

FO-4313/6313 Spatial Technologies Laboratory
8. Global Positioning System (GPS): LandMark Recon/Nomad Unit

- I. Activate the Sole Field/Forest program on the LandMark Recon/Nomad GPS unit:

 Elect “Create a New Project” and give it a name; touch the name and use keyboard.

- II. Review the Settings tabs on the LandMark Recon/Nomad GPS unit:

 A. General tab: set Northing-Easting, meters, acres, decimal degrees.
 B. Zone tab: set USA, UTM, NAD 1983, Zone 16 90W - 84/W
 C. Logging tab: check Ask for Feature Information, Save DOPS etc, Force Map to Draw
 D. Signal tab: average 10 measurements, DOP = H @ 4, Time-out = 20 secs
 E. Files tab: Data folder = \Built-in Storage\My Documents\Solo
 Feature file = Forestry33.fea or Forestry44.fea (for Nomad)
 F. Receiver tab: Brand = Garmin 17N
 Antenna height = 1.5 meters
 Leave rest of setting alone.
 G. Laser tab: no changes; no laser is attached.
 H. Com tab: check Disable User Serial Port Input
 I. Raw Data tab: no changes

 Touch OK at lower left corner to return to GPS screen

- III. Touch View Tab, then Map Layers, then the + sign over a stack of papers:

 A. Change Type to Arc Shapefile (*.shp)
 B. Touch “nav_utm83_cfr.shp” file
 C. Touch OK at bottom of screen, then next OK again.
 D. Touch “Turn on themes and make visible”
 E. Then OK, OK, Yes save Base Map configuration, then OK for name/location.
 Returns to GPS screen
 F. Touch View tab, then Zoom Everything to see points on shape file.

- IV. To navigate to the points on the shape file: nav_utm83cfr.shp

 A. Touch Edit tab, Stylus Use (set to Manual X,Y)
 B. Touch one of the navigation points with stylus to put an X on it; center if possible.
 C. Touch Tool tab, then Navigate, make sure upper tab Point is selected, then OK
 D. Using Distance and Bearing values, navigate to the point and identify it.
 E. Repeat steps B-D for each navigation point.

- V. To return to logging GPS points, polygons, lines, Redo Edit tab, Stylus Use to Logged Data

- VI. Log/record a Static Area Polygon:

- A. Touch Log tab, Log a Point, Choose an Area type feature such as Tract; rename if desired,
- B. When at the corner of the desired polygon, touch the Log Now tab at bottom of screen.
- C. If sufficient points are averaged (3-4 is plenty), accept the point.
- D. Move to the next corner of the polygon, and repeat the process by adding another point to the same area feature.
- E. Be sure to do all points in a clockwise or counter-clockwise manner; do NOT do diagonal corners.

VII. Log/record a Dynamic Area Polygon:

- A. Touch Log tab, Offset/Interval, then choose if you need Offset with the time interval. If the antenna is directly over the desired points then only choose Interval; if you have to offset the point to your right/left (i.e. over wire fence), then choose Interval/Offset.
- B. Choose the desire type of Area polygon, then OK
- C. Set the time interval to 2 or 3 seconds; not less than 2
Set offset distance right/left as needed.
- D. When ready to log points, touch the Start key; if everything is working the number of points counter should increasing; if not, start again.
- E. When complete, touch Pause then Cancel.

VIII. Assignment for this Laboratory Exercise:

- A. Go to the Harvesting Demonstration Area on Highway 25.
- B. Start a New Project; give it a name you can remember!
- C. GPS the open field on the north side of gravel road (i.e. around the open shed) with a Static Area Polygon.
- D. Choose a different area polygon type fo the next area, or the lines will connect.
- E. GPS the RV Park on the south side of the gravel road with a Dynamic Area Polygon.

IX. Next lab will involve exporting shape files and drawing a map; remember Unit Number!