Comparing Three Geophysical Tools for Locating Sodium Affected Soils In Southern Illinois. (S05-indorante144145-Poster)

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Abstract:

Sodium Affected Soils (SAS) in humid areas have primarily been identified and mapped using traditional soil survey methods, which include aerial photo interpretation, application of local soil-landscape models, soil sampling with the associated field tests, and laboratory analysis. Along with these methods, geophysical tools, such as electromagnetic induction (EMI), have been applied successfully in the identification and detailed mapping of SAS in humid regions. In this study three EMI devices, the EM38, EM38-DD and the GEM300 sensor were compared to assess the relative suitability of each device in an area of SAS. The study was conducted in a complex of SAS-nonSAS soils in the thin loess covered till plain of southern Illinois. Results of the study revealed that all three EMI instruments produced similar data sets, spatial patterns, and interpretations. Advantages and disadvantages of each instrument will be presented.

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