



Soil and Water Science Department Invited Speaker Seminar

Speaker: **Dr. Gustavo M. Vasques**
Soil Researcher at Embrapa Soils
Rio de Janeiro, Brazil

Title: **Digital Soil Mapping at Embrapa Soils
and Brazil: Initiatives and Perspectives**

Date: Wednesday, April 1, 2015

Time: 3:15 pm

Location: McCarty Hall A Room G186



Quantitative methods and geotechnology have been widely used to map soils and their attributes. Digital soil mapping (DMS) apply such methods to test hypotheses related to the spatiotemporal behavior and distribution of soils, allowing to ultimately map soils at a lower cost and with reported accuracy.

Recent global and national initiatives have fostered soil awareness and mapping of soil physical and chemical attributes notably through DSM to sustain food, fiber and energy production. These include GlobalSoilMap.net for global soil attribute mapping at 100-m spatial resolution, and the [Global Soil Partnership](http://GlobalSoilPartnership.org) aiming to build global networks promoting sustainable soil management and food security.

In Brazil, the Brazilian Network for Digital Soil Mapping Research (RedeMDS), the Brazilian Network for Precision Agriculture, and the creation of Commission 1.3 Pedometrics in the Brazilian Soil Science Society show the growing interest on DSM and related areas.

I present the most recent DSM projects at Embrapa Soils, which is the National Center for Soil Research at the Brazilian Agricultural Research Corporation, focusing on two projects with different scopes and aims. The first is the creation of the RedeMDS, a DSM research network that currently has more than 70 members from 27 research institutions from many states in Brazil. The second is an outreach project designed to teach DSM to soil scientists and technicians from close to 20 countries in Latin America using an on-the-job training approach.

This ambitious project led to the production of countrywide digital soil carbon maps for some countries, including Brazil and Argentina, the largest ones in Latin America.

I also present some perspectives for DSM at Embrapa Soils and Brazil, including needs and current ideas and ongoing propositions. Being the governmental soil research authority of Brazil, the largest country in Latin America and one of the most important producers of agricultural commodities in the world, Embrapa Soils needs to keep pace with the state-of-the-art and anticipate future trends in global soil science. At the same time, it needs to provide accurate and up-to-date information on regional and national soil resources to support sustainable agricultural planning and expansion. For that, I foresee an increasing importance of DSM.

For our off-campus students, off-campus faculty, and on-campus students who cannot physically attend, all seminars can be viewed at: <http://mbreeze.ifas.ufl.edu/seminars>. In addition, all seminars are archived for viewing at <http://soils.ifas.ufl.edu/academics/seminars.shtml>.