

## Using CORPSCON for Coordinate Conversion

The Geonet Gravity and Magnetic Dataset Repository is at (3/2009):  
<http://irpsrvgis00.utep.edu/repositorywebsite/Default.aspx>

Those data are served up as (latitude, Longitude, value) in NAD 1927 horizontal coordinates; save those on the desktop with an 8-character file name (e.g., my\_data.txt). For gridding and manipulation, it is best to have them in rectilinear coordinates such as UTM or State Plane. [Corpscon](#), from the US Army Corps of Engineers, does that coordinate conversion.

**SURFER** – start Surfer and open a worksheet

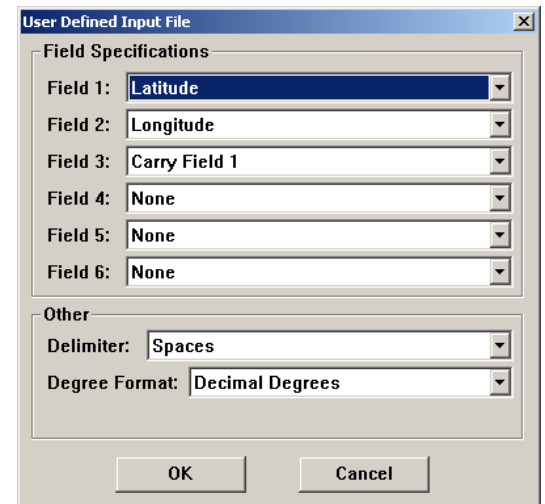
- Surfer/Worksheet
- File/Import – the data you downloaded (my\_data.txt)

	A	B	C	D	E	F
1	Magnetic	Dataset	-	Total	Records:	27427
2	Latitude	Longitude	Intensity(nT)			
3	-----					
4	47.499008	-111.73744	139.04			
5	47.499184	-113.23602	158.99			

- Delete the first 3 rows ( you will now have 3 columns without any header information)
- **Data/Transform: B=-B** (Corpscon does not use standard longitude sign convention!)
- Save the files as space delimited .dat (my\_data.dat)

**CORPSCON** – start Corpscon

- Input Format
  - select Geographic Coordinates, NAD 27
- Output Format
  - State Plane NAD 83, Montana – 2500
- Convert/User Defined Input
  - Field 1 = latitude
  - Field 2 = longitude
  - Field 3 = carry field 1
  - delimiter = spaces
  - degree format = decimal degrees
  - select your input file (here you notice a glitch – CORPSCON is still DOS oriented in that it only likes 8-character file names
  - user defined output file (pops up): so define output file
    - Field 1: Easting/X coord.
    - Field 2: Northing/Y coord.
    - Field 3: Carry Field 1
    - file name – give it a name (different than original)
    - it should start converting
  - hit “OK” and you get some info suggesting it worked (hopefully).
- Close Corpscon



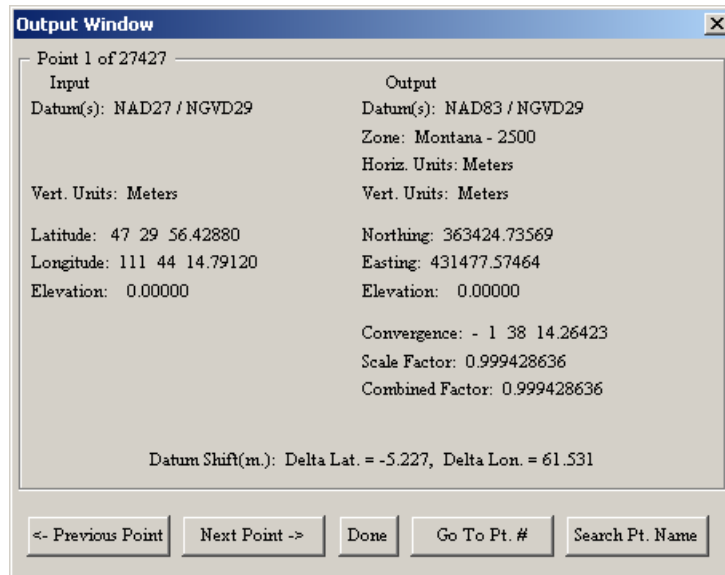


Figure 1. Results after a successful Corpscon run.

## SURFER

- File/Open the file you just made in Corpscon in a Surfer Worksheet

NC_MT_MA.DAT							
A4							
	A	B	C	D	E	F	G
1	SOFTWARE	Corpscon	for	Windows	5.11.08		
2		Horizontal	Datum:	State	Plane	NAD83	
3		Horizontal	Zone:	Montana	-	2500	
4		Horizontal	Units:	Meters			
5		Vertical	Datum:	NGVD29			
6		Vertical	Units:	Meters			
7	363424.74	431477.57	139.04				
8	367746.22	318710.75	158.99				
9	362871.74	453159.56	250.35				
10	364787.46	390268.01	201.16				

- delete the top 6 lines so you are left with easting, northing, TMI
- the 3<sup>rd</sup> column should be the same as the 3<sup>rd</sup> column in the original data set (still open in a worksheet)
- MERGE** the 2 worksheets:
  - In the first one, highlight column 4, select File/Import – your converted file; columns C & F should be the same.

N_central_MT_magnetics.dat							
I23							
	A	B	C	D	E	F	
1	47.499008	111.73744	139.04	431477.57	363424.74	139.04	
2	47.499184	113.23602	158.99	318710.75	367746.22	158.99	
3	47.499245	111.44943	250.35	453159.56	362871.74	250.35	
4	47.499378	112.28497	201.16	390268.01	364787.46	201.16	
5	47.499409	113.48113	60.19	300276.02	368680.11	60.19	

- Add some header info, delete C, and you are done.
- B=-B to fix Corpscon's backwards coordinates!!**