factors. Based on the assessment of pollutant concentrations in snow cover of Barnaul, the residential areas with the carcinogenic substance concentrations exceeding greatly MPC were identified. The total accumulation of carcinogenic substances occurs here concurrently from multiple sources. All of these areas are at the crossroads of atmospheric propagation of carcinogenic substances, and the impact of a pollution source at any wind rose is here observed all the year round. When evaluating carcinogenic risk of the territory, the correlation between topography and the height of the apartments above the earth's surface plays an important role. Using the data from the Cancer-register, in Barnaul the increased level of cancer incidence in people living in the multi-storey buildings or houses located in areas with a sharp change in relief (on ledges, hills or in lowlands) was revealed. The occurrence of stagnant zones and wind shadows when under certain correlation between the relief height and shape of the houses in the maximum accumulation of carcinogens may be among the reasons of cancer incidence.

Keywords: pollutants, atmospheric transport, snow cover, polyaromatic hydrocarbons.