

At the 1993 All-Scientists Meeting, Rich Boone and I offered to compile information on soil surveys and soil maps available for each LTER site. As of early December, 12 sites had responded:

1 -- ANDREWS EXPERIMENTAL FOREST

Submitted by:

Phil Sollins
Forest Science Dept.
Oregon State University
Corvallis, OR 97331
(503-737-6582)
sollins@fsl.orst.edu

Two soils maps exist for the Andrews Experimental Forest, the first oriented more toward SCS procedures and goals, the second based on USFS procedures and goals. They do not agree well with each other, nor with our current understanding of the geology of the Andrews Forest. In addition, there have been two intensive efforts at soil sampling across the Andrews Forest. We are planning a new soil survey that builds on the work done in 60s and 70s but takes advantage of our improved understanding of geologic and geomorphic processes.

A) Early Andrews survey

Report:

F.R. Stephens. 1964. Soil survey report of the H.J. Andrews Experimental Forest (unpublished).

This was a 3-week field effort during July 1962 that coined the 12 soil series names now used by some to describe Andrews soils. Series were keyed to geologic substrate (alluvium formed from basic igneous rocks, andesitic glacial deposits, flow andesites and basalts, green tuffs and breccias, and red tuffs and breccias), to presence or absence of a B horizon, and to drainage. The map is available as an Arc/Info layer.

Profiles were described for each series. To our knowledge, no samples were analyzed or archived, and soils were not classified.

B) USDA Forest Service

Report:

H.A. Legard and L.C. Meyer. 1973. Willamette National Forest Soil Resource Inventory. Willamette National Forest, Eugene, OR.

This study was designed to map landtype units of 50 to 600

acres. Landtype units "contain a dominant landtype which accounts for at least 70 percent..." of the area. Some 50-60 landtype units were defined for the Willamette National Forest, of which some subset occur on the Andrews Forest. Most areas were mapped as complexes, defined as "areas where two or more defined mapping units are present in an arrangement too complex to separate at the one inch per mile scale".

The original fieldwork was done in 1971-72. Boundaries were revised (using a 2 inch/mile base map) in 1990-91 and incorporated into an updated Arc/Info GIS layer.

Results of some mechanical analyses and pH are included in the report. Profiles were described distinguishing only litter, surface, and subsurface layers.

D) R. B. Brown and R.B. Parsons. 1974?. Soils of the reference Stands--Oregon IBP, Internal Memo Report No. 128, Coniferous Forest Biome, US/IBP.

This report provides profile descriptions, and chemical and physical analyses for 32 pedons from 19 permanent vegetation plots distributed across the Andrews Experimental Forest. The permanent plots had been located to include the major mature and old-growth forest communities present on the Andrews Forest. Soil sampling sites were selected to "best characterize and represent the soils underlying the stands. At some stands....two to four pedons were selected." Pedons were grouped by "presumed parent material" (pyroclastic breccia and tuff, flow andesites/basalts, or flow andesites/basalts with a large admixture of ash). All pedons were classified according to the Soil Taxonomy (based on chapters of the 1975 volume then in review). All pedons were Inceptisols except four that were classified as Alfisols due to the presence of an argillic horizon.

E) An extensive soil sampling was carried out by C.T. Dyrness, G. Brown, and J. Franklin in the 1960s. Some 300-350 soil pits were dug and data were recorded for horizon depth, texture, structure, and consistence. Locations are indicated on a 1:12,000 map. Soils were not sampled to the lithic contact, so depths are not reliable in all cases. Some profiles have estimates of rock content.

C) Additional reports on soil genesis:

Brown, R.B. 1975. Genesis of some soils in the central western Cascades of Oregon. M.S. thesis, Oregon State Univ., Corvallis.

Paeth, R.C. 1970. Genetic and stability relationships of four western Cascade soils. PhD. thesis, Oregon State Univ., Corvallis.

2 -- BONANZA CREEK EXPERIMENTAL FOREST

Submitted by: Les Viereck

fswa/S=L.VIERECK/OU1=S26L02A@mhs.attmail.com

Report: Furbush, C.E. ; Shoephorster, D.B. 1977. Soil survey of Goldstream-Nenana Area, Alaska. Washington DC. USDA, Soil Conservation Service. 44 pp + 21 maps.

Area covered: The Goldstream-Nenana area--includes parts of the Tanana Valley and the Yukon-Tanana Uplands in interior Alaska. The area mapped includes 1320 km² in a strip 3.2 to 24 km wide and 100 km long. It extends from Ester Dome southwestward between the North Bank of the Tanana River and a high ridge north of the Goldstream Valley to the town of Nenana. It includes all of the Bonanza Creek Experimental Forest except the islands in the Tanana River (several of the LTER sites are on these islands).

Sampling procedures: Density unknown; the only statement in the report is: "They dug many holes to expose soil profiles". Sampling depth was variable. Some profiles were described down to a 2-meter depth. Sampling was by horizon

Analyses performed: Mechanical analysis for each profile. Chemical and soil properties of the 15 soil series are given by Rieger et al. (1963).

Classification system: Both the 1938 ASTM classification and the 1965 USDA Handbook 436. Fifteen soils series were classified and described.

Profile description: General soil profile descriptions for each of the 15 soil series.

Field and laboratory data not available

GIS availability: Arc-Info on LTER SUN system.

Soil samples archived: May be archived by SCS in Lincoln, Nebraska.

Maps: General soil map of the area at scale of 1:253,400. Also 21 detailed soil series maps as overlays on aerial photographs at a scale of 1:31,680. Maps 3 8, 12 and an insert in #15 cover BCEF.

Future plans: Negotiations are presently underway with SCS to map the islands of the Tanana River in BCEF and adjacent stretches of the river and to do additional mapping and field checking of the 1977 survey.

Additional information:

Soil profiles have been described at 21 of the 24 LTER study sites in BCEF by C.T. Dyrness and K. Van Cleve. These descriptions are on file at the Institute of Northern Forestry. Samples taken at the time the soil profiles were made are archived at the Forest Soils Laboratory, University of Alaska. Other information on the soils of the BNZ LTER site has been published by Viereck et al. (1983, 1993).

There is also detailed information and a soils map for Willow Island on the floodplain of the Tanana River, the site of a logging experiment in 1983. The island is about 200 ha in size. Soils and vegetation were mapped on a scale of 1:8000 by Benson (1981). Four soil series were described by horizons. No physical or chemical analyses were made. Detailed morphological descriptions as well as soil temperatures and depths to permafrost are given by Dyrness et al. (1988). One of our LTER intensive study sites (FP5B), a woodland/Picea glauca/Ledum/Vaccinium/feathermoss type on a Tanana series soil underlain by permafrost, is located on an unlogged site on Willow Island.

References:

- Benson, K. 1981. Soil and vegetation maps of Willow Island, Fairbanks, Alaska. Class Report for Forest Biology 590. University of Alaska Fairbanks (on file at Institute of Northern Forestry, Fairbanks, AK).
- Dyrness, C.T.; Viereck, L.A.; Foote, M.J.; Zasada, J.C. 1988. The effect on vegetation and soil temperature of logging floodplain white spruce. Res. Pap. PNW-392. USDA Forest Service, Pacific Northwest Research Station, Portland OR. 45p.
- Rieger, S.; Dement, J.A.; Sanders, D. 1963. Soil survey of the Fairbanks area, Alaska. Washington, DC: USDA Soil Conservation Service. 41pp.
- Viereck, L.A.; Dyrness, C.T.; Van Cleve, K.; Foote, M.J. 1983. Vegetation, soils and forest productivity in selected forest types in interior Alaska. Can. J. Forest Research 13: 703-720.
- Viereck, L.A.; Dyrness, C.T.; Foote, M.J. 1993. Vegetation and soils of the floodplain ecosystems of the Tanana River, interior Alaska. Can. J. Forest Research 23:889-896.

3 - CEDAR CREEK NATURAL HISTORY AREA

Submitted by:

Dave Grigal
drdav386@soils.umn.edu

Report: Grigal, D. F., L. M. Chamberlain, H. R. Finney, D. V. Wroblewski and E. R. Gross. 1974. Soils of the Cedar Creek Natural History Area. Minn. Agr. Exp. Sta. Misc. Rep. 123. 47 p.

Area covered: Cedar Creek Natural History Area and 1/2 mile buffer around area; 4404 ha.

Map scale: 1:17,600

Sampling procedures: standard operating procedures for order-2 soil survey; variety of transects and auger holes, etc.; soil descriptions to 2 to 3 m; sampling by horizons

Analyses: standard particle size distribution, bulk density, pH, exchangeable bases, base saturation, C, N, P (total and extractable)

Classification: by Soil Taxonomy and by "old" USDA system

Profile descriptions: yes

Field and lab data: data for representative pedons are in report

GIS availability: Arc/Info

Sample archival: no

Paper maps: available from D.F. Grigal

Future plans: many, but none regarding soil survey

.pa

4 -- CENTRAL PLAINS EXPERIMENTAL RANGE

Submitted by:

Caroline Yonker

sonface@lamar.ColoState.EDU

Authors: Mike Petersen (USDA Soil Conservation Service), Gene Kelly and Caroline Yonker (Colorado State University)

Data for the CPER soil survey was collected during 1990 and 1991. Soils were mapped from 1:12000 color infrared aerial photos as base maps (5.2 inches/mile). The survey area covers the entire CPER, including private in-holdings. The survey was initiated at the request of USDA Agricultural Research Service and Colorado State University, and was considered a prototype research-area soil survey by the Soil Conservation Service. As such, the area was mapped independently of the existing Weld County soil survey, and contains soil series not contained in the former as well as newly identified series. All soils were described by genetic horizon (Soil Survey Manual, 1983) to approximately 180-cm depth, and classified according to Soil Taxonomy.

Seven representative pedons were analyzed at the National Soil Survey Laboratory, Lincoln, Nebraska. Analyses included: particle size (including fractionation of sand, silt and clay); organic C; total N; dithionite-citrate extractable Fe, Mn and Al; CEC; bulk density; available H₂O; sand, silt and clay mineralogy. The soil map, laboratory data, pedon descriptions and map unit

descriptions will be available in a forthcoming SCS-CSU experiment station publication. The soil map was digitized by ARS using GRAS software, and is available on ARC-INFO. Soil samples were not archived.

For soil survey publications or hard-copy maps of the CPER contact: sonface@lamar.colostate.edu (Caroline Yonker) or martha@opuntia.cfnr.colostate.edu (Martha Coleman).

This survey represents the culmination of our efforts to inventory the soils of the CPER. Additional soils data sets, including pedon descriptions and skeletal laboratory data, do exist. These data may be available upon request. Future plans include generating a map of buried surfaces.

.pa

5 -- COWEETA HYDROLOGIC LABORATORY

Submitted by:

Jennifer Knoepp

fswa/S=J.DONALDSON/OU1=S29L05A@mhs.attmail.com

We have a recent USDA SCS soil survey and also some detailed information about our LTER experimental plots.

A. SCS Macon County Soil Survey

Report: USDA SCS and Forest Service, 1987, Soil Survey of Macon County

Scale: 1:14400

Sampling procedures: density as needed for ground truthing; to 1-m depth; some sampling done by horizons, some by depth.

Analyses: pH, Ca Mg, K, C, N, lots of N-min data, data vary by watershed

Classification: 9 pedons classified by USDA SCS Soil Taxonomy

Profile descriptions: yes

Data availability: type pits for all soil series, Coweeta data available for some soil series

GIS: soil map on ARC INFO

Sample archival: some soil samples archived

Maps: contact Jennifer Knoepp

B. LTER gradient plots

Report: Knoepp, Browning and Saari, 1993

Scale: 1:200

Sampling procedures: 10 m grid; to 1-m depth; by horizons

Analyses: pH, Ca Mg, K, C, N, lots of N-min data, data vary by watershed

Classification: 9 pedons classified by USDA SCS Soil Taxonomy

Profile descriptions: yes

Data availability: type pits for all soil series, Coweeta data available for some soil series

GIS: soil map on ARC INFO
Archival: some soil samples archived
Maps: contact Jennifer Knoepp

.pa
6 -- HARVARD FOREST

Submitted by:

Richard Boone and Art Allen
Harvard Forest
Petersham, MA 01366
508-724-3302
rboone@lternet.washington.edu

All descriptions follow USDA-SCS standard field methods; soils were classified according to Soil Taxonomy unless otherwise noted.

A. 1922 - Worcester County Soil Survey (Historical), USDA Bureau of Soils.

Report includes Harvard Forest at 1:62500 scale.

B. 1941

C.S. Simmons, 1941, Soil Survey of the Harvard Forest, Report #HF 1941-13 (with map), Harvard Forest Archives

Covers all three Harvard Forest Tracts (Prospect Hill, Tom Swamp, and Slab City) 1:200 scale. Transferred to IDRISI GIS system. GIS data layer available through Harvard Forest Data Manager

C. 1950

B.B. Stout, 1950, Soils and Species Distribution on the Harvard Forest, Master's Thesis, Harvard University (Rep. #HF 1950-0, Harvard Forest Archives).

28 pits were dug and 3 transects made at Prospect Hill, Tom Swamp, and Slab City Tracts. Pits were dug to 7-8' or to bedrock, described by horizon and classified to series level. Transects mapped at 1:240 scale.

D. 1963

Report:

W.H. Lyford, J.C. Goodlett, W.H. Coates. 1963. Landforms, Soils

with Fragipans and Forest on a Slope in the Harvard Forest,
Harvard Forest Bulletin #30, Harvard Forest Archives

In cooperation with USDA Soil Conservation Service, 8.4 acres were studied within Compartment I of the Tom Swamp tract. A soil map was prepared at 1:792 scale from pits dug, described and classified to series level on 100' grid with auger borings in between. A detailed map of surface stones and boulders was also prepared.

E. 1974

W.H. Lyford, 1974. Narrow Soils and Intricate Soil Patterns in Southern New England, *Geoderma* 11:195-208.

Soils were described by horizon and diagrammed continuously in a 19 km long gas line trench passing east to west through a part of the Prospect Hill tract at a scale of 1:1200. High intensity map to 0.3 m accuracy of 2.4 ha watershed. Scale varies from 1:60 to 1:120. Maps and diagrams were classified to series level.

F. 1988

B. Taylor (USDA Soil Conservation Service, Holden, MA Field Office), 1988. Locust Opening Road Trench Descriptions, Report #HF 1988-34 in Harvard Forest Archives

Reports a 3800' trench with continuous descriptions of profiles by horizon to series level at 1:960 scale. 5' average depth.

H. 1992

B. Taylor, 1992, Worcester County, NW Part, Soil Survey (Advance Sheets), USDA Soil Conservation Service.

Medium intensity survey at 1:25000 scale, mapped and classified to series association (catena) level, includes Harvard Forest. Series types established with full profile descriptions to 5'. Physical and Chemical data available by horizon. Map units verified in field by shovel holes and auger borings. Advance sheets and GRASS GIS data layer are available from Worcester County NW Field Office, Soil Conservation Service, 52 Boyden Road, Holden, MA, 01520.

I. 1993 (ongoing)

Project: Land-Use History Soil Survey on Prospect Hill Tract

Personnel: R. Boone, K. Keith, A. Allen, Harvard Forest.

Soil evidence of prior land-use verified on original 1937

vegetation plots by digging 3 shallow (approx. 40 cm deep) pits per plot, describing horizons, sampling forest floor and mineral soil (0-15 cm depth), and augering to parent material where possible. 172 plots have been sampled. Analysis is in progress for texture, bulk density, pH, organic matter, C and N, potentially mineralizable nitrogen (sample subset), and major cations (sample subset) Samples will be archived. DBASE files are available through Harvard Forest Data Manager.

7 -- JORNADA

Submitted by:

W. Schlesinger
Depts. of Botany and Geology
Duke University
Durham, NC 27706

The Jornada Basin of southern New Mexico was the site of "Desert Project," a 2-decade field research program sponsored by the Soil Conservation Service to understand the relationship between geomorphology and soil development in desert environments. The results of the project are described in the "Desert Project Soil Monograph" (USDA/SCS, 1979), and in a summary report coauthored by the principal investigators (L.H. Gile, J.W. Hawley and R.B. Grossman. 1981. Soils and Geomorphology in the Basin and Range Area of Southern New Mexico--Guidebook to the Desert Project. New Mexico Bureau of Mines and Mineral Resources, Memoir # 39, Socorro, New Mexico). These reports contain soil survey maps at a scales of 1:15,840 and 1:62,400 for a large portion of Dona Ana County (NM). The Desert Project Monograph contains pedon descriptions for several hundred soil profiles that were excavated in the Jornada Basin, analyzed for soil properties by the SCS laboratory in Lincoln, Nebraska, and classified in the 7th approximation system. Some of these samples remain archived at the Lincoln lab.

Although area of the Jornada LTER site extends beyond the boundaries of the Desert Project, the entire region has also been mapped by a standard county SCS survey (1972) at a scale of 1:48,000. Dr. Curtis Monger (NMSU, Agronomy) is currently refining the mapping and delineation of soils on the Mount Summerford bajada, which is the location of many of the current LTER studies. Other published work on the soils and soil development in this region is included in recent papers by Wierenga et al. (*Journal of Arid Environments* 13: 53-63, 1987), Lajtha and Schlesinger (*Ecology* 69: 24-39, 1988) and Nash and Daugherty (*N.M. Ag. Expt. Stn. Bull.* 746, 1990). The various information on soils, including a digital elevation model for the entire Jornada Basin has been entered in the Geographic Information System for the Jornada LTER at a scale of 1:25,000.

8 -- KELLOGG BIOLOGICAL STATION

Submitted by:

Sandy Halstead
(616) 671-2512
HALSTEAD63@kbs.msu.edu

Alternate contact: Lolita Krievs (database manager) at 671-2214

The Long Term Ecological Research project at Kellogg Biological Station incorporates the diverse landscape of southwestern Michigan into its experimental plots. The main plots were established in 1988 onto historically tilled agricultural experiment station fields. In 1993, the scope of the project expanded to include the surrounding deciduous and coniferous woodlots and successional fields. The boundaries of Kellogg Biological Station LTER project lie entirely within Ross township, Kalamazoo County, Michigan.

The most recent Soil Conservation Service (SCS) survey for Kalamazoo County was issued in 1979, based on aerial photos taken in 1974. The map was done at a 1:15840 scale and is based only on surface soil series classifications. This survey identifies the Kalamazoo and Oshtemo series as the principal soils and reports 5 minor soil types. The uncorrected digital soil data for this survey is available and is currently in the process of being corrected and incorporated into the GIS system.

In 1982, Eugene P. Whitesides, an emeritus professor from the Crops and Soils Dept. at Michigan State University, conducted a detailed survey of the soils within the biological station boundaries. His study was in response to observations that the 1979 SCS survey soil map units were too coarse to adequately describe the heterogeneity of the landscape. Borings were taken on 200 meter intervals (about 1 core every 5 hectares) and identified by soil series, slope and erosion class, and horizon depth and texture to a depth averaging 150 cm. The survey results produced a revised soil type map for the biological station. We currently have located the revised soil map as proposed in an internally distributed report of the study, and we are in the process of attempting to locate the original revised maps for digitizing. The location of any archived samples is unknown at this time.

Soil samples were taken in 1988 from the main site of the LTER project just prior to experimental plot establishment. Soil cores (421 cores/40 ha) were taken to a depth of 25 cm on a random pattern but at known coordinates to provide samples for geostatistical analysis for a number of variates. Analysis has been completed for soil texture for all 421 sample locations. The texture data has been submitted to the database and is available on the GIS system. Archived samples of the 421 positions are located at KBS with the LTER group.

In 1993, Martin Rosek, doctoral candidate in Crop and Soil Science at Michigan State University, surveyed the interior of the newly established plots in the deciduous, coniferous, and old-

field habitats. His work characterized the predominant soil types within the plots by horizon for horizon depth (to 150 cm), bulk density, texture (% sand, silt and clay), pH, and Munsell color code. Soil samples were taken at random within the plot based on the homogeneity of soils and slope aspect. The hand-drawn soil contour maps will be digitized in the spring of 1994 as the plot boundaries are delineated with the GPS system. The soil samples are archived by horizon and at KBS by the LTER group.

9 -- KONZA PRARIE

Submitted by:

John M. Briggs
Division of Biology/Ackert Hall
Kansas State University
Manhattan, KS 66506-4901
(913) 532-6629
jmb@lter-konza.konza.ksu.edu

Reports:

Jantz, D.R., Harner, R.F., Rowland, H.T., and Gier, D.A., 1975.
Soil Survey of Riley County and Part of Geary County,
Kansas. Soil Conserv. Serv., U.S. Dept. Agric., Washington,
D.C., 71 p.

Wehmueller, W.A., Campbell, H.V., Graber, S.P., (In press). Soil
Survey of Geary County, Kansas, Soil Conserv. Serv., U.S.
Dept. Agric., Washington, D.C.

The Konza Prarie lies within two counties both of which have a soil survey completed by the Soil Conservation Service. The Riley County survey, which covers the majority of the Konza, was published in 1975 at a scale of 1:24,000. The Geary County survey, also at a scale of 1:24,000, is in press.

Soils of the 125 ha N4D watershed are being mapped at a scale of 1:2000 as part of a KSU Master's Thesis. As part of this work hundreds of pedons have been described in detail from auger holes.

Nine pedons were sampled intensively and classified as part of the project mentioned above. An additional six pedons were sampled and classified as part of the NASA-FIFE project. These pedons were sampled to bedrock by genetic horizon, described, analyzed, and classified by the National Soil Survey Laboratory, Soil Conservation Service, Lincoln, Nebraska.

Analyses performed include:

Particle size distribution

Bulk Density (1/3 bar and oven dry)
Water content (1/3 bar and oven dry)
Coefficient of linear extensibility
Organic carbon
Dithionite-citrate extractable Fe and Al
Total nitrogen
pH
Ammonium-acetate extractable bases
Clay mineralogy

The National Soil Survey Laboratory routinely archives samples after analysis.

For further information:

Micky Ransom
Associate Professor in Agronomy
KSU
Manhattan, KS 66502
(913) 532-7203
mdransom@ksuvm.ksu.edu

10 -- LUQUILLO EXPERIMENTAL FOREST

Submitted by: F. N. Scatena

There is only one "official, published" soil survey of the Luquillo site. SCS has done two detailed surveys, one of the entire Luquillo Expt. For. (LEF) and one of El Verde site. The Bisley watersheds have been intensively soil mapped.

A) Published soil survey:

Report: R. A. Boccheciamp. 1977. Soil Survey of the Humacao Area of Eastern Puerto Rico, USDA Soil Conservation Service.

Area covered: Entire eastern P.R., including the Luquillo Experimental Forest.

Map scale: 1:20,000.

Sampling density and depth: Unknown.

Analysis: Standard SCS analysis; wilting point, liquid limit, plasticity etc.

Classification: Soil Taxonomy

Profile descriptions: In the report.

GIS availability: ArcInfo from Pedro Rios, USFS, Catalina, Puerto Rico.

Archived samples: No.

B) Luquillo Forest survey:

Area covered: Luquillo Experimental Forest.

Date: Field work 1985-87, report in prep. (and has been for some

time).

Map scale: 1:12,000.

Sampling density: Unknown but relatively high.

Pedon classification and analyses performed: Pedon descriptions, grainsize, x-ray mineralogy and extractable nutrients were done on type soils. Report from SCS lab is available from LTER data manager or IITF library.

GIS availability: ArcInfo from Pedro Rios USFS, Catalina, P.R., or LTER data manager.

Future plans: Work was done by SCS and Forest Service National Forest System. Report has recently been given to F.S. Research to edit and publish.

C) El Verde survey:

Area covered: 16 ha grid in El Verde Research Station.

Date: Field work completed in 1993.

Map scale: 1:500.

Report: Progress report available from LTER data manager or Bob Waide.

D) Bisley experimental watersheds.

Date: 1987 and 1990; before and after Hurricane Hugo

Area covered: 13 ha.

Map scale: 1:500.

Sampling density: 83 sampling points, 2 small pits per point, plus 8 large pits that were sampled by horizon and depth.

Sampling depth: 0-10, 10-35, 35-60.

Sampled by depth for 83 points, by horizon for large pits.

Analyses: Extractable nutrients on both wet and dry samples.

Pedon classification: Used same soil associations as SCS defined in 1987 study.

Profile descriptions: Detailed descriptions are not available.

Lab data: In review.

GIS: Partial, Arc-info, contact LTER data manager.

Samples archived: Yes and available for analysis.

Report available: In review.

Contact person: F.N. Scatena

11 -- NIWOT RIDGE

Submitted by: Tim Seastedt

Report: S.F. Burns. 1980. Alpine soil distribution and development, Indian Peaks, Colorado Front Range. PhD Thesis, Univ, Colorado, Boulder.

This survey deals with a portion of the Niwot Ridge site. The area was divided into 14 mapping units. Within each map unit,

pedons were described and classified according to Soil Taxonomy. Textural characteristics, soil organic matter level, CEC, pH, extractable Fe, and exchangeable cations were measured.

12 -- NORTH TEMPERATE LAKES

submitted by:

Barbara Benson
Center for Limnology, University of Wisconsin-Madison
680 N. Park St., Madison, WI 53706
(bbenson@macc.wisc.edu)
(608)262-2573
FAX: (608)265-2340

Report: Natzke, L. L. and D. J. Hvizdak, 1988, Soil survey of Vilas County, Wisconsin, Soil Conservation Service, USDA.

Eight soil maps from Vilas County Soil Survey, each covering an area of approximately 7 x 5 km, comprise the area surrounding the North Temperate Lakes LTER primary study lakes. The map numbers are 29, 30, 40, 41, 51, 52, 63, 64. Scale is 1:20,000.

Details on the following are probably available from the SCS but we do not have this information:

- sampling density (pits, auger holes)
- sampling depth
- sampling by horizons or depth?
- analyses performed
- were pedons classified? by what system?
- are profile descriptions available?
- field and lab data available?
- soil samples archived?

GIS availability: ARC/INFO, Erdas. The SCS soil maps were digitized and three derived layers (soil slope, soil parent material, and soil texture) were created using attribute information from the Vilas County Soil Survey

Map availability: contact USDA Soil Conservation Service

Future plans: Individual soil samples taken in intensively studied terrestrial sites are being processed.

13 -- SEVILLETA

Submitted by:

Brad Musick
bmusick@turututu.unm.edu

Report: W.R. Johnson. 1988. Soil Survey of Socorro County Area, New Mexico, Soil Conservation Service, USDA.

Area mapped: Socorro Co., NM except Cibola Nat. For. and White Sands Missile Range.

Scale: Majority at 1:48,000, part along Rio Grande floodplain at 1:24,000

Data availability: Standard format of recent SCS county soil surveys was followed, with descriptions and data for typical pedons for most series.

GIS availability: ARC/INFO -- map unit boundaries have been digitized for coarse-scale area only.

Future plans: Carol Treadwell, a graduate student working under Dr. Les McFadden, UNM Geology Dept., is currently soil mapping a part of the Sevilleta.