

County Estimates of Irrigated and Dryland Acres

Appendix 4-H shows county charts of irrigated and dryland estimates from all data sources, as well as the derived estimates of irrigated and dryland crops used for the Phase II land use dataset. The data sources were:

- the output from county scaled GIS processing (i.e. GIS potential)
- the Census of Agriculture data. All irrigated and dryland crop statistics were summed and interpolated between Census years.
- remote sensing data derived from either the CALMIT land cover datasets (1982, 1997, 2001, 2005) or NRD infrared imagery analysis (2007)

The ratio between the GIS irrigated and dryland potential and estimated irrigated and dryland crops, respectively, was used in subsequent processing to adjust groundwater, surface water, comingled and dryland estimates at the cell scale.

Figure 4-H.1 shows the counties and portions therein that were included in the analysis. For partial counties, the NASS Census of Agriculture data were scaled according to fraction of cropland area within the study area boundary. The fraction of cropland was based on the cropland area shown by the the 2005 CALMIT land cover dataset.

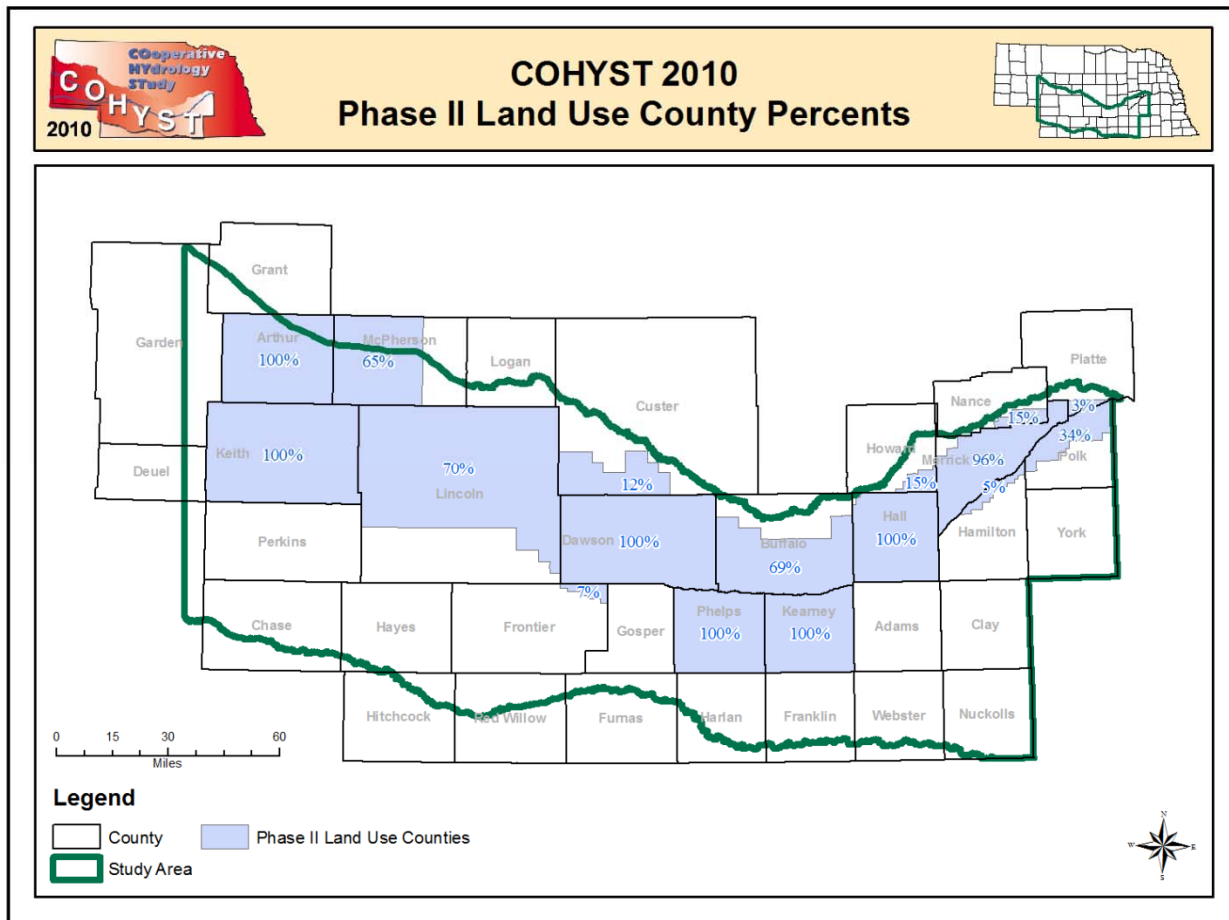


Figure 4-H.1: Map showing the whole counties and partial counties used in the Phase II land use data set

Figures 4-H.2 through 4-H.34 show the irrigated and dryland charts for the specific counties. The charts show the whole counties first, and list these in alphabetical order. The partial counties are shown after this (starting with Custer County) and are also listed in alphabetical order.

Explanation of Irrigation Charts

The charts showing estimated actual irrigation and adjustments therein for all full and partial counties are shown in Figures 4-H.2 through 4-H.34. The blue line shows the GIS irrigation potential based on certified acres for that year. The orange line shows the estimated actual irrigated acres that resulted from the normalized interpolation calculation. The orange line

always intersects the RS data points as this was considered the best estimate of actual irrigated lands. It should also be noted that the estimated actual irrigation curves mimic the trends of the Ag Census and GIS irrigation potential curves, especially when in close proximity to either curve.

The grey boxes show any remote sensing (RS) data (CALMIT or NIR) prior to adjustment. As discussed earlier, the only adjustment to RS data occurred when the RS data was higher than GIS potential. The red points show the adjusted RS data. If the red point overlays the grey box then no adjustment was made to that point.

The grey line shows the interpolated Census of Agriculture prior to any adjustment. The green line shows the interpolated Census of Agriculture that was adjusted downward in certain cases where a RS data point was lower than the respective Census of Agriculture data point. If a grey line is barely visible or not visible, then no adjustment or a minimal adjustment was applied to the Census of Agriculture curve.

Explanation of Dryland Charts

The normalized interpolation charts showing estimated actual dryland and adjustments therein for all full and partial counties are shown in figures 19 - 35. The orange line shows the estimated actual dryland acres that resulted from the normalized interpolation calculation. The orange line always intersects the RS data points as this was considered the best estimate of actual dryland. It should also be noted that the estimated actual dryland curves mimic the trends of the Ag Census and GIS dryland potential curves, especially when in close proximity to either curve.

The grey boxes show the remote sensing (RS) data points for dryland. As discussed earlier, no adjustments were made to the dryland RS data.

The solid grey line shows the interpolated Ag Census prior to any adjustment. The green line shows the adjusted Ag Census curve that occurs in cases where a RS data point was lower than

the respective Ag Census data point. If the solid grey line is barely visible or not visible, then no adjustment or a minimal adjustment was applied to the Ag Census curve.

The dashed grey line shows the GIS dryland potential curve prior to any adjustment. The blue line shows the GIS dryland potential after initial adjustments (see above section), in cases where a RS data point was higher than the respective GIS dryland potential data point. If the dashed grey line is not visible, then no adjustment was applied to the GIS dryland potential curve.

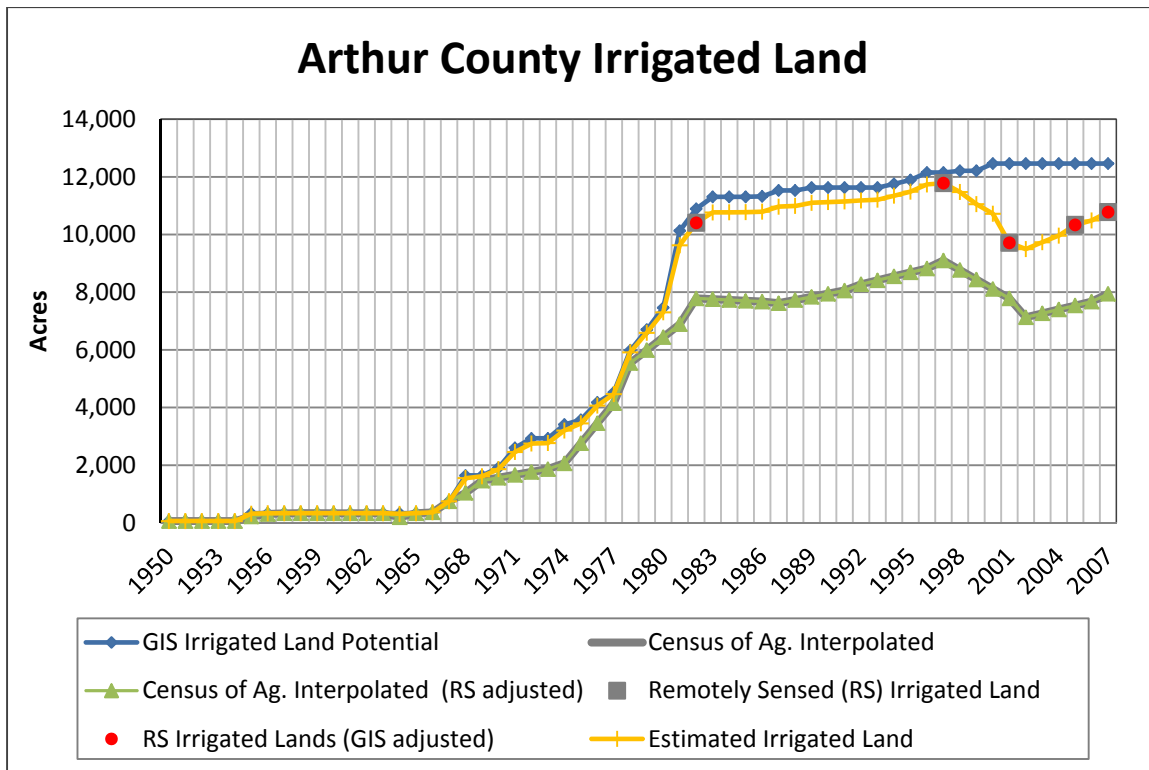


Figure 4-H.2: Estimated Irrigated Land in Arthur County

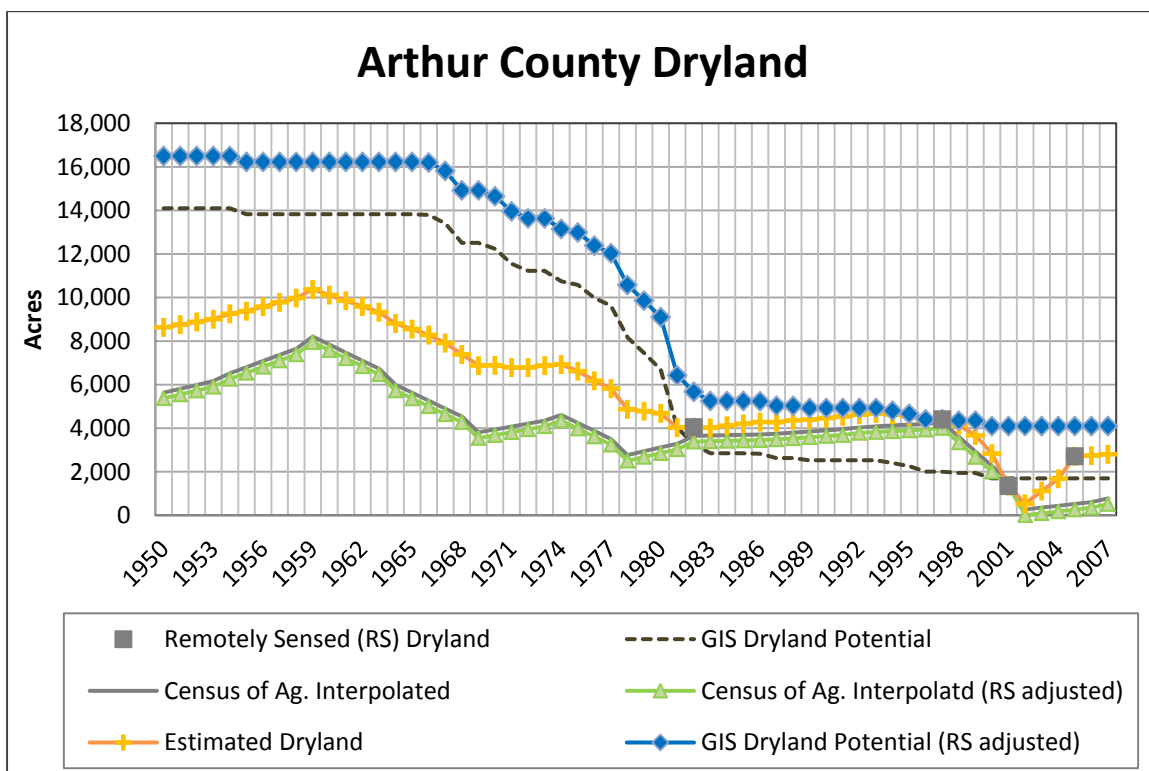


Figure 4-H.3: Estimated Dryland in Arthur County

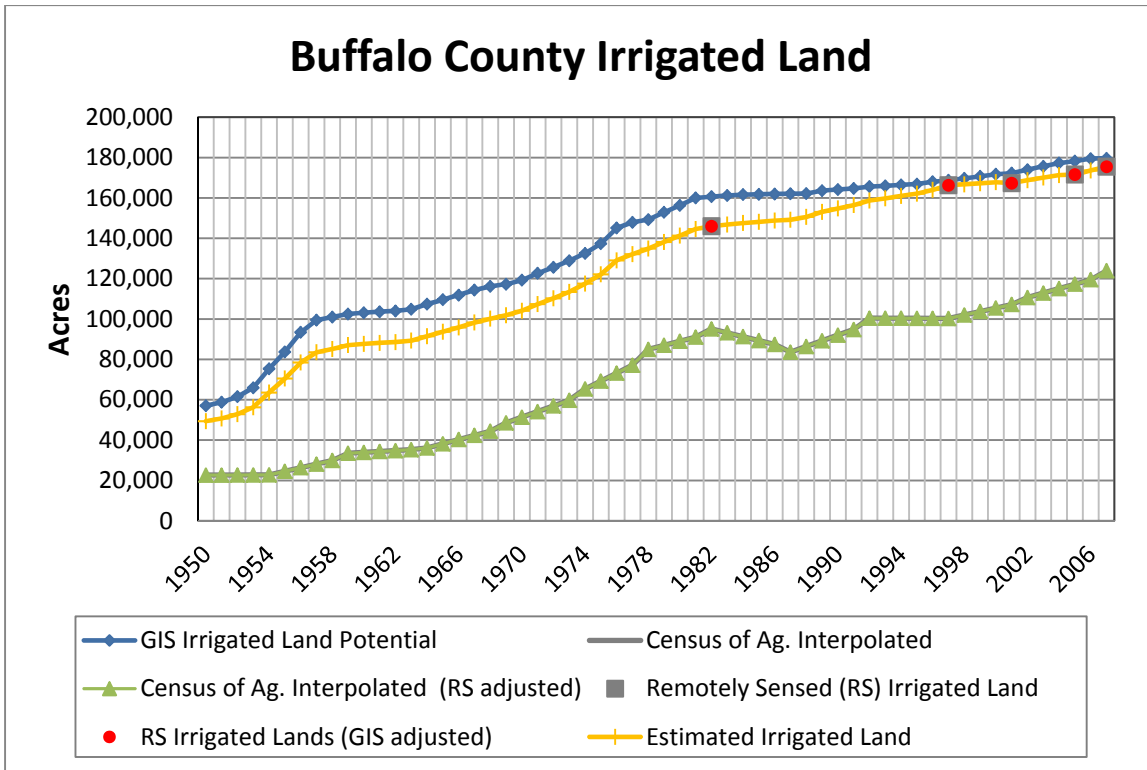


Figure 4-H.4: Estimated Irrigated Land in Buffalo County

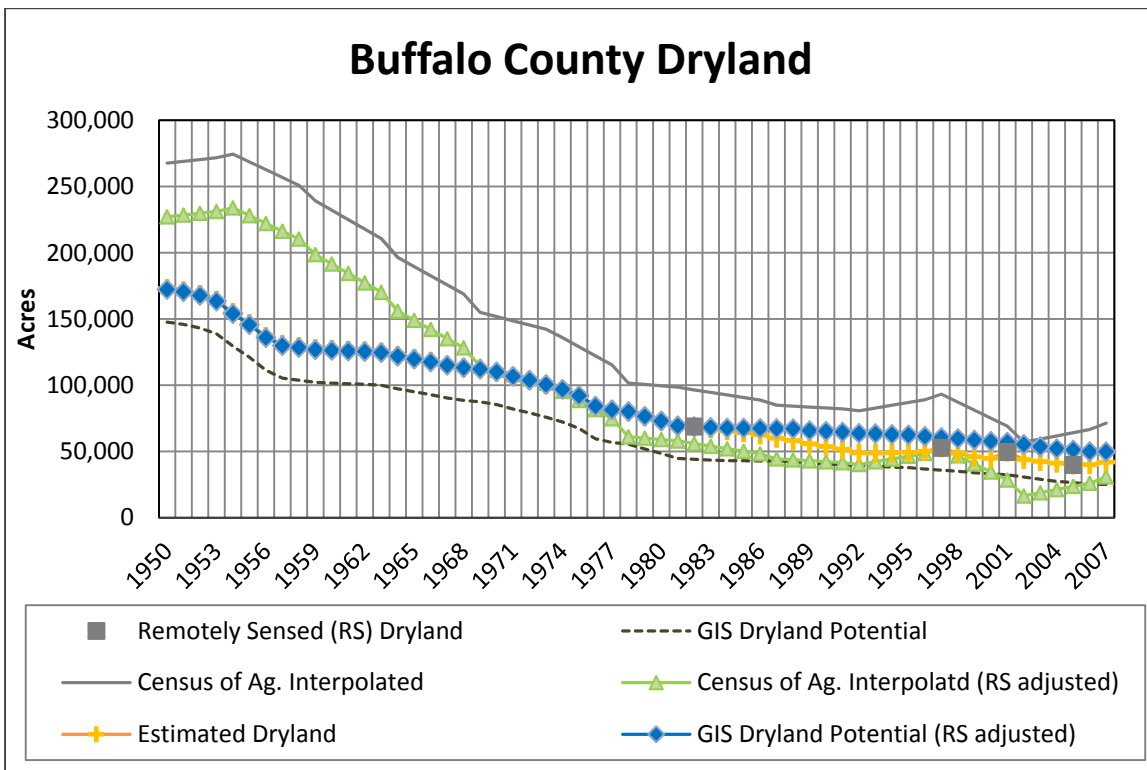


Figure 4-H.5: Estimated Dryland in Buffalo County

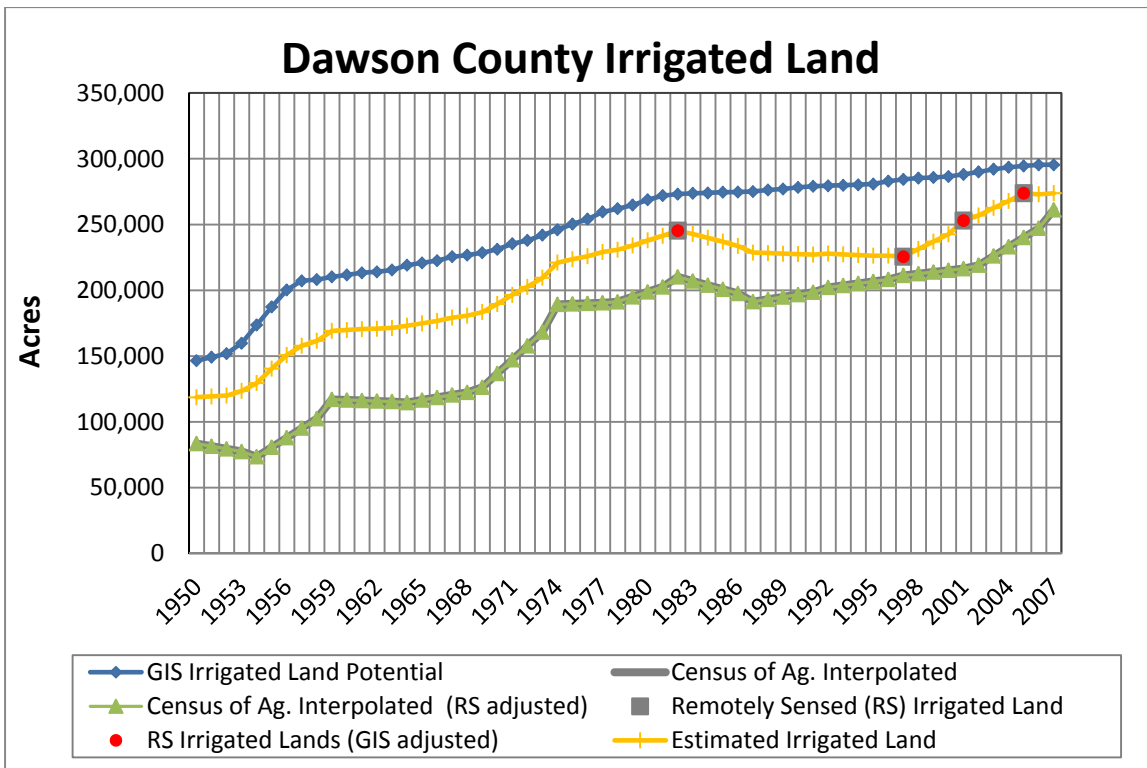


Figure 4-H.6: Estimated Irrigated Land in Dawson County

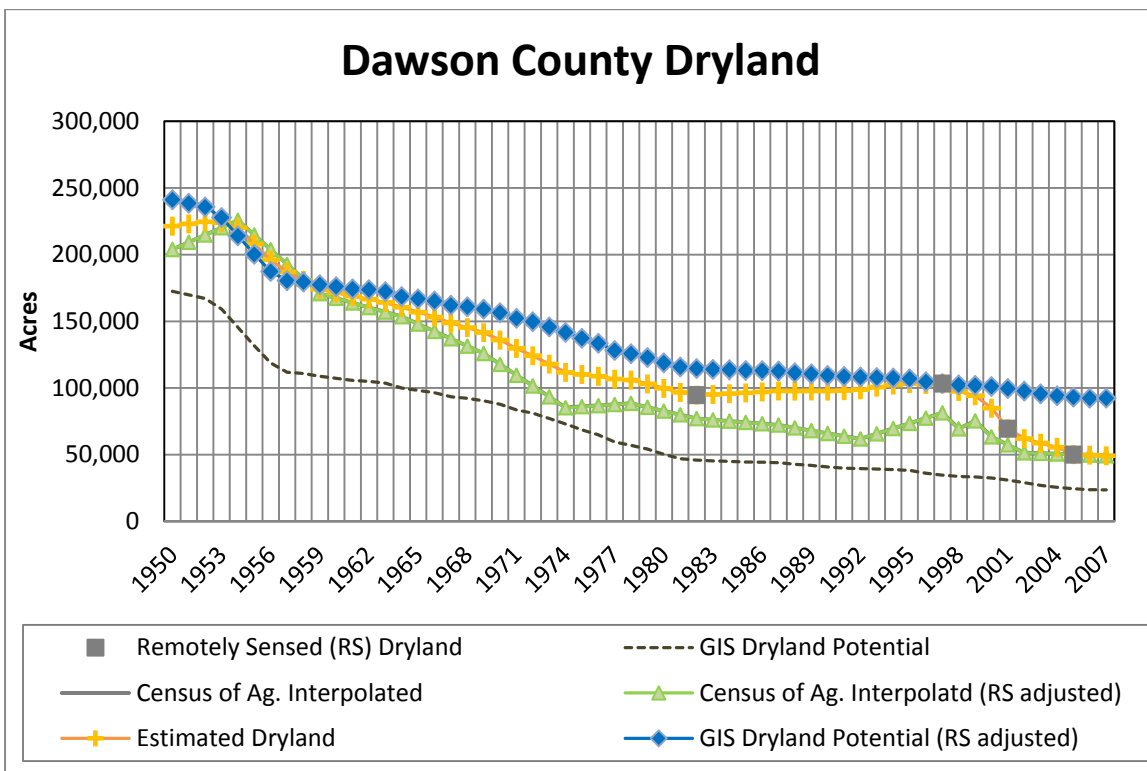


Figure 4-H.7: Estimated Dryland in Dawson County

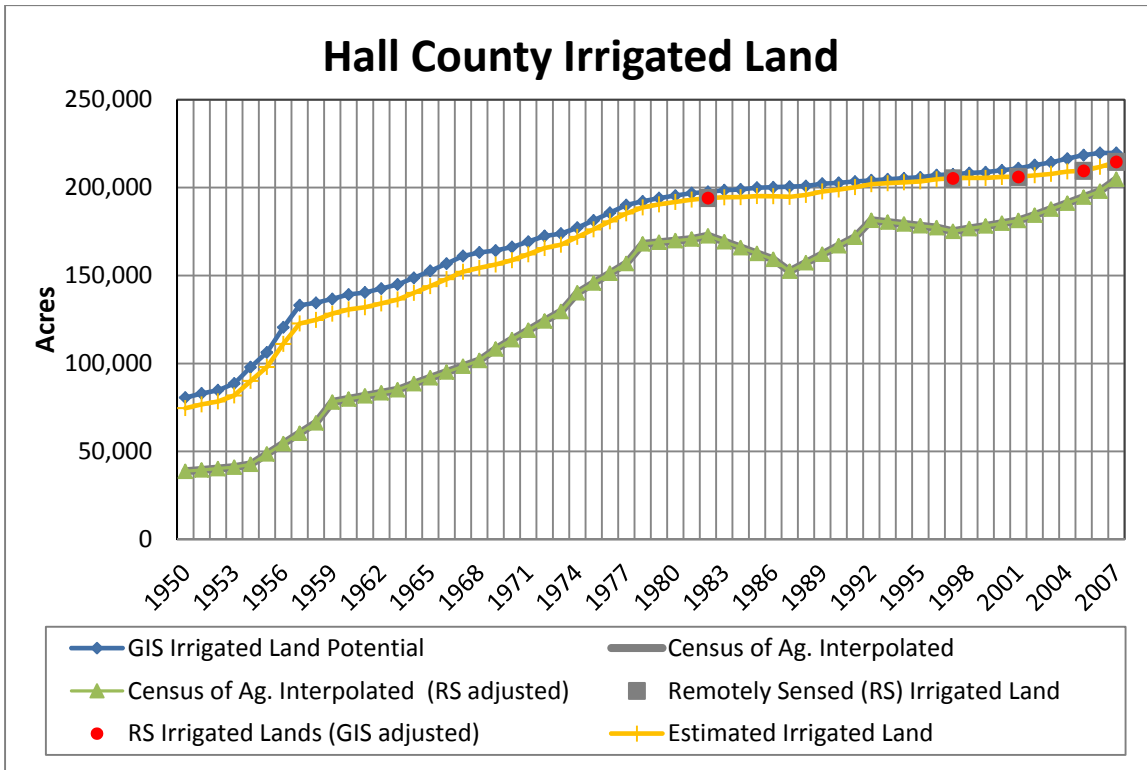


Figure 4-H.8: Estimated Irrigated Land in Hall County

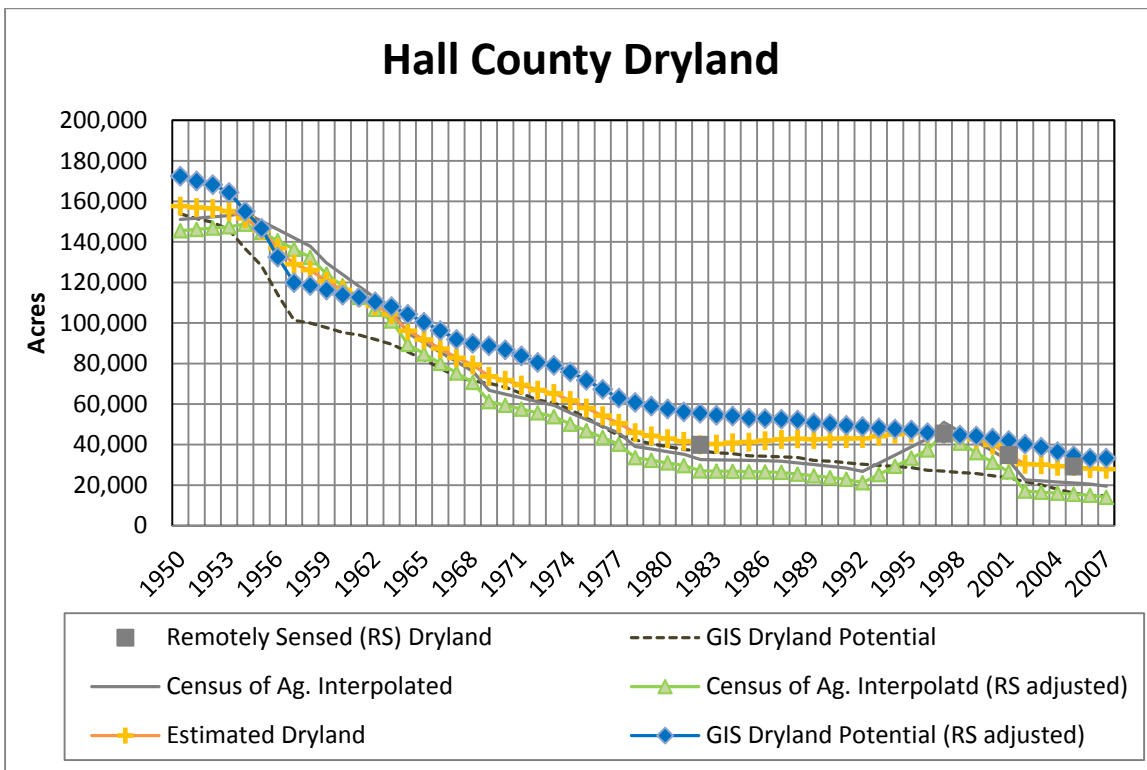


Figure 4-H.9: Estimated Dryland in Hall County

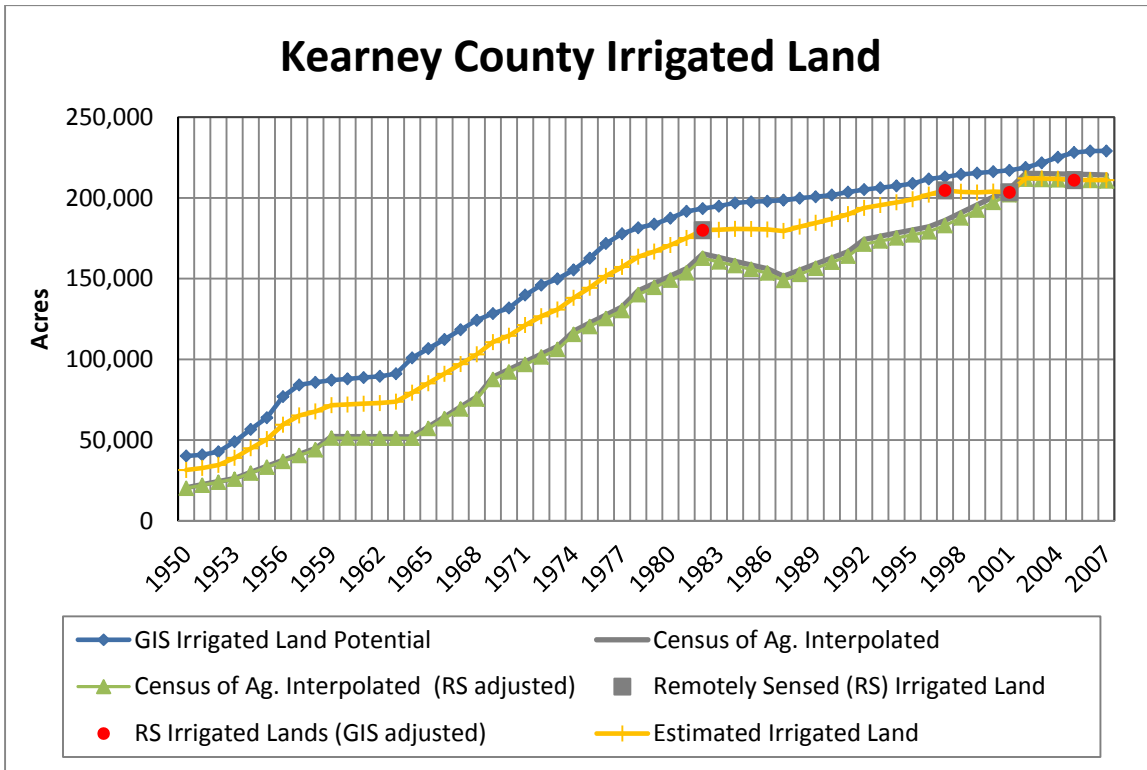


Figure 4-H.10: Estimated Irrigated Land in Kearney County

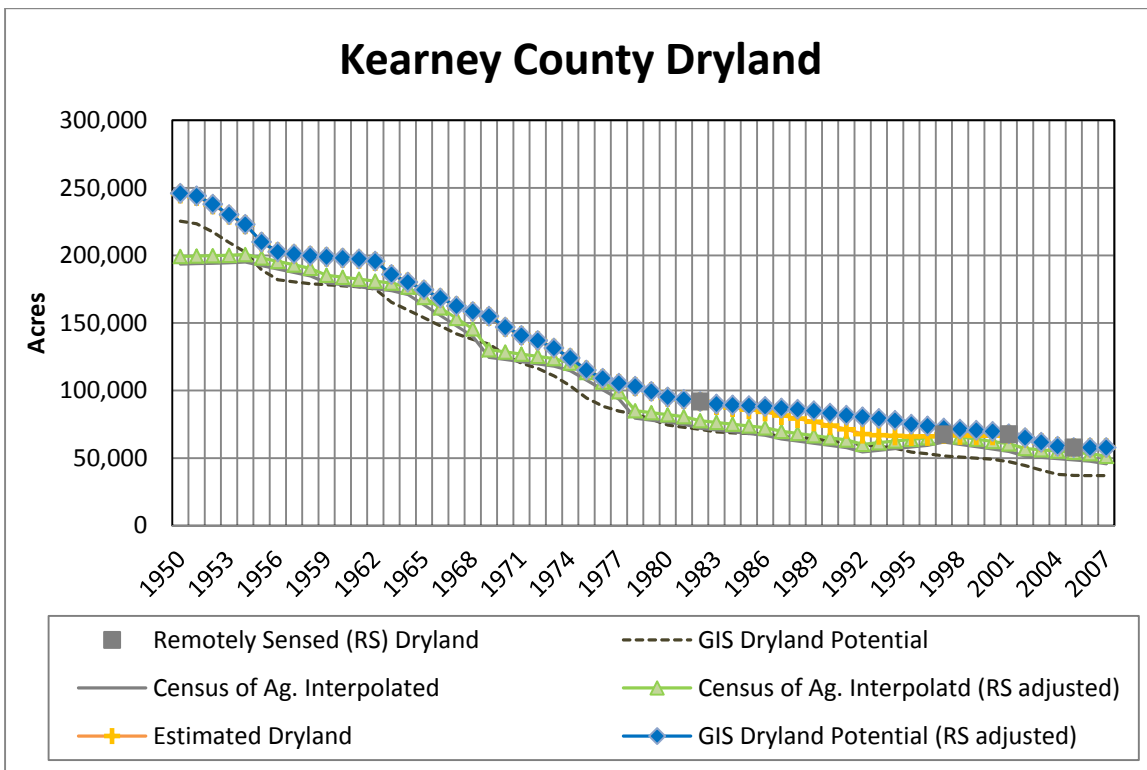


Figure 4-H.11: Estimated Dryland in Kearney County

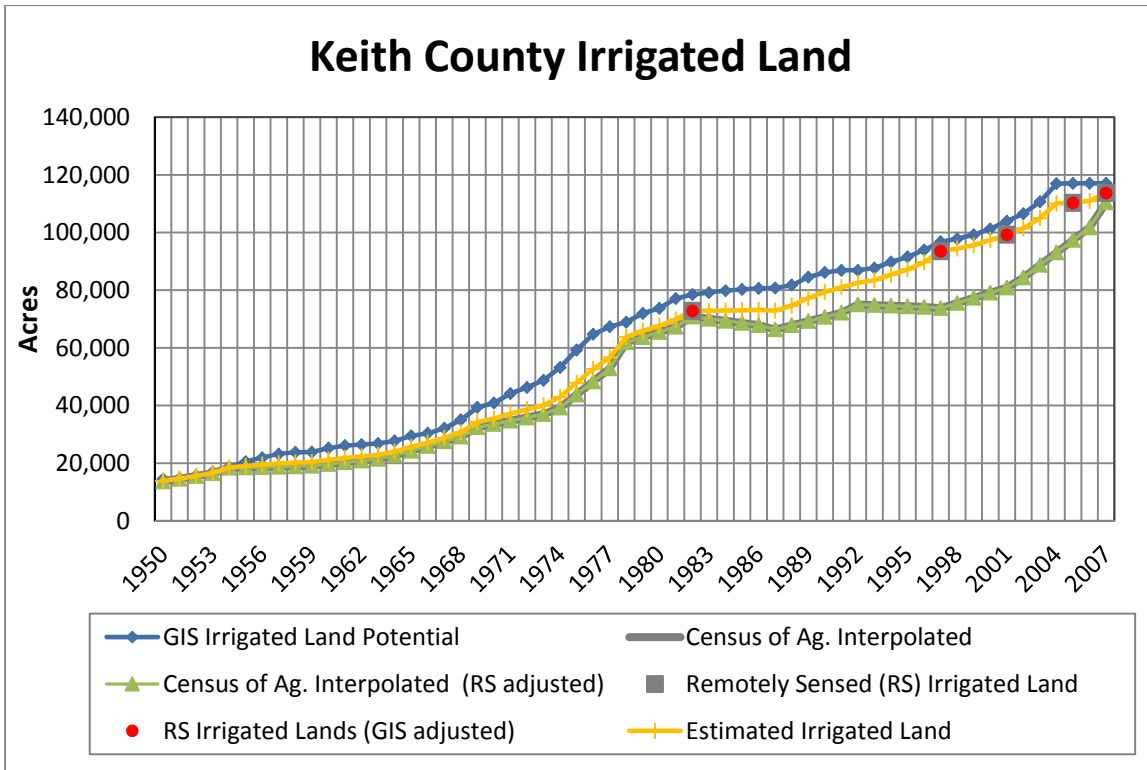


Figure 4-H.12: Estimated Irrigated Land in Keith County

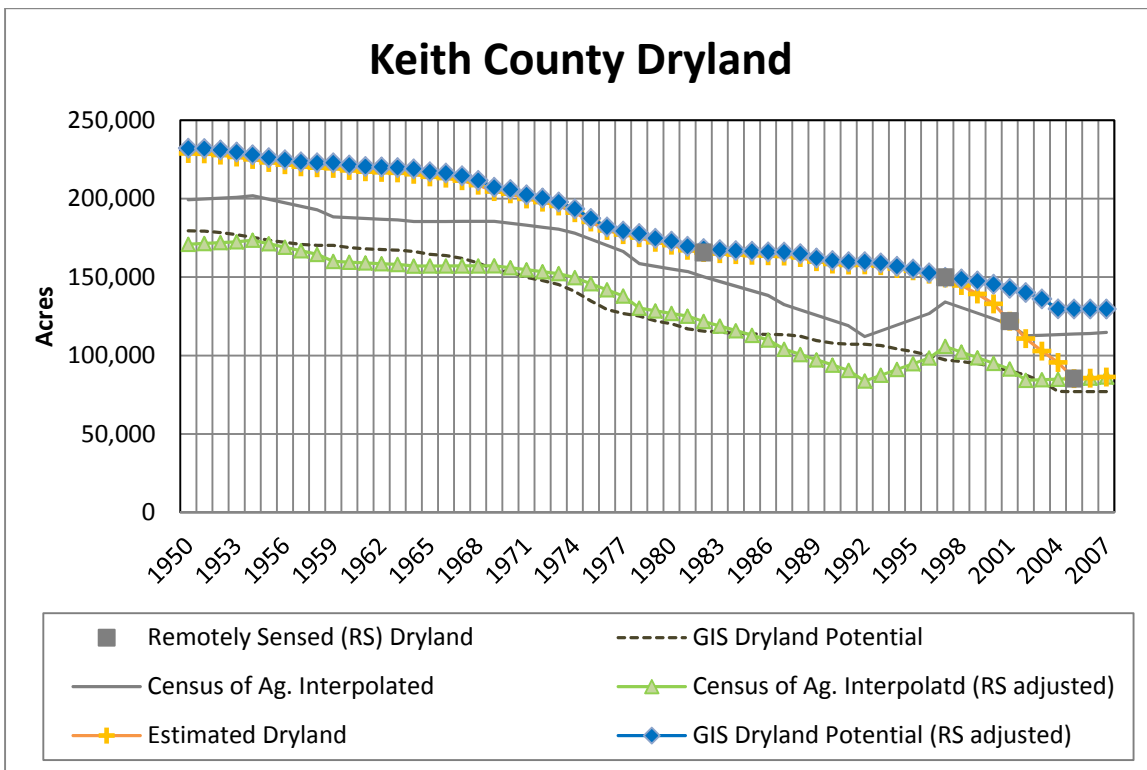


Figure 4-H.13: Estimated Dryland in Keith County

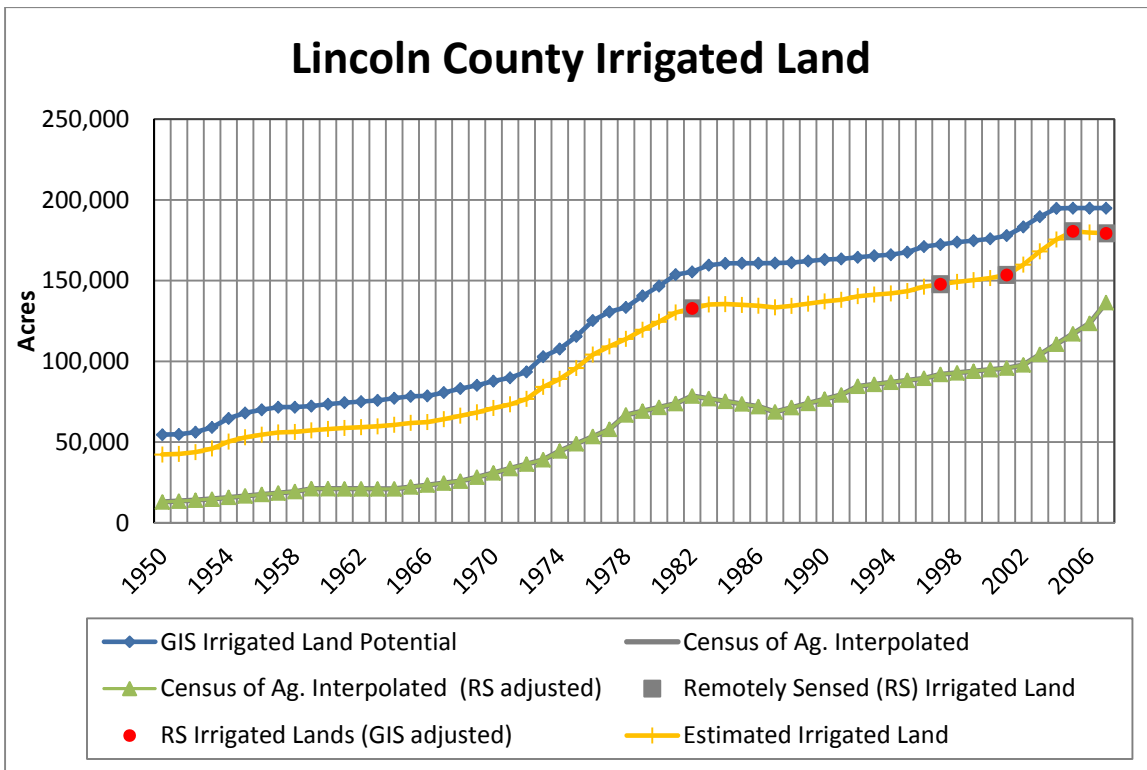


Figure 4-H.14: Estimated Irrigated Land in Lincoln County

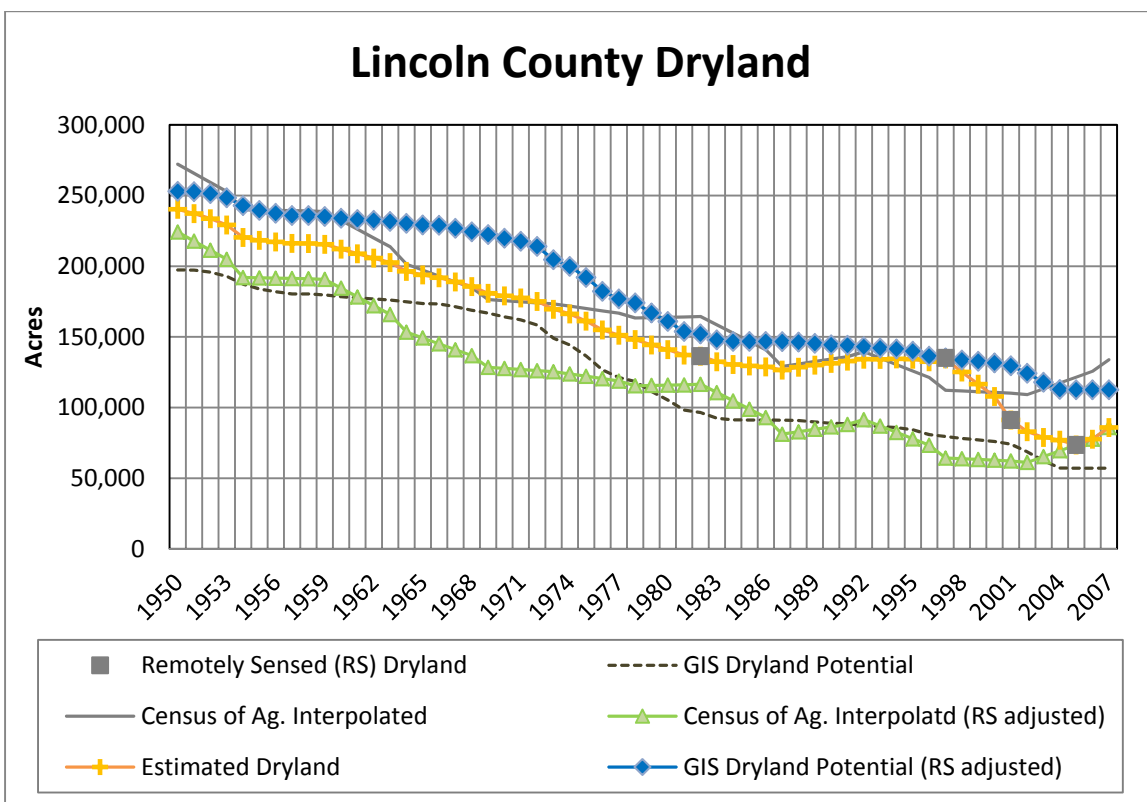


Figure 4-H.15: Estimated Dryland in Lincoln County

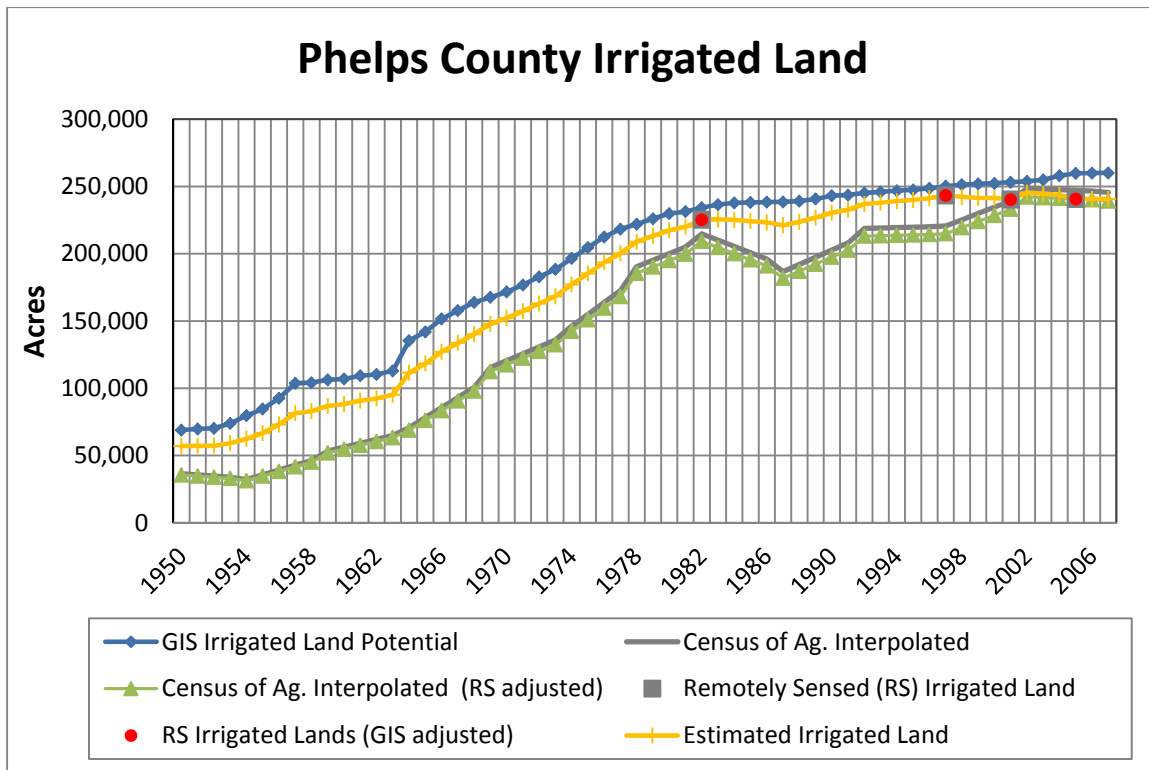


Figure 4-H.16: Estimated Irrigated Land in Phelps County

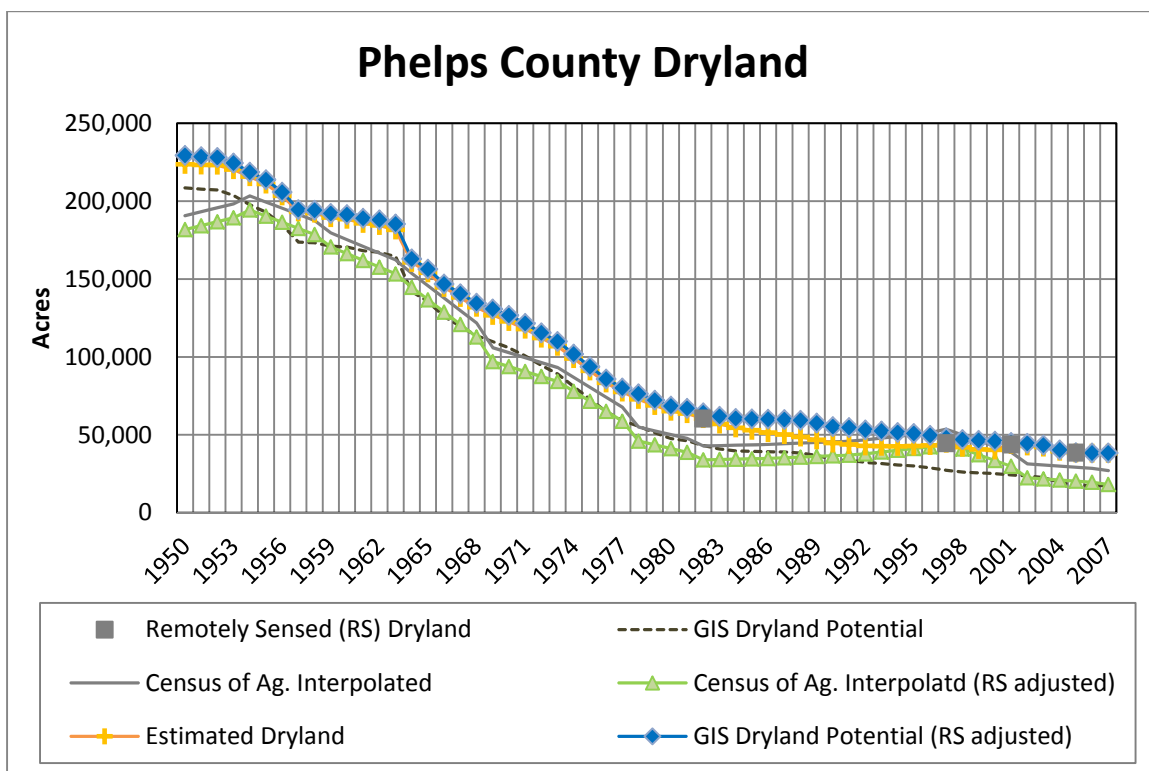


Figure 4-H.17: Estimated Dryland in Phelps County

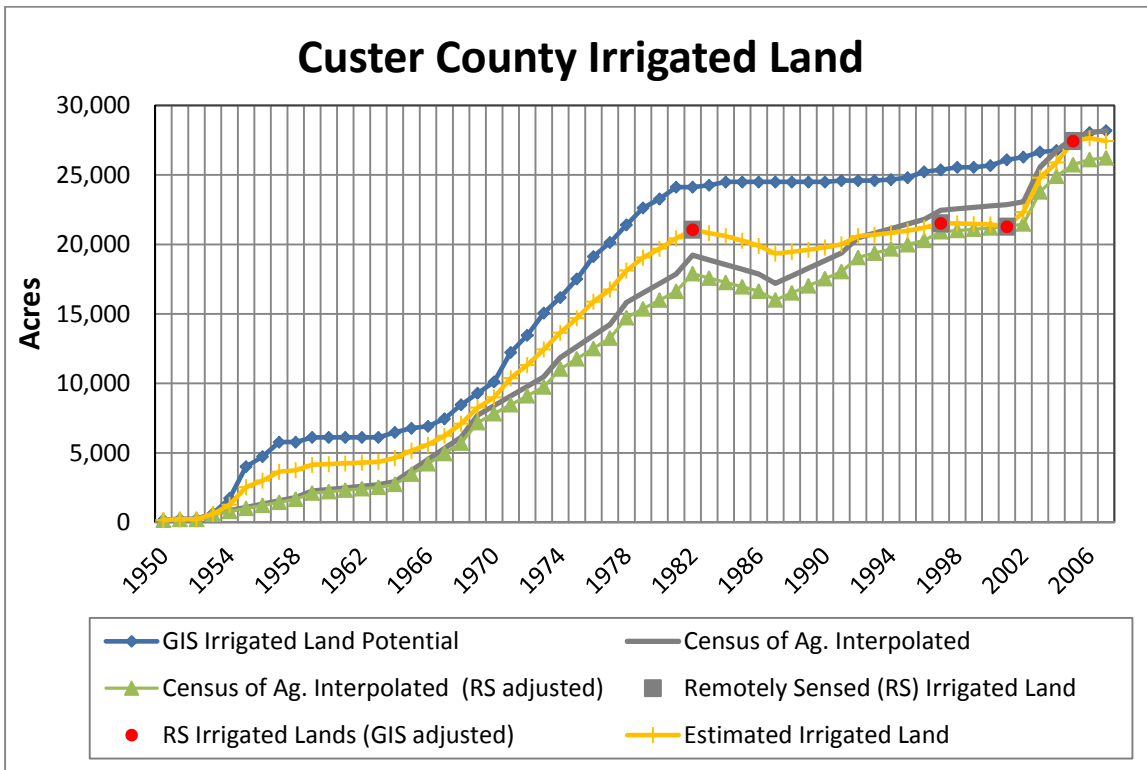


Figure 4-H.18: Estimated Irrigated Land in Custer County

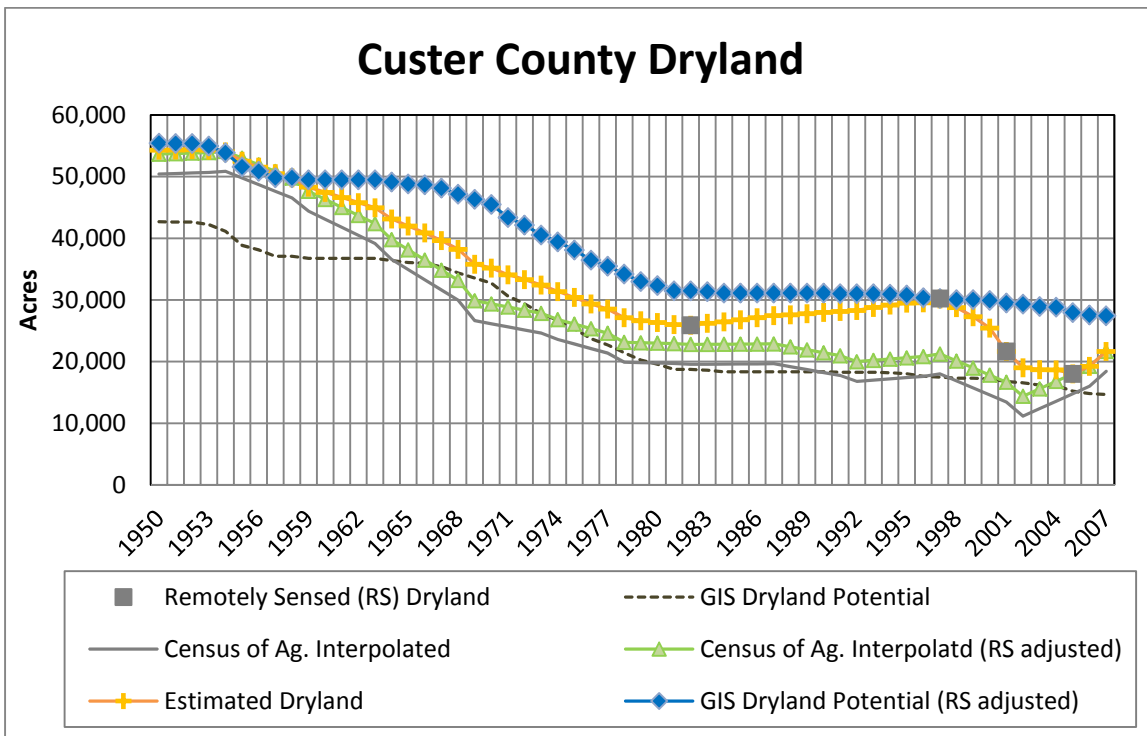


Figure 4-H.19: Estimated Dryland in Custer County

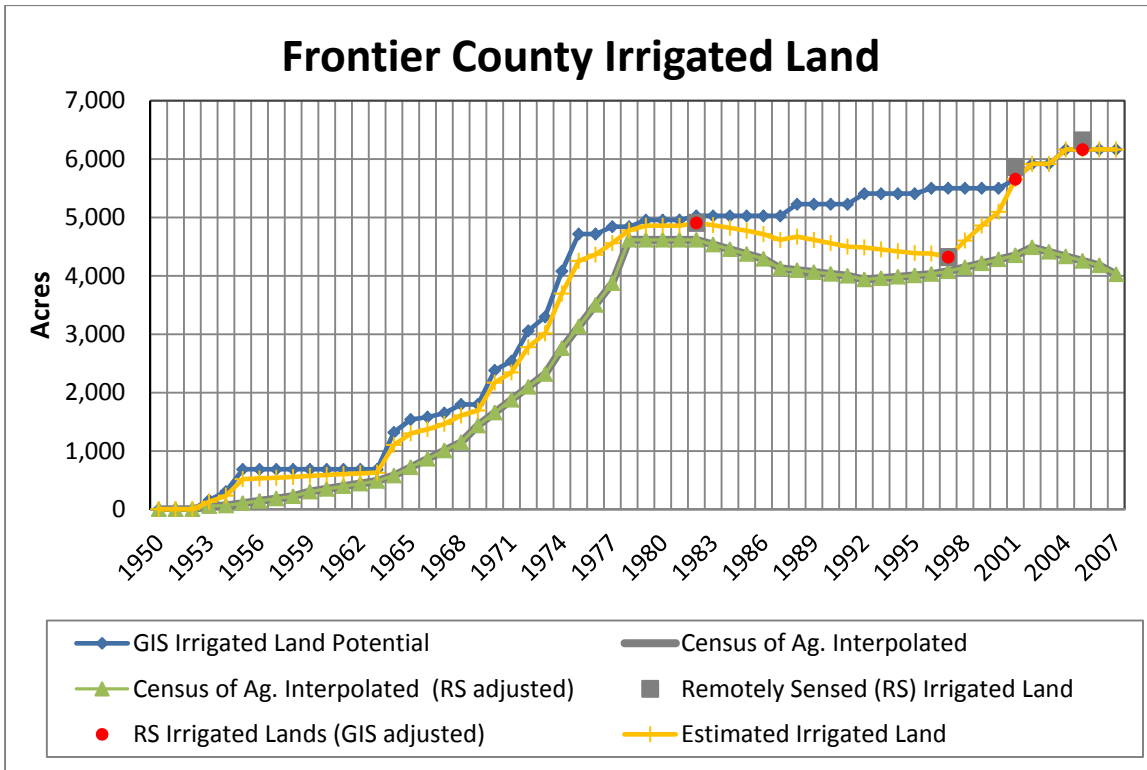


Figure 4-H.20: Estimated Irrigated Land in Frontier County

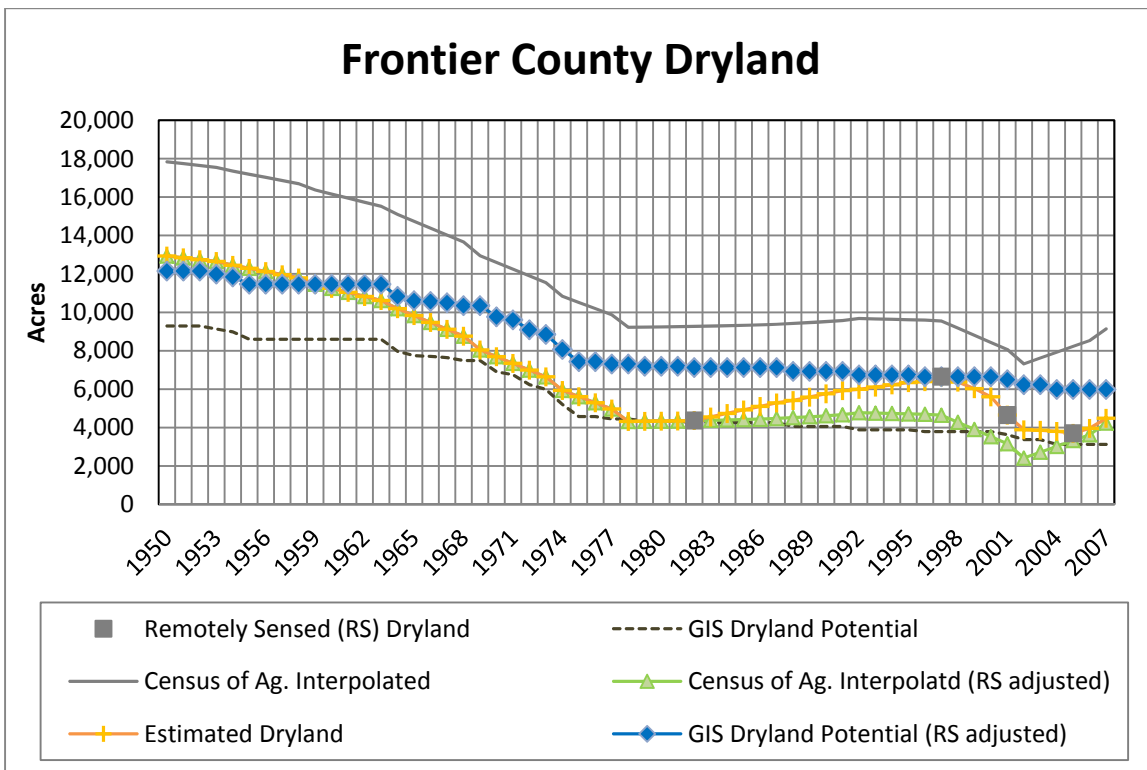


Figure 4-H.21: Estimated Dryland in Frontier County

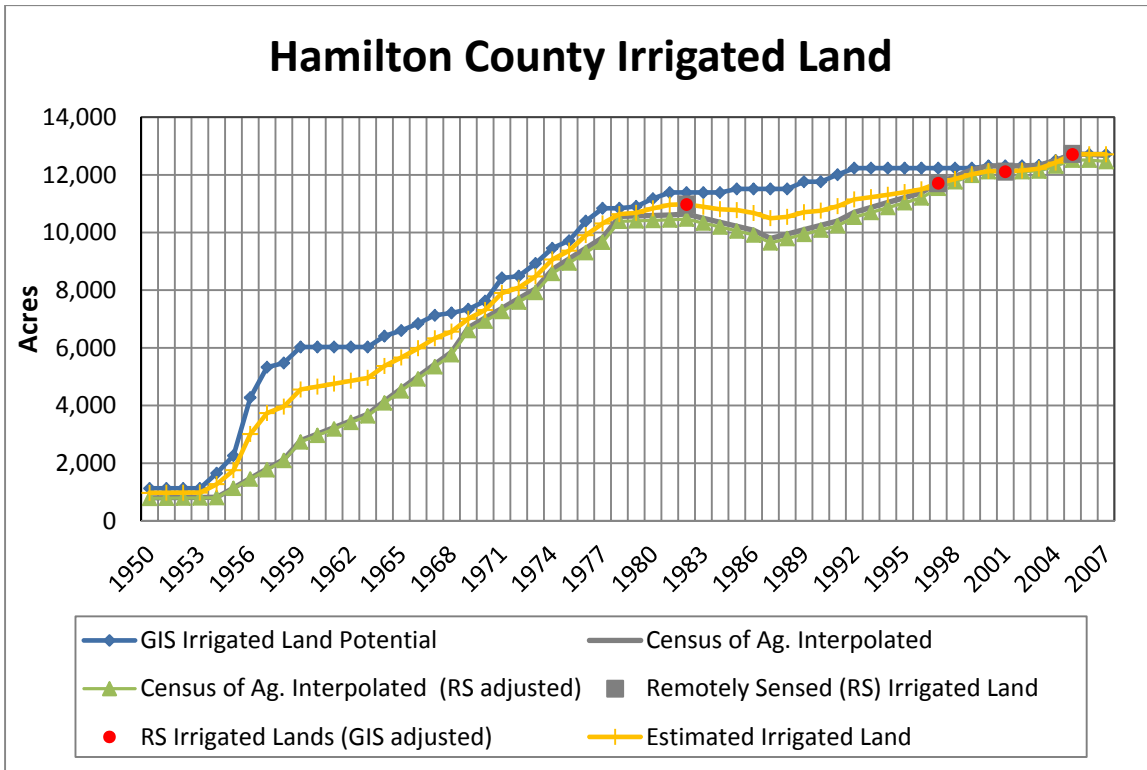


Figure 4-H.22: Estimated Irrigated Land in Hamilton County

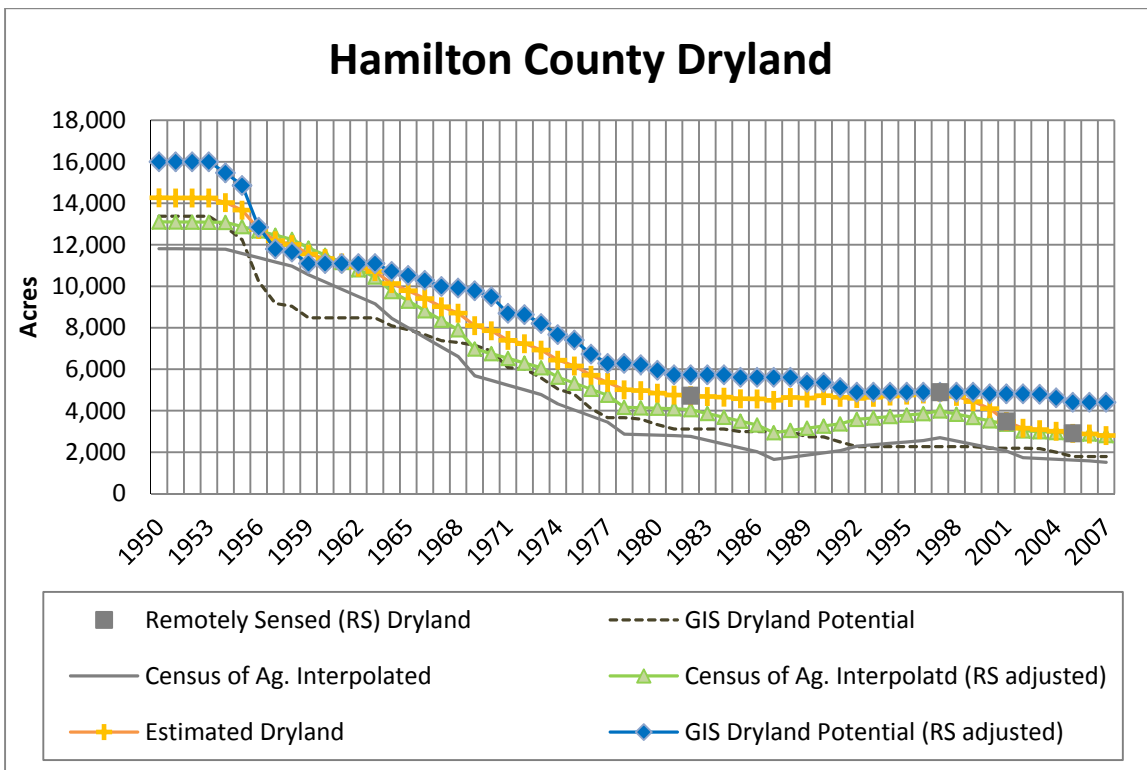


Figure 4-H.23: Estimated Dryland in Hamilton County

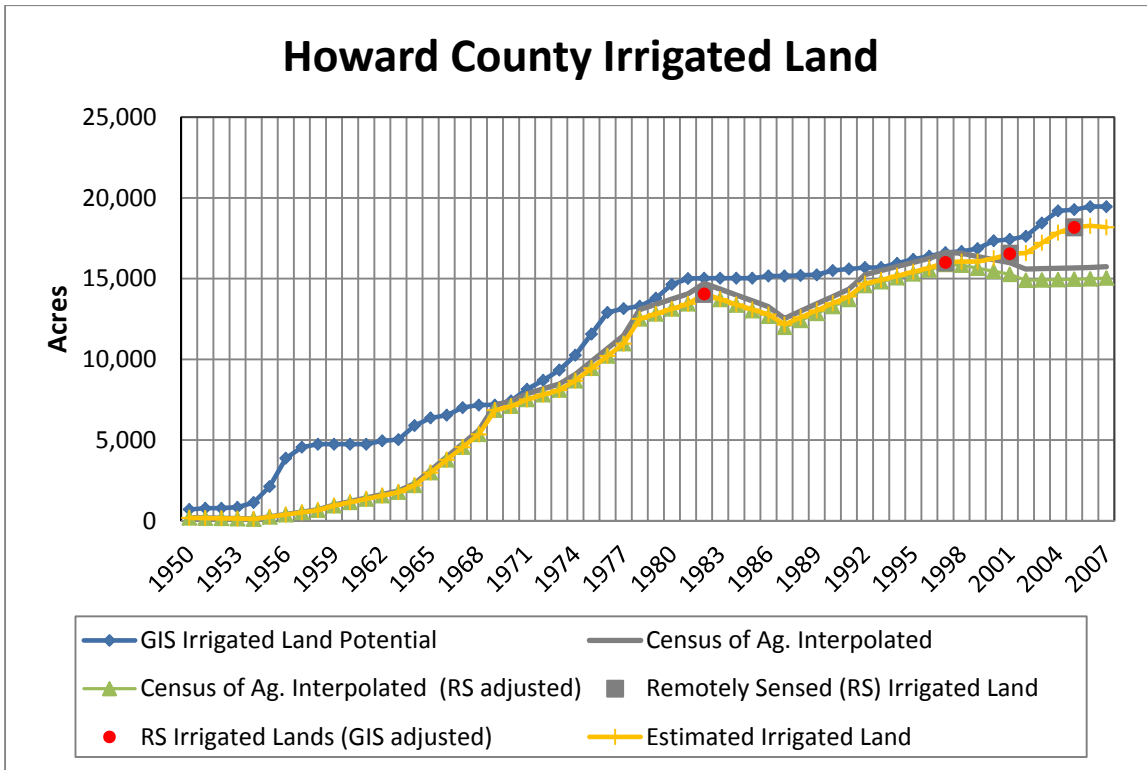


Figure 4-H.24: Estimated Irrigated Land in Howard County

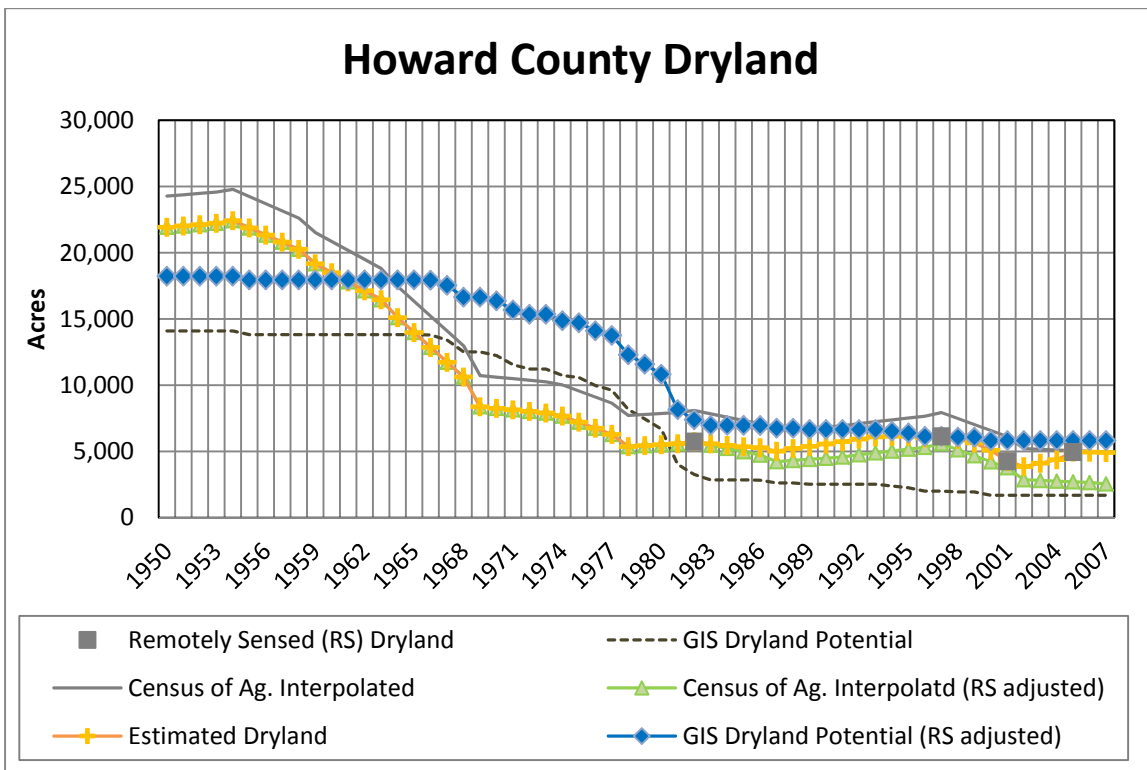


Figure 4-H.25: Estimated Dryland in Howard County

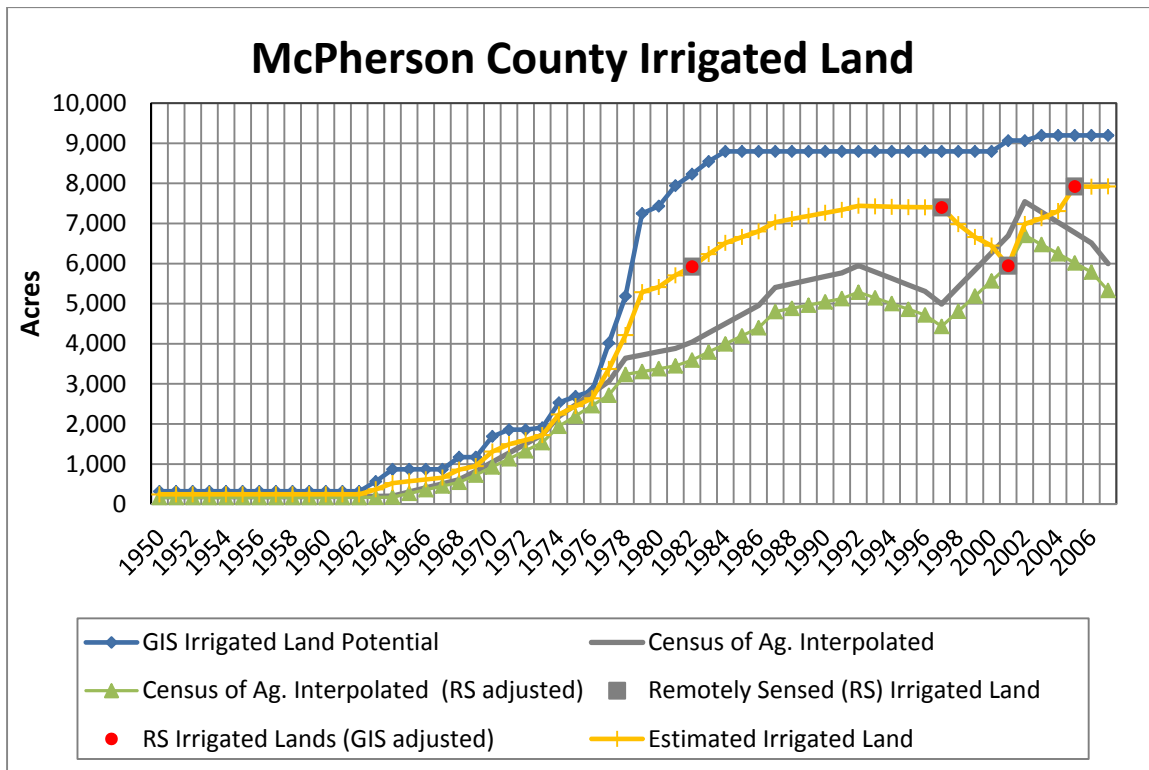


Figure 4-H.26: Estimated Irrigated Land in McPherson County

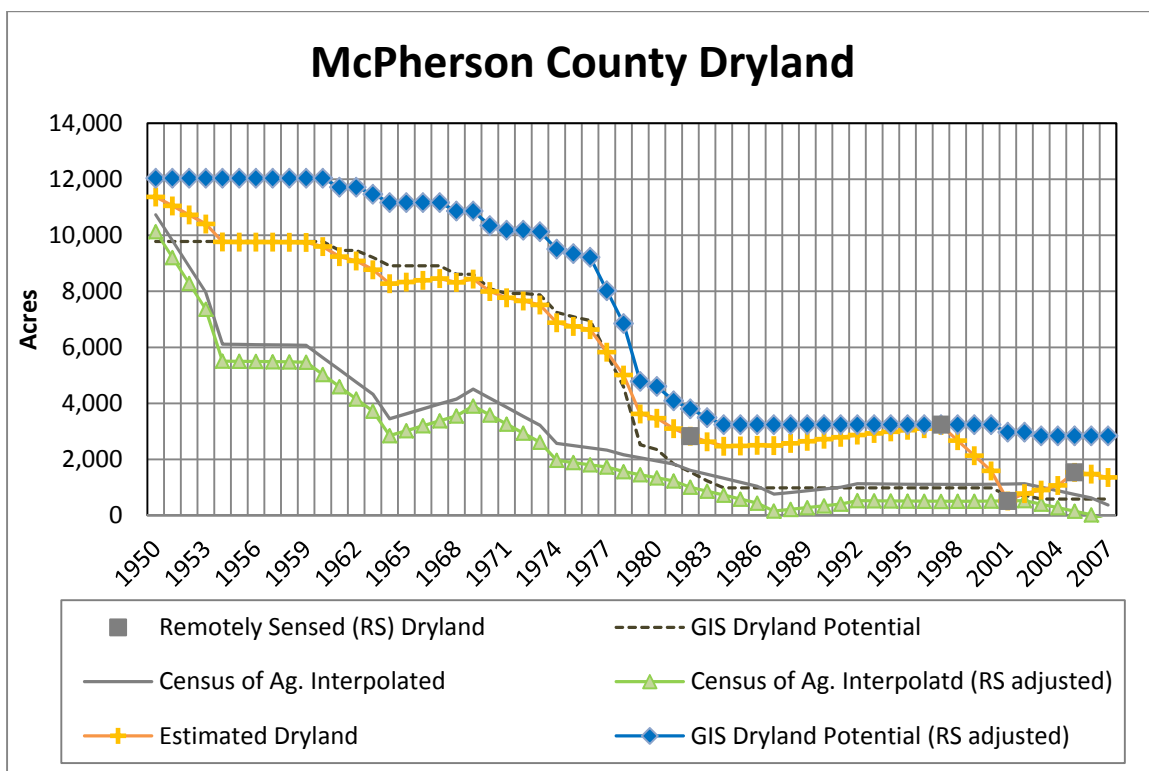


Figure 4-H.27: Estimated Dryland in McPherson County

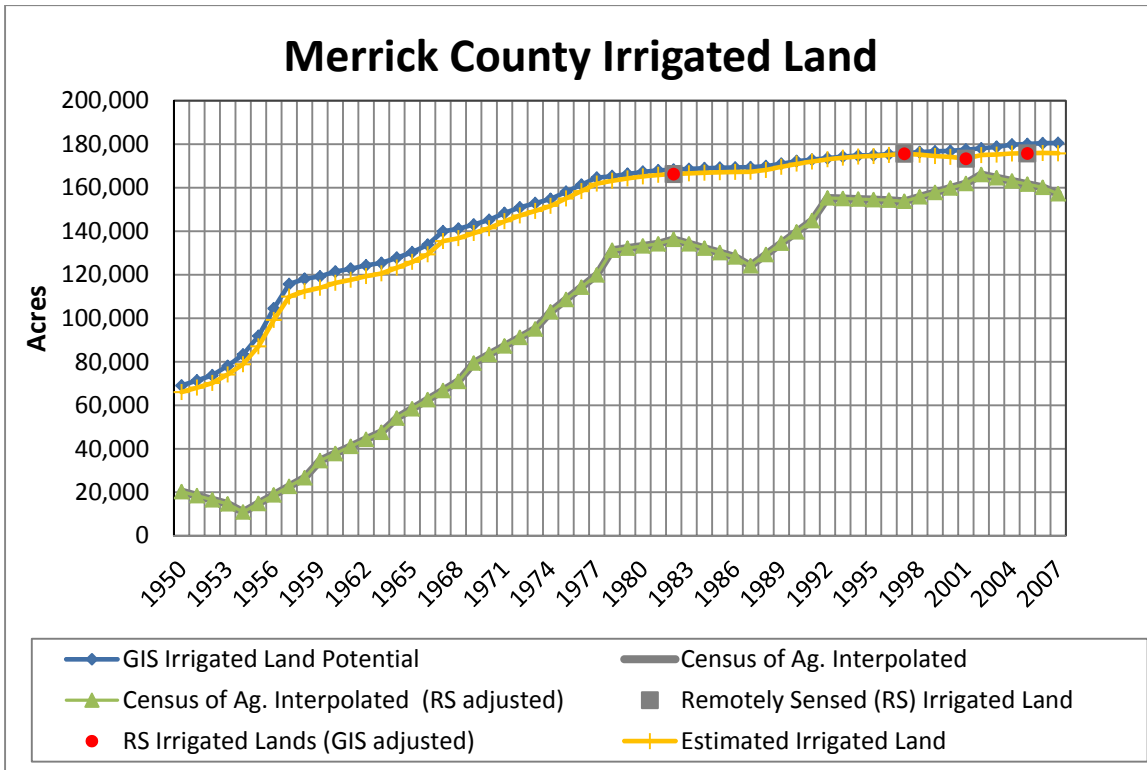


Figure 4-H.28: Estimated Irrigated Land in Merrick County

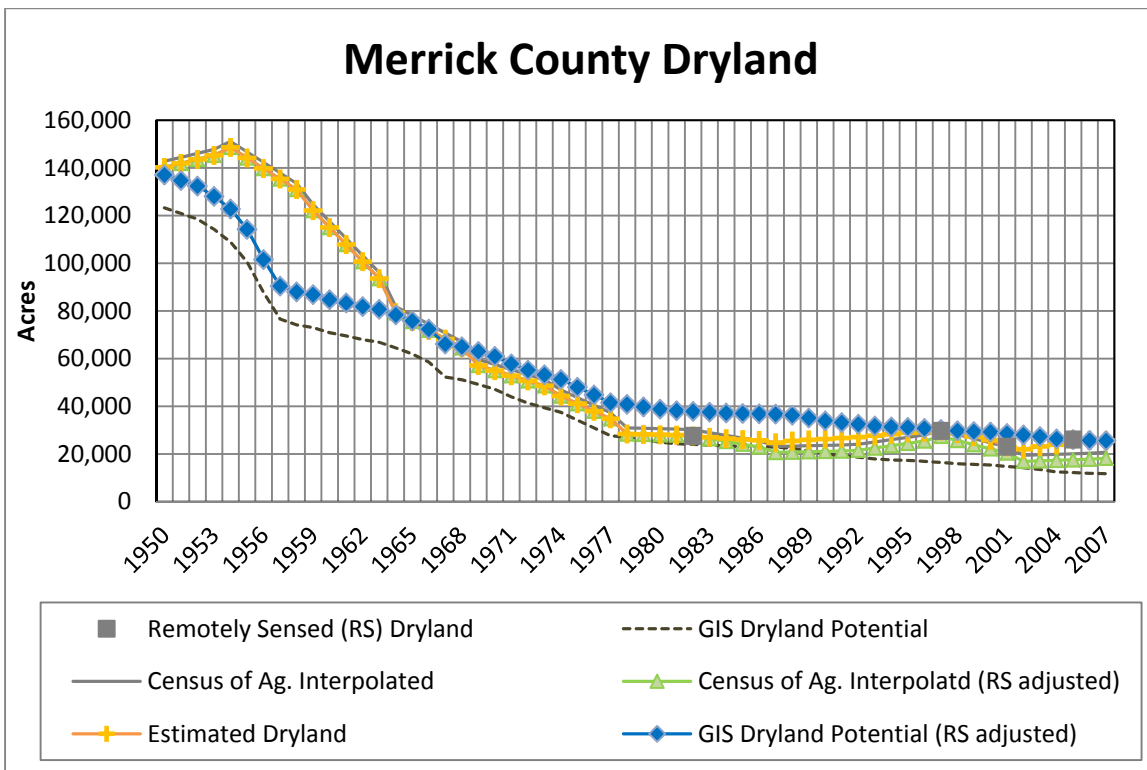


Figure 4-H.29: Estimated Dryland in Merrick County

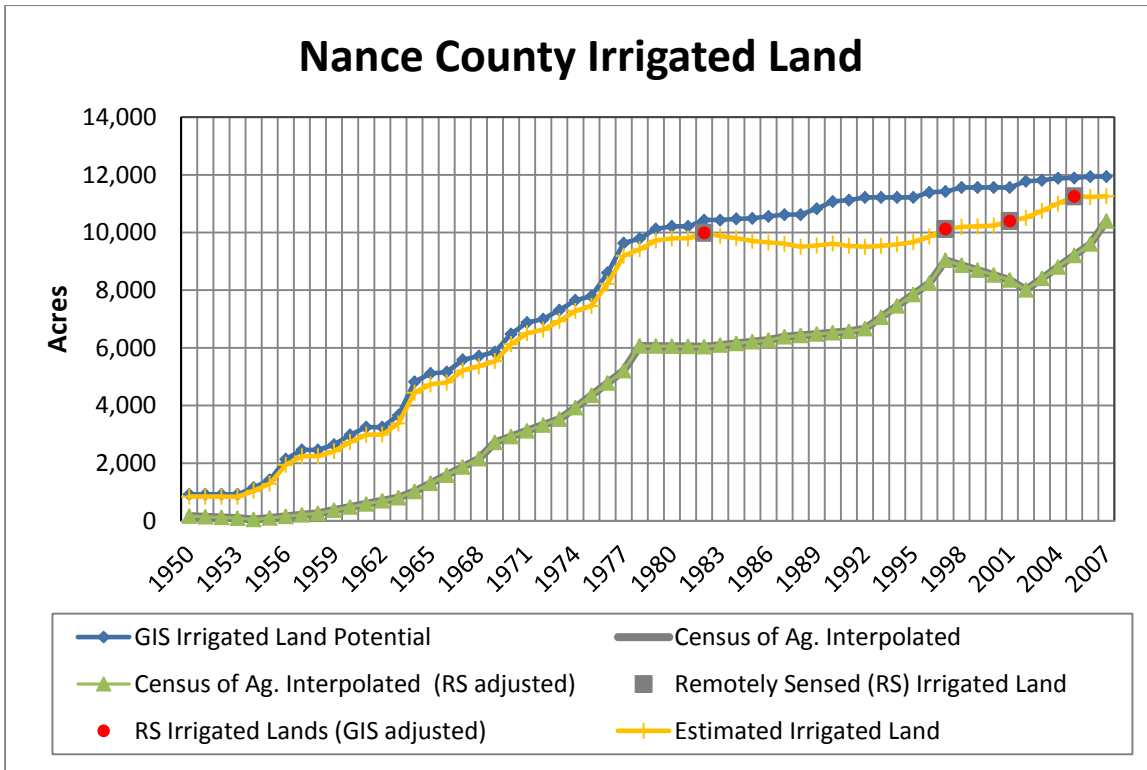


Figure 4-H.30: Estimated Irrigated Land in Nance County

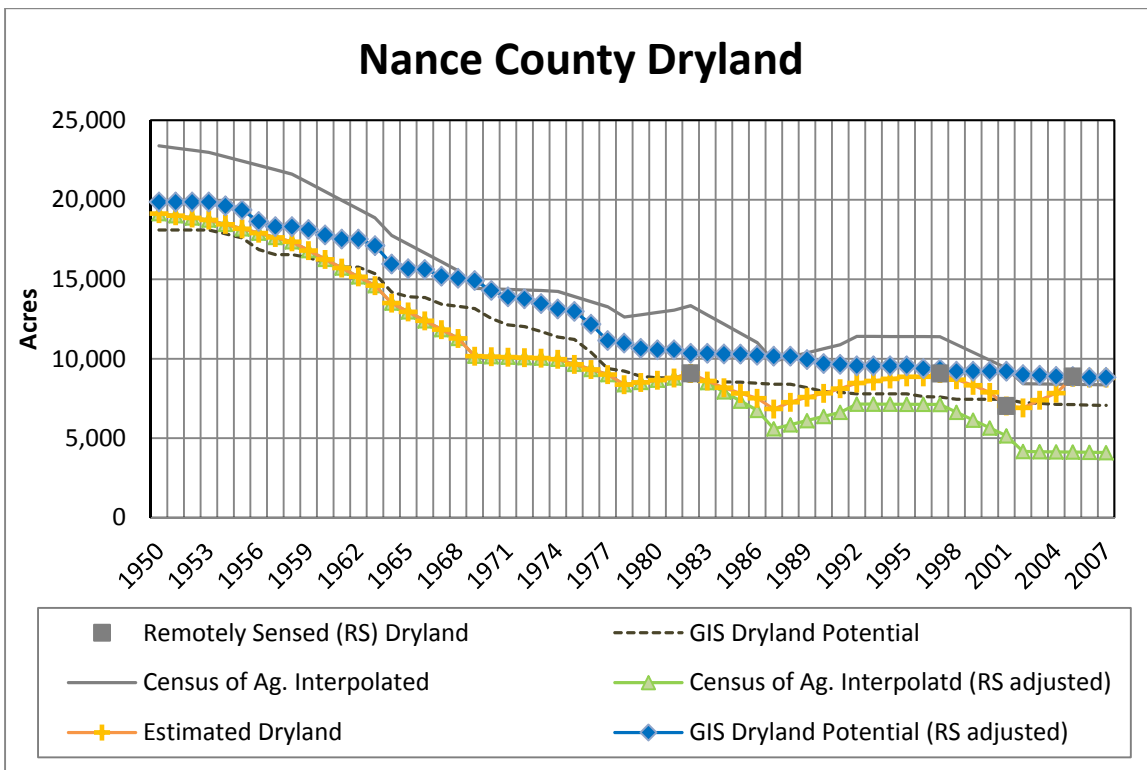


Figure 4-H.31: Estimated Dryland in Nance County

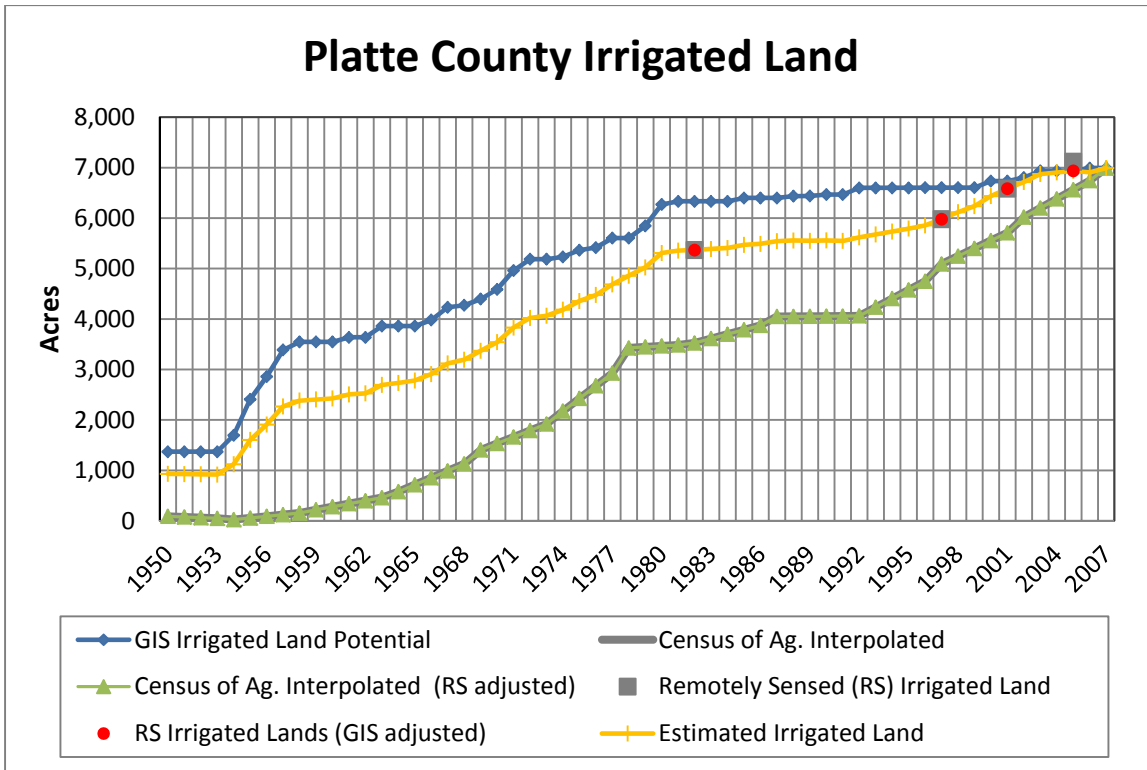


Figure 4-H.32: Estimated Irrigated Land in Platte County

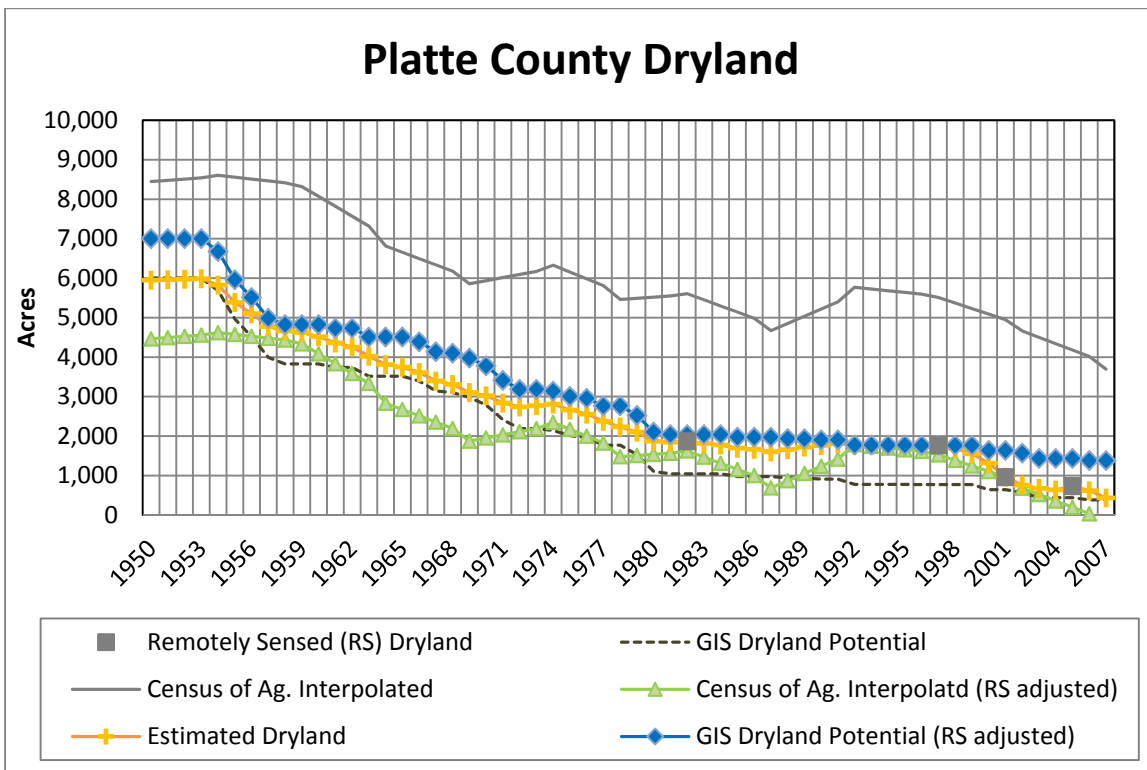


Figure 4-H.33: Estimated Dryland in Platte County

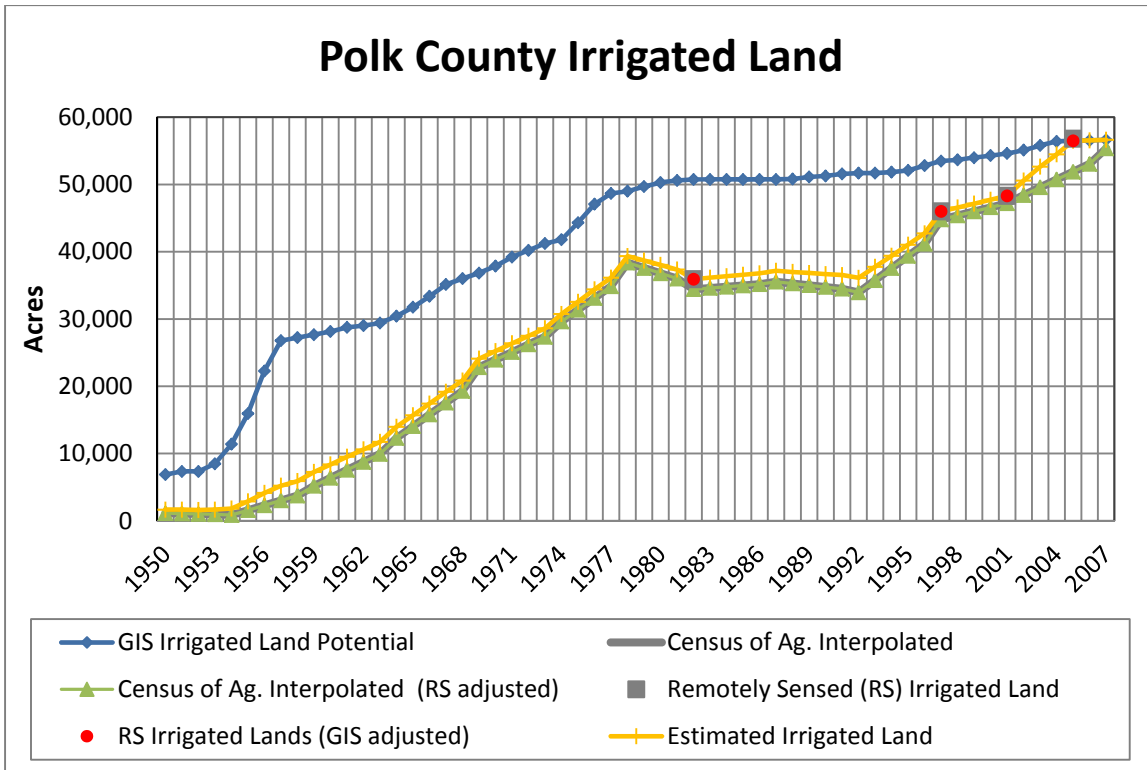


Figure 4-H.34: Estimated Irrigated Land in Polk County

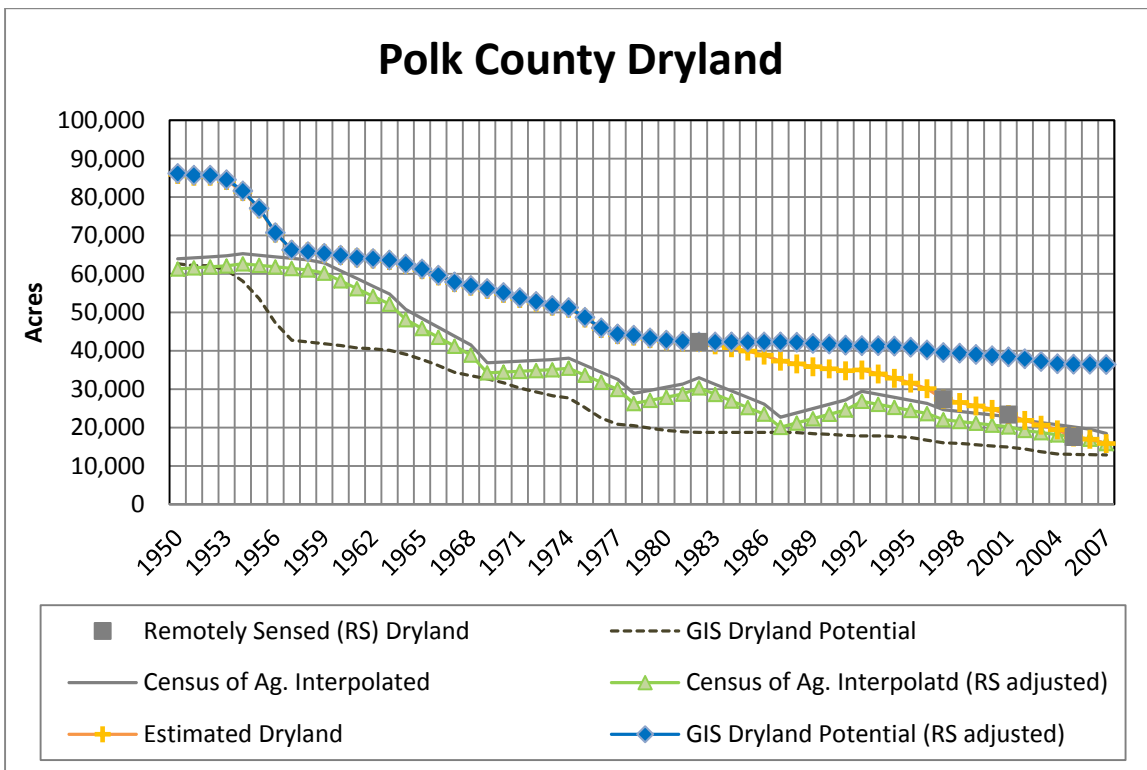


Figure 4-H.35: Estimated Dryland in Polk County