



Sampling Simulations for Assessing the Accuracy of U.S. Agricultural Crop Mapping from Remotely Sensed Imagery

Linnea Dwyer, Kamini Yadav, and Russell G. Congalton

Department of Natural Resources, University of New Hampshire, Durham, NH, United States (lmd1032@wildcats.unh.edu)

Providing adequate food and water for a growing, global population continues to be a major challenge. Mapping and monitoring crops are useful tools for estimating the extent of crop productivity. GFSAD30 (Global Food Security Analysis Data at 30m) is a program, funded by NASA, that is producing global cropland maps by using field measurements and remote sensing images. This program studies 8 major crop types, and includes information on cropland area/extent, if crops are irrigated or rainfed, and the cropping intensities. Using results from the US and the extensive reference data available, CDL (USDA Crop Data Layer), we will experiment with various sampling simulations to determine optimal sampling for thematic map accuracy assessment. These simulations will include varying the sampling unit, the sampling strategy, and the sample number. Results of these simulations will allow us to recommend assessment approaches to handle different cropping scenarios.