Mapping Systems in KKSys

> KKSys includes integration with Google Maps to enable farmer-fields to be mapped by latitude and longitude, and for the outlines of the extent of farmer-fields to be marked with "polygons" showing the exact extent of the fields.

The Farm Fields Edit Form

Farm Fields Edit Form with Mapping Image

Features of the FarmFields Edit Form

1. Select a Farmer from the KKSys database to link to this field-data.

2. Add the date of the inspection.

3. The size of the field will be **automatically computed** when you mark the extent of the field on the map.

4. The user can manually enter the Latitude and Longitude of the field. If this is done, when the map is displayed it will be possible to show the stored location.

5. If the field has already been mapped a screen-short from Google Maps will be stored as an **image** in the database. This is done to ensure that there is a record of the extent of the field which can be seen even if the internet network is down or unavailable. Note the **"Polylines"** field. This contains XML formatted data containing the Lat/Long coordinates for the points which outline the field. If complex programming is required on any of this data this data can be accessed in code to do this.

Entering farmer-field details so that the latitude, longitude and field-outline can be stored
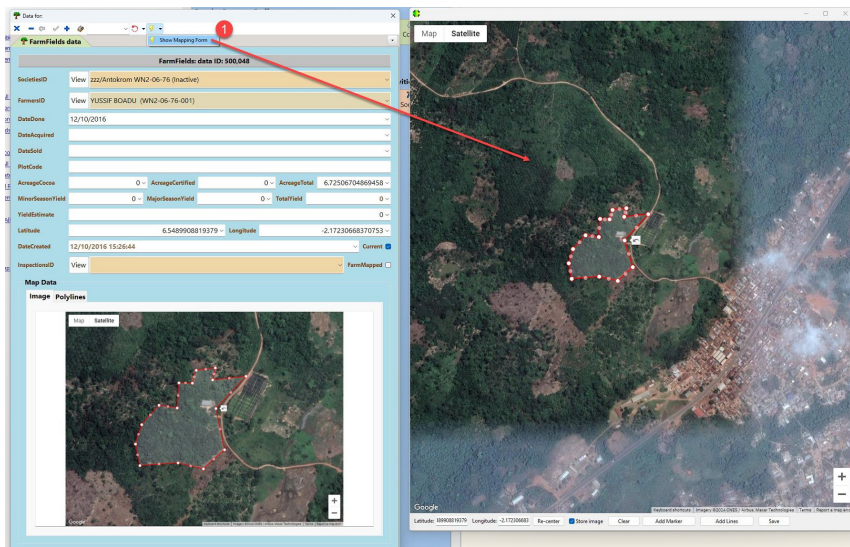

Farmer Fields with Map manipulation form open

To actually set the outline of a field go to "Show Mapping Form", as shown at 1., in the above image. Clicking will open the mapping form which accesses Google Maps and displays the polygon data which is stored with the field.

If no data is stored, or the "default" latitude is still present, the map will show centred on **Kumasi**.

Using the Mapping Form
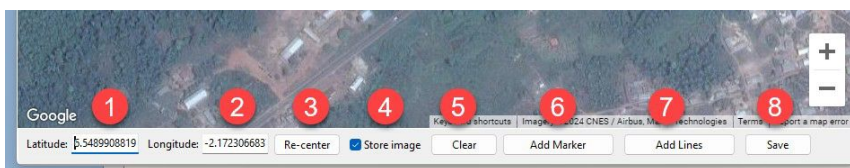
Mapping Form data-entry

Manipulation of the position and features of the map is controlled using the editing systems shown in the above image.

1. Latitude field.

2. Longitude field.

3. "Re-center" button. If the user manipulates the Latitude and Longitude, or adds a **marker** to the map, click on this button to shift the whole map to be centred on the new co-ordinates.

4. Store Image. Leave this box ticked to store an image of the map in KKSys. Untick it and no "screen-grab" will be taken during the "Save Map" process.

5. Clear button. Clicking this button will remove all polygon lines. If this is done by accident and the user does not want to store the result, close the Mapping Form **without** clicking "Save".

6. Add Marker button. If the user wants to mark a field location on the map, click this button and then click on a point on the map which is the centre of the field. A green location marker will appear.

7. Add Lines button. If the user want to mark the extent of a field, click this button and then click on the points that mark the edge of the field. This is shown in more detail in the next session. **Remember:** the user should "Zoom" the map in or out so that the area shown on the screen matches roughly with the extent of the field, whilst also showing some surrounding geographical features.

8. Save button. Once the user has completed editing they can click this to post all the data into the database.

Detailed instructions on how to find a field location, add markers and polygons
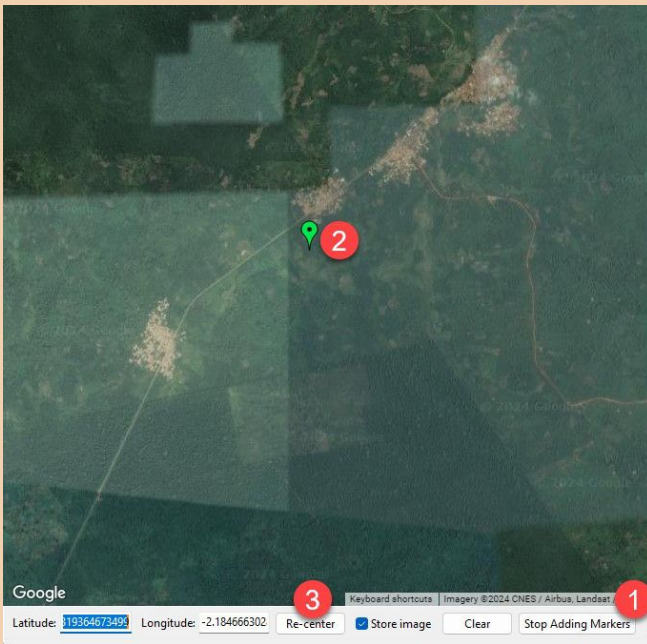
Setting a marker for the field center-point

The user should first use the map tools "+/-" and dragging with the mouse to move to the rough location of the field, or they should enter the latitude and longitude manually.

Once they have the map correctly Zoomed and they can see the location of the field they should take the following steps:

1. Click on the "Add Marker" button, its caption will change to "Stop Adding Markers"

2. Click on the location on the map that is the rough centre-point of the field.

3. Click the "Re-center" button.
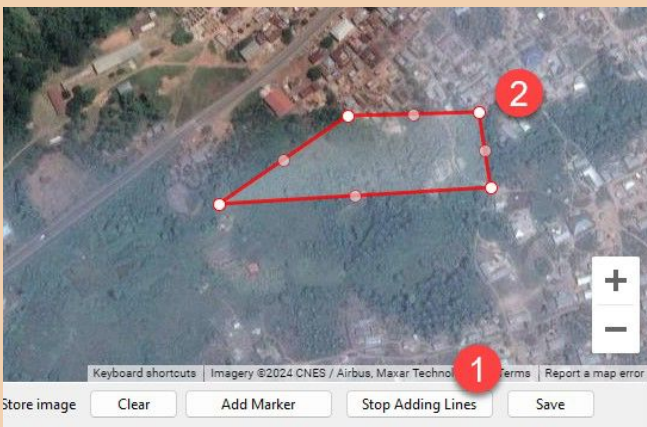
Marking Points 1

Marking the outline of a field

1. Click the Add Lines button, to start working

2. Then click on the points of the map which mark the extent of the field.

Note that as well as clicking on parts of the map to **add** points you can also click-and-drag on points on the polygon to change its shape. This includes clicking and dragging "between points" at the mid-point of each line to change it's shape.
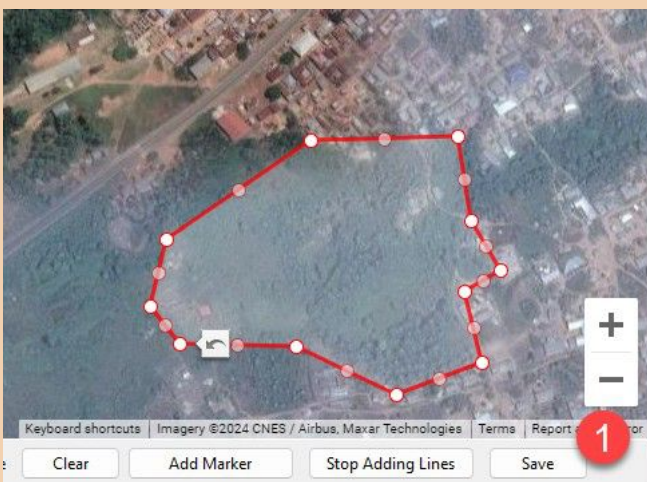
Marking Points 2

Once you have finished marking the polygon lines for the extent of the map, click the Save button, marked 1., in the image. This will record all data needed by the system into the database.