

NED Release Notes

October 2002

The October 2002 release of the National Elevation Dataset (NED) represents the 15th update since the NED 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 Sales Database (SDB) as of September 1, 2002. 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 August 2002 and October 2002 releases.

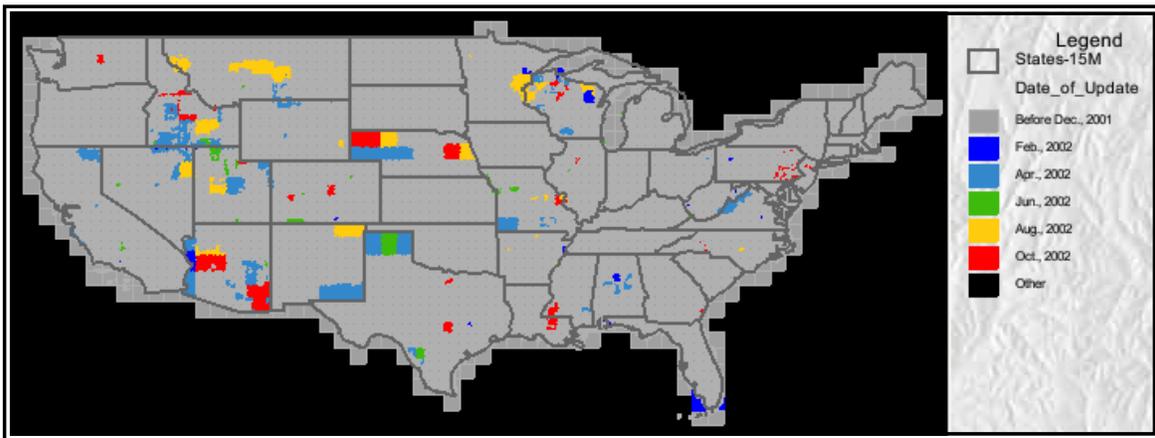


Figure 1. NED update areas, by release date.

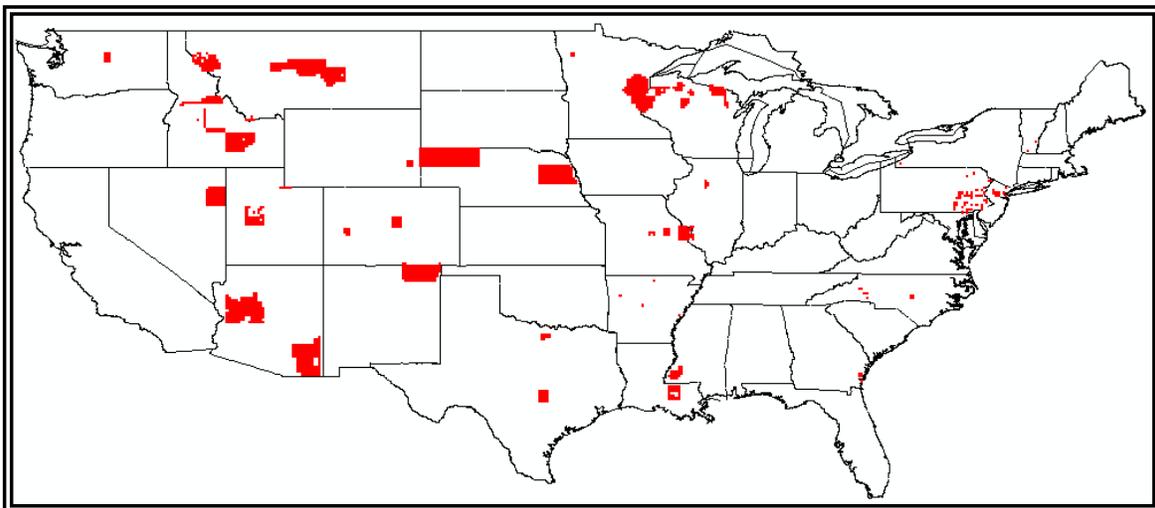


Figure 2. NED areas updated in August 2002 and October 2002 releases.

NED Tile Processing

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

| Release date | Number of tiles | Note |
|----------------|-----------------|---|
| June 2000 | 1,367 | CONUS: 925 tiles; AK: 428 tiles; HI: 14 tiles |
| August 2000 | 1,367 | |
| October 2000 | 1,367 | |
| December 2000 | 1,367 | |
| February 2001 | 1,367 | |
| 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 |
| October 2001 | 1,392 | |
| December 2001 | 1,392 | |
| February 2002 | 1,392 | |
| April 2002 | 1,392 | |
| June 2002 | 1,392 | |
| August 2002 | 1,392 | |
| September 2002 | 1,392 | |

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

For the current release, 88 tiles were updated, which represents 9% of NED (not including Alaska tiles). The number of NED tiles processed for each of the last 15 releases is shown in Figure 3.

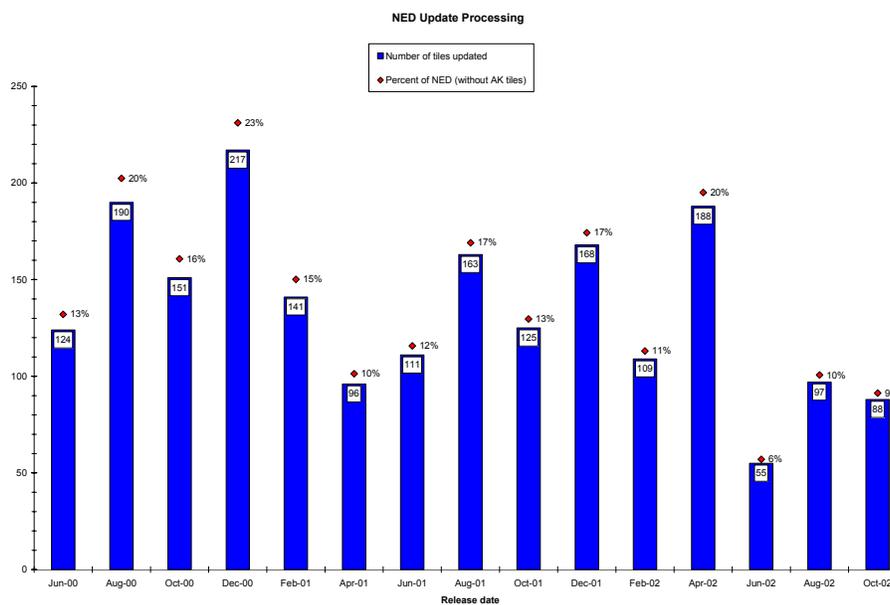


Figure 3. Number (and percentage) of NED tiles processed, by release date.

NED Source Data

NED source data are selected from the available USGS DEMs according to the following ranking (highest priority listed first): 10-meter, 30-meter Level 2, 30-meter Level 1, 2-arc-second, 3-arc-second. The composition of the source data used in NED continued the trend seen in previous releases with 10-meter increasing and the corresponding decrease in 30-meter. Thus, the ongoing production of USGS 10-meter DEMs is reflected in each NED release. The number of source DEMs (by type) and the percentage of NED derived from each type for each of the last 15 releases are shown in Figure 4 and Figure 5, respectively. Note that only 7.5-minute DEMs were included for Figures 4 and 5, so the totals and percentages do not include Alaska, which is derived from 2-arc-second source data.

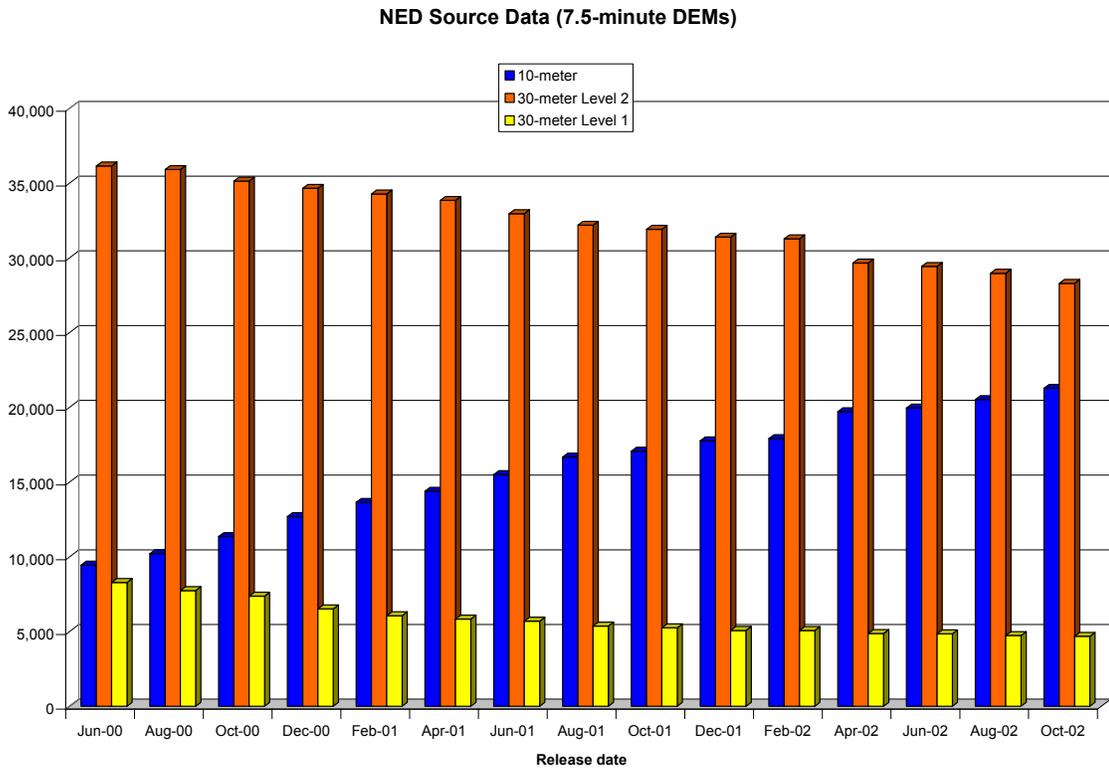


Figure 4. NED source data (by DEM type) for recent releases.

NED Source Data (7.5-minute DEMs)

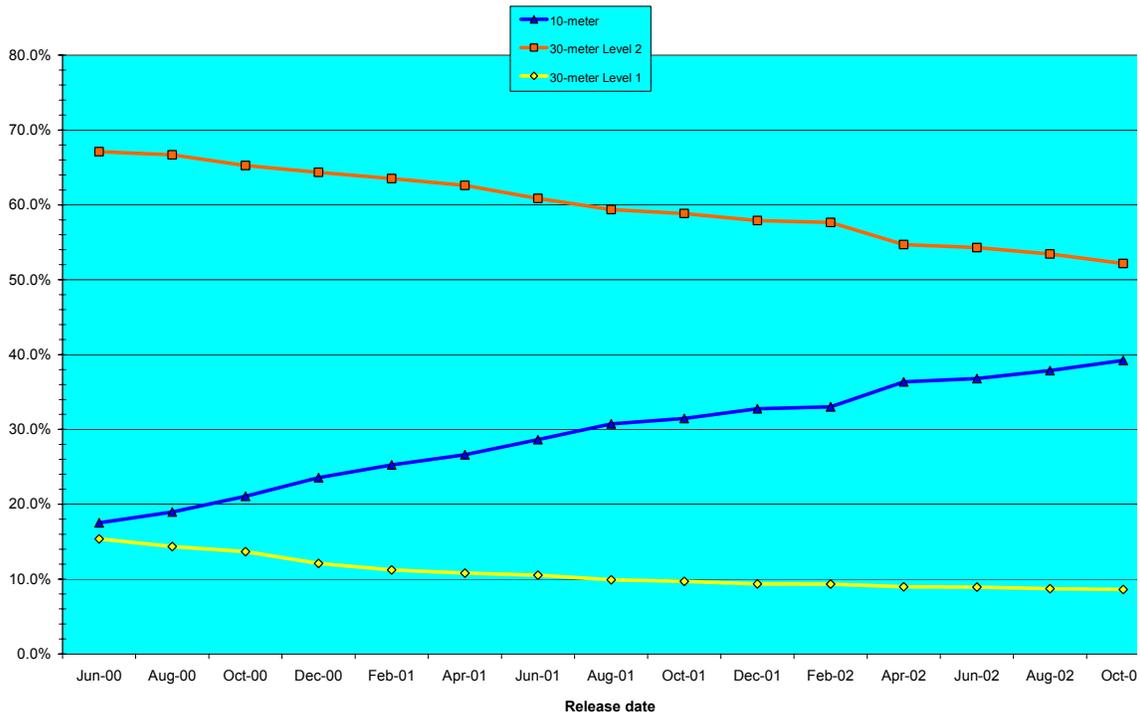


Figure 5. Percent of NED source data (by DEM type) for recent releases.

The changes in NED source data since the previous releases are described in Table 2.

| Release date | 10-meter added | 10-meter removed | 30-meter Level 2 added | 30-meter Level 2 removed | 30-meter Level 1 added | 30-meter Level 1 removed | Total added | Total removed | Net added |
|---------------|----------------|------------------|------------------------|--------------------------|------------------------|--------------------------|-------------|---------------|-----------|
| June 2001 | 1,288 | 176 | 31 | 919 | 0 | 134 | 1,319 | 1,229 | 90 |
| August 2001 | 1,181 | 6 | 96 | 871 | 49 | 375 | 1,326 | 1,252 | 74 |
| October 2001 | 488 | 95 | 205 | 479 | 76 | 196 | 769 | 770 | -1 |
| December 2001 | 715 | 22 | 182 | 689 | 12 | 189 | 909 | 900 | 9 |
| February 2002 | 151 | 0 | 3 | 121 | 15 | 40 | 169 | 161 | 8 |
| April 2002 | 1,801 | 2 | 28 | 1,649 | 1 | 187 | 1,830 | 1,838 | -8 |
| June 2002 | 258 | 16 | 1 | 222 | 3 | 21 | 262 | 259 | 3 |
| August 2002 | 711 | 138 | 211 | 669 | 1 | 117 | 923 | 924 | -1 |
| October 2002 | 788 | 36 | 6 | 683 | 0 | 48 | 794 | 767 | 27 |

Table 2. Changes in NED source data (7.5-minute DEMs).

As recorded in the NED spatially referenced metadata, the composition of the NED source data may be described in terms of specific characteristics of the source DEMs. Table 3 and Table 4 show the number of DEMs by production method and production site, respectively, for the current and previous releases. Note that in the current release about 8% of NED is derived from DEMs produced with photogrammetric methods (GPM and MP), while over 84% of NED is derived from DEMs produced from hypsography processed with LT4X.

| Release date | GPM | MP | CTOG | DCASS | LT4X | Unknown |
|---------------|-------|-------|-------|-------|--------|---------|
| August 2001 | 2,332 | 3,061 | 6,759 | 230 | 44,845 | 476 |
| October 2001 | 2,281 | 2,988 | 6,091 | 235 | 45,627 | 469 |
| December 2001 | 2,168 | 2,919 | 5,515 | 238 | 46,360 | 440 |
| February 2002 | 2,146 | 2,911 | 5,250 | 238 | 46,560 | 427 |
| April 2002 | 2,084 | 2,786 | 4,921 | 233 | 47,078 | 424 |
| June 2002 | 2,084 | 2,768 | 4,917 | 232 | 47,099 | 424 |
| August 2002 | 2,033 | 2,705 | 4,889 | 232 | 47,239 | 407 |
| October 2002 | 2,018 | 2,672 | 3,767 | 229 | 48,439 | 406 |

Table 3. NED source DEMs, by production method.

| Release date | MAC | MCMC | RMMC | WMC | Contractor | FS | BLM | EMC | Unknown |
|---------------|-------|-------|-------|-------|------------|-------|-----|-----|---------|
| August 2001 | 1,748 | 9,476 | 8,109 | 2,706 | 22,046 | 9,450 | 379 | 258 | 3,531 |
| October 2001 | 1,721 | 9,480 | 8,090 | 2,726 | 22,193 | 9,406 | 366 | 258 | 3,450 |
| December 2001 | 1,672 | 9,426 | 7,957 | 2,727 | 22,506 | 9,375 | 364 | 261 | 3,348 |
| February 2002 | 1,620 | 9,392 | 7,916 | 2,721 | 22,597 | 9,349 | 352 | 260 | 3,312 |
| April 2002 | 1,581 | 9,388 | 7,744 | 2,931 | 23,063 | 8,985 | 322 | 259 | 3,201 |
| June 2002 | 1,582 | 9,377 | 7,755 | 2,955 | 23,118 | 8,920 | 313 | 259 | 3,119 |
| August 2002 | 1,561 | 9,520 | 7,758 | 2,971 | 23,217 | 8,798 | 311 | 256 | 3,113 |
| October 2002 | 1,516 | 9,547 | 7,792 | 2,963 | 23,446 | 8,674 | 262 | 255 | 3,076 |

Table 4. NED source DEMs, by production site.

NED Processing Notes

The following item was encountered during the October 2002 NED maintenance:

- The latest metadata have been inspected very carefully, and a few long-standing errors have been corrected. Most notably, over 1,000 polygons that had been incorrectly coded with a production method of '3' (CTOG) have been recoded to '5' (LT4X). This explains much of the sharp drop in the CTOG total seen in Table 3. This miscoding had no effect on the NED data, as source DEMs with production methods CTOG and LT4X are treated identically within the NED processing system.

Miscellaneous Notes

- The following are available via anonymous FTP: the NED spatial metadata in Shapefile and Arc Export format, the NED data dictionary with definitions of the attributes of the spatial metadata coverage, the NED Release Notes, and a Shapefile that outlines the areas updated in the October 2002 release. The FTP site for these items is: <ftp://edcftp.cr.usgs.gov/pub/data/ned/>

NED Data Distribution

Updated methods for distributing NED data were implemented during July, August, and September of 2002. The Seamless Data Distribution System – Enhanced (SDDS-E) provides users with the capability to download in near real time up to 1.6 GB of data at no charge. The individual download files may be as large as 100 MB each. Several options are available for the formats of the elevation data file, the download file, and metadata file. The system also provides capabilities for viewing shaded relief images and reference data layers at variable scales, as well as querying and viewing of metadata. The SDDS-E is located at: <http://seamless.usgs.gov>. Figure 6 shows the initial view of the system as a user begins the order procedure.

In addition to the new online data distribution system, NED data are also now available in “bulk” packaging as a set of 110 CD-ROMs. Each CD contains a predefined area of NED, usually 2 degrees of latitude by 6 degrees of longitude. Collectively, the 110 CDs contain the entire dataset, including CONUS, Alaska, and all the U.S. Pacific and Atlantic islands. The CD dataset is intended for those users who require an entire copy, or very large regions, of NED, which would be tedious to acquire interactively through the SDDS-E. The new bulk packaging approach has significantly reduced the price of acquiring the entire dataset on hard media to \$3,570. As NED bi-monthly updates are completed, updated CDs are produced so that the data available as predefined CDs always represents the most recent NED release. A diagram of the CD set is shown in Figure 7.

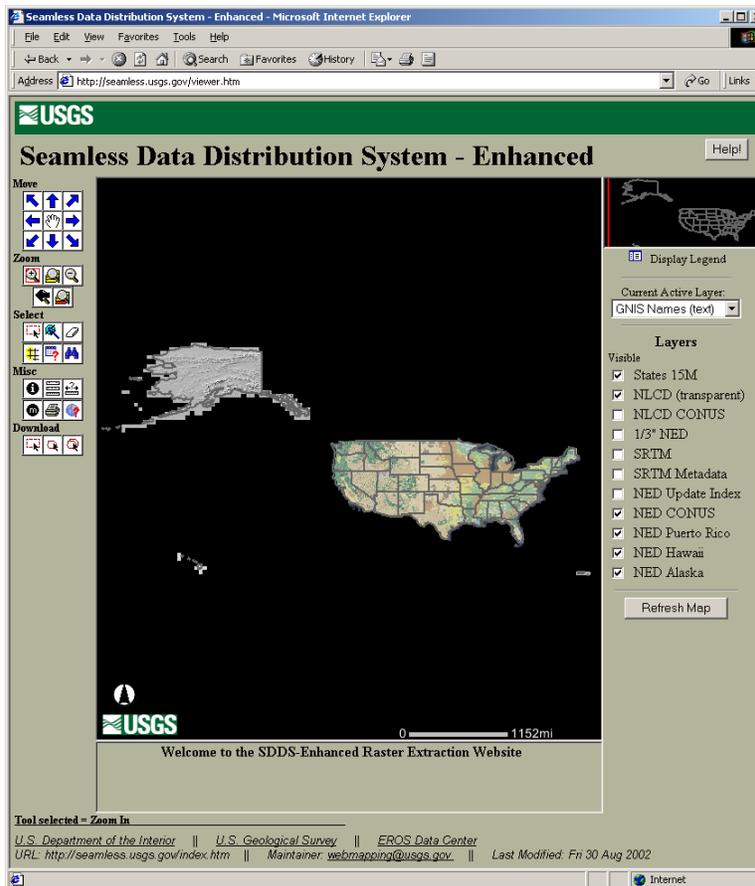


Figure 6. Seamless Data Distribution System – Enhanced available at <http://seamless.usgs.gov>

NATIONAL ELEVATION DATASET

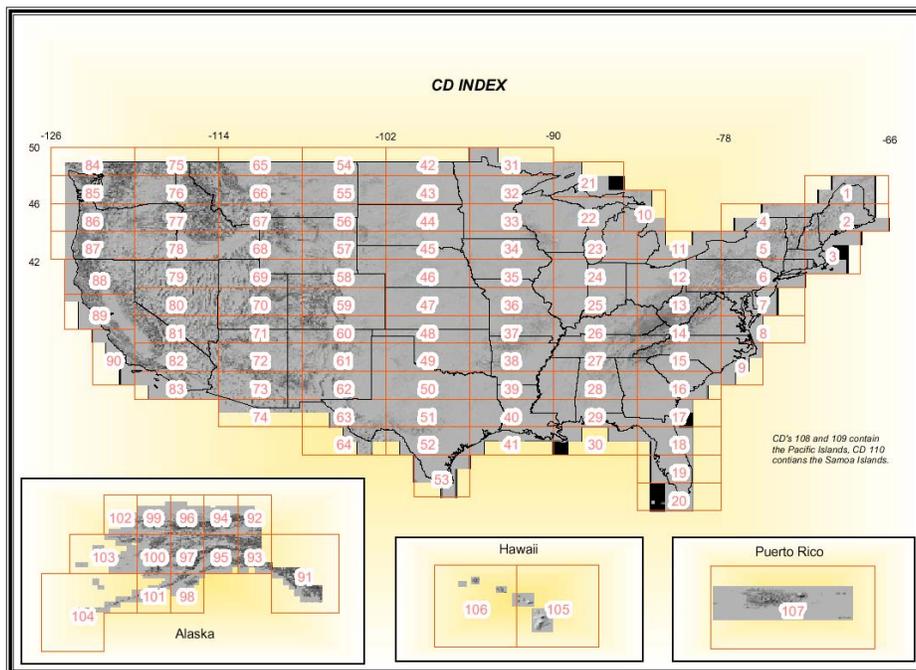


Figure 7. NED predefined areas available on CD-ROM.

Multi-resolution NED

In addition to the standard 1-arc-second resolution, NED data for a portion of the United States are now available in 1/3-arc-second resolution (approximately 10 meters). These higher resolution data have been produced where 10-meter DEMs are available as NED source data. Production of 1/3-arc-second NED is continuing, and additional areas will be made available as they are completed. Figure 8 shows the current coverage of 1/3-arc-second NED. The data are available for free download through the SDDS-E.

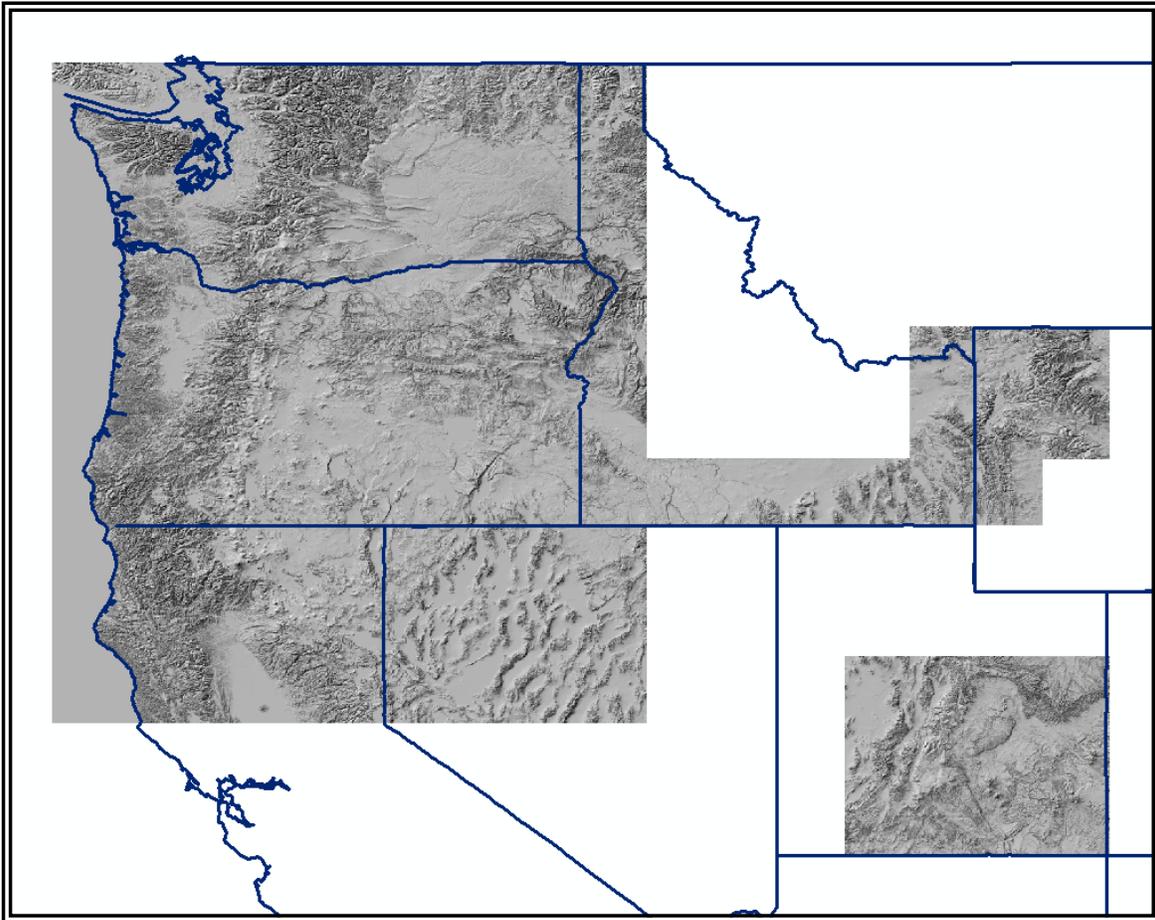


Figure 8. 1/3-arc-second available for download through the SDDS-E.