

Using NGS NCAT to Calc SPC from WAPUS Lat/Long

Open NGS NCAT: <https://www.ngs.noaa.gov/NCAT/>

Set it for:

- Horizontal and Height
- Geodetic lat-long
- Ellipsoidal

Final Results for: QMAR

NAD83(2011) (EPOCH:2010) @ epoch 2010.00		
Measurement method: Antenna Ground Point (AGP)		
Geoid model: GEOID18 (Conus)		
Coordinate	Value	σ [m]
X [m]	-2209778.983	0.001
Y [m]	-3682703.991	0.001
Z [m]	4700708.834	0.001
Latitude	47° 46' 30.34501" N	0.001
Longitude	120° 57' 55.97219" W	0.001
Ellipsoidal height [m]	812.498	0.001
Orthometric height [m]	830.744	0.001

Highlight just the lat or Long (and leave off the N and W) when you select to cut and paste into NCAT, It will convert to the format it needs (e.g., with the dashes). Cut/paste the ellipsoid height (m) as well. Put NAD83-2011 for the input and output. You can have it detect the Zone.

Convert/Transform from:

☐ Horizontal ☒ Horizontal+height ☐ XYZ

Select the type of horizontal coordinate:

☒ Geodetic lat-long ☐ SPC ☐ UTM ☐ USNG

Select a height:

☒ Ellipsoidal ☐ Orthometric

Enter lat-lon in decimal degrees

Lat:

Lon:

or degrees-minutes-seconds

Lat:

Lon:

or drag map marker to a location of interest

Ellipsoid Height:

Units of height:

Input reference frame (historically called 'horizontal datum'):

Output reference frame (historically called 'horizontal datum'):

Don't see a reference frame in the list? [Click here to learn more.](#)

SPC zone:

Then 'Submit'. Scroll down to get the results:

Converted Coordinate					
Reference Frame:NAD83(2011)					
Lat-Lon-Height		SPC		UTM/USNG	
Latitude	N47° 46' 30.34501"	Zone	WA N-4601	Zone	10
	N474630.34501	Northing	86,185.041 (m)	Northing (m)	5,293,307.776
	47.7750958361		282,758.756 (usft)	Easting (m)	652,416.356
Longitude	E239° 02' 4.02781"	Easting	282,759.321 (ift)	Convergence (dms)	01 30 24.57
	W1205755.97219		490,091.040 (m)	Scale factor	0.99988547
	-120.9655478306		1,607,907.020 (usft)	Combined factor	0.99975815
Ellipsoid	812.498		1,607,910.236 (ift)	USNG	10TFT5241693307
Height (m)		Convergence (dms)	-00 05 54.37		
		Scale factor	0.99996006		
		Combined factor	0.99983273		