

MnModel Visibility Viewshed, Minnesota

This page last updated: 09/09/2019
Metadata created using [Minnesota Geographic Metadata Guidelines](#)

Go to Section:

1. [Overview](#)
2. [Data Quality](#)
3. [Data Organization](#)
4. [Coordinate System](#)
5. [Attributes](#)
6. [Distribution](#) - [Get Data](#)
7. [Metadata Reference](#)

Section 1: Overview

Originator: Minnesota Department of Transportation

Title: MnModel Visibility Viewshed, Minnesota

Abstract: This dataset represents a 10m visibility raster calculated using the ArcGIS Viewshed2 tool and a custom set of tools in Python.

Purpose: The purpose of this dataset is to provide MnModel Phase 4 (Mn/Model4) with a visibility raster that can help assess the potential for archaeological sites based on the visibility of any location within the terrain.

These data were used for predicting the potential for finding unknown archaeological sites early in the transportation construction planning process, so that impacts on these sites can be avoided.

For more information please visit MnModel's website: <https://www.dot.state.mn.us/mnmodel/index.html>

Time Period of Content Date:

Currentness Reference: 2011-2016

Progress: Complete

Maintenance and Update Frequency: None Planned

Spatial Extent of Data: Minnesota

Bounding Coordinates:-97.508970

-89.028990

49.652543

43.192405

Place Keywords: Minnesota plus 10km buffer zone.

Theme Keywords: elevation, Viewshed, Visibility, LiDAR, Mn/Model4, MnModel

Theme Keyword Thesaurus: ISO 19115 Topic Category

Access Constraints: None

Use Constraints: This dataset is best suited for general reference only. It is not suitable for precise land measurements or ground surveys.

Contact Person Information: Andra Mathews, Research Analyst Intermediate
Minnesota Department of Transportation, Office of Environmental Stewardship
395 John Ireland Blvd, Mail Stop 620
St. Paul, MN 55155
Phone: 651-366-3593
Email: andra.mathews@state.mn.us

Browse Graphic: [Click to view a data sample.](#)

Associated Data Sets: Please visit the MnModel website for more information: <https://www.dot.state.mn.us/mnmodel/index.html>

Section 2: Data Quality

Attribute Accuracy:

Logical Consistency: All data were processed in as close to the same methods as possible.

Completeness: LiDAR source data were available for the entire state boundary extent. For the 10-kilometer buffer, LiDAR data was used where available, but if not available, older USGS NED 10 meter DEM data was used to fill in.

Horizontal Positional Accuracy: +/- 33 ft, or approximately 1 raster cell.

Vertical Positional Accuracy: Surface elevation vertical accuracy is +/-2 ft

Lineage: VISIBLE was created by processing the MnModel Phase 4 conditioned 10 m digital terrain model (DTM10COND) with the Viewshed2 tool, then dividing up the state into 1,130 10mile x 10mile processing extents, and creating observer points at 1-kilometer spacings, and using an outer radius of 3 miles (4,828 meters). The outer radius of 3 miles created a 3-mile overlap in all directions between the processing extents. The final step was to mosaic all 1,130 processing extents together into a single raster using the MAXIUM operator with the Mosaic to New Raster Tool. The visibility raster values are the total count of observer points visible in all directions from each raster cell.

Please visit the MnModel website for more information: <https://www.dot.state.mn.us/mnmodel/index.html>

Section 3: Spatial Data Organization (not used in this metadata)

Section 4: Coordinate System

Horizontal Coordinate Scheme: Universal Transverse Mercator

UTM Zone Number: 15

Horizontal Datum: NAD83

Horizontal Units: meters

Vertical Datum: not applicable

Vertical Units:

Depth Datum: not applicable

Depth Units:

Section 5: Attributes

Overview: The visibility raster values are the total count of observer points, within three miles, visible in all directions from each raster cell.

Detailed Citation:

Table Detail:

Section 6: Distribution

Publisher: Minnesota Department of Transportation

Publication Date:08/28/2019

Contact Person Information: Andra Mathews, Research Analyst Intermediate
Minnesota Department of Transportation, Office of Environmental Stewardship
395 John Ireland Blvd, Mail Stop 620
St. Paul, MN 55155
Phone: 651-366-3593
Email: andra.mathews@state.mn.us

Distributor's Data Set Identifier: MnModel Visibility (VISIBILITY)

Distribution Liability: USE OF THIS DOCUMENT IS SUBJECT TO MNDOT'S DISCLAIMERS, LEGAL NOTICES AND POLICIES FOUND at <http://www.dot.state.mn.us/information/disclaimer.html>

Ordering Instructions: Please visit the download page for this dataset on the Minnesota Geospatial Commons website using the web link below (Online Linkage).

The following citation is suggested for reference: Minnesota Department of Transportation. Mn/Model4: Visibility (Viewshed). Saint Paul, MN.: Cultural Resources Unit, Office of Environmental Stewardship, 2018.

Online Linkage: I [AGREE](#) to the notice in "Distribution Liability" above. Clicking to agree will either begin the download process, link to a service, or provide more instructions. See "Ordering Instructions" above for details.

Section 7: Metadata Reference

Metadata Date:09/09/2019

Contact Person Information: Andra Mathews, Research Analyst Intermediate
Minnesota Department of Transportation, Office of Environmental Stewardship
395 John Ireland Blvd, Mail Stop 620
St. Paul, MN 55155
Phone: 651-366-3593
Email: andra.mathews@state.mn.us

Metadata Standard Name: Minnesota Geographic Metadata Guidelines

Metadata Standard Version: 1.2

Metadata Standard Online

Linkage:<http://www.mngeo.state.mn.us/committee/standards/mgmg/metadata.htm>

