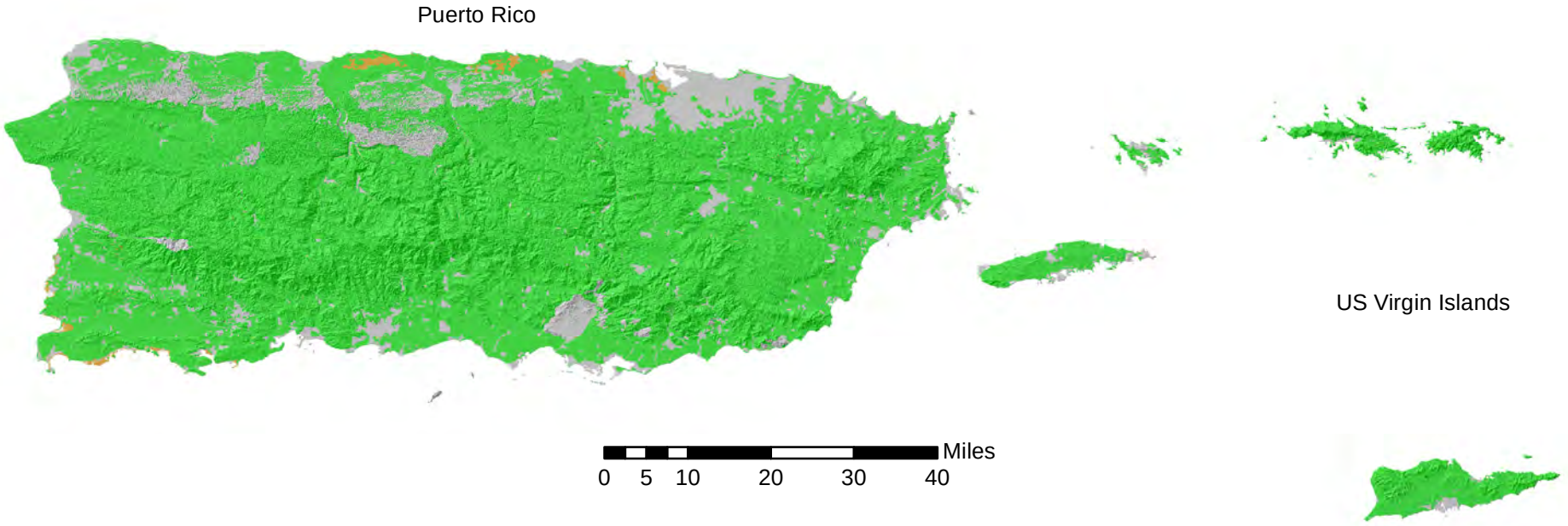
USDA United States Department of Agriculture

Soil Health -Agricultural Organic Soil Subsidence
USDA-NRCS Caribbean Area



Description

Agricultural Organic Soil Subsidence

Soil health is primarily influenced by human management, which is not captured in soil survey data at this time. These interpretations provide information on inherent soil properties that influence our ability to build healthy soils through management.

Organic soils used in agricultural production are subject to a loss of volume and depth of organic material due to oxidation caused by above normal microbial activity resulting from excessive water drainage, soil disturbance, or extended drought. Microbial mediated oxidation is the primary driver of volume reduction once excess water is removed. Soil shrinkage and compaction due to dewatering is considered to be secondary. Any drawdown resulting in water levels below soil surface can result in increased subsidence rates. The subsidence rate can also be influenced by agricultural practices. The type of tillage operation, such as plowing, disc harrowing and switch plowing, moldboard plowing increase the oxidation rate. The use of no-till practice is recommended to slow the subsidence. Any aggressive tillage measure increases microbiological activity and decreases carbon sequestration. Drainage water management can be implemented to control water tables to help slow the subsidence rate.

Legend

Rating

- Severe subsidence
- Moderate subsidence
- Low subsidence
- Mineral soil
- Not rated or not available

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