NORTHERN AND MID-LATITUDE SOIL DATABASE, VERSION 1, R1

Get Data

Summary:

The U.S. Department of Agriculture, Agriculture and Agri-Food Canada, the Russian Academy of Agricultural Sciences, the University of Copenhagen Institute of Geography, the European Soil Bureau, the University of Manchester Institute of Landscape Ecology, MTT Agrifood Research Finland, and the Agricultural Research Institute Iceland have shared data and expertise in order to develop the Northern and Mid-Latitude Soil Database.

The spatial coverage of the Northern and Mid-Latitude Soil Database is the polar and mid-latitude regions of the northern hemisphere: Alaska, Canada, Conterminous United States, Eurasia, Greenland, Iceland, Kazakstan, Mexico, Mongolia, and Svalbard.

The following maps were used in compiling the original soil database:

- Canada: 1:1,000,000 Soil Organic Database of Canada (Tarnocai and Lacelle, 1996)
- Alaska, U.S.: 1:250,000 State Geographic Database - Alaska (U.S. Soil Conservation Service, 1994)
- Northeast Russia: 1:250,000 Soil Map of Northeastern Eurasia (Naumov, 1993)
- Northwest Russia: 1:250,000 Soil Map of the Russian Republic (Fridland, 1988)
- Greenland: Soil Map of Greenland (Jakobsen and Eiby, 1997)
- Scandinavia: 1:2,000,000 Soil Map of Denmark, Finland, Norway and Sweden (Rasumssen et al., 1989)
- Kazakhstan: Soil Map of Kazakh SSR (Uspanov, 1976)
- Mongolia: Soil Map of Mongolia (Dorzhgotov and Nogina, 1990)
- Europe: 1:1,000,000 European Soil Database, version 1.0 (European Soil Bureau, 1999)
- Iceland: Generalized Soil Map of Iceland (Arnalds and Gretarsson, 2001)

Data are in the U.S. soil classification system and include the distribution of soil types (%) within a map unit (polygon). The resulting maps show the dominant soil of the spatial polygon unless the polygon is over 90% rock or ice. Soil types include the following: turbels, orthels, histels, histosols, mollisols, vertisols, aridisols, andisols, entisols, spodosols, inceptisols (and hapludolls), alfisols (cryalf and udalf), natric great groups, aqu-suborders, glaciers, and rocklands. Also included are data on the circumpolar distribution of gelisols (turbels, orthels, and histels).

Data are provided in ESRI shapefile format. These data have generally been compiled at 1:1 million scale and should not be presented at a scale larger than that.

Two map products have been produced from this database and are available: "Soils of Northern and Mid Latitudes" [ftp://daac.ornl.gov/data/global_soil/Mid-latitude_soils/comp/northmid.jpg] and "Northern Circumpolar Soils" [ftp://daac.ornl.gov/data/global_soil/Mid-latitude_soils/comp/polar.jpg].

Data Citation:

Cite This data set as follows:

Cryosol Working Group. 2014. Northern and Mid-Latitude Soil Database, Version 1, R1. Data set. Available on-line [http://daac.ornl.gov] from Oak Ridge National Laboratory Distributed Active Archive Center, Oak Ridge, Tennessee, USA. doi: 10.3334/ORNLDAAC/705.

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References:

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Tarnocai, C., and B. Lacelle. 1996. The Soil Organic Carbon Digital Database of Canada. Research Branch, Agriculture Canada, Ottawa, Canada.

U.S. Soil Conservation Service. 1994. The State Soil Geographic Database, STATSGO. NRCS, USDA, Lincoln, NE, U.S.

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Data Format:

Data are available in ESRI shapefile format. All data files include the same attribute values with the exception of Italy, which does not contain distribution values. The WRB (World Reference Base, http://www.fao.org/ag/agl/agll/wrb) classification and its legend and dominant mapping symbol (U.S.) are included, making it possible to map the Italy data with the other files.

The data files (except Italy) include the following attributes (the listing is from the *.dbf component of the shapefiles):

Attribute	Description
AREA	(metres)
PERIMETER COVER#	(internal ARC/INFO #)
COVER-ID	(internal ARC/INFO ID#)
MAPUNIT_ID	(link to original source data, 7 CHAR)
GELISOL_PCT	(3 Integer percentage of polygon that is Gelisol)
HISTOSOL_PCT	(3 Integer - percentage of polygon that is Histosol)
MOLLISOL_PCT	(3 Integer - percentage of polygon that is Mollisol)
VERTISOL_PCT	(3 Integer - percentage of polygon that is Vertisol)

ARIDISOL_PCT	(3 Integer - percentage of polygon that is Aridisol)
ANDISOL_PCT	(3 Integer - percentage of polygon that is Andisol)
ENTISOL_PCT	(3 Integer - percentage of polygon that is Entisol)
ULTISOL_PCT	(3 Integer - percentage of polygon that is Ultisol)
SPODOSOL_PCT	(3 Integer - percentage of polygon that is Spodosol)
INCEPTISOL_PCT	(3 Integer - percentage of polygon that is Inceptisol)
ALFISOL_PCT	(3 Integer - percentage of polygon that is Alfisol)
NATRIC_PCT	(3 Integer - percentage of polygon that is Natric type)
AQU_PCT	(3 Integer - percentage of polygon that is Aqu suborder)
WATER_PCT	(3 Integer - percentage of polygon that is water)
ROCKLAND_PCT	(3 Integer - percentage of polygon that is rockland)
GLACIER_PCT	(3 Integer - percentage of polygon that is glacier)
MISC_PCT	(3 Integer - percentage of polygon that is miscellaneous)
TURBEL_PCT	(3 Integer - percentage of polygon that is Turbel of the Gelisol order)
ORTHEL_PCT	(3 Integer - percentage of polygon that is Orthel of the Gelisol order)
HISTEL_PCT	(3 Integer - percentage of polygon that is Histel of the Gelisol order)

**Note: the last three attributes further subdivide the Gelisol order.

Additional information about the data file names, projection parameters, data format, available graphical maps, and data processing notes see the companion file Mid-latitude_soils_readme.txt.

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