

ABSTRACT

The work deals with the use of vegetation indices to study temporal variation in vegetation phenology. The first part was devoted to detailed analysis of domestic and foreign literature, which deals with the work processed in this field. The main research questions were if changed start, end and length of growing period during the analysis period. Other research theme was comparison with ground phenological data. Another objective of this work was search dependencies computed data phenological variables from vegetation indices with phenological ground data. As a basic data set was used GIMMS set, which distributes the vegetation index NDVI. Other data sets were MERIS MTCI, data MODIS with vegetation indices NDVI, EVI a LAI. The results of analyzes of vegetation phenology show trends in most shifts at the beginning of growing season, where was a shift to an earlier time. Results of the analysis of vegetation remote sensing data with ground-based phenological data ČHMÚ were unfolding always according to the specific forest phenological stations. Interesting results were at the phenological station Svoboda nad Úpou, where the results of trends directives were consistent in almost all data sets. Comparison of process curves vegetation indices with ground data corresponded most curves at selected stations MCD LAI and MERIS MTCI data sets. The best calibration results phenological variables of data sets with ground-based data ČHMÚ have data sets MCD LAI and MERIS MTCI.

Keywords: remote sensing, land cover, vegetation indices, phenology