The aim of this thesis is to evaluate the applicability of distance data for hydromorphological assessment. Background research is focused on different types of distance data sources and selected hydromorphological methods. Applicability of distance data in hydromorphological assessment was tested on four selected sections of Elbe River, on which there was previously conducted field survey. Hydromorphological assessment was based on methodology HEM (Hydroecological monitoring). Results from the field survey were used as a reference resources for comparison with the own results achieved by the assessment with distance data using public available data sources. The results indicated that use of distance data for hydromorphological assessment can be regarded as an alternative to the field survey. At the same time the study pointed to clear limitations in assessment of some parameters, namely of river bottom, where the field survey cannot be replaced by any known distance data source. The results proved that the application of distance data can lead to the results comparable to the field survey while respecting uncertainty, given by impossibility to determine some of the parameters.