



## Upscaling the Cover-Management Factor using GIS

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The cover-management factor (C-factor) is an important factor in the study of soil erosion. Using data from sampling plots to estimate the cover-management factor at a regional scale is important for the assessment of large-scale soil erosion. This study used Ansai County in China's loess hill and gully region as a study area to derive a method for computing the cover-management factor at the regional scale by upscaling the slope-scale computational formula using geographic information system (GIS) technology. In addition, the cover-management factor was calculated for Ansai County using the soil loss ratio, precipitation and land cover type. The results indicated that the scaled-up C-factor represents the combined effects of land use/land cover and rainfall erosivity. The multi-year mean C-factor for Ansai County was 0.36. C-factor values were higher in the eastern region of the county than in the western region, and the lowest values were found in the southern county border region. Further research is needed to determine the effects of seasonal changes in vegetation growth on the cover-management factor.