
Roadway Design Geopak Help Manual

Conversions

RWD CADD Support
7-1-2012

Contents

- Overview** **1**

- Coordinate (Lat/Long to State Plane) (ASCII File with Points)** **1**
 - Overview 1
 - Steps 1

- Coordinate (State Plane to Lat/Long) (Individual Points)** **4**
 - Overview 4
 - Steps 5

- Metric to English (Project)** **6**
 - Overview 6
 - GPK 6
 - Plan DGN Files 7
 - XS 8

- Glossary of Terms** **9**

- Index** **11**

Overview

This chapter explains how to convert various items with GeoPak.

Coordinate (Lat/Long to State Plane) (ASCII File with Points)

Overview

GeoPak Survey provides a Coordinate Conversion tool to convert coordinates from one coordinate system to another. Individual points or ASCII files containing coordinates can be converted. The example below describes converting an ASCII file with Lat/Long to State Plane Coordinates.

Steps

1.) Get a Text file with Lat/Long (Lat-long2.txt) in degree/decimal (as shown in example below) or degree/min/sec format.

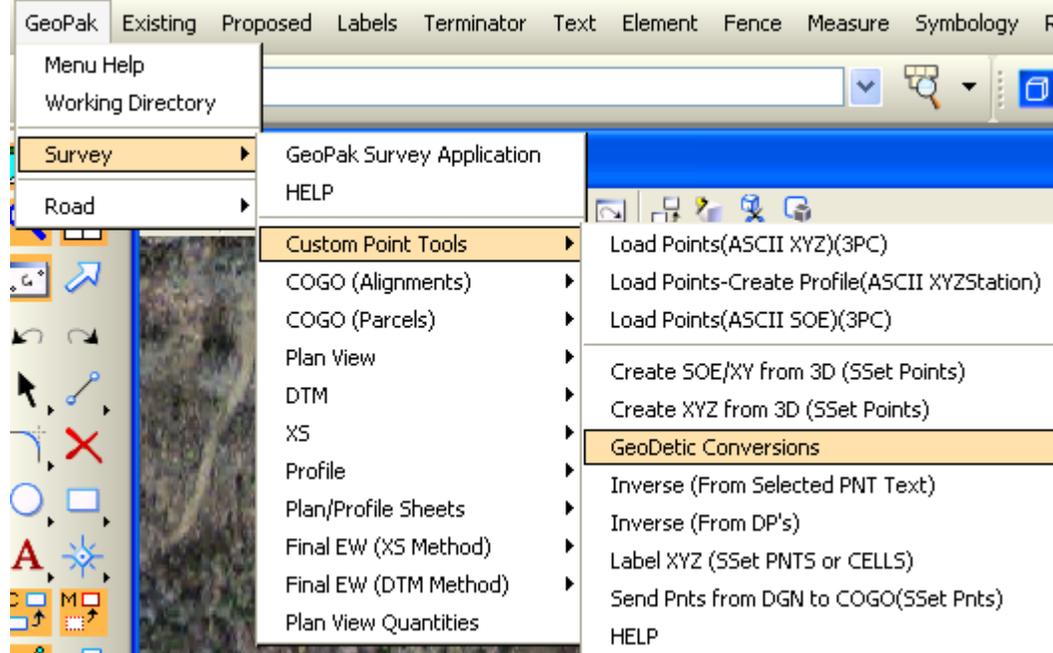
33.48598333,88.45703333

33.48603333,88.45688333

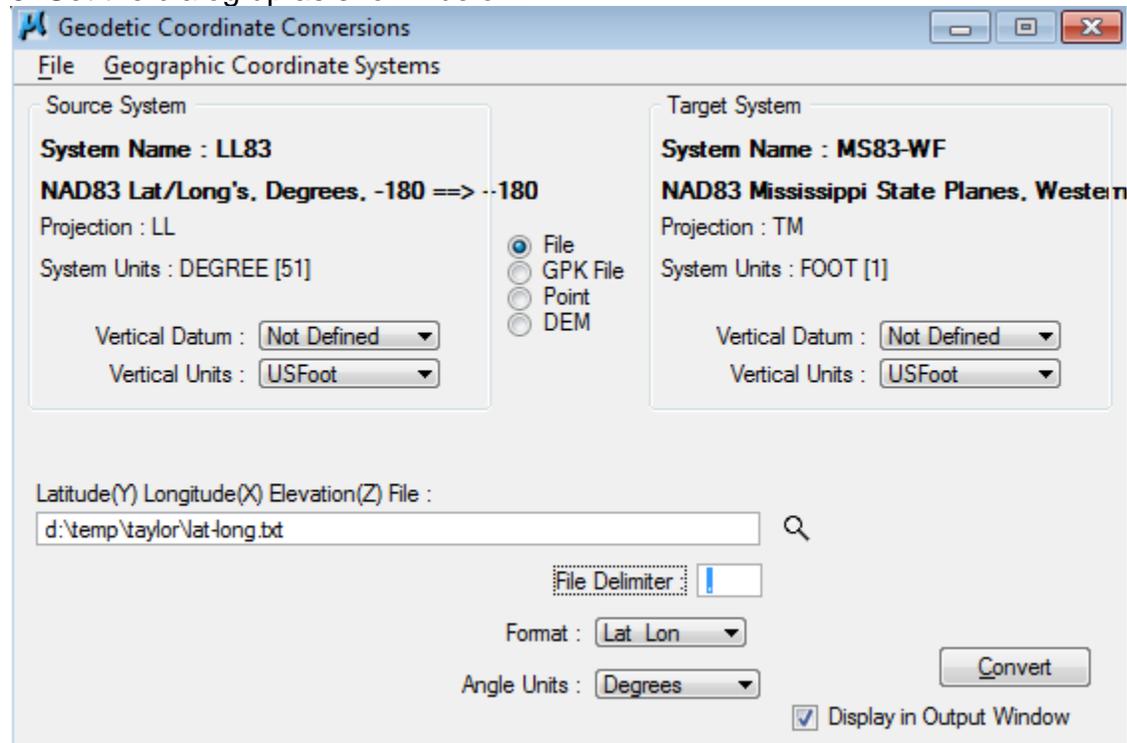
33.48616667,88.45666667

33.48625,88.4565
33.4863,88.45646667

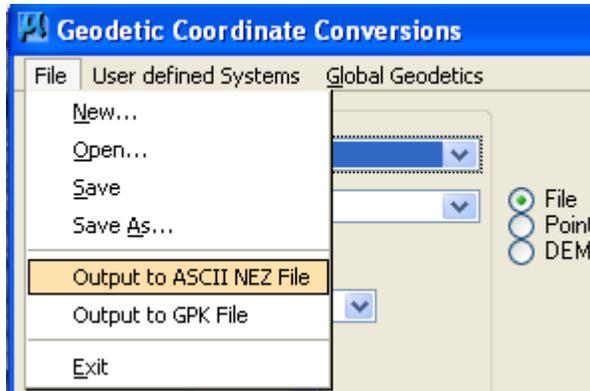
2. In a DGN file, open GeoDetic Conversions



3. Set the dialog up as shown below:



4.Tag File -> Output to ASCII NEZ File

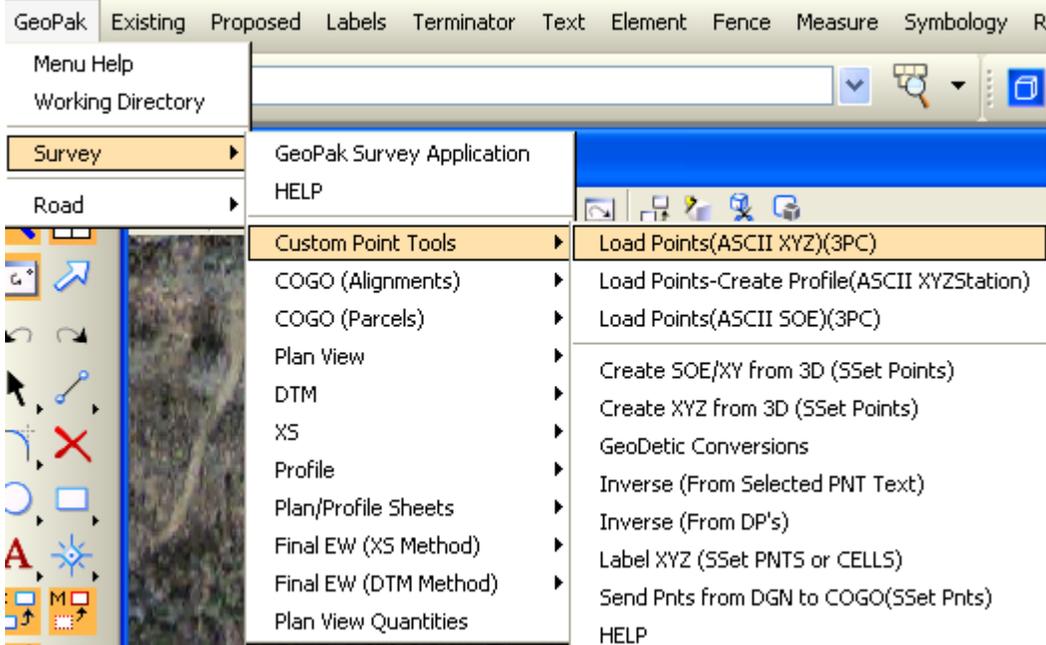


5. Enter an output file name, tag OK



5. Tag "Convert Points" which creates the state-plane.txt file.

6. Load the Points in a DGN file.



Coordinate (State Plane to Lat/Long) (Individual Points)

Overview

The example below describes converting one point from State Plane Coordinates to Latitude/Longitude.

Steps

Geodetic Coordinate Conversions

File Geographic Coordinate Systems

Source System

System Name : MS83-WF

NAD83 Mississippi State Planes, Western Zone, US Foot

Projection : TM

System Units : FOOT [1]

Vertical Datum : Not Defined

Vertical Units : USFoot

Target System

System Name : LL83

AD83 Lat/Long's, Degrees, -180 ==> --1

Projection : LL

System Units : DEGREE [51]

Vertical Datum : Not Defined

Vertical Units : USFoot

Source Point

Name : Store

North :

East :

Height :

Target Point

Name :

Lat :

Lon :

Height :

File

GPK File

Point

DEM

Convert

Inverse

Convert >

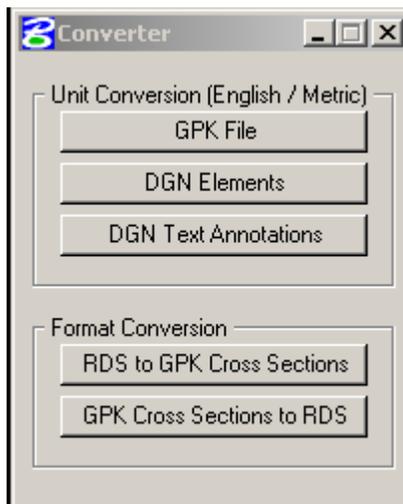
< Convert

Display in Output Window

Metric to English (Project)

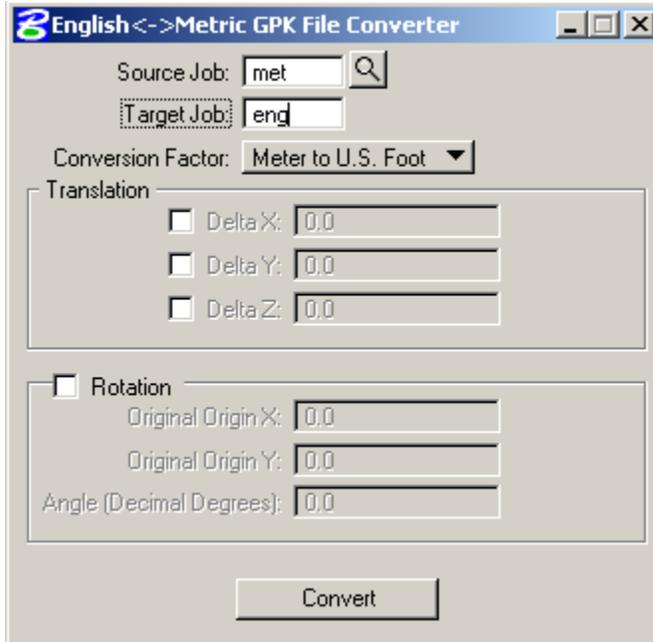
Overview

There are times when projects need to be converted from Metric to English or vice versa. The examples shown below discuss converting from Metric to English. All applications are invoked by going to GeoPak Road > Utilities > Conversion Tools.



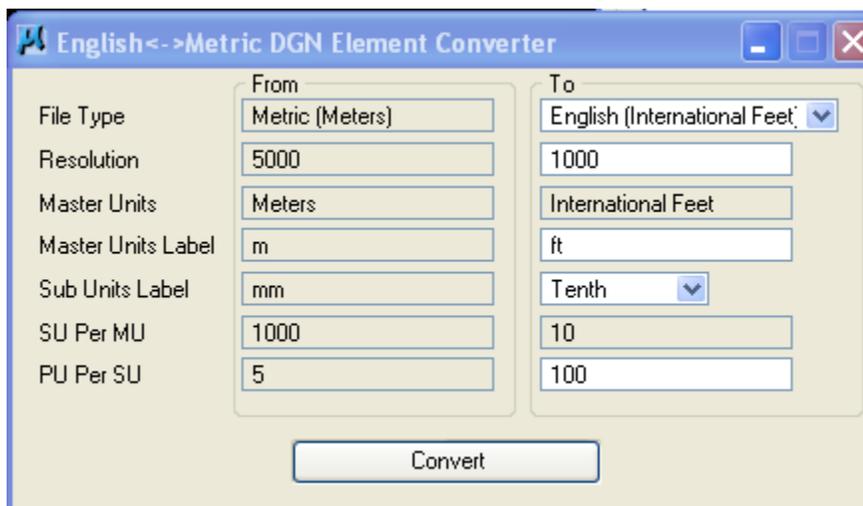
GPK

The GPK is converted with the application shown below. All elements in the GPK are converted. Stationing is converted also. 1+000 would become 32+80.83333.



Plan DGN Files

- 1) Enter the Metric DGN file using the Metric Workspace.
- 2) Choose the DGN Elements conversion tool and set as shown below.



- 3) Tag Convert. Since this is converts the DGN to International Feet, the elements need to be scaled to convert them to US Feet which is done in the next few steps.
- 4) Set AS = 0.999998
- 5) Select All elements in DGN (Edit – Select All)
- 6) Scale and keyin “XY=0,0” for origin point.

XS

There is no automatic conversion of XS's. You basically have to create a TIN, convert it, and then re-cut sections. The steps below describe how to convert XS's.

1. Create a TIN of your Metric XS's (XS Reports to create DAT file and then Build TIN).
2. Plot the TIN in a 3d METRIC file and then DROP Complex to break the Mesh to individual shapes.
3. Plot the Pattern lines from XS in a Metric 2d Seed file.
4. Convert the 3d TIN DGN file and the Pattern DGN file to English as stated in "Plan DGN Files" steps above except you will enter $xy=0,0,0$ in 3d file.
5. Use DTM > Extract Graphics with the Feature set to Graphic Triangle to create an English DAT file.
6. Build the English TIN from the English DAT file.
7. Re-Cut XS's using Road > Cross Section > Draw XS from Surfaces to create new sections from the English TIN by looking at the English Pattern lines and English GPK. This will produce oddball x-sections but they are cut at the exact location as they were taken.

Glossary of Terms

Index

Error! No index entries found.