

NED Release Notes

April 2007

The April 2007 release of the National Elevation Dataset (NED) represents the 40th update of the 1-arc-second NED layer since the bi-monthly maintenance schedule began in June 2000. This release includes existing source data and all new 7.5-minute digital elevation models (DEMs) available in the USGS DEM Database as of February 15, 2007. Non-standard (non-USGS) source data are also included in this release. Areas where the new source data were incorporated for this release (and previous releases) are indicated in Figure 1. Lidar data for central and eastern Maryland were used as source data in the development of the NED 1/9 layer shown in Figure 2.

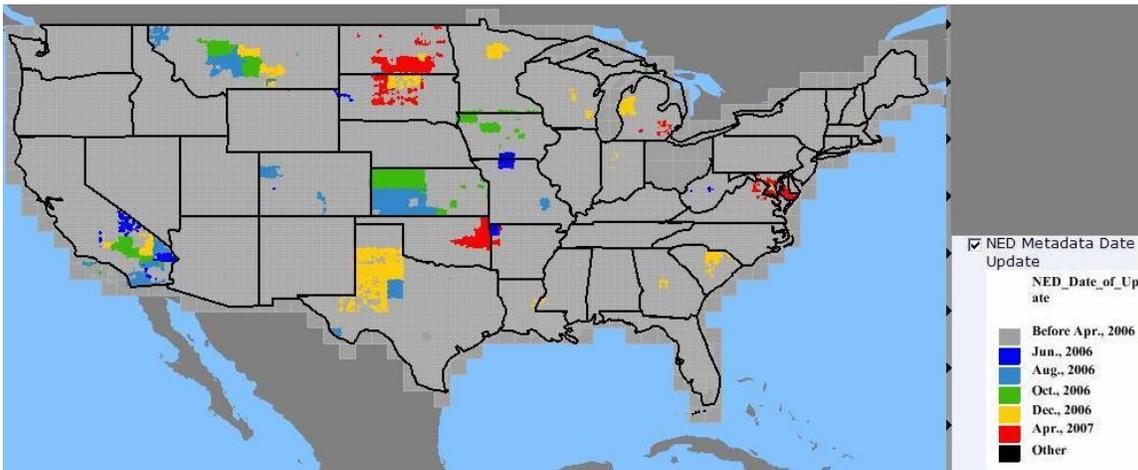


Figure 1. 1-arc-second NED update areas, by release date.

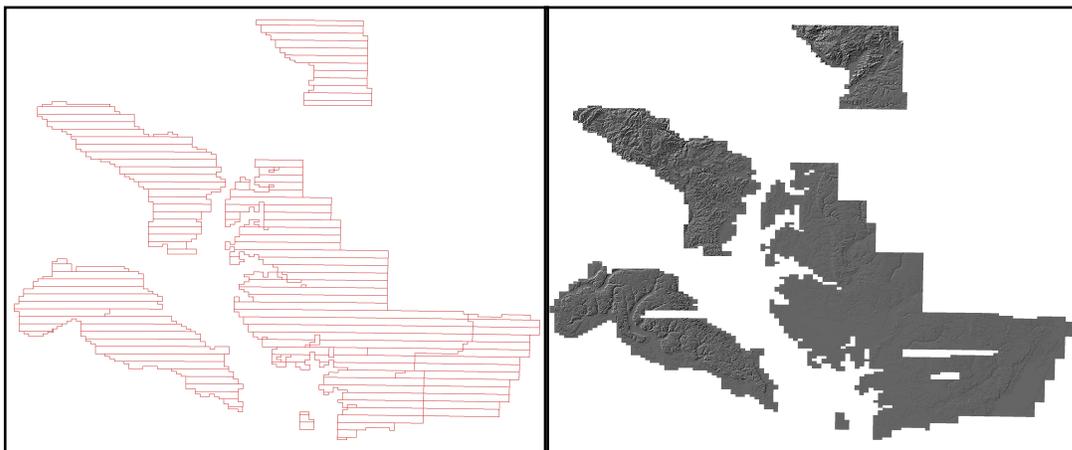


Figure 2. Maryland Lidar footprints and NED 1/9 DEM shaded relief.

NED Tile Processing

NED is processed and stored internally as 1°x1° tiles. The number of tiles, and changes by release date, are listed in Table 1.

Release date	Number of tiles	Note
June 2000	1,367	CONUS: 925 tiles; AK: 428 tiles; HI: 14 tiles
April 2001	1,375	8 tiles added: Puerto Rico and Virgin Islands
June 2001	1,387	12 tiles added: Pacific islands
August 2001	1,392	5 tiles added: Pacific islands
February 2006	1,392	

Table 1. Number of NED tiles and changes, by release date.

For the current release, 96 tiles were updated, which represents 10% of NED (not including Alaska tiles). The number of NED tiles processed for each of the 40 releases is shown in Figure 3.

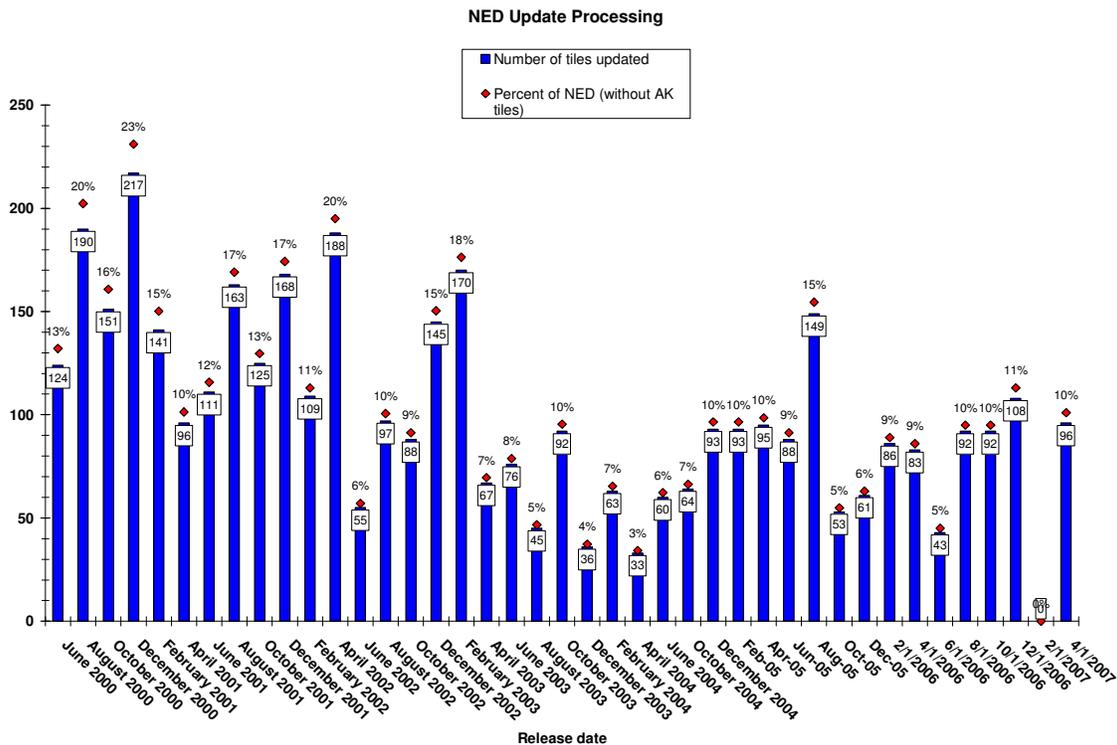


Figure 3. Number (and percentage) of NED tiles processed, by release date.

Source Data for the NED

Source data for the NED are selected from the available DEMs according to the following ranking (highest priority listed first): high-resolution elevation data, 10-meter and 1/3-arc-second USGS DEMs, 30-meter Level 2 USGS DEMs, 30-meter Level 1 USGS DEMs, 2-arc-second USGS DEMs, 3-arc-second USGS DEMs. Note that the 2-arc-second DEMs are used only in Alaska, and the 3-arc-second DEMs are used only to

fill in values over some large water bodies. The composition of the source data used in NED continued the trend seen in previous releases with 10-meter and 1/3-arc-second DEMs increasing and the corresponding decrease in 30-meter DEMs. Thus, the ongoing production of USGS 10-meter DEMs is reflected in each NED release. The percentages of NED derived from each type of source DEM for the 40 releases are shown in Figure 4. Note that the percentages in Figure 4 include source data at a 30-meter resolution or higher, so Alaska is not included.

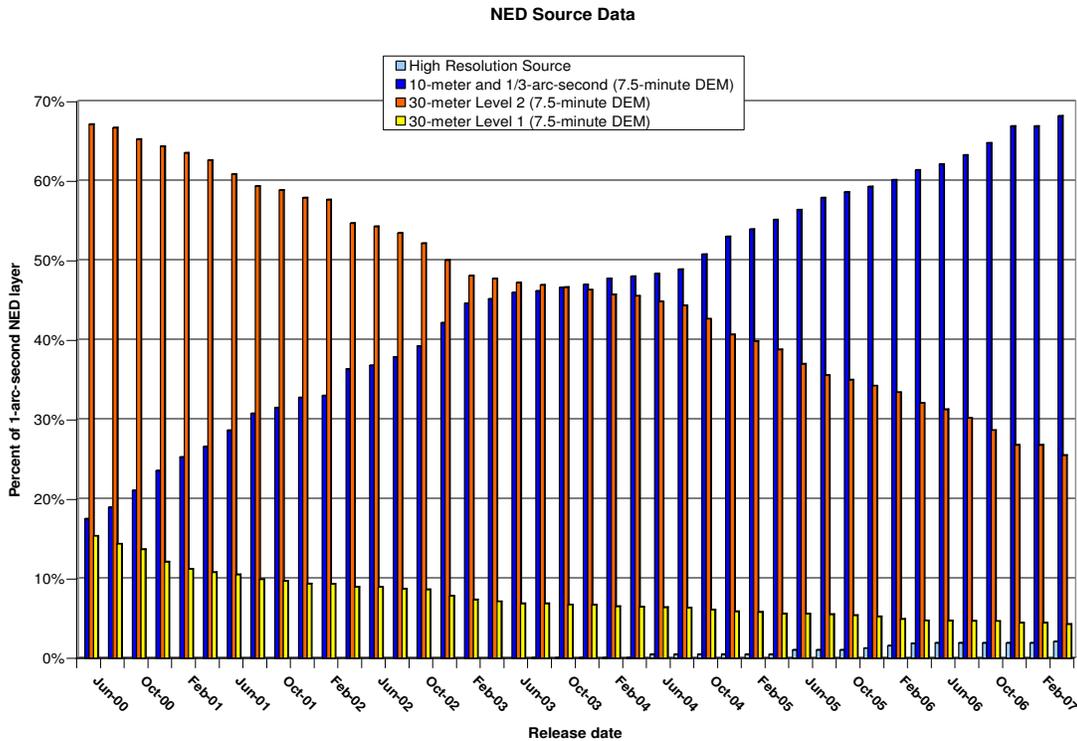


Figure 4. Source data (by DEM type) for 1-arc-second NED releases.

Multi-resolution NED

In addition to the standard 1-arc-second resolution, NED data for most of the continental United States are available in 1/3-arc-second resolution (approximately 10 meters). These higher resolution data have been produced where 10-meter DEMs and other high-resolution DEMs are available as NED source data. The current release of 1/3-arc-second NED (April 2007) includes all USGS 10-meter and 1/3-arc-second DEMs produced as of February 2007. Figure 5 shows the current coverage of 1/3-arc-second NED over CONUS. In addition, 1/3-arc-second NED is available over Hawaii and the Pacific basin islands. As with 1-arc-second NED, some of the 1/3-arc-second NED is derived from “non-standard” source data (data other than standard USGS 7.5-minute DEMs). As new source data (either high-resolution data or USGS 10-meter DEMs) become available, production of 1/3-arc-second NED will continue, and additional areas will be made available as they are completed. The data are available for download and on media copies through the seamless data distribution system (SDDS) (<http://seamless.usgs.gov>).

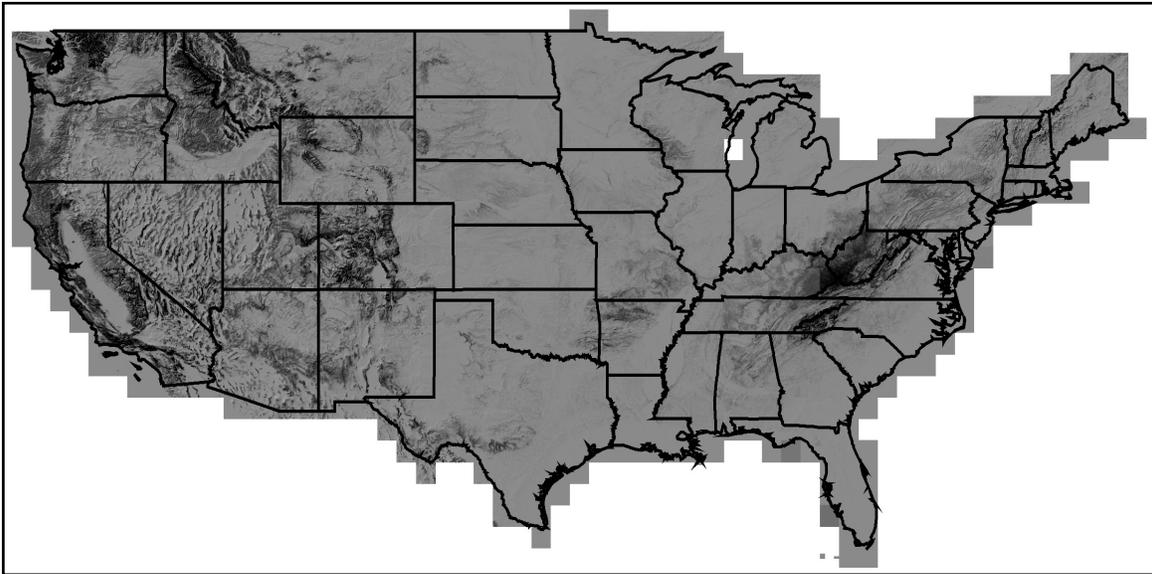


Figure 5. 1/3-arc-second NED available for distribution through the SDDS.

The 1/3-arc-second NED shown in Figure 5 currently covers approximately 95% of the United States (excluding Alaska). However, it is important to note that source data with a resolution of 10-meters or higher currently exists for only 66% of the United States (excluding Alaska), so a portion of the current 1/3-arc-second NED coverage is derived from oversampling of 30-meter DEM source data. The oversampling of 30-meter data occurs where no high-resolution (10-meter or better) data exist to fill in the 1°x1° tile unit in which NED is processed. Figure 6 shows the distribution of source data resolution within the current 1/3-arc-second NED coverage. The NED spatial metadata delivered with each order can be queried to determine the source data used to produce 1/3-arc-second NED over any given area. As new high-resolution source data become available, either 10-meter DEMs or other sources, the data derived from 30-meter DEMs will be replaced.

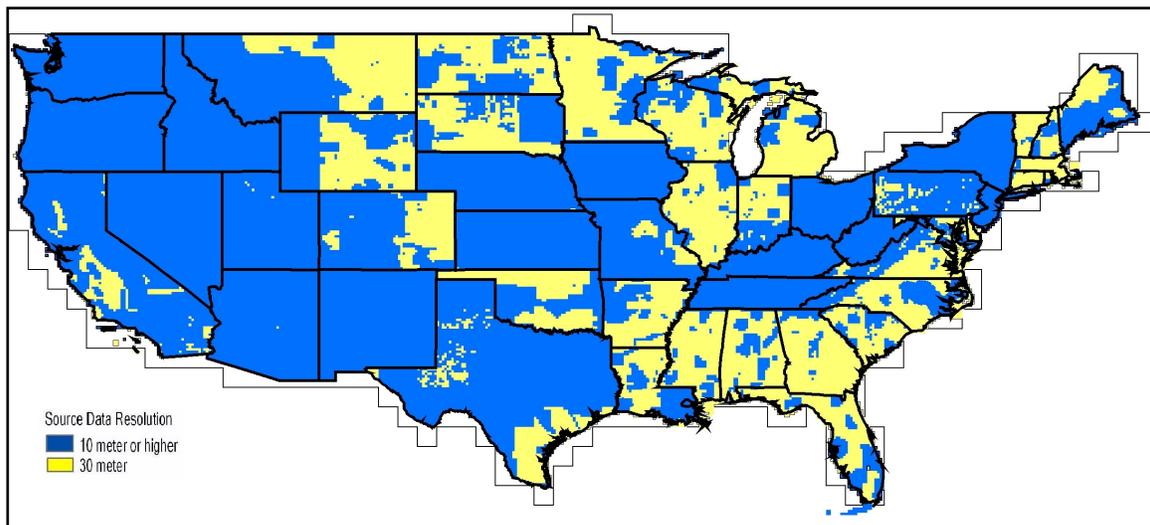


Figure 6. Source data used in the December 2006 release of 1/3-arc-second NED

NED Data Distribution Statistics

Data distribution statistics for 1-arc-second NED, 1/3-arc-second NED, and 1/9-arc-second NED are shown in Figure 7, Figure 8, and Figure 9, respectively.

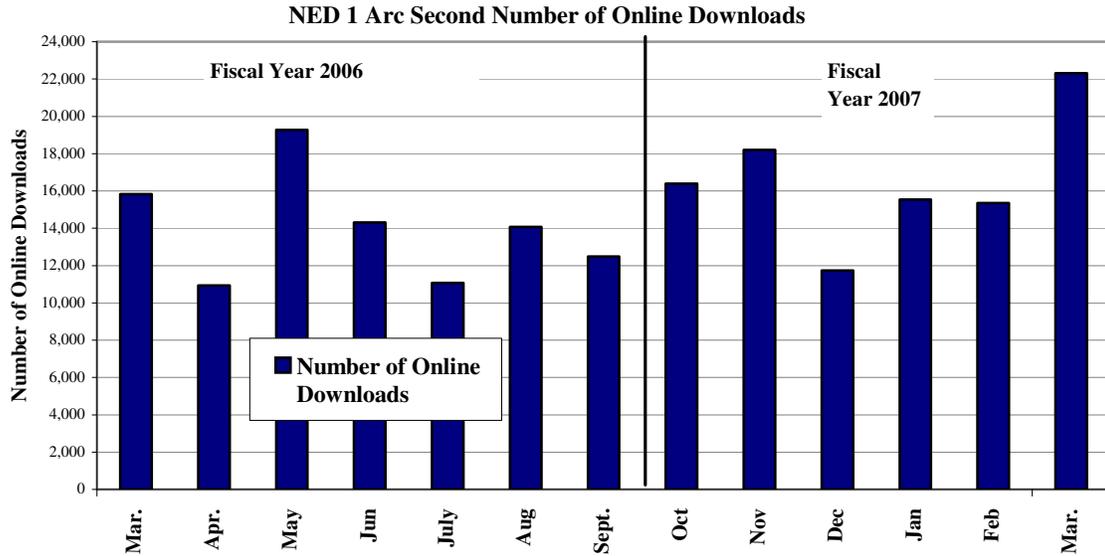


Figure 7. Data distribution statistics for 1-arc-second NED

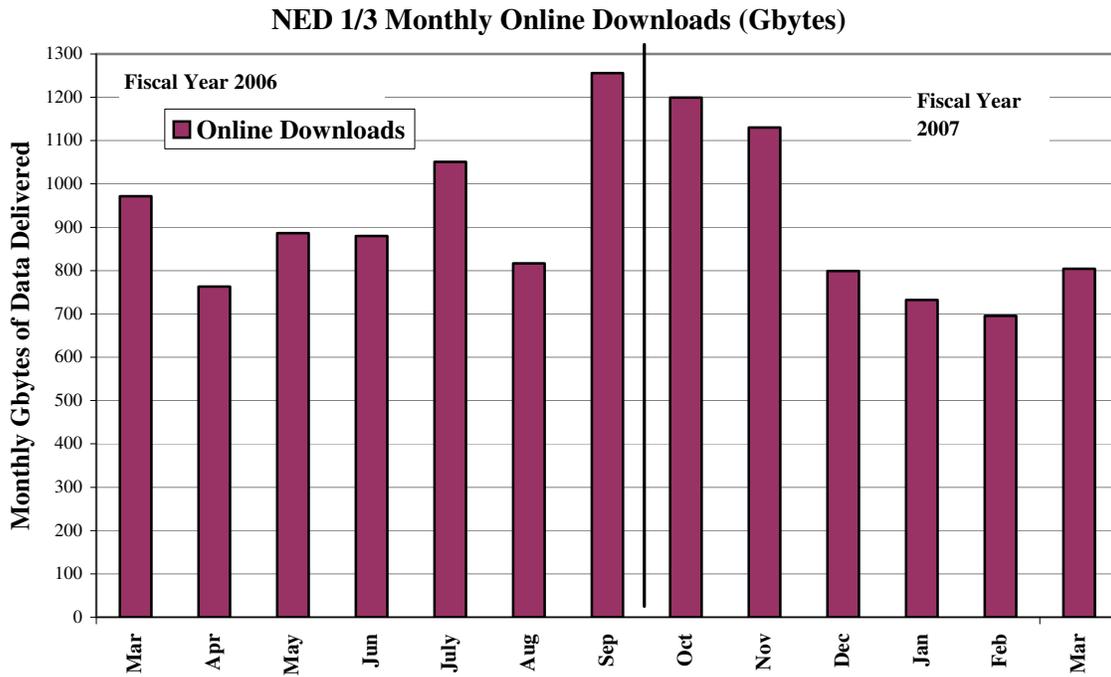


Figure 8. Data distribution statistics for 1/3-arc-second NED.

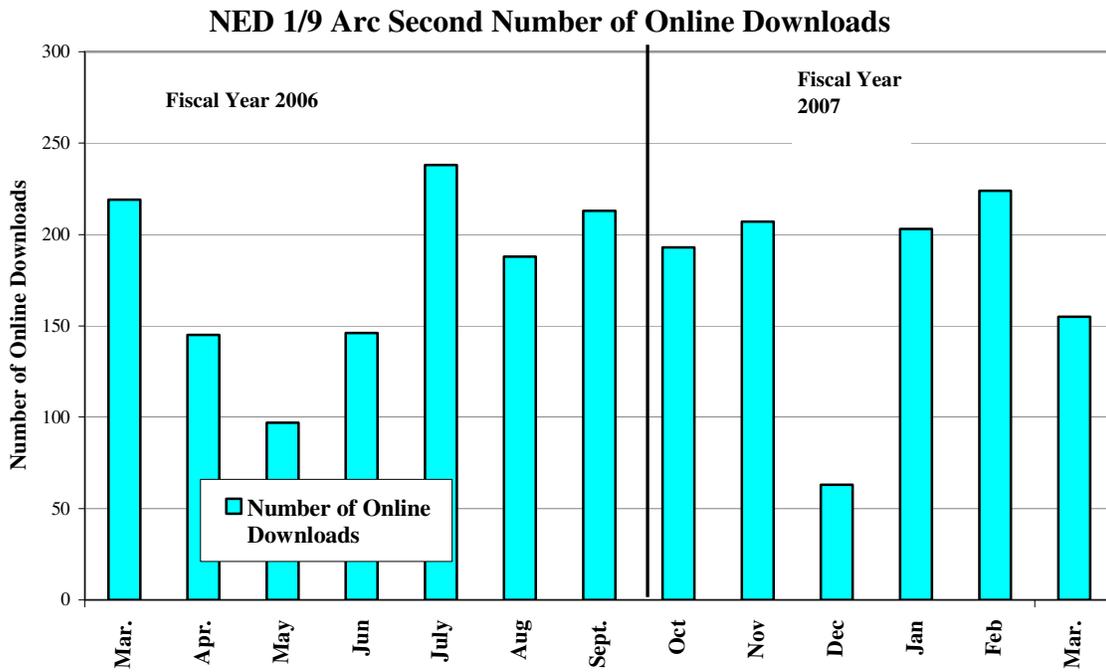


Figure 9. Data distribution statistics for 1/9-arc-second NED.

Notes

- The following are available from the NED Internet page: the NED spatial metadata in Shapefile and Arc Export (.E00) format, the NED data dictionary with definitions of the attributes of the spatial metadata coverage, previous issues of the NED Release Notes, and Shapefiles that outline the areas updated in the April 2007 and previous releases. The URL for these items is <http://ned.usgs.gov/Ned/metadata.asp>
- No new information was added to the FAQ list on the NED home page (<http://ned.usgs.gov>)