ABSTRACT

Air pollution is one of the major environmental issues. It can cause adverse health effects such as cancer, cardiovascular diseases and high mortality rates. High population density is a huge contributory factor of air pollution in cities and urbanized areas.

The third biggest city of the Czech Republic, Ostrava the subject of this thesis, is one of the most densely polluted areas of the country. The main air pollutants of concern are suspended particles and poly aromatic hydrocarbons. Ostrava's high proportion of heavy industry is a major source of air pollution compared to the rest of the Czech Republic. Other sources of air pollution are transport, local heating and possibly a pollution transfer from a neighboring industrial region in Poland.

This thesis deals mainly with long term time series, including air pollutants (PM_{10}, SO_2, NO_x), and meteorological variables.

Information about the opening and closing of industrial plants can be considered as an added value to this work. The purpose of this data thesis is to compare the concentration levels before and after the closing or opening of particular industrial plants in the city of Ostrava during the last 35 years. So far no one has utilized these data sets for comprehensive analyses.

Key words:

Urban area, Emission, PM_{10}, SO_2, Industry