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The impact of tourism on soil degradation in the individual natural-landscape zones of the Tatra National Park

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The Tatra National Park was visited by over 5 million people in 2025, which causes pressure on the environment [1,2]. The soil cover, as a stationary element of the abiotic environment, is particularly vulnerable. It is also a significant carrier of information about the state of ecosystem pollution due to the circulation between water, soil, air, and flora and fauna. Soil contamination can vary depending on the natural-landscape zones. The selected trail in the Tatra National Park (Kiry-Chochołowska Valley PTTK Shelter- Grześ- Rakoń-Chochołowska Valley PTTK Shelter- Kiry) has three zones: valley, approach, and ridge [3,4]. An important element that affects the intensity of tourist traffic, and subsequently the degradation of the soil cover, is the park's infrastructure for tourist purposes. The relationship between tourist infrastructure, tourism, and soil pollution and degradation is a topic suitable for scientific research, which can provide important information to help achieve the TPN's goal. The results indicate that soils further from urban areas are more acidic and richer in organic matter, while heavy metal concentrations and sorption capacity typically decrease with distance from trails and development. The conclusion is that the impact of tourism is generally small and local.

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