Project Home Understanding dynamics of land use switching with satellite and field level data in context of climate variability

What remains of the United States prairie ecosystem is threatened by economic forces and a changing climate. Grassland conversion to cropland in the Dakotas would imperil nesting waterfowl among other species and further impair water quality in the Mississippi watershed. We seek to work with grassland conservation managers to better target the use of public and private funds allocated toward incentivizing grassland preservation on private lands in the Dakotas. We will assemble and analyze data develop practical analytical tools to assess the likelihood of grassland conversion to cropping and of the costs of protecting these lands under different climate and economic scenarios. These tools, together with insights we obtain from partners in the area will allow us to work with land conservation managers on identifying lands to target for grassland protection incentives under alternative climate and economic scenarios. Outputs will be used to collaborate with land conservation managers when comparing strategies for ensuring that lands providing high wildlife and habitat benefits at low conservation cost are conserved while private landowners are happy to forgo land use alternatives.