

Mapping litter decomposition by remote-detected indicators

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Abstract

Leaf litter decomposition is a key process for the functioning of natural ecosystems. An important limiting factor for this process is detritus availability, which we have estimated by remote sensed indices of canopy green biomass (NDVI). Here, we describe the use of multivariate geostatistical analysis to couple in situ measures with hyper-spectral and multi-spectral remote-sensed data for producing maps of litter decomposition. A direct relationship between the decomposition rates in four different CORINE habitats and NDVI, calculated at different scales from Landsat ETM+ multi-spectral data and MIVIS hyper-spectral data was found. Variogram analysis was used to evaluate the spatial properties of each single variable and their common interaction. Co-variogram and co-kriging analysis of the two variables turned out to be an effective approach for decomposition mapping from remote-sensed spatial explicit data.

Keywords

decomposition rates;hyper-spectral image;NDVI;co-kriging

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References

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
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