

National Elevation Dataset (NED) Data Dictionary

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NED 1/3rd Arc-second, 1 Arc-second, and 2 Arc-second Data Dictionary

Source Identification

DEMNAME
QUADNAME

DEMNAME

Data Name (text)

For projects incorporated into the NED prior to March 31, 2014, this field indicates the name of the source DEM file.

For projects incorporated into the NED after April 1, 2014, DEMNAME is the name of the original project that was adapted for incorporation into the 1/3rd, 1 and 2 arc-second NED layers. The format of this field will most commonly be three parts separated by underscores: PRIMARYSTATE, BRIEF-PROJECT-DESCRIPTION, YEAR.

QUADNAME

Quadrangle Name (text)

For DEMs derived from standard USGS paper map series, this is the name of the corresponding USGS quadrangle. This information may also be present in the first 40 characters of the FREETEXT field.

For new high resolution DEM source data, this field may be used in other ways.

Example QUADNAME = oak_island_MN

For DEMs introduced into the NED after April 1, 2014 this field will not be populated. Any values already in this field for DEMs incorporated into the NED prior to March 31, 2014 are preserved.

Source Production

PSITE
PMETHOD
PDEVICE
FREETEXT
RESOLUTION
HORIZ_M
S_DATE
I_DATE

PSITE

Production Site (text)

The site or party who created the source DEM for DEMs incorporated into the NED prior to March 31, 2014.

Valid codes are:

UNKNOWN	Unknown
CONT	Contractor
MCMC	Mid-Continent Mapping Center
RMMC	Rocky Mountain Mapping Center
EMC	Eastern Mapping Center
WMC	Western Mapping Center
MAC	Mapping Applications Center
FS	Forest Service
BLM	Bureau of Land Management
NGTO	National Geospatial Technical Operations Center

For DEMs introduced into the NED after April 1, 2014 this field will be populated with the value UNKNOWN. Any values already in this field for DEMs incorporated into the NED prior to March 31, 2014 are preserved.

PMETHOD

Production Method (short integer)

The method used to compile or capture the source DEM.

Valid codes are:

0	Unknown
1	Electronic Image Correlation (specifically GPM II)
2	Manual Profiling
3	DLG2DEM
4	DCASS
5	LT4X
6	Complex polynomial interpolation, such as ANUDEM
7	Lidar
8	Photogrammetric mass points and break lines
9	Digital camera correlation
10	Ifsar
11	Topobathy
12	Other remote sensing technique

PDEVICE

Production Device (text)

The name of the instrument used to compile the source DEM. This field is of significance primarily to DEMs produced by manual profiling (PMETHOD = 2)

The current list of identified instruments is:

Wild A-7	Wild Autograph A7 - Mechanical Stereoplotter
Wild AG-1	Wild AG1 - Analytical Stereoplotter
OMI AS11A	OMI AS11A - Mechanical Stereoplotter
Wild B-8	Wild Aviograph B8 - Mechanical Stereoplotter
Wild BC-1	Wild BC1 - Analytical Stereoplotter

Wild BC-2	Wild BC2 - Analytical Stereoplotter
Zeiss C-8	Zeiss Stereoplanigraph C8 - Stereoplotter
Zeiss C100	Zeiss C100 Planicomp - Analytical Stereoplotter
GPM	Gestalt Photo Mapper II (GPM II)
KELSH	Kelsh - Optical Stereoplotter
Kern	PG-2 Kern PG-2 - Mechanical Stereoplotter
Wild	PPO-8 Wild PPO-8 Orthophoto Equipment (Used with Wild A8)
Santoni IIC	Santoni IIC - Analytical Stereoplotter
Galileo IIIId	Galileo-Santoni Stereosimplex IIIId
Jena Topocart B	Zeiss Jena Topocart B
Matra Traster	Matra Optique Traster - Photogrammetric Workstation
Helava US-2	Helava US-2 - Analytical Stereoplotter
CP100	Unknown, but appears to be a stereoplotter
CTOG	Contour to Grid Conversion
DCASS	Digital Cartographic Software System (USGS Software)
DLG	Digital Line Graph
LT4X	Either LT4X or LTPlus software
GDM	COTS DEM made by GeoDigital Mapping, Inc.
GTR	COTS DEM made by GTRSystems, Inc.
LT2000	Windows version of LT4X by Titan Systems, Inc

For DEMs introduced into the NED after April 1, 2014 this field will no longer be populated. Any values already in this field for DEMs incorporated into the NED prior to March 31, 2014 are preserved.

FREETEXT

Free Text Description (text)

For DEMs derived from standard USGS paper map series, this field is first 136 bytes of the source DEM file, including the quadrangle name, free format text, and process field. This field may contain additional information, though there are no standards for the use of the free text field.

Example: NORTH CHINOOK RESERVOIR, MT -VDYA 1-09 9/06/75 WILD A-7 60000 4 - 10915 0.0000 4845 0.00002

The contents of the FREETEXT field vary greatly from one DEM to the next, and in some cases are more confusing than helpful.

For DEMs introduced into the NED after April 1, 2014 this field will no longer be populated. Any values already in this field for DEMs incorporated into the NED prior to March 31, 2014 are preserved.

RESOLUTION

Source Resolution (short integer)

This code indicates the planimetric (x, y) spacing of elevation postings within the source DEM. Note that all source data are resampled to a common resolution during NED production.

For DEMs incorporated into the NED prior to March 31, 2014 valid values are:

1 1 arc-second (Alaska)

2	2 arc-seconds (1:100k series)
3	3 arc-seconds (1:250k series)
5	5 meters (non-standard data)
10	10 meters (7.5-minute series)
30	30 meters (7.5-minute series)
13	1/3 arc-second (non-standard data)
19	1/9 arc-second (non-standard data)

For DEMs introduced into the NED after April 1, 2014 the actual resolution of the original high-resolution source DEM will be populated in the HORIZRES_M field, and the RESOLUTION field will be populated with:

100 High-resolution source

HORIZRES_M

Horizontal Resolution of Source DEM (floating point)

The horizontal resolution (x, y) of the original DEM which was incorporated into the NED, expressed in meters. Regardless of the source DEM horizontal units, this field is expressed in the common unit meters for more meaningful comparisons and simplified queries.

This is a new field in the spatial metadata shapefiles for DEMs incorporated into the NED after April 1, 2014. For DEMs incorporated into the NED prior to March 31, 2014, this field will not be populated.

S_DATE

Data Source Date (short integer)

For DEMs derived from standard USGS paper map series, this field is data element 21 in the source DEMs Type A record, the date of original photography from which the DEM was compiled. For more information consult Standards for Digital Elevation Models. This information was not provided with some standard DEMs with a native resolution of 30 meters.

In the case of high resolution source data, this field reflects the year that the base elevation data was collected, as in the case of LIDAR derived DEMs. For projects whose collection spanned more than one calendar year, this is the earliest acquisition year.

Format: YYYY

I_DATE

Data Inspection Date (short integer)

For DEMs derived from standard USGS paper map series, this field is data element 22 in the source DEMs Type A record: DEM Edit System (DES) inspection date. This information was not provided with some standard DEMs.

Format is either YYYY or YYMM

This field not used for newer, high-resolution data sources.

Source Planimetric Descriptors

H DATUM
L R L A T
U T M Z O N E
X S H I F T
Y S H I F T

H DATUM

Horizontal Datum (short integer)

Valid values:

0	Unknown
27	North American Datum of 1927 (NAD 27)
83	North American Datum of 1983 (NAD 83)
72	World Geodetic System of 1972 (WGS 72)
84	World Geodetic System of 1984 (WGS 84)
99	Other

L R L A T, L R L O N, U L L A T, U L L O N

Coordinates defining the minimum bounding box of the source DEM (floating point)

Units: decimal degrees. Coordinate System: NAD 83.

For DEMs derived from standard USGS paper map series, this field is derived from corner coordinates indicated in data element 11 of the DEMs Type A record.

L R L A T	Southern extent in latitude
L R L O N	Eastern extent in longitude
U L L A T	Northern extent in latitude
U L L O N	Western extent in longitude

U T M Z O N E

Source UTM or State Plane Zone (short integer)

The projection zone of the source DEM.

If two digits, a UTM zone.

If four digits, a State Plane zone.

A value of zero in this field indicates that the source DEM is cast in geographic (lat/lon) coordinates.

For DEMs introduced into the NED after April 1, 2014 this field will no longer be populated. Any values already in this field for DEMs incorporated into the NED prior to March 31, 2014 are preserved.

X S H I F T, Y S H I F T

Horizontal Shift (floating point)

Units: decimal degrees

The positional shifts in longitude and latitude, respectively, applied to each posting in the source DEM to convert from NAD27 coordinates to NAD83 coordinates. These values will be zero if the source DEM's HDATUM field value is 83, 84 or 72. (WGS84 is nearly identical to NAD83, and WGS72 is sufficiently similar that no shift was deemed necessary). The shift values were obtained from NGS's NADCON software, and were calculated at the nominal center of each quadrangle.

New high-resolution DEMs introduced into the NED after April 1, 2014 generally have a horizontal datum of NAD83 and this field will no longer be populated. Any values already in this field for DEMs incorporated into the NED prior to March 31, 2014 are preserved.

Source Elevation Descriptors

V
D
A
T
U
M

Z
U
N
I
T

Z
S
T
E
P

Z
S
H
I
F
T

V D A T U M

Vertical Datum (short integer)

This code represents the vertical datum of source DEM.

Valid values are:

0	Unknown
1	Local Mean Sea Level
29	National Geodetic Vertical Datum of 1929 (NGVD 29)
88	North American Vertical Datum of 1988 (NAVD 88)
99	Other

Z U N I T

Elevation Unit (short integer)

This code represents the unit of elevation values in source DEM.

Valid values:

0	International Feet
1	Meters
2	U.S. Survey Feet
3	Decimal degrees
4	Centimeters
5	Inches
99	Other

Z S T E P

Elevation Resolution (floating point)

For DEMs derived from standard USGS paper map series, this field, together with ZUNIT, defines vertical resolution of the source DEM. Typical values are 1 and 0.1, though others are possible.

Example: ZSTEP = 0.1 This indicates that the source DEM records elevations to the nearest tenth of a meter.

A value of 0 is used when this field does not apply, as in the case of source data with floating point precision.

New high-resolution DEMs introduced into the NED after April 1, 2014 all have floating point precision, and this field will no longer be populated. Any values already in this field for DEMs incorporated into the NED prior to March 31, 2014 are preserved.

ZSHIFT

Elevation Shift (floating point)

The elevation shift, in meters, applied to each posting within the source DEM to convert to NAVD88 values. The shift values were obtained from NGS's VERTCON software, and were calculated at the nominal center of each quadrangle.

New high-resolution DEMs introduced into the NED after April 1, 2014 all have a vertical datum of NAVD88, therefore this field will no longer be populated. Any values already in this field for DEMs incorporated into the NED prior to March 31, 2014 are preserved.

Source Elevation Summary Statistics

ZMIN

ZMAX

ZMEAN

ZSIGMA

Discussion: The summary statistics shown in these fields usually describe the entire source DEM, even when only some portion of the source DEM is used in NED, or when the source DEM is represented by more than one polygon within the metadata. These data are presented in common units (meters) and in a common vertical datum (NAVD88) to allow for more meaningful graphical displays and simplified queries.

ZMIN, ZMAX

Minimum and Maximum Elevation of Source DEM (floating point)

The minimum and maximum elevation values of the source DEM before any filtering or reprojection, but after conversion to meters and to NAVD88. For DEMs derived from standard USGS maps, subtracting ZSHIFT and converting to the DEM's original units results in the min and max values reported in data element 12 of the DEM's Type A record.

ZMEAN

Mean Elevation of Elevations in Source DEM (floating point)

The mean elevation value of the source DEM before any filtering or reprojection, but after conversion to meters and to NAVD88

ZSIGMA

Standard Deviation of Elevations in Source DEM (floating point)

The standard deviation of the elevations of the source DEM, before any filtering or reprojection, but after conversion to meters.

Source Accuracy Statistics

ABSX
ABSY
ABSZ
ABSPTS
RMSE
RMSEX
RMSEY
RMSEZ
RMSEPTS
VA_UNIT

ABSX, ABSY, ABSZ

Absolute Accuracy (short integers)
Absolute accuracy in X, Y, Z.

This field applies only to standard production USGS DEMs and echos data element 2 of the source DEM's Type C record. See Standards for Digital Elevation Models for more information. This field is populated with zero if not available.

For DEMs introduced into the NED after April 1, 2014 this field will no longer be populated. Any values already in this field for DEMs incorporated into the NED prior to March 31, 2014 are preserved.

ABSPTS

Sample Size (short integer)

This field applies only to standard production USGS DEMs and echos data element 3 of the source DEM's Type C (sample size record).

For DEMs introduced into the NED after April 1, 2014 this field will no longer be populated. Any values already in this field for DEMs incorporated into the NED prior to March 31, 2014 are preserved.

RMSE

Availability of Relative Accuracy Statistics (short integer)

This field applies only to standard production USGS DEMs and echos data element 4 of the source DEM's Type C (relative accuracy statistics).

Valid codes:

- 1 Available
- 0 Not available

For DEMs introduced into the NED after April 1, 2014 this field will no longer be populated. Any values already in this field for DEMs incorporated into the NED prior to March 31, 2014 are preserved.

RMSEX, RMSEY, RMSEZ

Relative Accuracy (short integer)

This field applies only to standard production USGS DEMs and echos data element 5 of the source DEM's Type C (relative accuracy in X, Y, Z).

This field is zero if not available.

For DEMs introduced into the NED after April 1, 2014 this field will no longer be populated. Any values already in this field for DEMs incorporated into the NED prior to March 31, 2014 are preserved.

RMSEPTS

Sample Size (short integer)

This field applies only to standard production USGS DEMs and echos data element 6 of the source DEM's Type C (sample size).

For DEMs introduced into the NED after April 1, 2014 this field will no longer be populated. Any values already in this field for DEMs incorporated into the NED prior to March 31, 2014 are preserved.

VA_UNIT

Vertical Accuracy Unit (short integer)

This field is a place-holder reserved for future use.

Valid Values

- 0 International Feet
- 1 Meters
- 2 U.S. Survey Feet
- 3 Decimal Degrees
- 4 Centimeters
- 5 Inches
- 99 Unknown

NED Production Timestamps

QUADDATE

QUADDATE

Date the data were incorporated into the NED (long integer)

The date on which the source DEM was first processed into NED. This field is particularly useful in the identification of recently updated areas.

Format: YYYYMMDD

NED1/9th Arc-second Data Dictionary

Source Identification

PROJ_NAME
DEMNAME

PROJ_NAME

Project name (text)

This field is the name of the original project that was adapted for incorporation into the NED 1/9th arc-second layer. The format of this field will most commonly be three parts separated by underscores: PRIMARYSTATE, BRIEF-PROJECT-DESCRIPTION, YEAR.

This is a new field introduced into the NED 1/9th arc-second spatial metadata for DEMs introduced into the NED after April 1, 2014. This field is not populated for DEMs incorporated into the NED prior to March 31, 2014.

DEMNAME

Data Name (text)

The name of the final elevation dataset processed into a common coordinate system and units according to NED 1/9th arc-second specifications.

For DEMs introduced into the NED after April 1, 2014 this field will no longer be populated. Any values already in this field for DEMs incorporated into the NED prior to March 31, 2014 are preserved.

Source Production

HORIZRES_M
PMETHOD
S_DATE
FREETEXT

HORIZRES_M

Horizontal Resolution of Source DEM (floating point)

The horizontal resolution (x, y) of the original DEM which was incorporated into the NED, expressed in meters. Regardless of the source DEM horizontal units, this field is expressed in the common unit meters for more meaningful comparisons and simplified queries.

This is a new field in the spatial metadata shapefiles for DEMs incorporated into the NED after April 1, 2014. For DEMs incorporated into the NED prior to March 31, 2014, this field will not be populated.

PMETHOD

Production Method (short integer)

The method used to collect the original source elevation data.

Valid codes are:

- 7 Lidar
- 10 Ifsar
- 11 Topobathy
- 12 Other remote sensing technique

S_DATE

Data Source Date (short integer)

The year the source elevation data were collected. If acquisition of a project spanned two or more calendar years, the first collection year is indicated in this field.

FREETEXT

Free Text Description (text)

There are no standards for the use of the free text field. This field may contain additional information to further describe the source project or clarify other metadata fields.

For DEMs introduced into the NED after April 1, 2014 this field will no longer be populated. Any values already in this field for DEMs incorporated into the NED prior to March 31, 2014 are preserved.

Output Production

RESOLUTION

ZUNIT

RESOLUTION

Resolution (short integer)

The planimetric (x, y), spacing of elevation postings of the final processed datasets. Source LiDAR datasets resolution varies but is typically less than 3 meters. During NED 1/9-arc-second processing, source datasets are resampled to a common resolution (e.g. 1/9-arc-second or about 3 meters).

For DEMs incorporated into the NED prior to March 31, 2014 valid values are:

- 19 1/9 arc-second (non-standard data)

For DEMs introduced into the NED after April 1, 2014 the actual resolution of the original high-resolution source DEM will be populated in the HORIZRES_M field, and the RESOLUTION field will be populated with:

- 100 High-resolution source

ZUNIT

Elevation Unit (short integer)

This field describes the elevation units of the output 1/9th arc-second NED data. During the NED 1/9-arc-second processing, the source data vertical units are converted to a consistent elevation unit.

Valid value:

1 Meters

Source Accuracy Statistics

S_FVA

S_CVA

S_NVA

S_VVA

VA_UNIT

RMSEZ

RMSE_FVA

RMSE_SVA

RMSE_CVA

S_FVA

Source DEM Fundamental Vertical Accuracy (FVA) (floating point)

This is the tested FVA of the source resolution DEM. FVA, or Accuracy_z, is based only on points in clear and open terrain. The fundamental accuracy is the value by which vertical accuracy can be equitably assessed and compared among datasets. The S_FVA is calculated at the 95-percent confidence level as a function of vertical Root Mean Square Error (RMSE) i.e., Accuracy_z = RMSE_z x 1.96.

S_FVA is expressed in the units reported in the VA_UNIT field.

S_CVA

Source DEM Consolidated Vertical Accuracy (CVA) (floating point)

This is the tested CVA of the source resolution DEM. CVA is based on check points in all land cover categories combined. Error distribution for points in vegetated areas do not have a normal distribution. Therefore S_CVA is reported as the 95th percentile.

S_CVA is expressed in the units reported in the VA_UNIT field.

S_NVA

Non-vegetated Vertical Accuracy (floating point)

This field is reserved for future use.

Current valid value: -1

S_VVA

Vegetated Vertical Accuracy (floating point)

This field is reserved for future use.

Current valid value: -1

VA_UNIT

Vertical Accuracy Unit (short integer)

The units in which the vertical accuracy statistics are reported.

Valid values:

0	International Feet
1	Meters
2	US Survey Feet
3	decimal degrees
4	centimeters
5	inches
99	unknown

RMSEZ, RMSE_FVA, RMSE_SVA, RMSE_CVA

RMSE(z), RMSE(FVA), RMSE(SVA), RMSE(CVA) (double)

Vertical accuracy for source DEMs introduced into the NED after April 1, 2014 are reported in the S_FVA and S_CVA fields above.

Reported RMSE statistics are in meters.

RMSE(z): Root Mean Square Error of the elevation estimates.

RMSE(FVA): RMSE (Fundamental Vertical Accuracy).

RMSE(SVA): RMSE (Supplemental Vertical Accuracy).

RMSE(CVA): RMSE (Consolidated Vertical Accuracy).

RMSE is the square root of the average of the set of squared differences between dataset coordinate values and coordinate values from an independent source of higher accuracy for identical points.

$$RMSE_z = \sqrt{\frac{\sum (Z_{data\ I} - Z_{check\ I})^2}{n}}$$

where $Z_{data\ I}$ is the vertical coordinate of the I th check point in the elevation dataset, $Z_{check\ I}$ is the vertical coordinate of the I th check point in the independent reference source of higher accuracy, n is the number of points being checked, and I is an integer from 1 to n .

The Fundamental Vertical Accuracy (FVA) of a dataset must be determined with check points located only in open terrain, where there is a very high probability that the sensor will have detected the ground surface. The fundamental accuracy is the value by which vertical accuracy can be equitably assessed and compared among datasets. The FVA is calculated at the 95-percent Confidence Level as a function of vertical RMSE, i.e., $Accuracy_z = RMSE_z \times 1.9600$.

In addition to the fundamental accuracy, supplemental or consolidated accuracy values maybe calculated for other ground cover categories or for combinations of ground cover categories. Because elevation errors often vary with the height and density of ground cover, a normal

distribution of error cannot be assumed and, therefore, RMSE cannot be used to calculate accuracy values. Consequently a nonparametric testing method (95th Percentile) is employed for supplemental and consolidated accuracy tests. The SVA or CVA are calculated at the 95th percentile for each supplemental land cover category or combination of categories.

Valid values:

0 Not available
Other Values Actual Calculated RMSE value

For DEMs introduced into the NED after April 1, 2014 these RMSE fields will no longer be populated. Instead, accuracy statistics for these DEMs will be provided in the S_FVA and S_CVA fields above. Any values already in the RMSE fields for DEMs incorporated into the NED prior to March 31, 2014 are preserved.

NED Production Timestamp

QUADDATE

QUADDATE

Date the data were incorporated into the NED (long integer)

The date on which the source DEM was first processed into NED. This field is particularly useful in the identification of new NED coverage areas.

Format: YYYYMMDD

NED Original Product Resolution Data Dictionary

Source Identification

PROJ_NAME

PROJ_NAME

Source Project Name (text)

Project name is the name of the original source DEM project that was adapted for incorporation into the 1/9th, 1/3rd, 1, or 2 arc-second NED layers. The NED Original Product Resolution production process maintains the coordinate reference system and horizontal units of the original project. However, vertical units are converted to meters.

The format of this field will most commonly be three parts separated by underscores: PRIMARYSTATE, BRIEF-PROJECT-DESCRIPTION, YEAR.

Source Production

PMETHOD

S_DATE

PMETHOD

Production Method (short integer)

The acquisition method used to collect the source elevation data.

Valid values are:

- | | |
|----|--------------------------------|
| 7 | Lidar |
| 10 | Ifsar |
| 11 | Topobathy |
| 12 | Other remote sensing technique |

S_DATE

Data Source Date (short integer)

The year the source elevation data were collected. If acquisition of a project spanned two or more calendar years, the first collection year is reported in this field.

Output Production

ZUNIT

REFSYS

HORIZRES

HORIZUNIT

FORMAT

HORIZRES_M

ZUNIT

Elevation Unit (short integer)

This field describes the elevation units of the output data. During the NED Original Product Resolution processing, the source data vertical units is converted to consistent elevation unit, which is meters.

Valid value:

1 Meters

REFSYS

Coordinate Reference System (text)

This field describes the coordinate reference system of the NED Original Product Resolution DEM.

HORIZRES

Horizontal Resolution (floating point)

The horizontal resolution (x, y) of the NED Original Project Resolution DEM. The value is reported in the units recorded in the HORIZUNIT field.

HORIZUNIT

Horizontal Resolution Units (short integer)

The unit in which the horizontal resolution, HORIZRES, is reported.

Valid values:

0	International Feet
1	Meters
2	U.S. Survey Feet
3	Decimal Degrees
4	Centimeters
5	Inches
99	Unknown

FORMAT

Raster File Format (short integer)

The raster file format of the Original Product Resolution DEM.

Valid values:

1	IMG
2	ArcGrid
3	GridFloat
4	Tiff
5	Other

HORIZRES_M

Horizontal Resolution Expressed in Meters (floating point)

The horizontal resolution (x, y) of the Original Project Resolution DEM expressed in meters. This field is provided for easy comparison of and sorting of horizontal resolutions, regardless of the horizontal units of the actual DEM.

Accuracy Statistics

FVA

CVA

NVA

VVA

VA_UNIT

FVA

Fundamental Vertical Accuracy (FVA) (floating point)

This is the tested FVA of the source resolution DEM. FVA, or Accuracy_z, is based only on points in clear and open terrain. The fundamental accuracy is the value by which vertical accuracy can be equitably assessed and compared among datasets. The FVA is calculated at the 95-percent confidence level as a function of vertical Root Mean Square Error (RMSE) i.e., Accuracy_z = RMSE_z x 1.96.

FVA is expressed in the units reported in the VA_UNIT field.

CVA

Consolidated Vertical Accuracy (floating point)

This is the tested CVA of the source resolution DEM. CVA is based on check points in all land cover categories combined. Error distribution for points in vegetated areas do not have a normal distribution. Therefore S_CVA is reported as the 95th percentile.

CVA is expressed in the units reported in the VA_UNIT field.

NVA

Non-Vegetated Vertical Accuracy (floating point)

This field is reserved for future use.

Current valid value: -1

VVA

Vegetated Vertical Accuracy (floating point)

This field is reserved for future use.

Current valid value: -1

VA_UNIT

Vertical Accuracy Unit (short integer)

The units in which the vertical accuracy values are reported.

Valid values:

0	International Feet
1	Meters
2	U.S. Survey Feet
3	Decimal Degrees
4	Centimeters
5	Inches
99	Unknown

NED Production Timestamp

QUADDATE

QUADDATE

Date the data were released into the NED (long integer)

Quaddate is the date when the Original Product Resolution DEM was processed into the NED.

Format: YYYYMMDD

Appendix A

Correspondence between selected NED metadata items and USGS DEM Type A records.

Refer to Data User's Guide 5, Appendix A, for complete descriptions of the A record data elements referenced below.

FREETEXT The FREETEXT field is a literal copy of Data Element 1: The first 140 bytes of the A record. By USGS definition, only bytes 41 through 80 are free format text, but this restriction is not commonly observed.

PSITE This is a literal copy of data element 2, the Mapping Center origin code. If this field is blank, the code "UNKNOWN" is assigned to PSITE.

ZONE This is a literal copy of data element 6.

ZUNIT This field is derived from data element 9, but does not use the same values. Data element 9 is coded as 1 = feet, 2 = meters. ZUNIT, however, is coded as 0 = feet, 1 = meters.

LRLAT, LRLON, ULLAT, ULLON These fields are derived from data element 11.

RESOLUTION This field is derived from data element 15, which indicates the *x*, *y*, and *z* resolutions of the source DEM. In the case of Alaska data, where *x* and *y* resolutions differ, the *y* resolution is taken to be the resolution of the DEM. Further, RESOLUTION is indicated in the DEM's native units (meters or decimal seconds). Nonstandard DEM's may be assigned RESOLUTION values in a different manner.

ZSTEP This is a literal copy of the *z* resolution component of data element 15.

S_DATE This is a literal copy of data element 21, or 0 if data element 21 is absent.

I_DATE This is a literal copy of data element 22, or 0 if data element 22 is absent.

HDATUM This field is derived from data element 27, but uses different values. Data element 27 specifies unique codes for the Old Hawaii Datum and the Puerto Rico Datum, both of which are designated as 27 in HDATUM.

VDATUM This field is derived from data element 26, but uses different values. A value of 0 is assigned to VDATUM if no vertical datum information is present.