Shifting Coordinates Shifting Coordinates To Local Plane (XY Translation)

Our objective is to shift the coordinate (Northing, Easting) that is relative to the Master (Green) station to coordinate relative to the Known Point (pink).

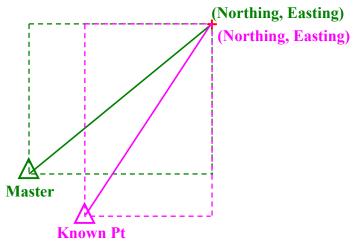


Figure 1. Master to Known Point

Step 1: Create and Define Transformation

1) First we need to define the transformation. This can be done under the 'Tools' menu, select 'Grid/Map Projection' and then 'Define', refer to Figure 2.

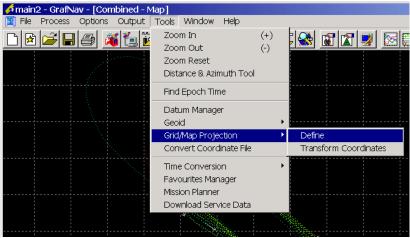


Figure 2. Tools Menu

2) You will come to the following screen, click 'New':

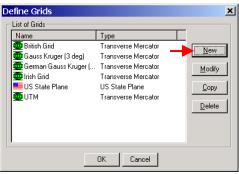


Figure 3. Define Grids

3) You will be asked to provide a name; in our case we will call it "TM_Custom". Select 'Transverse Mercator' then click 'Next'.

or (UTM, Gauss Kruger	МТМ, ЗТМ,	eto l	
		e.c)	

Figure 4. Enter Grid Name and Type

- 4) You will then come to the 'Transverse Mercator Settings' dialog box (Figure 5).
 - a. Select 'Use a fixed Central Meridian'.
 - b. Enter the Longitude of the Known Point.
 - c. Enter the Latitude of the Known Point.

Click 'Finish'.

😁 Tran	nsverse Mercator Settings	×
C Pi Zo	Scale rompt user for zone number Scale factor (on Central Meridian): one width: 6.000000 (deg) M.of Zone 1: 177.000000000 (deg)	
(b) 🔶 🔽	Jse a fixed ⊆entral Meridian West ▼ 74 33 57.3325 inin False Northing (North Hemisphere):	
	ign Pase Nothing (North Hemisphere). ide Origin (usually 0.0): 0.0000 (m) lorth ▼ 39 27 53.4012 False Northing (North Hemisphere). 0.0000 (m) (m) (m)	
	< <u>B</u> ack Finish Cancel	

Figure 5. Transverse Mercator Settings

Step 2: Export Wizard/Output

You may output the shifted coordinates (easting, northing) using 'Export Wizard'. The coordinates can be found under the variables are named 'Selectable Grid-East' and 'Selectable Grid-North'.

Define Profile for My State Plane	[Source is GPS Epochs]
Source Variables	Export Variables
< Grid/Map Coordinates >	Station Name
Selectable Grid-East	GPS Time [Seconds of the Week] Local Plane X [Metres]
Selectable Grid-North	Local Plane Y [Metres]
UTM-East	Local Level X [Metres]
UTM-North TM-East	Local Level Y [Metres] Selectable Grid-East [Metres]
TM-North	Selectable Grid-North [Metres]
Gauss Kruger-East	
Gauss Kruger-North	
Lambert-North	
State Plane-East	
State Plane-North British Grid-East	
	·
Add Insert Info	Remove Format Up Down
Header/Footer Line Terminator	ОК
Field Separator Preview File	e extension: .txt Cancel

Figure 6. Export Wizard

When you reach the 'Select Grid System and Settings', make sure you select the transformation grid that you created in Step 1.

<u>D</u> atum	– British Grid Gauss Kruger (3 deg)			
Enter Zone	German Gauss Kruger Irish Grid US State Plane			
∠one:	UTM TM_Custom	5	32569	
Zone:	AL East (0101)	~		
Enter Grid C Easting (X)		(m)		
Northing (Y		(m)		

Figure 7. Select Grid System and Settings