

NED Release Notes

October 2006

The October 2006 release of the National Elevation Dataset (NED) represents the 38th 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 September 21, 2006. 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. Figure 2 indicates the combined areas updated in the June 2006, August 2006, and October 2006 releases.

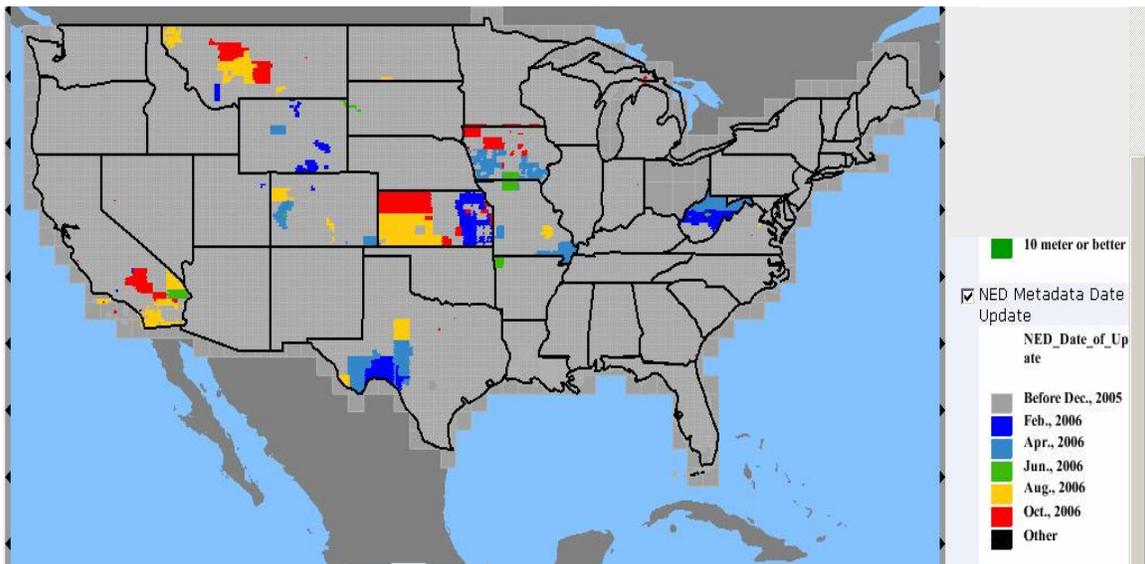


Figure 1. 1-arc-second NED update areas, by release date.

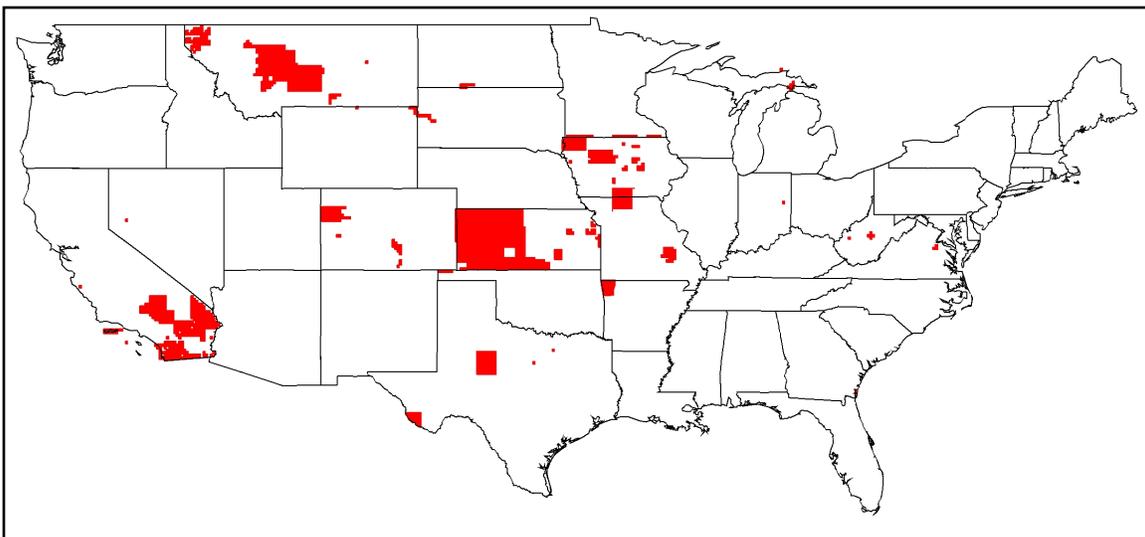


Figure 2. NED areas updated in June 2006, August 2006, and October 2006 releases.

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, 93 tiles were updated, which represents 10% of NED (not including Alaska tiles). The number of NED tiles processed for each of the 38 releases is shown in Figure 3.

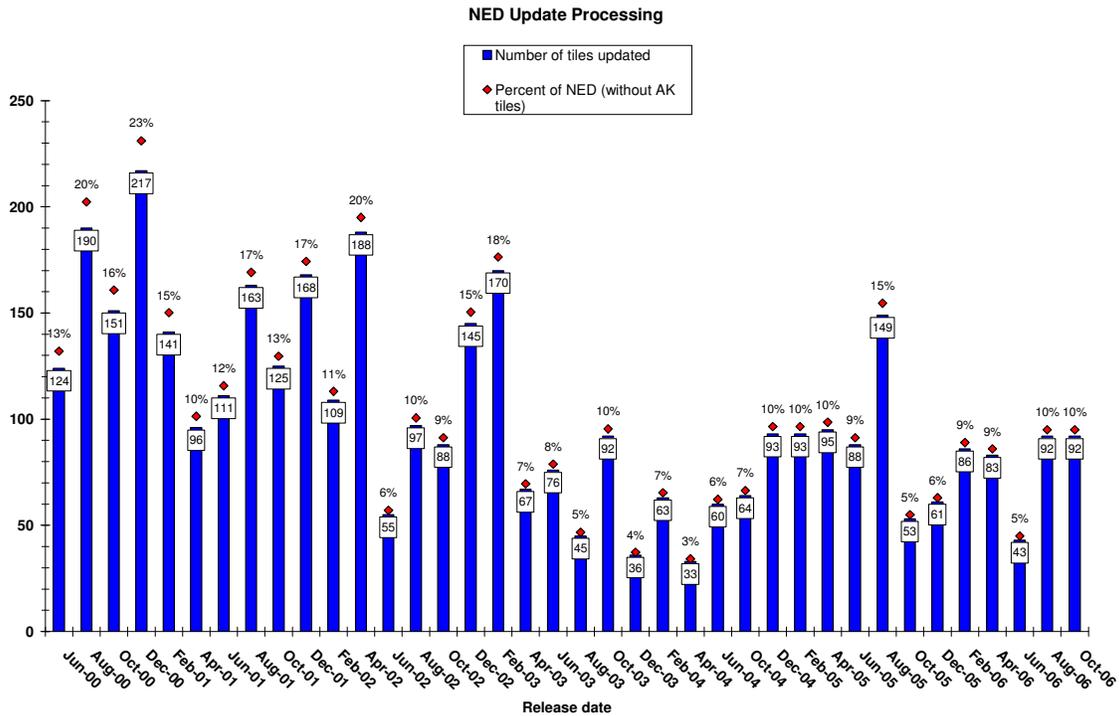


Figure 3. Number (and percentage) of NED tiles processed, by release date.

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 total for the 10-meter and 1/3-arc-second DEM source category includes 777 7.5-minute quadrangle-based DEMs over Kentucky, 532 quadrangle-based DEMs over Missouri, Kansas, and Iowa, and coverage of Ohio equivalent to 744 quadrangles. Although these DEMs are not standard USGS 10-meter DEMs because they were produced in non-standard projections, they were derived from the same 1:24,000-scale hypsography data as the 10-meter DEMs and thus have the equivalent information content. The high-resolution source category includes elevation data derived from photogrammetric mapping over Bexar County in central Texas and from the West Virginia state-wide mapping project. Lidar data over eastern North Carolina and southern Louisiana is also used. The area covered by these high-resolution data sources is equivalent to that covered by 1397 7.5-minute quadrangles. The percentages of NED derived from each type of source DEM for the 38 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.

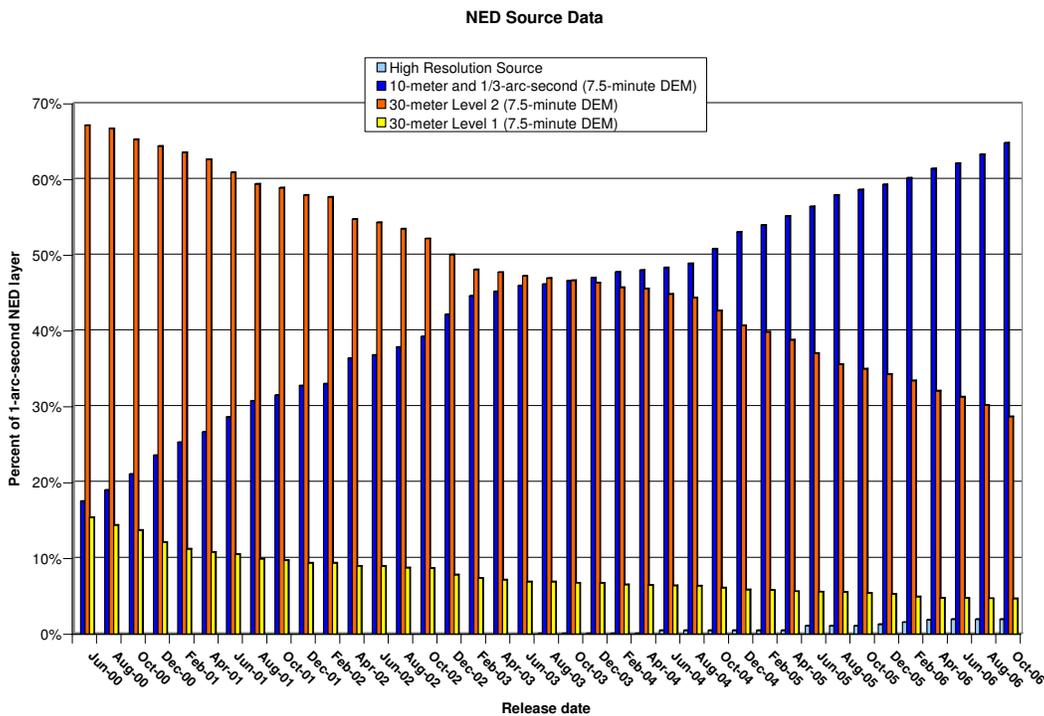


Figure 4. Source data (by DEM type) for 1-arc-second NED releases.

Multi-resolution NED

In addition to the standard 1-arc-second resolution, NED data for a portion of the 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 (October 2006) includes all USGS 10-meter and 1/3-arc-second DEMs produced as of

September 2006. 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). The four areas derived from non-USGS source data are Bexar County in south central Texas (photogrammetric data), eastern North Carolina (lidar data), northwestern Arkansas (Washington and Benton County (lidar data)), and southeastern Louisiana (lidar data). 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>).

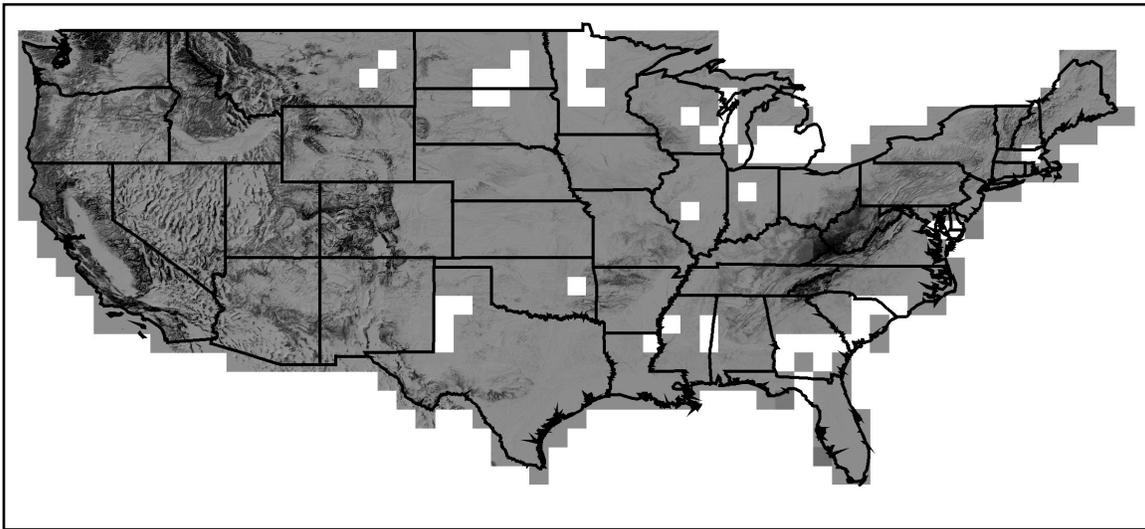


Figure 5. 1/3-arc-second NED available for distribution through the SDDS.

The 1/3-arc-second NED shown in Figure 5 currently covers approximately 83% 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.

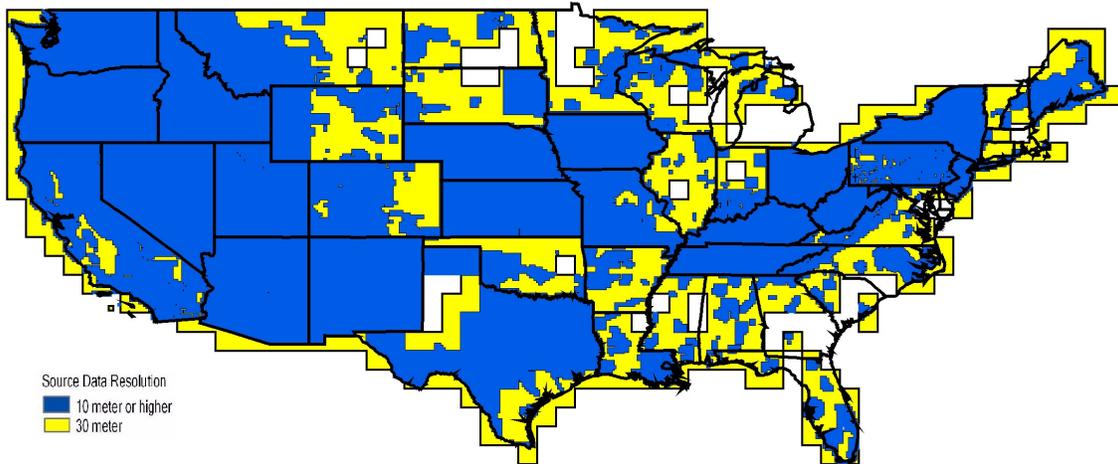


Figure 6. Source data used in the October 2006 release of 1/3-arc-second NED

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.

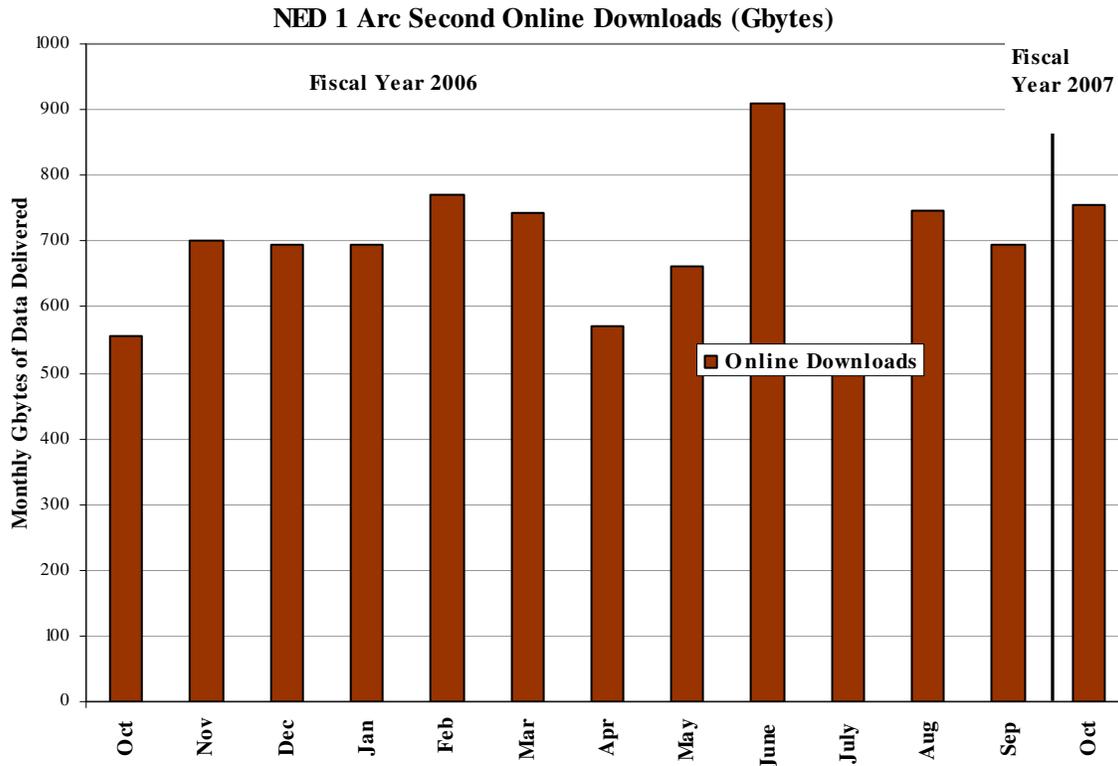


Figure 7. Data distribution statistics for 1-arc-second NED

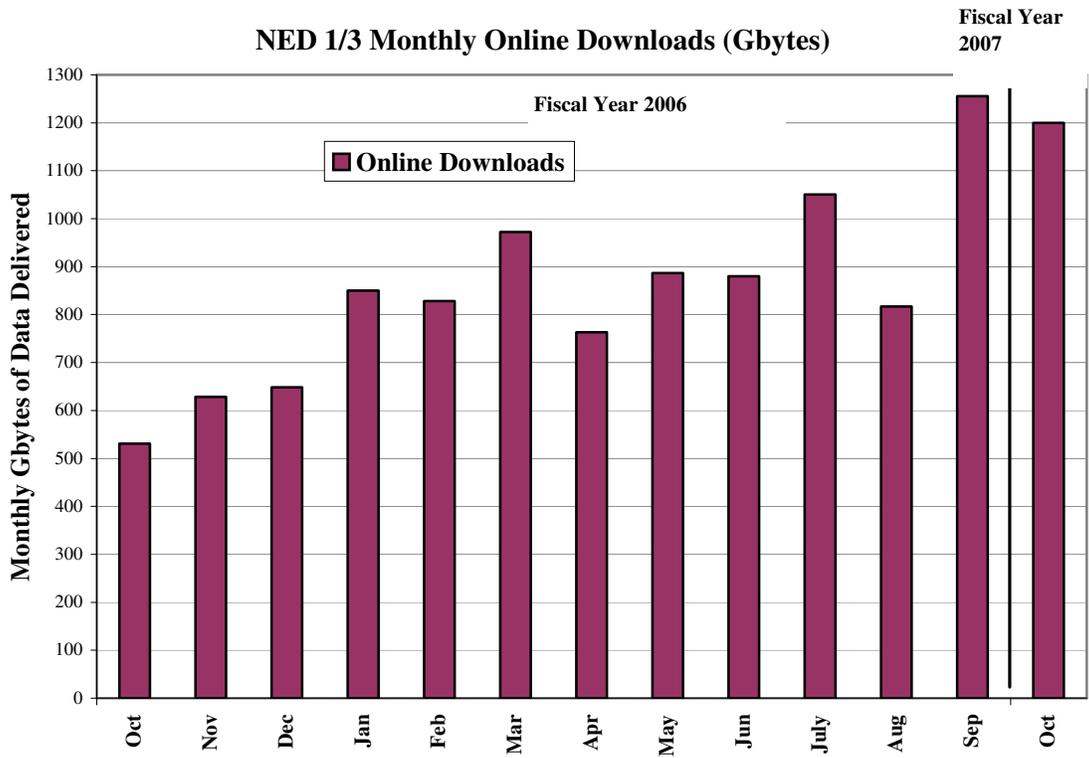


Figure 8. Data distribution statistics for 1/3-arc-second NED.

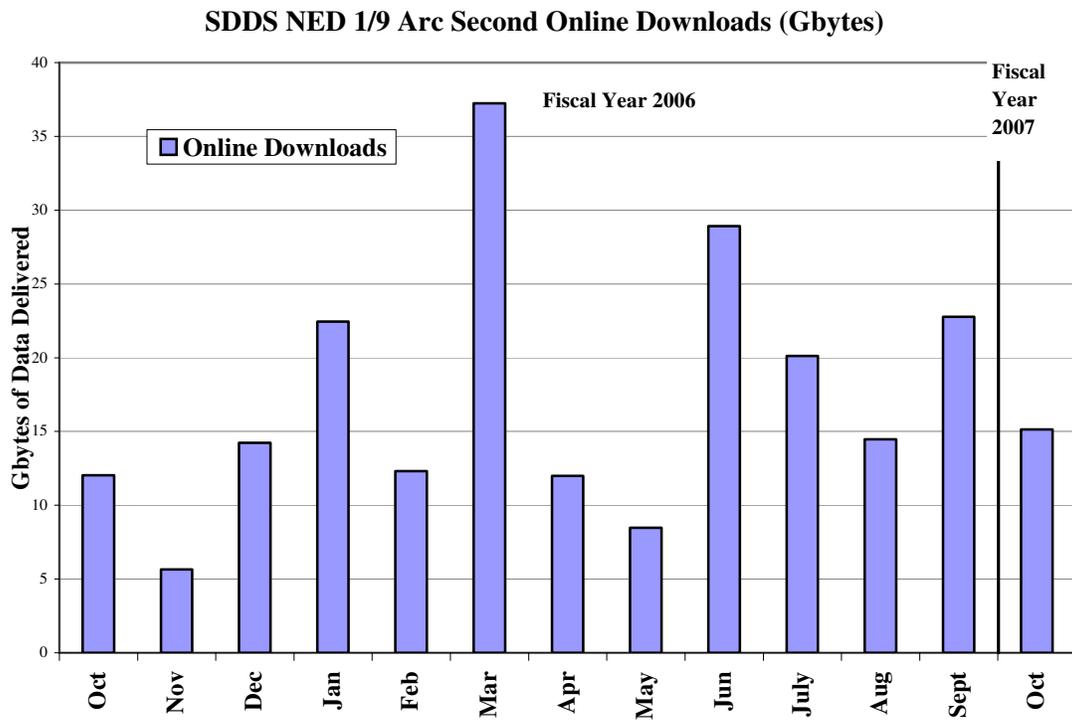


Figure 9. Data distribution statistics for 1/9-arc-second NED.

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 October 2006 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>)