

Abstract

This diploma thesis deals with the estimation of potential health risks at schools exposed to traffic-related air pollutants. It is based on the method of a geographic information system (GIS).

Road traffic is a source of suspended particles, whose long-term exposure has an effect on the growth of the lower respiratory tract disease, chronic obstructive pulmonary disease, reduction of lung function and cardiovascular disease, especially in the large urban agglomerations. Besides the long and seriously ill and the elderly, children belongs to the particularly vulnerable group of population. Children used to spend a great deal of time at schools. Many scientific studies have found associations between proximity to traffic and increased risk of respiratory disease and a slower development of lung function among children attending schools close to busy roads.

One of the aims of this study is to locate elementary schools in the region of Prague by GIS techniques and examine, whether the quality of air in the place where schools stands to is influenced by the traffic air pollution.

Although the estimation of the potential health risk is based on indirect methods of GIS, it is possible, that high concentrations of pollutants could infiltrate into the most exposed schools and cause adverse health effects, especially to sensitive ones. The results of this study could contribute to discussion about quality of urban environment.