

GIS Points for staking using Trimble Access

Overview: Use the following process for creating points in ArcMap or Toolkit and exporting them to a Trimble Access survey controller for stakeout. The work must be exported in a real world coordinate system that matches the Trimble settings. The points will be exported to a shapefile dataset which will need to be copied to the Trimble Access unit and connected to the staking survey job as an active map.

Software: ESRI ArcMap 10. Projection file: *NRCS_IA_UTMif.prj*. Windows Mobile Device Center. Trimble Access on Trimble TSC3 controller.

Notation: <input type="button" value="Button to Press"/> <i>Displayed Text</i> Icon <u>Action</u> {Text to Enter} <i>Menu Item...</i>

Part I



Create and output Points from ArcGIS for use in Trimble.

- ◆ This process creates point shape files to be ready for use in Trimble Access. The coordinate projection of the shape file needs to match the job used in Trimble Access. (Iowa NRCS uses NAD 83 UTM Zone 15, International Survey Feet.) Elevations of an object are NOT brought into Trimble.
- ◆ The correct coordinate system must be set **before** creating points in the shapefile.
- ◆ Method A is when working directly in ArcMap. Method B is for use with Toolkit.
- ◆ This works for GIS polygons and polylines as well as points.

Part I - Method A

- ◆ Using ArcMap to create a Points shapefile for staking

Create the shapefile with the correct Coordinate system:

- 1) In Catalog  browse to a location to save the new shapefile. Make a note of this location so you can find it later.
- 2) Right click on the folder and click *New... Shapefile...*
- 3) Input a name for the shapefile. E.g. {MyProjectPoints}
- 4) Pulldown Feature Type to *Point*. Click *Edit*.
 - a) Click the down arrow to the right of the globe (), select *Import* and browse into the folder where you have saved the Iowa NRCS projection.
 - b) Select *NRCS_IA_UTMif.prj* and click . Click .
- 5) Click the new shapefile will be created and added to the Table of Contents.

Create Points in the Shapefile:

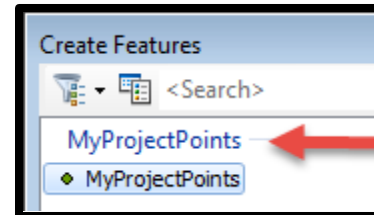
- 6) In the *Table of Contents* right click the shapefile layer (E.g *MyProjectPoints*)
- 7) Click *Edit Features... Start Editing...*
- 8) A message might appear noting that the spatial reference does not match the data frame. Click


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- 9) Under the Editor Toolbar Press the *Create Features Button*




- 10) In the Create Feature window click on the heading for the *MyProjectPoints* list.



- 11) At the bottom of the Create Feature window click on the Point icon  within the Construction Tools.

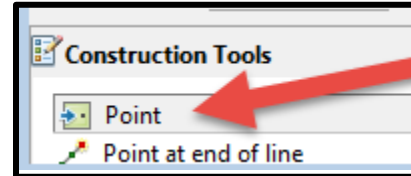
12) Digitize the points that you want to add.

13) When done adding points, in the Editor toolbar click *Editor* ▼ *Stop Editing* .

14) When asked to save edits click *Yes*

15) Save your ArcMap work.

16) Exit out of ArcMap.







The shapefile that you just created is ready for use in Trimble Access. Go to Part II.

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Part I - Method B

- ◆ Using Toolkit to create a Points shapefile for staking

Create the shapefile with the correct Coordinate system:

- 1) Click *Create New Toolkit Layer* 
- 2) Select *Point* in the Resource Inventory group
- 3) Type in the desired name for the point layer under “Layer Name” and for the file name and file location under “File Name”. (E.g. *MyProjectPoints*)
- 4) Note the folder location of the shapefile being created. Click
- 5) In the Editor toolbar click *Editor* ▼ *Stop Editing* 
- 6) In ArcToolbox click *Data Management Tools... Projections and Transformations... Project*
 - a) Choose the newly created layer (E.g. *MyProjectPoints*) in the Input Dataset or Feature Class dropdown.
 - b) Browse to the appropriate folder for the Output Dataset or Feature Class E.g. *C:drive... Users... Your.Name... My Customer Files Toolkit... {toolkit project name}... resource maps...*
 - c) Click the Spatial Reference Properties button 
 - d) Click the down arrow to the right of the globe (), select *Import* and browse into the folder where you have saved the Iowa NRCS projection.
 - e) Select *NRCS_IA_UTMif.prj* and click .
- 7) Click

Create Points in the Shapefile:

- 8) Click *Toolkit Digitizer* 
- 9) Choose the layer (E.g. *MyProjectPoints_Project*)
- 10) On the Editor toolbar click *Add feature*
- 11) Digitize points that you want to add.
- 12) When done adding points, in the Editor toolbar click *Editor* ▼ *Stop Editing* 
- 13) When asked to save edits click
- 14) Save your Toolkit work.
- 15) Exit out of Toolkit.

The shapefile that you just created is ready for use in Trimble Access. Go to Part II.

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Part II

Transfer point files to Trimble device and Setup links.

- ◆ This process transfers shapefiles to the Trimble controller and makes the data available for staking.

Copy the shapefile to the Trimble controller:

On TSC3/2 controller

- 1) Power on TSC3/2.

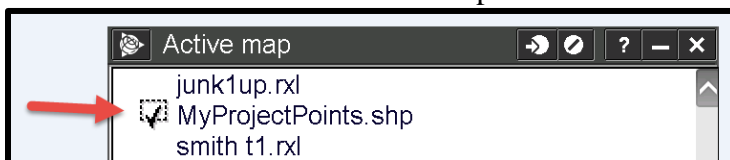
On computer

- 2) Connect USB cable to computer, and TSC3/2 controller.
- 3) On computer, Windows Mobile Device Center appears.
- 4) Click Connect without setting up your device.
- 5) Click File Management... Browse the contents of your device...
- 6) Open another Windows Explorer screen and browse to the location of the shapefile to be copied.
- 7) Right-click, *copy* on the .shp files that you wish to upload. (Copy all of the files associated with the .shp file.)
- 8) In the Explorer screen for the data collector browse to `\Trimble Data\NRCS\`
- 9) Click Organize... Paste... to place the upload file into the NRCS folder.
- 10) You can now disconnect the usb cable to the Survey Controller.

Create the staking job and link the shapefile in Trimble Access:

On TSC3/2 Controller

- 11) Press the **Trimble** button or Click *Start... Trimble Access*.
- 12) Click *General Survey*
- 13) Click on *Jobs... New Job*
- 14) Input the new *Job name*,
- 15) Set the Template as **NRCS-GPS**
- 16) Click *Active Map* to link shapefiles to this job. The list shows all selectable maps that are in the NRCS folder. Find the shapefile (E.g. *MyProjectPoints.shp*) and click on it twice to make the contents of the shapefile selectable.



It should display a check w/ a dashed box around the checkmark.

- 17) Click Accept. It will show how many files are connected.
- 18) Click Accept.

The points will show up in the **Map** and can be used for staking.