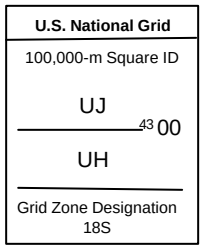
Reading US National Grid (USNG) Coordinates: *"Read right, then up."*

Information Sheet 1 in this series. FGDC-STD-011-2001 From www.fgdc.gov/usng

The example below locates the Jefferson Pier at USNG: 18S UJ 23371 06519.



A USNG value has three components.

Some maps may give this leading information in a grid reference box.

Grid Zone Designation (GZD): 6° x 8° longitude zone / latitude band.

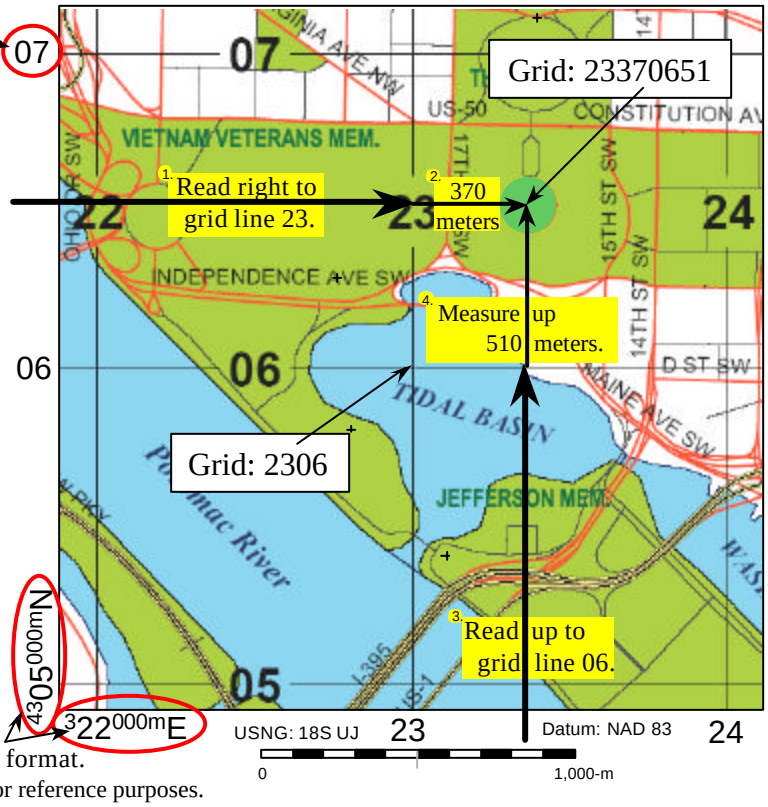
100,000-m Square Identification:

18S UJ 2337 0651

Grid Coordinates: Read ***right***, then ***up***.

"Read right, then up."

- Grid lines are identified by Principal Digits. Ignore the small superscript numbers like those in the lower left corner of this map.



UTM format.

Reading USNG Grid Coordinates.

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

- Separate coordinates in half (2337 0651) into the easting and northing components.

- [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:

Ignore the small UTM superscript numbers that are provided for reference purposes.
UTM numerical values are best suited for determining direction and distance as in surveying. USNG alpha-numeric values are best suited for describing particular locations because they can be given as only grid coordinates and with only the precision required for a particular task.

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 (football field size).
Eight digits:	2337 0651	Locating a point within a 10-m square (modest size home).
Ten digits:	23371 06519	Locating a point within a 1-m square (parking space size).

A modest size home can be found or identified in a local area with only an 8-digit grid. →

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.

This illustrates how USNG coordinates can be used in a phone directory or advertisement like a universal map index value. Unlike classic atlas grids (i.e. B3), these can be used with any paper map using the national grid and in web map portals such as the Washington, DC GIS (http://dcgis.dc.gov) or The National Map. (http://nmviewogc.cr.usgs.gov/viewer.htm) They can also be used in consumer GPS receivers to directly guide you to the location. This is especially beneficial at night, in heavy traffic, or after major disasters when street signs are missing.

Point of Interest	Street Address	USNG Grid: 18S UJ	Telephone: (202)
Subway Sandwich & Salads	2030 M St., NW	2256 0826	223-2587
Subway Sandwich & Salads	430 8th St., SE	2698 0567	547-8200
Subway Sandwich & Salads	3504 12th St., NE	2740 1120	526-5999
Subway Sandwich & Salads	1500 Benning Rd, NE	2815 0757	388-0421

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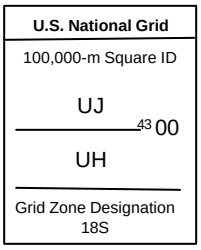
US National Grid (USNG) Coordinates: *World wide context.*

Information Sheet 2 in this series. FGDC-STD-011-2001 From www.fgdc.gov/usng

The example below locates the Jefferson Pier at USNG: 18S UJ 23371 06519.



A USNG value has three components.

Some maps may give this leading information in a grid reference box.

Grid Zone Designation (GZD): 6° x 8° longitude zone / latitude band.

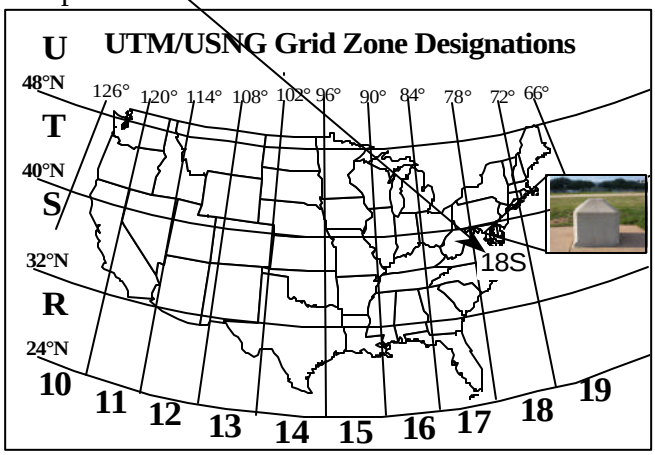
100,000-m Square Identification:

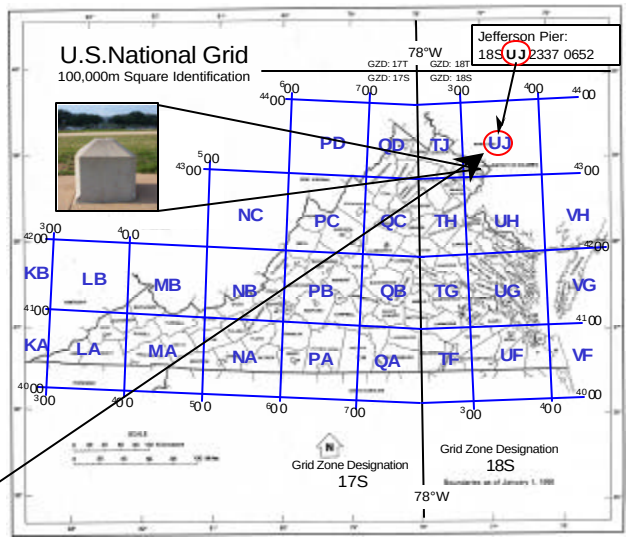
18S UJ 2337 0651

Grid Coordinates: Read ***right***, then ***up***.

"Read right, then up."

USNG values have three components as seen above. The GZD gives a USNG value world-wide context with 60 longitudinal zones each 6° wide. Zones 10 - 19 cover the conterminous US as seen below left. Zones are divided into 8° latitudinal bands. Together these make up Grid Zone Designations (GZD). Example: 18S

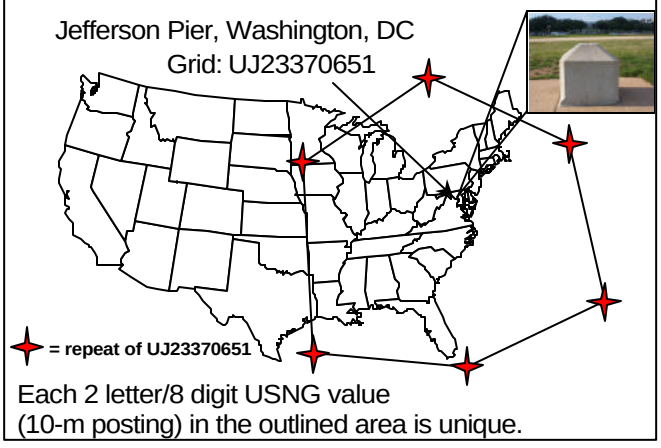




100,000-m Square Identifications
Example: UJ

GZDs are further subdivided into large squares with 100,000-m Square Identifications. In this example, the Jefferson Pier is located in UJ. These squares are organized and lettered so they do not repeat themselves but every 18°, which is approximately 1,000 miles in the mid-latitudes. The illustration at right depicts how far one must go before the letters UJ repeat. This ensures a given value such as UJ 2337 0651 is unique out of the entire state it is located in, as well as all surrounding states.

The Power of Truncated USNG Values



Each 2 letter/8 digit USNG value (10-m posting) in the outlined area is unique.

In general, people can use the grid coordinates alone--for example: 233 065. Although the same numbers recurs about every 60 miles, normally that will cause no problem when the general location is understood. This is similar to the way you would tell someone only the last digits of a phone number when the area code is obvious. If there is a possibility of confusion include the letter pair too--for example: UJ 233 065. A letter pair recurs about every 1000 miles, so even in a disaster relief project there will be no other point with those coordinates in a local area. Full USNG coordinates such as 18S UJ 233 065 are worldwide unique. Typically a GPS or other electronic device requires coordinates in that form since unlike a human it doesn't intuitively understand the general location from context. You should always give full coordinates whenever abbreviated coordinates might not be clear or when listing them on letterhead, a business card or advertisement.

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