



Using Field Trips and Field-Based Laboratories to Teach Undergraduate Soil Science

Eric C Brevik (1), Joshua Steffan (1,2), and David Hopkins (3)

(1) Department of Natural Sciences, Dickinson State University, Dickinson, ND, USA (eric.brevik@dickinsonstate.edu), (2) Department of Agriculture and Technical Studies, Dickinson State University, Dickinson, ND, USA, (3) Department of Soil Science, North Dakota State University, Fargo, ND, USA

Classroom activities can provide important background information allowing students to understand soils. However, soils are formed in nature; therefore, understanding their properties and spatial relationships in the field is a critical component for gaining a comprehensive and holistic understanding of soils. Field trips and field-based laboratories provide students with the field experiences and skills needed to gain this understanding. Field studies can 1) teach students the fundamentals of soil descriptions, 2) expose students to features (e.g., structure, redoximorphic features, clay accumulation, etc.) discussed in the classroom, and 3) allow students to verify for themselves concepts discussed in the more theoretical setting of the classroom. In each case, actually observing these aspects of soils in the field reinforces and improves upon classroom learning and comprehension. In addition, the United States Department of Agriculture's Natural Resources Conservation Service has identified a lack of fundamental field skills as a problem when they hire recent soil science graduates, thereby demonstrating the need for increased field experiences for the modern soil science student. In this presentation we will provide examples of field trips and field-based laboratories that we have designed for our undergraduate soil science classes, discuss the learning objectives, and provide several examples of comments our students have made in response to these field experiences.