

# Geography 317: Getting Down and Dirty (Lab Methods in Physical Geography)

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## Abstract

Geog 317 was a lab methods course in the fall of 2012. During this semester students analyzed different soil types. This course also served as a service learning project to assist the Preserve of Fairfield Osborn. This research also contributed to Sonoma State University's WATERS collaborative. Students collected and compared samples from mixed woodland and grassland environments. This lab course offered students practical data collection and field method experience. This research developed a baseline for future studies, as well as the opportunity for the class to do original research.



Grassland Site

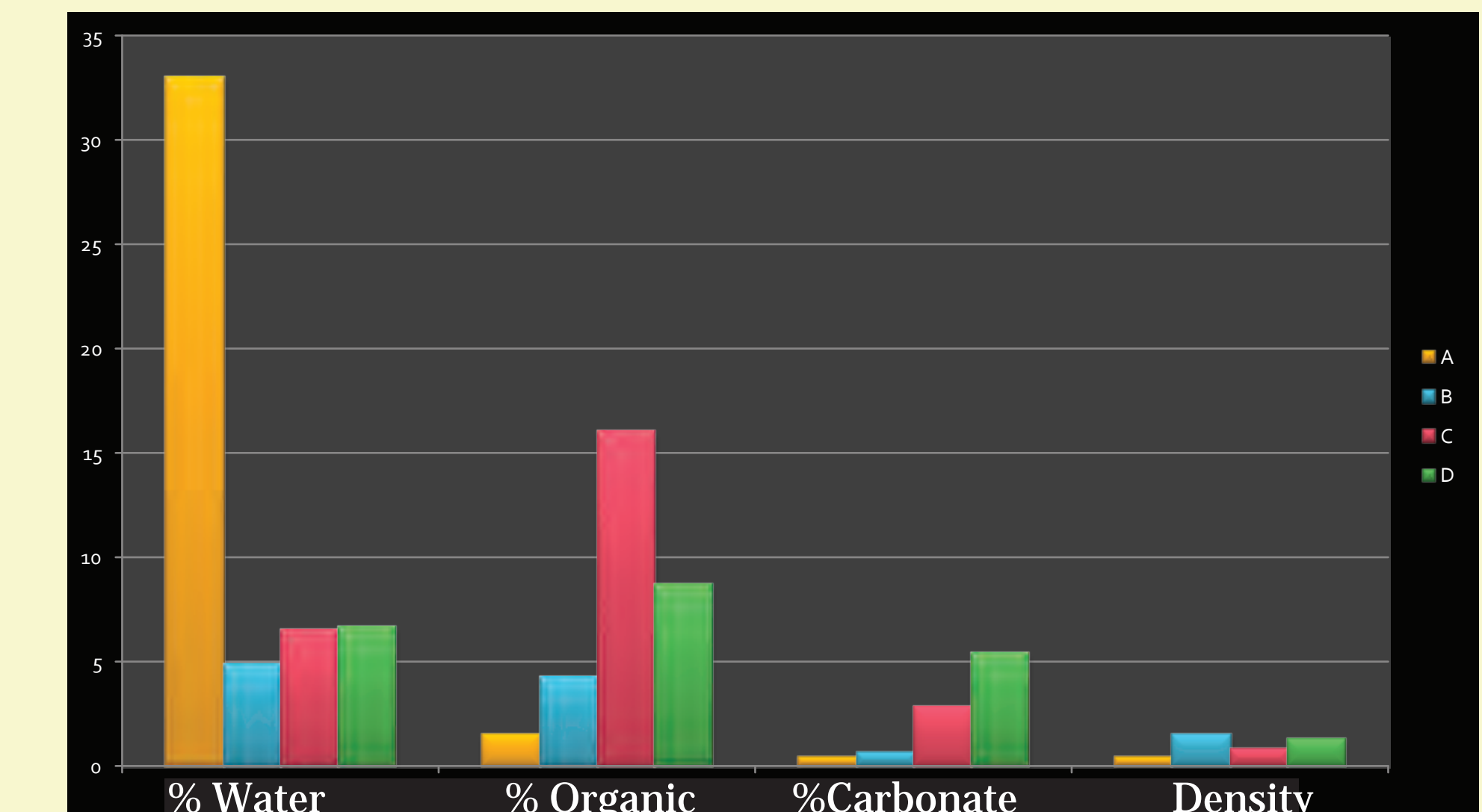


Mixed Woodland Site

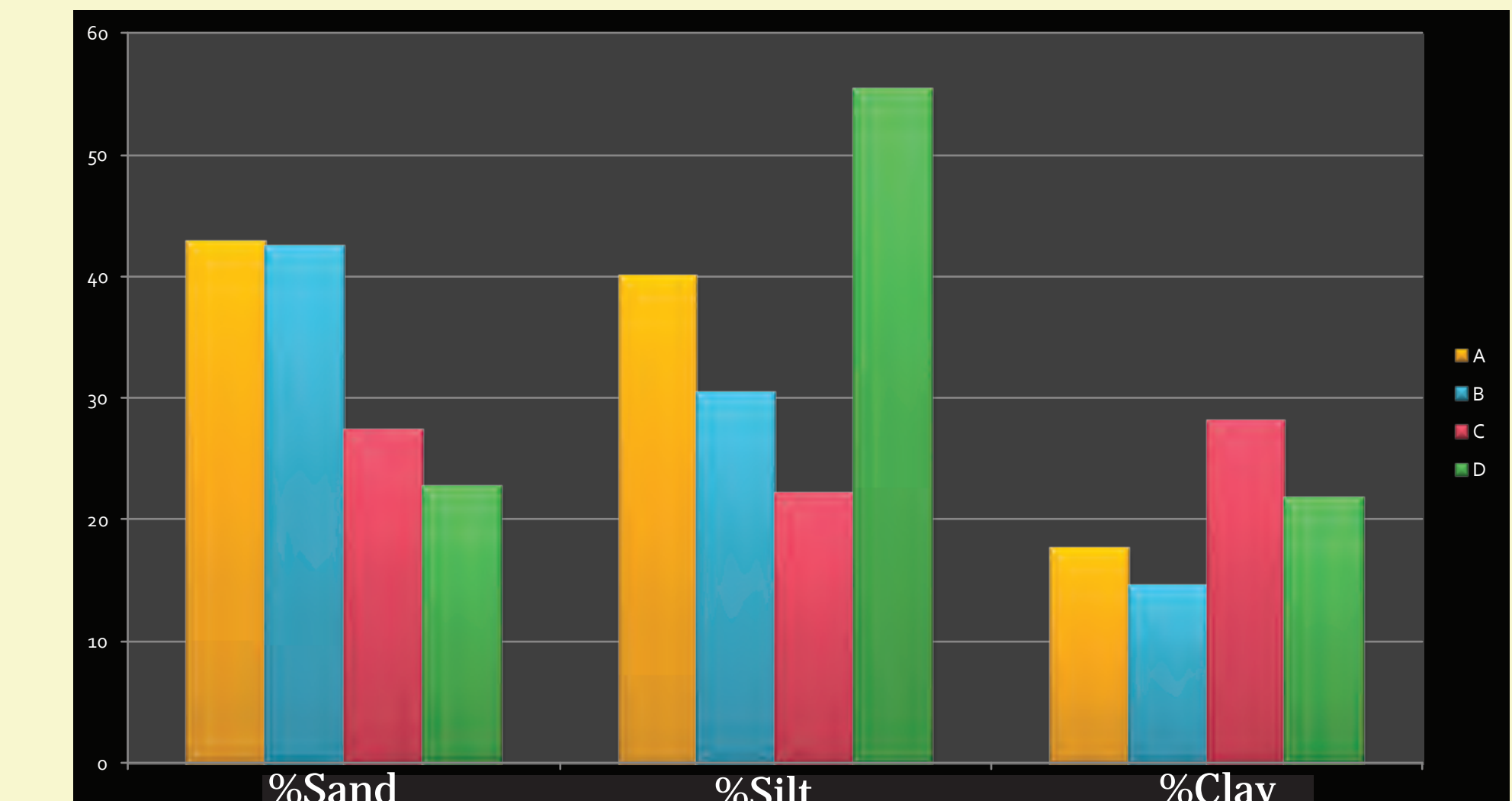
Hiking on the Preserve



Mixed Woodland Site LOI



Mixed Woodland Site Grain Size



## Methods

We first identified where we would collect soil samples. We selected these locations based on biotic and abiotic features, such as vegetation and proximity to creek systems as well as accessibility. We split into four different groups and took note of the slope, aspect, and GPS coordinates for each location. We extracted the soil using bucket augurs. Depth of auguring varied between groups and sites. Back in the lab we completed a series of analyses on the soils including magnetic susceptibility, loss on ignition, and grain size analysis.

## Experiential Learning:

This non-traditional class helped us to learn through direct experience. This class was a great alternative to the power point lectures of a more traditional classroom setting. Sometimes the best way to learn something is to get out and do it, not to just read about it in a textbook. This course embraced that concept by allowing us to get our hands dirty and to do original research. Our mistakes were viewed as learning opportunities and considered essential to the learning process. This class gave us the opportunity to work as teams, problem solve, and get active within our local community. By the end of the semester we had produced a scientific research report which we could add to our resumes and to the collective knowledge of the preserve. For all these reasons and more this class was really valuable to our educational experience at Sonoma State.



Bucket Auger

We would like to thank  
FOP (Dr Luke and Suzanne DeCoursey)  
and the WATERS Collaborative

Full report can be found at:

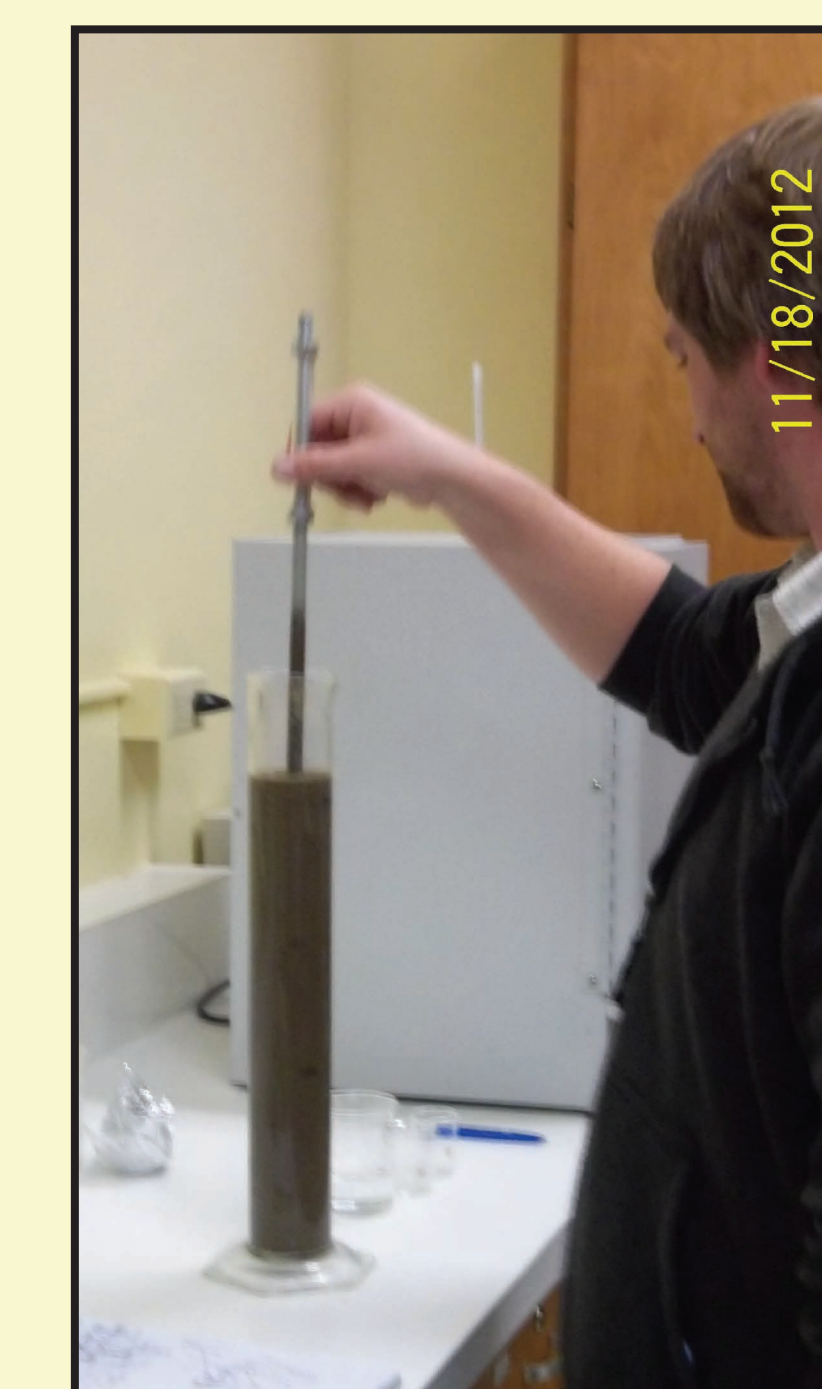
<http://www.sonoma.edu/preserves/waters/docs/Sediment%20report%20GEOG%20317%202012.pdf>



Drying Soil Samples



In Lab



Grain Size