

Geographic Variance in Water Pollution in Illinois

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Water pollution negatively affects lakes, rivers, drinking water, oceans, and seas all over the world. The pollution of this finite resource harms the environment and the health of humans who drink the water. Illinois is home to over 119,000 miles of streams, 900 miles of large rivers, and more than 91,000 freshwater lakes and ponds. However, due to industrial and agricultural activities in the past and the present day, many of the bodies of water have been polluted in varying levels throughout the state. Our project compares the geographic distribution of pollution in Illinois waterways to the geographic distribution of human related factors, such as the spread of utility plants, commercial farms, and human population centers throughout Illinois. We quantify the pollution of waterways by examining the pH, temperature, and the prevalence of various compounds, such as nitrogen based compounds and orthophosphates, in different waterways. We then analyze patterns in the data to understand which human related factors have the highest effects on water pollution in Illinois. Understanding the effects that specific types of man-made activities can have on water pollution allows efforts to be made that efficiently limit water pollution by targeting the pollution sources that contribute the most to water pollution in Illinois. Analyzing the sources of water pollution also spreads awareness of the causes of this ecological problem, which is beneficial to limiting water pollution.