Skotak, K., Przadka, Z., Degorska, A. Impact of Meteorological Conditions on Air Pollution with Polycyclic Aromatic Hydrocarbons Associated with Rural Aerosol Particles. *Ochrona Srodowiska* 2014, Vol. 36, No. 3, pp. 55–63.

Abstract: In Poland, polycyclic aromatic hydrocarbons (PAHs) are emitted into the atmosphere mainly from the non-industrial fossil fuel combustion and energy production sector, transport and industry. PAHs in ambient air are transported over long distances and their concentration in a given area depends primarily on the emission size and local meteorological conditions. Our study assessed the level of air pollution with particle-associated PAHs in rural area in North-Eastern Poland (Puszcza Borecka). Impact of weather conditions on PAH concentrations in ambient air in the period from 2008 to 2012 was analyzed on annual and seasonal basis. Statistically significant correlation results between PAH concentrations and meteorological parameters were achieved for temperature, total solar radiation intensity, sunshine duration and evaporation. It was established that the temperature and precipitation level had stronger influence on PAH air content in the warm half year, while radiation intensity, sunshine duration and evaporation – in the cool half-year period.

Keywords: Air quality, air pollutant emission, pollutant dispersion, seasonal variability.