National Elevation Dataset (NED) Seamless Layers ReadmeTable of Contents

INTRODUCTION:

http://ned.usgs.gov/about.html

The National Elevation Dataset (NED) is a raster product assembled by the U.S. Geological Survey. NED is designed to provide National elevation data in a seamless form with consistent datums, elevation unit, and coordinate reference system. The NED assembly process involves edge matching and mosaicking elevation data into NED layers. Seamless NED layers are available at the following resolutions: one third arc-second (approximately 10 meters) resolution for the conterminous United States and portions of Alaska, one arc-second (approximately 30 meters) for the conterminous United States, Hawaii, Puerto Rico, U.S. territorial islands, Mexico, and Canada, and a resolution of two arc-second (approximately 60 meters) resolution is available for all of Alaska.

In addition to seamless elevation layers, NED is also available at a one ninth arc-second (approximately 3 meters) resolution. The NED one ninth arc-second layer is not seamless. At this time the one ninth arc-second NED layer does covers only a portion the United States. No blending, edge matching or mosaicking is performed between projects. Individual projects are delivered to the original project boundary.

NED data sources have a variety of elevation units, horizontal datums, and map projections. In the NED assembly process the elevation values are converted to a common coordinate reference system and units. Decimal meters are the units for elevation values, NAD83 is the horizontal datum, and all the data are recast in a geographic coordinate system.

Older source DEM's produced by methods that are now obsolete have been filtered during the NED assembly process to minimize artifacts that are commonly found in data produced by these methods. Artifact removal greatly improves the quality of the slope, shaded-relief, and synthetic drainage information that can be derived from the elevation data. NED processing also includes steps to adjust values where adjacent DEM's do not match well, and to fill sliver areas of missing data between DEM's. These processing steps ensure that NED has no void areas and minimal artificial discontinuities. The artifact removal filtering process does not eliminate all of the artifacts. In areas where the only available DEM is produced by older methods, then "striping" may still occur.

These original elevation files are currently available from the USGS at http://earthexplorer.usgs.gov. All NED products are distributed through *The National Map*.

Part 1: DATA INFORMATION

The processing system for the NED Seamless Layers is designed to assemble a seamless dataset from multiple data sources, resolutions, and production methods. Procedures have been developed to maintain the database with continuous updates and to insure the integration of higher resolution elevation data as they become available. A raster data model referenced to a geographic grid is used for NED Seamless Layers. The data in the Seamless Layers of the NED are distributed in a 1x1 degree tile structure. This tile structure has a 6 pixel overlap between each tile. The NED dataset currently achieves complete national coverage by integrating the "best" available data. Even with the "best" available, there could be a wide range of source dates and some artifacts in the source data. It is important to remember that the NED data is only as good as the original source data, and "best available" is not synonomous with "best obtainable".

In addition to a raster tile being provided for each one degree block of the NED Seamless Layers, specific xml metadata are provided for that area in a zipped package. . The NED homepage is http://ned.usgs.gov

PART 2: CONTENTS OF FOLDERS

The NED data is stored in 1 x 1 degree tiles in ArcGRID, GRIDFLOAT or IMG format. Each tile covers a 1x1 degree area of the earth's surface. The naming convention of the folders utilizes the latitude and longitude coordinates. The coordinate represents the upper left (northwest) corner of the grid. Directory Name: The coordinate of the upper left corner of the grid. Sub Directory: The format, the upper left corner coordinate, and resolution Sub Directory: info (for the ARCGRID Format) Metadata file

Example:
n40w110: North Latitude of 40 degrees and West Longitude of 110 degrees. This is the upper left corner coordinate. Area within this tile covers N 40 degrees top boundary, N 39 degrees bottom boundary, W 110 degrees left boundary, W 109 degrees right boundary. grdn40w110_1 (2 or 13): data is ARCGRID format within the bounding coordinates and is 1 Arc Second resolution (2 Arc Second or 1/3 Arc Second)

OR

floatn40w110_1 (2 or 13): data is GRIDFLOAT format within the bounding coordinates and is 1 Arc Second resolution (2 Arc Second or 1/3 Arc Second). Includes .prj and .hdr files.
OR

imgn40w110_1 (2 or 13): data is img format within the bounding coordinates and is 1 Arc Second resolution (2 Arc Second or 1/3 Arc Second).
AND
n40w110_1_meta.xml: metadata for 1 x 1 degree area.

PART 3: INDEX INFORMATION

Indices available: The complete data source information of the areas that were processed into NED. example: meta1212_shape The data source information of the updated areas that were processed into NED example: ned_update_201212_shape The 1 x 1 degree tiles updated.

example: ned_1x1_1212_shape

Indices describing the NED source data are available at: http://ned.usgs.gov/downloads.asp.

PART 4: RESOURCE INFORMATION

NED Homepage: http://ned.usgs.gov
Metadata indices, the NED Data Dictionary, and NED Release Notes are available at: http://ned.usgs.gov/downloads.asp.