

Q) In testing this, what was the documented accuracy, or confidence level? If the standard's threshold is not reached, does one then keep going until it is mapped properly or stop, and map traditionally?

A) The only specifically stated metric that has been proposed is to adopt the Global Soil Map standards of reporting the 90% prediction interval for continuous soil property predictions. This is related to physical and chemical properties defined by Global Soil Map group

A) For soil classes, a minimum of 60% overall accuracy or other model performance measure has been suggested in the draft standards.

A) If a minimum threshold is not met initially, it's generally because training data is inadequate or covariates are inadequate. This should be examined and addressed, then the model can be run again, it is an iterative process.

A) Throughout history, we have produced the best available data about soil survey for the time and money accorded for a specific project. Map unit design accommodates issues related to unpredictable classes

Q) How much work do you think is needed to get the Pedon side of NASIS effectively populated, for use in your modeling process?

A) The issues across the county vary too much to say. There are issues related to completeness of descriptions, taxonomic consistency and geospatial absence and/or accuracy

A) In addition, it also depends on the scope of your project and what you are trying to predict. At a minimum you need a reliable location and the specific information needed for your prediction (either class info or measured soil property info)

Q) I noticed that the depths given coincide with proposals to the NSSH procedures. Why don't they match normal taxonomic breaks?

A) Those depths refer to the soil property stacks. Taxonomic breaks, i.e. horizons, are already captured in NASIS. The soil property stack is a new product line that is adopting the standardized depths of the Global Soil Mapping working group. Standardized depths will simplify use of the data, eliminating the need for a database and facilitating use with "non-soil" layers that are utilized to generate interpretations. This is meant to be an additional data product, not a replacement for SSURGO.

Q) What kind of file do we need to create to be able to run that Kriging tool?

A) ArcGIS has the Geostatistical Analyst and Spatial Analyst Extensions which offer various kriging methods. The input file would be a georeferenced point shapefile or geodatabase with associated values (soil chemical, physical, temperature, EM, etc...). Geostatistics is its own world as noted by one of the 500 plus page references: Isaaks, E.H. and Srivastava, R.M., 1989. An introduction to applied geostatistics. Oxford Univ. Press, New York. *An introduction to applied geostatistics. Oxford Univ. Press, New York.*

Q) Training data = pedons/ points. OK. What about somehow using SSURGO polygons as training data?...another discussion for another day???

A) Someone was there to poke a hole and make a call, some information extraction could be accommodated

A) You can do this and it has been done. Many assumptions have to be made and very carefully. Making point data out of aggregated data gets messy. Why not just use the pedon points used to make the SSURGO map if available?

Q) Is there a ground truthing process that accompanies this process?

A) Yes, slides 26-34 cover that aspect

Q) Are field soil scientists going to be writing these models or simply utilizing models provided to us?

A) Ideally, field soil scientists will be doing this work or working in concert with NRCS employees that understand both modeling and soil survey. The DSM training curriculum will prepare soil scientists to carry out this type of work as part of the regular soil survey activities. Who has what responsibility may vary by region as well.

Q) Has DSM been applied in areas with a high percentage of the area is used for intensive agriculture production

A) Yes, roughly 1 million acre area was recently updated using DSM techniques in a production ag area of ND. Many examples of this in the literature as well. These techniques can be applied anywhere with varying levels of success depending on the covariate data layers available.

Q) In one of your examples you displayed an image derived from Erdas. Does one need to install this software or is it embedded in ArcGIS.

A) ERDAS needs to be installed. A multi-user floating license for ERDAS is available for use by NRCS employees. In addition, many image processing functions are available with ArcGIS