

National Elevation Dataset (NED) 1/9 Arc Second Readme

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INTRODUCTION:

The National Elevation Dataset (NED) is the primary elevation data product produced and distributed by the USGS. The NED provides the best available public domain raster elevation data of the conterminous United States (U.S.), Alaska, Hawaii, and U.S. territorial islands, Mexico, and portions of Canada in a seamless format. The NED is derived from diverse source data, processed to a common coordinate system and unit of vertical measure. All NED data are distributed in geographic coordinates in units of decimal degrees, and in conformance with the North American Datum of 1983 (NAD83). All elevation values are provided in units of meters, and are referenced to the North American Vertical Datum of 1988 (NAVD88) over the conterminous United States. The vertical reference will vary in other areas. NED data are available nationally at resolutions of 1-arc-second (approx. 30 meters) and 1/3-arc-second (approx. 10 meters), and in limited areas at 1/9-arc-second (approx. 3 meters). At present, the bulk of Alaska is only available at a 2-arc-second (approx. 60 meters) resolution, owing to a lack of higher resolution source data, though some areas are available at resolutions of 1-, 1/3-, and 1/9-arc-second with plans for significant upgrades of the state over the next five years. The NED is updated on a nominal two month cycle to integrate newly available, improved elevation source data.

The NED serves as the elevation layer of *The National Map*, and provides basic elevation information for earth science studies and mapping applications in the United States. The data are utilized by the scientific and resource management communities for global change research, hydrologic modeling, resource monitoring, mapping and visualization applications.

Part 1: DATA INFORMATION

Development of the NED required the merging of over 50,000 different DEM data files. A processing system was designed to assemble a seamless dataset from multiple data sources, resolutions, and production methods. Procedures were developed to maintain the database with periodic updates and to insure the integration of higher resolution elevation data as they become available. A raster data model referenced to a geographic grid was used for NED. Individual files are appended together into the larger tile structure specified for the database. Edge matching, a 6 pixel overlap to ensure no gaps or issues when users perform functions like reprojection to the data, and metadata generation are applied lastly in assembling each NED tile.

NED Homepage is <http://ned.usgs.gov>

NED19_readme

Part 2: DATA SPECIFICATIONS

Cell size: 1/9-arc-second
Raster type: Pixel
Projection: Geographic
Datum: NAD83
Units: Decimal Degrees
Zunits: Meters
Spheroid: GRS1980

Part 3: CONTENTS OF FOLDERS

The NED 1/9-arc-second data are .zip bundles elevation project areas by quarter of a degree in .img format. The naming convention of the folders utilizes the latitude and longitude coordinates and the project name and year of acquisition. The coordinate represents the upper left (northwest) corner of the grid. The zip bundles contain the .img file, xml metadata, associated shape file, NED 1/9 Data Dictionary, and NED19_readme.

Example: ned19_n40x25_w074x50_nj_mercerco_2008

ned19 = Elevation Product

n40x25_w074x50 = North Latitude of 40.25 degrees
West Longitude of 74.50 degrees.
This is the upper left corner coordinate.

Area within this tile covers
N 40.50 degrees top boundary,
N 40.25 degrees bottom boundary,
W 74.50 degrees left boundary,
W 74.25 degrees right boundary.

Data Project name: nj_mercerco - New Jersey Mercer County project

Data acquisition year: 2008

Part 4: INDEX INFORMATION

Indices provided include the quarter degree are of the NED 1/9-arc-second project area.

Indices are available providing data source information of the areas that were processed into NED, giving "best available" elevation data. The indices can be found at:

<http://ned.usgs.gov/downloads.asp>

The attributes include data source quadname, production method, original creation date, resolution, etc. Descriptions of the attribute information is in the NED Data Dictionary. This can be downloaded from:

<http://ned.usgs.gov/downloads.asp>

NED19_readme

Part 5: RESOURCE INFORMATION

NED Homepage is:

<http://ned.usgs.gov>

Metadata indices, the NED Data Dictionary, and the NED Release Notes available at:

<http://ned.usgs.gov/downloads.asp>

To acquire NED 1/9-arc-second data go to:

<http://nationalmap.gov/viewer.html>

To acquire entire datasets via Bulk Data Distribution:

email: bulkdatainfo@usgs.gov

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