



# North Country National Scenic Trail

## *Geologic & Soil Resources Inventory*

Geologic and Soil Resources Inventory GIS Dataset Explanation, January 8, 2026

Geographic Information System (GIS) data and associated information related to the North Country National Scenic Trail (NOCO) are delivered as data package ZIP (.zip) files. These datasets were prepared to support land management and planning activities for NOCO properties and select gap areas.

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### Data Packages Overview

Three primary GSRI data products are included:

1. **New Property Maps** – Geologic and Soil Resources Inventory GIS datasets are provided for four new NOCO properties: Augusta Prairie (MI), Black River (WI), Superior Falls (WI/MI), and Thorp (WI). The datasets include LiDAR-derived elevation data, soils, parcel ownership, hydrography, and site-visit GPS logs with linked photographs. *GPS data are available for the Augusta Prairie, Black River, and Superior Falls properties only.*
2. **Gap Map** – Geologic mapping footprint, parcel ownership, and hydrography GIS datasets for NOCO gaps 634 and 659 in Minnesota.
3. **Site Visit Photographs** – A complete collection of high-resolution, geo-tagged photographs captured during site visits to the Augusta Prairie, Black River, and Superior Falls properties.

GIS data are provided in the following GSRI-supported GIS data formats: 1.) ESRI file geodatabase format and for use in ArcGIS Pro, 2.) Open Geospatial Consortium (OGC) geopackage format for use in QGIS (or other open-source software), and 3.) 2.2 KML format for use with Google Earth software.

Data package ZIP files containing the different GSRI-supported data formats are identified with following file suffixes: 1.) ESRI file geodatabase data packages have a file suffix of "gdb\_pro.zip", 2.) OGC geopackage data packages have a file suffix of "gpkg.zip", 3.) KML data packages have a file suffix of "kml.zip", and 4.) High-resolution photograph data packages have a file suffix of "photos".

The ArcGIS Pro data package ZIP file has an ESRI file geodatabase and a Pro 3.X map (.mapx) file that presents GSRI data layers and GIS tables complete with data layer and table naming, symbology, and feature labeling for viewing and data analysis. The OGC data package has a QGIS project (.qgz) that displays limited symbology compared to the ArcGIS Pro data. The KML data package has a KML dataset (.kmz) that contains a subset of layers available in the ESRI and OGC formats. All GIS data package ZIP files also contain FGDC-compliant metadata files (in .txt and .xml formats).

For a GIS dataset, the GRI recommends extracting all map files from a data package to its own folder. This is particularly of importance for file geodatabase data packages as the associated Pro 3.X map file (.mapx) file has relative file paths set to its respective file geodatabase.

In addition to the GIS data packages, the following files are included:

1. This document (NOCO Geologic and Soils Resources Inventory GIS Dataset Explanation)
2. A user-friendly FAQ-style PDF version of the metadata for each dataset

The following sections describe the GSRI GIS data products, including feature class and field aliases, with corresponding geodatabase feature class and field names shown in parentheses.

## New Property Maps Description

The New Property Map data packages contain resource information for each of the following four properties:

- Augusta Prairie, Michigan
- Black River, Wisconsin
- Superior Falls, Wisconsin
- Thorp, Wisconsin

Each property's data is provided as a separate ZIP file. All datasets are clipped to the property area of interest, with property extents either obtained from NPS administrative boundary data or defined by park staff.

### Included Data Layers-

#### Property Extent (property\_extent)

#### Hydrography (USGS 3DHP)

*Not available in KML/KMZ format.*

Hydrography data include linear and polygonal hydrography features derived from the USGS 3D Hydrography Program (3DHP).

##### USGS 3DHP Hydro Lines (hydro\_lines) with attributes:

- *Hydro Line Type (feature\_type)* – Type of linear hydro feature
- *Hydro Line Name (feature\_name)* – Name of linear hydro feature, if applicable

##### USGS 3DHP Hydro Areas (hydro\_areas) with attributes:

- *Hydro Area Type (feature\_type)* – Type of area hydro feature
- *Hydro Area Name (feature\_name)* – Name of area hydro feature, if applicable

#### NRCS SSURGO Soil Information (soil\_information)

Soil data were downloaded from the NRCS Web Soil Survey and consolidated into a single feature class with relevant attributes, including:

- *Map Unit Name (MUNAME)* – Soil unit name
- *Map Unit Symbol (MUSYM)* – Soil unit symbol
- *Map Unit Key (MUKEY)* – Key linking to the official SSURGO database
- *Geomorphic Description (GEOMORPH\_DESC)* – For major soil component
- *Surface Texture (SURF\_TXT)* – Topsoil component texture
- *Soil Drainage (SOIL\_DRAIN)* – Drainage class for major soil component
- *Depth to Bedrock (DEPTH@BR)* – In centimeters
- *Shrink-Swell Potential (SS\_POT)* – Derived from soil linear extensibility to 60 cm
- *Trail and Path Suitability (PATH\_SUIT)* – Weighted suitability score assigned to each soil component, ranging from 1.0 (highest) to 0.01 (lowest).

#### Tax Parcels (parcel\_data)

County tax parcel data depicting parcel ownership, with attributes:

- *Parcel ID (PARCEL\_ID)* – Identifier linking back to source parcel database
- *Parcel Owner (OWNER)* – Public and business names only; individual private owner names omitted

#### Bedrock Outcrops, 1:100,000 scale (bedrock\_outcrops)

For the Superior Falls and Black River properties only, bedrock outcrops extracted from 1:100,000-scale geologic map data, with attribute:

- *Notes (NOTES)* – Geologic unit information

**Elevation Derivatives (USGS 3DEP)** *Not available in KML/KMZ format.*

Raster datasets derived from USGS 3DEP LiDAR at approximately 1-meter cell resolution, including:

- 1 Meter Digital Elevation Model
- 1 Meter Hillshade
- 1 Meter Slope Map – Classified into three categories: minimal, moderate, and extreme

**Trail Trace (noco\_trail) clipped to area of interest with attribute:**

- *Notes (NOTES)* – Descriptive text, if applicable

### Site Visit Data

For Augusta Prairie, Black River, and Superior Falls properties only.

**Site Visit GPS Tracklog Points (gps\_tracklog) with attributes:**

- *Date and Timestamp (GMT) (DT\_STAMP)* – Date and time of GPS point
- *Elevation (meters) (ELEV)* – Elevation at GPS point

**Site Visit Photos (site\_visit\_pics) with attributes:**

These photos are a low-resolution subset of the complete site visit photo data packages.

*Not available in KML/KMZ format.*

To view photos in ArcGIS Pro, click on photo point using the Explore tool, photos will appear in the pop up window. To view photos in QGIS, click on the point using the Identify tool, expand (Actions) in the popup window, and click “View photo in default system viewer”.

- *Photo Name (Name)* – JPG image name
- *Date & Time (GMT) (DateTime)* – Date and time of photograph
- *View Direction (Direction)* – Azimuth of photo view
- *Longitude (X)* – Longitude of photo location
- *Latitude (Y)* – Latitude of photo location
- *Elevation (meters) (Z)* – Elevation of photo location
- *Photographer (Photographer)* – Name of photographer
- *Caption (Caption)* – Description of photo

**Related Site Visit Photos Table (site\_visit\_pics\_tbl)**

*Not available in KML/KMZ format.*

Photographs stored as attachments in BLOB format and related to photo point features. Attributes include:

- *Relate ID (REL\_OBJECTID)* – Key field relating to photo point features
- *Attachment Type (CONTENT\_TYPE)* – Image content type
- *Photo Name (ATT\_NAME)* – Attachment name
- *Photo Size (DATA\_SIZE)* – File size in bytes
- *Data Type (DATA)* – Attachment data type (BLOB)

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## Gap Map Description

The Gap Map data packages contain geologic map footprint, parcel ownership, and hydrography information for NOCO gaps 634 and 659.

### Included Data Layers-

**Gaps 634 & 659 (noco\_gaps) with attribute:**

- *Gap ID (GAP\_ID)* – Identifier for each gap area

**Trail Trace (noco\_trail) clipped to area of interest with attribute:**

- *Trail Type (TRAIL\_TYPE)* – Type of trail surface

**Hydrography (USGS 3DHP)** *Not available in KML/KMZ format.*

Hydrography data include linear and polygonal hydro features derived from the USGS 3D Hydrography Program (3DHP) and are clipped to an area of interest that contains both gap areas.

**USGS 3DHP Hydro Lines (hydro\_lines) with attributes:**

- *Hydro Line Type (feature\_type)*
- *Hydro Line Name (feature\_name)*

**USGS 3DHP Hydro Areas (hydro\_areas) with attributes:**

- *Hydro Area Type (feature\_type)*
- *Hydro Area Name (feature\_name)*

**Geologic Map Footprints (noco\_map\_footprints)**

Footprints represent available geologic mapping intersecting the gap areas and include attributes:

- *Footprint ID (FootPrint\_ID)* – Unique identifier
- *Map Name (Map\_Name)* – Map title
- *Publication Year (Year)* – Publication date
- *Map Scale (Scale)* – Map scale
- *Map Type (Type)* – Map type (e.g., bedrock, surficial)
- *GIS Data (GIS\_Data)* – Indicates availability of GIS data
- *Map Reference (Reference)* – Official citation
- *Notes (Notes)* – Additional information
- *NGMDB Link (Map\_URL)* – Link to the USGS National Geologic Map Database

**Lake and St. Louis County Tax Parcels (parcel\_areas) that overlap with each gap area and include attributes:**

- *Parcel ID (PARCEL\_ID)* – Identifier linking to source parcel data
- *Parcel Owner (OWNER)* – Public and business owners only

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### Source Map Table

A stand-alone source map information table containing reference information for all data sources used in the development of these products is included in geodatabases and geopackages for all datasets described above. Attribute field definitions follow the [NPS Datastore - GRI Geology - GIS Data Model](#), available from the NPS Data Store.

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### Data Limitations and Accuracy

Users of this data are cautioned regarding the locational accuracy of features and should not assume that features are precisely located as displayed in GIS software. Refer to the positional accuracy and use constraints sections of the FGDC metadata for additional information.

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### Accessing GRI Data

GRI digital geologic-GIS data are available through the NPS Data Store Search Application:

- <http://irma.nps.gov/App/Reference/Search>

To locate GSRI data, select the appropriate park(s), enter “GRI” as a search term, and run the search.

For a complete listing of GSRI products and direct download links, visit:

- [http://go.nps.gov/gri\\_products](http://go.nps.gov/gri_products)

For additional information about the Geologic and Soil Resources Inventory Program, visit:

- <https://www.nps.gov/subjects/geology/gri.htm>

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## Contact Information

To provide feedback or inquire about using and/or obtaining GSRI products, contact:

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