

Figure 1. A) Sightability-corrected bison numbers in three herd subunits. Data from 1949-1968 from Meagher (1969). Data from 1969-1997 from Taper, Meagher, and Jerde (2002). Data from 1998-2000 from Hess (2002). B) Sightability-corrected elk numbers pre-removal (management and hunting), and actual number counted uncorrected for sightability. Sightability corrections are explained in the text.

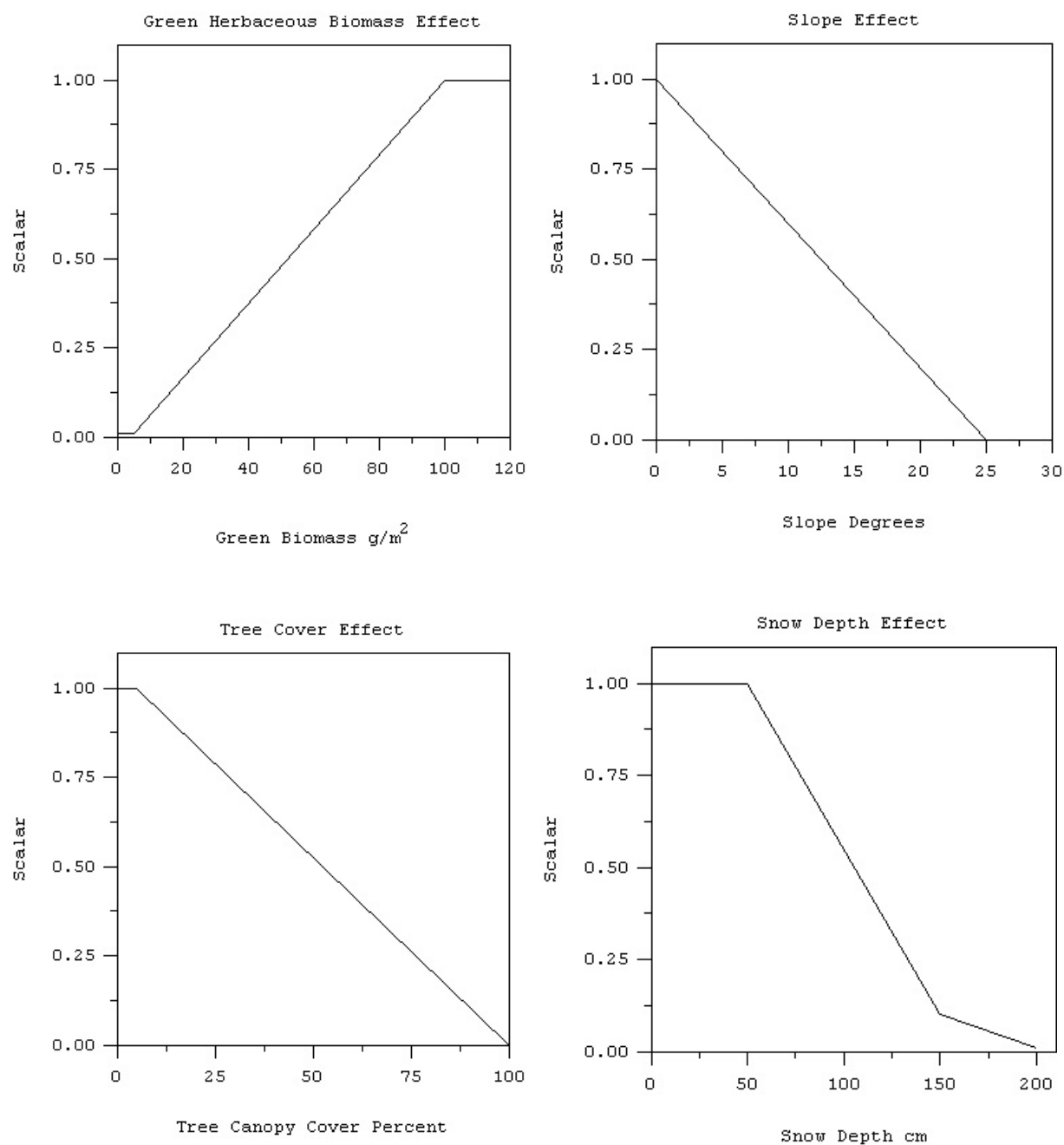


Figure 2. Scalar functions affecting habitat selection by bison.

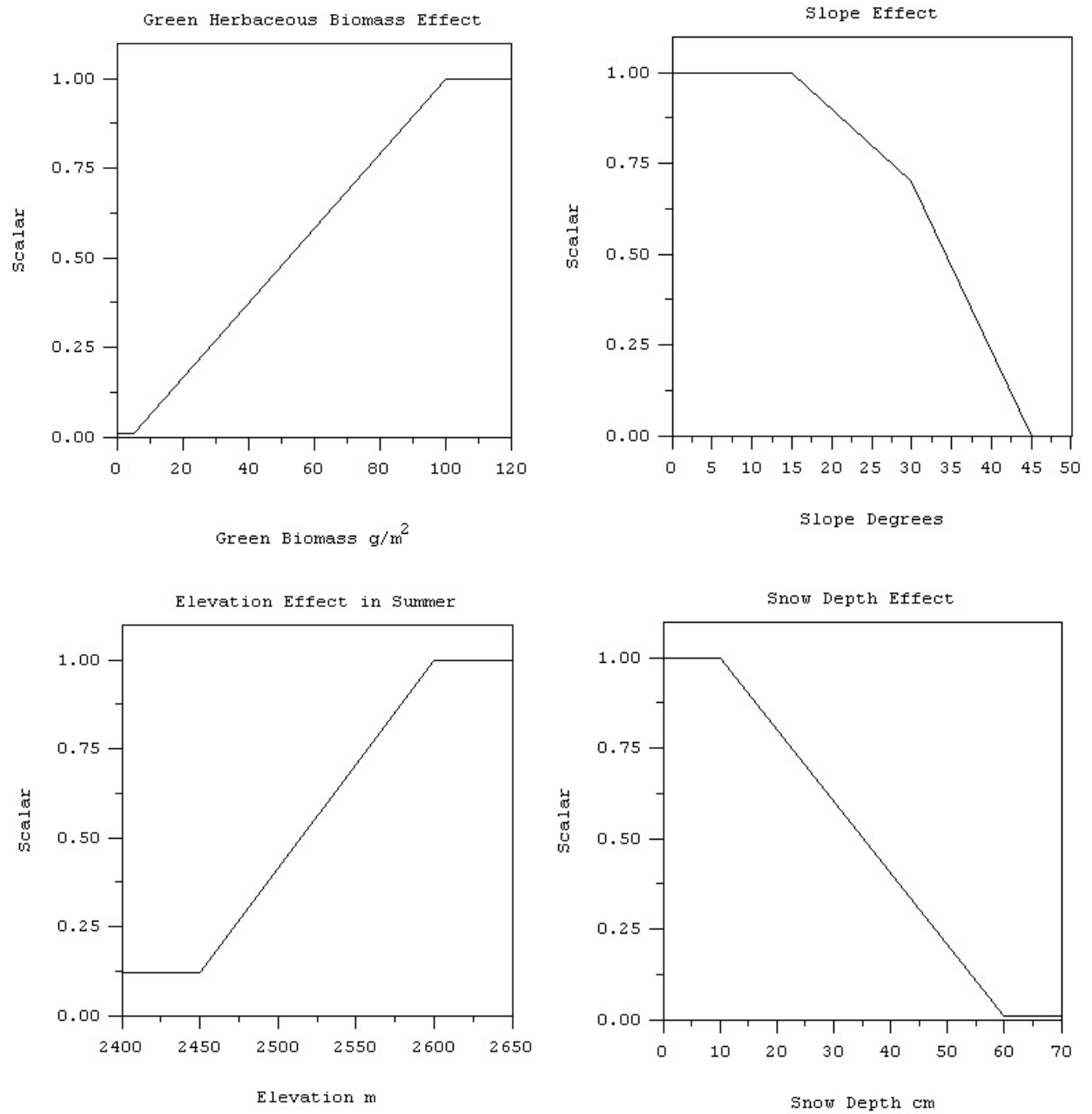


Figure 3. Scalar functions affecting habitat selection by elk.

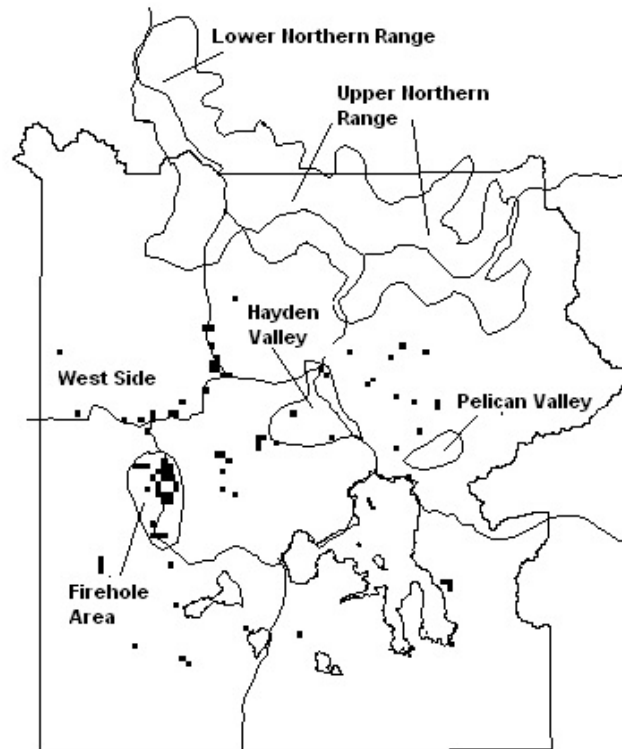


Figure 4. Place names on bison and elk ranges. Black grid-cells are thermal areas, including thermally warmed riparian area.

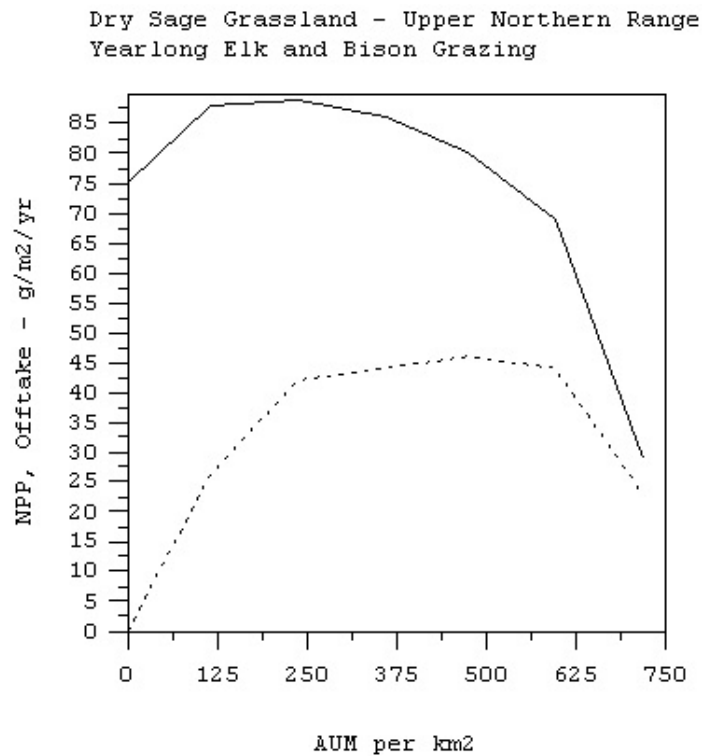
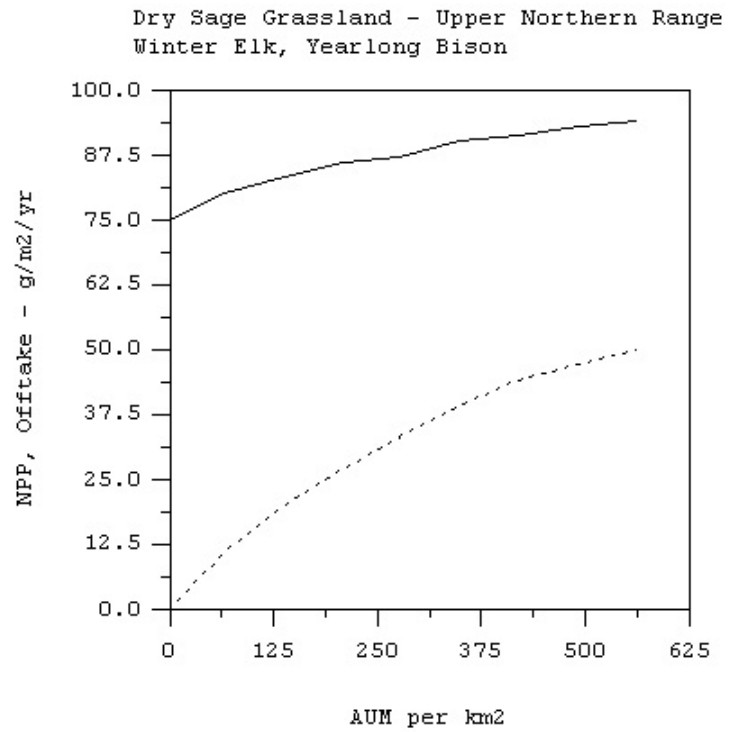


Figure 5. Simulated aboveground annual net primary production (NPP, solid lines) and grazing offtake (dashed lines) versus animal unit months (AUM) per km² on dry sagebrush grasslands of the northern winter. See Tables 2,3 for details, including animal densities.

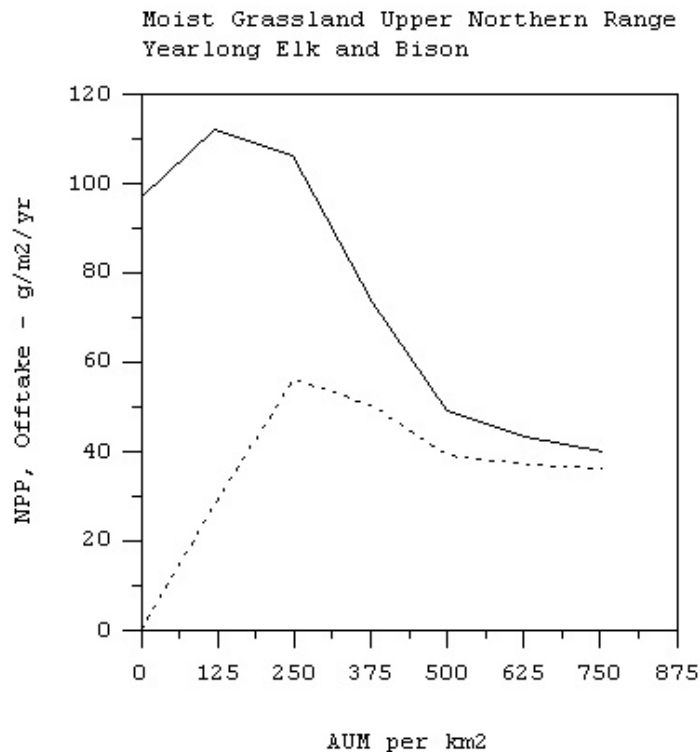
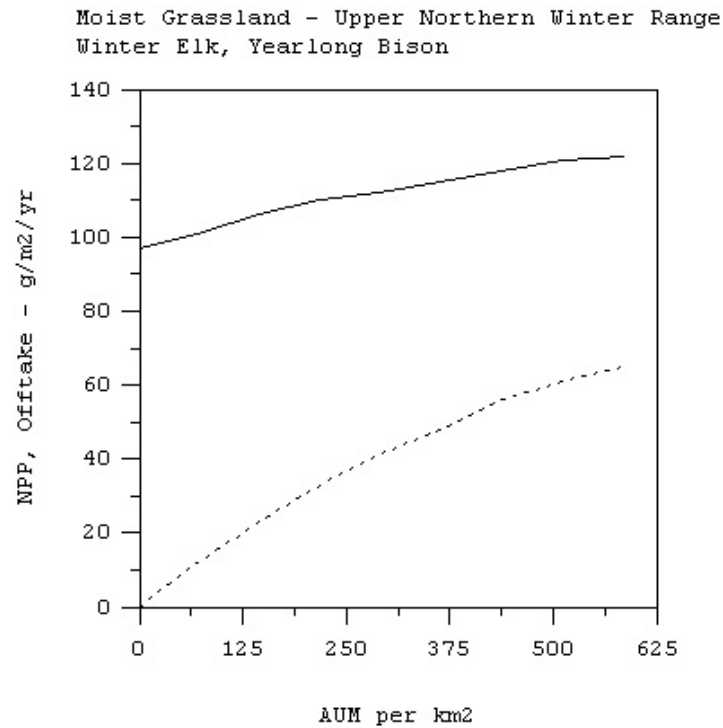


Figure 6. Simulated aboveground annual net primary production (NPP, solid lines) and grazing offtake (dashed lines) versus animal unit months (AUM) per km² on moist sagebrush grasslands of the northern winter range with two different seasonal grazing regimes. See Tables 4,5 for details, including animal densities.

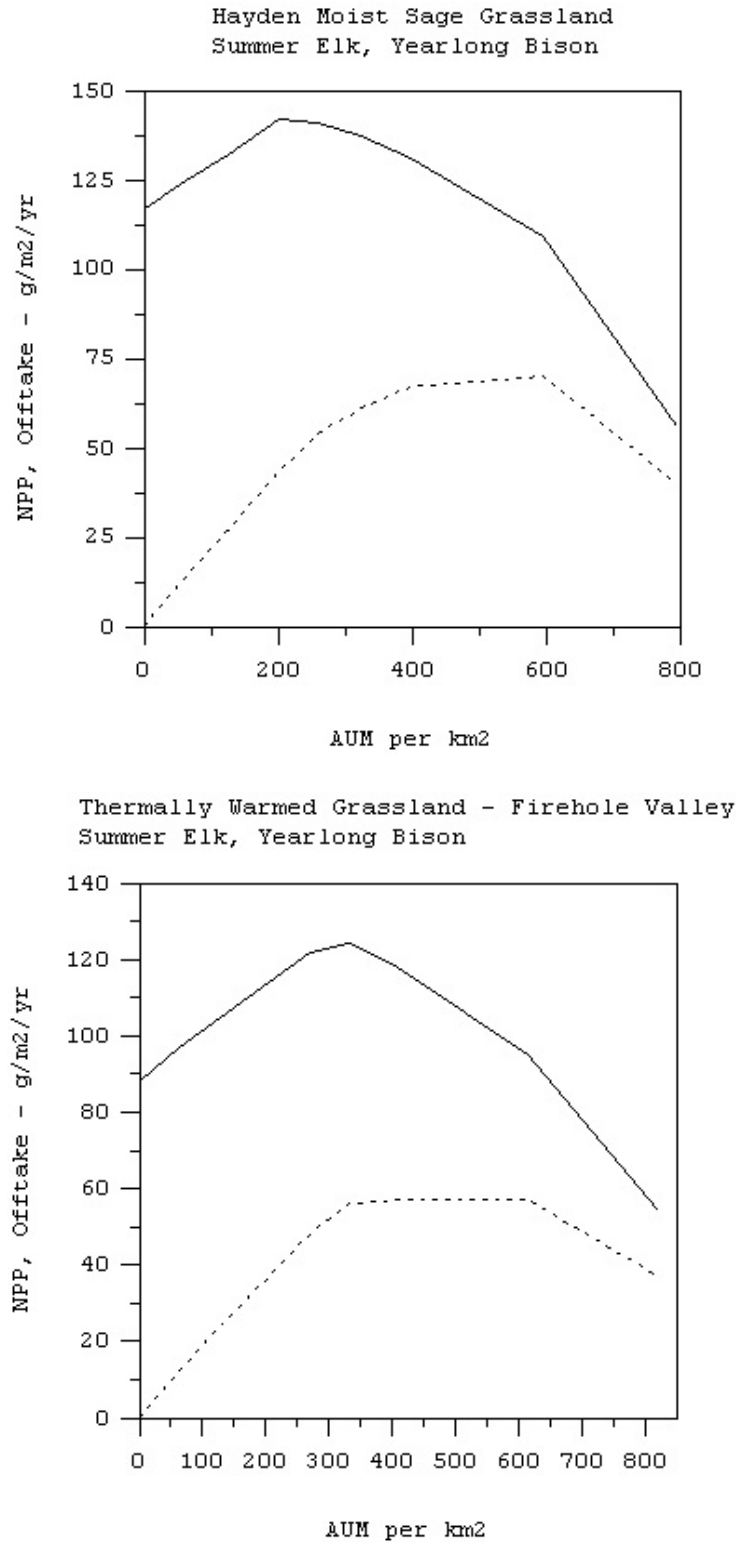


Figure 7. Simulated aboveground annual net primary production (NPP, solid lines) and grazing offtake (dashed lines) versus animal unit months (AUM) per km² in the Firehole and Hayden Valley areas. See Tables 6,7 for details, including animal densities.

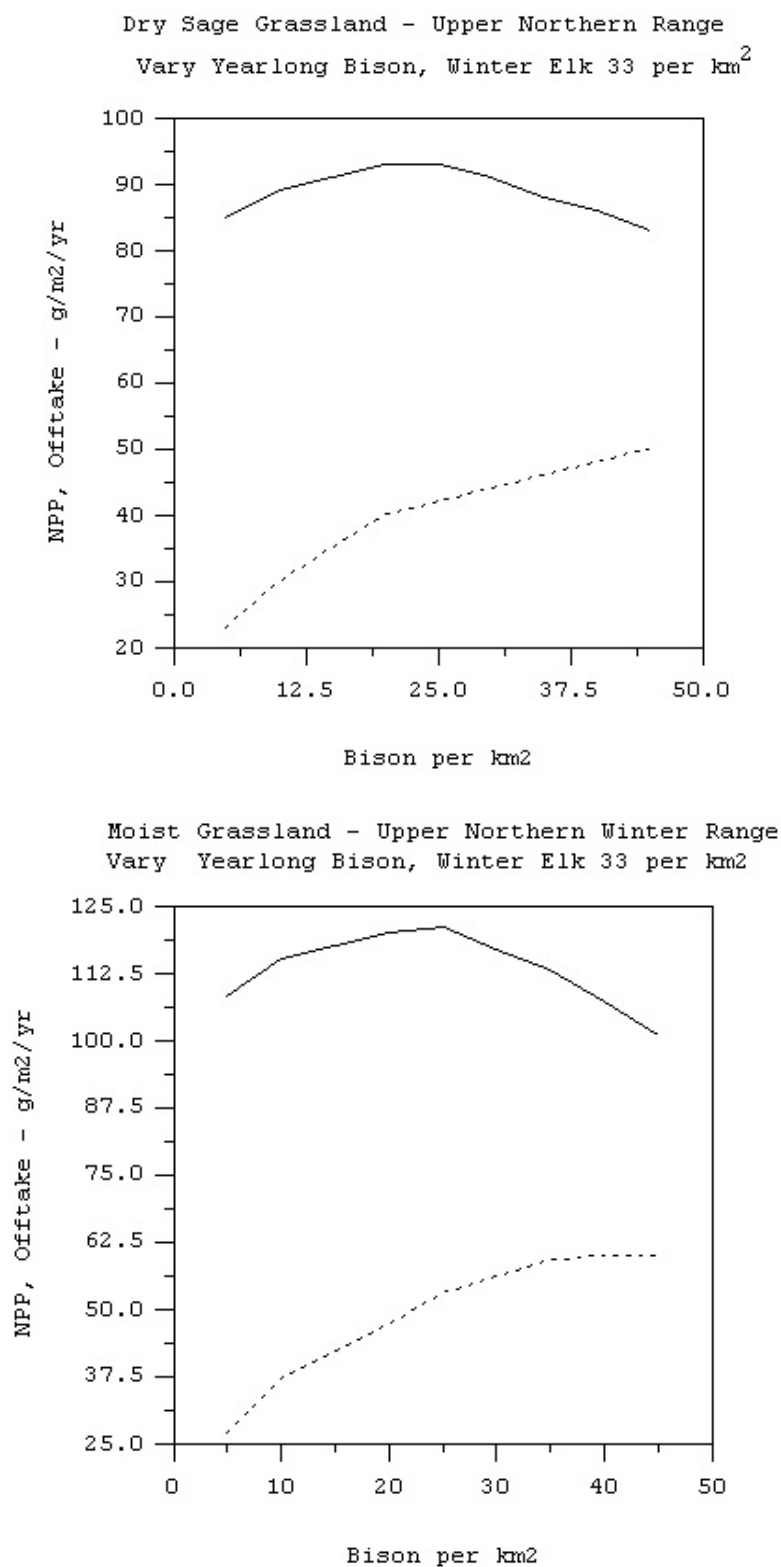


Figure 8. Simulated aboveground annual net primary production (NPP, solid lines) and grazing offtake (dashed lines) versus animal unit months (AUM) per km² on northern range grasslands with varying numbers of bison and a fixed number of elk. See Table 8 for details.

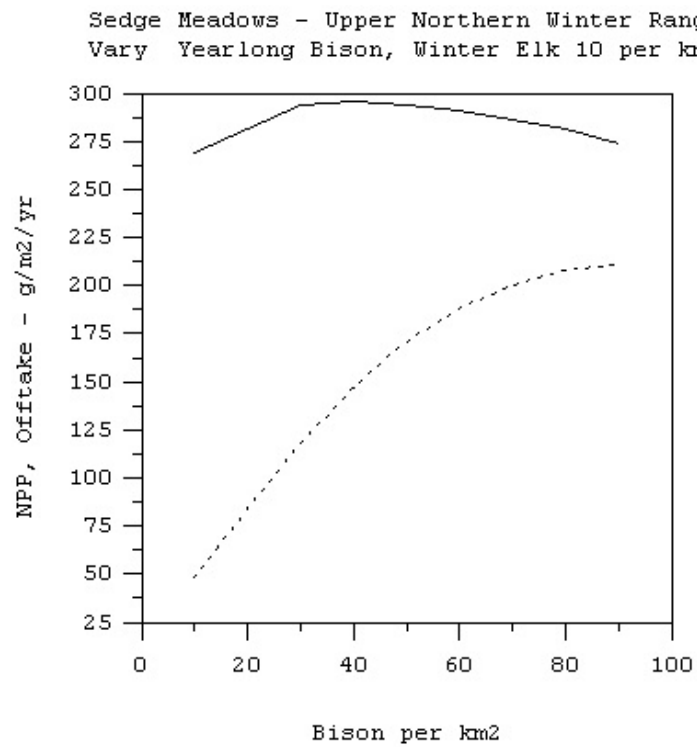


Figure 9. Simulated aboveground annual net primary production (NPP, solid lines) and grazing offtake (dashed lines) versus animal unit months (AUM) per km² on northern range sedge meadows with varying numbers of bison and a fixed number of elk. See Table 8 for details.

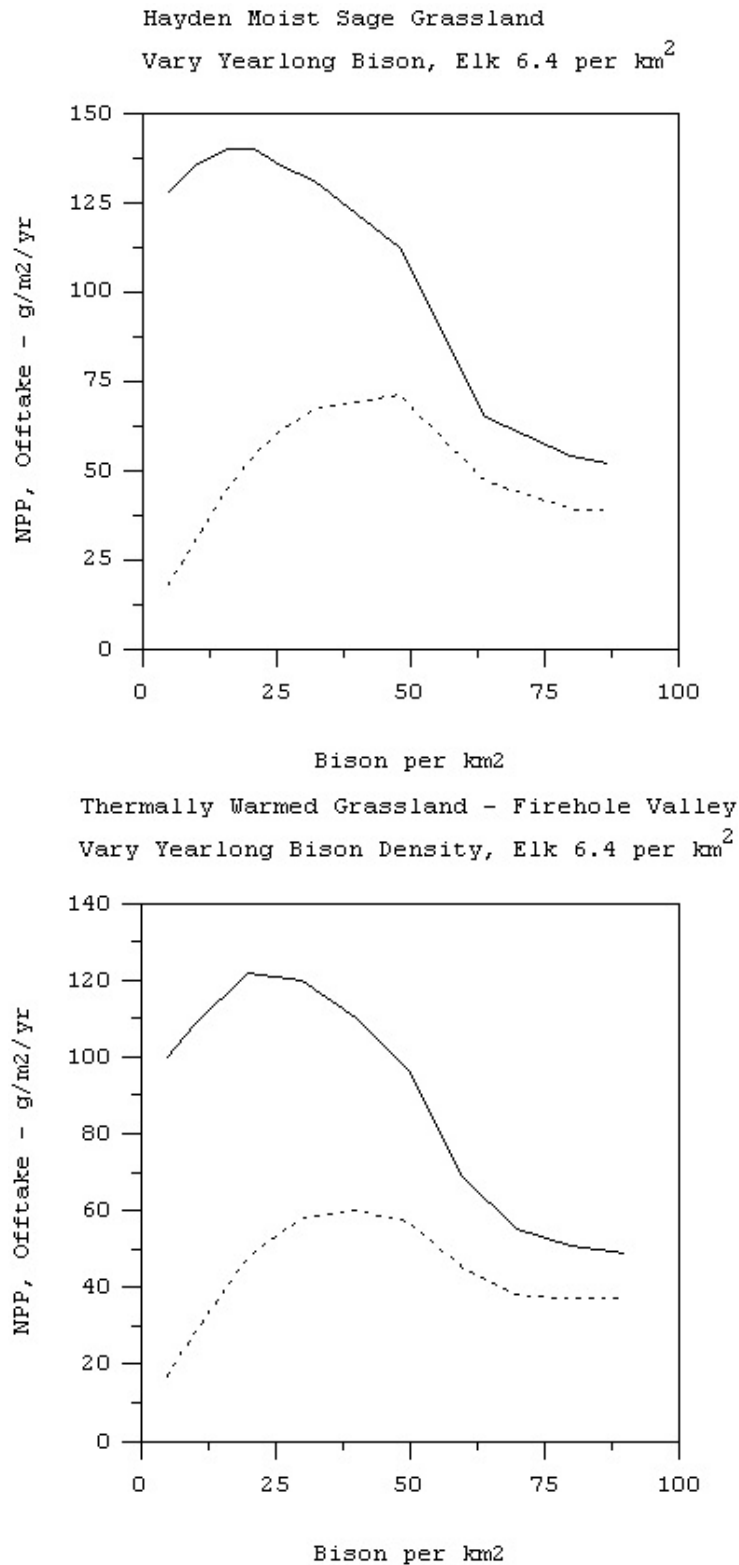


Figure 10. Simulated aboveground annual net primary production (NPP, solid lines) and grazing offtake (dashed lines) versus animal unit months (AUM) per km² on Firehole and Hayden Valley grasslands with varying numbers of bison and a fixed number of elk. See Table 9 for details.

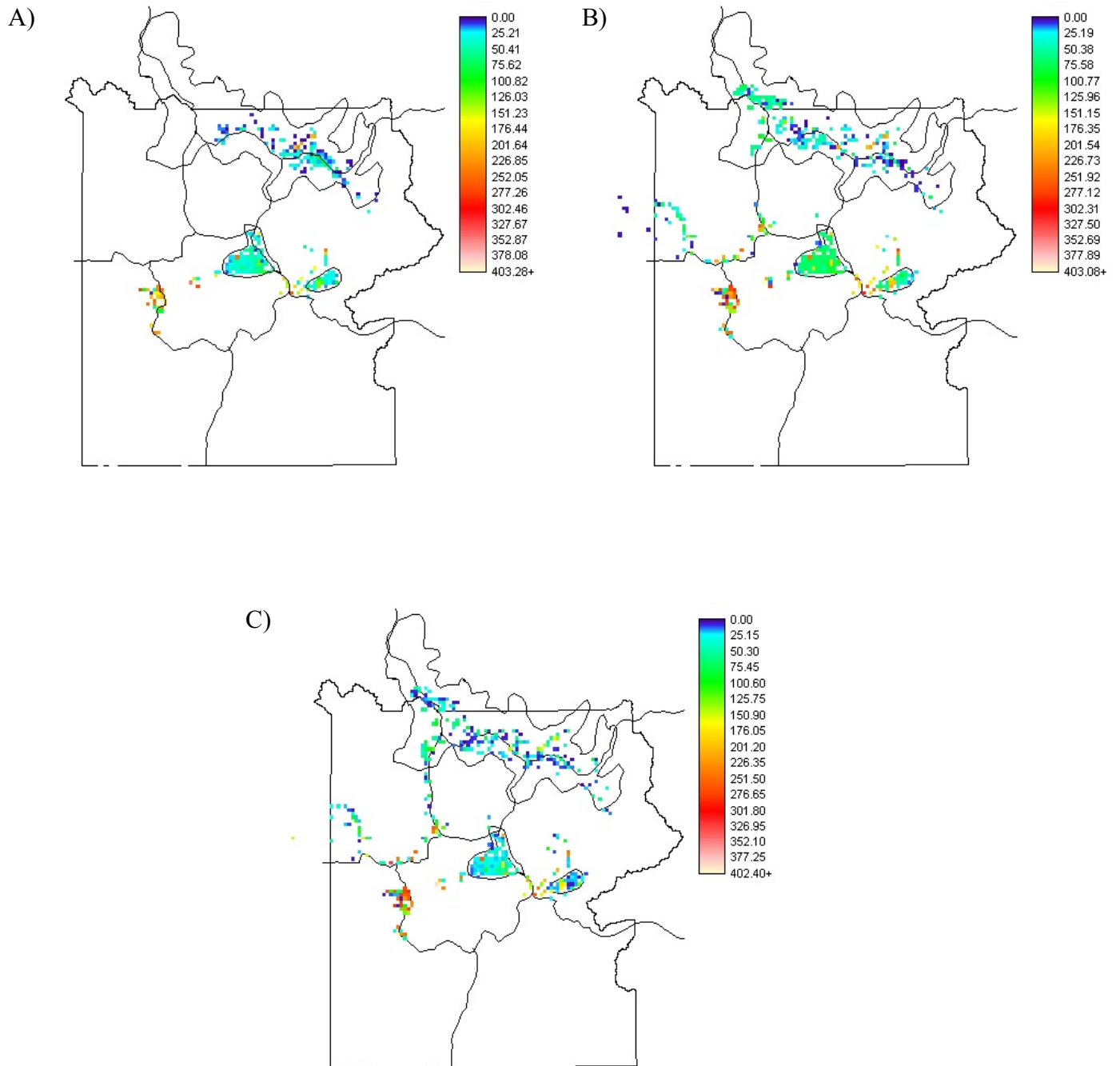


Figure 11. Mean bison density ($\text{#/km}^2 \times 10$) in February in A) 1969-1981, B) 1982-1993, and C) 1994-2001. Roads, park boundaries, northern winter range, Hayden Valley and Pelican Valley are delimited..

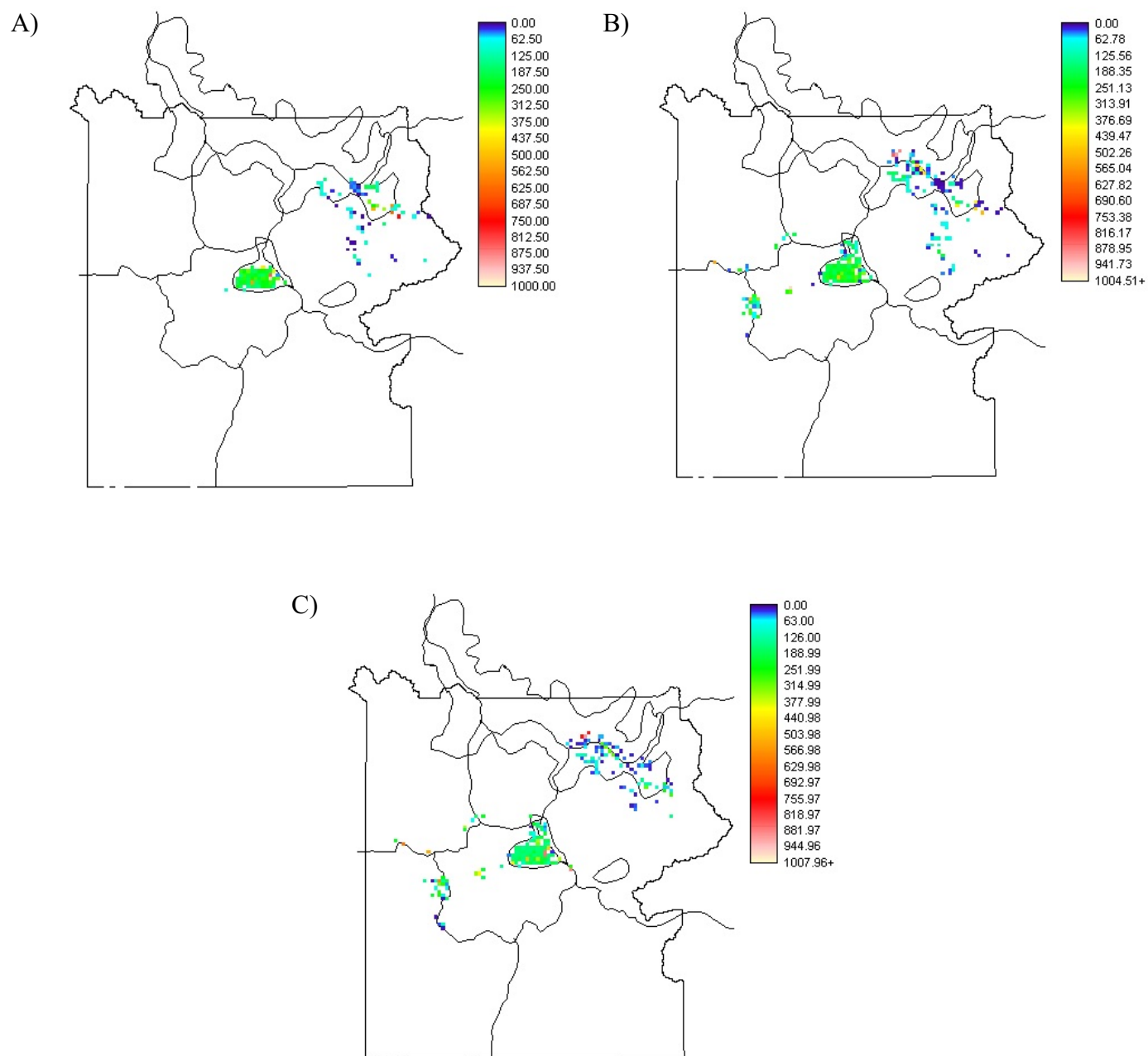


Figure 12. Mean bison density ($\#/km^2 * 10$) in Augusts in A) 1969-1981, B) 1982-1993, and C) 1994-2001.

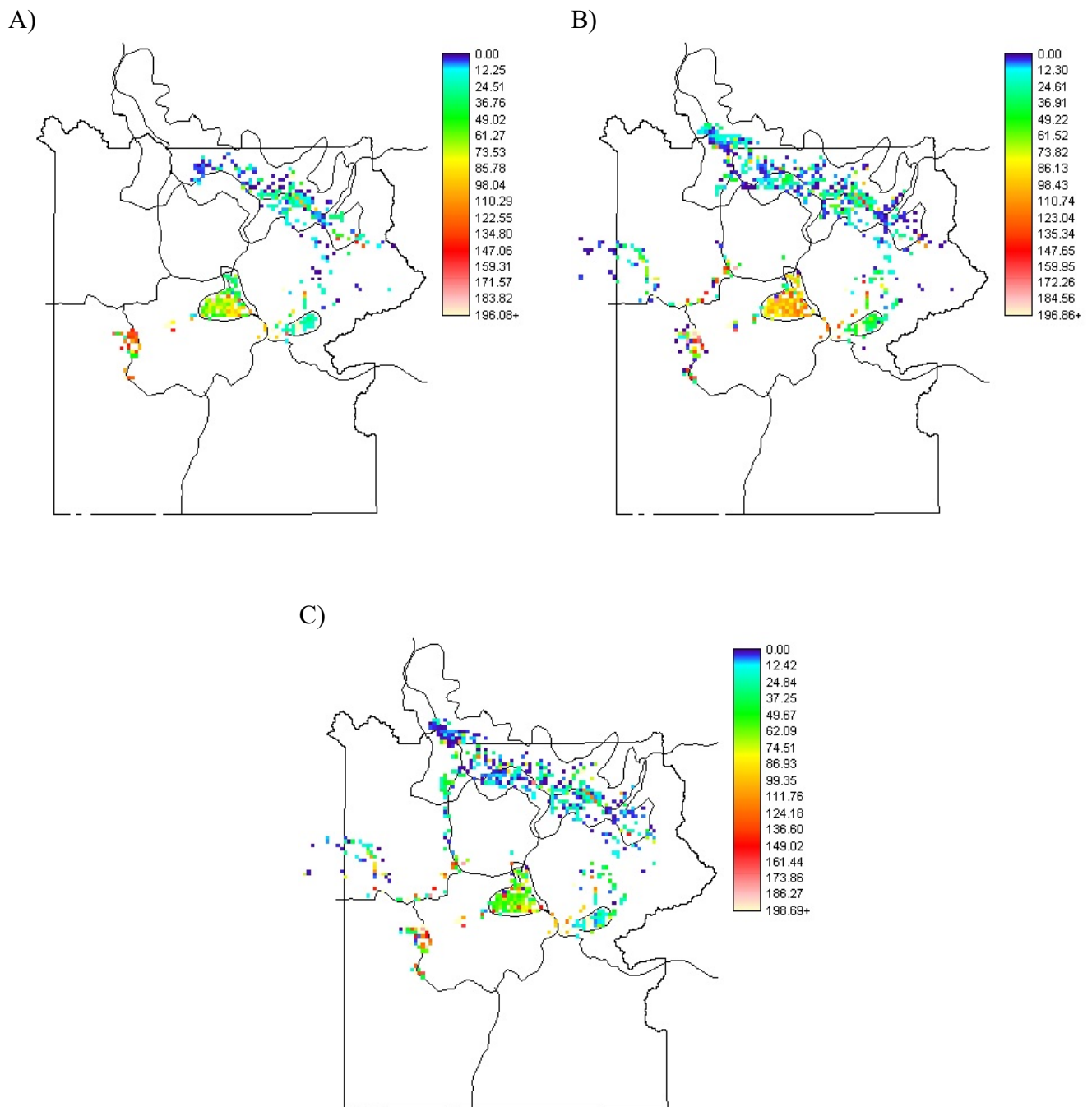


Figure 13. Average bison density ($\text{#/km}^2 \times 10$) year around in A) 1969-1982, B) 1982-1993, and C) 1994-2001.

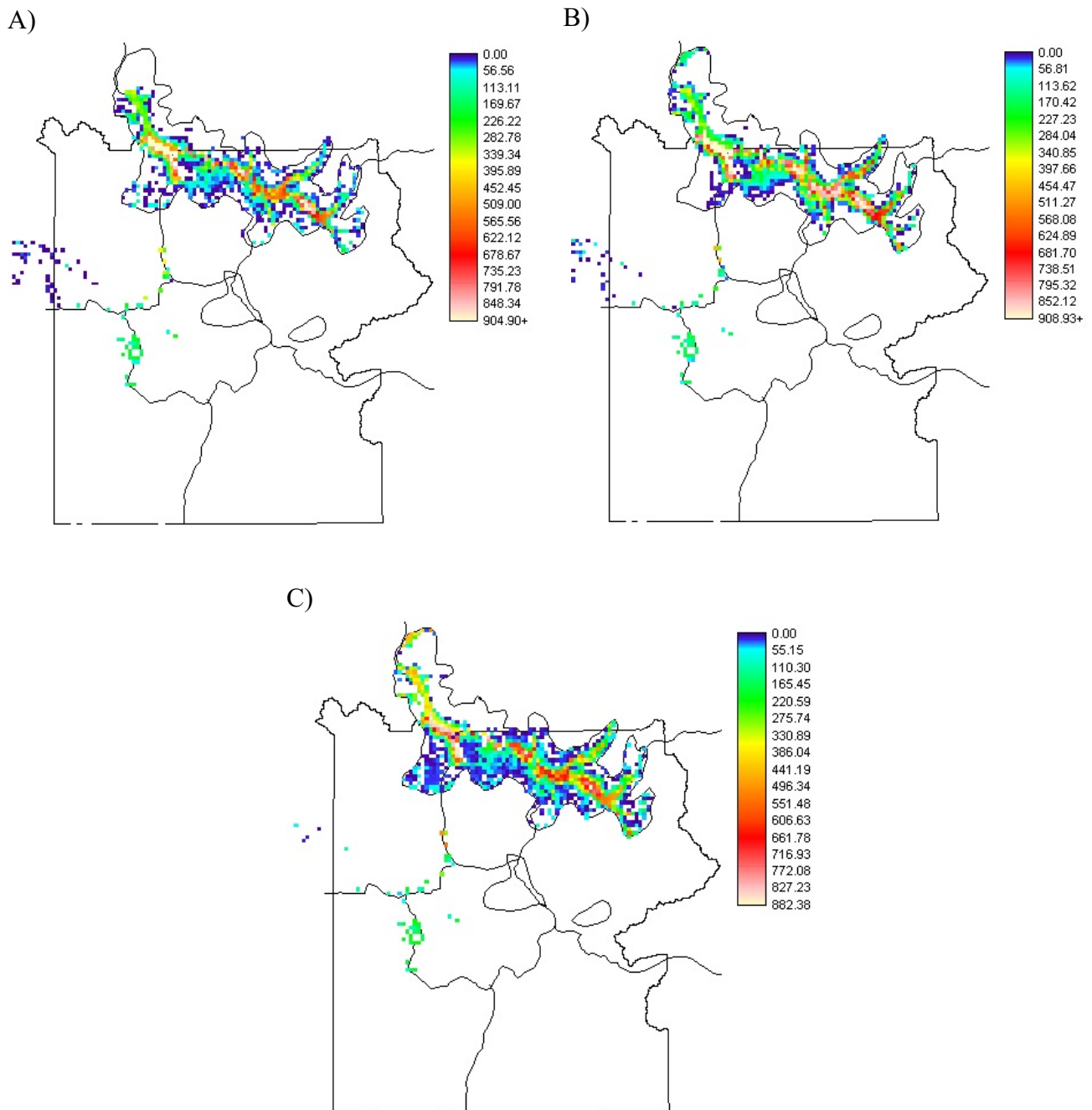


Figure 14. Elk density ($\#/km^2 * 10$) in Februarys in A) 1969-1982, B) 1982-1993, and C) 1994-2001.

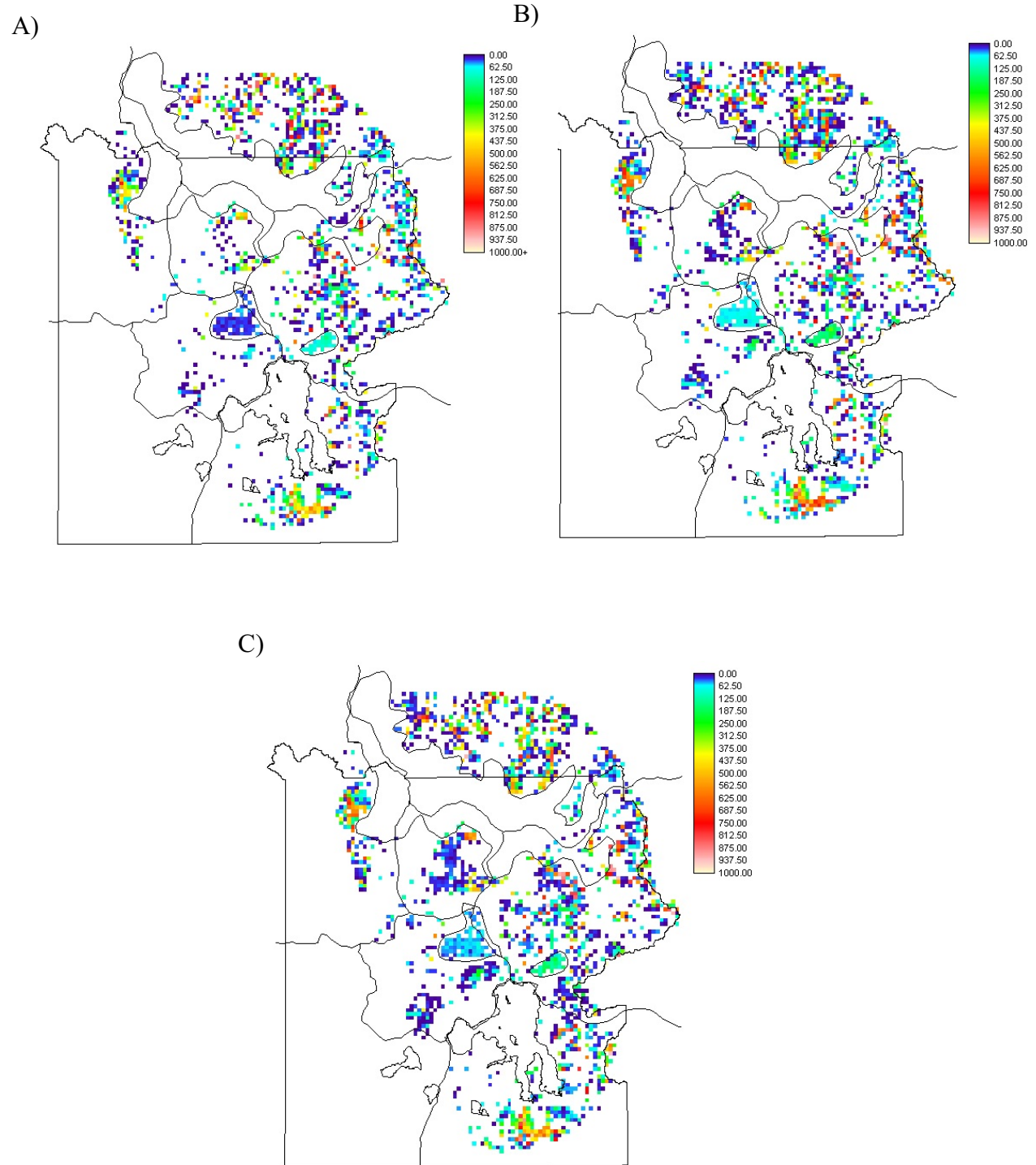


Figure 15. Elk density ($\#/km^2 * 10$) in Augusts in A) 1969-1982, B) 1983-1993, and C) 1994-2001.

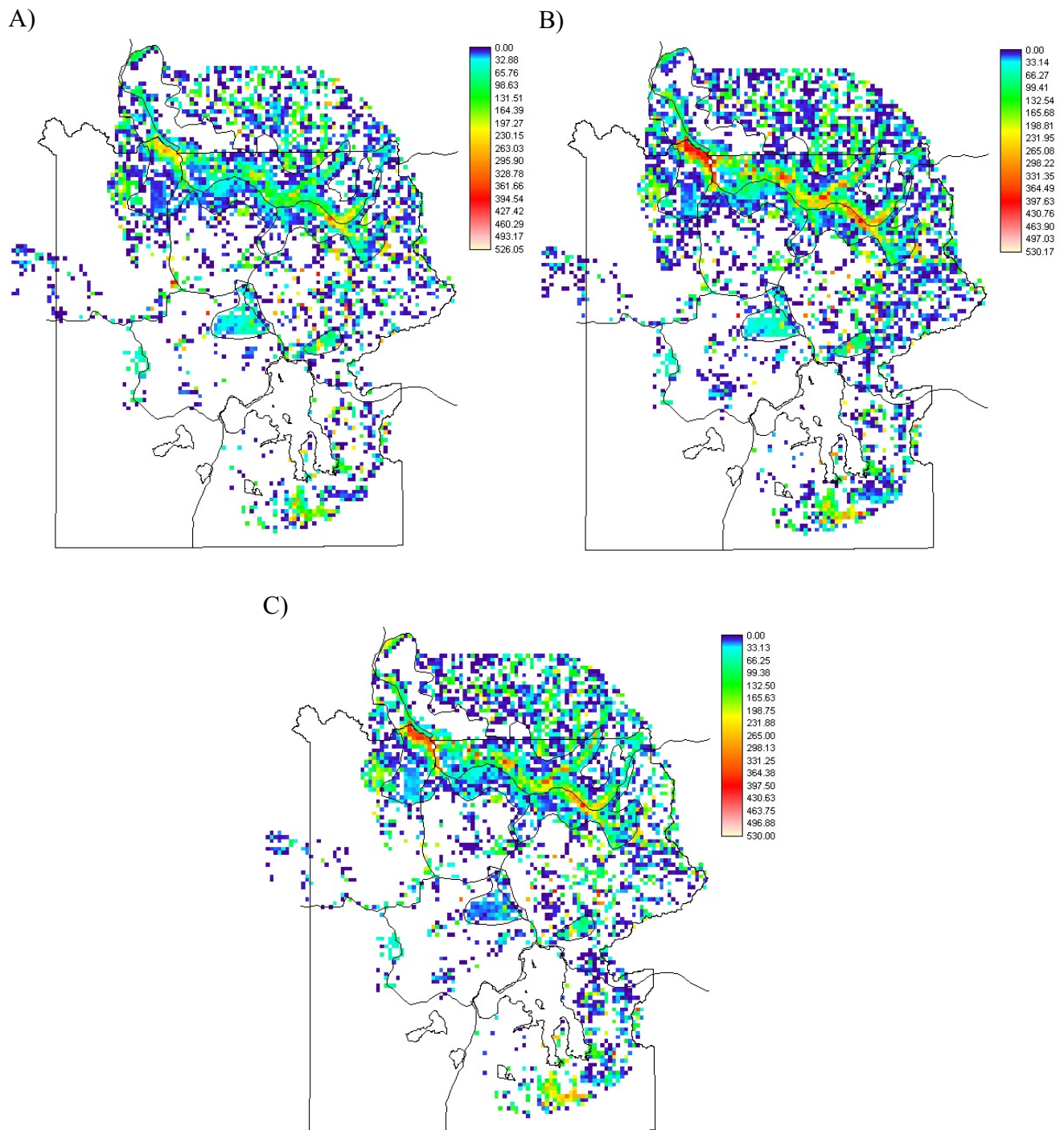


Figure 16. Average elk density ($\#/\text{km}^2 \times 10$) year around in A) 1969-1982, B) 1983-1993, and C) 1994-2001.

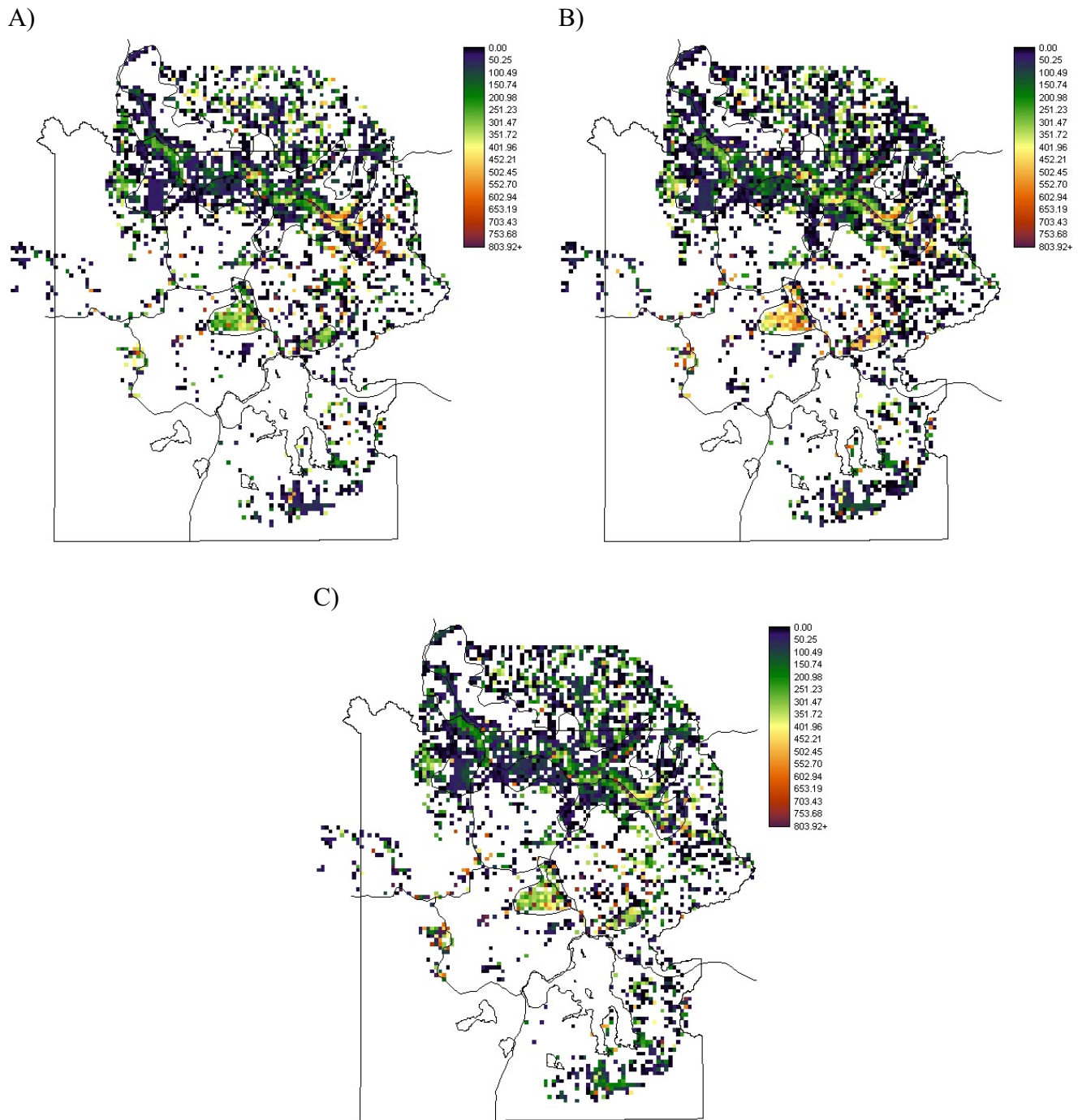


Figure 17. Total herbaceous offtake (kg/ha, g/m²*10) by bison and elk in A) 1969-1982, B) 1983-1993, C) 1994-2001.

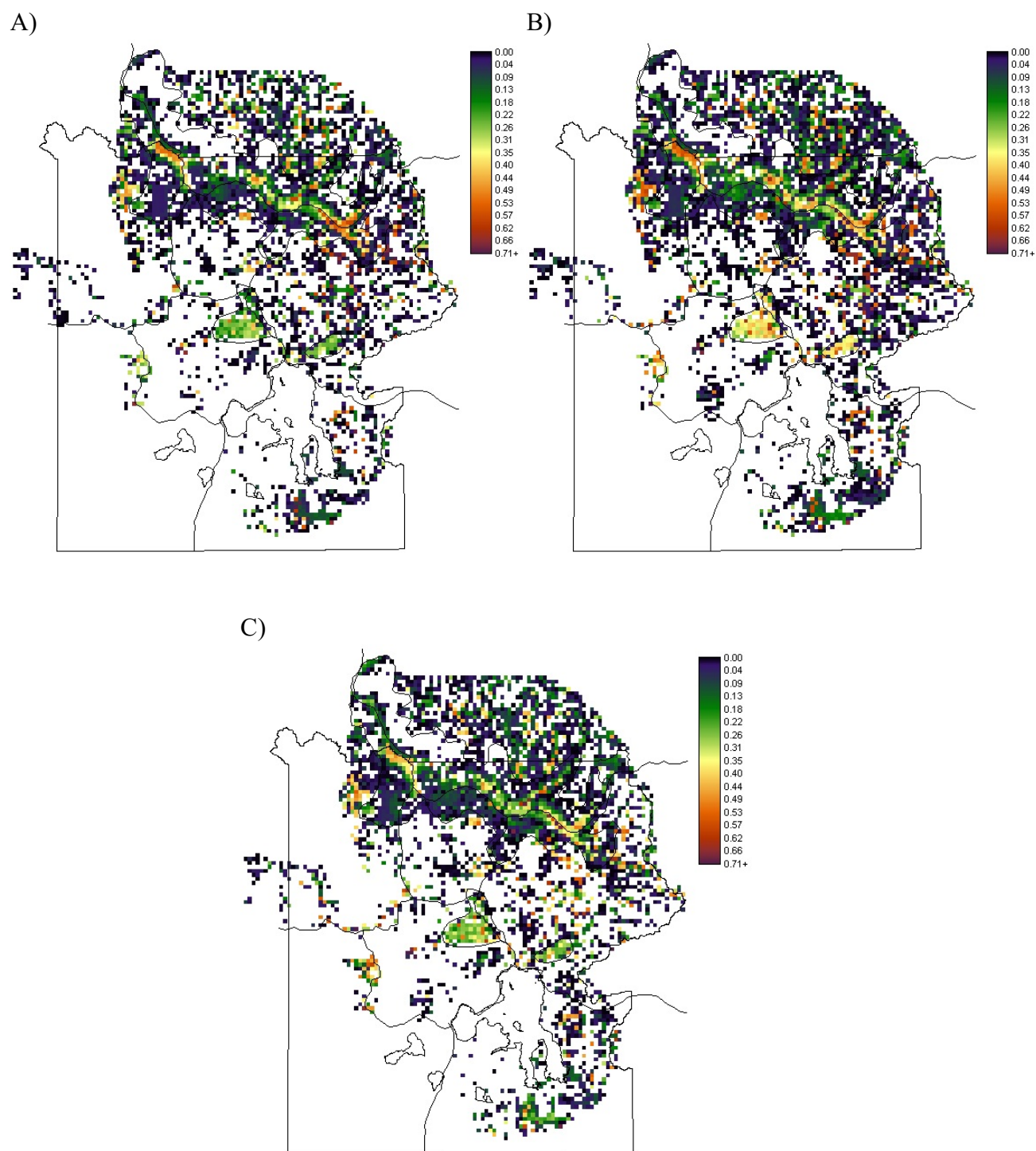


Figure 18. Grazing intensity, measured as herbaceous offtake divided by ungrazed aboveground biomass in August in A) 1969-1982, B) 1983-1993, C) 1994-2001.

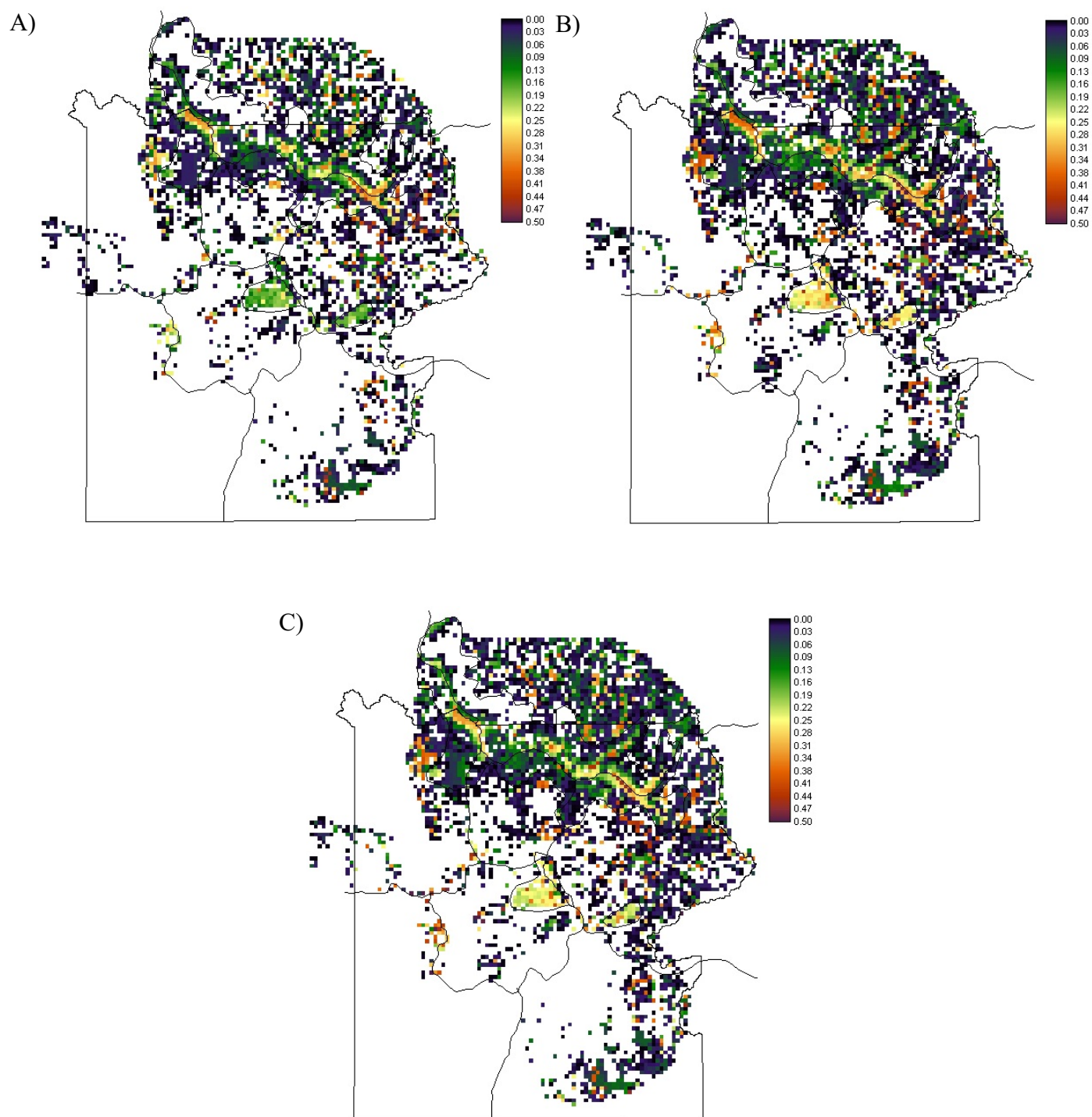
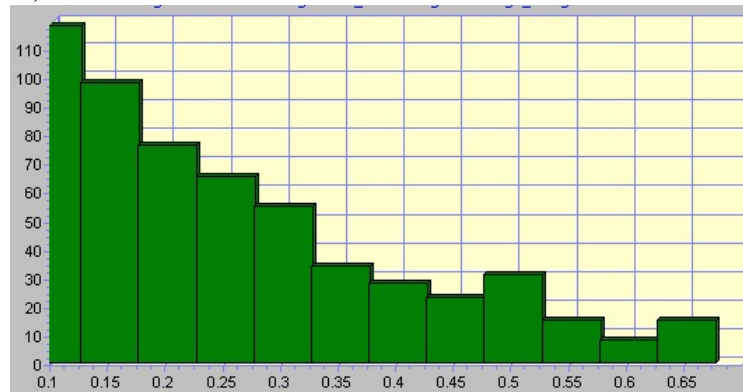
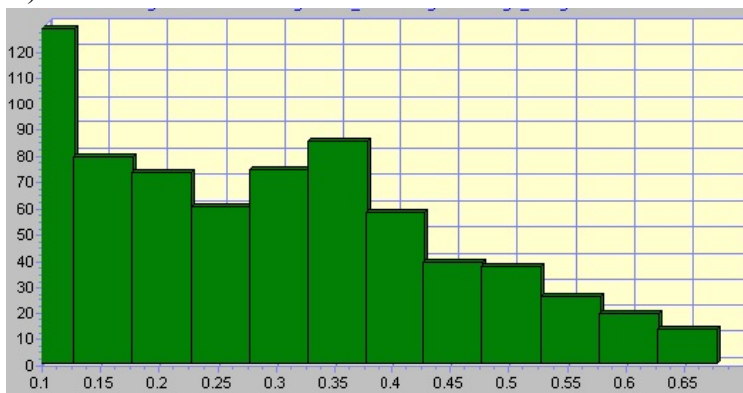


Figure 19. Herbaceous offtake as a fraction of aboveground net primary production in A) 1969-1982, B) 1983-1993, C) 1994-2001.

A)



B)



C)

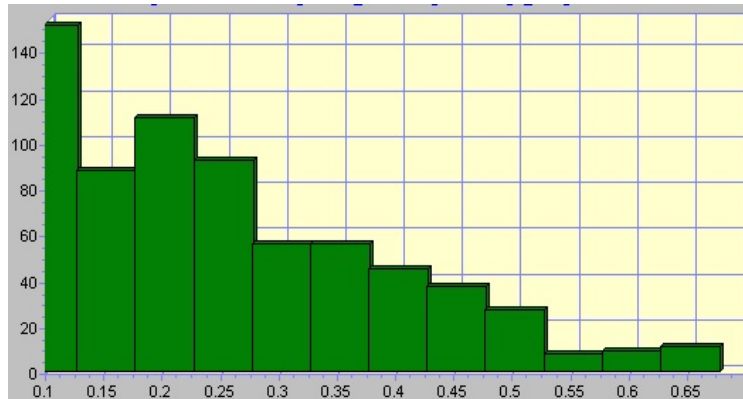


Figure 20. A) Histogram of grazing intensities in A) 1969-1982, B) 1983-1993, C) 1994-2001. Units of the Y-axis are number of 1 km² grid-cells. Note cells grazed <1% are not included.

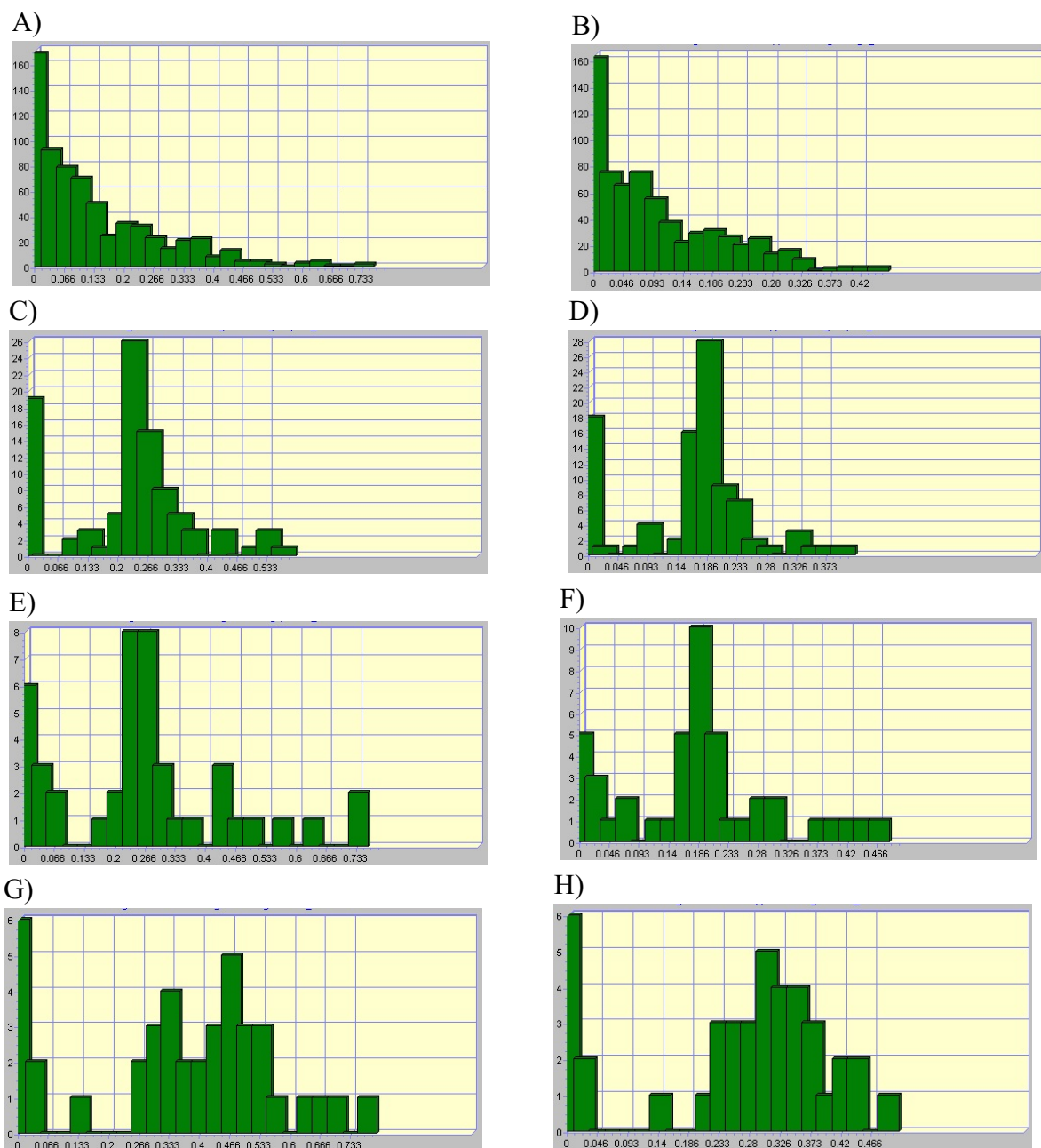


Figure 21. Histograms of grazing intensity (A,C,E,G) and fraction ANPP consumed (B,D,F,H) in 1994-2001 on the non-forested areas of A,B) the northern range, C,D) Hayden Valley, E,F) Pelican Valley, G,H) Firehole area.

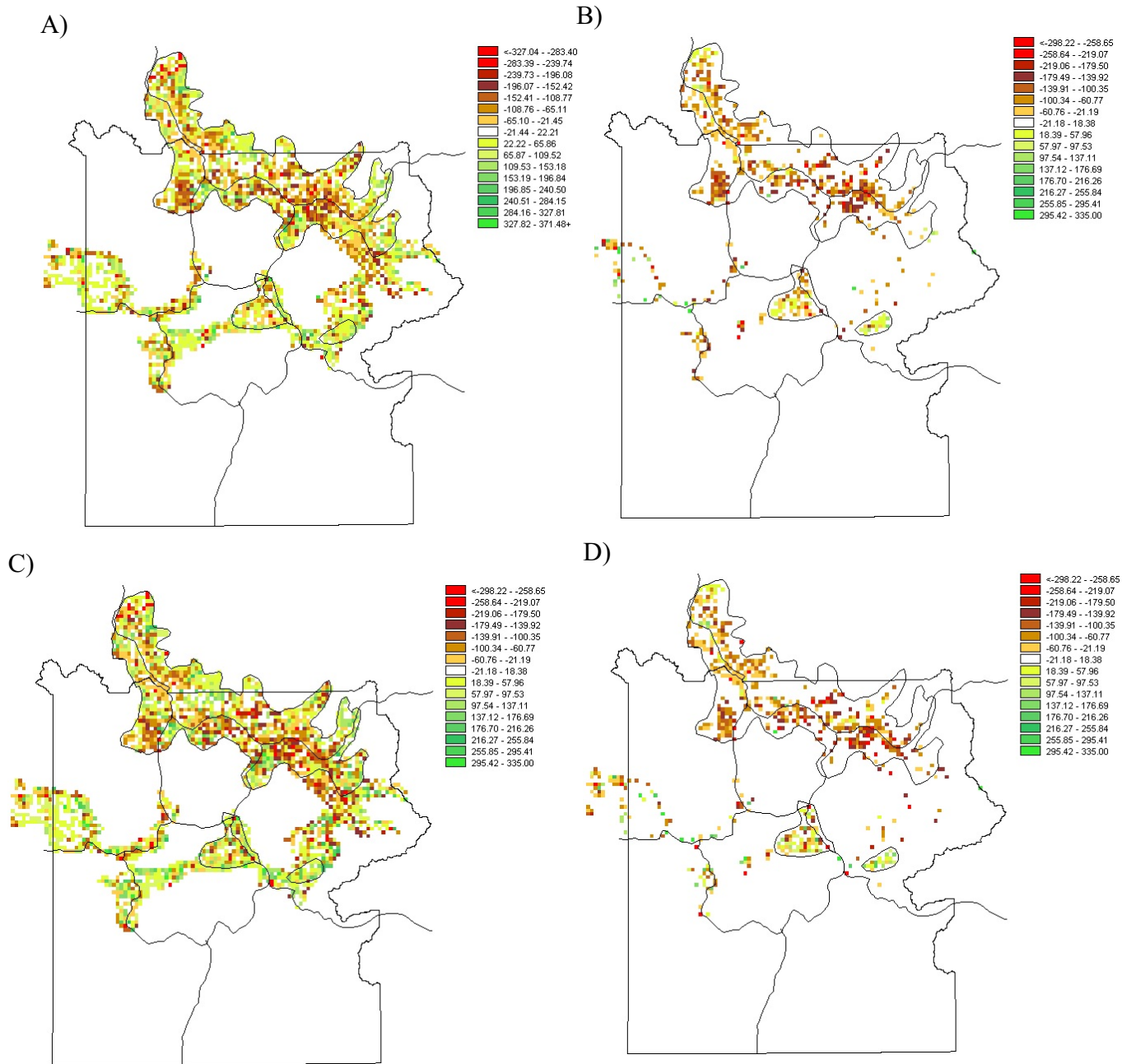


Figure 22. A) Difference in ANPP (kg/ha, g/m²*10) between 1983-2001 and 1969-1981 on all bison ranges and the northern winter range in a simulation with no bison or elk (positive values indicate increases in 1983-2001). B) Difference in ANPP (kg/ha, g/m²*10) between 1983-2001 and 1969-1981 in non-forested areas. C) Difference in ANPP (kg/ha) between 1983-2001 and 1969-1981 in a simulation with observed bison and elk numbers. D) Difference in ANPP (kg/ha, g/m²*10) between 1983-2001 and 1969-1981 in non-forested areas.

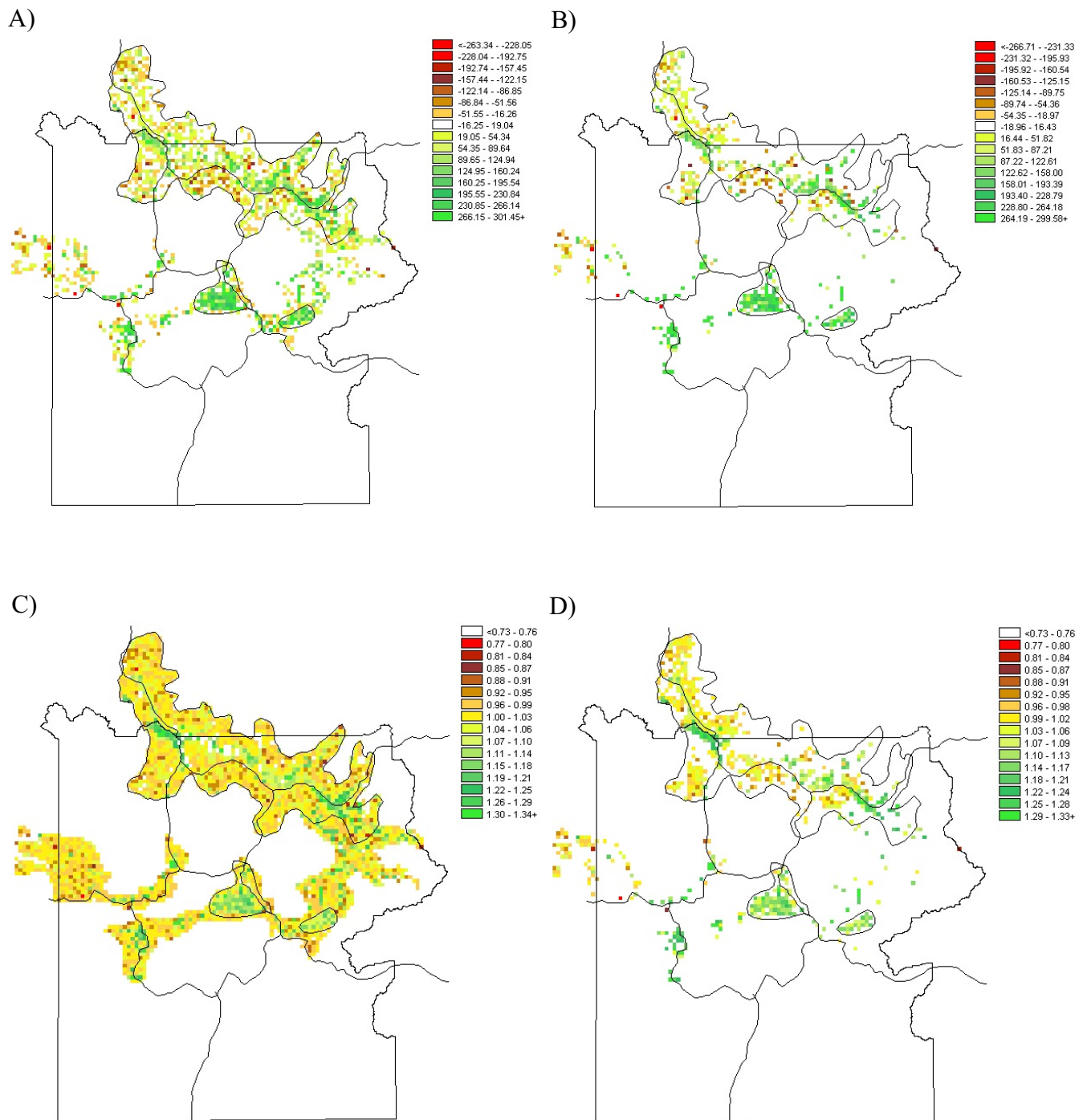


Figure 23. A) Difference in ANPP (kg/ha, g/m²*10) 1969-2001 between simulations with and without bison and elk on all bison ranges and the northern range (positive values indicate greater ANPP without animals). B) Difference in ANPP (kg/ha) in non-forested areas only. C) Ratio of ANPP with animals to ANPP without animals on all bison ranges and the northern. B) Ratio of ANPP with animals to ANPP without animals in non-forested areas only.

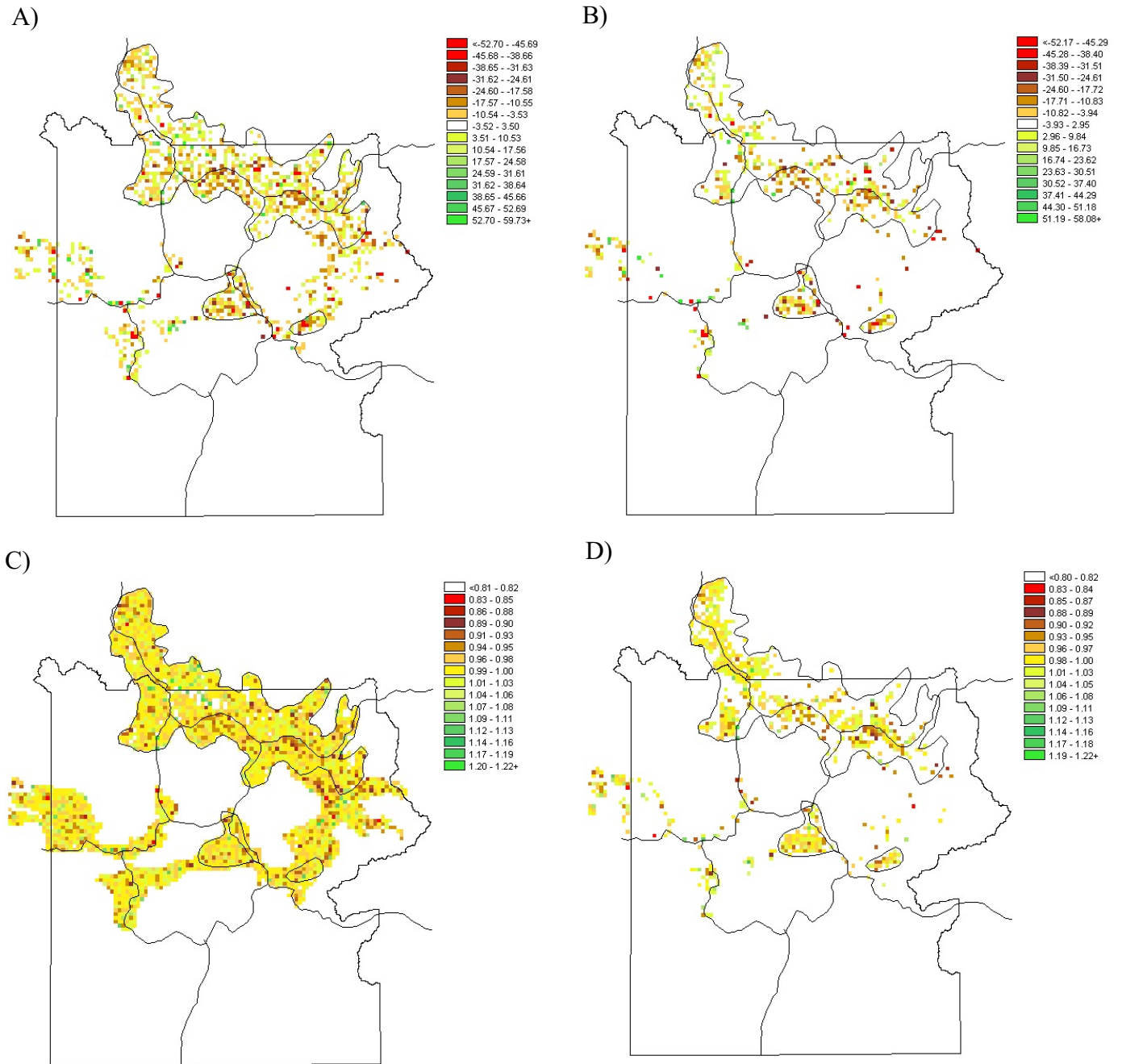


Figure 24. A) Difference in root biomass (g/m²) 1969-2001 between simulations with and without bison and elk on all bison ranges and the northern range (positive values indicate greater root biomass without animals). B) Difference in root biomass (g/m²) in non-forested areas only. C) Ratio of root biomass with animals to root biomass without animals on all bison ranges and the northern. B) Ratio of root biomass with animals to root biomass without animals in non-forested areas only.