SG PEOG code map – INPUTS

* Reshape data
* Adjust to 2012 CPI
* Fill gaps

Processed using Tabulate by Area in Zonal toolbox in ArcGIS

See ProcessingNotes.md in ACR\_grasslands respository

Mesic conversion

Counties where first crop is alfalfa

PerfectEnemyofGood\_LULC\_stats\_firstcrop.r

* Reshape data
* Calculate proportion of conversion over sage grouse mesic habitat historically in each county

Allcounties\_LarkConversion\_byLCC\_NASSLandrents\_CPIadjusted\_plusControlVariables\_static\_plus\_sgmzs.csv

PerfectEnemyofGood\_createMesicInputs.r

* Join all these datasets together

PerfectEnemyofGood\_mergeData.r

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* Extract forage from GSSURGO
* these scripts are stored in the soil-organic-carbon repository

PerfectEnemyofGood\_summariseForageAUM.r

PerfectEnemyofGood\_formatNASSRentdata.r

Population

Road density

Farm demographics

Area (%) urban in county

Area (%) of cropland in county

Irrigated land

PerfectEnemyofGood\_formatUSDAIrrigateddata.r

Forage availability (AUM)

* Calculate forage in county on public and private land
* Convert forage to AUM

JoinMosaic\_SGMZ.R & JoinMosaic\_SGMZ\_gdbExtractor.py

* Calculate % in county

Area converted in county each year (Lark 2015)

Crop suitability (LCC)

NASS Rent data

ANALYSIS & PLOTS

Scripts no longer needed:

PerfectEnemyofGood\_createInputs.r

PerfectEnemyofGood\_mergeCountyData.r

PerfectEnemyofGood\_model\_prelimtests.r

PerfectEnemyofGood\_NumberofRanchers.r

PerfectEnemyofGood\_plotVariables.r

Counties where first crop is alfalfa

Mesic conversion

Forage (AUM)

PerfectEnemyofGood\_model\_marginaleffects.R

* Monte-carlo model of marginal effects of model variables
* Calculate background conversion
* Calculate area converted with policy
* Calculate mesic habitat loss
* Perform sensitivity analysis:
* extrapolating current conversion
* exclude counties converted to alfalfa
* Sensitivity analysis of parameters, test suitability & completeness of different data sources
* Model selection
* Sensitivity analysis on log transformation (ZIF) for SI
* Sensitivity analysis on rangeland rent coefficient for SI
* Heteroskedascitiy-robust standard errors

Allcounties\_LarkConversion\_byLCC\_NASSLandrents\_CPIadjusted\_plusControlVariables\_static\_plus\_sgmzs.csv

* Test model residuals for spatioautcorrelation,
* Plots for SI

PerfectEnemyofGood\_modelspatialautocorrelation.r

PerfectEnemyofGood\_econometricmodels.r

PerfectEnemyofGood\_plot\_marginaleffects.r

* Plots and maps for SI & manuscript:
* Habitat remaining
* Marginal effects
* Loss curves
* Background conversion
* Sensitivity analysis