Mariusz PTAK, Bogumił NOWAK

CHANGES IN WATER TEMPERATURE IN PROSNA RIVER IN 1965–2014

Key words: climate change, ice phenomena, Prosna River, rivers, water temperature

Summary

The objective of the paper is the analysis of changes in the thermal conditions of the Prosna River in central Poland (station Bogusław) over the last 50 years (1965–2014). Based on daily temperature measurements performed by the Institute of Meteorology and Water Management – National Research Institute, it was determined that the mean annual water temperature in the analysed river considerably increased by an average of 0.27°C·decade$^{-1}$. In monthly distribution, the highest increase was recorded in April. It amounted to 0.46°C·decade$^{-1}$. Changes in water temperature were strongly dependent on the transformation of climatic conditions. An increase in the annual air temperature in the analogical multiannual for station Kalisz (about 20 km from the research site) amounted to 0.3°C·decade$^{-1}$. Such evident changes in the thermal regime of the Prosna Regime have and will have an effect on the functioning of the entire ecosystem. It is clearly visible among others in the occurrence of ice phenomena the persistence of which decreased by 5.6 day·decade$^{-1}$.