Geologic and Soil Resources Inventory GIS Dataset of North Country National Scenic Trail Augusta Prairie Property and Vicinity, Michigan (NPS, GRD, GRSI, NOCO, NOCO digital map) adapted from a U.S. Geological Survey 3DHP Hydrography dataset by Jonesi, Thunen, and Buto (2024), a U.S. Geological Survey 3DEP Lidar Dataset for Portions of Kalamazoo County, Michigan (2024), Kalamazoo County Tax Parcel Data by the Kalamazoo County Equalization Department (2025), SSURGO Soil Data by the USDA Natural Resources Conservation Service (2025), a North Country National Scenic Trail KMZ dataset by the North Country Trail Association (2025), and Administrative Boundaries of National Park System Units by the NPS Land Resources Division (2025).

Metadata also available as

Frequently-anticipated questions:

- What does this data set describe?
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    2. What geographic area does the data set cover?
    3. What does it look like?
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- Who produced the data set?
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- Why was the data set created?
- How was the data set created?
    1. From what previous works were the data drawn?
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    3. What similar or related data should the user be aware of?
- How reliable are the data; what problems remain in the data set?
    1. How well have the observations been checked?
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    3. How accurate are the heights or depths?
    4. Where are the gaps in the data? What is missing?
    5. How consistent are the relationships among the data, including topology?
- How can someone get a copy of the data set?
    1. Are there legal restrictions on access or use of the data?
    2. Who distributes the data?
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    4. What legal disclaimers am I supposed to read?
    5. How can I download or order the data?

- Who wrote the metadata?

What does this data set describe?

Title:
Geologic and Soil Resources Inventory GIS Dataset of North Country National Scenic Trail Augusta Prairie Property and Vicinity, Michigan (NPS, GRD, GRSI, NOCO, NOCO digital map) adapted from a U.S. Geological Survey 3DHP Hydrography dataset by Jonesi, Thunen, and Buto (2024), a U.S. Geological Survey 3DEP Lidar Dataset for Portions of Kalamazoo County, Michigan (2024), Kalamazoo County Tax Parcel Data by the Kalamazoo County Equalization Department (2025), SSURGO Soil Data by the USDA Natural Resources Conservation Service (2025), a North Country National Scenic Trail KMZ dataset by the North Country Trail Association (2025), and Administrative Boundaries of National Park System Units by the NPS Land Resources Division (2025).
Abstract:
The Geologic and Soil Resources Inventory GIS Dataset of North Country National Scenic Trail Augusta Prairie Property and Vicinity, Michigan is composed of GIS data layers and GIS tables, and is available in the following GSRI-supported GIS data formats: 1.) an ESRI file geodatabase (noco_augusta_prairie_property.gdb) and 2.) an Open Geospatial Consortium (OGC) geopackage (noco_augusta_prairie_property.gpkg), and 3.) a 2.2 KMZ/KML file (noco_augusta_prairie_property.kmz) for use in Google Earth, however, this format version of the map is limited in data layers presented. The file geodatabase format is supported with a ArcGIS Pro 3.X map file (.mapx) file (NOCO_Augusta_Prairie_Property_Michigan_Geologic_and_Soil_Resources_Inventory.mapx). The OGC geopackage is supported with a QGIS project (.qgz) file (NOCO_Augusta_Prairie_Property_Michigan_Geologic_and_Soil_Resources_Inventory.qgz) with limited symbology. In addition to the GIS data and supporting map file, two additional files are included: 1.) a readme file (noco_gsri_readme.pdf) and 2.) a user-friendly FAQ PDF version of the metadata (noco_augusta_prairie_metadata_faq.pdf). The noco_gsri_gis_readme.pdf provides a description of the North Country National Scenic Trail Augusta Prairie Property data package and is a good entry point for using the GIS data. The data were completed as a component of the Geologic and Soil Resources Inventory (GSRI) program, a National Park Service (NPS) Inventory and Monitoring (I&M) Division funded program that is administered by the NPS Geologic Resources Division (GRD). For a complete listing of GSRI products visit the GSRI publications webpage: https://www.nps.gov/subjects/geology/geologic-resources-inventory-products.htm. For more information about the Geologic and Soil Resources Inventory Program visit the GSRI webpage: https://www.nps.gov/subjects/geology/gri.htm. At the bottom of that webpage is a "Contact Us" link if you need additional information. You may also directly contact the program coordinator, Rebecca Port (rebecca_port@nps.gov) for support or inquiries about this data. Detailed information concerning the sources used for this dataset and their contribution to the GSRI product are listed in the Source Citation section(s) of this metadata record (noco_augusta_prairie_metadata.txt or noco_augusta_prairie_metadata_faq.pdf). This dataset integrates spatial data from

multiple sources with varying scales and resolutions, including SSURGO soils (~1:12,000), USGS 3DEP lidar (~1 m resolution), county parcel data (variable scale), and USGS 3D Hydrography Program data. The data are not uniform in scale and should be used with consideration of the original source limitations. Users of this data should thus not assume the location of features is exactly where they are portrayed in ArcGIS Pro or other software used to display this dataset.
Supplemental_Information:
The data layers (feature classes) that comprise the Geologic and Soil Resources Inventory GIS Dataset of North Country National Scenic Trail Augusta Prairie Property and Vicinity, Michigan include: Site Visit GPS Tracklog Points (gps_tracklog), Site Visit Photos (site_visit_pics), USGS 3DHP Hydro Areas (hydro_areas), USGS 3DHP Hydro Lines (hydro_lines), Augusta Prairie Parcels (parcel_data), Augusta Prairie Property Extent (property_extent), NRCS SSURGO Soil Information (soil_information), Trail Trace (trail_trace), Augusta Prairie 1 Meter DEM (augusta_prairie_dem), Augusta Prairie 1 Meter Hillshade (augusta_prairie_hillshade), and Augusta Prairie 1 Meter Slope Map (augusta_prairie_slope). In addition to the data layers, there are two GIS tables, the Site Visit Photos Table (site_visit_pics_tbl) containing photos from on-site field visit and related via a relationship class (site_visit_pics_rel) to the Site Visit Photos feature class, and the Source Map Information Table (ncapmap) containing references for all sources used. For the KML/KMZ format only some of the data layers are available. The KML/KMZ format contains on-line links to the GSRI program and its products, the GSRI NOCO readme document, and the FAQ metadata pertaining to this dataset/map. The GIS data projection is NAD83, UTM Zone 16N. The KML/KMZ format the data is projected upon export to WGS84 Geographic, the native coordinate system used by Google Earth.

1. **How should this data set be cited?**

   National Park Service (NPS) Geologic and Soil Resources Inventory (GSRI) program, 20251118, Geologic and Soil Resources Inventory GIS Dataset of North Country National Scenic Trail Augusta Prairie Property and Vicinity, Michigan (NPS, GRD, GRSI, NOCO, NOCO digital map) adapted from a U.S. Geological Survey 3DHP Hydrography dataset by Jonesi, Thunen, and Buto (2024), a U.S. Geological Survey 3DEP Lidar Dataset for Portions of Kalamazoo County, Michigan (2024), Kalamazoo County Tax Parcel Data by the Kalamazoo County Equalization Department (2025), SSURGO Soil Data by the USDA Natural Resources Conservation Service (2025), a North Country National Scenic Trail KMZ dataset by the North Country Trail Association (2025), and Administrative Boundaries of National Park System Units by the NPS Land Resources Division (2025)..

2. **What geographic area does the data set cover?**

   West_Bounding_Coordinate: -85.36
   East_Bounding_Coordinate: -85.32
   North_Bounding_Coordinate: 42.37

South_Bounding_Coordinate: 42.33

3. **What does it look like?**

   Not applicable
   No browse graphic provided

4. **Does the data set describe conditions during a particular time period?**

   Calendar_Date: 06-Jan-2026
   Currentness_Reference: ground condition

5. **What is the general form of this data set?**

   Geospatial_Data_Presentation_Form: map

6. **How does the data set represent geographic features?**
   a. **How are geographic features stored in the data set?**
   b. **What coordinate system is used to represent geographic features?**

      Grid_Coordinate_System_Name: Universal Transverse Mercator
      Universal_Transverse_Mercator:
   UTM_Zone_Number: 16
   Transverse_Mercator:
   Scale_Factor_at_Central_Meridian: 0.999600
   Longitude_of_Central_Meridian: -87.0
   Latitude_of_Projection_Origin: 0.000000
   False_Easting: 500000.000000
   False_Northing: 0.000000

      Planar coordinates are encoded using coordinate pair
      Abscissae (x-coordinates) are specified to the nearest 0.000007
      Ordinates (y-coordinates) are specified to the nearest 0.000007
      Planar coordinates are specified in meters

      The horizontal datum used is North American Datum of 1983.
      The ellipsoid used is Geodetic Reference System 80.
      The semi-major axis of the ellipsoid used is 6378137.000000.
      The flattening of the ellipsoid used is 1/298.257222.

7. **How does the data set describe geographic features?**

   Entity_and_Attribute_Overview:
   Feature class and table attribute field parameters, definitions and domains, and implemented relationship classes were custom developed for this project.
   Entity_and_Attribute_Detail_Citation: NA

Who produced the data set?

1. **Who are the originators of the data set?** (may include formal authors, digital compilers, and editors)
    - National Park Service (NPS) Geologic and Soil Resources Inventory (GSRI) program
2. **Who also contributed to the data set?**

    James R. Chappell, Ron Karpilo, Cullen Scheland, Trista Thornberry-Ehrlich, and Tim Henderson (NPS Geologic and Soil Inventory Program)

3. **To whom should users address questions about the data?**

    Rebecca Port
    National Park Service Geologic Resources Division
    Inventory Coordinator
    1 Denver Federal Center, Bldg 50
    Denver, Colorado 80225
    USA

    (720) 425-2320 (voice)
    rebecca_port@nps.gov

    Hours_of_Service: 8:00 a.m. to 5:00 p.m. (MST), Monday - Friday

Why was the data set created?

The data are intended to assist NPS personnel in the protection and management of North Country National Scenic Trail.

How was the data set created?

1. **From what previous works were the data drawn?**

    USGS_3DHP (source 1 of 6)

    Jonesi, A.B., Thunen, D.R., and Buto, S.G., 2024, USGS 3D Hydrography Program (3DHP) Data Collaboration Announcement Projects from Fiscal Year 2024 to Present: Data Release U.S. Geological Survey 3DHP data release, U.S. Geological Survey (USGS), Reston, Virginia.

    Type_of_Source_Media: online

Source_Scale_Denominator: 24000
Source_Contribution:
Source data were downloaded from the original providerâ€ ™s website and imported into a GIS environment. The data were projected to a Universal Transverse Mercator (UTM) coordinate system referenced to the North American Datum of 1983 (NAD83) to ensure consistency with other project datasets. The data were then clipped to the project area of interest. See process step section for additional information on how this source was used.
USGS_3DEP (source 2 of 6)

> U.S. Geological Survey, 2024, USGS 3DEP Lidar Dataset for Portions of Kalamazoo County, Michigan, Point Cloud Data: Data Release U.S. Geological Survey 3DEP data release, U.S. Geological Survey (USGS), Reston, Virginia.

Type_of_Source_Media: online
Source_Scale_Denominator: 24000
Source_Contribution:
Source data were downloaded from the original providerâ€ ™s website and imported into a GIS environment. The data were projected to a Universal Transverse Mercator (UTM) coordinate system referenced to the North American Datum of 1983 (NAD83) to ensure consistency with other project datasets. The data were then clipped to the project area of interest. See process step section for additional information on how this source was used.
Kalamazoo County Tax Parcel Data (source 3 of 6)

> Kalamazoo County Equalization Department, 2025, Kalamazoo County, Michigan Tax Parcel Data: Data Release Kalamazoo County Equalization Department Tax Parcel Data, Kalamazoo County Equalization Department, Kalamazoo, Michigan.

Type_of_Source_Media: online
Source_Contribution:
Source data were downloaded from the original providerâ€ ™s website and imported into a GIS environment. The data were projected to a Universal Transverse Mercator (UTM) coordinate system referenced to the North American Datum of 1983 (NAD83) to ensure consistency with other project datasets. The data were then clipped to the project area of interest. See process step section for additional information on how this source was used.
NRCS_SSURGO (source 4 of 6)

> USDA Natural Resources Conservation Service, 2025, NRCS SSURGO Soil Data (Web Soil Survey download): Data Release NRCS SSURGO Soil Data data release, USDA Natural Resources Conservation Service (NRCS), Lincoln, Nebraska.

Type_of_Source_Media: online
Source_Scale_Denominator: 24000
Source_Contribution:
Source data were downloaded from the original providerâ€ ™s website and imported into a GIS environment. The data were projected to a Universal Transverse Mercator (UTM) coordinate system referenced to the North American Datum of 1983 (NAD83) to ensure

consistency with other project datasets. The data were then clipped to the project area of interest. See process step section for additional information on how this source was used.
NCTA_Trail (source 5 of 6)

North Country Trail Association, 2025, North Country National Scenic Trail Trace Feature Service: Data Release North Country Trail Association data release, North Country Trail Association (NCTA), Lowell, Michigan.

Type_of_Source_Media: online
Source_Contribution:
Source data were downloaded from the original providerâ€ ™s website and imported into a GIS environment. The data were projected to a Universal Transverse Mercator (UTM) coordinate system referenced to the North American Datum of 1983 (NAD83) to ensure consistency with other project datasets. The data were then clipped to the project area of interest. See process step section for additional information on how this source was used.
NPS_Admin_Boundaries (source 6 of 6)

NPS - Land Resources Division, 2025, Administrative Boundaries of National Park System Units: Data Release NPS - Land Resources Division data release, NPS - Land Resources Division, Fort Collins, Colorado.

Type_of_Source_Media: online
Source_Contribution:
Source data were downloaded from the original providerâ€ ™s website and imported into a GIS environment. The data were projected to a Universal Transverse Mercator (UTM) coordinate system referenced to the North American Datum of 1983 (NAD83) to ensure consistency with other project datasets. The data were then clipped to the project area of interest. See process step section for additional information on how this source was used.

2. **How were the data generated, processed, and modified?**

Date: 06-Jan-2026 (process 1 of 1)
Attribute data were reviewed and modified to improve consistency and usability across the dataset. This included standardizing field names, data types, and coded values; removing duplicate or extraneous attributes; and populating or correcting attribute values where source documentation allowed. All data was clipped to the project area of interest. Quality control checks were performed to identify missing or invalid attribute values, geometry errors, and inconsistencies between attributes and spatial features. Errors identified during quality control were corrected where possible. Lidar data were processed using standard elevation modeling methods to generate a digital elevation model (DEM) at approximately 1-meter resolution. The derived DEM was used to create hillshade and slope rasters at the same resolution. Parcel data was modified to remove private information and fields were thinned to only convey ownership and parcel IDs. Soil data was refined and consolidated into a set of fields relevant to project objectives. KML/KMZ, OGC GeoPackage, and QGIS project files were produced from the finalized file geodatabase and ArcGIS Pro map document. No changes were made to the fundamental meaning or intended use of the source data.

Person who carried out this activity:

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Hours_of_Service: 8:00 a.m. to 5:00 p.m. (MST), Monday - Friday

Data sources used in this process:

- USGS_3DHP, USGS_3DEP, Kalamazoo County Tax Parcel Data, NRCS_SSURGO, NCTA_Trail, NPS_Admin_Boundaries

3. **What similar or related data should the user be aware of?**

   National Park Service Geologic and Soil Resources Inventory (GSRI) program, 20260106, Metadata for the Geologic and Soil Resources Inventory GIS Dataset of North Country National Scenic Trail Augusta Prairie Property and Vicinity, Michigan (NPS, GRD, GRSI, NOCO, NOCO digital map).

How reliable are the data; what problems remain in the data set?

1. **How well have the observations been checked?**

   Feature and table attribution was derived and checked with the source map(s). Attribution was checked (QCd) for errors. Users of this data are advised to FULLY and CAREFULLY READ the "DISTRIBUTION LIABILITY" section of this metadata before using the data.

2. **How accurate are the geographic locations?**

   Horizontal positional accuracy varies by data source and reflects the original accuracy of the contributing datasets. SSURGO soil survey data were compiled at a nominal mapping scale of approximately 1:12,000 and are intended for use at scales no smaller than 1:24,000. Elevation data were derived from U.S. Geological Survey 3D Elevation Program (3DEP) lidar with an approximate horizontal resolution of 1 meter; positional accuracy meets or exceeds the quality level specifications defined by the source data. County parcel data were obtained from local government sources and vary in positional accuracy and scale by jurisdiction; no independent accuracy assessment was performed.

Hydrographic features were sourced from the U.S. Geological Survey 3D Hydrography Program (3DHP) and reflect the positional accuracy of the underlying elevation and imagery used in their compilation. Geologic map data were derived from regional mapping efforts at a scale of 1:100,000. No additional horizontal accuracy assessment was conducted for the compiled dataset, and users should consult the original source metadata and apply individual layers in accordance with their intended scale and accuracy.

3. **How accurate are the heights or depths?**

   Vertical positional accuracy for elevation data in this dataset is based on a digital elevation model (DEM) derived from U.S. Geological Survey 3D Elevation Program (3DEP) lidar. The source lidar data meet the vertical accuracy specifications reported in the original USGS 3DEP metadata. The DEM was generated at approximately 1-meter resolution using standard lidar processing and interpolation methods. No independent vertical accuracy assessment of the derived DEM was performed as part of this project. Vertical accuracy of the DEM is expected to be similar to, but not exceed, the accuracy of the source lidar data. Users should consult the original 3DEP metadata for detailed accuracy information and intended use limitations.

4. **Where are the gaps in the data? What is missing?**

   All data is considered complete to the extent of the source map(s).

5. **How consistent are the relationships among the observations, including topology?**

   GIS data in ESRI file geodatabase, OGC geopackage, and 2.2 KML/KMZ file formats.

How can someone get a copy of the data set?

Are there legal restrictions on access or use of the data?

Access_Constraints: None
Use_Constraints:

This dataset integrates spatial data from multiple sources with varying scales and resolutions, including SSURGO soils (~1:12,000), USGS 3DEP lidar (~1 m resolution), county parcel data (variable scale), and USGS 3D Hydrography Program data. The data are not uniform in scale and should be used with consideration of the original source limitations. Users of this data should thus not assume the location of features is exactly where they are portrayed in ArcGIS Pro or other software used to display this dataset.

1. **Who distributes the data set?** (Distributor 1 of 1)

Rebecca Port
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USA

(720) 425-2320 (voice)
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Hours_of_Service: 8:00 a.m. to 5:00 p.m. (MST), Monday - Friday
Contact_Instructions:
GSRI data are available at: <http://irma.nps.gov/App/Reference/Search>

2. **What's the catalog number I need to order this data set?**

GIS map data available in ESRI ArcGIS formats

3. **What legal disclaimers am I supposed to read?**

The National Park Service shall not be held liable for improper or incorrect use of the data described and/or contained herein. These data and related graphics are not legal documents and are not intended to be used as such.

The information contained in these data is dynamic and may change over time. The data are not better than the original sources from which they were derived. It is the responsibility of the data user to use the data appropriately and consistent within the limitations of geospatial data in general and these data in particular. The related graphics are intended to aid the data user in acquiring relevant data; it is not appropriate to use the related graphics as data.

The National Park Service gives no warranty, expressed or implied, as to the accuracy, reliability, or completeness of these data. It is strongly recommended that these data are directly acquired from an NPS server and not indirectly through other sources which may have changed the data in some way. Although these data have been processed successfully on a computer system at the National Park Service, no warranty, expressed or implied is made regarding the utility of the data on another system or for general scientific purposes, nor shall the act of distribution constitute any such warranty. This disclaimer applies to both to individual use of the data and aggregate use with other data.

4. **How can I download or order the data?**
    - **Availability in digital form:**

        Data format: GDB (version ArcGIS Pro 3.0) GIS (file geodatabase format) data package with a Pro map (.mapx) file (noco_gsri_augusta_prairie_geologic_and_soil_resources_gdb_pro.zip) Size: 449

        Network links: NPS Data Store, https://irma.nps.gov/DataStore/

        Data format: GPKG (version OGC geopackage) GIS (geopackage format) data package with a QGIS project (.qgz) file (noco_gsri_augusta_prairie_geologic_and_soil_resources_gpkg.zip) Size: 602

        Network links: NPS Data Store, https://irma.nps.gov/DataStore/

        Data format: KML/KMZ (version 2.2) Google Earth (kml/kmz format) data package (noco_gsri_augusta_prairie_geologic_and_soil_resources_kml.zip) Size: 0.6

        Network links: NPS Data Store, https://irma.nps.gov/DataStore/

        Data format: PDF (version 9) GIS Readme Document Size: 0.1

        Network links: NPS Data Store, https://irma.nps.gov/DataStore/

        Data format: PDF (version 9) FAQ Metadata File Size: 0.1

        Network links: NPS Data Store, https://irma.nps.gov/DataStore/

    - **Cost to order the data:** None
    - **Special instructions:**

        Search for the GSRI map, then download the GSRI data at: https://irma.nps.gov/DataStore/

Who wrote the metadata?

Dates:

Last modified: 21-Oct-2025

Metadata author:

Rebecca Port
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Inventory Coordinator
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USA

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rebecca_port@nps.gov

Hours_of_Service: 8:00 a.m. to 5:00 p.m. (MST), Monday - Friday

Metadata standard:

FGDC Content Standards for Digital Geospatial Metadata (FGDC-STD-001-1998)

Metadata extensions used:

- <http://www.fgdc.gov/standards/>

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