How to Read US National Grid (USNG) Coordinates

FGDC-STD-011-2001 From www.fgdc.gov/usng

Background. The Federal Geographic Data Committee's (FGDC) consensus based USNG standard provides a nationally consistent *language of location -- optimized for local applications* -- for maps, Global Positioning System (GPS) receivers, and mapping web portals. It is an alpha-numeric point reference system overlaid on the Universal Transverse Mercator (UTM) numerical grid. Truncated USNG coordinates (geoaddresses) range in precision from 1,000 to 1-meter and provide universal map index values for streets and other features. USNG and Military Grid Reference (MGRS) values are identical when referenced to WGS 84 or NAD 83 datum -- USNG only uses a single 100,000-m Square Identification scheme regardless of datum. This example locates the Jefferson Pier at USNG: 18S UJ 23371 06519.

Grid Zone Designation (GZD):

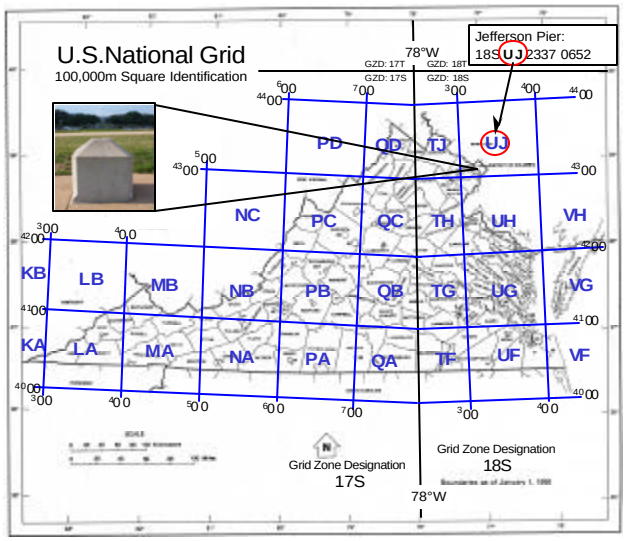
6° x 8° longitude zone / latitude band.

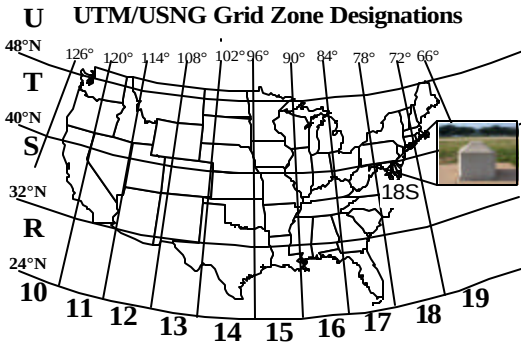
100,000-m Square Identification:

18S UJ 2337 0651

Grid Coordinates:

Read ***right*** then ***up***.





Users determine the required precision. These values represent a point position (southwest corner) for an area of refinement.

Four digits:	23 06	Locating a point within a 1,000-m square.
Six digits:	233 065	Locating a point within a 100-m square.
Eight digits:	2337 0651	Locating a point within a 10-m square.
Ten digits:	23371 06519	Locating a point within a 1-m square.

Only an 8-digit grid is typically required to locate a modest size home out of a local area.

Full USNG: 18S UJ 2337 0651 - World wide unique.
Without Grid Zone Designation (GZD): UJ 2337 0651 - Regional areas.
Without GZD and 100,000-m Square ID: 2337 0651 - Local areas.

Reading USNG Grid Coordinates.

- The UTM 10,000 and 1,000 digit values are known as Principal Digits.

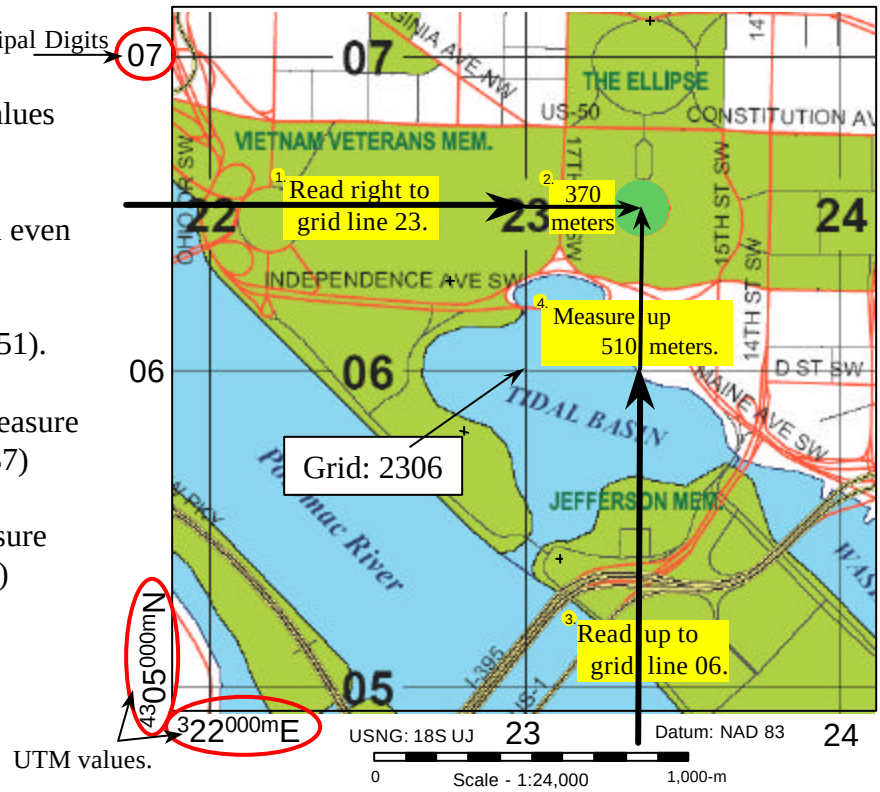
- Coordinates are always given as an even number of digits (i.e. 23370651).

- Divide coordinates in half (2337 0651).

1. - Read right to grid line 23. 2. Then measure right another 370 meters. (Think 23.37)

3. - Read up to grid line 06. 4. Then measure up another 510 meters. (Think 06.51)

Grid:	Examples:
228058	FDR Memorial:
231054	George Mason Memorial:
2338 0710	Zero Milestone:
2275 0628	DC War Memorial:
213017	Ft. Scott Park:



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USNG values are formally written as a single string: 18SUJ23370651 or parsed to ease viewing: 18S UJ 233065