

REVIEW OF: “NEAREST NEIGHBOR BIAS A SIMPLE EXAMPLE”

RAYMOND CZAPLEWSKI

Mathematical Statistician, USDA Forest Service, Fort Collins, CO 80526 USA

Ph/FAX: 416.978.6960/3834

Excellent manuscript. Rarely can one make such a concise, compelling and easily understood point. This paper should be mandatory reading for anyone interested in kNN for forest inventory and monitoring applications.

As an aside, I spent about 6 months trying to devise a weighting scheme in high dimensions to eliminate bias when census of pixel predictions are directly summed into a population estimate. I tried various ways to tessellate feature space around each reference plot. I tried various nonlinear methods to warp feature space, including a rank score. I finally gave up. I hope someone can figure out how to eliminate bias in sums of pixel predictions, but it'll take someone more clever than I.

I agree that ratio, regression estimation at the population or domain level is currently the best alternative. Stratification and recursive restriction estimation are closely related alternatives. But none of these methods calibrate individual pixel predictions so that their sum over the population is unbiased.