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Land cover change in the United States Northern Great Plains 1973 - 2011

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ABSTRACT:

Estimates of land cover and land use change were created by the Land Cover Trends project for the conterminous United States. Estimates of change were compiled on an ecoregion basis using a geospatial sampling approach. Initially, land cover data were interpreted for five dates of Landsat satellite imagery from 1973 to 2000. To bring these estimates closer to current time, selected ecoregions were updated with two additional change dates, 2006 and 2011. The four ecoregions that are included in this study are in the U.S. Northern Great Plains and include the Northwestern Glaciated Plains, the Northern Glaciated Plains, the Northwestern Great Plains and the Western Corn Belt Plains. These ecoregions have a total of 140 samples and were updated to investigate the responses to continuing and new drivers of land cover change that may have begun as a result of increased biofuel crops in the region. Decreased Conservation Reserve Program enrollments in the counties in the four ecoregions correlate with the increased conversions of grassland/shrubland to agriculture found in the ecoregions. Annual rates of change have increased in three of the four ecoregions to make 2006 to 2011 the time period with the highest rate of change since 1973.