Correlating Hyperthermic Soils and Ecological Sites in the Chihuahuan Desert of West Texas

Michael R. Margo and Nelson A. Rolong; USDA NRCS; Contact Author Email: michael.margo@tx.usda.gov

An ongoing soil temperature study in southern Brewster and Presidio counties, Texas, has revealed soils with a hyperthermic temperature regime on approximately one million acres of rangeland previously recognized as thermic. Soil temperature data was collected at ten sites using soil temperature sensors buried to a depth of fifty centimeters or to a lithic/paralithic contact. All soil temperature monitors at elevations below 1,219 meters have exhibited hyperthermic soil temperatures. This data has lead to the reclassification of soils, ecological sites, and the creation of a new Land Resource Unit (LRU) titled Hot Desert Shrub within the Southern Desertic Basins, Plains, and Mountains Major Land Resource Area (MLRA 42). A combination of plant indicators such as leatherstem (*Jatropha dioica*), candelilla (*Euphorbia antisyphilitica*), guayacan (*Guaiacum angustifolium*), and chino grama (*Bouteloua ramosa*), elevation, and slopes were used to delineate hyperthermic soils and the correlated ecological sites. This data will help improve soil interpretation and vegetation management by landowners/managers.

2009. 62nd Society for Range Management Annual Meeting. Paper No. 2060-13.