



PRELIMINARY DESIGN IN PLS-CADD

BY
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TENNESSEE VALLEY AUTHORITY

- INTRODUCTION
- EXTRACTING DATA FROM USGS
- MANIPULATING SURVEY DATA
- CONVERTING SURVEY COORDINATES
- CONVERTING AERIAL IMAGERY
- AUTOMATIC V/S MANUAL SPOTTING



WHY SHOULD I DO THIS?

- YOUR COMPANY IS ON A BUDGET.
- CONSERVATIVE ESTIMATES = LESS AVAILABLE CASH FOR OTHER PROJECTS.
- ACCURATE ESTIMATES LEAD TO MORE PROJECTS & LESS BUDGET OVERRUNS.
- MORE PROJECT THAT MEET THE BUDGET LEADS TO BIGGER BONUSES!

- THE NATIONAL MAP SEAMLESS SERVER
- GOOD DATA - SLOW SERVICE
- 1/3 ARC (10m) SECOND COVERAGE FOR CONTINENTAL U.S.A.
- 1/9 ARC SECOND (3m) COVERAGE FOR NC, WV, LA



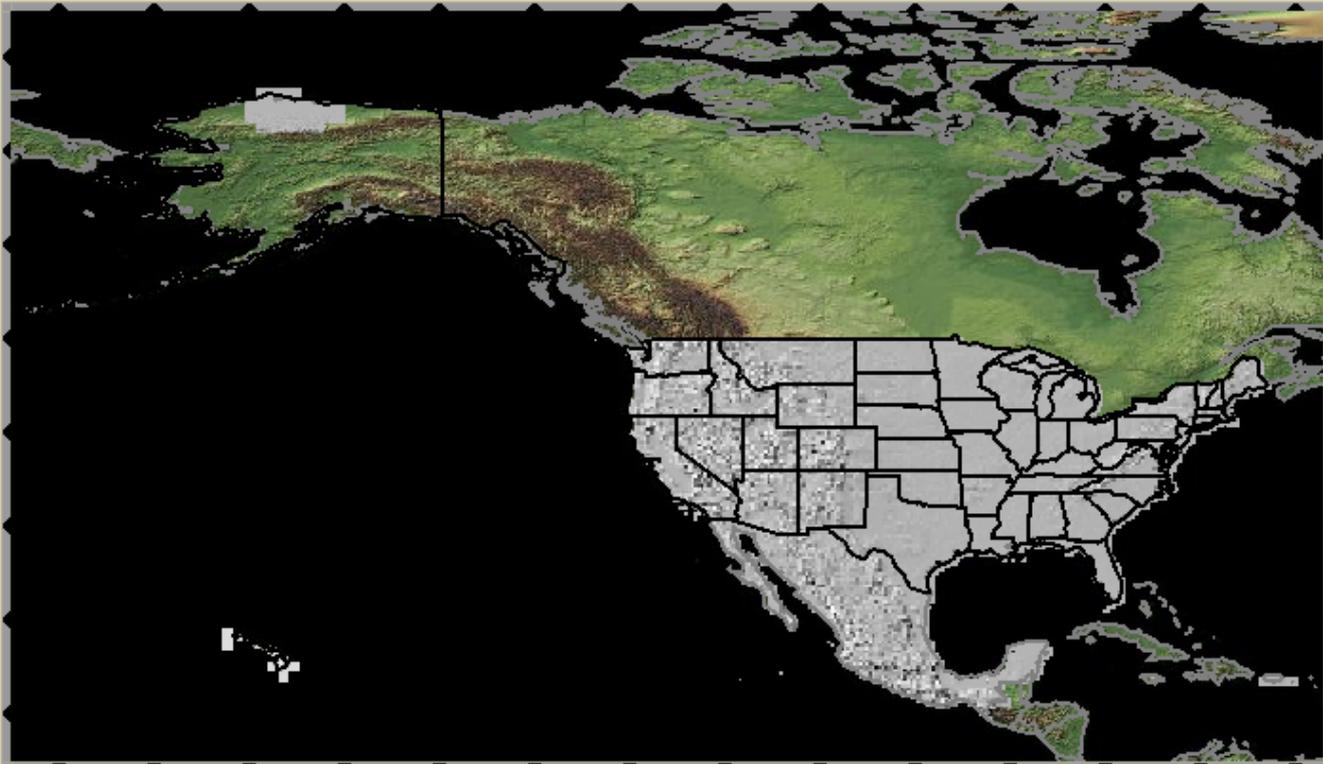
Zoom

Query

Tools

Downloads

Documents



Scale Information

Out In

Scale ~ 1:73,065,050

Display [Download](#)

- ▶ Places (Names)
- ▶ Layer Extent
- ▶ Transportation
- ▶ Boundaries
- ▶ Hydrography
- ▶ Orthoimagery
- ▶ Land Cover
- ▶ Elevation



Script Prompt:

Please Enter the X, Y (Longitude, Latitude) in decimal degrees of a point to zoom to:

OK

Cancel

-97.5, 43.5



Zoom



Query



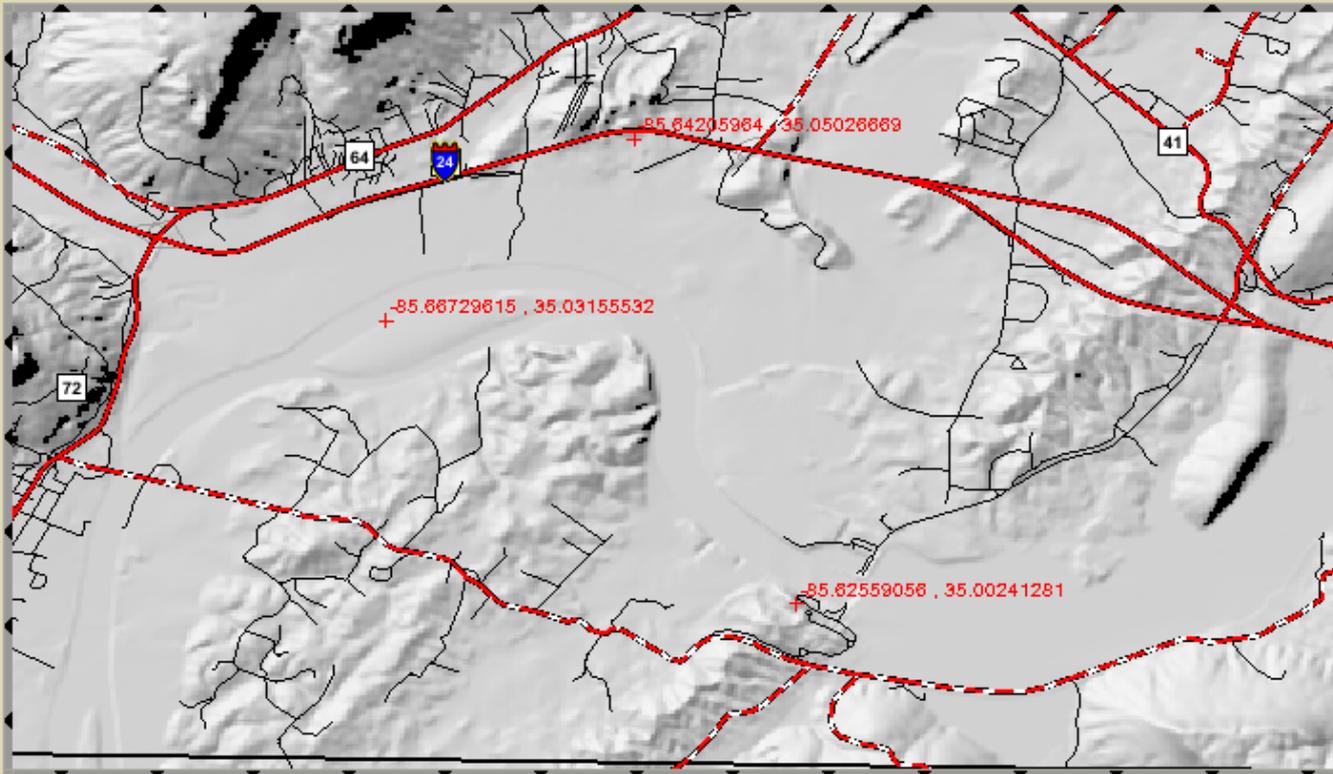
Tools



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Zoom



Query



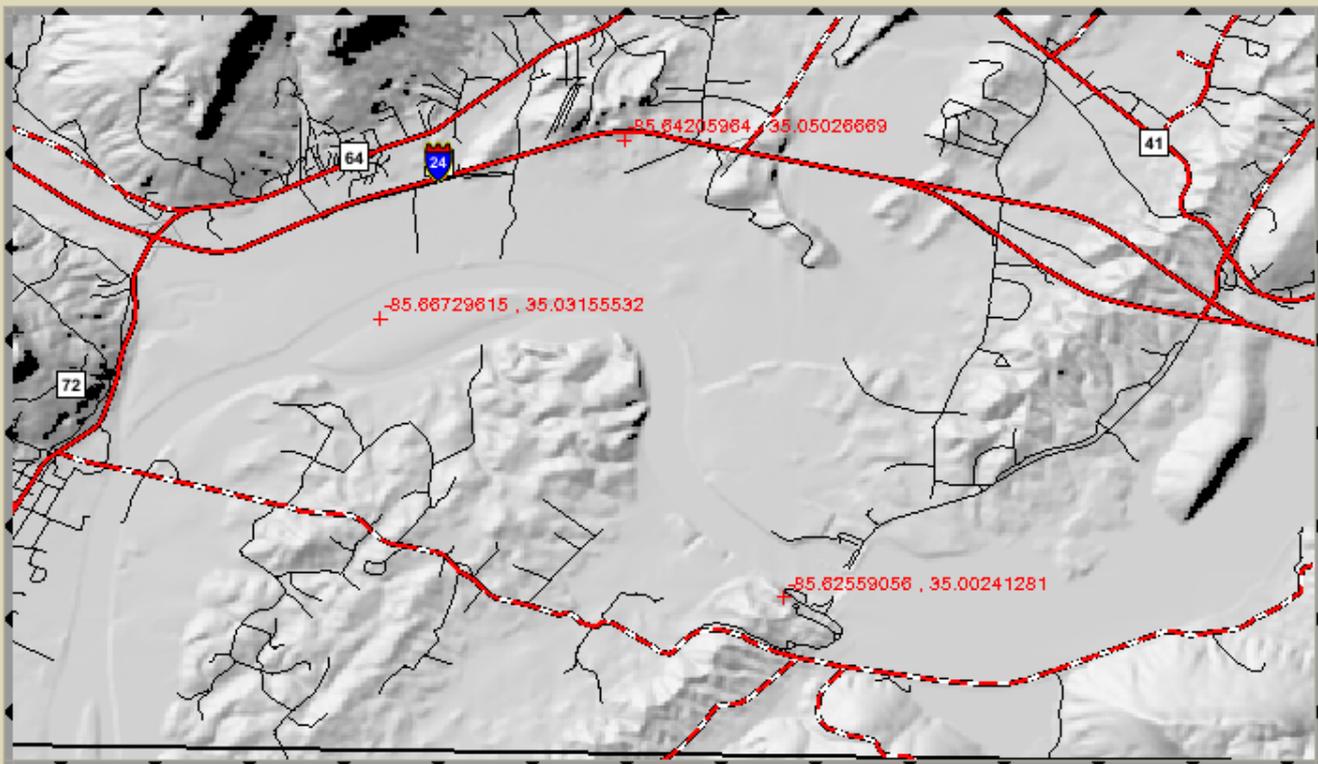
Tools



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Documents



Display **Download**

- ▶ Structures
- ▶ Transportation
- ▶ Boundaries
- ▶ Hydrography
- ▶ Orthoimagery
 - Landsat Mosaic
 - DOQQ 1.0m B&W, UTM Zone 16
 - DOQQ 1.0m Color, UTM Zone 16
 - 24k DRG Zone 16
 - 100k DRG Zone 16
 - NAIP 1m UTM Z16
 - 24k DRG (Tennessee Valley Authority) Zone 16
 - 250k DRG Zone 16
 - NAIP 1m UTM Z16 Additional Coverage
- ▶ Land Cover
- ▶ Elevation
 - 1" NED
 - 1/3" NED
 - 1/9" NED
 - SRTM Finished 3 arc sec
 - SRTM Finished 1 arc sec



Zoom



Query



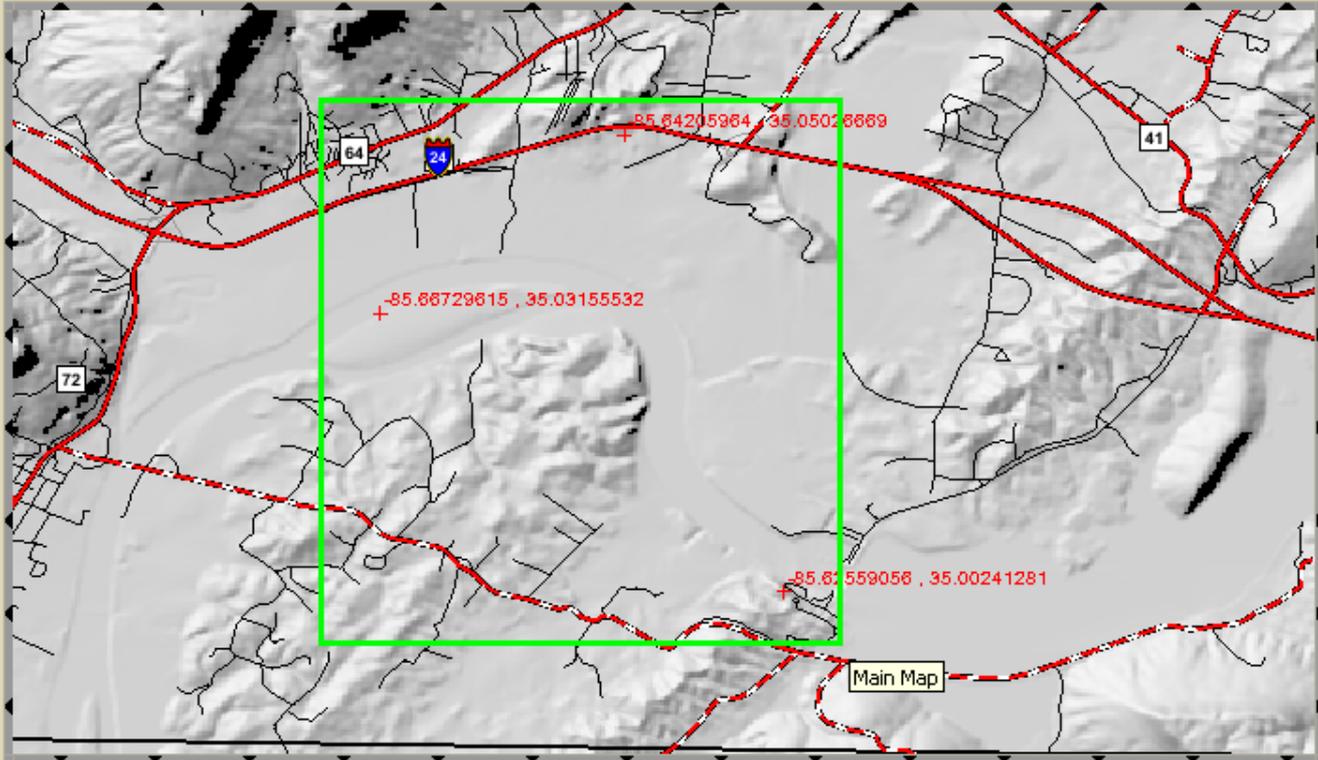
Tools



Downloads



Documents



Click and drag to select area to download

Display Download

- Structures
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The National Map Seamless Server Request Summary Page

You are logged in as Default Seamless User.

[Modify Data Request](#)[Tutorial](#)[HELP!](#)

Data Extraction Request Pieces:

Area	Output Parameters	Size (MB)	Download Links
NAIP UTM Zone 16N			
(WGS 84) N: 35.05417 W: -85.67365  S: 34.99964 E: -85.61931	Output Format: GeoTIFF NAD 83 UTM Zone 16N X cell Size: 01.00 Meters Y cell Size: 01.00 Meters	89	 EROS Data Center Download
National Elevation Dataset (NED) 1/3 Arc Second			
(WGS 84) N: 35.05417 W: -85.67365  S: 34.99964 E: -85.61931	Output Format: ArcGRID NAD 83 Geographic X cell Size: 00.00009 Degrees Y cell Size: 00.00009 Degrees	2	 EROS Data Center Download



The National Map Seamless Server Request Options Page

[Tutorial](#)[HELP!](#)[Cancel All Changes & Return to Summary](#)[Save Changes & Return to Summary](#)

Order Options:

Output Projection and Datum Native ▼

Requested Product(s):

Data Format:	Archive Format:	Metadata Format:
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- Afghanistan
- Amphibian Research and Monitoring Initiative (ARMI)
- Boundaries
- Elevation

<input type="checkbox"/> National Atlas North American Shaded Relief	ArcGRID ▼	ZIP ▼	HTML ▼
<input type="checkbox"/> National Atlas Shaded Relief Land - Color - Conterminous United States 200 Meter	ArcGRID ▼	ZIP ▼	HTML ▼
<input type="checkbox"/> National Atlas Shaded Relief Land - Gray - Conterminous United States 200 Meter	ArcGRID ▼	ZIP ▼	HTML ▼
<input type="checkbox"/> National Atlas Shaded Relief Land - Gray - North America 1 Kilometer	ArcGRID ▼	ZIP ▼	HTML ▼
<input type="checkbox"/> National Elevation Dataset (NED) 1 Arc Second	ArcGRID ▼	ZIP ▼	HTML ▼
<input checked="" type="checkbox"/> National Elevation Dataset (NED) 1/3 Arc Second	GeoTIFF ▼	ZIP ▼	HTML ▼
<input type="checkbox"/> National Elevation Dataset (NED) 1/9 Arc Second	ArcGRID ▼	ZIP ▼	HTML ▼
<input type="checkbox"/> SRTM 1 arc sec - Shuttle Radar Topography Mission [Finished]	ArcGRID ▼	ZIP ▼	HTML ▼
<input type="checkbox"/> SRTM 3 arc sec - Shuttle Radar Topography Mission [Finished]	ArcGRID ▼	ZIP ▼	HTML ▼
<input type="checkbox"/> ...	ArcGRID ▼	ZIP ▼	HTML ▼

MANIPULATING SURVEY DATA

- NED DATA IS IN UTM GEOTIFF FORMAT
- USE MICRODEM TO CONVERT TO XYZ TEXT FORMAT
- USE CORPSCON TO CONVERT FROM UTM TO YOUR COORDINATE SYSTEM
- DATA IS NOW READY FOR PLS-CADD

- DOWNLOAD MICRODEM 7a
- HIT IN/OUT TO OPEN DATA MANIPULATION WINDOW
- EXPORTVASCII XYZ, FULL DEM
- DATA IS NOW IN A SPACE DELIMITATED TEXT FILE (X Y Z)



CORPSCON

- DOWNLOAD CORPSCON 6.0
- SETUP INPUT AND OUTPUT INFORMATION
- LOAD USER DEFINED DATA FILE
- ADD OUTPUT FILE EXTENSION
- SET INPUT AND OUTPUT TO X=1 Y=2 Z=3
- CONVERT

- DOWNLOAD ERDAS VIEWFINDER 2.1
- OPEN TIFF FILE FROM USGS
- SAVE TIFF FILE IN YOUR COORDINATE SYSTEM



SPOTTING FOR ESTIMATES

- HOW LONG IS THE LINE?
- HOW MANY PROHIBITED ZONES?
- HOW MANY FIXED STRUCTURE LOCATIONS?
- HOW MUCH EXPERIENCE DO YOU HAVE WITH SPOTTING TRANSMISSION LINES?

QUESTIONS

- HOW LONG DOES THIS TAKE?
- WHERE CAN I GET THESE SOFTWARE PROGRAMS?