

Using Google Earth to Map Golf Courses For Integration With GolfTraxx

This is a simple primer for using Google Earth to map a golf course for use with GolfTraxx. Once you have created a map, simply email the .kml file to frank_debenedetti@yahoo.com. The coordinates contained in the map will be added into the GolfTraxx database within a day or two so that they can then be downloaded directly to your PDA. If you do not find the course in our database, please email a scorecard, including the course address, zip code, and phone number. Also, if there is a course layout, feel free to attach that as well.

This primer assumes that the reader had already downloaded Google Earth. If not, point your browser to:

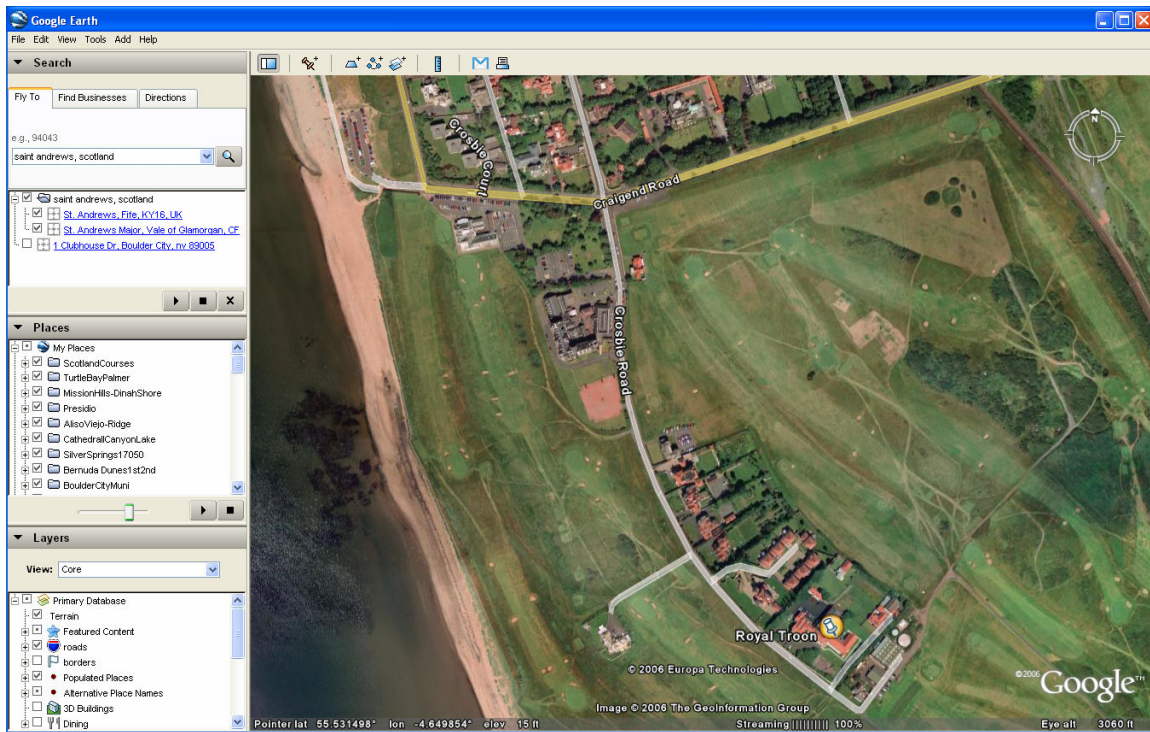
<http://download.earth.googlepages.com/>

The first step in course mapping is simply to locate the golf course using Google Earth. If you have the physical address of the course available, the easiest method for locating the course is entering the address, city, state (e.g. 1 Clubhouse Drive, Anytown, Anystate) into the Google Earth search bar.

When searching abroad, you may have to simply start with the city/township and country (eg. Saint Andrews, Scotland) then do some navigating within Google Earth to find the course.

The first question to be answered once you have found the course is whether the Google Earth imagery is sufficient to map the course.

Below is a Google Earth map for Royal Troon in Scotland:



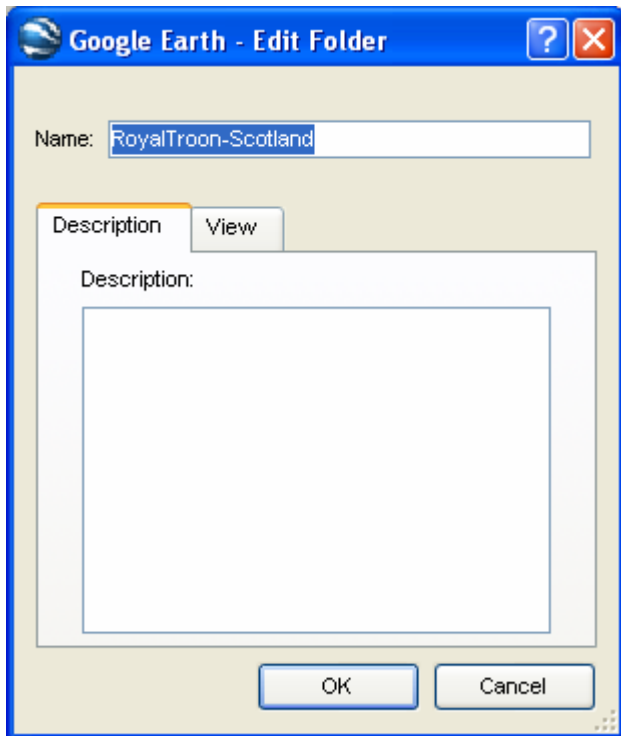
In order to decide whether the course is mapable, you need to determine whether when you zoom in using the (+) tool in the upper right corner of the screen, you can view the shape of the green clearly. For best results, you should be able to zoom in until the green is the size of an Eisenhower silver dollar (or larger) and still be able to clearly see the shape of the green.

If the course is mapable, then the next step is to add a folder in Google Earth. If not, please read our guide to adding imagery to Google Earth available at:

<http://pdazip.com/MappingCoursesWhereNoGoogleImagery.pdf>

If you can't find it there, just check back with us later as imagery is being updated all the time.

Right-click on MyPlaces then Add-Folder and enter the name of the course you are adding, then click OK.

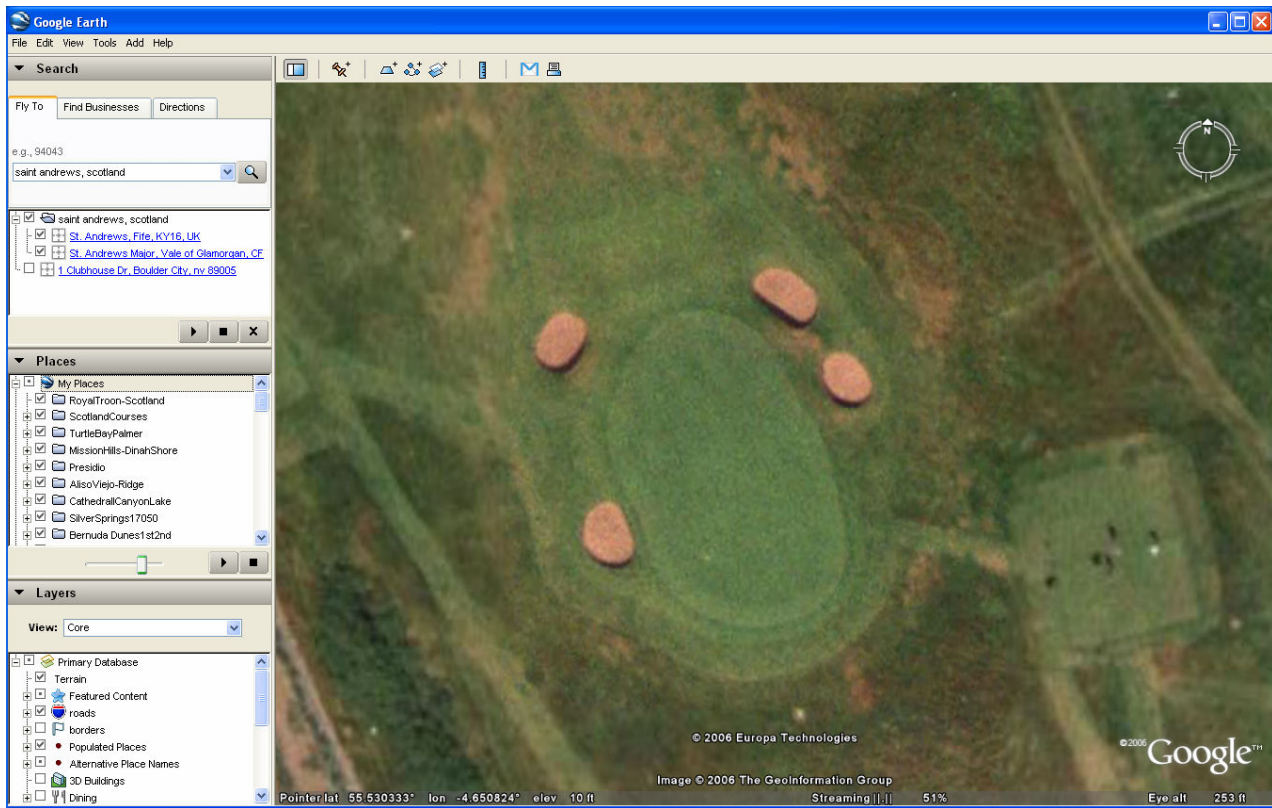


Next click on the folder you added. This will allow you to automatically store waypoints into this folder.

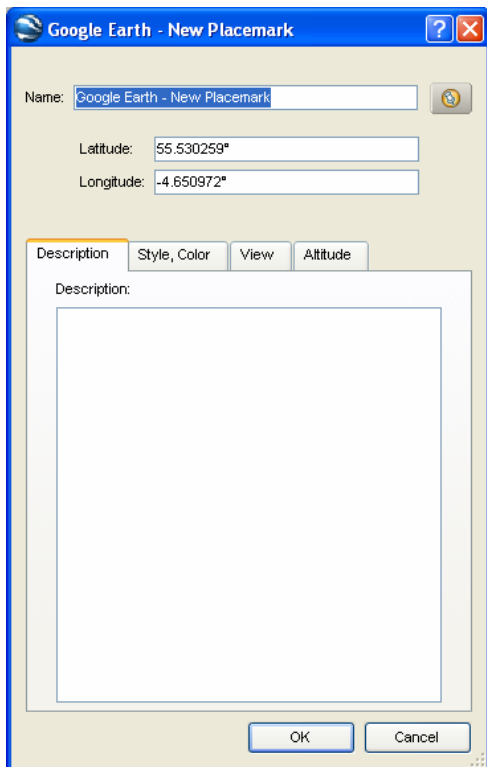
Now, locate the first green on the course and zoom in until the green is at least the size of a silver dollar. If you are having trouble finding the first green, it is sometimes easier to find the clubhouse, then determine which holes go away from the clubhouse, then determine which of the holes that go away from the clubhouse is #1.

The best way to do this is to use the Google Earth ruler to determine the distance of holes (back of tee to center of green) that go away from the clubhouse. This will help you determine which of the holes is #1.

Once you have found the first green, zoom in using the (+) in the upper right of the screen until the green is at least the size of a silver dollar, larger if possible.

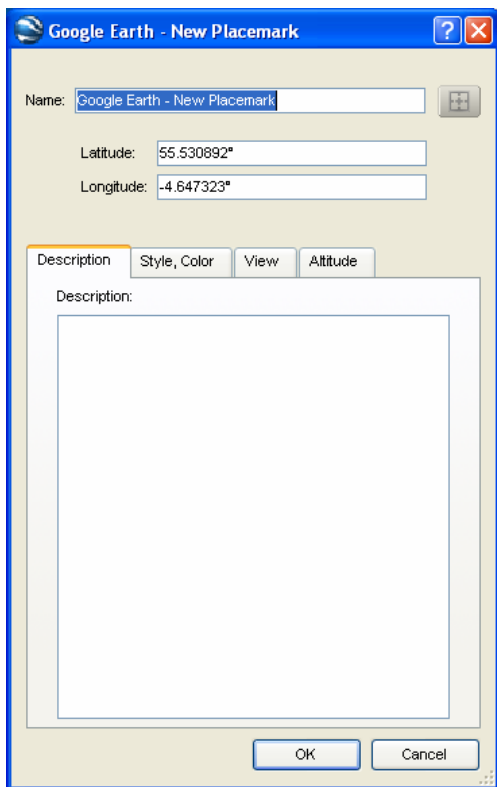


Next, add a waypoint. To do this, click Add-Placemark.

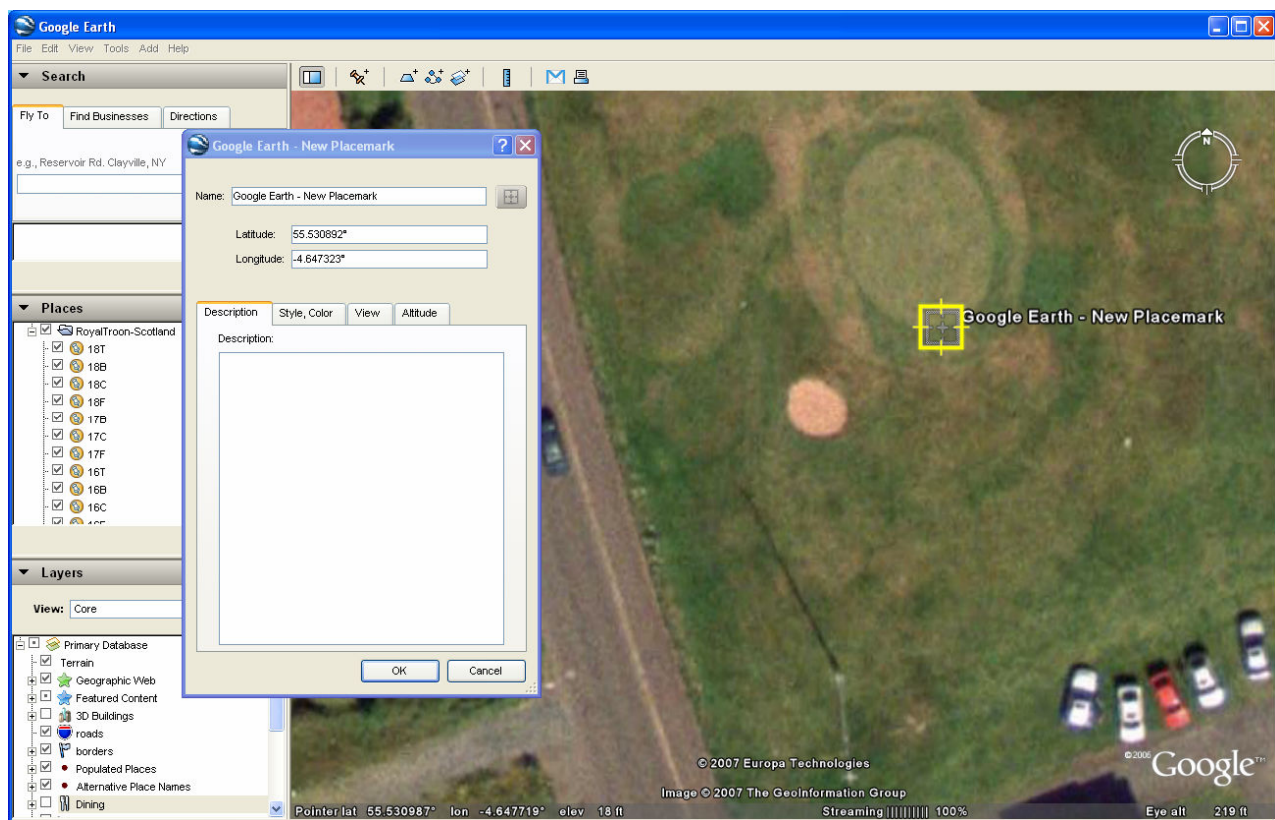


Position the placemark image over the exact center of the green. The more exact you are in the placement of the waypoints, the better your yardages will be. Please note that newer versions of Google Earth are defaulting to waypoint markers that are not the most helpful for mapping. You can change what the default marker is used is.

We recommend that you use the marker that allows you to see the imagery through the crosshairs of the placemark marker. To the right of the Name field in the Add Placemark dialog box, there is an image that indicates what your placemark image is. When you click on this image, you are given the opportunity to change which image is used. Select the marker that you like the best for mapping purposes. We recommend the crosshairs shown below.

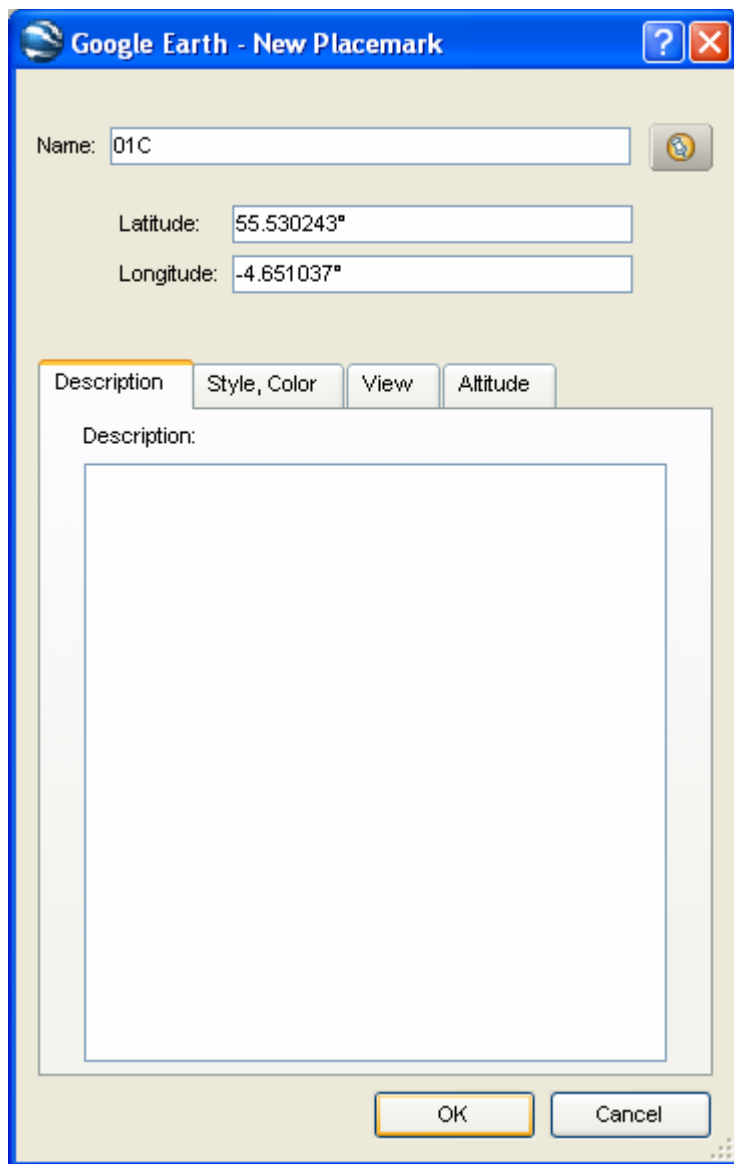


Notice in the following image how the crosshairs of the placemark can be centered right over the edge of the green. This removes a lot of the guess work from placemark positioning.



Now, name the way point, using the following format.

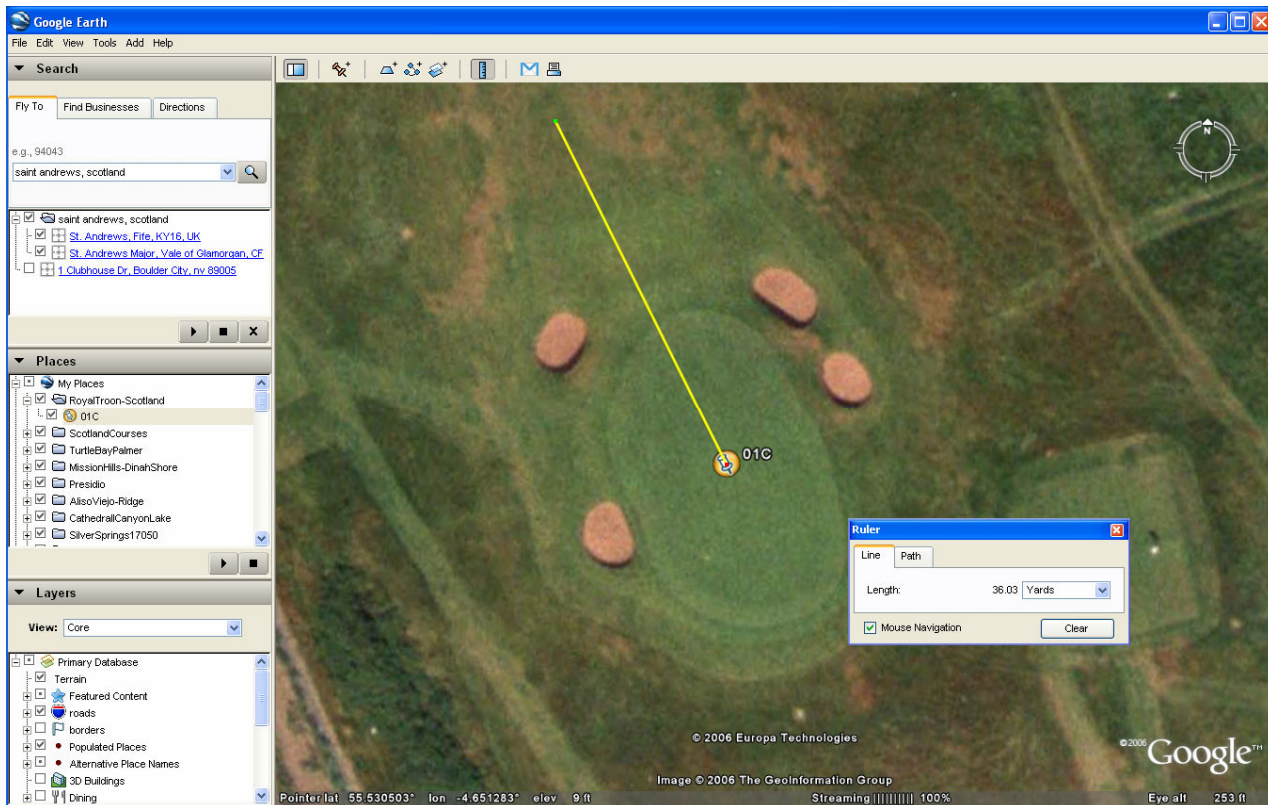
Hole #	code	FRONT	CENTER	BACK	TARGET (FROM TEE)
1	01	F	C	B	T
2	02	F	C	B	T
3	03	F	C	B	T
4	04	F	C	B	T
5	05	F	C	B	T
6	06	F	C	B	T
7	07	F	C	B	T
8	08	F	C	B	T
9	09	F	C	B	T
10	10	F	C	B	T
11	11	F	C	B	T
12	12	F	C	B	T
13	13	F	C	B	T
14	14	F	C	B	T
15	15	F	C	B	T
16	16	F	C	B	T
17	17	F	C	B	T
18	18	F	C	B	T



The image shows a screenshot of the 'Google Earth - New Placemark' dialog box. The window has a blue title bar with the Google Earth logo and the text 'Google Earth - New Placemark'. Inside the window, there are four input fields: 'Name:' with the value '01C', 'Latitude:' with the value '55.530243°', and 'Longitude:' with the value '-4.651037°'. Below these fields are four tabs: 'Description' (which is selected and highlighted with an orange border), 'Style, Color', 'View', and 'Altitude'. The 'Description' tab contains a large text area with the label 'Description:' and a small cursor icon. At the bottom of the dialog are two buttons: 'OK' and 'Cancel'.

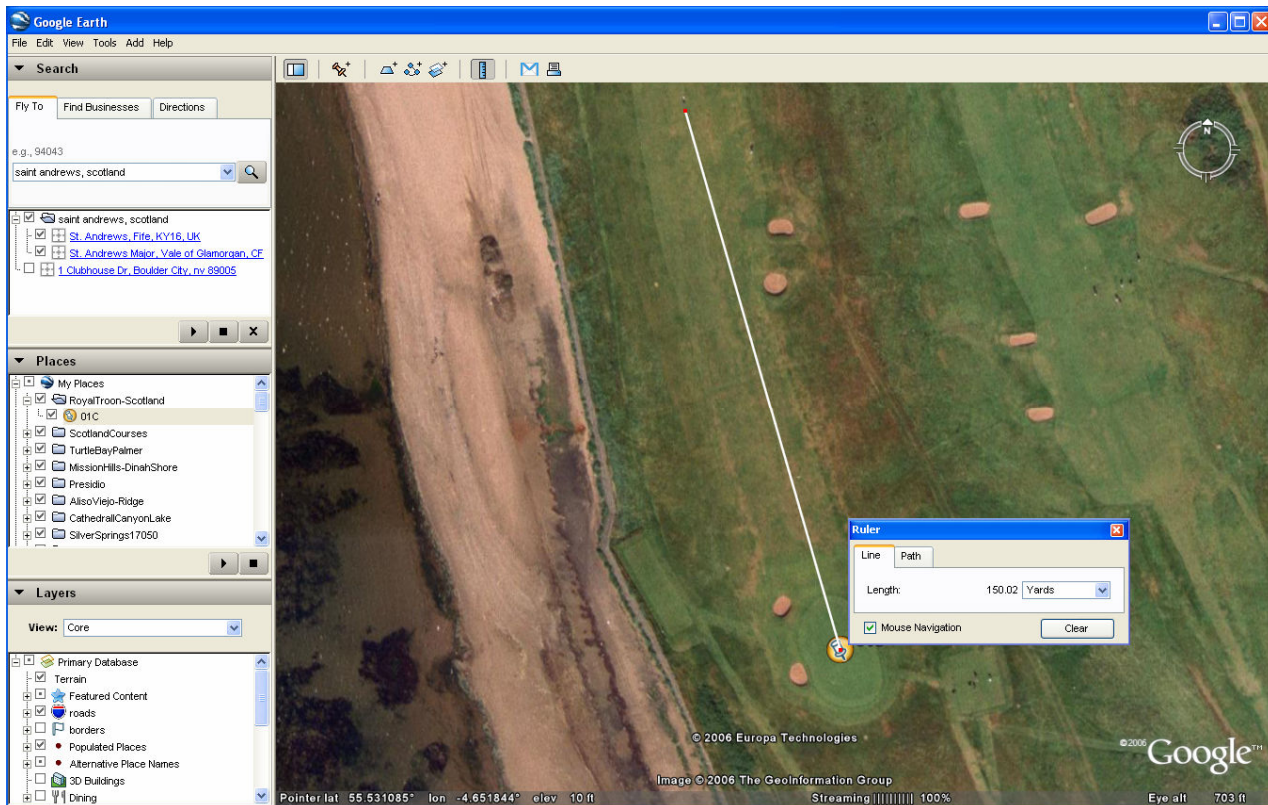
So the center of Hole #1 is named as 01C.

Next, use the ruler tool and drag a line from the green center placemark you added back to the tee, and confirm that you have the correct hole (and approximate distance). Again, the more accurate your placement is, the more accurate the distances will be.



Note that the distance is displayed from the center of the green to the ending point of the ruler. The default distance is displayed in miles but can also be displayed in yards or metres.

Once you are sure you have selected the correct hole, you can use the ruler to add a tee target based either on the distance from the tee, or more preferable, based on the desired remaining distance to the center of the green after hitting the tee shot. Say for example, that you would like to have a 100 yard shot remaining after your tee shot on a 340 yard par four. If you add a placemark called "T" at 100 yards from the center of the green, then that will be your tee target (a 240 yard drive).



If you zoom in, you may see a 150 yard marker as can be seen in the above image. However, since this is Scotland, the 150 yard marker is actually 150 metres, so it is a few yards behind our mark.

Leave the ruler line that was created between the tee target and center of the green for reference. Now map the front, and back of the green using the Google Earth ruler line for reference.

That's it, you have just mapped the first hole of your course.

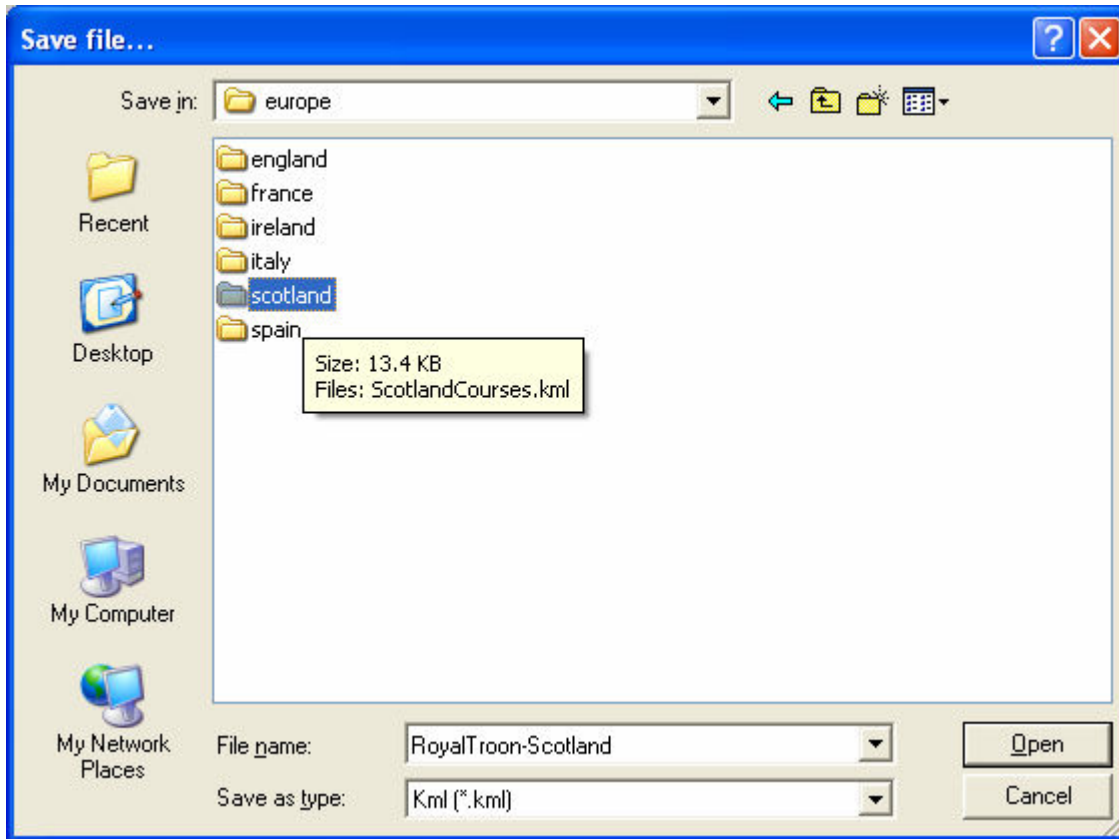
Proceed to map the remaining holes using the same methodology on the course. Be sure to map a tee target for each hole except par 3's. As a basic rule, we use the following strategy for determining tee target distances (from the center of the green):

<u>Hole Distance</u>	<u>Tee Target</u>
Under 325	50 yards from green center
326-375	100 yards from green center
376-425	150 yards from green center

Similarly on par 5's, we use the following strategy:

Under 525	200 yards from green center
526+	250 yards from green center

Once the course has been completely mapped, the final step is simply to right click on the folder you created in step one, then click save as:



Please make sure that the .kml extension is specified.

Now, email just us the kml file.

GolfTraxx also provides a guide to mapping additional waypoints called “extras” such as bunkers, lakes, streams, etc. in a separate kml file. These “extras” are provided in a dropdown for the hole you are currently playing.

The “extras” guide is available at: <http://pdazip.com/MappingExtras.pdf>

Benefits of mapping courses using Google Earth:

1. Mapping the course using Google Earth is far more accurate than using your PDA device.
2. Mapping your course(s) using Google Earth is much faster than using your PDA to map the course.
3. Mapping your course using Google Earth means that each coordinate is verifiable, unlike any of GolfTraxx’ competitors.
4. Once added to the GolfTraxx database, courses can be downloaded for free at any time.
5. In case you ever need to reinstall the application on the PDA device, you will not have to re-enter course information.

6. Ensure that the low price leader for GPS technology for golf can stay that way.