

**MEASURING WATER MOVEMENT IN SOIL
VIA A COMPACT CONSTANT HEAD PERMEAMETER
(A.K.A. THE AMOOZEMETER)**

AUGUST 13, 2008

9:00 AM TO 5:00 PM

**MERRIMACK COUNTY FARM
BOSCAWEN, NH**

AGENDA

- 9:00 Welcome and introduction to New Hampshire Soils and Websoil Survey
Location: UNH Cooperative Extension- Merrimack County Conference Room
Topics Covered: In this first section, a brief introduction to the day will occur with learning goals and objectives discussed. Afterwards, Karen Dudley will discuss the soils found at the field work site, using the on-line tool WebSoil Survey. This section is also to be used as a brief introduction to Websoil Survey, the on-line repository of NRCS's Soil Survey Data.
Speaker Biography: Karen Dudley, MS, is the President of the Society of Soil Scientists of Northern New England. She is a Soil Resource Specialist with the USDA Natural Resources Conservation Service in Concord, NH covering the southern 7 counties of the state. She has predominantly mapped soils in Merrimack, Belknap, and Strafford Counties. She is a graduate of the University of New Hampshire with a B.S. in Hydrology and a M.S. in Soils.
- 9:30 Alteration of Terrain
Location: UNH Cooperative Extension- Merrimack County Conference Room
Topics Covered: The Alteration of Terrain program at the department of Environmental Services issues permits to large construction projects for the purpose of protecting New Hampshire surface waters by controlling soil erosion and managing stormwater runoff from developed areas. The program was created in 1981 and has been administering itself under nearly the same rules that were developed more than 27 years ago. DES, with help from numerous stakeholders representing a wide variety of interests, is undergoing the adoption of a new set of rules to better serve NH in protecting its waters. Amy Clark, from the Terrain Alteration Bureau, will speak about the upcoming changes. Items of interest include: infiltration testing, soil mapping, stormwater treatment technologies, channel and flood protection, and groundwater recharge, and other permitting requirements.
Speaker Biography: Amy C. Clark, PE, is a registered professional engineer in the State of New Hampshire and works for the NHDES

Alteration of Terrain program. The Alteration of Terrain permitting process requires the implementation of controls for the attenuation of stormwater runoff, treatment of stormwater runoff, and erosion controls for large commercial developments and subdivision projects in New Hampshire. Prior to joining the Alteration of Terrain program in 2003, she worked for the NHDES dam bureau for 3 years. She is a graduate from Tennessee Technological University with a B.S degree in Civil Engineering and a graduate from the University of New Hampshire with a M.S. degree in Civil Engineering with an emphasis in water resources.

10:30 Break

10:45 Introduction to the Compact Constant Head Permeameter

Location: UNH Cooperative Extension- Merrimack County Conference Room

Topics Covered: This segment is the introduction to the “Amoozemeter” (a.k.a. the Compact Constant Head Permeameter). Created by Dr. Amoozegar of North Carolina University, the Amoozemeter is a permeameter that can help field scientists get out to various sites and run measurements of saturated hydraulic conductivity of soils and fill material. The instrument is easy to carry and to use in the field for in-situ data collection.

Students will learn when and how to use the Amoozemeter. Also, an introduction to the data, how to collect it, and how to interpret it will also be part of this section. There will also be a brief introduction to the field work site.

Speaker Biography: Phil Schoeneberger, Ph.D. is a Research Soil Scientist at the National Soil Survey Center in Lincoln, NE. Phil is a past chair of the Soil Scientist Society of America (Pedology Division). He is a graduate of the University of Wisconsin with a B.S. in Environmental Science, Oregon State University with a M.S. in Soils and Geology, and from North Carolina State with a Ph.D. in Soils where he worked with Dr. Amoozegar.

11:15 Lunch

12:00 Field Work with Phil Schoeneberger

Location: Merrimack County Farm Fields

Topics Covered: In this section, students will get guided, hands-on experience using the Amoozemeter at field sites at the Merrimack County Farm. Several Amoozemeters will be available to practice with in small (2-3 person) groups. Guided by experienced soil scientists, students will practice their skills, troubleshoot, and collect data using the Amoozemeter. Phil Schoenberger will be available at the site for questions. Students will

work at their own pace and will take their afternoon break at their convenience.

- 4:00 Data Overview with Phil Schoeneberger
Location: UNH Cooperative Extension- Merrimack County Conference Room
Topics Covered: Students will come back to the classroom to analyze and interpret the data they collected in the field.
- 4:30 Wrap-up, Final Questions, and End of Program
- 5:00 End of Program