



issue no. 38



Mobile App Guide



Guidance for Samplers

twitter users

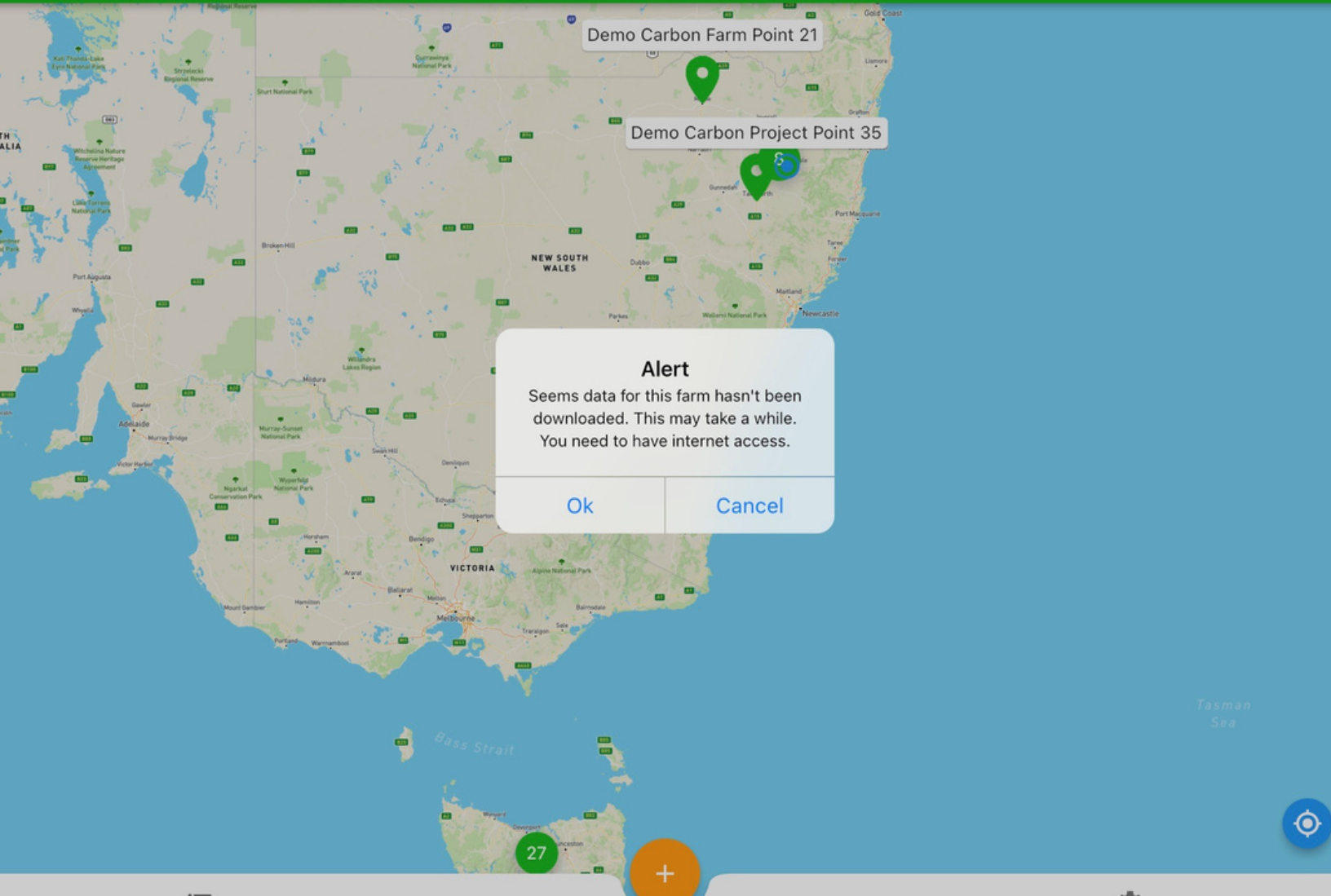
FarmLab is a mapping and soil testing platform and infrastructure. This manual will describe the process of taking soil tests with the mobile app and submitting them to the Lab.

In this manual we assume that mapping and stratification as well as the sample planning has been undertaken using the Web app. For more information on how to generate sample plans in FarmLab, visit www.farmlab.com.au/guides.

Sampling with the FarmLab mobile app is crucial in ensuring you maintain a clear and verifiable chain of custody across your project. Using the mobile app to generate barcodes against samples, update point locations (when connecting to an external GPS) and record sample measurements such as push depth and core diameter can drastically reduce the errors and time spent analysing results.

This guide will cover the following:

1. Preparing the mobile app for use in the field
2. Configuring the mobile app to work with an external GPS
3. Navigating to a point using the mobile app
4. Recording sample information and barcodes with the mobile app



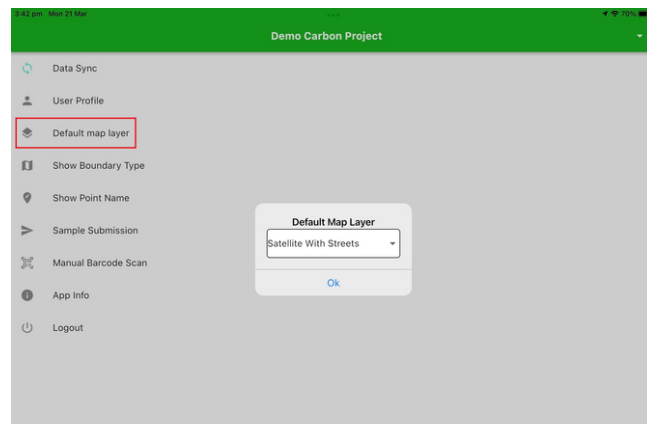
Step 1.

Preparing the App

Before going in the field it is important to prepare the tablet and the app for the field day. Upload the farm into the mobile app and check if the points can be seen. The recent uploaded points should appear in red, indicating that now data has been uploaded against them.

All points with data will appear green.

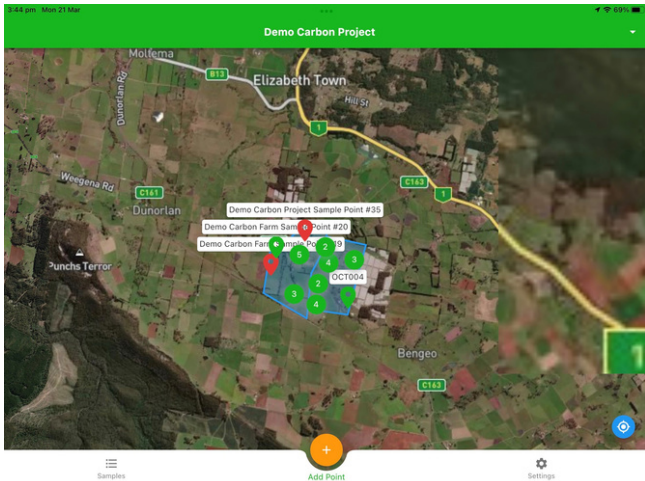
In the settings you have several options to choose from in order to make your view more suitable for you needs.



Step 1.

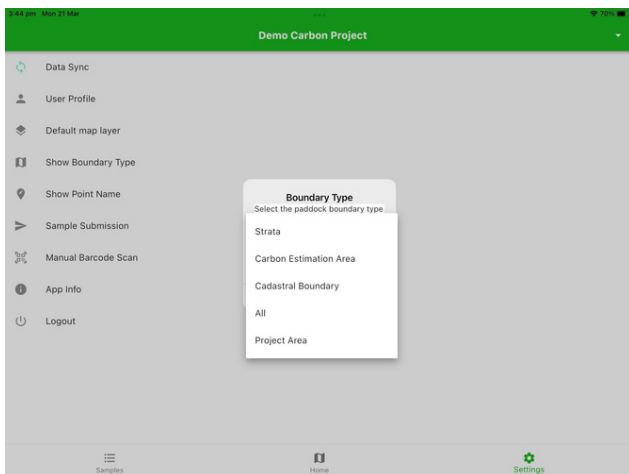
Setting the settings

The satellite imagery shows a detailed satellite map that can help with the landscape and obstacles to navigate.

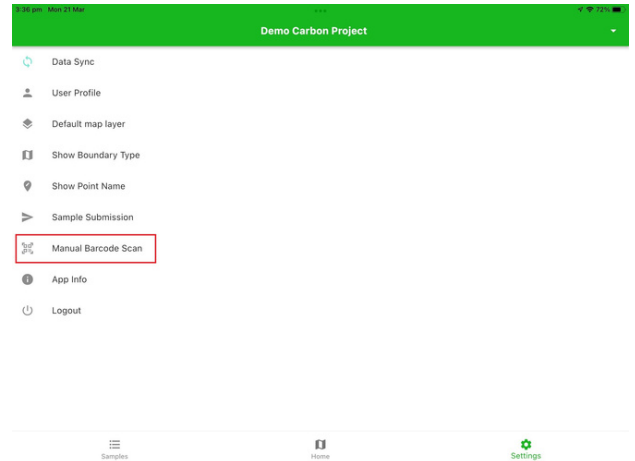


By choosing high-resolution satellite maps you can see more details that help with the navigation but it might take longer to reload especially when the reception is low.

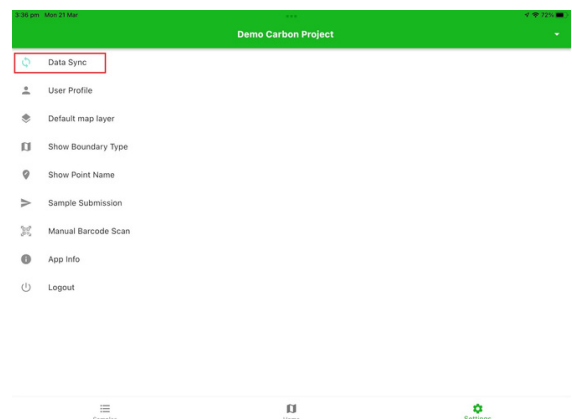
You can also choose which boundary type you want to see while using the app, sometimes less is more



You can choose between the manual scan of the barcode via the app internal scan functionality or an external barcode scanner if you have one.



Once you have sampled all sample sides you can sync the data also in the setting screen. We strongly recommend doing that once you have full reception or wifi connectivity for example when you back in the office





Step 2.

Configuring an external GPS

Connecting an external GPS receiver to the mobile device to achieve high accuracy

For CER compliant project a accuracy of higher than 4 m is necessary in the field. To achieve that level of accuracy you would have to connect your mobile device to an external GPS receiver.

Connecting the mobile device to an external GPS is currently only possible on Android devices and requires a specific setup. For using a external more accurate GPS receiver is necessary to stop the device using the devices' internal GPS. This can be achieved through enabling the Mock Location functionality on the Android device.

Once Mock location is enabled one can choose the GPS app (such as Eos Tools pro etc.) to take care of populating the Location Service over Bluetooth.

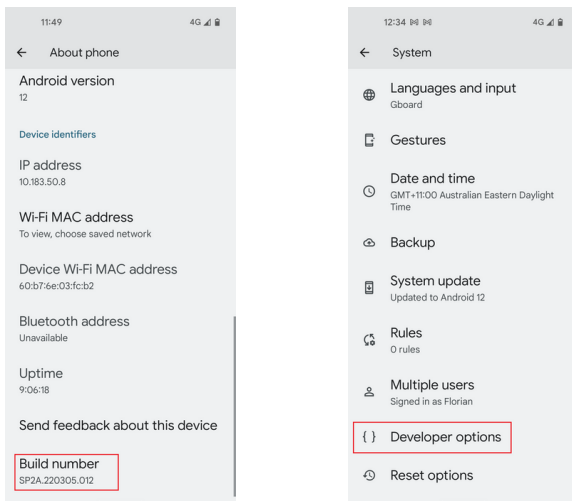
Please be aware that Android version and mobile device built can vary and some of the steps might look slightly different on different devices. This manual used a Samsung Active 3 tablet with Android 11.

Please contact support@farmlab.com.au if you face difficulties to set up the mobile device.

Step 2.

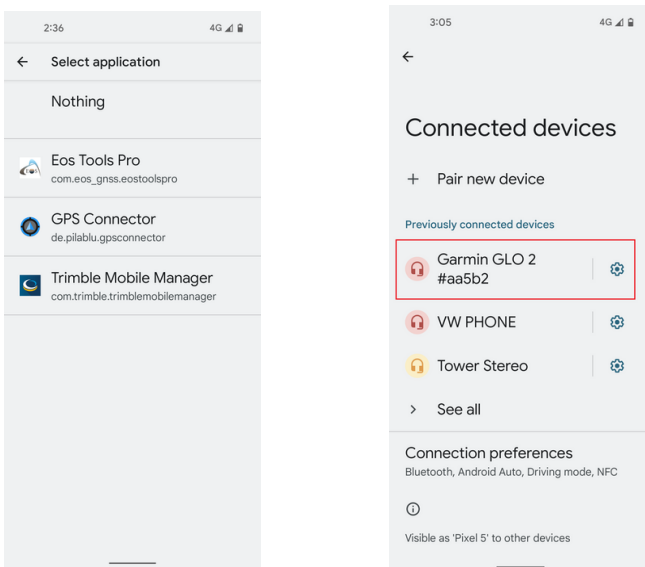
Use of external GPS to achieve high accuracy

First, go to “Settings” → navigate to “About Tablet” → and finally tap multiple times on “Build number” at the bottom of the menu to activate the Developer Mode.

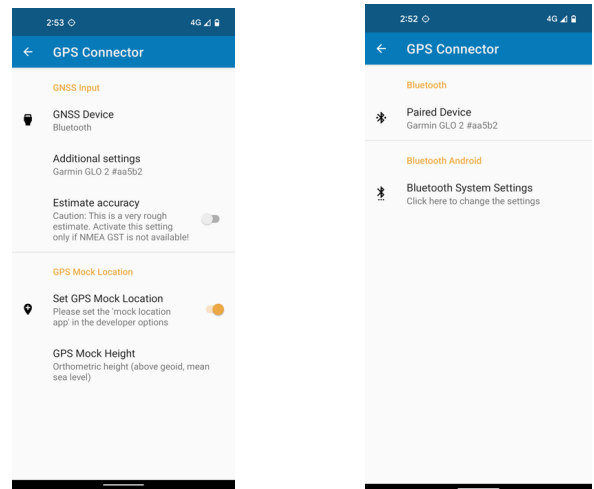


Now, a new “Developer Options” menu will be available under “Settings” → “System”

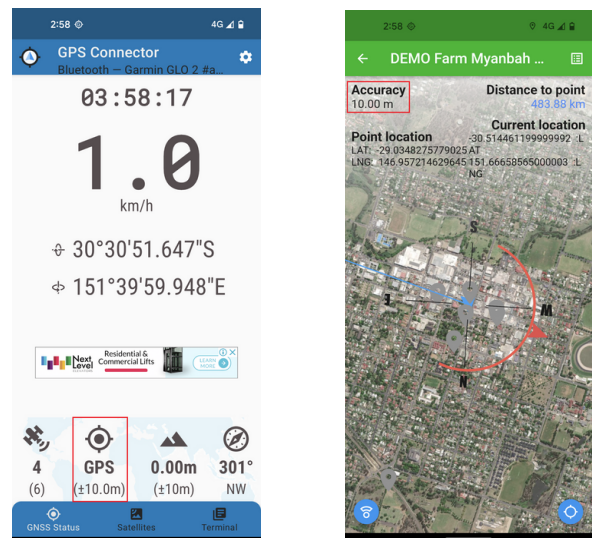
In this “Developer Options” menu, scroll down to “Debugging”, and tap on “Select mock location app”.



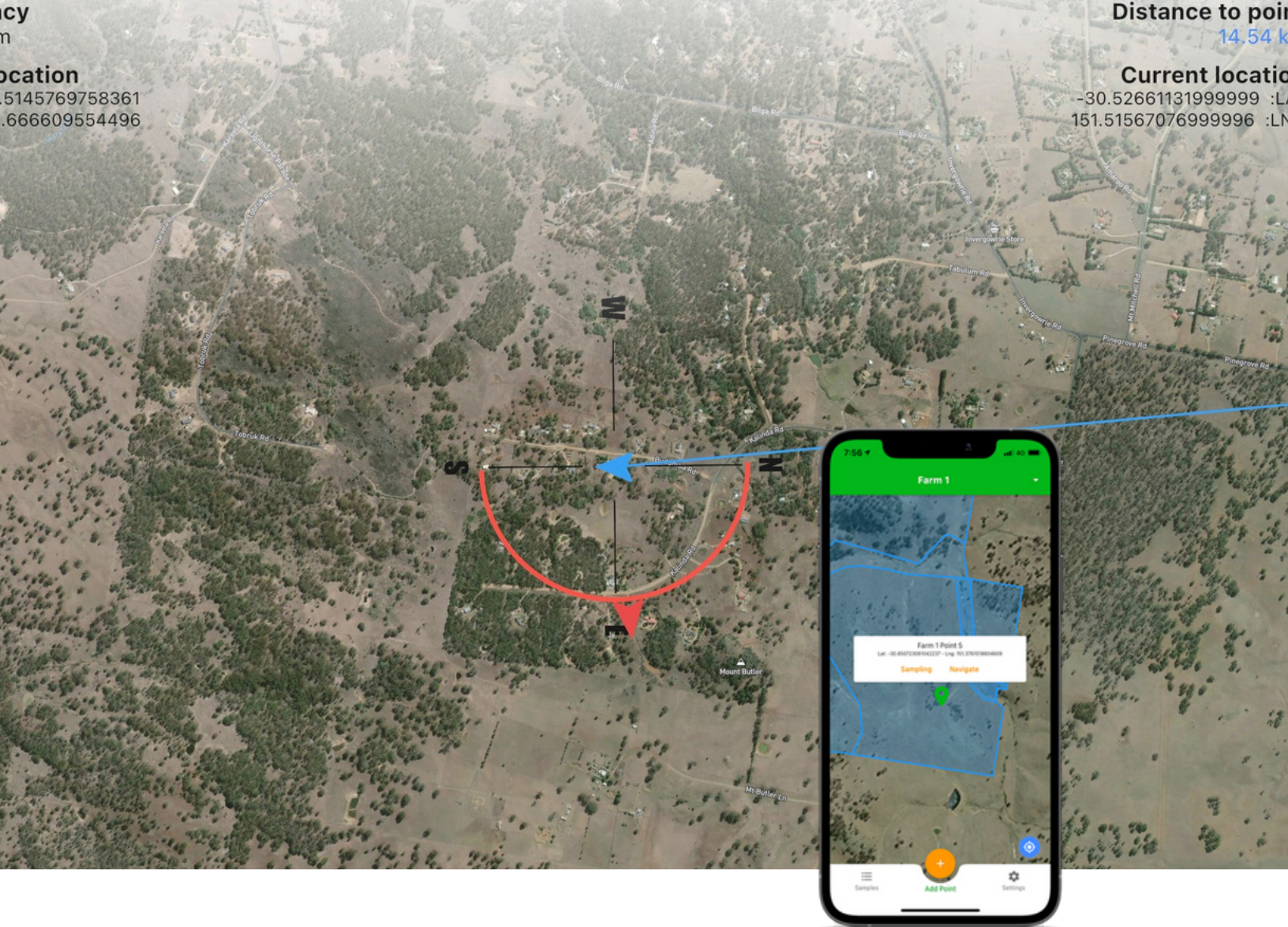
Now its time to connect the GPS device via Bluetooth to the mobile device.



Make sure the Bluetooth is turned on on both devices and the Bluetooth connections is established. Then connect the device in the GPS app itself. Make sure the Mock location set up is also turned on.



Now the Accuracy on the Device app comes from the GPS device. The FarmLab accuracy will be identical to the one in the app but again might vary depending on what GPS and Android device you will be using. Powerful high accuracy devices such as EOS Arrows will have a very high accuracy.



Step 3.

Navigating to a point

Navigating made easy

The FarmLab mobile app is suitable for the entire field process from navigation to sample taking. The navigation is a crucial part of the sample taking and we accustomed several different ways to make navigation easy and driven by purpose.

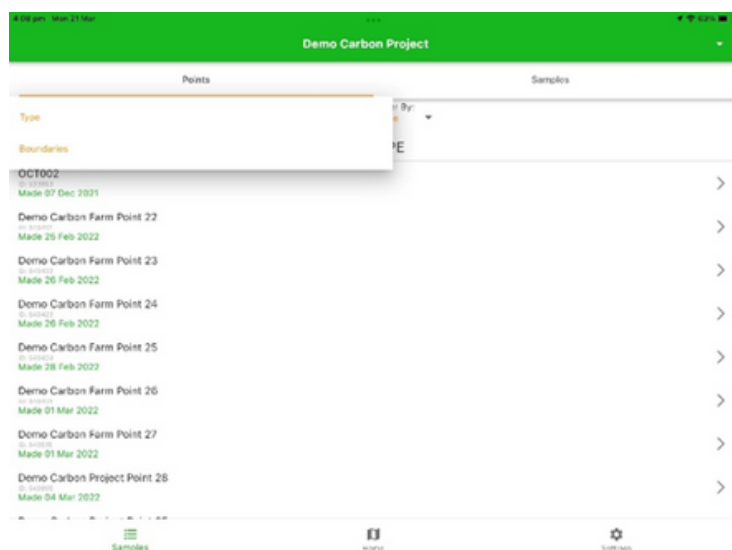
CER project soil sampling add a high complexity layer not only to stratification and planning but also to the actual movement in the field and the data that has to be taken during going through sampling rounds.

Step 3.

Navigating samples

On the main map you should be able to see you own location through the little blue dot. You have the choice on how you want to navigate through the sample/point screen or the navigation screen.

In the sample/point screen, you can group either the points by type or boundaries.



Moreover, you can also group your samples by barcode and date sampled as well as other options.

Most common however is the navigation through the map menu.

The red points symbolize points that do not have any data against them, the green points already have some kind of information saved against them. . This helps you to choose the point closest to your current location.

Choose a point and the sampling/navigation menu will come up.



When you click on the navigation button the navigation screen will come up.

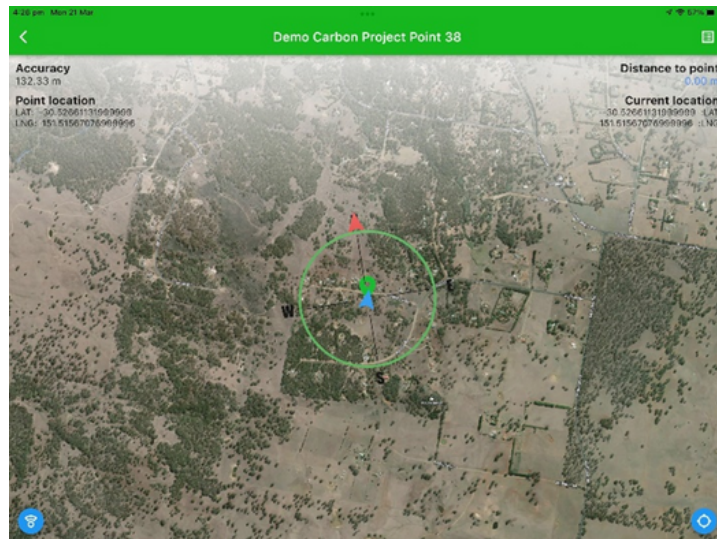
The compass indicates the direction that you have to go to, to get to the point.



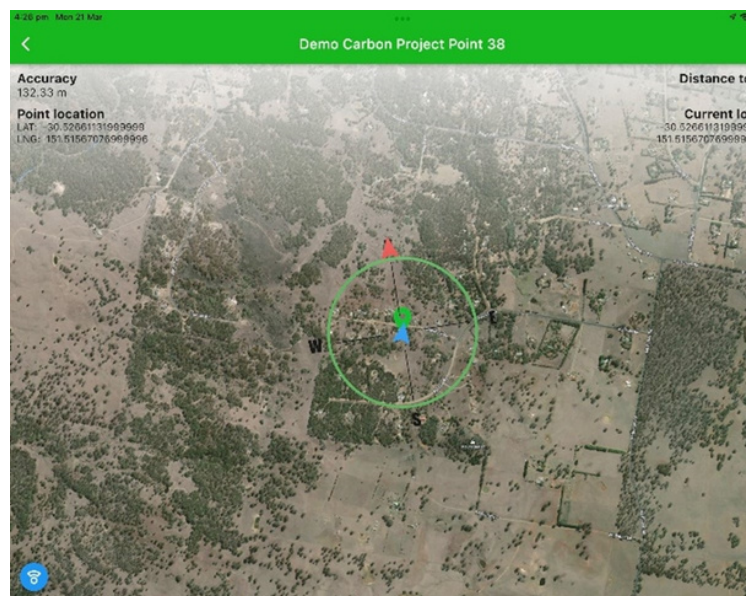
The button on the left-hand side will turn the compass on or off. On the left-hand side on top you can see the accuracy of your GPS at the moment (for CER is >4m required) and you can see the distance to the point. The arrow and the vector show the direction that you are currently travelling and the direct way to the point. When you are close to the point the circle in the compass will turn green.

Step 3.

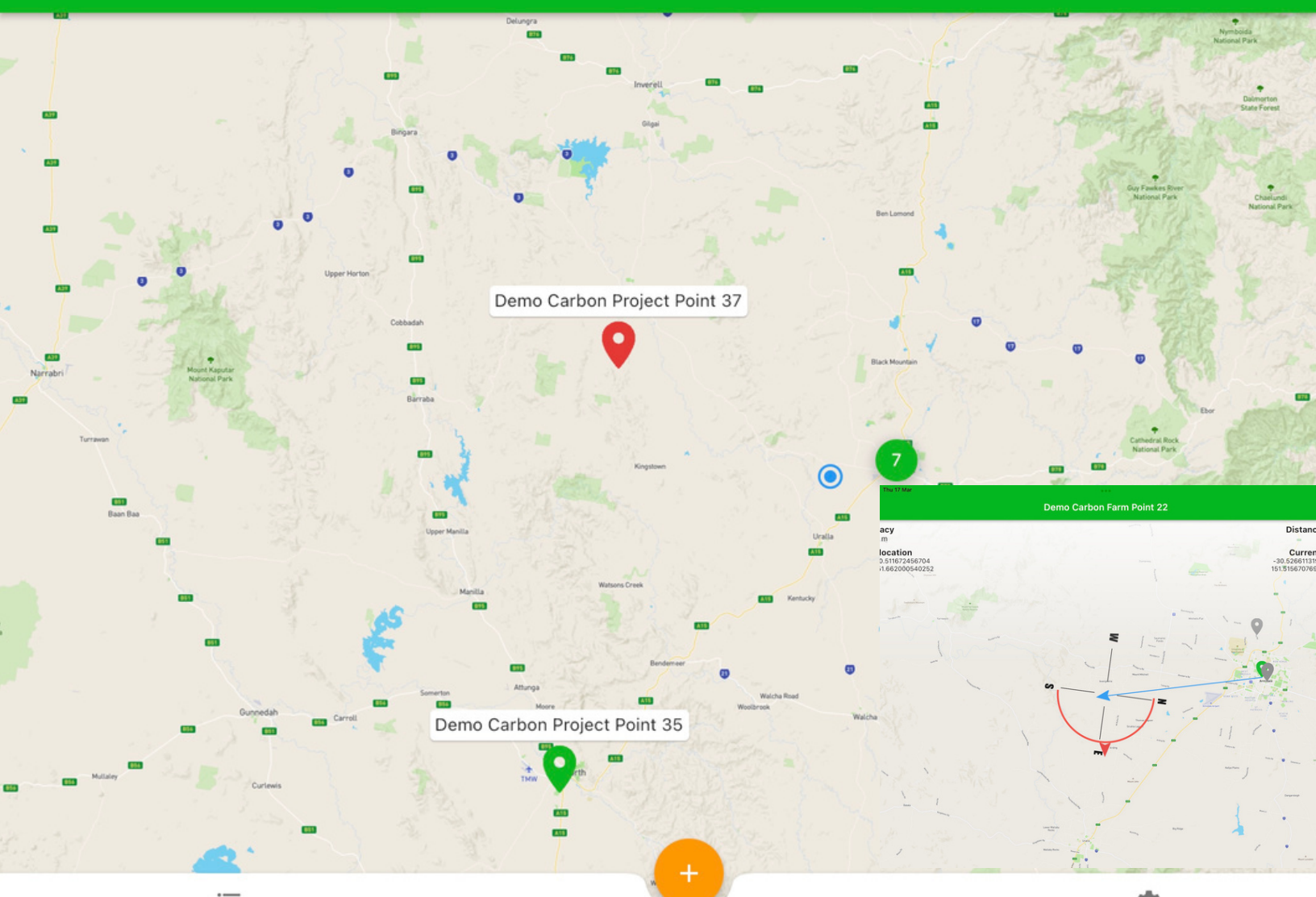
Navigation over sample numbers



Once you have arrived you can switch directly to the sampling menu.



You can also go back to the sampling/navigation screen and tab on the sampling button.



Step 4.

Recording Sample and Point information

Collecting Information in the field

When tapping on sampling you will go straight into the point menu. In the point menu you can do the following:

- Create a new sample depth or select an existing sample depth
- Add information to the point, such as core width, observations, photos and other customizable* metadata
- Update the location of your point

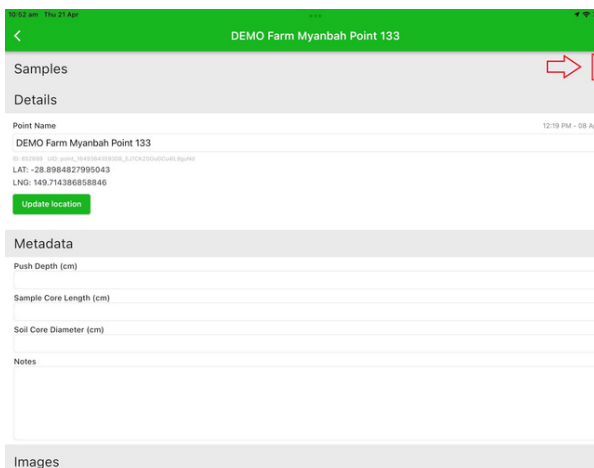
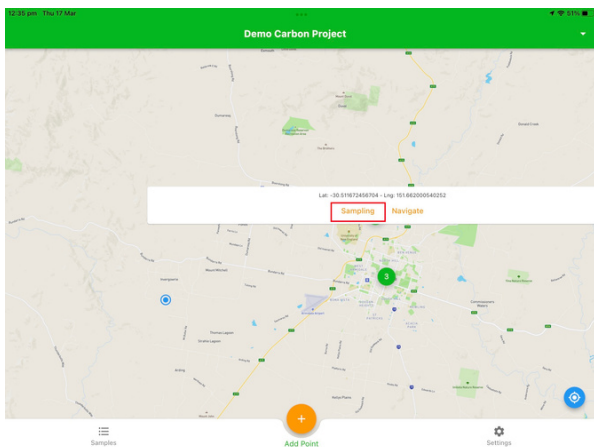
*Pro users and above have access to customizable metadata fields in the mobile app.

To learn more, contact support@farmlab.com.au

Step 4.

Recording Sample information

Creating a new sample depth or editing an existing one



In the samples menu you can add the barcode to the sample and determine the depth of the sample.

You can either choose between generating a barcode (and write the barcode on the sample bag), scan the barcode if you have prepared samples bags or tubes with barcodes on them or use an external barcode scanner by tapping of the ext barcode field.

Once you are done with the scanning press on the save button at the top right corner.

Step 4.

You can add metadata to the sample or the point if you want to collect additional information or add a photo.

When you have finished editing a point, press the back button to return to the navigation menu where you can choose your next point.

Updating the location of your point.

Based on the CER requirements you can change the planned point to an actual point within a 15 m radius.

This applies when you cannot take the sample at the original point. In this case you can update location and the system will save the new point as well as the planned point. It will also save the accuracy. If the change requires more than 15 m change you are required to use a reserve point .

Once you are done with your sampling round don't forget to press the sync button in the settings menu when you are in an area with good reception or wifi.