Intro to SoloForest

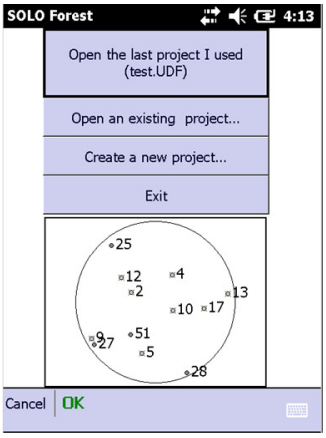
How SoloForest works:

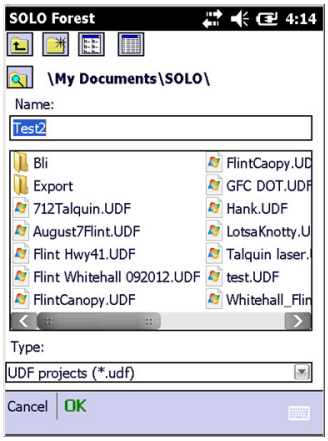
- SoloForest is a forestry specific GPS data collection program from Trimble. It runs on any Windows Mobile or Pocket PC device and Windows Desktops/Tablets.
- SoloForest (Solo) allows users to create map projects and record point, line, and polygon features thru a simple preset feature file (similar to a data dictionary).
- Solo allows users to have several features in progress at any given time to maximize efficiency.
- Data is collected in a proprietary .UDF format, but can be exported in a variety of vector formats including ESRI shapefile and AutoCAD DXF.
- Can utilize several different layer types as basemaps including: TIF, JPEG, JPEG2000, ECW, ESRI shapefile, AutoCAD DXF. (No MrSid support).
- Other features include cruise grid generation, splitting/merging polygons, and laser interface for offsets.
- There is a desktop companion call SoloOffice and an ArcGIS Toolbar called Solo 360 available from Trimble that can aid in project management but these are not necessary to process data.

SoloForest Basics

1. **Creating a new map project**

- Open SoloForest using any method you choose.
- From the opening dialog select ***Create a New Project***.

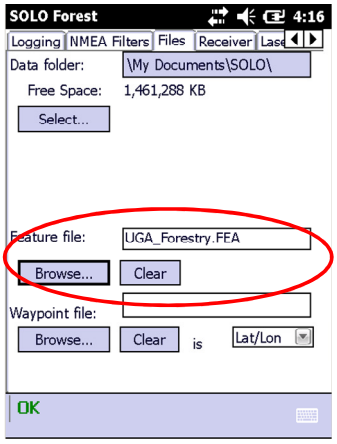




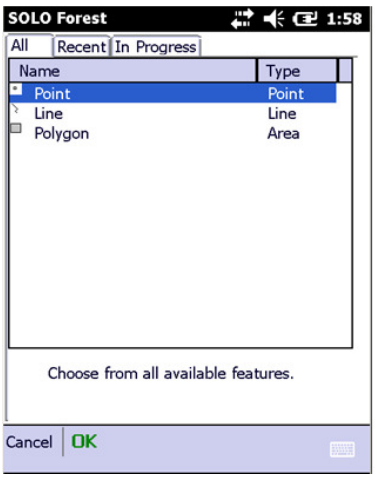
- Replace the default project name with a more meaningful one. Dbl tap in the name field to highlight the name, now whatever you type in will replace that name.
- Press OK to accept the new file name. (note that it has a .UDF file extension.)
- You will then be automatically be taken to the project settings, there are 10 tabs here to adjust settings. Once your settings are verified you can OK out get to the main map screen. Your project settings will become the defaults for the new projects. See LandMark SoloForest manual for more details on the project settings.

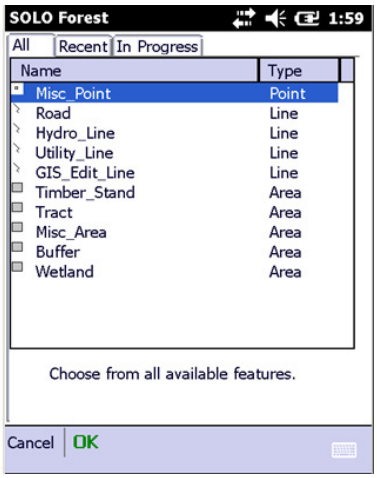
2. **Loading a feature file"**

- Select *File* > *Settings* > *Files tab* and tap Browse next to Feature File. Dbl tap on the desired feature file and OK back out.



- The feature file stores the preset list of features sometimes also called a data dictionary.
  Some examples of the features possible in a feature file:





3. **Getting Started Collecting Points. Line, and Areas:**

- Be sure you have a GPS signal by checking the Status Bar located above the menu bar. You should see GPS or DGPS and at least 4 sats.

- Collecting Data requires you to make 3 choices. Here are the questions to ask yourself:

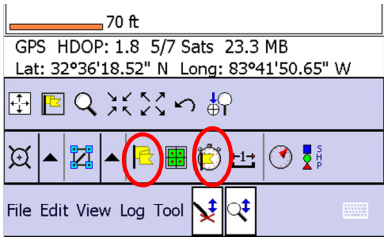
  - Which collection method will be used; Static **or** Dynamic?

  - Will the new positions you are about to collect be used to create a new feature **or** will they be added to an existing feature?

  - Will the positions collected be applied to a point, line, **or** polygon (area) feature?

- These questions will help you determine which buttons, tabs, and options you choose thru the workflow.

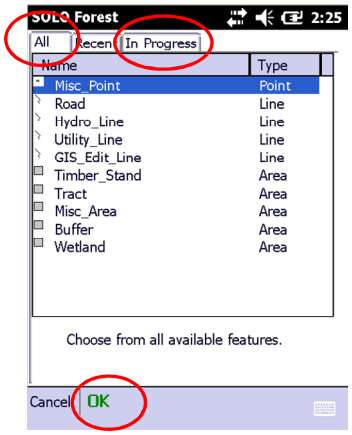
1. **Static or Dynamic ?**




Static


Dynamic

2. **New or In Progress?**

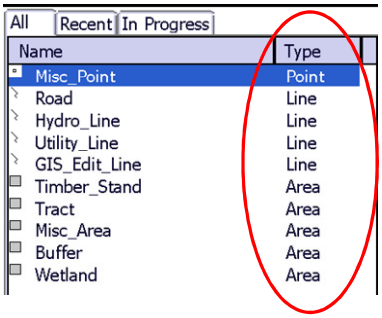


All tab – Select to create a new feature.

In Progress Tab – Select to add data to an existing feature.

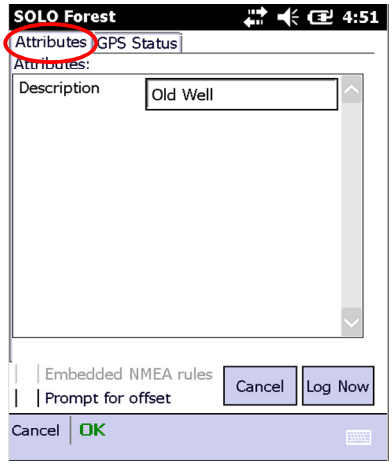
Double tap on the desired feature after selecting the appropriate tab or Press OK.

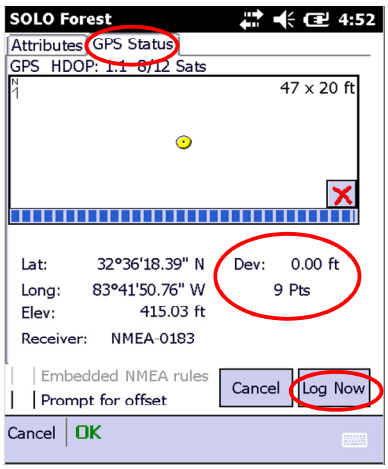
3. **Point, Line, or Area (Polygon)?**



4. **Collecting Static Features:**

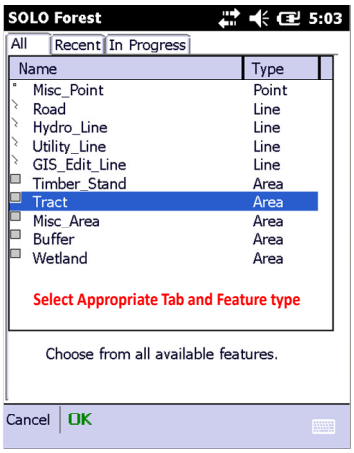
- Press the Log Static button and select the appropriate feature from the appropriate tab.
- For Static Features there is an **Attributes tab** and a **GPS Status tab** as shown below.
- Visit both tabs; enter your attributes (description) while you are averaging your GPS positions and then click on the GPS Status tab to be sure you have good data by viewing the number of positions collected and deviation.
- Don't move the receiver or you will introduce error.
- Press **Log Now** to store the averaged position. (**Note: Do Not Press OK or you will Close out of the Data Collection window WITHOUT storing the Point.)**

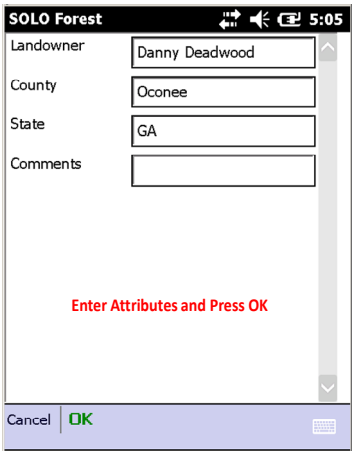


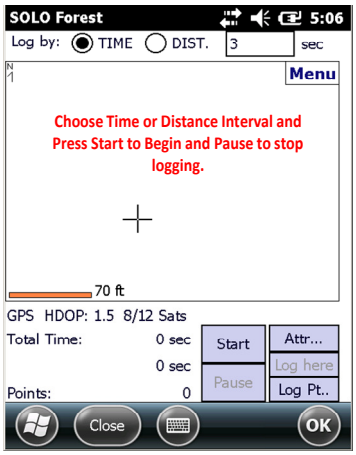


5. Collecting Dynamic Features:

- Press the Log Dynamic button then;

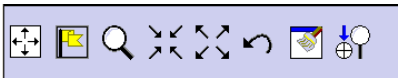




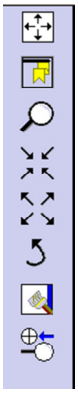


6. Zooming Options

- Note the Zoom Toolbar which ONLY contains tools for zooming.



- Here are the functions of each button:



Zoom to Everything

Zoom to Logged (GPS) Data

Zoom Window (drag a rectangle around desired area)

Fixed Zoom In

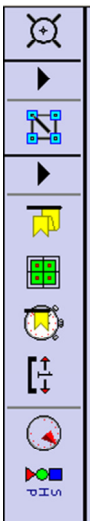
Fixed Zoom Out

Zoom to Previous Extent

Refresh

Follow GPS Position (Auto Pan)

7. Forestry Tools Toolbar



Log With ; choose GPS, Manual XY, or Laser.

Stylus Use: Choose appropriate

Log Static

Generate Cruise Grid

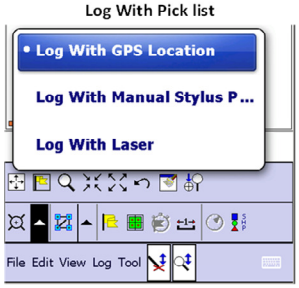
Log Dynamic

Measure Tool

Navigate

Export Shapefile

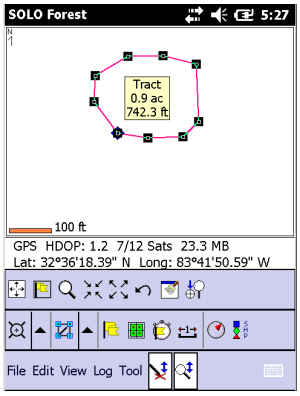
Log With Pick list



Stylus Use Pick list

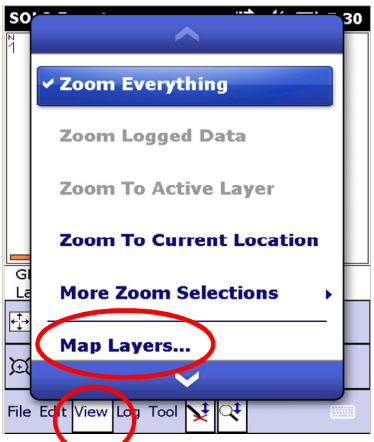
8. Calculating acres and distance:

- Once a line feature is created you can easily calculate the length. For Area features you can calculate acres and perimeter. Make sure your Stylus Use is set for ***Stylus Selects Whole Feature*** and the tap somewhere on the feature with your Stylus pen. The example below shows an area feature where the Feature type, Acres, and Perimeter is displayed when the feature is selected. Tap off of the feature to unselect it.

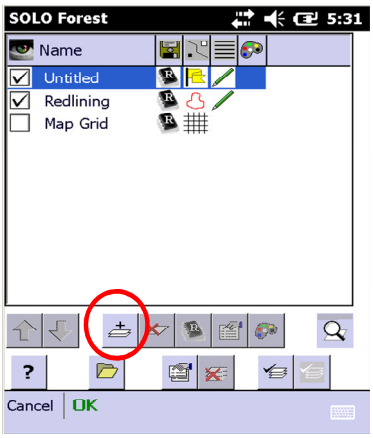


9. **Adding a basemap:**

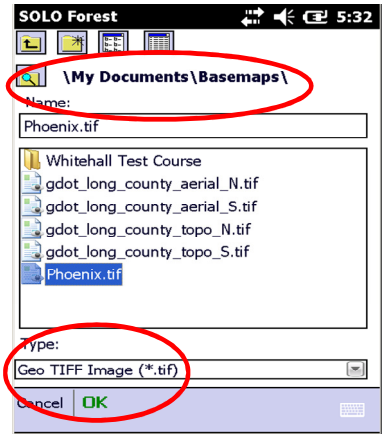
- SoloForest allows you to add in multiple basemap layer to aid in navigation in the field. You will first need to have some basemap layers copied onto your handheld device. The recommended storage location for these is either in the My Documents\Basemaps folder or on a Storage Card. Here's the steps:



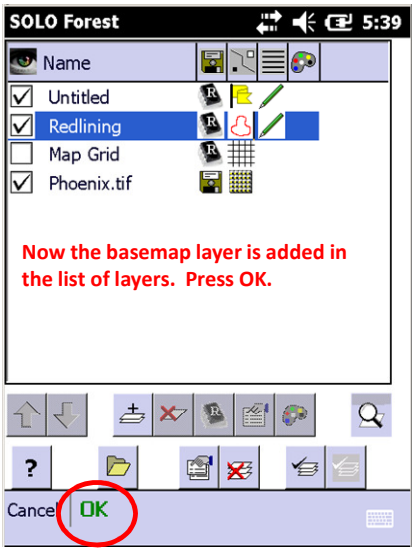
Select View > Map Layers

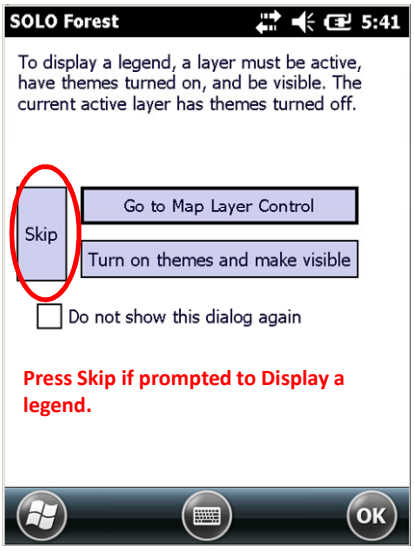


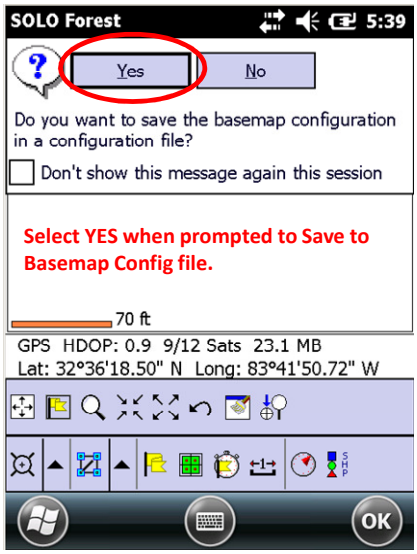
Select ADD Data Button



Navigate to Folder and Select Layer Type before Selecting the Layer to Add.

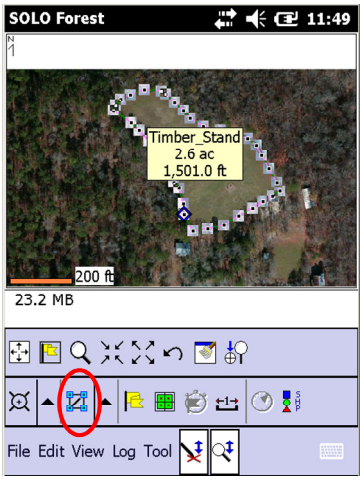




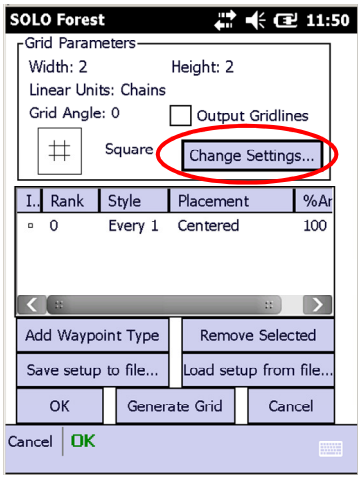


- Finally, Select OK to accept the default file name of the Basemap Config File and you will return to the main map screen. If your basemap is not in view press the Zoom to Full Extent button on the Zoom Toolbar.

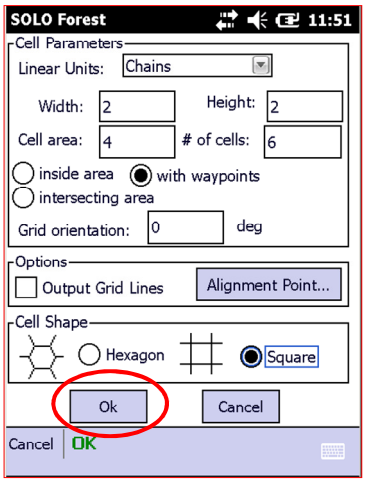
10. Generating a cruise grid:



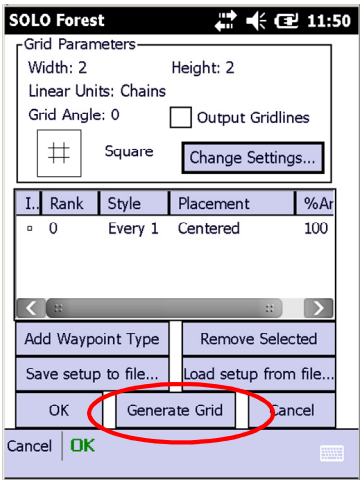
Select the Area Feature to generate the grid.



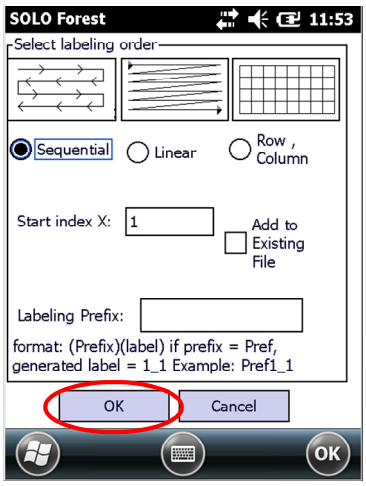
Press the Change Settings Button to adjust the Grid Parameters



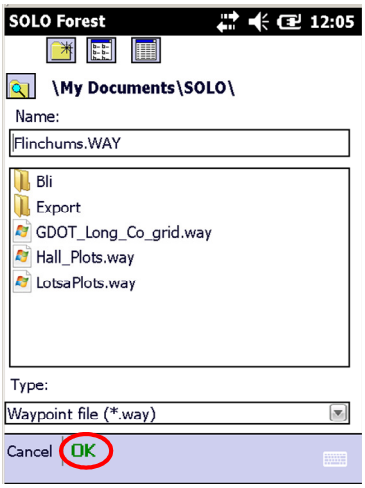
Adjust the Linear units as well as width and height. Always use the With Waypoints radio button. OK when done.



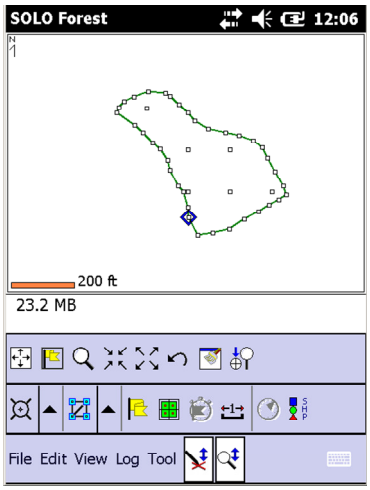
Press the Generate Grid button



Select labeling order, starting number, and prefix if desires. OK

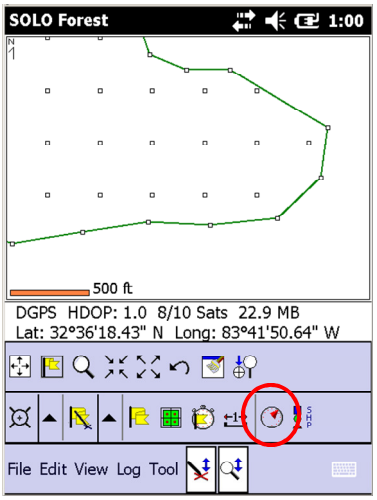


Accept default waypoint filename or change. OK.

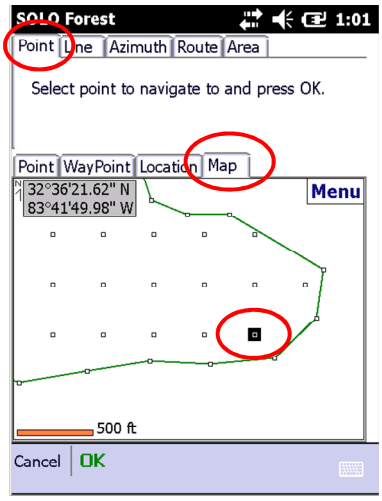


Grid should be displayed.

11. Navigating to a waypoint/plot:



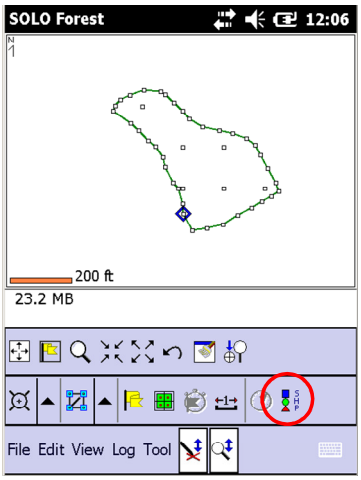
Press the Navigate Button



Select the Map Tab and select a point to navigate to. Stylus Use needs to be set to Stylus Selects Logged Data.

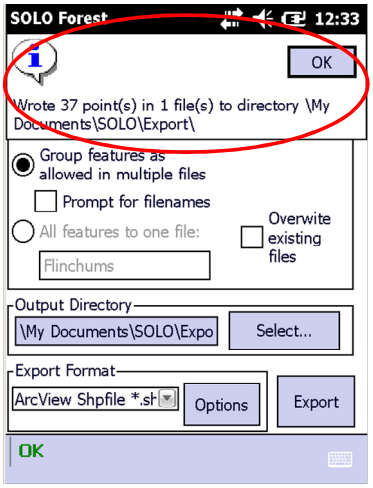
Follow the instructions to guide you to the point. Cancel out after arriving at the target.

12. Exporting GPS data in ESRI shapefile format:



Press the Export to Shp button

Verify the settings and press the Export button.



Note the location of the resulting exported shapefile (s).

- Copy/Paste the new shapefiles back to the PC and add as a layer in ArcGIS or other mapping application.

GPS and SoloForest Quiz

1. ___ satellites in the GPS constellation.

2. ___ minimum number of satellites required for a fix.

3. DOP is a measurement of satellite _____ that corresponds with likelihood of error. More accurate GPS positions can be expected when DOP value is lower or higher?

4. As a quality control measure my DOP filter in Solo is set for a maximum HDOP value of _____.

5. My GPS receiver type (brand name) is a _____.

6. My GPS receiver's Baud rate is _____.

7. My GPS COM Port should be COM _____.

8. I reboot my handheld by _____.

9. My coordinate settings for Solo should be:
   Coordinate System _____
   Horizontal Datum _____
   Zone _____

10. The default location for my GPS data is _____.

11. What are the two GPS data collection methods? _____and _____.

12. What are the 3 basic questions Solo users should consider before logging GPS data?
    _____
    _____
    _____

13. How do you end a GPS feature? _____.