USDA United States Department of Agriculture

Soil Science Division

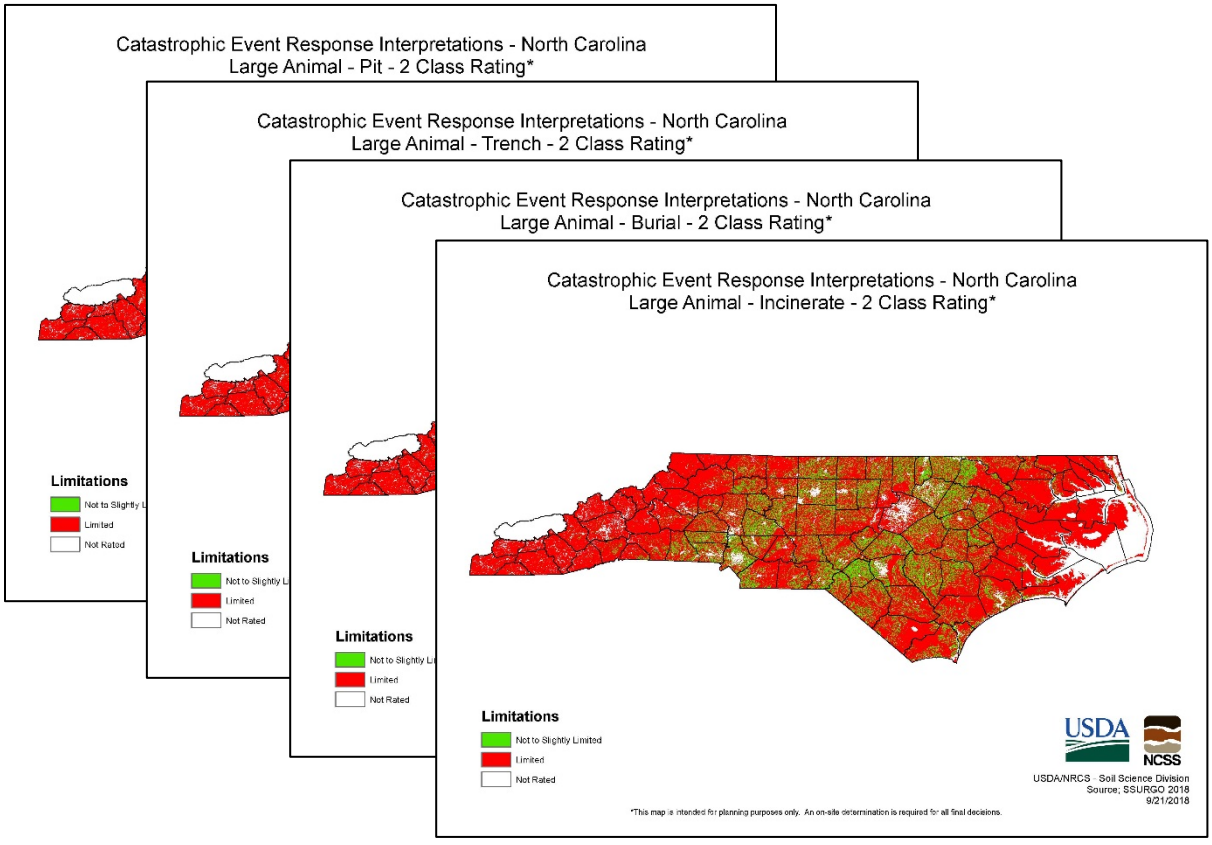
Soil Survey Region 3

Raleigh, North Carolina, Regional Office

Animal Mortality and Disposal in the Wake of Hurricane Florence

On Monday, September 24, more than a week after Hurricane Florence made landfall, the Raleigh News & Observer reported that at least 5,500 hogs and 3.4 million chickens and turkeys died as a result of flooding and wind damage and that these numbers were expected to rise. The mortality is already twice that recorded for Hurricane Matthew just 2 years ago. Because of widespread flooding, many farmers cannot yet access their land and assess mortality. The challenge of livestock disposal will be massive.

The NRCS Soil Science Division has long had a standard soil survey interpretation available on Web Soil Survey for livestock disposal in pits, titled “Catastrophic Mortality, Large Animal Disposal, Pit,” and a similar interpretation for disposal trenches. However, in anticipation of Hurricane Florence, Maxine Levin,



New statewide overview maps in support of outreach.

NRCS National Leader for Soil Survey Interpretations, generated new and improved models for both of the existing interpretations and created two new interpretations for burial and incineration.

The standardized interpretations present several classes of limitation, but emergency response officials in North Carolina wanted a simplified interpretation that would provide basic yes-or-no type guidance. Greg Taylor (senior regional soil scientist for Soil Survey Region 3) worked with Chad Ferguson (soil scientist and GIS analyst at the National Soil Survey Center in Lincoln, Nebraska) and Richard Reid (soil survey office leader in Bryan, Texas) to customize the new interpretations. They presented simplified versions that used only two classes. The previous “Not Limited” and “Slightly Limited” ratings were classed suitable, and all other limitation ratings were classed as not suitable.

A gSSURGO file geodatabase was built for the State of North Carolina. Greg processed the entire State through the customized version of all four new and improved interpretations. He produced statewide maps for general communication and outreach efforts being launched from the NRCS North Carolina State Office. Matt Duvall (ecological data quality specialist for Soil Survey Region 3) delivered the geodatabase and provided a brief training on the geodatabase content, structure, and application to Milton Cortes (Acting North Carolina State Soil Scientist). Milton anticipated that the geodatabase would be used to evaluate specific proposals for disposal sites.

