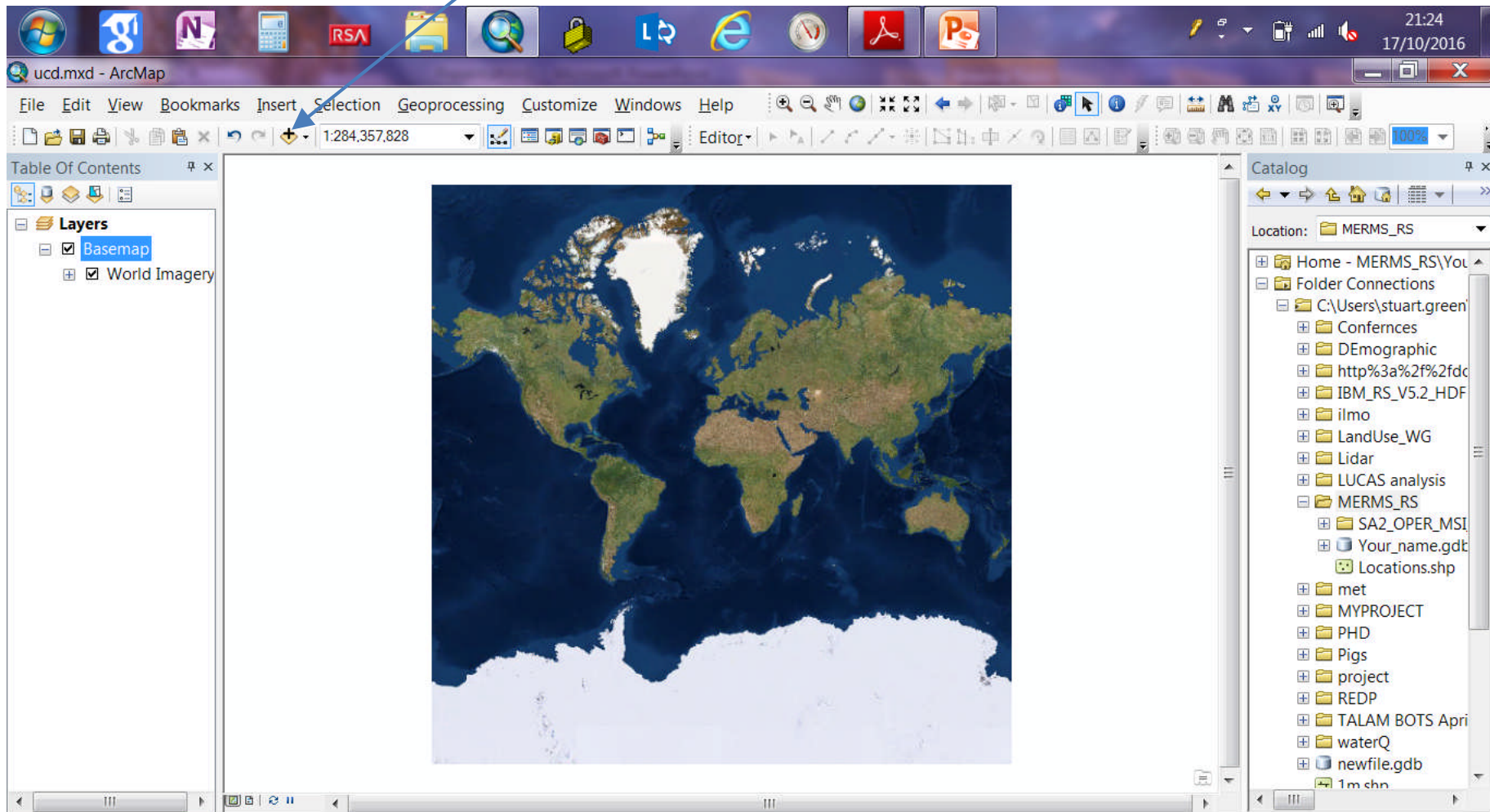


Digitising in ArcGIS

1 Open Arc GIS- Click, “Add Data” , “Add BaseMap” “Imagery”



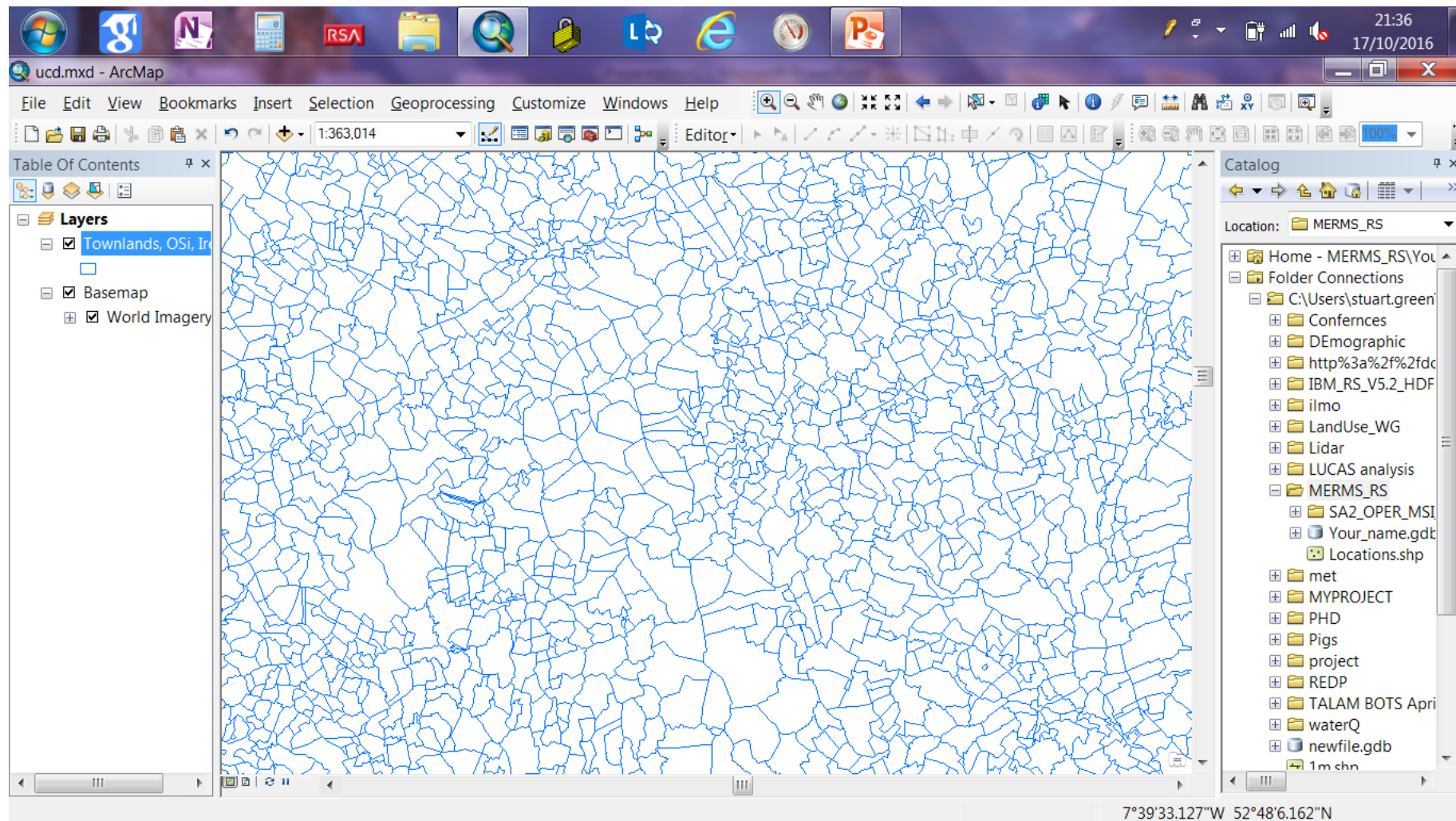
We will now add a new file- a townland map of Ireland From OSI

Click Add DATA Button, then Click "Add Data from ArcGIS Online"

Then Click the Add button for the TOWNLANDS, Osi, IRELAND map

The screenshot shows the ArcGIS Desktop interface with the 'Add Data From ArcGIS Online' dialog box open. The dialog box contains the text: 'Add Data From ArcGIS Online', 'Add data from ArcGIS Online into your map. The dialog that appears only shows data which can be added into your map as a layer. Sign in to ArcGIS Online to see data you've uploaded and data in'. The ArcGIS Online search results page is also visible, showing a list of layers. The 'Townlands, OSI, Ireland' layer is highlighted, and its 'Add' button is pointed to by a blue arrow.

You wont see much happening on the screen But if zoom into a small part of Ireland. Your screen will look like:



Each little mapped area is a “Townland” the smallest admin unit in Ireland. Right click on the townland in the TOC and select “Show Attribute Table”. This shows you the list of all the townlands in the map.

The screenshot shows the ArcMap interface with a map of townlands in Ireland. The 'Table Of Contents' (TOC) on the left shows the 'Townlands, OSI, Ireland' layer selected. The 'Attribute Table' is open, displaying the following data:

OBJECTID	TOWNLAND ID	TOWNLAND NAME	COUNTY	PROVINCE	CENTROID X	CENTROID Y
1	10316	KILCARRY	CARLOW	Leinster	690115	661602
2	10254	DRUMMIN (Forth By)	CARLOW	Leinster	686829	665376
3	10229	CRAANS	CARLOW	Leinster	688813	668015
4	10112	BALLYSHANCARRAGH	CARLOW	Leinster	687444	659726
5	10031	BALLINTEMPLE	CARLOW	Leinster	688025	665580
6	10353	KNOCKBARRAGH	CARLOW	Leinster	685312	661800
7	10371	KNOCKROE (Rathvilly By)	CARLOW	Leinster	688644	681526
8	10189	CLONEGALL	CARLOW	Leinster	691526	661688
9	10401	MOANAMANAGH	CARLOW	Leinster	679435	674930
10	10252	DRUMFEA	CARLOW	Leinster	678473	657381
11	10289	GRAIGUEALUG	CARLOW	Leinster	676947	668087
12	10479	RATHLYON	CARLOW	Leinster	686618	676100
13	10288	GRAIGUE	CARLOW	Leinster	671449	676753
14	10385	LEANY	CARLOW	Leinster	690456	668255
15	10011	ANNAGAR	CARLOW	Leinster	663601	662704
16	10336	KILLENORA	CARLOW	Leinster	678876	673979
17	10190	CLONETOOSE	CARLOW	Leinster	678669	662164
18	10536	TINNACLASH (Rathvilly By)	CARLOW	Leinster	694349	683535
19	10495	RICKETSTOWN	CARLOW	Leinster	684802	683684
20	10388	LISGARVAN	CARLOW	Leinster	681673	663636
21	10361	KNOCKENDRANE	CARLOW	Leinster	679049	655705
22	10196	CLONMULLEN	CARLOW	Leinster	689554	655795

We are going to search for 1 townland and then zoom to it.
Click "Table Options" Button

The screenshot shows the ArcMap interface with a table of townland data. The table has the following columns: OBJECTID, TOWNLAND ID, TOWNLAND NAME, COUNTY, PROVINCE, CENTROID X, and CENTROID Y. The data is as follows:

OBJECTID	TOWNLAND ID	TOWNLAND NAME	COUNTY	PROVINCE	CENTROID X	CENTROID Y
1	10316	KILCARRY	CARLOW	Leinster	690115	661602
2	10254	DRUMMIN (Forth By)	CARLOW	Leinster	686829	665376
3	10229	CRAANS	CARLOW	Leinster	688813	668015
4	10112	BALLYSHANCARRAGH	CARLOW	Leinster	687444	659726
5	10031	BALLINTEMPLE	CARLOW	Leinster	688025	665580
6	10353	KNOCKBARRAGH	CARLOW	Leinster	685312	661800
7	10371	KNOCKROE (Rathvilly By)	CARLOW	Leinster	688644	681526
8	10189	CLONEGALL	CARLOW	Leinster	691526	661688
9	10401	MOANAMANAGH	CARLOW	Leinster	679435	674930
10	10252	DRUMFEA	CARLOW	Leinster	678473	657381
11	10289	GRAIGUEALUG	CARLOW	Leinster	676947	668087
12	10479	RATHLYON	CARLOW	Leinster	686618	676100
13	10288	GRAIGUE	CARLOW	Leinster	671449	676753
14	10385	LEANY	CARLOW	Leinster	690456	668255
15	10011	ANNAGAR	CARLOW	Leinster	663601	662704
16	10336	KILLENORA	CARLOW	Leinster	678876	673979

The 'Table Options' button is highlighted with a blue arrow. The interface also shows a 'Layers' panel on the left, a 'Catalog' panel on the right, and a 'Table Of Contents' panel at the top left. The status bar at the bottom indicates '(0 out of 1500 Selected)'.

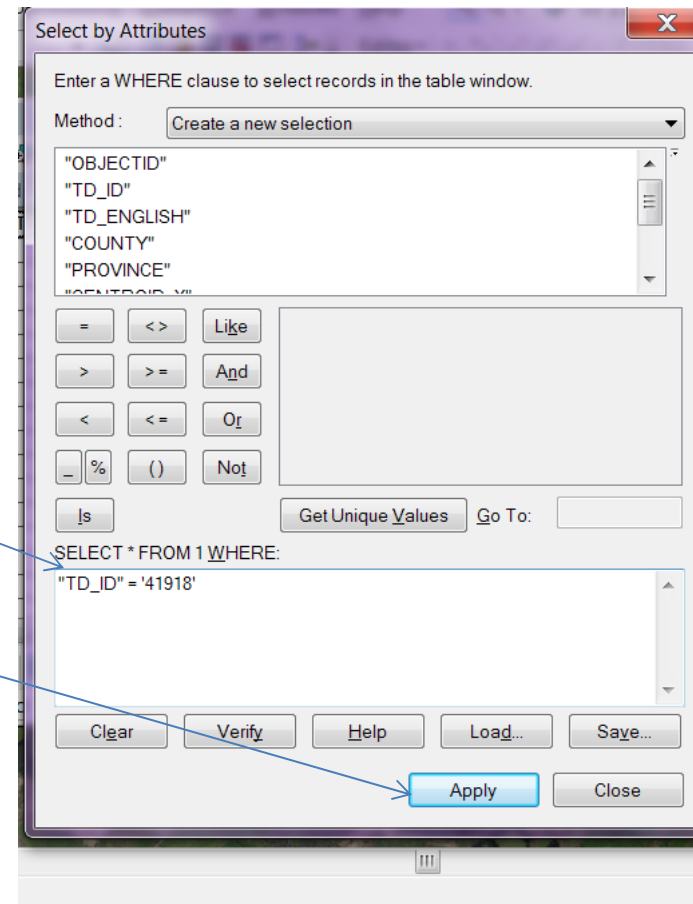
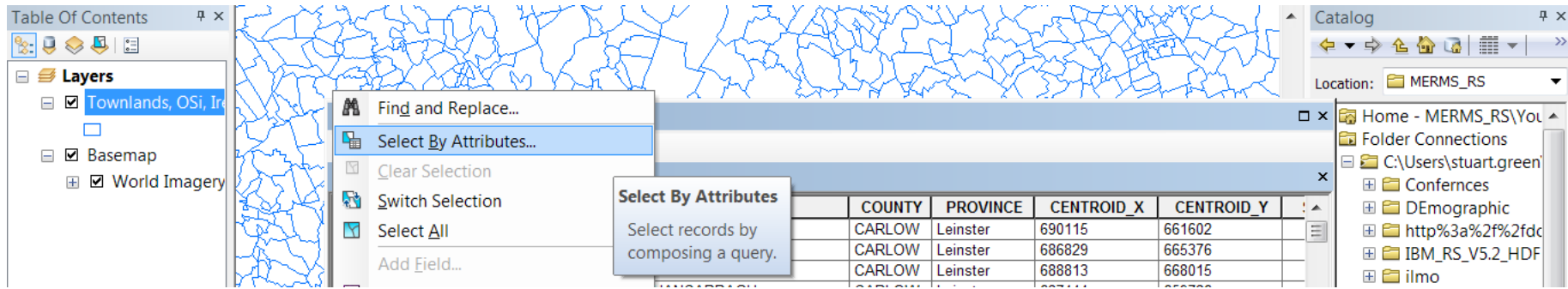
Click OFF “Showfield aliases”.

This means the column names match the names in the background database

The screenshot shows the ArcMap interface with the 'Show Field Aliases' menu option checked. A tooltip explains that this option toggles between the (database) field name and alias. The background shows a map of townlands and a data table with columns: TOWNLAND NAME, COUNTY, PROVINCE, CENTROID X, and CENTROID Y.

TOWNLAND NAME	COUNTY	PROVINCE	CENTROID X	CENTROID Y
Y	CARLOW	Leinster	690115	661602
N (Forth By)	CARLOW	Leinster	686829	665376
	CARLOW	Leinster	688813	668015
HANCARRAGH	CARLOW	Leinster	687444	659726
EMPLE	CARLOW	Leinster	688025	665580
ARRAGH	CARLOW	Leinster	685312	661800
ly By)	CARLOW	Leinster	688644	681526
	CARLOW	Leinster	691526	661688
	CARLOW	Leinster	679435	674930
	CARLOW	Leinster	678473	657381
	CARLOW	Leinster	676947	668087
	CARLOW	Leinster	686618	676100
	CARLOW	Leinster	671449	676753
	CARLOW	Leinster	690456	668255
	CARLOW	Leinster	663601	662704
	CARLOW	Leinster	678876	673979

Click Table Options- Select By Attribute



Enter "TD_ID" = '41918'

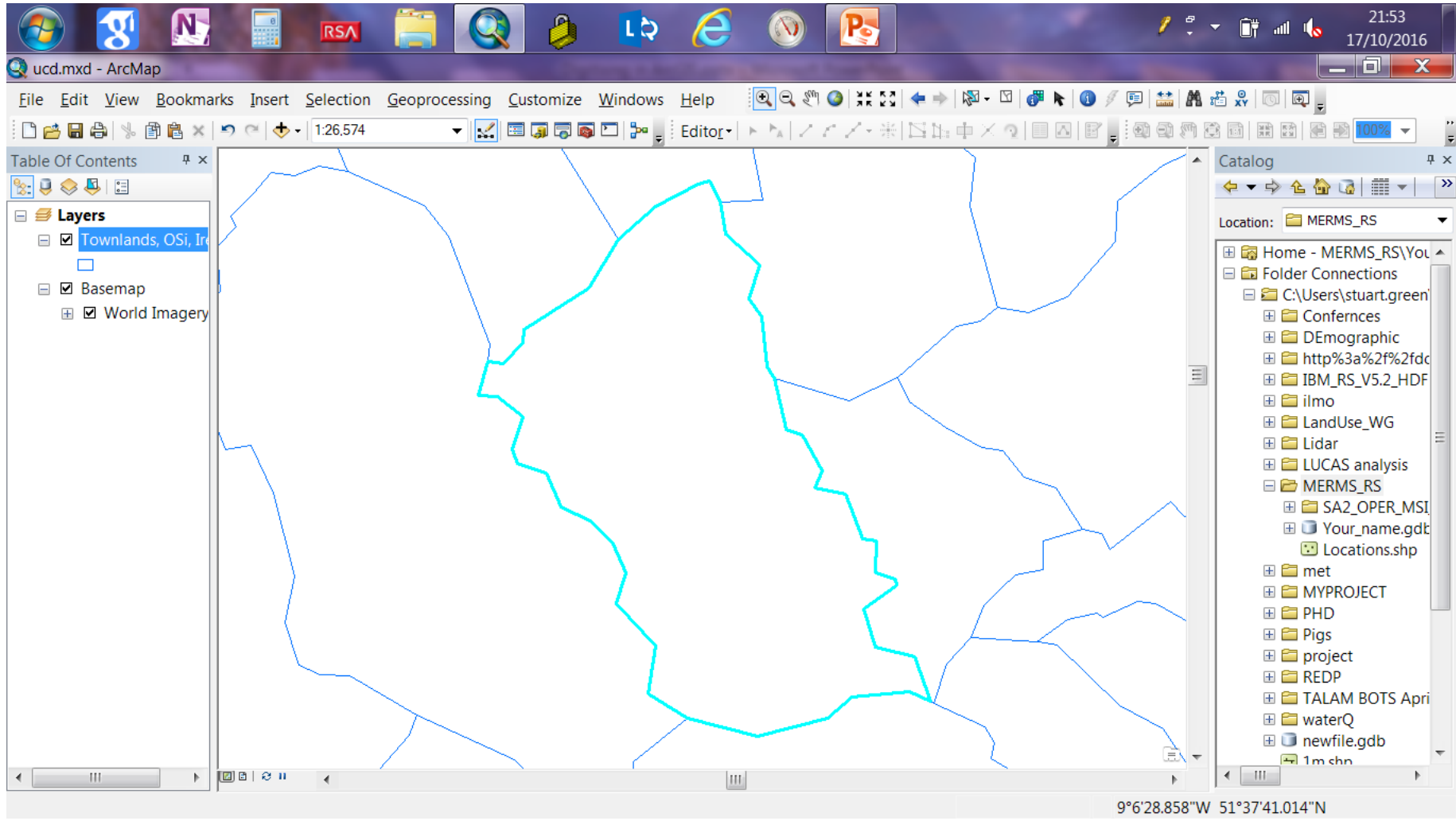
And click APPLY


Back in the Townland Attribute Table
we can see that one row has been selected
If we click the “zoom to selected” button we can see it on the map

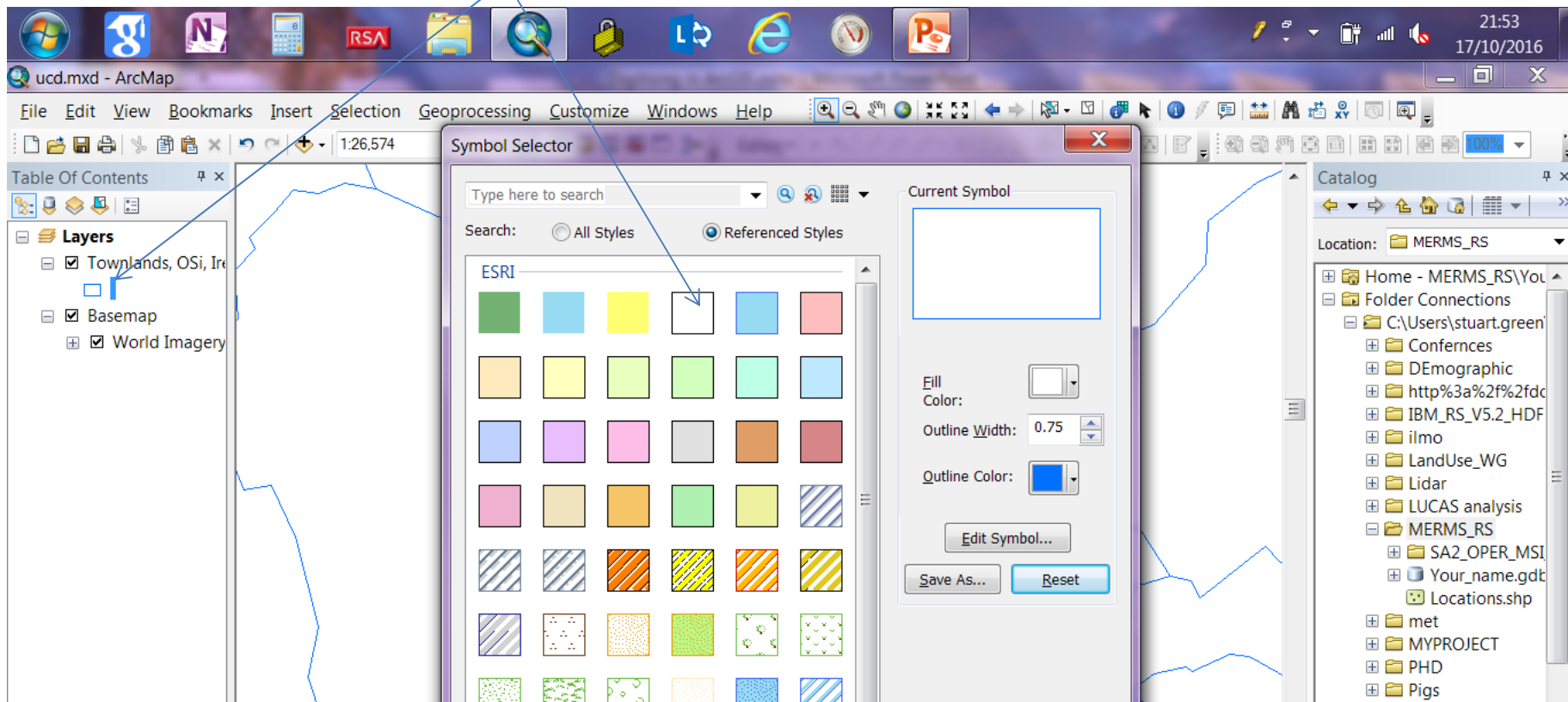
OBJECTID	TD_ID	TD_ENGLISH	COUNTY	PROVINCE	CENTROID_X	CENTROID_Y
1	10316	KILCARRY	CARLOW	Leinster	690115	661602
2	10254	DRUMMIN (Forth By)	CARLOW	Leinster	686829	665376
3	10229	CRAANS	CARLOW	Leinster	688813	668015
4	10112	BALLYSHANCARRAGH	CARLOW	Leinster	687444	659726
5	10031	BALLINTEMPLE	CARLOW	Leinster	688025	665580
6	10353	KNOCKBARRAGH	CARLOW	Leinster	685312	661800
7	10371	KNOCKROE (Rathvilly By)	CARLOW	Leinster	688644	681526
8	10189	CLONEGALL	CARLOW	Leinster	691526	661688
9	10401	MOANAMANAGH	CARLOW	Leinster	679435	674930
10	10252	DRUMFEA	CARLOW	Leinster	678473	657381
11	10289	GRAIGUEALUG	CARLOW	Leinster	676947	668087
12	10479	RATHLYON	CARLOW	Leinster	686618	676100
13	10288	GRAIGUE	CARLOW	Leinster	671449	676753
14	10385	LEANY	CARLOW	Leinster	690456	668255
15	10011	ANNAGAR	CARLOW	Leinster	663601	662704
16	10336	KILLENORA	CARLOW	Leinster	678876	673979

2 (1 out of 1500 Selected)

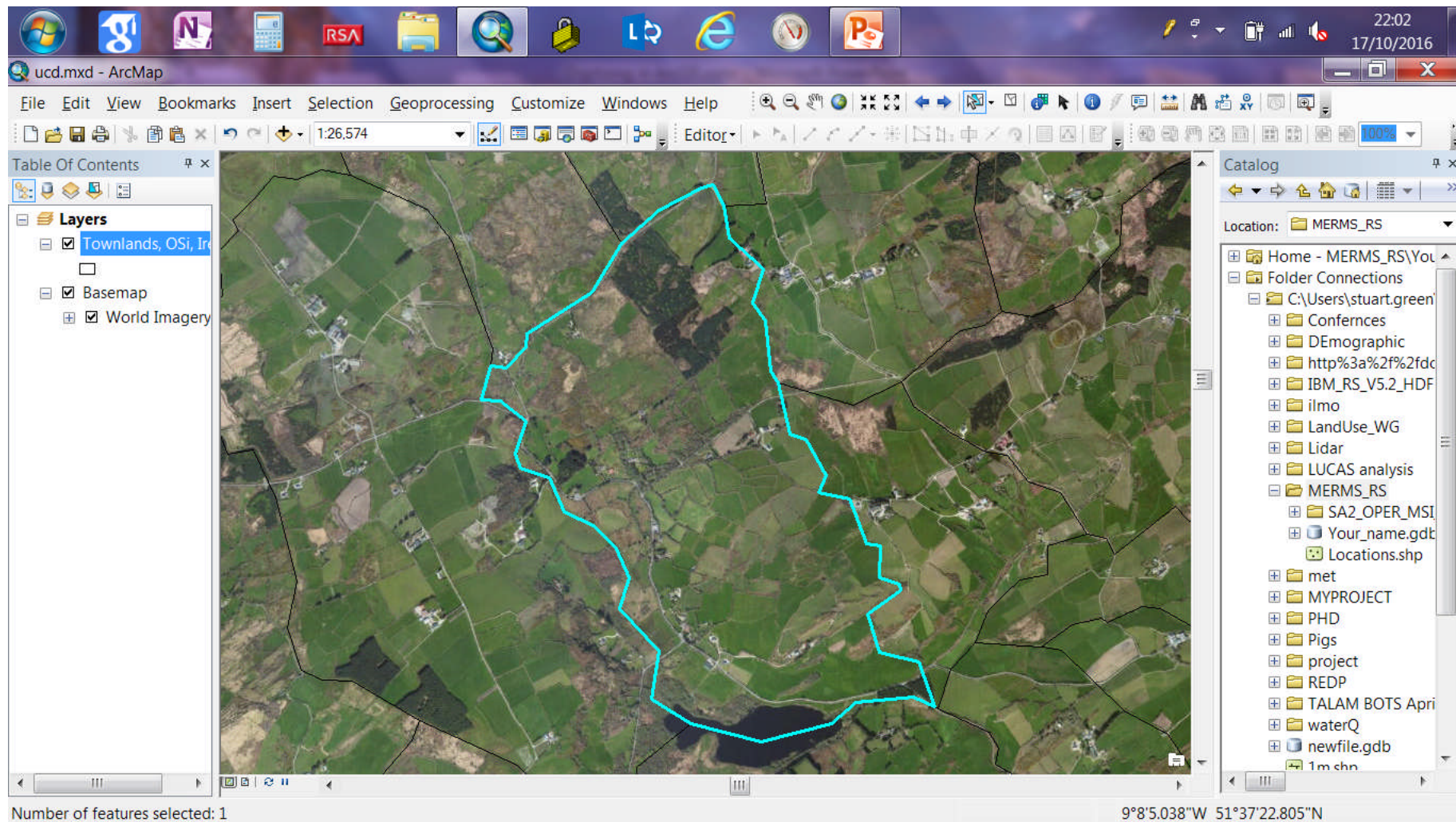
Townlands, OSi, Ireland



If we click on the symbol  under townland we can change the symbology to be hollow and see the image underneath



This is the small area we are going to digitise to produce a simple land cover map



The 7 different land covers

- Forestry
- Improved Grassland
- Natural Vegetation

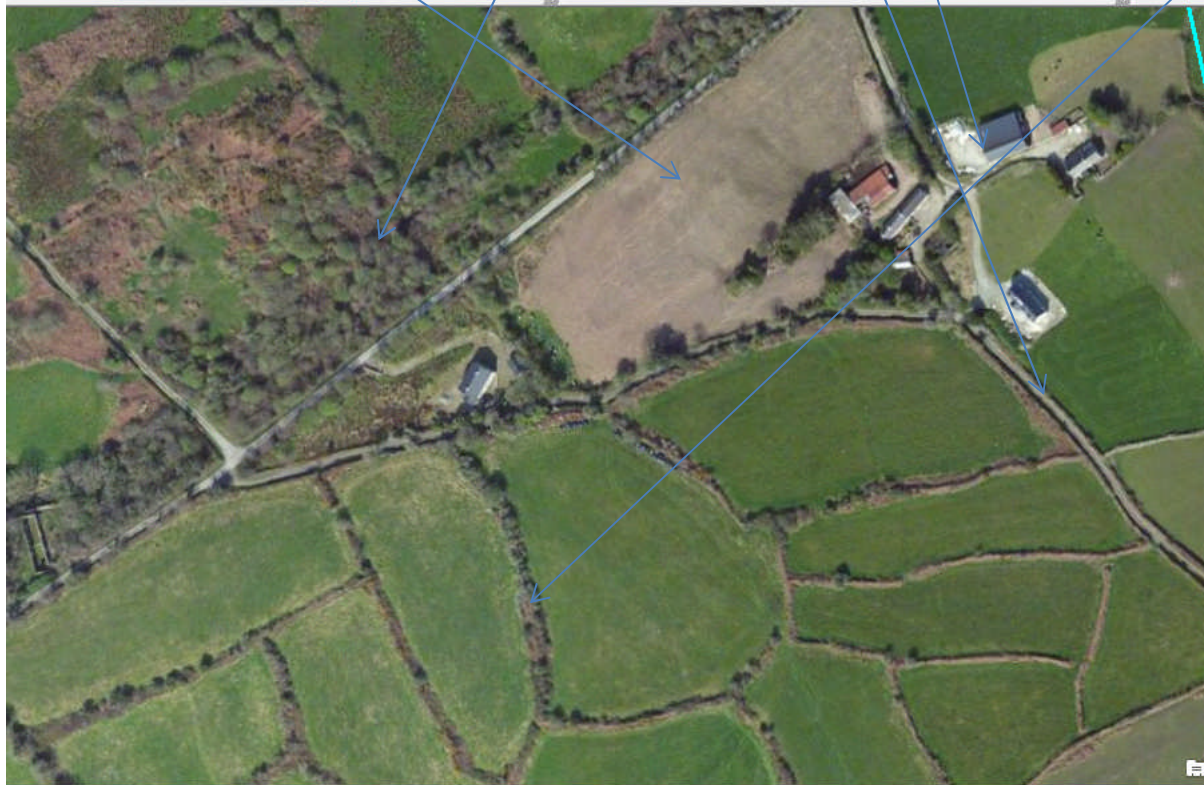


Built Land

- Bare Soil

Woodland

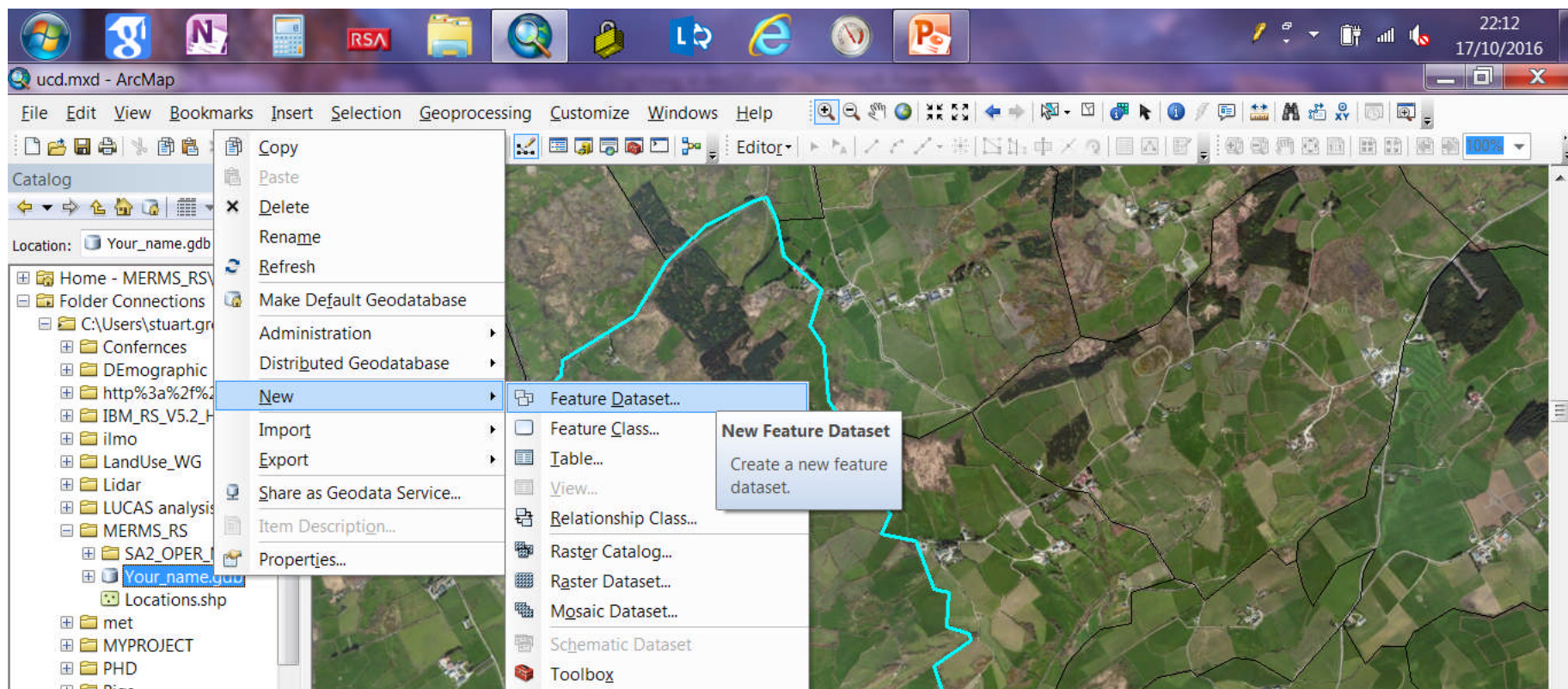
Hedgerow



We will produce a digitised map of all
FORESTRY and WOODLAND in the area

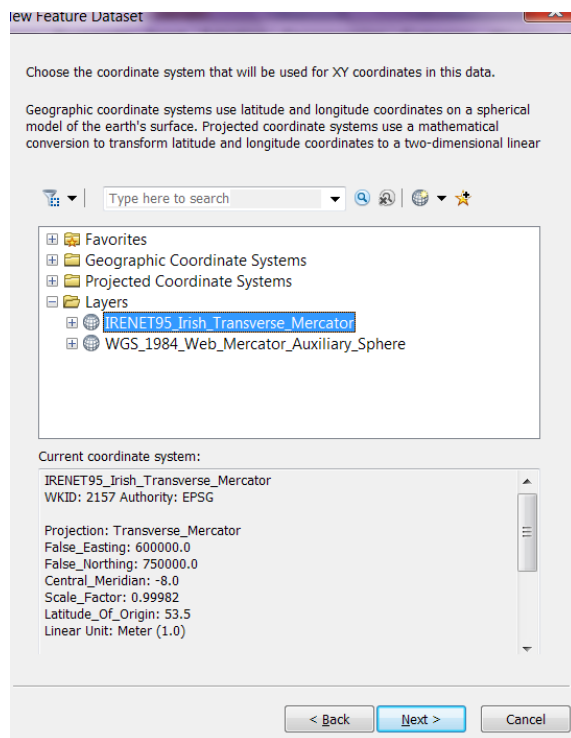
First we need to create an empty file (called a feature data set in ArcGIS- or Vector File generally)

- Right click on your Geodatabase in the catalogue and select new and “Feature Dataset...”



First Create simple name then click NEXT

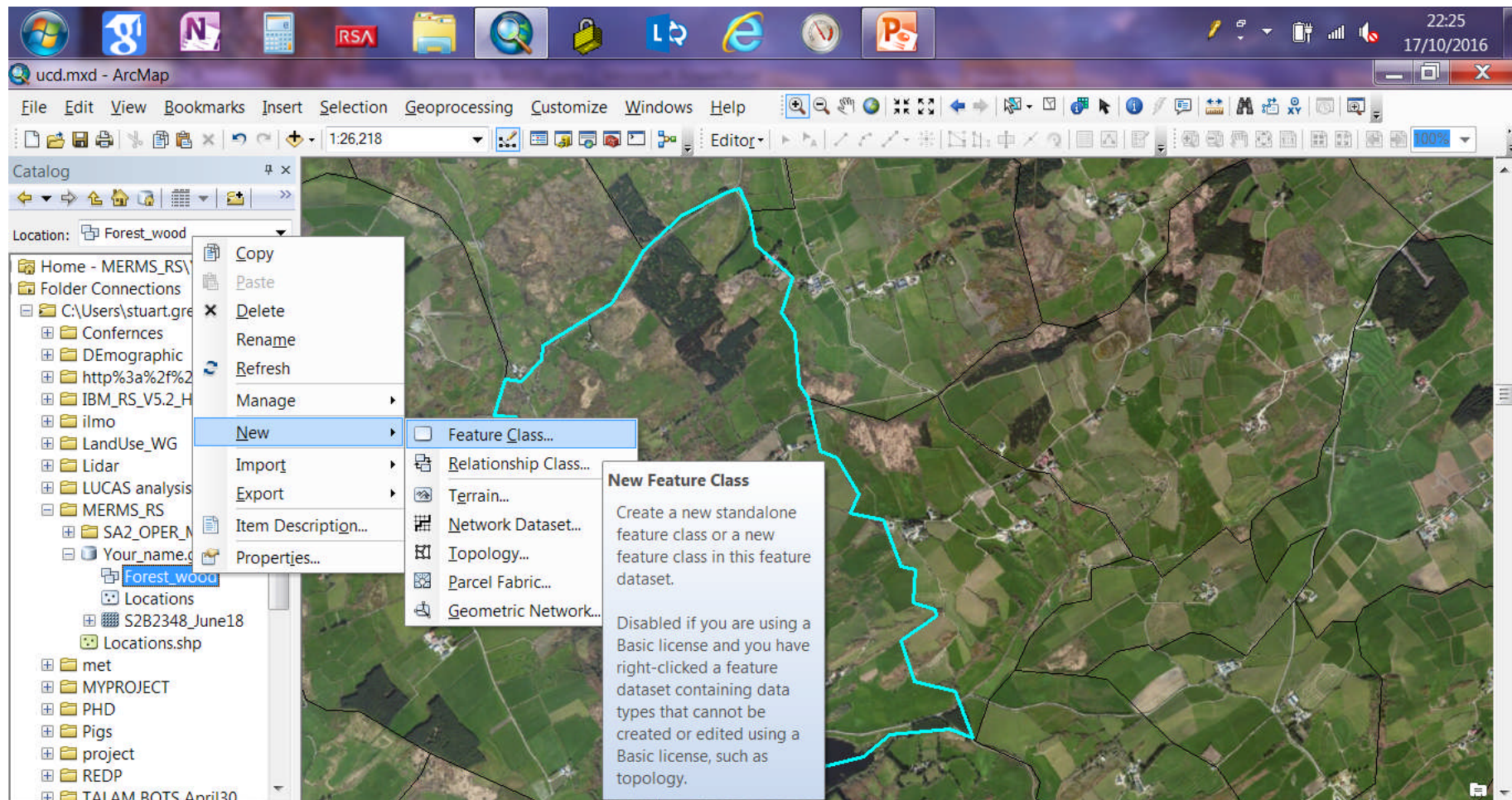
- Select IRENET95 as the coordinate system.



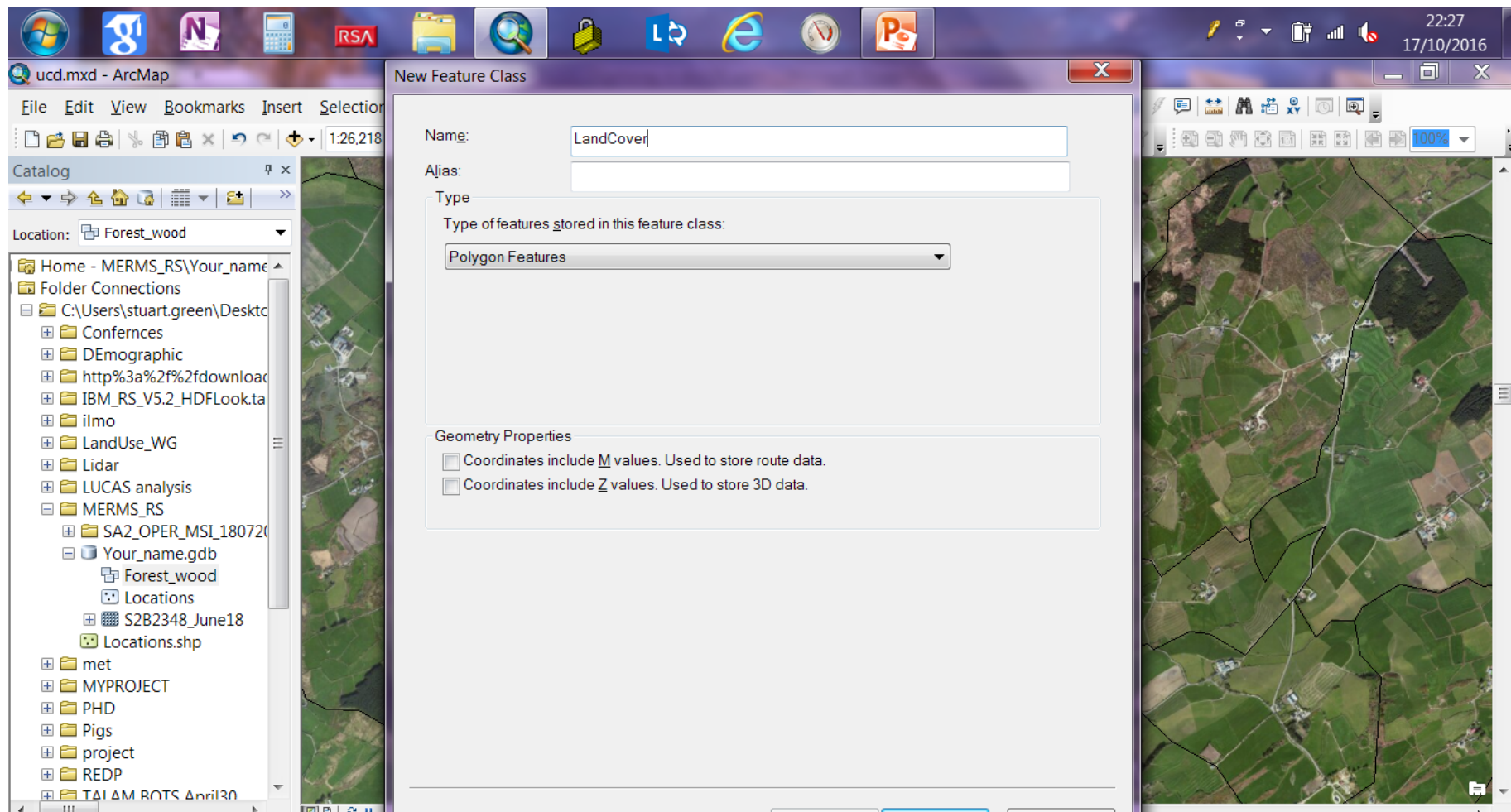
- Click NEXT
- Click next on the following panel without changing anything and click FINISH again keeping the defaults

Your new File appears in the File geo-database (I called mine Forest_wood)

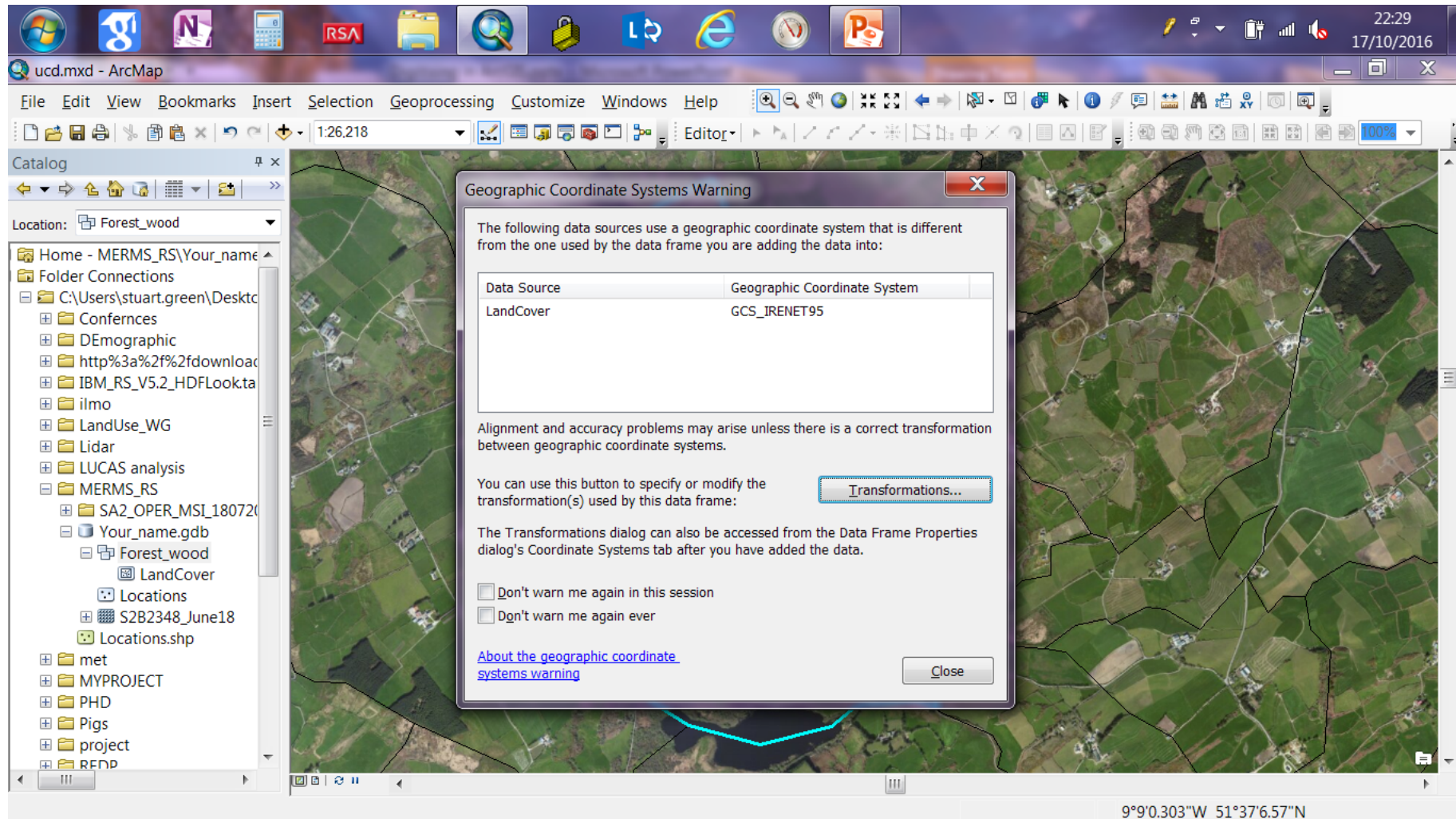
- Right click on it, select New then Feature Class



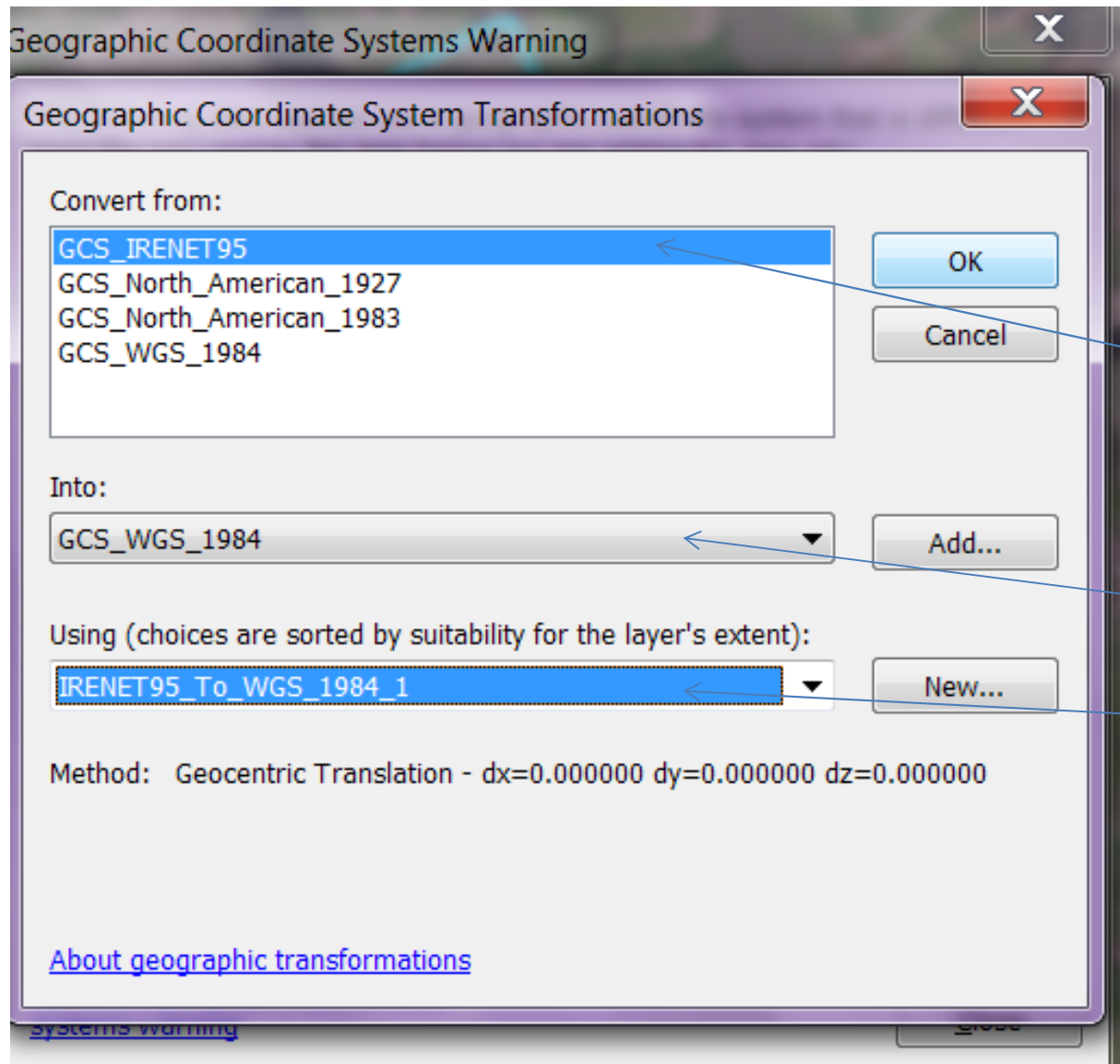
Change the Feature Class name to LandCover. Then just click Next until Finish keeping defaults.



We get a projection Error

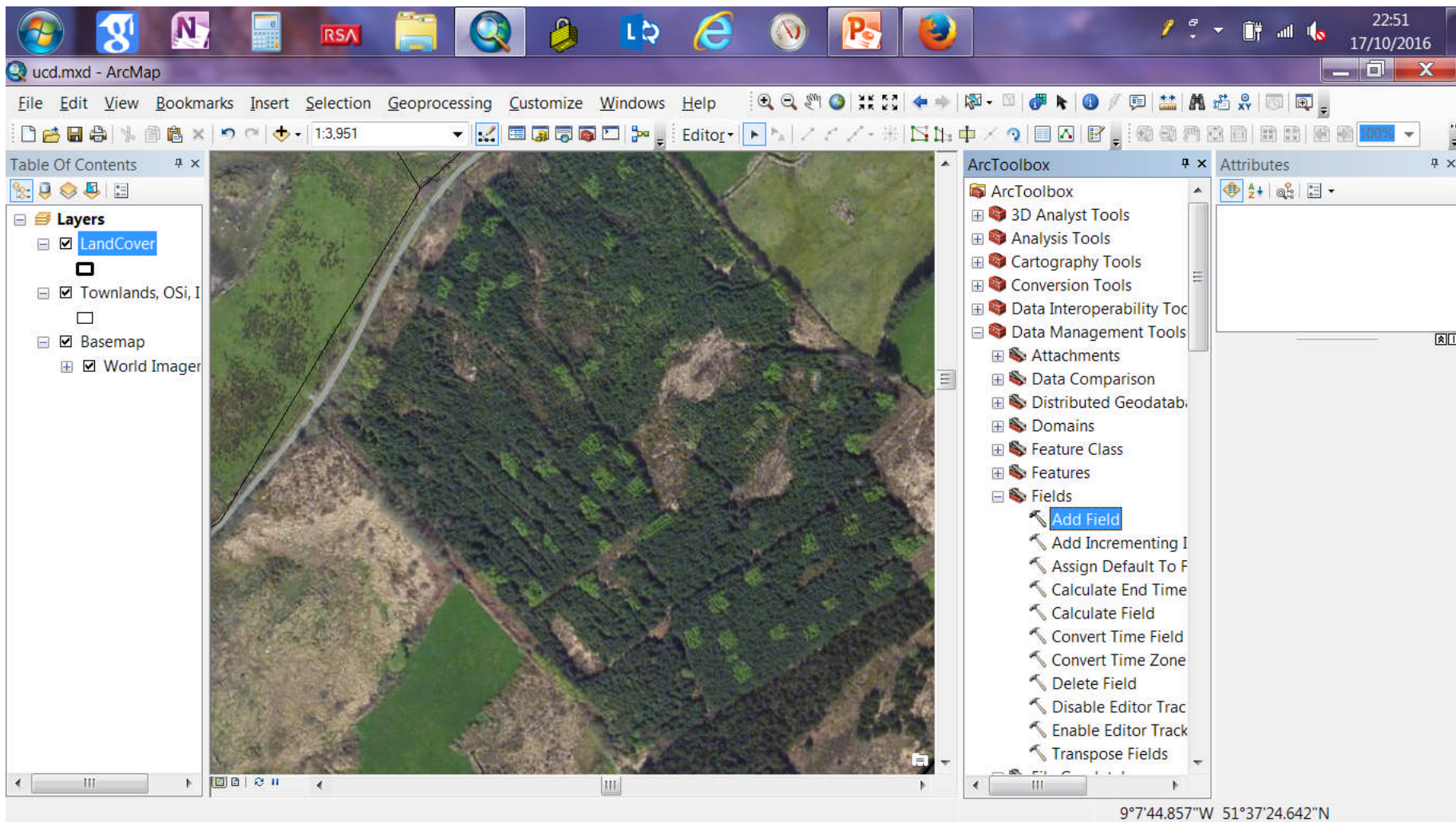


- Click Transformations

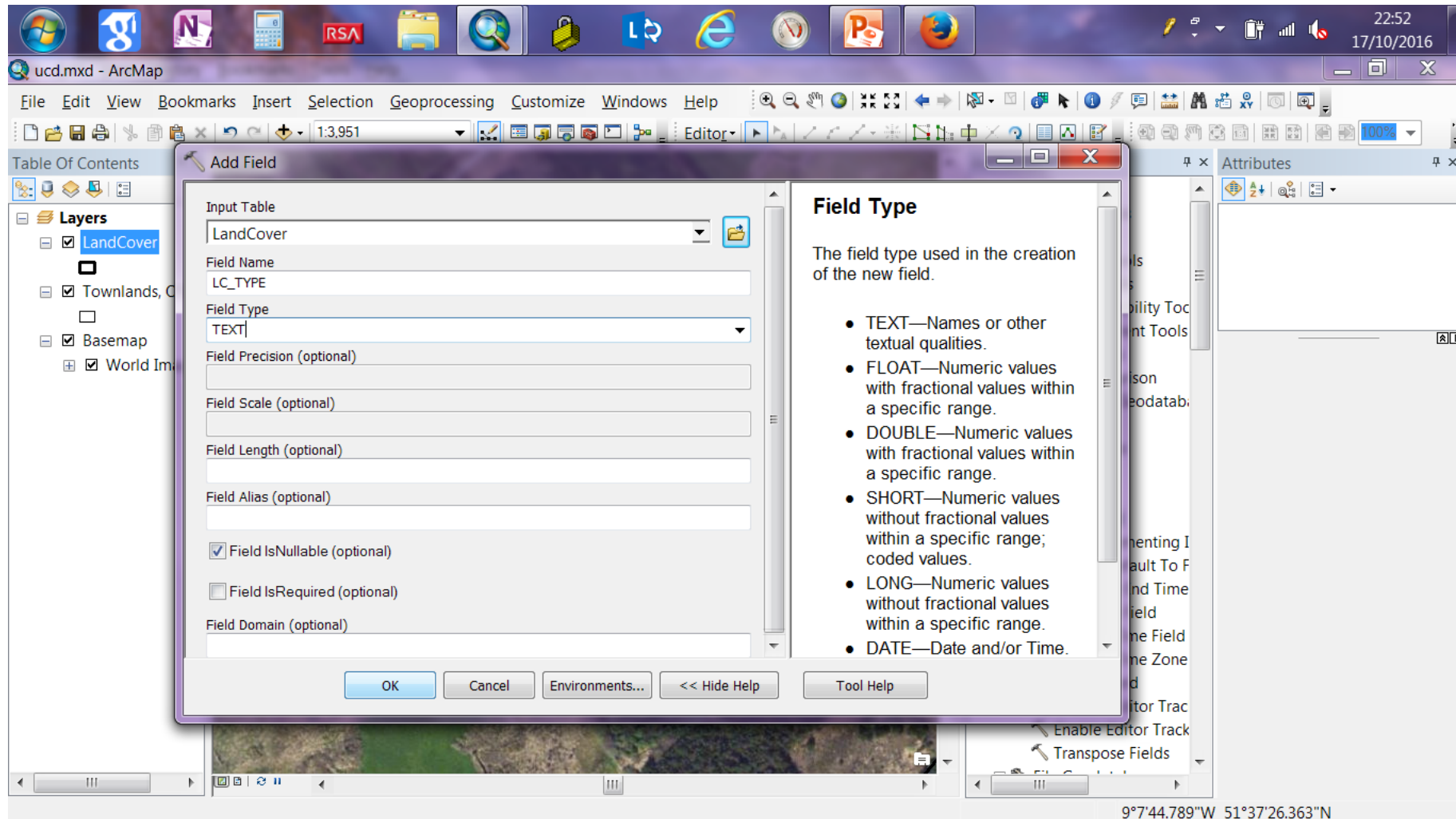


- We Transform FROM this
- To
- This
- Using this
- Click OK

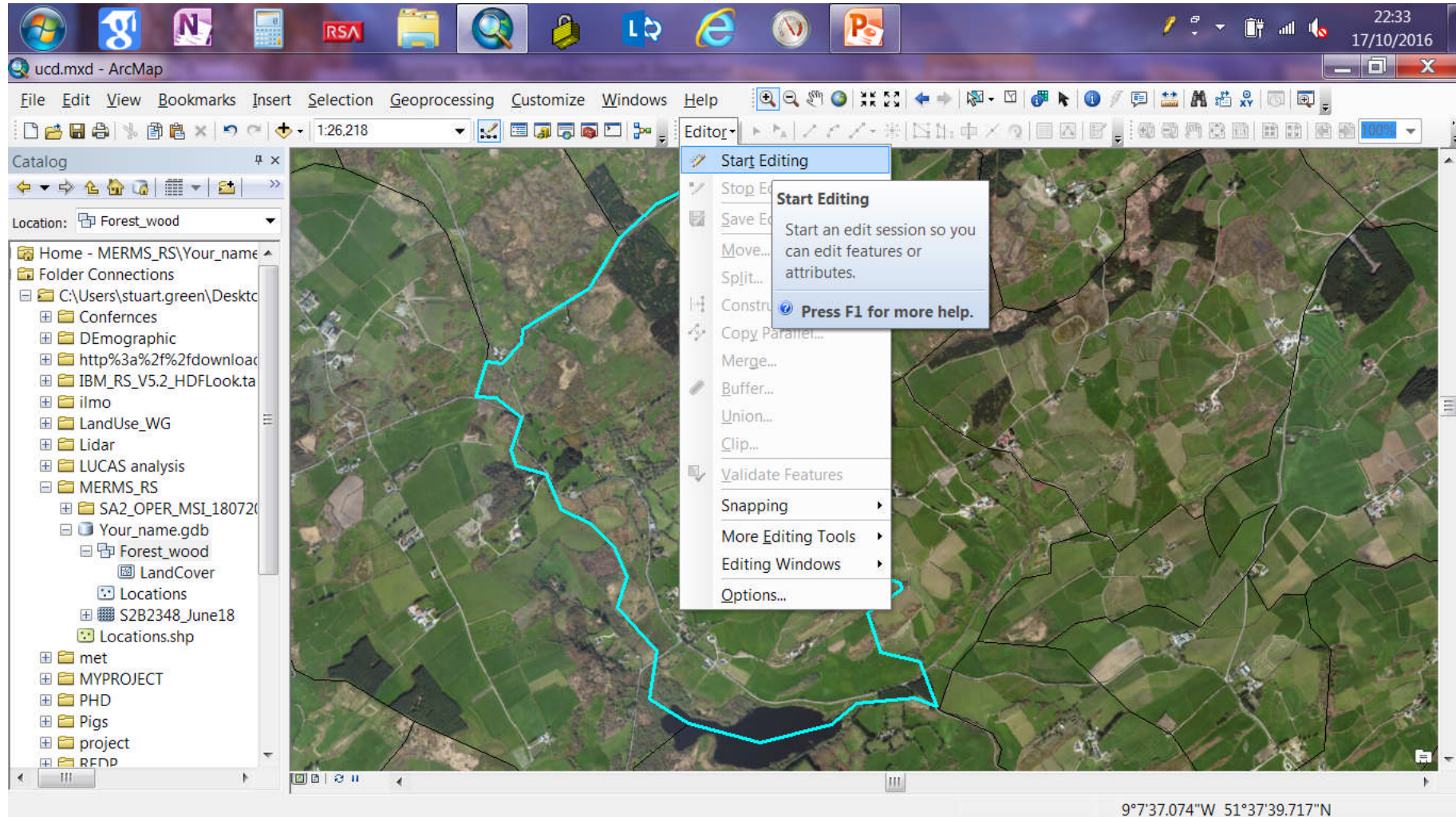
Add a FIELD to our Feature Layer



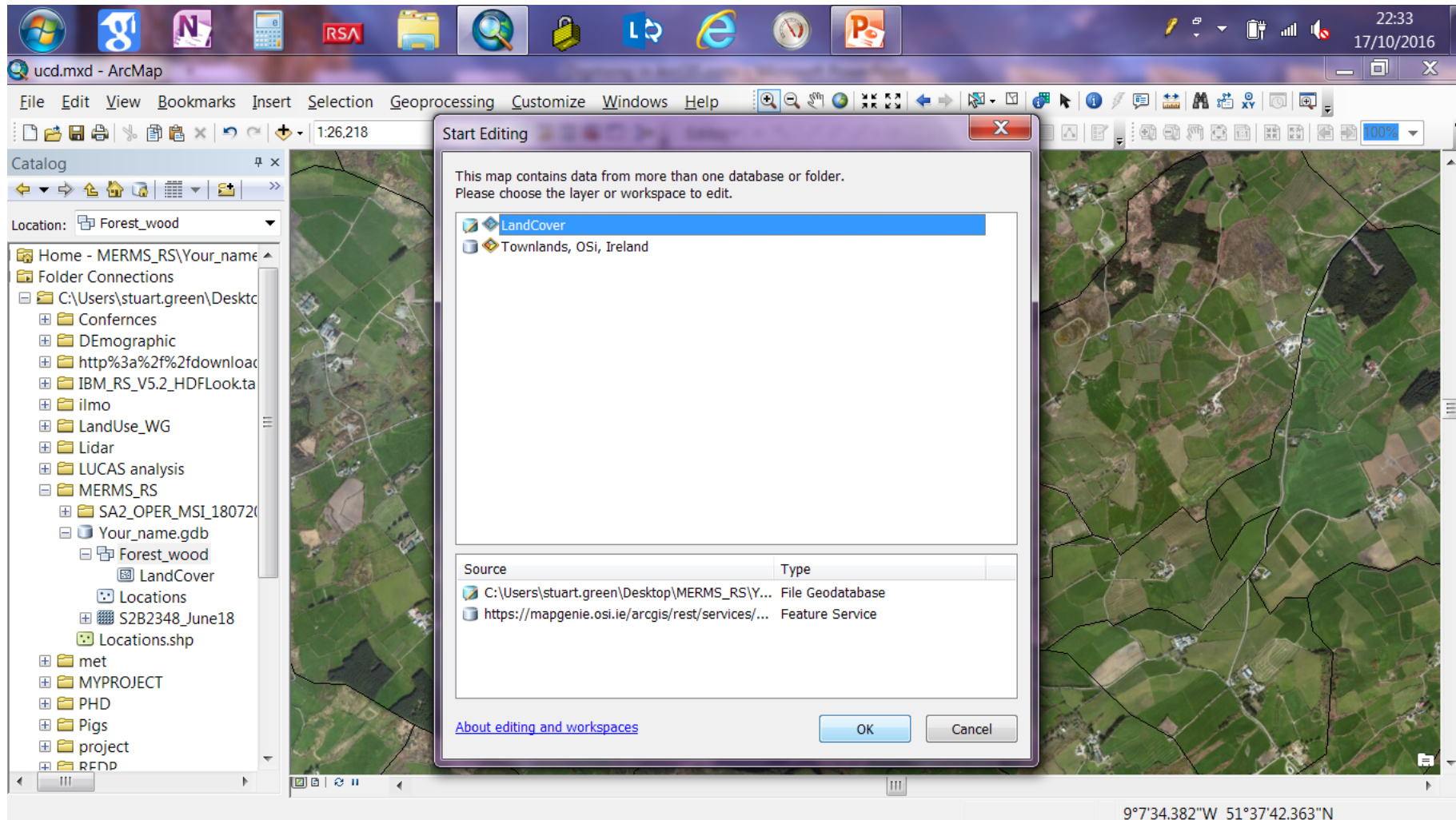
This is a column in the Attribute table we can use to label our polygons- fill out as below and click OK



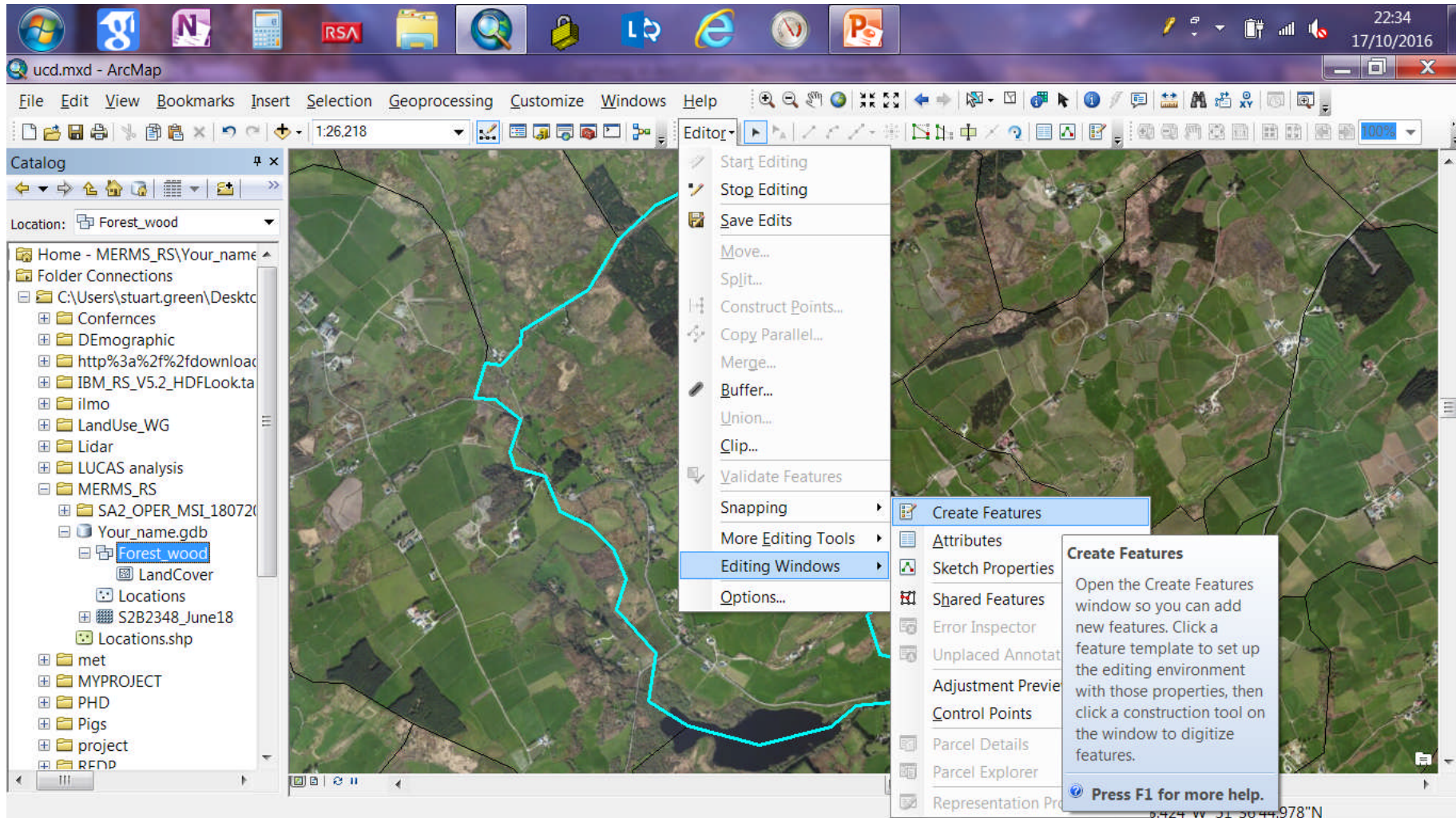
Finally we can start editing



We are editing the LandCover Feature Class- OK

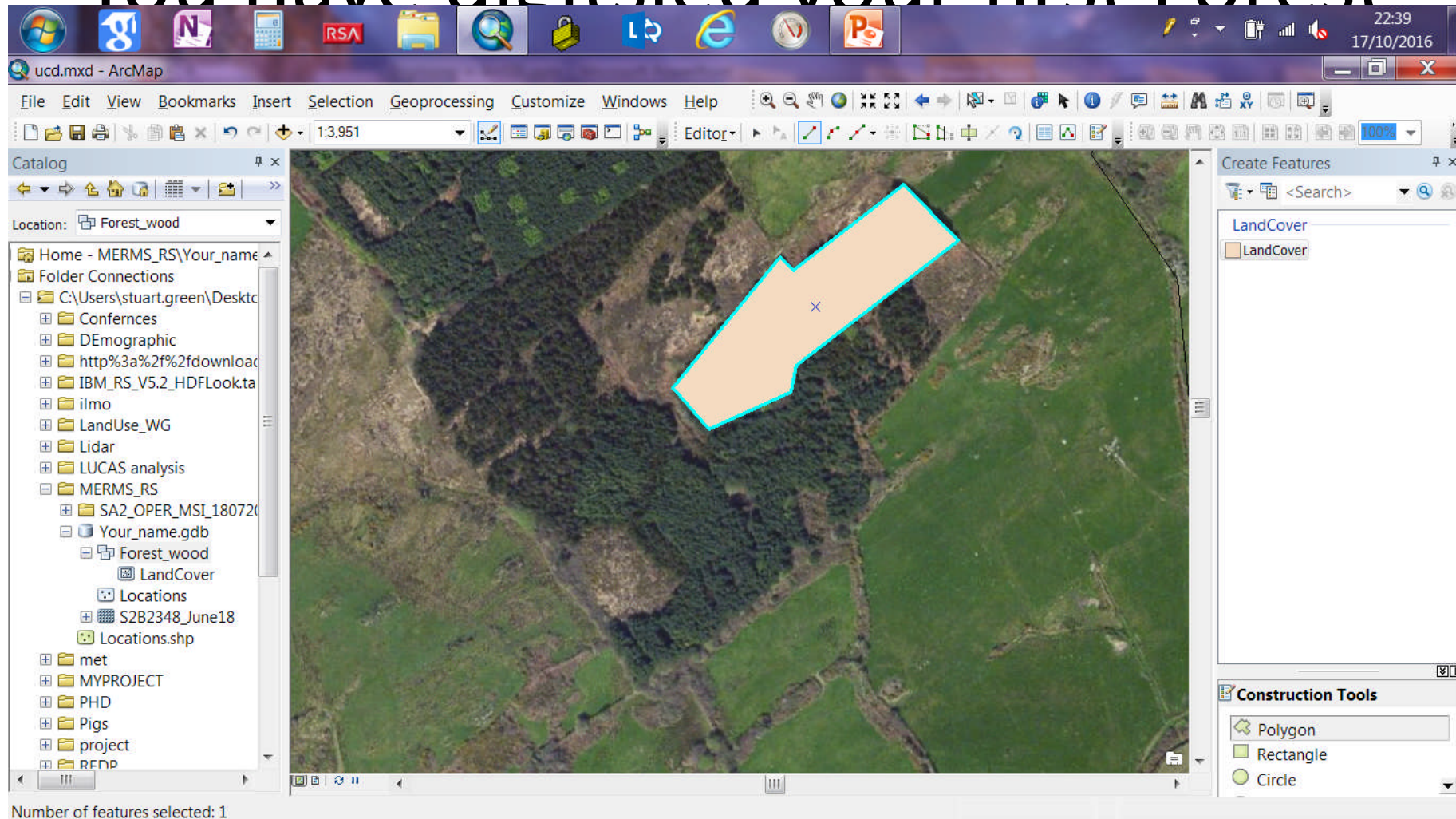


We want to create New Features



- Zoom into a Forest area in the townland
- Highlight Landcover in the Create Feature Window and then select POLYGON
- Your Mouse is now a crosshair. Click the first corner and then move to the next and click again
- When you have completed the area double click.

You have digitised your first Forest



Keep adding forest polygons

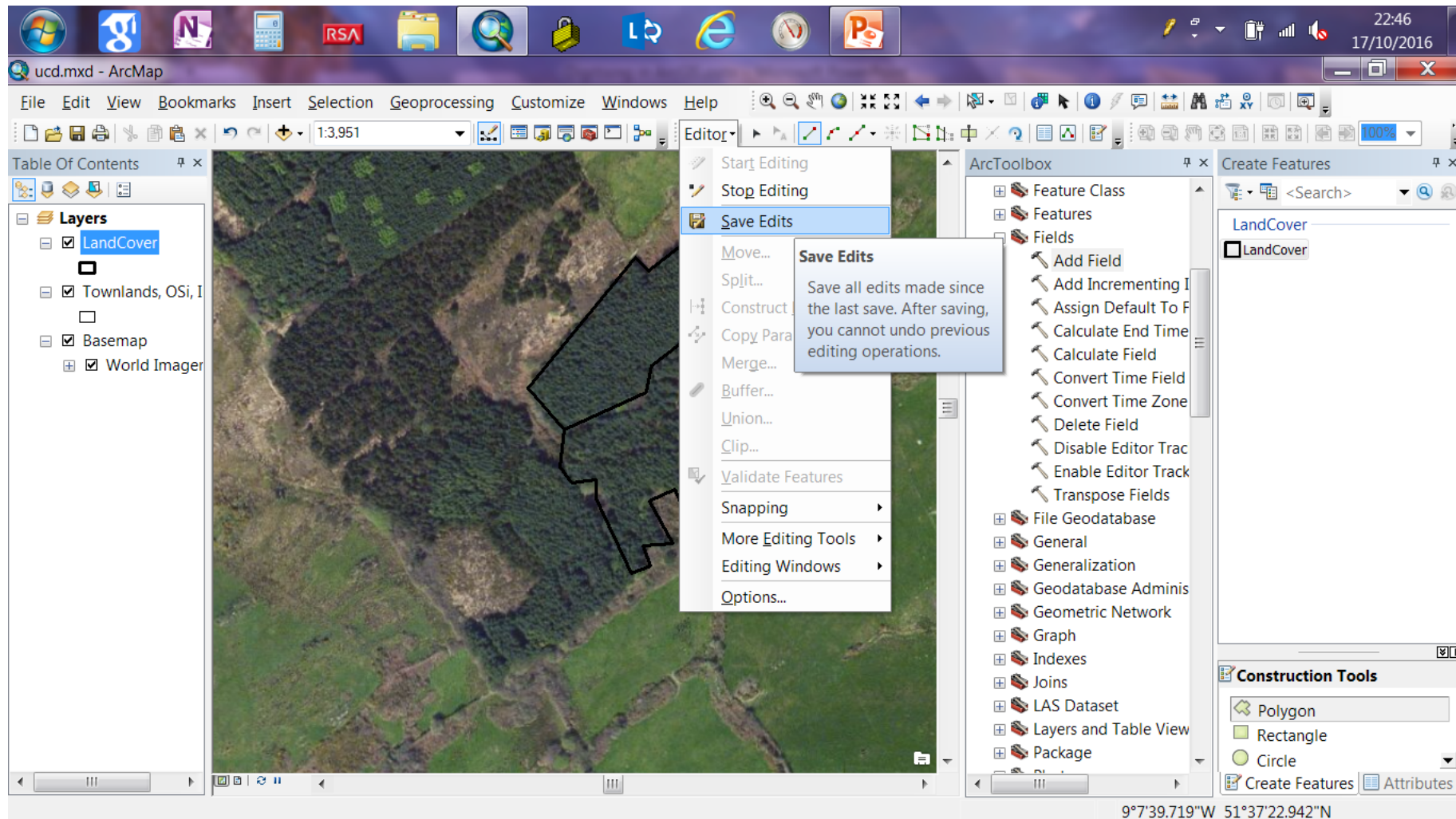
The screenshot displays the ArcMap interface with the following components:

- Top Bar:** Shows the application name "ucd.mxd - ArcMap", the date and time "22:42 17/10/2016", and various system icons.
- Menu Bar:** Includes File, Edit, View, Bookmarks, Insert, Selection, Geoprocessing, Customize, Windows, and Help.
- Toolbars:** Contains standard GIS tools such as pan, zoom, and edit.
- Catalog Pane (Left):** Shows the project structure with the "LandCover" layer selected under the "MERMS_RS" folder.
- Map View (Center):** Displays an aerial photograph with a light orange polygon overlaid on a forested area. A small 'x' icon is visible within the polygon, indicating it is being edited.
- Attributes Pane (Right):** Shows the properties for the selected feature. It includes a table with the following data:

OBJECTID	3
SHAPE_Length	588.197952
SHAPE_Area	11025.711914

At the bottom of the window, the status bar displays "Number of features selected: 1" on the left and the coordinates "9°7'56.891\"W 51°37'15.848\"N" on the right.

Make sure you keep saving as you go along



Click Attributes to label your new polygons

The screenshot shows the ArcMap interface with a map of a forested area. A cyan polygon is drawn over a portion of the forest. The 'Attributes' window is open, displaying the following data:

OBJECTID	2
APE_Length	477.913932
APE_Area	9211.293035
LC_TYPE	<Null>

Below the table, the 'OBJECTID' field is expanded to show 'Object ID' and 'Null values not allowed'. A tooltip is visible over the 'Attributes' window, providing instructions on how to use it.

Attributes
Open the Attributes window so you can modify the attribute values of selected features in the layers you are editing. You can also edit relationships among features in this window.
[Press F1 for more help.](#)

Number of features selected: 1

9°7'28.665"W 51°37'25.481"N

ENTER "F" for Forest

The screenshot displays the ArcMap interface with a map of a forested area. A cyan polygon highlights a specific forest feature. The Attributes panel on the right shows the following data:

Attributes	
LandCover	
477.913932	
OBJECTID	2
SHAPE_Length	477.913932
SHAPE_Area	9211.293035
LC_TYPE	F

LC_TYPE
Text (Length = 255)
Null values allowed

Number of features selected: 1

9°24.304'W 51°37'19.437"N

When you have digitised all FOREST
Click STOP EDITING

- Then re start editing and do the Woodland polygons!!

Try these links for more tips and guides

- <https://www.youtube.com/watch?v=HXVylmSm8zY>
- *web.gps.caltech.edu/gislab/HowTo/ESRI%20-%20Editing%20Data.pdf*