

THE CLIMATIC CONDITIONS OF GASEOUS AIR POLLUTANTS IMMISSION
ON THE RESEARCH STATION OF IG&SO PAS AT SZYMBARK
IN THE YEARS 2005–2014

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Summary

The paper presents an analysis of the dynamics of the concentrations of gaseous air pollutants SO₂ and NO_x on Research Station IG&SO PAS at Szymbark during 10 years of measurement (2005–2014), including the impact of selected elements of weather: air temperature, wind direction and the type of atmospheric circulation on the size and a potential source of immision. There are observed increase of average monthly concentration in the winter half-year due exhaust fumes emissions from buildings located directly in the Bystrzanka basin or surroundings. There is observe high positive correlation between concentration of pollutants and air temperature. Relatively high concentrations of pollutants are accompanied by the occurrence of calm. Air temperature, especially in winter, influence the growth of emissions from local sources, which have the highest concentration in the bottom of the Bystrzanka valley. Types of atmospheric circulation play a significant role in the movement of cross-border pollution from the Slovakia, which exhibit a high concentration of heavy metals in Hypogymnia physodes lichen thalli on measuring position located in the highest part of the Bystrzanka basin.