

Abstract

The purpose of this work is to explore detection options of subsurface drainage systems using remote sensing data. Drainage drains soggy soil and increases its fertility, but also allows transport of nutrients such as nitrogen and phosphorus into waterways. Location of drainage systems is often unknown because of missing or inaccurate project documentation. Theoretical part is mostly devoted to the description of remote and ground methods of drainage detection. Then objectives of the work are solved. Drainage indications are described in specialized aerial photographs of visible and infrared part of the spectrum. These indications are compared with historical project plans. Methods aimed to improve indication of drainage including Laplacian filter and NDVI are applied and evaluated. Main output is binary raster expressing location of drains. Accuracy of results is evaluated in relation to vectorized indication of drainage from the source images.