Meta Data for Portage County GIS Data DVD

2005 Ortho Photos(folder)

Date flown: April 14, 2005
Scale: 1":200'
Compression: 60:1
Pixel size: 1 foot
Format: MrSID or JPEG2000

2006 Ortho Photos OSIP(folder)

The 2006 OSIP digital orthophotography was collected during the months of March and April (leaf-off conditions).
The MrSID Images covering each county at 1-foot pixel resolution will be created at a 30:1 compression ratio. At a 30:1 compression ratio, the resulting MrSID file size will average around 2GBs in size (dependent upon county size).

MrSID Images will also be created for each buy-up county. These MrSIDs, will be compressed at a 20:1 ratio. In some cases, buy-up counties have requested a higher compression ratio. Hancock and Fairfield Counties have requested countywide ECW image files.

The State of Ohio has a goal to develop and maintain a seamless statewide base map, referred to as OSIP (Ohio Statewide Imagery Program). OSIP is an initiative partnered through several State Agencies (i.e. ODOT, ODNR) through OGRIP. Data from this project forms the foundation of the Statewide base map, and was developed primarily to support multi-use applications, including homeland security, emergency management, economic development, and the business of government.

Misc(folder)

100YearFloodplain(layer)

The coverage represents the 100-year floodplain boundary as illustrated on the Federal Emergency Management Agency (FEMA) NFIP maps. The maps were scanned into TIFF Group 4 images then rectified to the Ohio Department of Transportation (ODOT) road centerline network vector files and digitized at a scale of 1:24,000. For the most current flood hazard information available, please refer to http://www.fema.gov . The digital Flood Insurance Rate Maps are accessed through the FEMA Flood Map Store..

2ft_contours(layer)

The layer was created from the 2005 Ortho Photo LiDAR 40ft grid point XYZ text files. ESRI 3D and Spatial Analyst were used to generate a TIN surface and contours. No breaklines were added and no additional editing was performed. The layer does not meet National Map Accuracy Standards and no accuracy or warranty is given. The user not the County assumes all risk.

CompleteChain(layer)

U.S. CENSUS BUREAU
TIGER/Line 2005 Second Edition
The shapefile was created from 2005 Realigned TIGER/Line files

Please refer to the U.S. Census Bureau website
http://www.census.gov/geo/www/tiger/index.html for more information

lakes_odot(layer)

For more information contact:
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Ohio Department of Transportation - District 4
2088 South Arlington Road
Akron, OH 44306
330-786-4924 Voice
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Port_bndy06(layer)

The shapefile was created by the Claudia James at Regional Planning:
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Portage County Regional Planning
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Ravenna, Ohio 44266
Ph: 330-297-3613
Fax: 330-297-3617

rail_odot(layer)
See ODOT contact information above

rivers_odot(layer)
See ODOT contact information above

soilmu_a_oh133(layer)

Identification_Information:
  Citation:
    Citation_Information:
      Originator:
        U.S. Department of Agriculture, Natural Resources
        Conservation Service
      Publication_Date: 20060831
      Title:
        Soil Survey Geographic (SSURGO) database for Portage County,
        Ohio
      Publication_Information:
        Publication_Place: Fort Worth, Texas
        Publisher:
          U.S. Department of Agriculture, Natural Resources
          Conservation Service
      Other_Citation_Details: oh133
      Online_Linkage: URL:http://SoilDataMart.nrcs.usda.gov/
  Description:
    Abstract:
      This data set is a digital soil survey and generally is the most
      detailed level of soil geographic data developed by the National
      Cooperative Soil Survey. The information was prepared by digitizing

maps, by compiling information onto a planimetric correct base and digitizing, or by revising digitized maps using remotely sensed and other information.

This data set consists of georeferenced digital map data and computerized attribute data. The map data are in a soil survey area extent format and include a detailed, field verified inventory of soils and miscellaneous areas that normally occur in a repeatable pattern on the landscape and that can be cartographically shown at the scale mapped. A special soil features layer (point and line features) is optional. This layer displays the location of features too small to delineate at the mapping scale, but they are large enough and contrasting enough to significantly influence use and management. The soil map units are linked to attributes in the National Soil Information System relational database, which gives the proportionate extent of the component soils and their properties.

Purpose:

SSURGO depicts information about the kinds and distribution of soils on the landscape. The soil map and data used in the SSURGO product were prepared by soil scientists as part of the National Cooperative Soil Survey.

Supplemental_Information:

Digital versions of hydrography, cultural features, and other associated layers that are not part of the SSURGO data set may be available from the primary organization listed in the Point of Contact.

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 20060829

Ending_Date: 20060831

Currentness_Reference: publication date

Status:

Progress: Complete

Maintenance_and_Update_Frequency: As needed

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -81.939

East_Bounding_Coordinate: -81.002

North_Bounding_Coordinate: 41.348

South_Bounding_Coordinate: 40.988

Keywords:

Theme:

Theme_Keyword_Thesaurus: None

Theme_Keyword: soil survey

Theme_Keyword: soils

Theme_Keyword: Soil Survey Geographic

Theme_Keyword: SSURGO

Place:

Place_Keyword_Thesaurus: USGS Geographic Names Information System (GNIS)

Place_Keyword: Ohio

Place_Keyword: Portage County

Place_Keyword: Twinsburg Quadrangle

Place_Keyword: Aurora Quadrangle

Place_Keyword: Mantua Quadrangle

Place_Keyword: Garretsville Quadrangle

Place_Keyword: Hudson Quadrangle

Place_Keyword: Kent Quadrangle
Place_Keyword: Ravenna Quadrangle
Place_Keyword: Windham Quadrangle
Place_Keyword: Akron East Quadrangle
Place_Keyword: Suffield Quadrangle
Place_Keyword: Atwater Quadrangle
Place_Keyword: Deerfield Quadrangle
Place_Keyword: North Canton Quadrangle
Place_Keyword: Hartville Quadrangle
Place_Keyword: Limaville Quadrangle
Place_Keyword: Alliance Quadrangle
Access_Constraints: None
Use_Constraints:
The U.S. Department of Agriculture, Natural Resources Conservation Service, should be acknowledged as the data source in products derived from these data.

This data set is not designed for use as a primary regulatory tool in permitting or citing decisions, but may be used as a reference source. This is public information and may be interpreted by organizations, agencies, units of government, or others based on needs; however, they are responsible for the appropriate application. Federal, State, or local regulatory bodies are not to reassign to the Natural Resources Conservation Service any authority for the decisions that they make. The Natural Resources Conservation Service will not perform any evaluations of these maps for purposes related solely to State or local regulatory programs.

Photographic or digital enlargement of these maps to scales greater than at which they were originally mapped can cause misinterpretation of the data. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale. The depicted soil boundaries, interpretations, and analysis derived from them do not eliminate the need for onsite sampling, testing, and detailed study of specific sites for intensive uses. Thus, these data and their interpretations are intended for planning purposes only. Digital data files are periodically updated. Files are dated, and users are responsible for obtaining the latest version of the data.
Point_of_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: U.S. Department of Agriculture, Natural Resources Conservation Service
Contact_Position: State Soil Scientist
Contact_Address:
Address_Type: mailing address
Address: USDA - Natural Resources Conservation Service
Address: Ohio State Office
Address: 200 North High Street, Room 522
City: Columbus
State_or_Province: OH
Postal_Code: 43215-2478
Contact_Voice_Telephone: 614-255-2484
Contact_TDD/TTY_Telephone: (202) 720-2600
Contact_Electronic_Mail_Address: jon.gerken@oh.usda.gov
Data_Quality_Information:
Attribute_Accuracy:

Attribute_Accuracy_Report:
Attribute accuracy is tested by manual comparison of the source with hard copy plots and/or symbolized display of the map data on an interactive computer graphic system. Selected attributes that cannot be visually verified on plots or on screen are interactively queried and verified on screen. In addition, the attributes are tested against a master set of valid attributes. All attribute data conform to the attribute codes in the signed classification and correlation document and amendment(s).

Logical_Consistency_Report:
Certain node/geometry and topology GT- polygon/chain relationships are collected or generated to satisfy topological requirements (the GT-polygon corresponds to the soil delineation). Some of these requirements include: chains must begin and end at nodes, chains must connect to each other at nodes, chains do not extend through nodes, left and right GT-polygons are defined for each chain element and are consistent throughout, and the chains representing the limits of the file are free of gaps. The tests of logical consistency are performed using vendor software. All internal polygons are tested for closure with vendor software and are checked on hard copy plots. All data are checked for common soil lines (i.e., adjacent polygons with the same label). Edge locations generally do not deviate from centerline to centerline by more than 0.01 inch.

The Soil Survey of Portage County, Ohio is edge matched to the adjacent SSURGO certified soil surveys of Summit, Geauga, Trumbull, and Mahoning Counties Ohio. Most of the feature edges for this survey match the feature edges of adgecent surveys. The feature labels and descriptions are similar. The soil survey area boundaries match.

Completeness_Report:
A map unit is a collection of areas defined and named in terms of their soil components or miscellaneous areas or both. Each map unit differs in some respect from all others in a survey area and each map unit has a symbol that uniquely identifies the map unit on a soil map. Each individual area, point, or line so identified on the map is a delineation.

Soil Scientists identify small areas of soils or miscellaneous areas that have properties and behavior significantly different than the named soils in the surrounding map unit. These minor components may be indicated as special features. If they have a minimal effect on use and management, or could not be precisely located, they many not be indicated on the map.

A map unit has specified kinds of soils or miscellaneous areas (map unit components), each with a designated range in proportionate extent. Map units include one or more kinds of soil or miscellaneous area. Miscellaneous areas are areas that have little or no recognizable soil.

Specific National Cooperative Soil Survey standards and procedures were used in the classification of soils, design and name of map units, and location of special soil features. These standards are outlined in Agricultural Handbook 18, Soil Survey Manual, 1993, USDA, NRCS; Agricultural Handbook 436, Soil Taxonomy, 1995, USDA, NRCS; and all Amendments; Keys to Soil Taxonomy,

(current issue) USDA, NRCS; National Soil Survey Handbook, title 430-VI,(current issue) USDA, NRCS.

The actual composition and interpretive purity of the map unit delineations were based on data collected by scientists during the course of preparing the soil maps. Adherence to National Cooperative Soil Survey standards and procedures is based on peer review, quality control, and quality assurance. Quality control is outlined in the memorandum of understanding for the soil survey area and in documents that reside with the Natural Resources Conservation Service state soil scientist. Four kinds of map units are used in soil surveys: consociations, complexes, associations, and undifferentiated groups.

Consociations - Consociations are named for the dominant soil. In a consociation, delineated areas use a single name from the dominant component in the map unit. Dissimilar components are minor in extent. The soil component in a consociation may be identified at any taxonomic level. Soil series is the lowest taxonomic level. A consociation that is named as a miscellaneous area is dominantly that kind of area and minor components do not significantly affect the use of the map unit. The total amount of dissimilar inclusions of other components in a map unit generally does not exceed about 15 percent if limiting and 25 percent if nonlimiting. A single component of a dissimilar limiting inclusion generally does not exceed 10 percent if very contrasting.

Complexes and associations - Complexes and associations consist of two or more dissimilar components that occur in a regularly repeating pattern. The total amount of other dissimilar components is minor extent. The following arbitrary rule determines whether complex or association is used in the name. The major components of an association can be separated at the scale of mapping. In either case, because the major components are sufficiently different in morphology or behavior, the map unit cannot be called a consociation. In each delineation of a complex or an association, each major component is normally present though their proportions may vary appreciably from one delineation to another. The total amount of inclusions in a map unit that are dissimilar to any of the major components does not exceed 15 percent if limiting and 25 percent if nonlimiting. A single kind of dissimilar limiting inclusion usually does not exceed 10 percent.

Undifferentiated groups - Undifferentiated groups consist of two or more components that are not consistently associated geographically and, therefore, do not always occur together in the same map delineation. These components are included in the same named map unit because their use and management are the same or very similar for common uses. Generally they are grouped together because some common feature, such as steepness, stoniness, or flooding, determines their use and management. If two or more additional map units would serve no useful purpose, they may be included in the same unit. Each delineation has at least one of the major components, and some may have all of them. The same principles regarding the proportion of minor components that apply to consociations also apply to undifferentiated groups. The same principles regarding proportion of inclusion apply to

undifferentiated groups as to consociations.

Minimum documentation consists of three complete soil profile descriptions that are collected for each soil added to the legend, one additional per 3,000 acres mapped; three 10 observation transects for each map unit, one additional 10 point transect per 3,000 acres.

A defined standard or level of confidence in the interpretive purity of the map unit delineations is attained by adjusting the kind and intensity of field investigations. Field investigations and data collection are carried out in sufficient detail to name map units and to identify accurately and consistently areas of about 2 acres.

Positional_Accuracy:
Horizontal_Positional_Accuracy:
Horizontal_Positional_Accuracy_Report:
The accuracy of these digital data is based upon their compilation to base maps that meet National Map Accuracy Standards at a scale of 1 inch equals 1,000 feet. The difference in positional accuracy between the soil boundaries and special soil features locations in the field and their digitized map locations is unknown. The locational accuracy of soil delineations on the ground varies with the transition between map units.

For example, on long gently sloping landscapes the transition occurs gradually over many feet. Where landscapes change abruptly from steep to level, the transition will be very narrow. Soil delineation boundaries and special soil features generally were digitized within 0.01 inch of their locations on the digitizing source. The digital map elements are edge matched between data sets. The data along each quadrangle edge are matched against the data for the adjacent quadrangle. Edge locations generally do not deviate from centerline to centerline by more than 0.01 inch.

Lineage:
Source_Information:
Source_Citation:
Citation_Information:
Originator:
Ohio Department of Natural Resources,
Division of Soil and Water Conservation
Publication_Date: Unpublished Material
Title: Copies of Original Soil Survey field sheets
Geospatial_Data_Presentation_Form: map
Source_Scale_Denominator: 15840
Type_of_Source_Media: Stable based Materials
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 1972
Source_Currentness_Reference: date of final correlation
Source_Citation_Abbreviation: ODNR1
Source_Contribution:
field mapping source with information on original soil map unit designation and delineation

```
Source_Information:
  Source_Citation:
    Citation_Information:
      Originator:
        U.S. Department of Agriculture,
        Soil Conservation Service
      Publication_Date: 1978
      Title: Soil Survey of Portage County, Ohio
      Geospatial_Data_Presentation_Form: map
      Publication_Information:
        Publication_Place: Washington, D.C.
        Publisher: U.S. Government Printing Office
  Source_Scale_Denominator: 15840
  Type_of_Source_Media: atlas
  Source_Time_Period_of_Content:
    Time_Period_Information:
      Single_Date/Time:
        Calendar_Date: 1978
    Source_Currentness_Reference: final correlation date
  Source_Citation_Abbreviation: SCS1
  Source_Contribution:
    source of map unit delineations and soil and special
    soil feature labels
Source_Information:
  Source_Citation:
    Citation_Information:
      Originator:
        U.S. Department of Agriculture, Natural Resources
        Conservation Service
      Publication_Date: unpublished material
      Title:
        Publication atlas sheet composite overlays (including soil
        delineations, soil labels, special soil features, and other cultural
        features)
      Geospatial_Data_Presentation_Form: map
  Source_Scale_Denominator: 15840
  Type_of_Source_Media: stable-base material
  Source_Time_Period_of_Content:
    Time_Period_Information:
      Single_Date/Time:
        Calendar_Date: 1978
    Source_Currentness_Reference: final correlation date
  Source_Citation_Abbreviation: NRCS1
  Source_Contribution: source of control points and soil delineations
Source_Information:
  Source_Citation:
    Citation_Information:
      Originator: U.S. Geological Survey
      Publication_Date: 2003
      Title: 30 meter Digital Elevation Model (DEM)
      Geospatial_Data_Presentation_Form: model
      Publication_Information:
        Publication_Place: Reston, Virginia
        Publisher: U.S. Geological Survey
  Source_Scale_Denominator: 24000
  Type_of_Source_Media: on-line
  Source_Time_Period_of_Content:
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    Time_Period_Information:
      Single_Date/Time:
        Calendar_Date: 2003
    Source_Currentness_Reference: publication date
  Source_Citation_Abbreviation: USGS1
  Source_Contribution: elevation source for orthorectification process
Source_Information:
  Source_Citation:
    Citation_Information:
      Originator: U.S. Geological Survey
      Publication_Date: 1993-1999
      Title:
        multiple 3.75 minute digital
        orthophoto quadrangles (DOQQs)
      Geospatial_Data_Presentation_Form: digital
      Publication_Information:
        Publication_Place: Reston, Virginia
        Publisher: U.S. Geological Survey
  Source_Scale_Denominator: 12000
  Type_of_Source_Media: CD-ROM
  Source_Time_Period_of_Content:
    Time_Period_Information:
      Range_of_Dates/Times:
        Beginning_Date: 1993
        Ending_Date: 1999
    Source_Currentness_Reference: date aerial photography was flown
  Source_Citation_Abbreviation: USGS2
  Source_Contribution:
    source of ground control points, water, and selected
    land use changes.
Source_Information:
  Source_Citation:
    Citation_Information:
      Originator:
        The Ohio State University, Center for Mapping in
        cooperation with the U.S. Geological Survey
      Publication_Date: 2000
      Title: Ohio county boundaries
      Geospatial_Data_Presentation_Form: DLG
      Publication_Information:
        Publication_Place: Columbus, Ohio
        Publisher:
          GIS Support Center, Ohio Department of Administrative
          Services
  Source_Scale_Denominator: 24000
  Type_of_Source_Media: on-line
  Source_Time_Period_of_Content:
    Time_Period_Information:
      Single_Date/Time:
        Calendar_Date: 2000
    Source_Currentness_Reference: publication date
  Source_Citation_Abbreviation: OSU1
  Source_Contribution: source of survey area boundary
Source_Information:
  Source_Citation:
    Citation_Information:
      Originator:
```

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        Ohio Department of Natural Resources, Division of Soil
        And Water Conservation
      Publication_Date: unpublished material
      Title:
        Portage County, Ohio, digital soil and special soil features
        ArcInfo export files
      Geospatial_Data_Presentation_Form: vector data
  Source_Scale_Denominator: 12000
  Type_of_Source_Media: online
  Source_Time_Period_of_Content:
    Time_Period_Information:
      Single_Date/Time:
        Calendar_Date: 2006
    Source_Currentness_Reference: date submitted for SSURGO certification
  Source_Citation_Abbreviation: ODNR2
  Source_Contribution: source for SSURGO evaluation
Source_Information:
  Source_Citation:
    Citation_Information:
      Originator:
        U.S. Department of Agriculture,
        Natural Resources Conservation Service
      Publication_Date: 2006
      Title: National Soil Information System (NASIS) data base
      Geospatial_Data_Presentation_Form: tabular digital data
      Publication_Information:
        Publication_Place: Fort Collins, Colorado
        Publisher:
          U.S. Department of Agriculture,
          Natural Resources Conservation Service
  Type_of_Source_Media: database
  Source_Time_Period_of_Content:
    Time_Period_Information:
      Range_of_Dates/Times:
        Beginning_Date: 2006
        Ending_Date: 2006
    Source_Currentness_Reference: publication date
  Source_Citation_Abbreviation: NASIS
  Source_Contribution: attribute (tabular) information
Process_Step:
  Process_Description:
    Field procedures for the second order soil survey
    included plotting of soil boundaries determined by field observations in
    conjunction with aerial photo interpretation.  Boundaries were verified
    at closely spaced intervals and the soils in each delineation were
    identified by traversing and transecting the landscape.  Soil Scientists
    described and analyzed the data.  The classification and map unit names
    were finalized at the final correlation conference in 1973 and signed in
    1973.  The published soil survey report was released in 1978.
  Source_Used_Citation_Abbreviation: SCS1
  Process_Date: 1978
Process_Step:
  Process_Description:
    Perfect mapunit joins,involving field investigations,
    were conducted by Soil Scientists to provide seamless coverage with all
    adjacent Ohio, county soil surveys.
  Source_Used_Citation_Abbreviation: SCS1, ODNR1
```

Process_Date: 2005
Process_Step:
Process_Description:
For each publication mapsheet, the original soil delineation overlay, special soil features overlay and photo background overlay were scanned by Draft-Co. Inc., Martins Ferry, Ohio. Each photo overlay was then aligned with its corresponding special feature and soil delineation overlay in the CAD environment. This align was followed by a digital orthorectification process (SYRUP- Simple Yet Robust Universal Parametric-Orthorectification). Input into the model include the scanned and registered soil delineation overlays, special soil feature overlays, and photo background overlays, as well as 1-meter resolution USGS digital ortho quarter quads (DOQQ), and a USGS 30-meter, seamless Digital Elevation Model (DEM).
The first step in the SYRUP process is to obtain sufficient ground control points (GCPs) between each mapsheet overlay and its corresponding DOQQs. This is performed using ERDAS Imagine software (ERDAS, Inc., 2001). GCPs are recorded in a text file along with their associated elevation values gathered from the DEM and are input into the SYRUP model. The root mean square error (RMSE) of each individual control point and the average RMSE of all control points were calculated using X-file and Y-file coordinates, X-ground and Y-ground coordinates, and Z-elevation values. The RMSE describes the deviation between the location of a GCP and the value calculated by the transformation and must be lower than 10.00 for each mapsheet. The RMSE values were calculated by the ERDAS Imagine software, based on a two-dimensional registration.
Since ultimately a three dimensional registration (SYRUP) was being applied to the data, a specific RMSE value to be used as a "breakpoint" value for quality control purposes was not appropriate in this case. Rather, relative values were compared and used as an index to flag certain areas for further spatial examination and GCP adjustment. A spatial measurement was used as a rigid indicator of quality control. This is a measurement of the distance between mapsheet overlay locations ortho-rectification and their corresponding actual DOQQ locations. Distance measurements were examined at large scales (1:1,000 or larger) to assure compliance with minimum USGS National Map Accuracy Standards (NMAS). The SYRUP extension to ERDAS Imagine uses a statistical model involving a statistical approximation to produce a geometrically correct version of each publication mapsheet overlay. Resulting images were also visually compared with corresponding DOQQ images using the Swipe tool in ERDAS Imagine for quality.
Problem areas in need of increased quality were edited by adding and/or adjusting control points where needed. These areas can them be processed through the SYRUP model once again. ERDAS Imagine was then used to convert the raster image (*.img) file format to .grid raster file format for viewing in ARC/INFO.
The raster, soil delineation layer was then converted to a binary, Raster tif using AutoCAD. Hitachi software in a CAD environment was used to convert the binary raster lines into vector lines. AutoCAD software was used to clean vector lines and attribute the soil polygons with their appropriate soil map unit symbols. The clean lines were then "splined" using a quadratic B-spline in AutoCAD software and "generalized" using ESRI software.
Bodies of water were aligned to the ortho photo image except for areas less than 2 acres in size. Areas less than 2 acres in size were shown as a point special feature labeled WAT. Most errors found on the published

soil maps were corrected by a soil scientist who referred to copies of the original soil survey field sheets. A few errors were field checked checked by soil scientists and corrected.
The orthorectified symbol/feature overlays were used as a background reference image to determine which map unit symbols were associated with which soil polygons. Special soil features were also digitized and attributed as separate point and line coverages using AutoCAD. Cultural features are then exported out of AutoCad with the appropriate object data attached to each feature.
The line work and symbols are processed using a series of queries and spatial joins in MapInfo. The formed polygons are then returned to AutoCad and written out as an ARC/INFO coverage for a final product.
Quality assurance/quality control was conducted by resident soil scientist at Draft-co. Inc. and the Ohio Department of Natural Resources All Soil Line placements and labels were checked and verified.
In addition, label placement locations for soil polygons were moved to the centroid of polygons where possible or moved
to other locations to prevent the overlap of
labels from adjoining polygons and special features. ARC/INFO software was used to edge match quarter quadrangles of soil data which were then merged into a county-wide layer. This coverage is presently being reviewed by the USDA, Natural Resources Conservation Service for compliance with SSURGO standards. This review may require that some changes by made to the data.

Source_Used_Citation_Abbreviation: NRCS1, SCS1, USGS1, USGS2, ODNR1

Process_Date: 2005

Process_Step:

Process_Description:

The seamless ArcInfo export files and metadata
were submitted by the U.S. Department of Agriculture, Natural Resources Conservation Service, Ohio State Office and were evaluated at the USDA/NRCS Wisconsin Digitizing Unit in Madison, Wisconsin. The boundary
was replaced with an official boundary data set provided by Ohio NRCS. The
data were evaluated in ARC/INFO, Version 9.1 software with SSURGO evaluation routines provided by U.S. Department of Agriculture, Natural Resources Conservation Service, National Cartography and Geospatial Center, Fort Worth, Texas (NCGC). Upon successful completion of the SSURGO certification AMLs, the data were submitted to the Soil Data Warehouse for archival and distribution.

Source_Used_Citation_Abbreviation: ODNR2, OSU1

Process_Date: 2006

Process_Step:

Process_Description:

The Natural Resources Conservation Service State Soil Scientist or delegate, upon completion of data quality verification, determined that the tabular data should be released for official use. A selected set of map units and components in the soil survey legend was copied to a staging database, and rating values for selected interpretations were generated. The list of selected interpretations is stored in the database table named sainterp.

Source_Used_Citation_Abbreviation: NASIS

Process_Date: 20060829

Process_Step:

Process_Description:

The Natural Resources Conservation Service State Soil Scientist or delegate verified that the labels on the digitized soil map units link to map units in the tabular database, and certified the joined data sets for release to the Soil Data Warehouse. A system assigned version number and date stamp were added and the data were copied to the data warehouse. The tabular data for the map units and components were extracted from the data warehouse and reformatted into the soil data delivery data model, then stored in the Soil Data Mart. The spatial data were copied to the Soil Data Mart without change.

08-31-2006 version includes map units added for joining.
Source_Used_Citation_Abbreviation: NASIS
Process_Date: 20060831
Process_Step:
Process_Description: The tabular data were extracted from the data mart without change. The spatial data's coordinate system was transformed to UTM Zone 17, Northern Hemisphere (NAD 83) using ESRI ArcObjects 8.3 "ConvertFeatureClass" and exported to an ESRI shapefile.
Source_Used_Citation_Abbreviation: NASIS
Process_Date: 20060912
Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector
Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Planar:
Grid_Coordinate_System:
Grid_Coordinate_System_Name: Universal Transverse Mercator
Universal_Transverse_Mercator:
UTM_Zone_Number: 17
Transverse_Mercator:
Scale_Factor_at_Central_Meridian: 0.999600
Longitude_of_Central_Meridian: -81.000000
Latitude_of_Projection_Origin: 0.000000
False_Easting: 500000.000000
False_Northing: 0.000000
Planar_Coordinate_Information:
Planar_Coordinate_Encoding_Method: coordinate pair
Planar_Distance_Units: meters
Coordinate_Representation:
Abscissa_Resolution: 0.000064
Ordinate_Resolution: 0.000064
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1983
Ellipsoid_Name: Geodetic Reference System 80
Semi-major_Axis: 6378137.000000
Denominator_of_Flattening_Ratio: 298.257222
Entity_and_Attribute_Information:
Detailed_Description:
Entity_Type:
Entity_Type_Label: Special Soil Features
Entity_Type_Definition:
Special Soil Features represent soil, miscellaneous area, or landform features that are too small to be digitized as soil delineations (area features).
Entity_Type_Definition_Source: Agricultural Handbook 18, Soil Survey Manual, 1993, USDA, SCS.
Attribute:
Attribute_Label: Special Soil Features Codes

Attribute_Definition:
Special Soil Features labels represent specific Special Soil Features. These features are identified with a descriptive label. The label is assigned to the point or line assigned to represent the feature on maps.
Attribute_Definition_Source:
Agricultural Handbook 18, Soil Survey Manual, 1993, USDA, SCS; National Soil Survey Handbook, Title 430-VI, part 647 (current issue), USDA, NRCS.
Attribute_Domain_Values:
Codeset_Domain:
Codeset_Name:
Classification and Correlation of the Soils of Portage County, Ohio
Codeset_Source:
U.S. Department of Agriculture, Natural Resources Conservation Service
Overview_Description:
Entity_and_Attribute_Overview:
Map Unit Delineations are closed polygons that may be dominated by a single soil or miscellaneous area component plus allowable similar or dissimilar soils, or they can be geographic mixtures of groups of soils or soils and miscellaneous areas.

The map unit symbol uniquely identifies each closed map unit delineation. Each symbol corresponds to a map unit name. The map unit key is used to link to information in the National Soil Information System tables.

Map Unit Delineations are described by the National Soil Information System database. This attribute database gives the proportionate extent of the component soils and the properties for each soil. The database contains both estimated and measured data on the physical and chemical soil properties and soil interpretations for engineering, water management, recreation, agronomic, woodland, range, and wildlife uses of the soil.

The National Soil Information System database contains static metadata. It documents the data structure and includes such information as what tables, columns, indexes, and relationships are defined as well as a variety of attributes of each of these database objects. Attributes include table and column descriptions and detailed domain information.

The National Soil Information System database also contains a distribution metadata. It records the criteria used for selecting map units and components for inclusion in the set of distributed data.

Special features are described in the feature table. It includes an area symbol, feature label, feature name, and feature description for each special and ad hoc feature in the survey area.
Entity_and_Attribute_Detail_Citation:
Soil Taxonomy: A basic system of soil classification for making and interpreting soil surveys. Agricultural Handbook 436, 1999, USDA, SCS.

Keys to Soil Taxonomy (current issue), USDA, SCS.

National Soil Survey Handbook, Title 430-VI, part 647 (current issue), USDA, NRCS.

Agricultural Handbook 18, Soil Survey Manual, 1993, USDA, SCS.

Distribution_Information:
  Distributor:
    Contact_Information:
      Contact_Organization_Primary:
        Contact_Organization:
          U.S. Department of Agriculture, Natural Resources Conservation Service, National Cartography and Geospatial Center
      Contact_Address:
        Address_Type: mailing address
        Address: 501 West Felix Street, Building 23, P.O. Box 6567
        City: Fort Worth
        State_or_Province: Texas
        Postal_Code: 76115
      Contact_Voice_Telephone: 800 672 5559
      Contact_TDD/TTY_Telephone: 202 720 2600
      Contact_Facsimile_Telephone: 817 509 3469
  Resource_Description: Portage County, Ohio SSURGO
  Distribution_Liability:
    Although these data have been processed successfully on a computer system at the U.S. Department of Agriculture, no warranty expressed or implied is made by the Agency regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty. The U.S. Department of Agriculture will warrant the delivery of this product in computer readable format, and will offer appropriate adjustment of credit when the product is determined unreadable by correctly adjusted computer input peripherals, or when the physical medium is delivered in damaged condition. Request for adjustment of credit must be made within 90 days from the date of this shipment from the ordering site.

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  Standard_Order_Process:
    Digital_Form:
      Digital_Transfer_Information:
        Format_Name: ArcView shapefile
        Format_Information_Content: spatial
        File_Decompression_Technique: WinZip or equivalent
        Transfer_Size: 38.6
      Digital_Transfer_Option:
        Online_Option:
          Computer_Contact_Information:
            Network_Address:
              Network_Resource_Name: URL:http://SoilDataMart.nrcs.usda.gov/
          Access_Instructions:

Select desired survey area at above Internet Web site. An email address is required for receipt of instructions on retrieval via anonymous FTP. Anticipate a delay between submission of request at Web site and receipt of email message.

Digital_Form:
  Digital_Transfer_Information:
    Format_Name: ARC/INFO coverage
    Format_Information_Content: spatial
    File_Decompression_Technique: WinZip or equivalent
    Transfer_Size: 38.6
  Digital_Transfer_Option:
    Online_Option:
      Computer_Contact_Information:
        Network_Address:
          Network_Resource_Name: URL:http://SoilDataMart.nrcs.usda.gov/
      Access_Instructions:
        Select desired survey area at above Internet Web site. An email address is required for receipt of instructions on retrieval via anonymous FTP. Anticipate a delay between submission of request at Web site and receipt of email message.

Digital_Form:
  Digital_Transfer_Information:
    Format_Name: ARC/INFO interchange file
    Format_Information_Content: spatial
    File_Decompression_Technique: WinZip or equivalent
    Transfer_Size: 38.6
  Digital_Transfer_Option:
    Online_Option:
      Computer_Contact_Information:
        Network_Address:
          Network_Resource_Name: URL:http://SoilDataMart.nrcs.usda.gov/
      Access_Instructions:
        Select desired survey area at above Internet Web site. An email address is required for receipt of instructions on retrieval via anonymous FTP. Anticipate a delay between submission of request at Web site and receipt of email message.

Digital_Form:
  Digital_Transfer_Information:
    Format_Name: ASCII
    Format_Information_Content: keys and attributes
    File_Decompression_Technique: WinZip or equivalent
    Transfer_Size: 32.7
  Digital_Transfer_Option:
    Online_Option:
      Computer_Contact_Information:
        Network_Address:
          Network_Resource_Name: URL:http://SoilDataMart.nrcs.usda.gov/
      Access_Instructions:
        Select desired survey area at above Internet Web site. An email address is required for receipt of instructions on retrieval via anonymous FTP. Anticipate a delay between submission of request at Web site and receipt of email message.

Fees:
  There is currently no direct charge for requesting data or for retrieval via FTP.

Ordering_Instructions:
  Visit the above mentioned Internet Web Site, select state or

territory, then select individual soil survey area of interest.
Spatial line data and locations of special feature symbols are in
ESRI ArcGIS (ArcView,ArcInfo) shapefile, coverage and interchange
(i.e., export) formats. The National Soil Information System
attribute soil data are available in variable length, pipe
delimited, ASCII file format.
Turnaround: Typically within four hours
Metadata_Reference_Information:
Metadata_Date: 20060912
Metadata_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: U.S. Department of Agriculture, Natural Resources
Conservation Service
Contact_Position: State Soil Scientist
Contact_Address:
Address_Type: mailing address
Address: USDA - Natural Resources Conservation Service
Address: Ohio State Office
Address: 200 North High Street, Room 522
City: Columbus
State_or_Province: OH
Postal_Code: 43215-2478
Contact_Voice_Telephone: 614-255-2484
Contact_TDD/TTY_Telephone: (202) 720-2600
Contact_Electronic_Mail_Address: jon.gerken@oh.usda.gov
Metadata_Standard_Name: Content Standard for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998
SUPPLEMENTAL METADATA INFORMATION
This product was prepared by Fuller, Mossbarger, Scott, and
May Engineers, Inc. (FMSM) under contract to the Ohio
Department of Natural Resources.
SSURGO County Soil Data and Metadata was downloaded
from the USDA-NRCS-Soils Data-SSURGO Internet website.
http://soildatamart.nrcs.usda.gov/
The data was obtained as ESRI Shapefiles.
possessing the following projection information.

SSURGO GEOGCS["GCS_North_American_1983",
DATUM["D_North_American_1983",
SPHEROID["GRS_1980",6378137.0,298.257222101]],
PRIMEM["Greenwich",0.0],
UNIT["Degree",0.0174532925199433]]
FMSM prepared the SSURGO shapefiles for this product by
performing the following processing step.
1) ESRI Shapefiles were reprojected from UTM NAD83 to their
appropriate Ohio Stateplane North/South regions using NAD 83
Ohio State Plane n/s (FEET), with NADCON transformation.
All processing steps were conducted using ESRI's ArcToolbox 9.1 application.

watersheds(layer)

This theme shows detailed watersheds for Portage County, as digitized in vector mode from mylar copies of maps maintained by the U.S. Geological Survey, Water Resources Division. This coverage was created as part of a project to develop coverages useful for environmental, and land use planning in northern

Ohio. The purpose of this coverage is to delineate drainage areas which can be used in water quality and quantity studies.

Unpublished quadrangle maps maintained by the U.S. Geological Survey, Water Resources Division 1:24000 1/1/1995
For more information:
http://www.dnr.state.oh.us/gims/counties/tabid/15384/Default.aspx

install_accuglobe2007.exe(free GIS viewer)

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