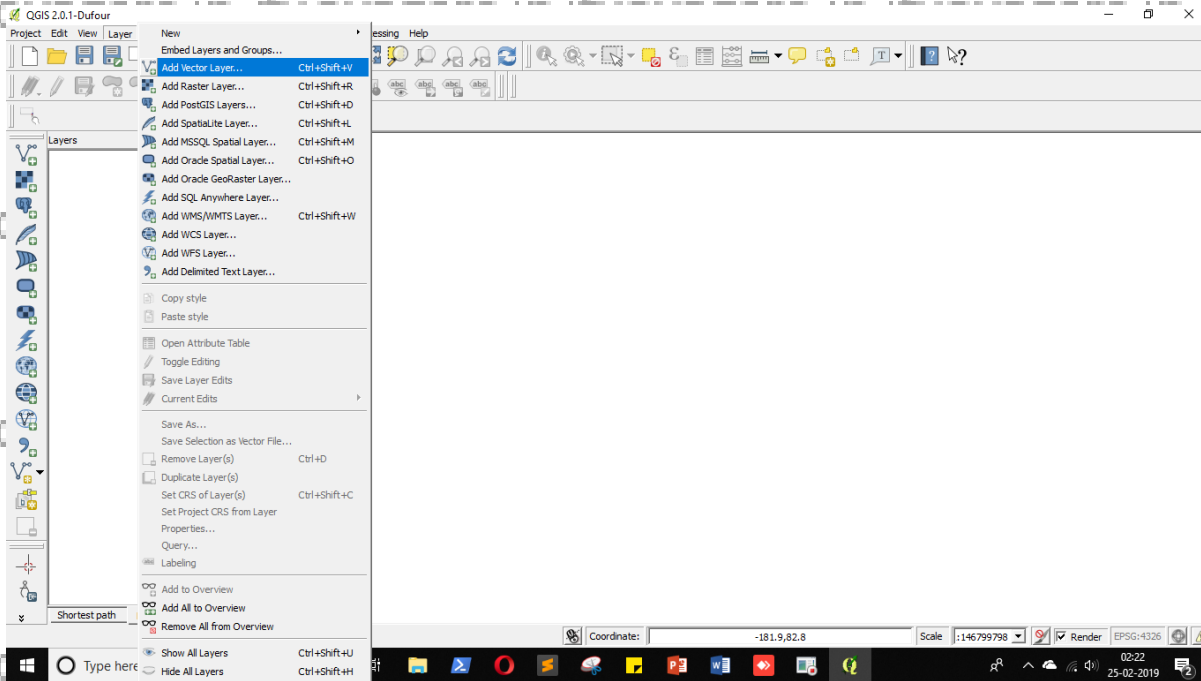


Performing Spatial Queries

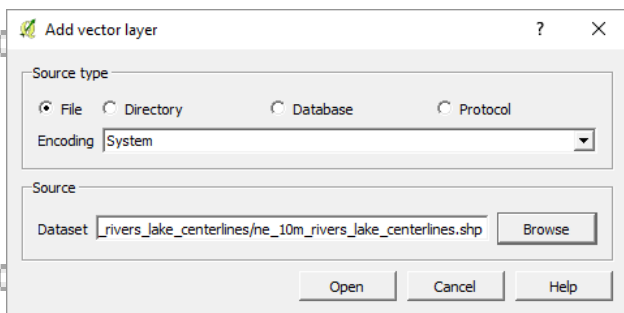
Download resources from link given below.

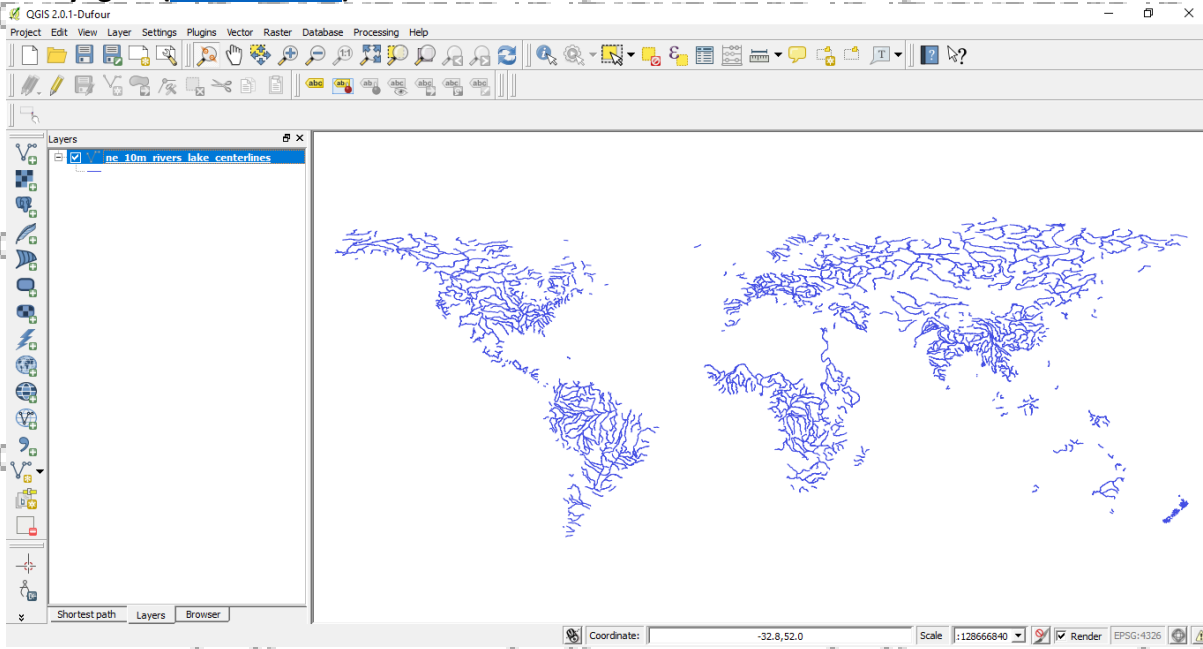
<https://drive.google.com/open?id=1WTQja3uFh3mZJvSrsd0tvn75Vrb1EXq7>

First we have to add **“ne_10m_rivers_lake_centerlines.shp”** and **“ne_10m_populated_places_simple.shp”** files in QGIS. For that go to **Layer > Add Vector Layer...**

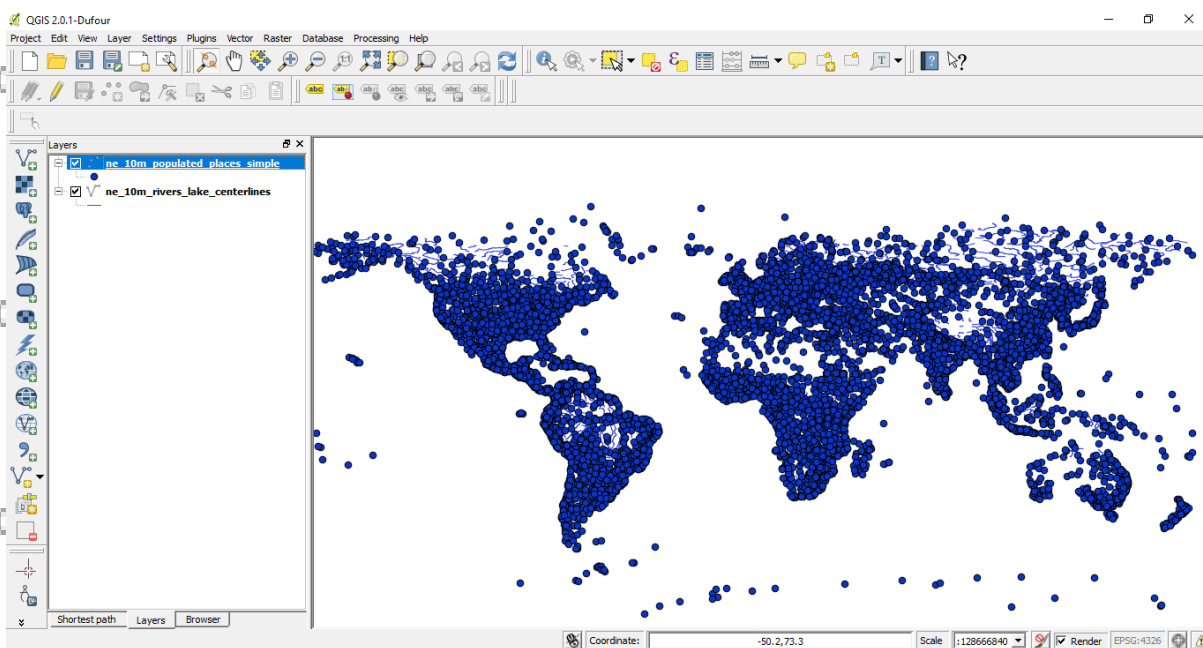
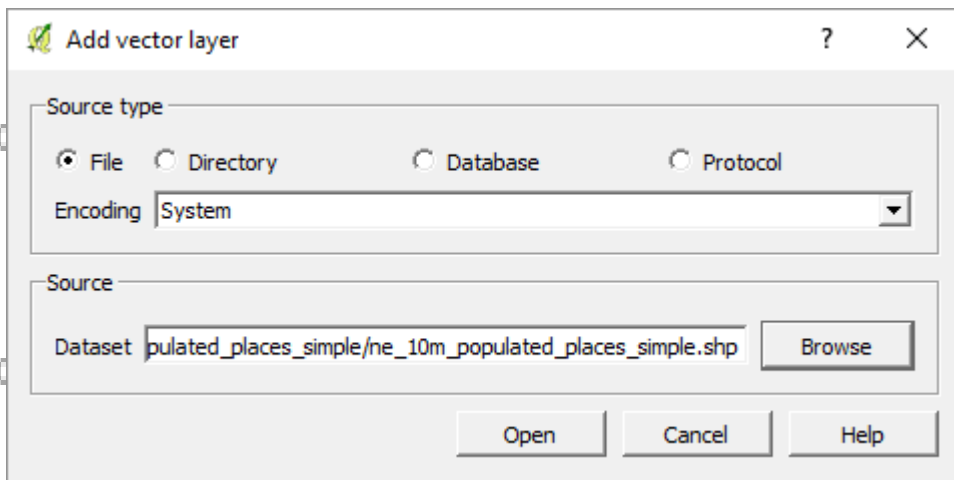


Click **“Browse”** and select **“ne_10m_rivers_lake_centerlines.shp”** layer and click **“Open”**.



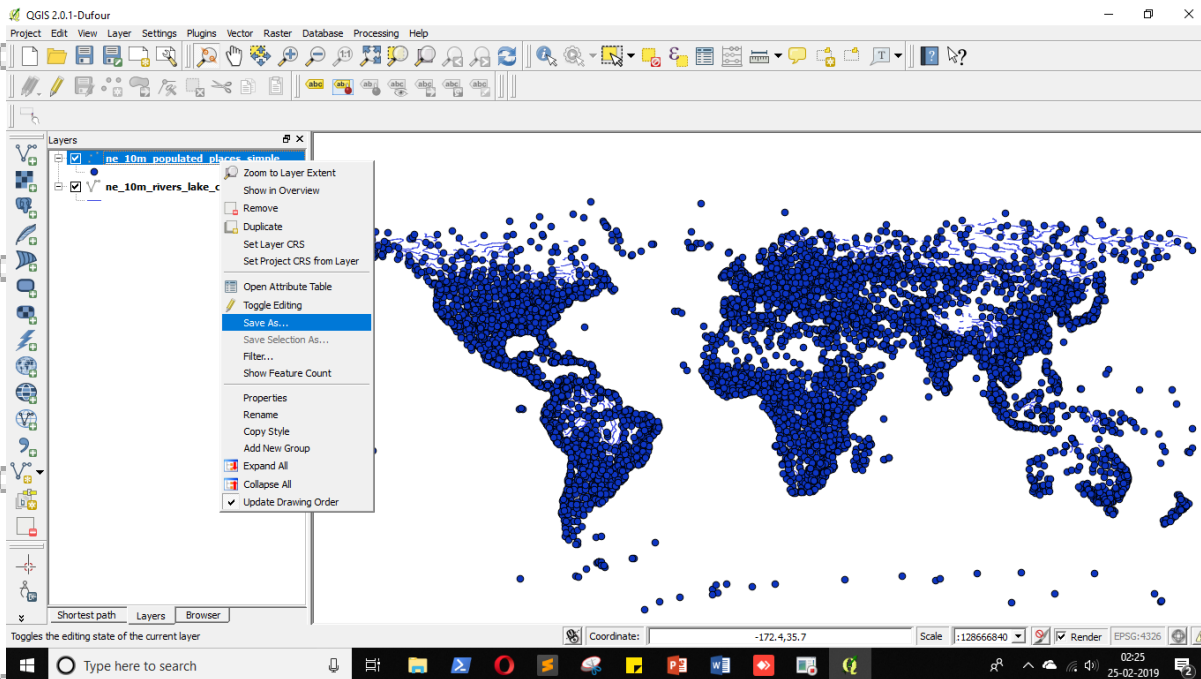


Also add "ne_10m_populated_places_simple.shp" file.

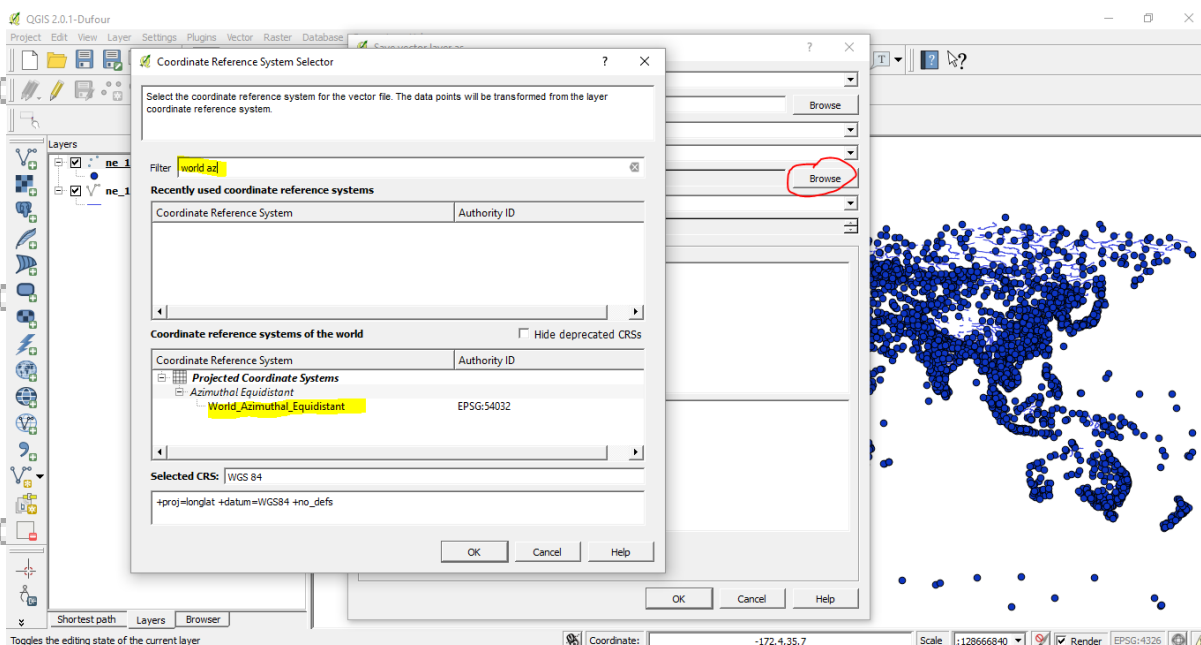


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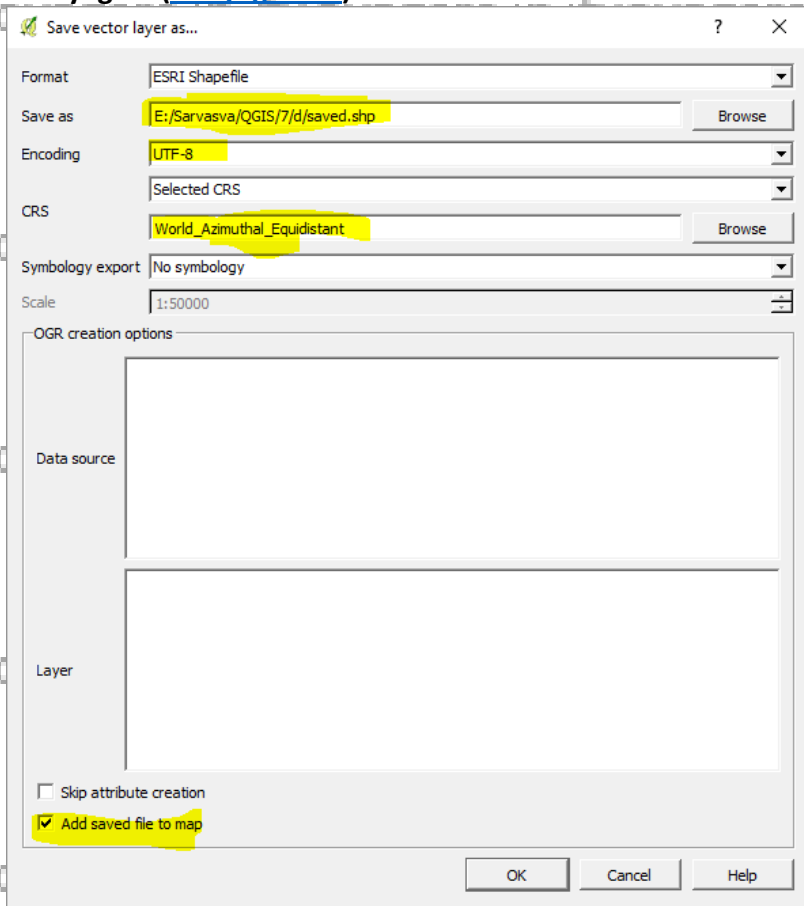
Now we want our layer to be in **“World_Azimuthal_Equidistant”** CRS which will help us to plot our output on **“Google Earth”**. For that right click on **“ne_10m_populated_places_simple”** layer and select **“Save As...”**.



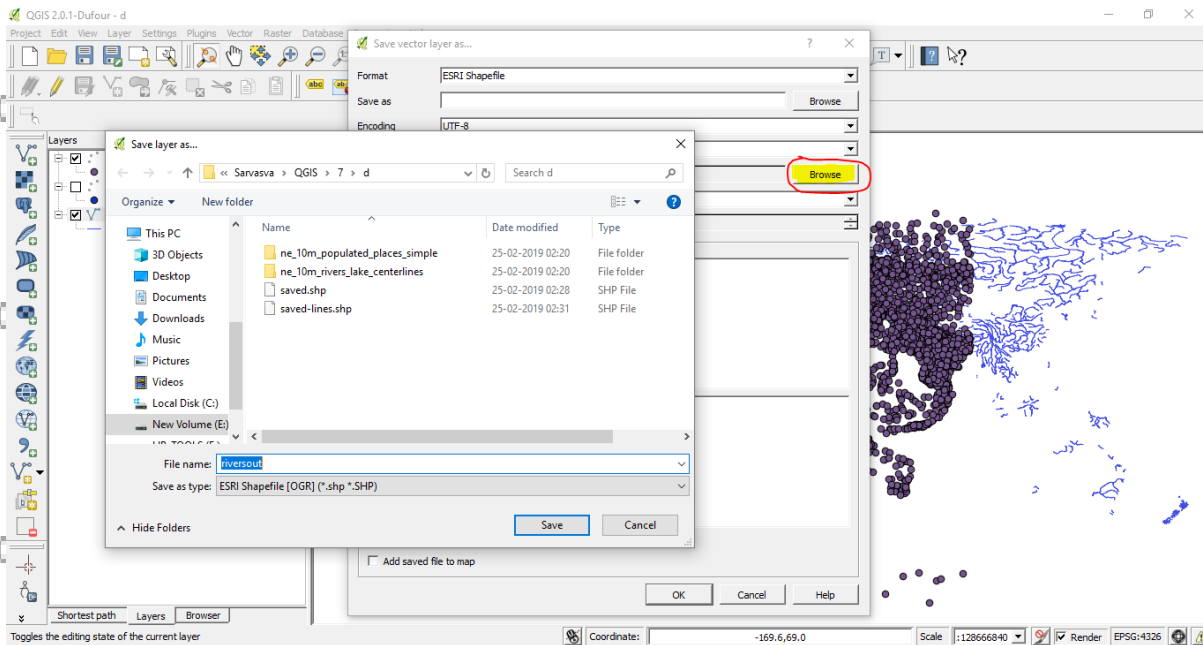
First click on **“Browse”** button for CRS field and select **“World_Azimuthal_Equidistant”** as CRS.

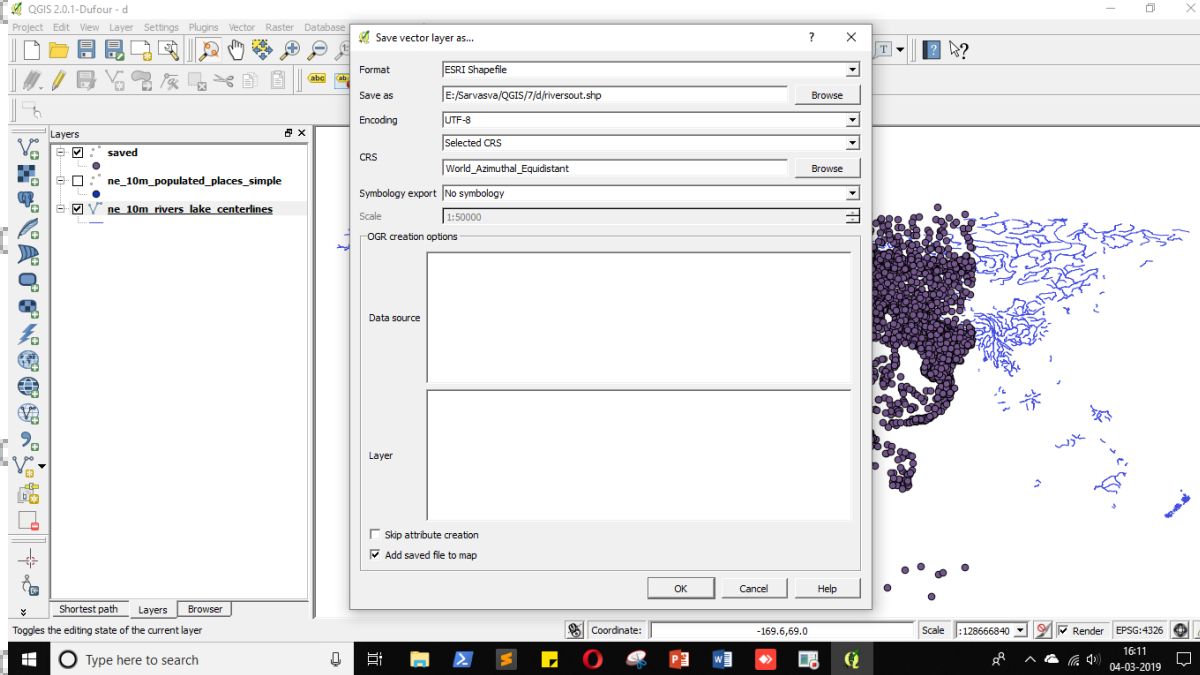


Give name and path for the output file by clicking on **“Browse”** button for **Save as** field. Set Encoding to **“UTF-8”**, select **“Add saved file to map”** and click on **“OK”**.

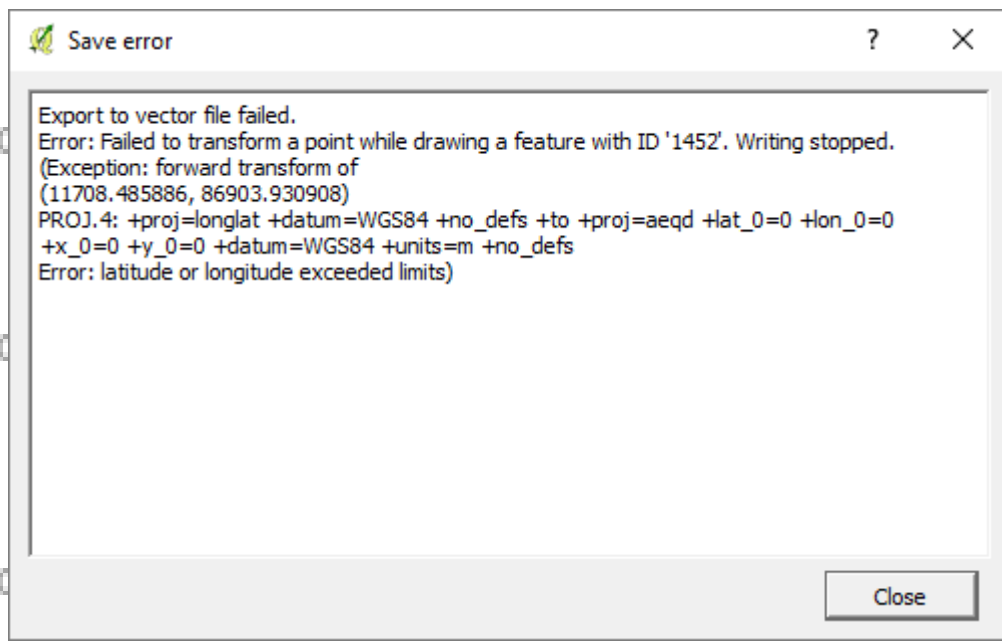


Do same for “**ne_10m_rivers_lake_centerlines**” layer.



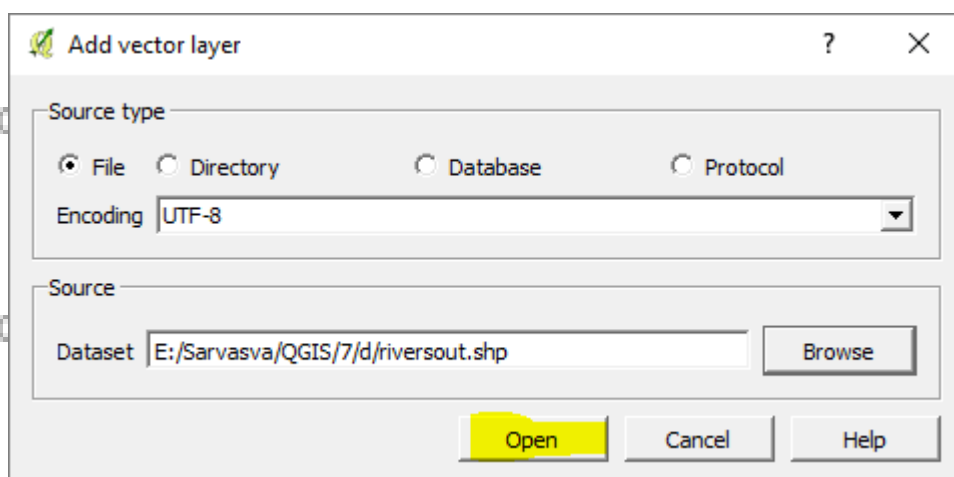
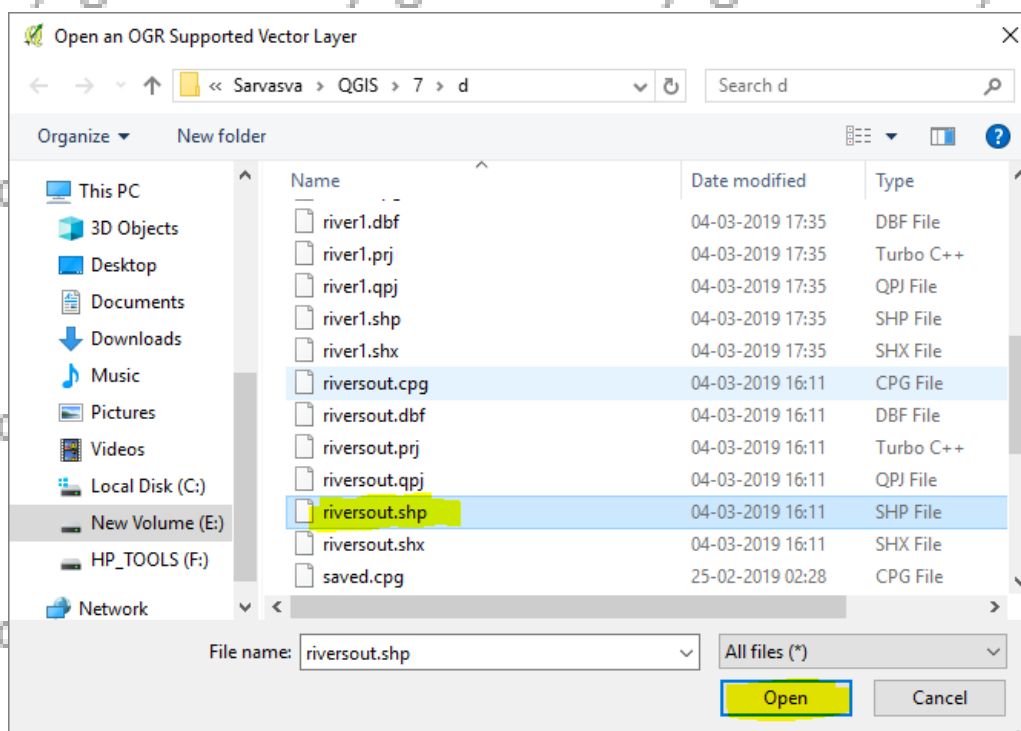
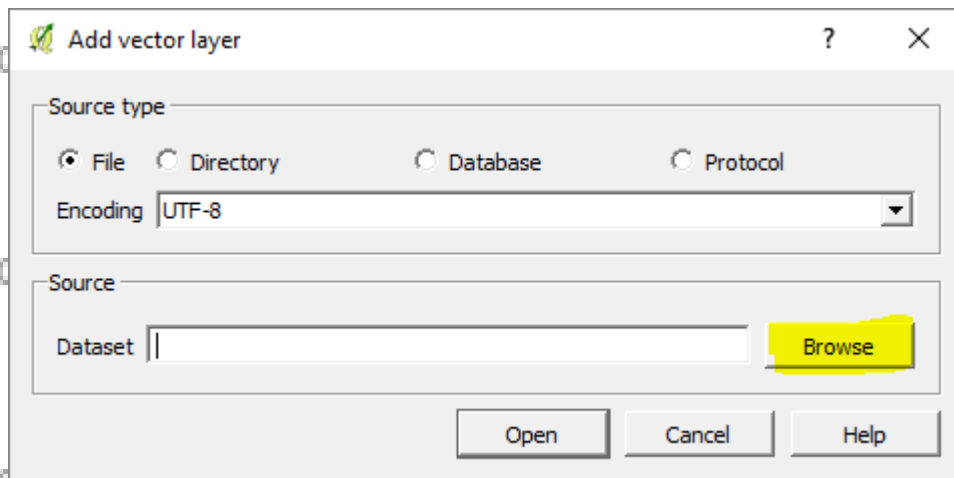


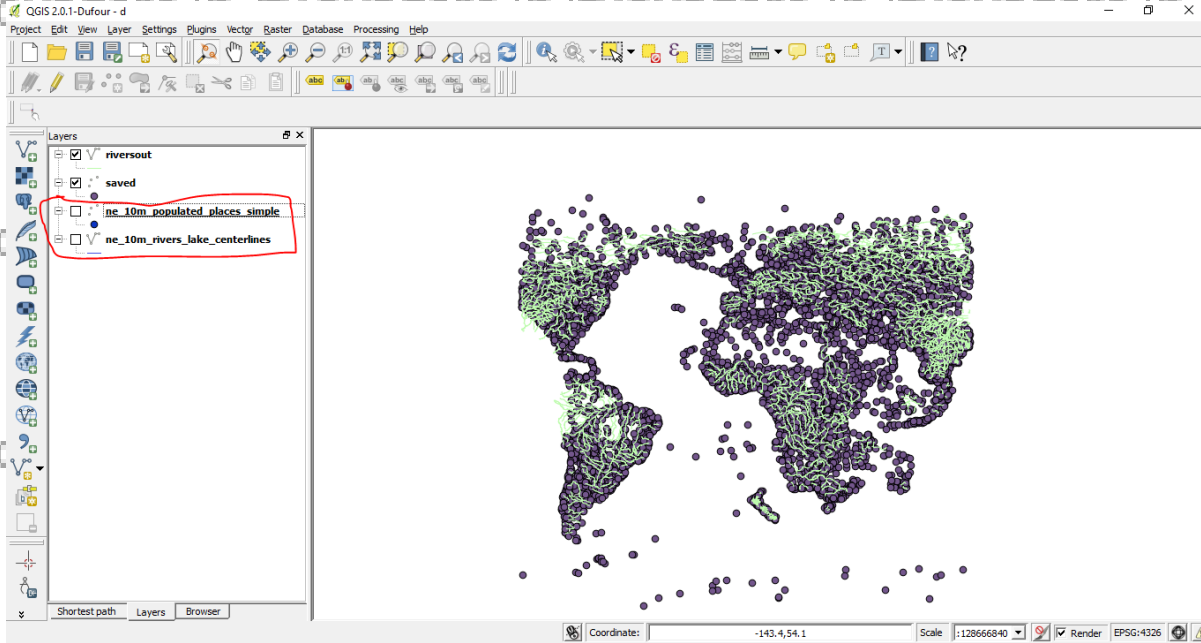
NOTE: IF you are facing problem while save “ne_10m_rivers_lake_centerlines” file then don’t worry just restart QGIS if it shows following error




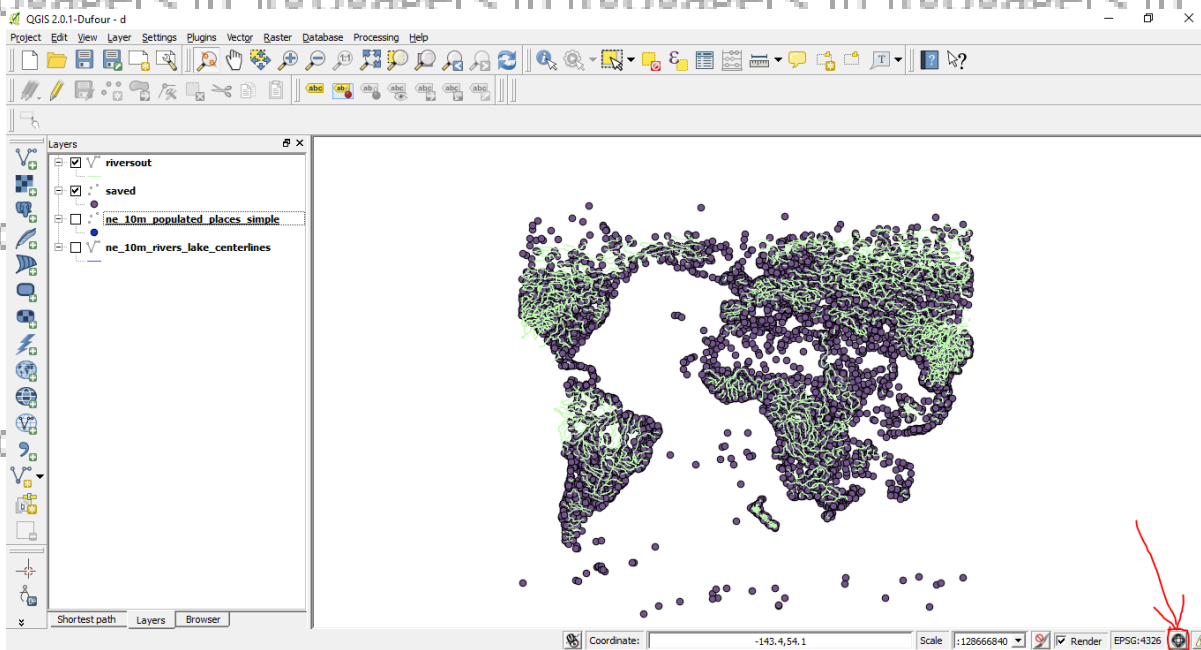
Then too don’t worry because even it shows error but still QGIS has created output’s “.shp” file. So just go

to {Layer > Add Vector Layers... > Browse that output layer and open it}

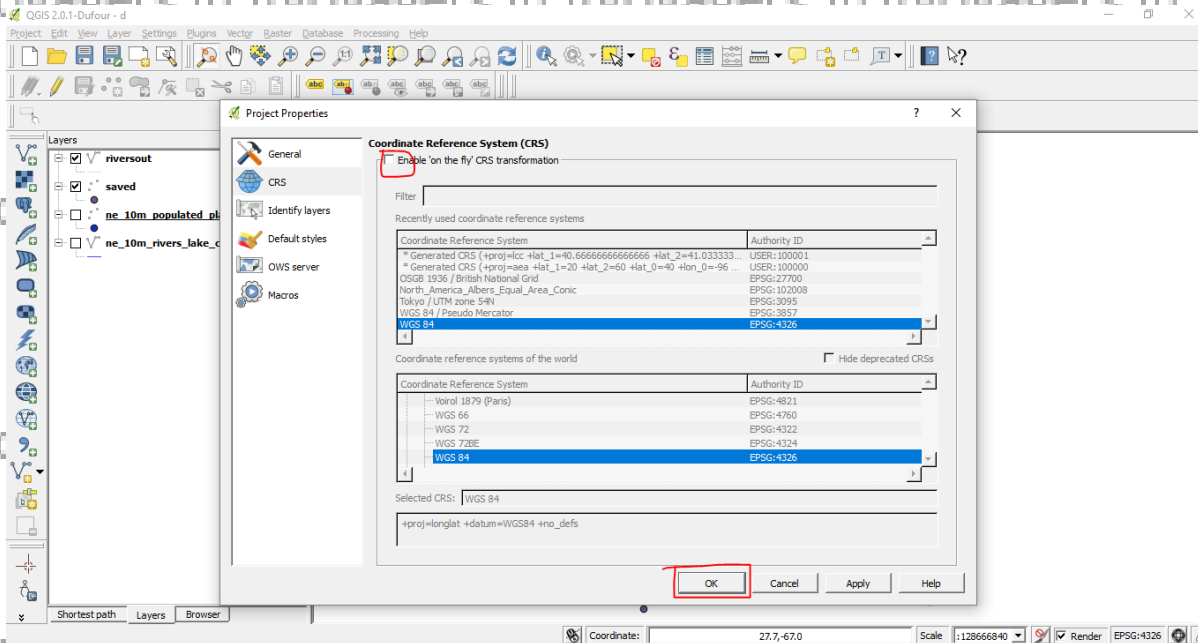
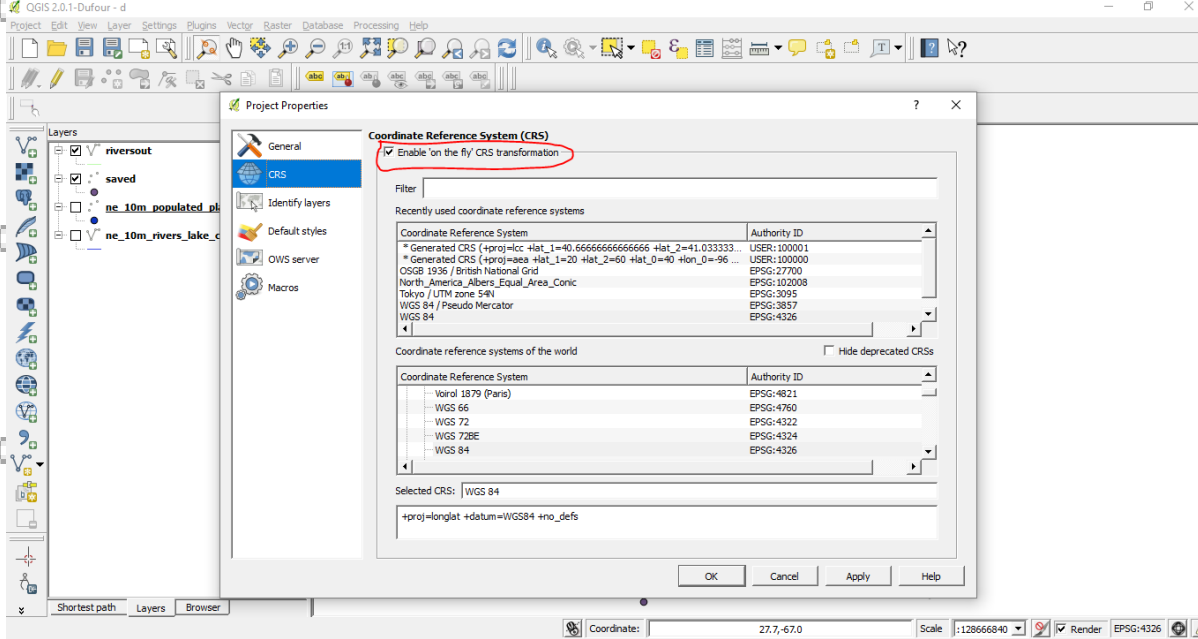


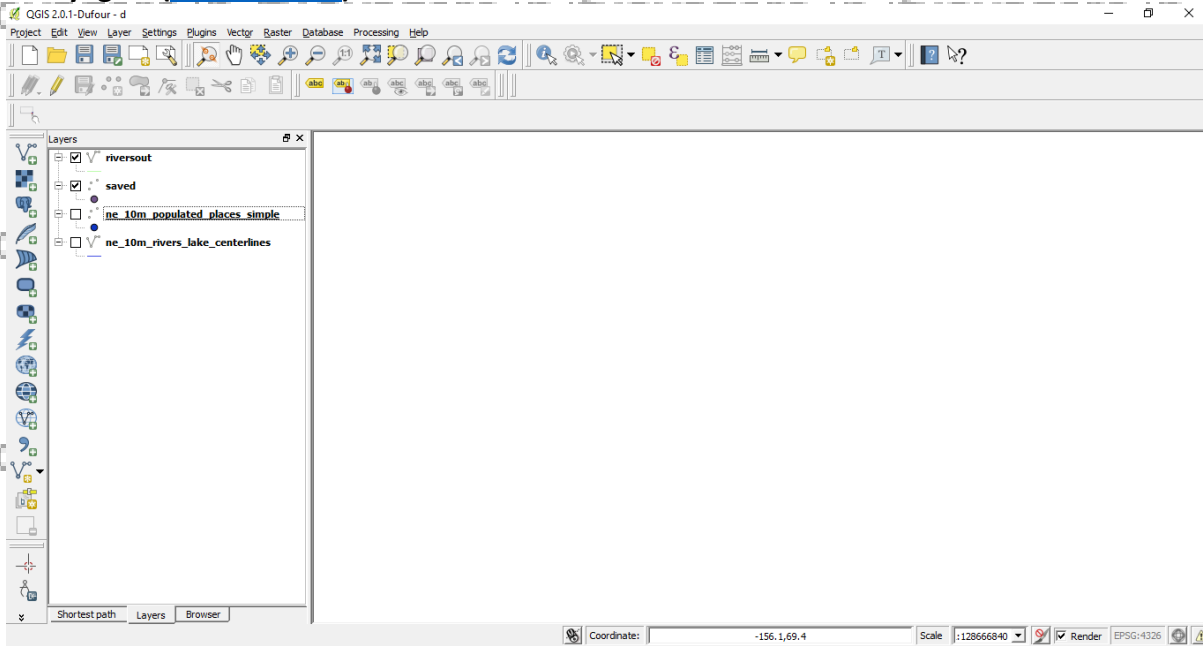


Once you add both re-projected layers deselect first two original layers. Now we have to stop **“OTF (On The Fly)”** because our projection is not right so click on  which to view project's CRS Properties.

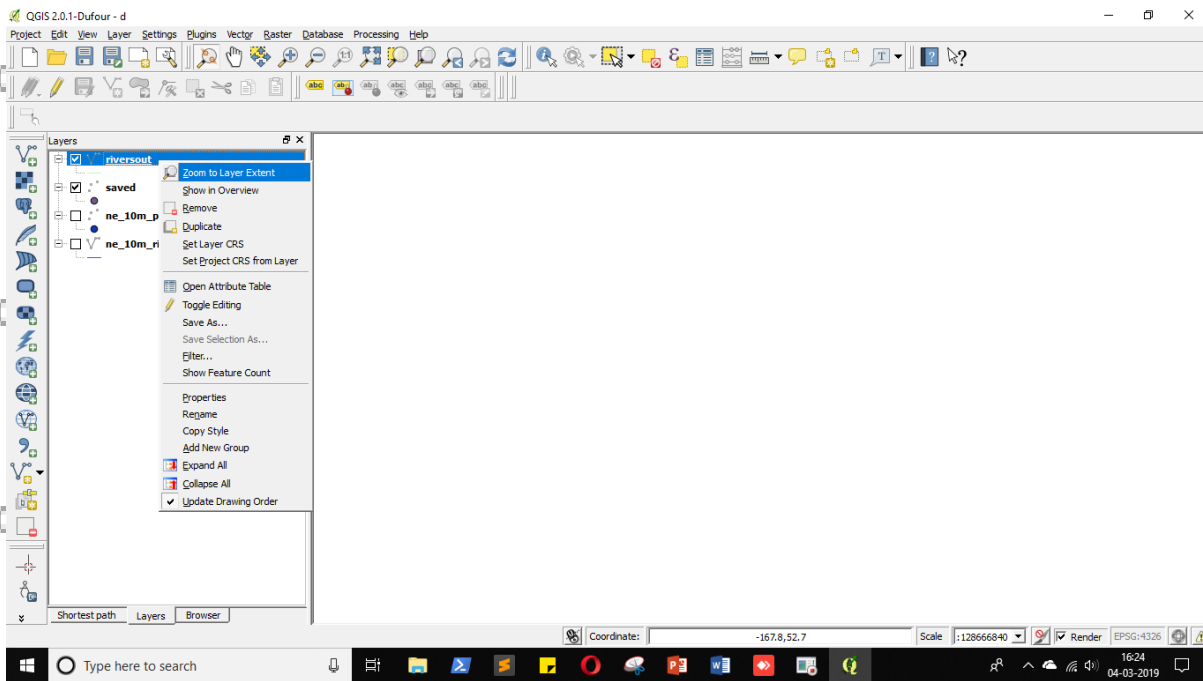


Now go to **“CRS”** panel and deselect **“Enable ‘on the fly’ CRS transformation”**, and click on **“OK”**.



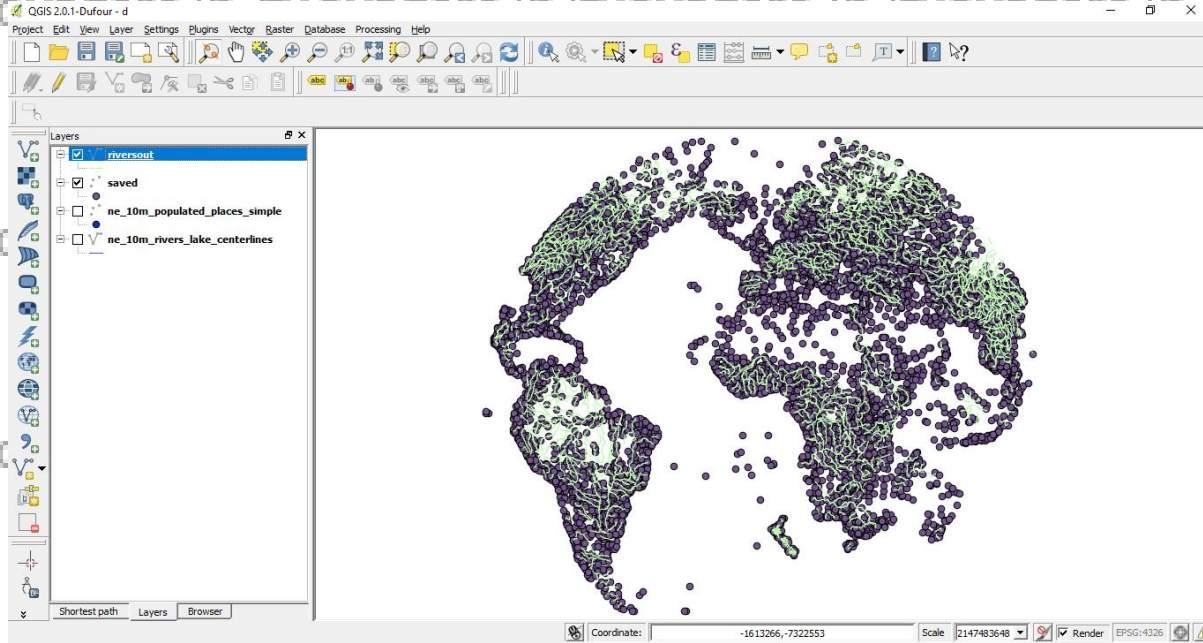


Once you click **“OK”** you will see blank canvas, don't worry just right click on **“riversout”** layer and select **“Zoom to layer Extent”**.



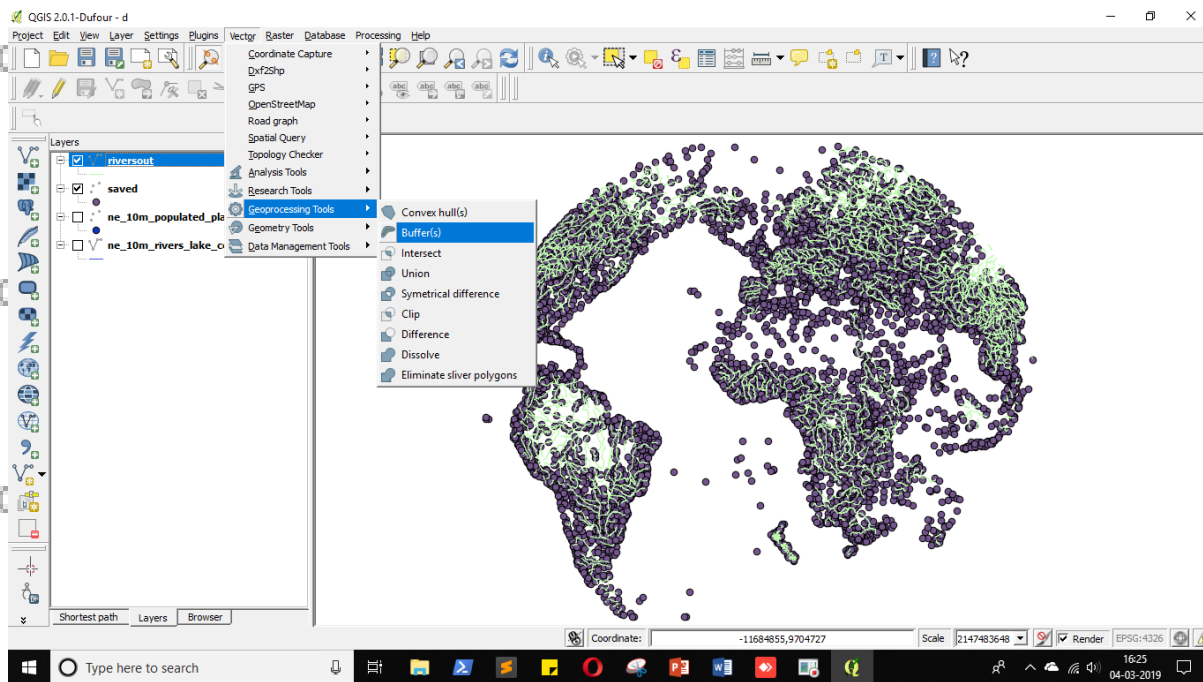
Yes we can view layers in **“World_Azimuthal_Equidistant”** CRS projection.

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Now go to

Vector > Geoprocessing Tools > Buffer(s)

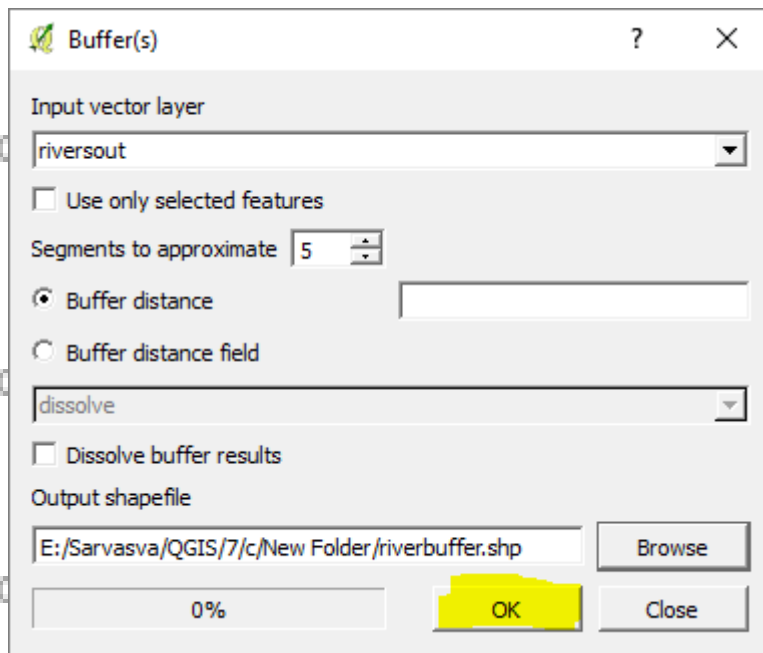
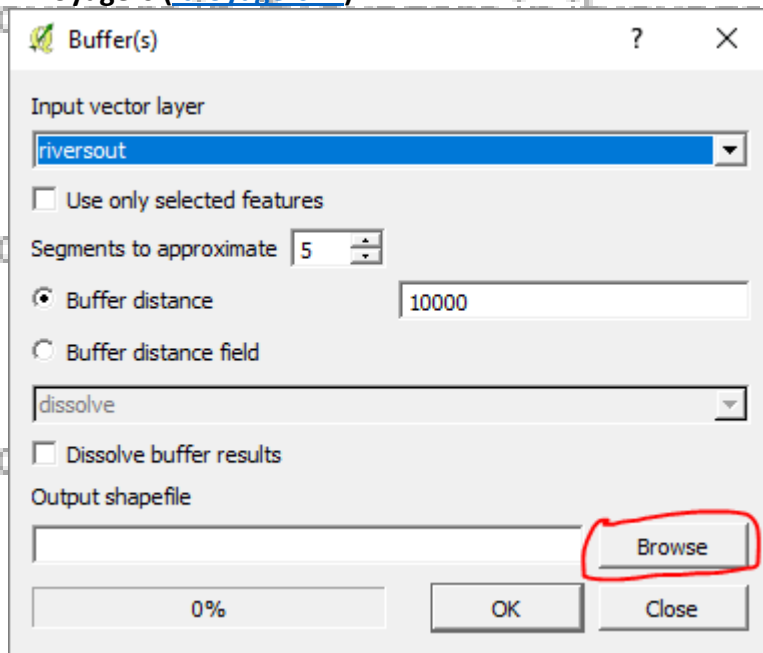


Following window will appear.

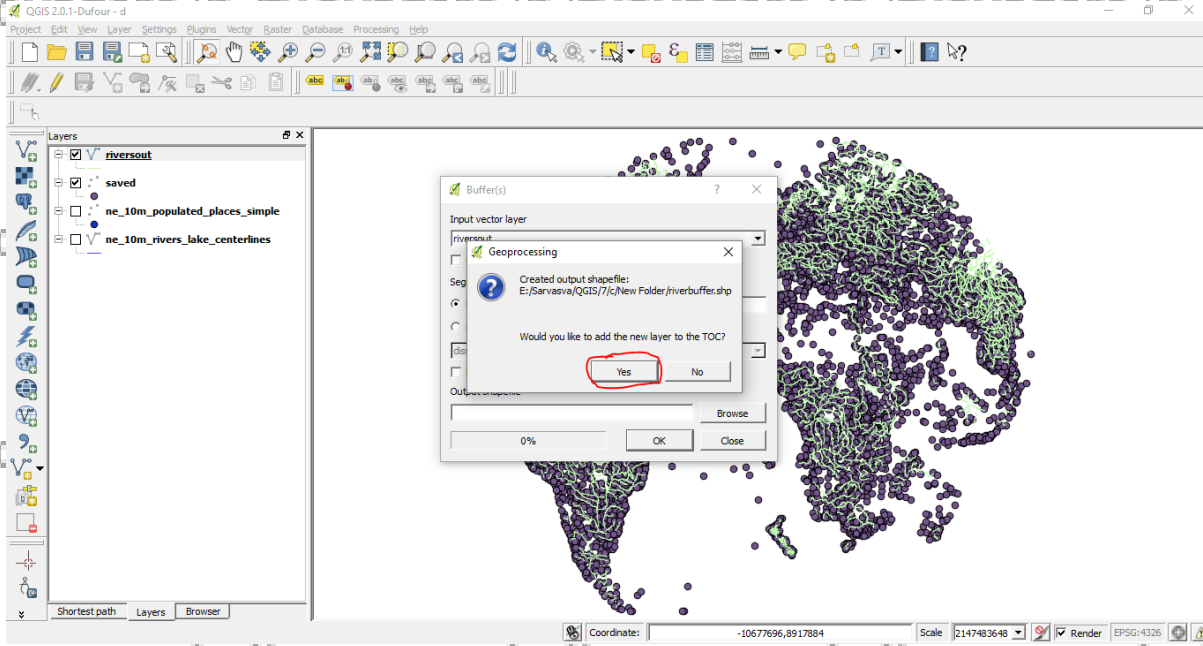
First select **"riversout"** in Input vector layer.

Set **Buffer distance** to **"10000"**.

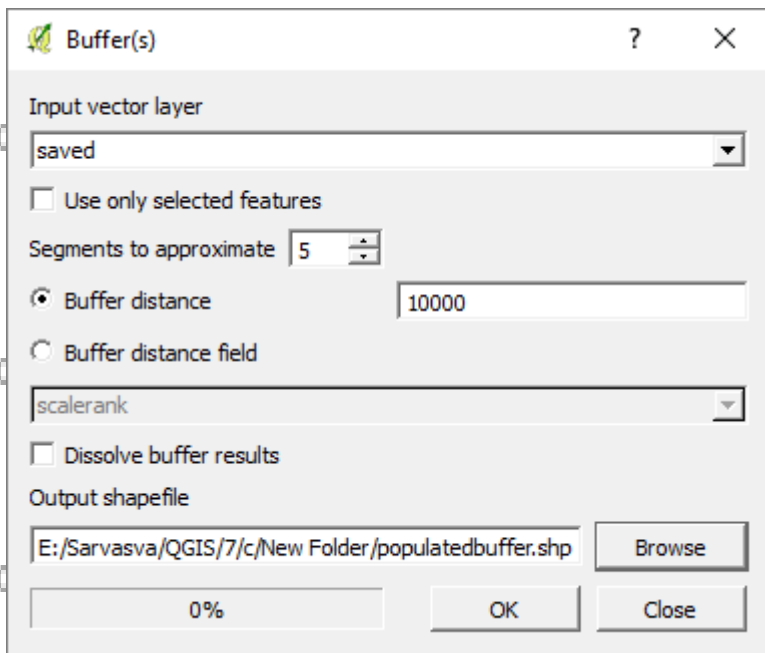
Set path and name for output file by clicking on **"Browse"**, then click on **"OK"**.



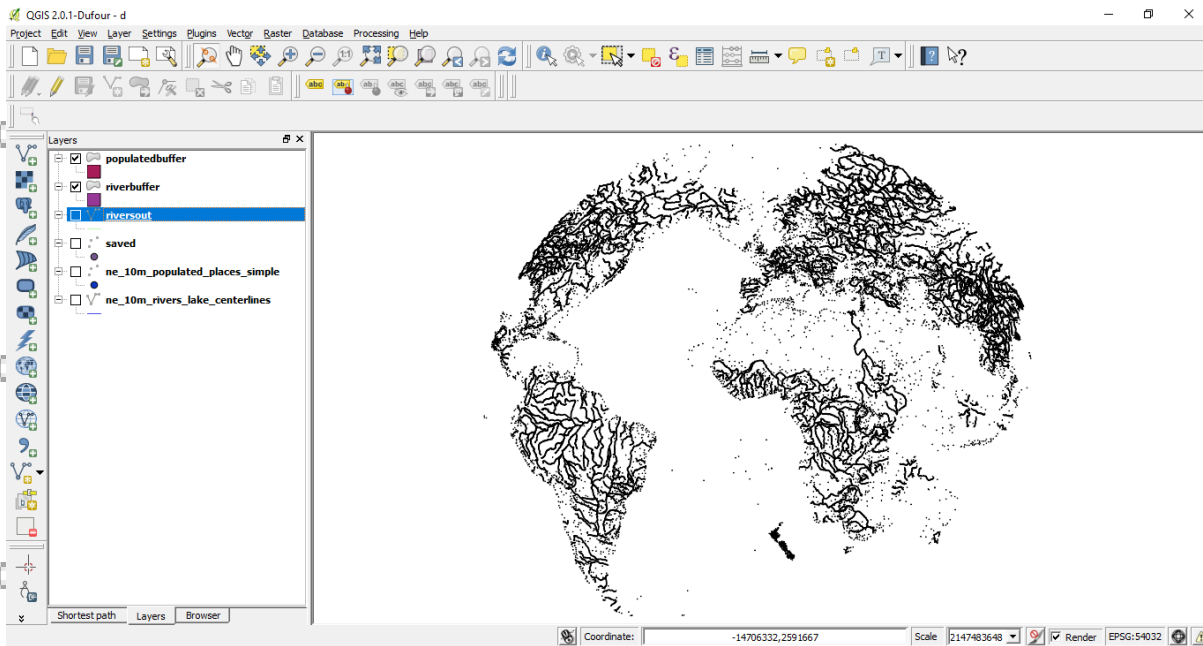
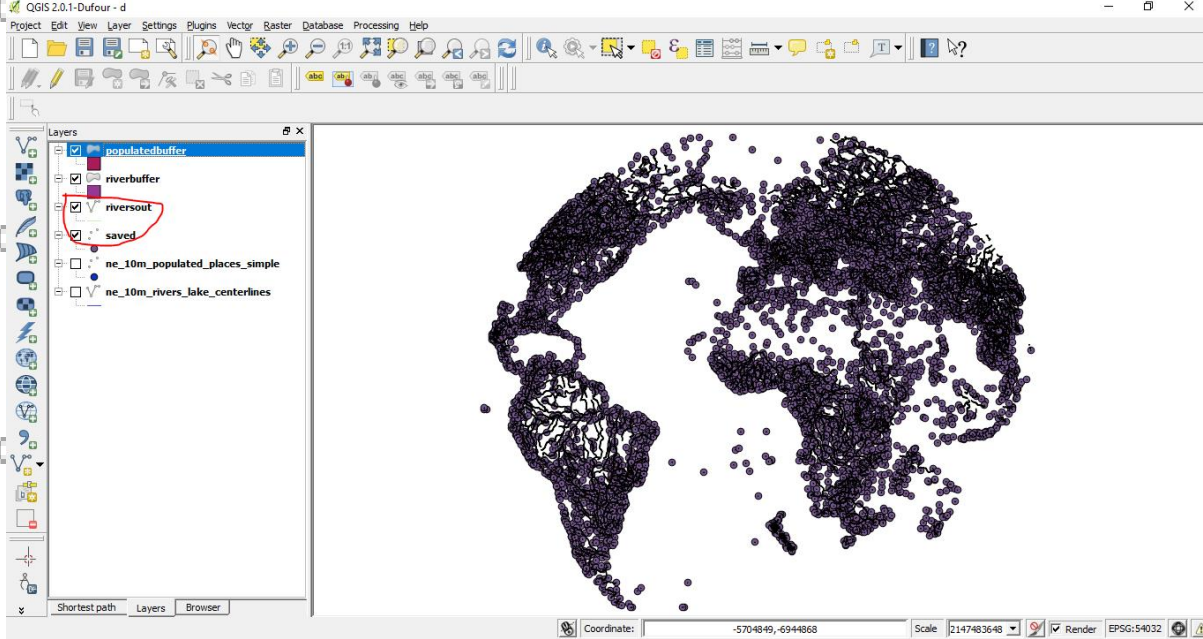
If it ask to add layer in TOC then click on **“Yes”**.



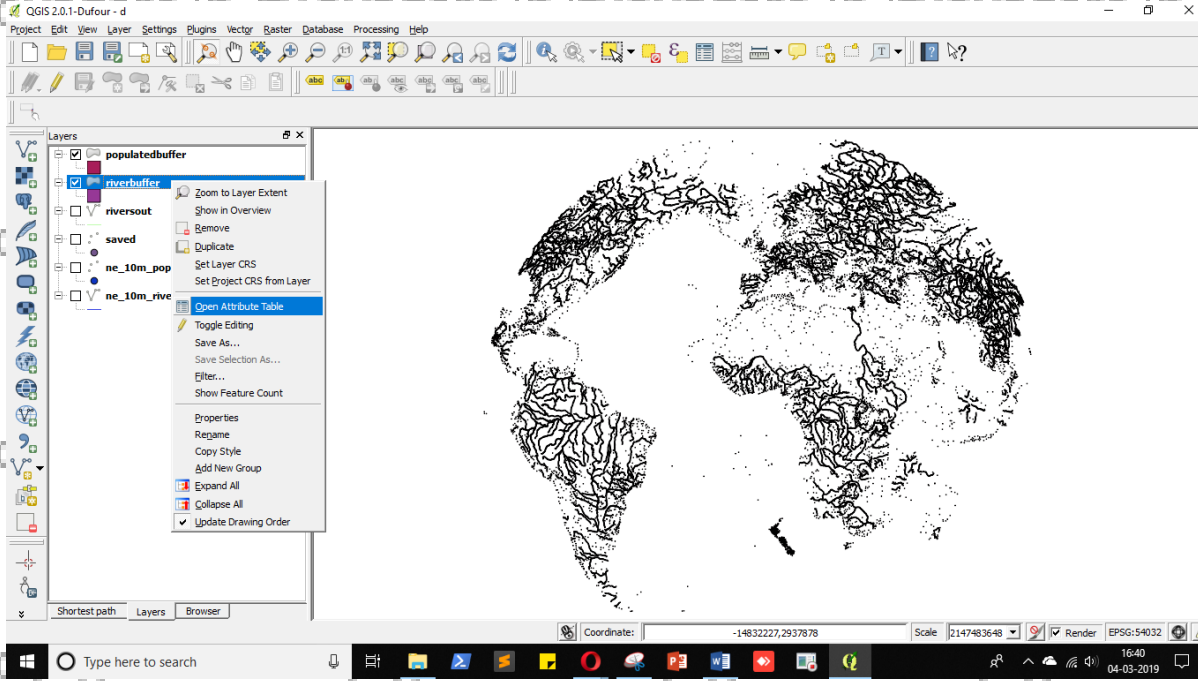
Do same steps for another re-projected layer i.e. **“saved”** in our case.



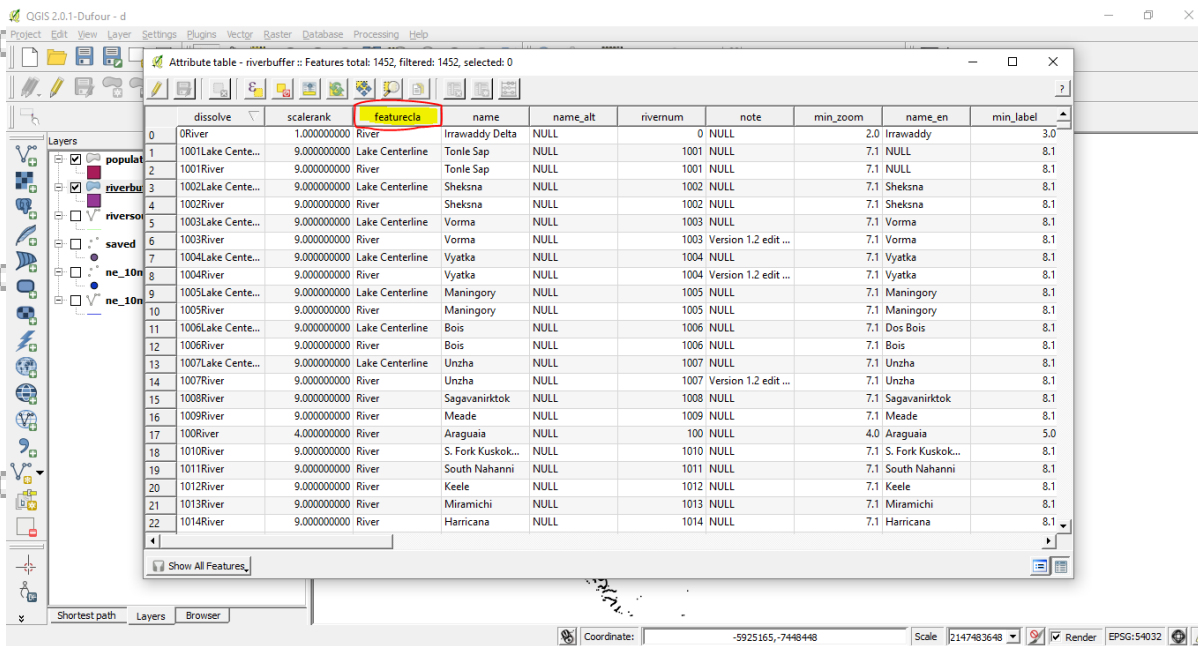
Once you load buffered layers in QGIS deselect other layers.



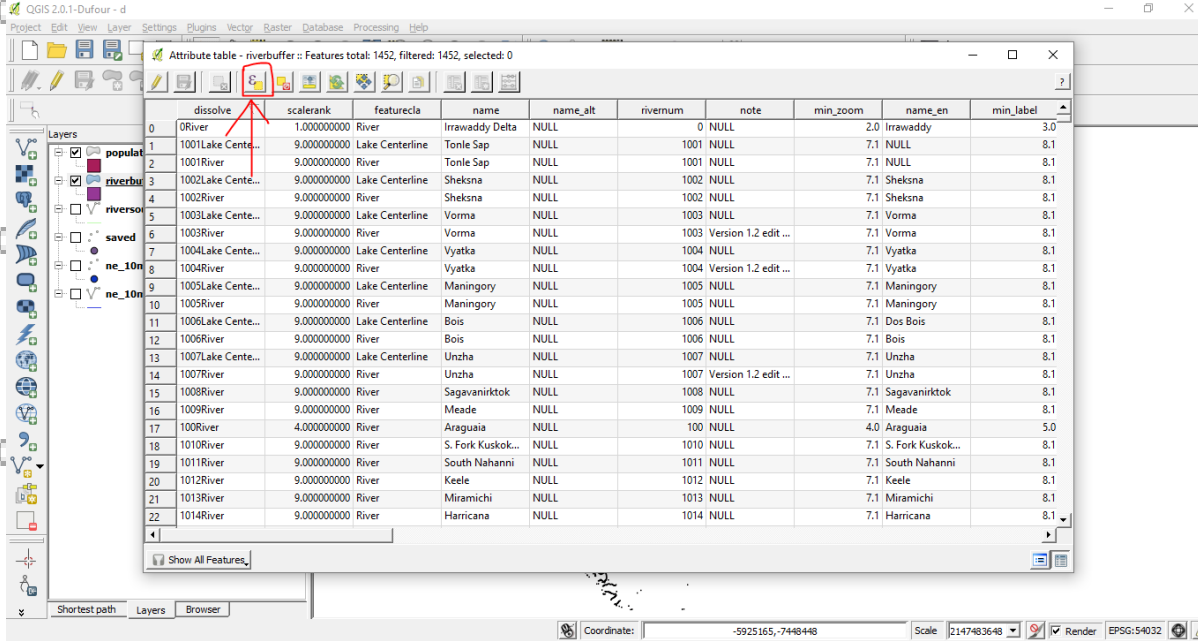
Go to “**riverbuffer**” attribute table.



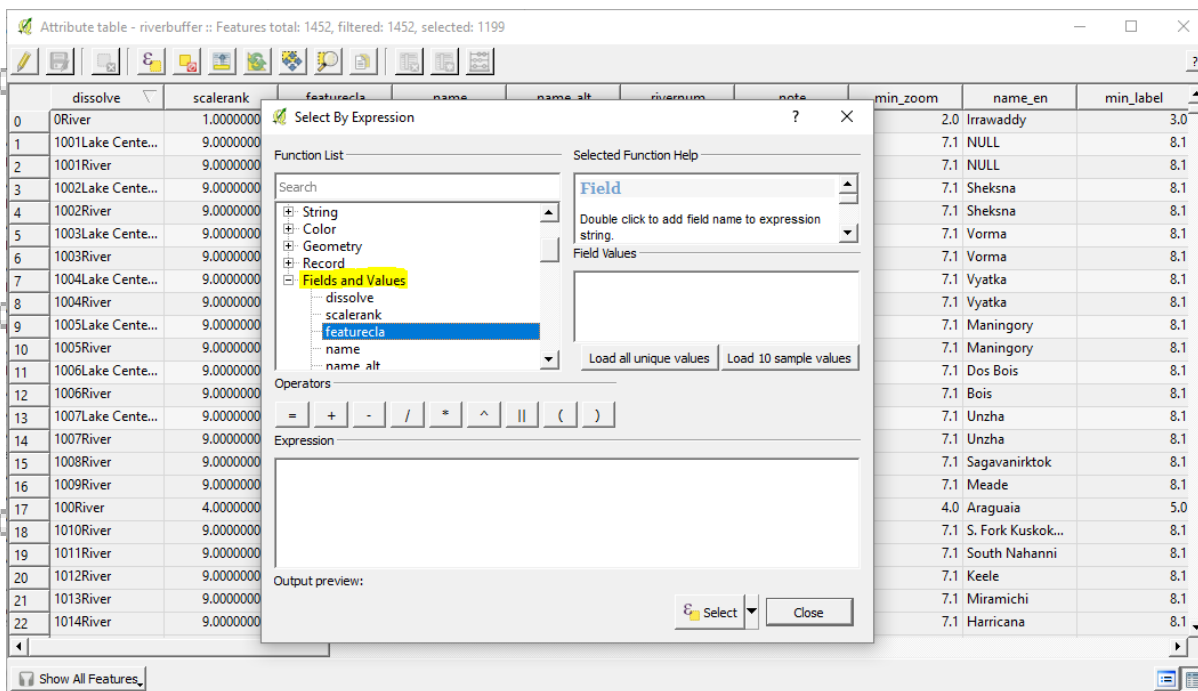
In this “**featurecla**” attribute has values which says that the feature is related to river or lake. We want features which represent river.



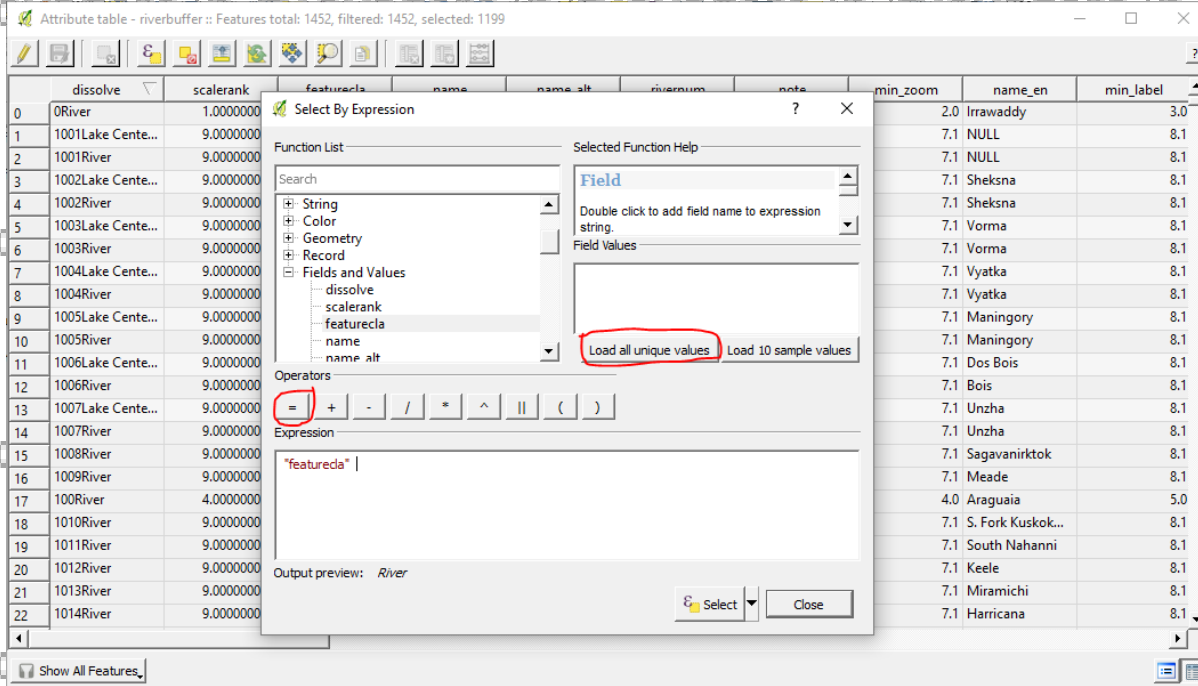
Click on “**Select feature using an Expression**” button shown below.



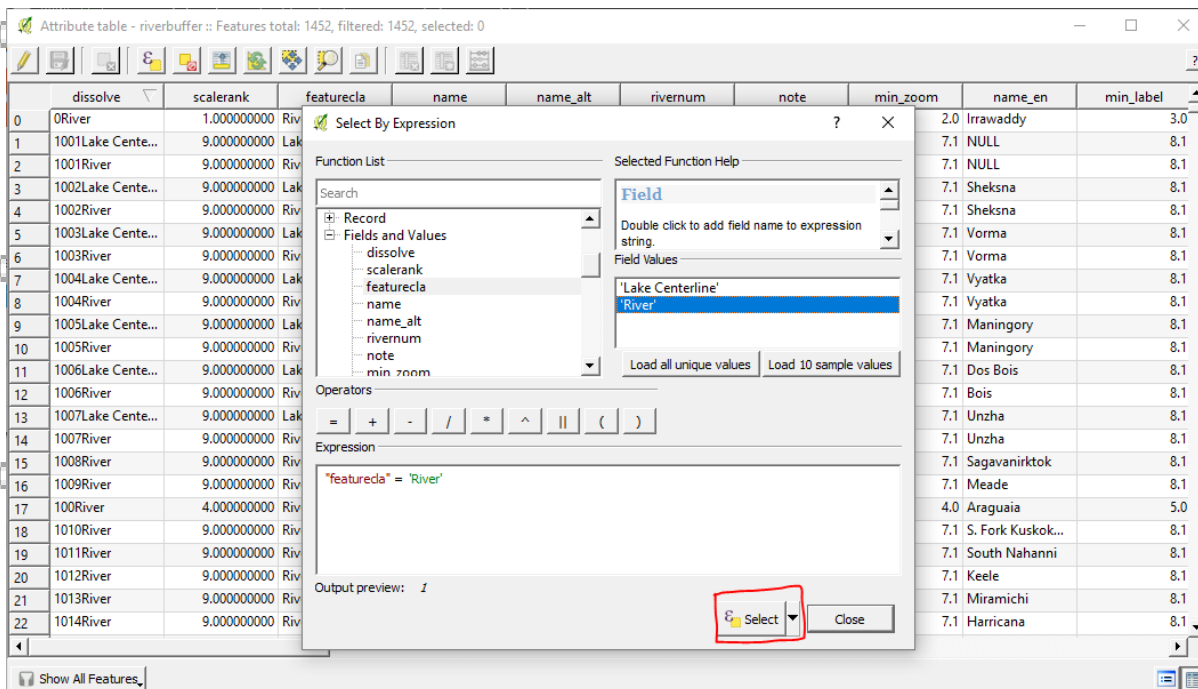
Now in "Select By Expression" window, in Function List panel double click on "featurecla" from "Fields and Values".



Now first click "Equal" button and then "Load all unique values".



Now double click on "River", you will get "featurecla" = 'River' Expression, now click on "Select".



It will select all features which satisfy the expression. Minimize both windows.

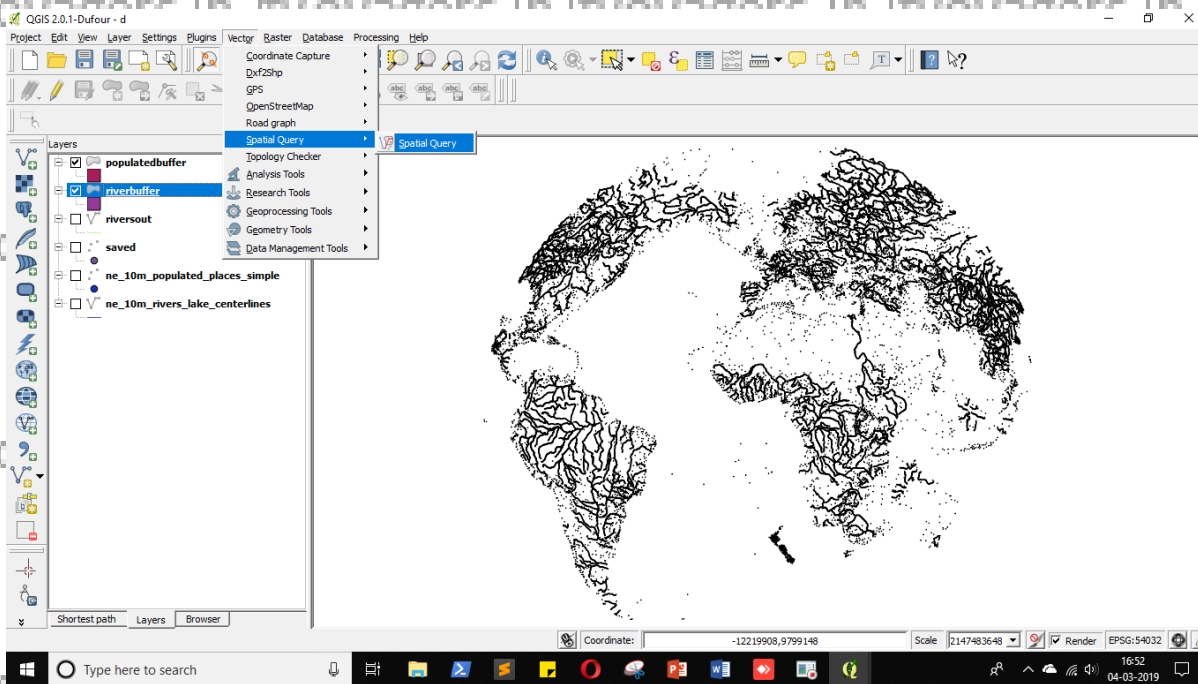
Attribute table - riverbuffer :: Features total: 1452, filtered: 1452, selected: 1199

	dissolve	scalerrank	featurecla	name	name_alt	rivernum	note	min_zoom	name_en	min_label
0	0River	1.000000000	River	Irrawaddy Delta	NULL	0	NULL	2.0	Irrawaddy	3.0
1	1001Lake Cente...	9.000000000	Lake Centerline	Tonle Sap	NULL	1001	NULL	7.1	NULL	8.1
2	1001River	9.000000000	River	Tonle Sap	NULL	1001	NULL	7.1	NULL	8.1
3	1002Lake Cente...	9.000000000	Lake Centerline	Sheksna	NULL	1002	NULL	7.1	Sheksna	8.1
4	1002River	9.000000000	River	Sheksna	NULL	1002	NULL	7.1	Sheksna	8.1
5	1003Lake Cente...	9.000000000	Lake Centerline	Vorma	NULL	1003	NULL	7.1	Vorma	8.1
6	1003River	9.000000000	River	Vorma	NULL	1003	Version 1.2 edit ...	7.1	Vorma	8.1
7	1004Lake Cente...	9.000000000	Lake Centerline	Vyatka	NULL	1004	NULL	7.1	Vyatka	8.1
8	1004River	9.000000000	River	Vyatka	NULL	1004	Version 1.2 edit ...	7.1	Vyatka	8.1
9	1005Lake Cente...	9.000000000	Lake Centerline	Maningory	NULL	1005	NULL	7.1	Maningory	8.1
10	1005River	9.000000000	River	Maningory	NULL	1005	NULL	7.1	Maningory	8.1
11	1006Lake Cente...	9.000000000	Lake Centerline	Bois	NULL	1006	NULL	7.1	Dos Bois	8.1
12	1006River	9.000000000	River	Bois	NULL	1006	NULL	7.1	Bois	8.1
13	1007Lake Cente...	9.000000000	Lake Centerline	Unzha	NULL	1007	NULL	7.1	Unzha	8.1
14	1007River	9.000000000	River	Unzha	NULL	1007	Version 1.2 edit ...	7.1	Unzha	8.1
15	1008River	9.000000000	River	Sagavanirtok	NULL	1008	NULL	7.1	Sagavanirtok	8.1
16	1009River	9.000000000	River	Meade	NULL	1009	NULL	7.1	Meade	8.1
17	100River	4.000000000	River	Araguaia	NULL	100	NULL	4.0	Araguaia	5.0
18	1010River	9.000000000	River	S. Fork Kuskok...	NULL	1010	NULL	7.1	S. Fork Kuskok...	8.1
19	1011River	9.000000000	River	South Nahanni	NULL	1011	NULL	7.1	South Nahanni	8.1
20	1012River	9.000000000	River	Keele	NULL	1012	NULL	7.1	Keele	8.1
21	1013River	9.000000000	River	Miramichi	NULL	1013	NULL	7.1	Miramichi	8.1
22	1014River	9.000000000	River	Harricana	NULL	1014	NULL	7.1	Harricana	8.1

Show All Features

Now go to

Vector > Spatial Query > Spatial Query

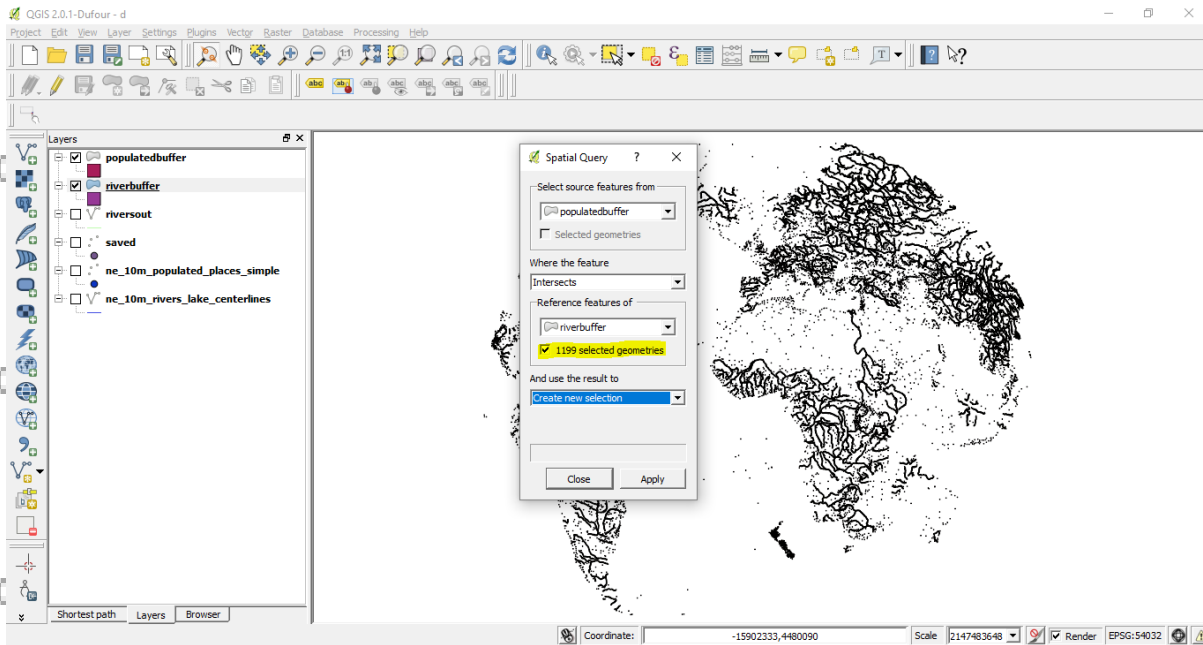


Now in Spatial Query window select

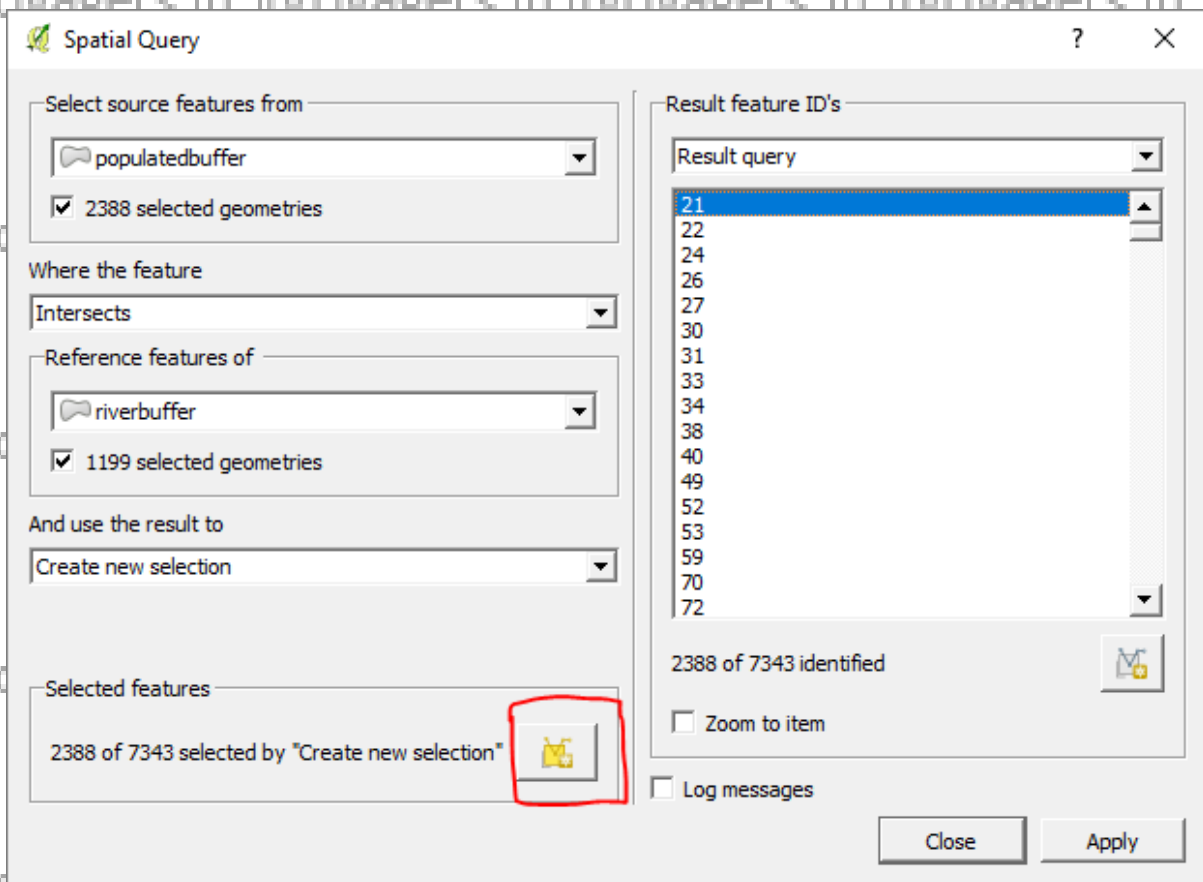
“populatedbuffer” layer in “Select source feature from”.

“Intersections” in “Where the features”.

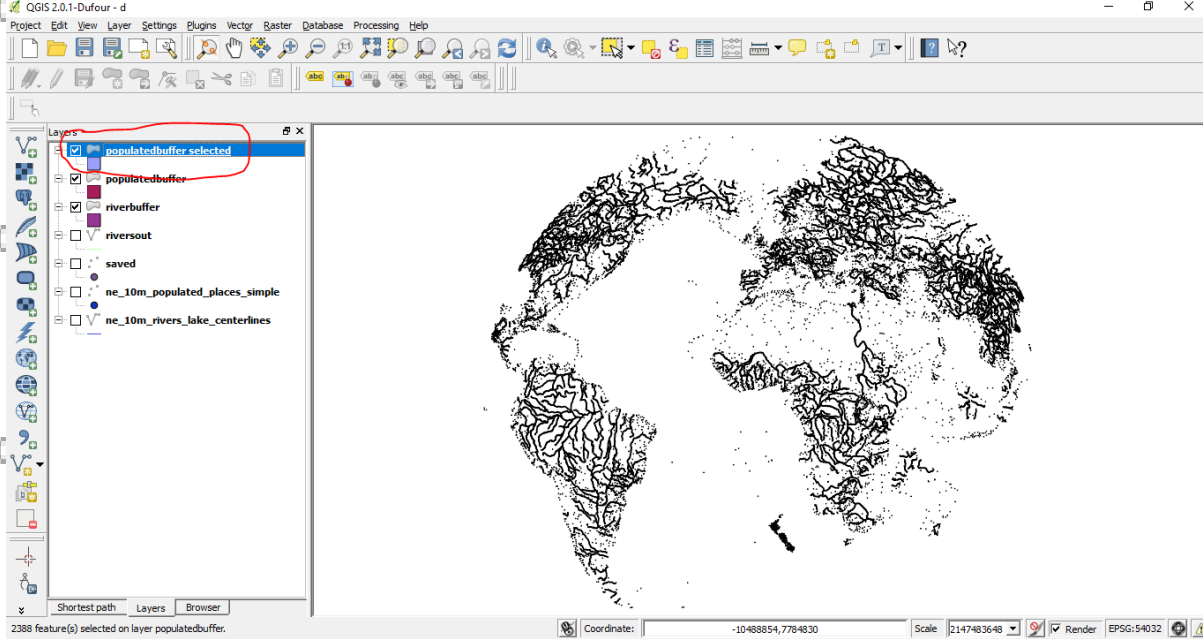
“riverbuffer” in “Reference features of”, it will show you the features which satisfy this query, and click on “Apply”



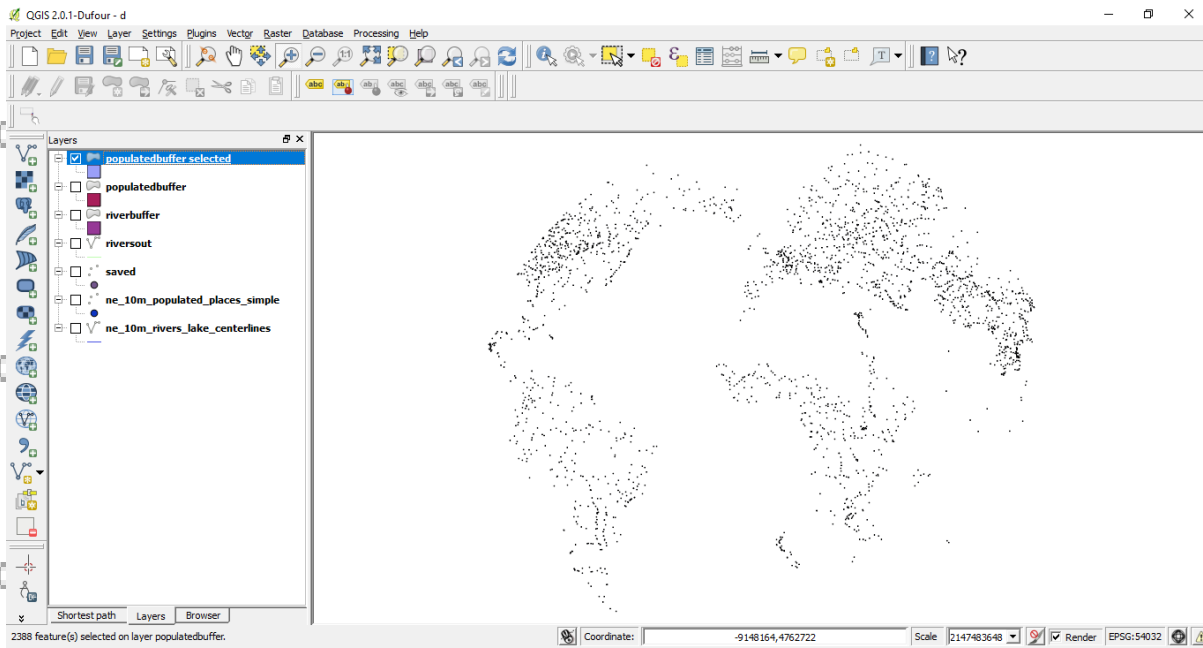
Once operation is done it will show side panel like one below, just click on **“Create layer selected with”**.



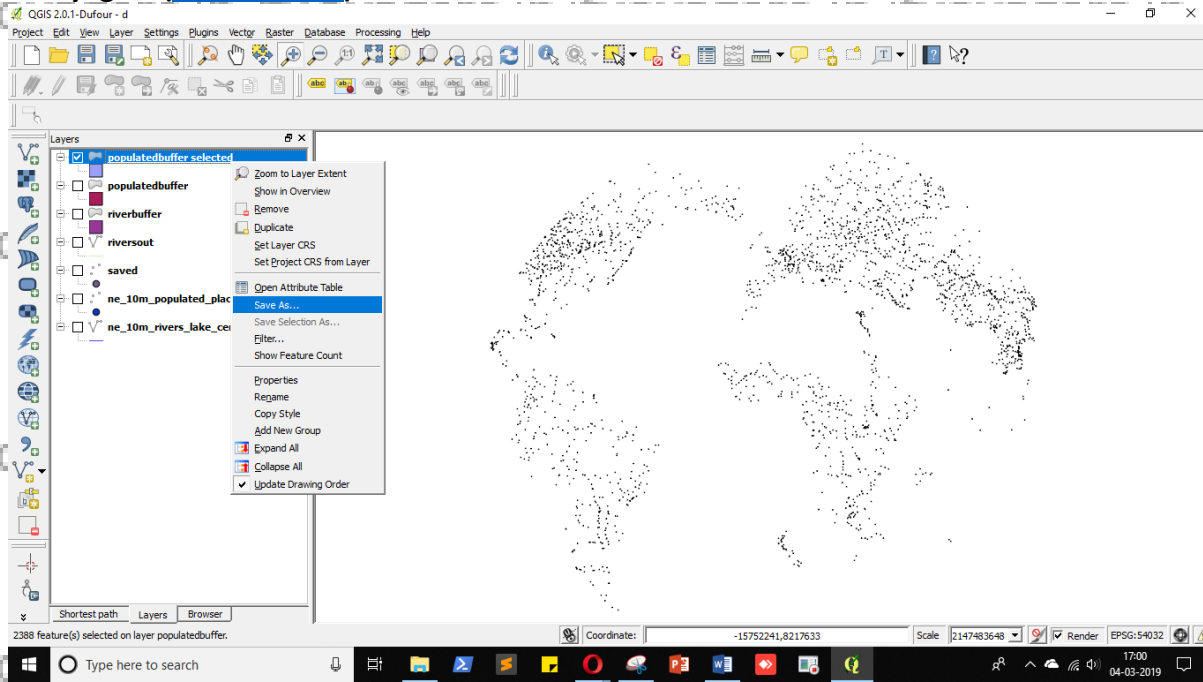
It will add layer to your layer panel.



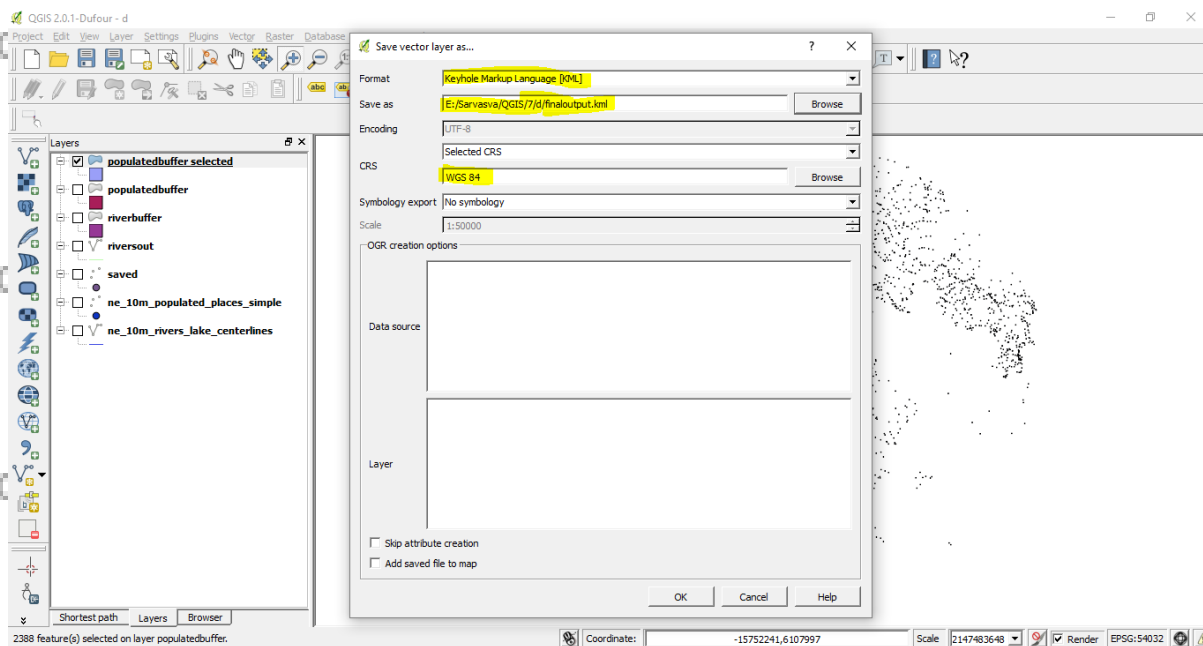
Now deselect all other layers except layer just created.



Now we need our file in KML (Keyhole Markup Language) format, for that right click on layer and select "Save As..."



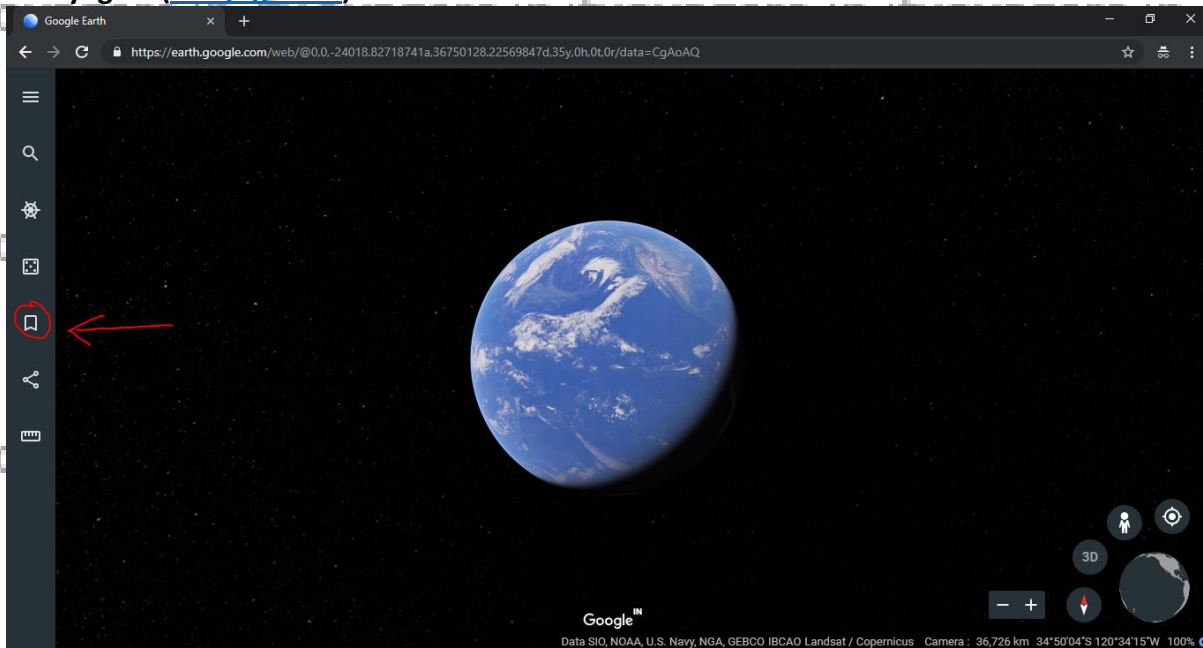
Select “**Keyhole Markup Language [KML]**” in Format, set name and path for the output file and set CRS to “**WGS 84**”, and click on “**OK**”.



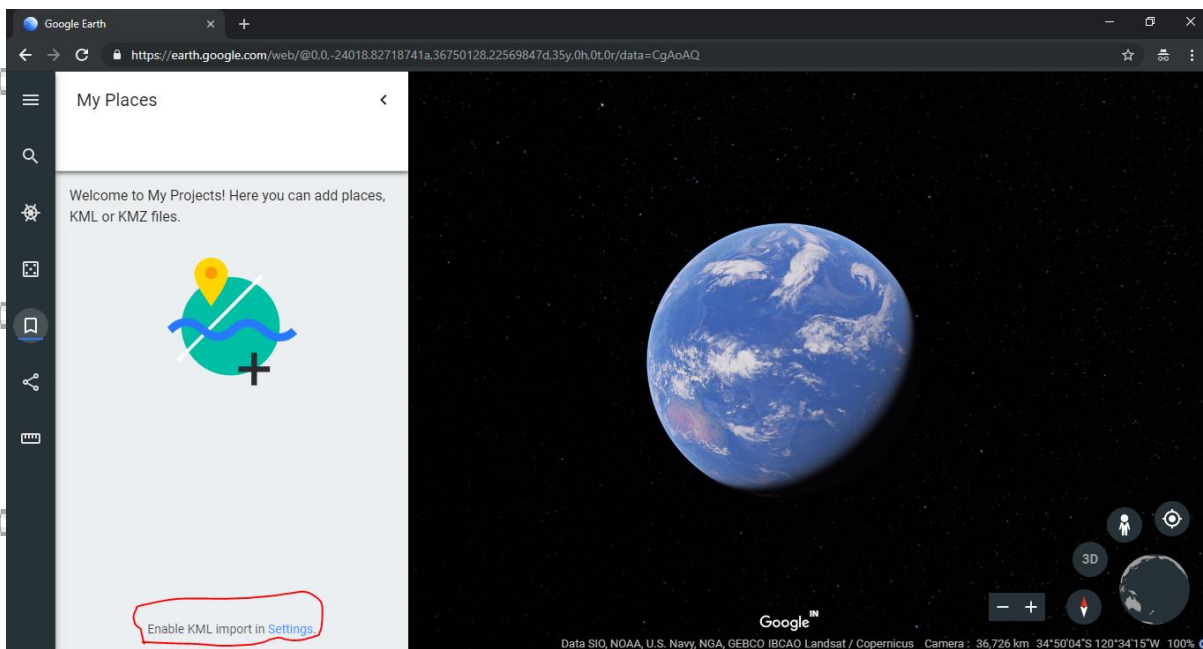
Now go open Google Earth in Chrome.

<https://earth.google.com/web/@0,0,-24018.82718741a,36750128.22569847d,35y,0h,0t,0r/data=CgAoAQ>

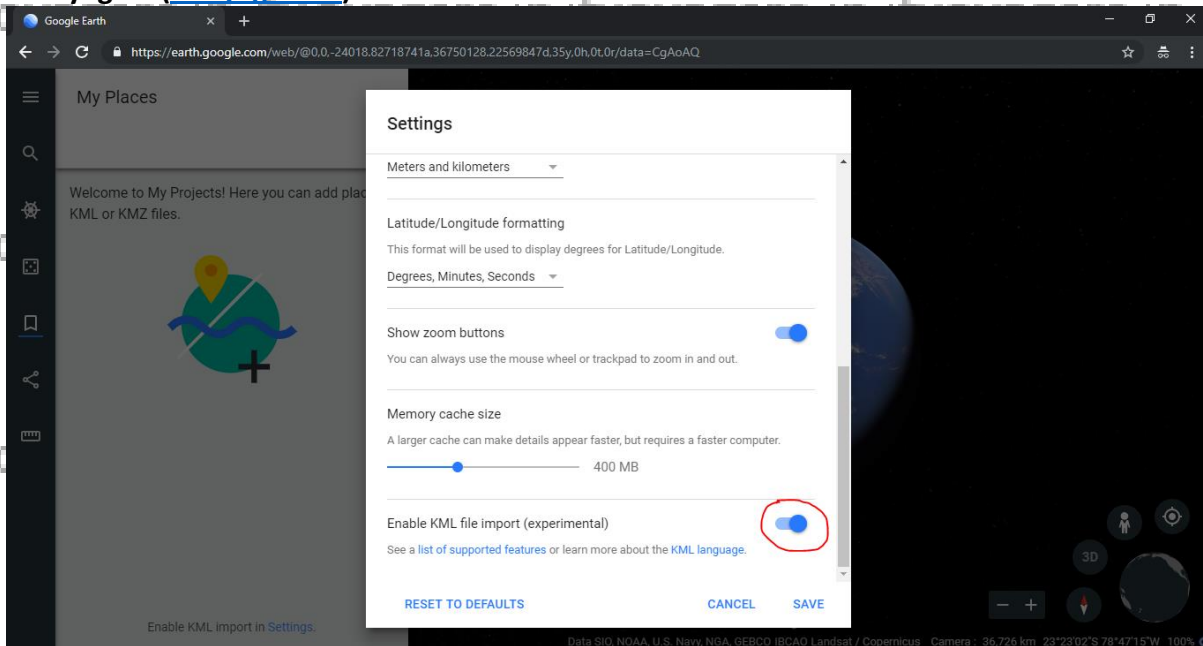
link for Google Earth.



We have to upload our final.kml file in Google Earth, for that click on “My Places”. Now first enable KML import for that click on “Settings”.

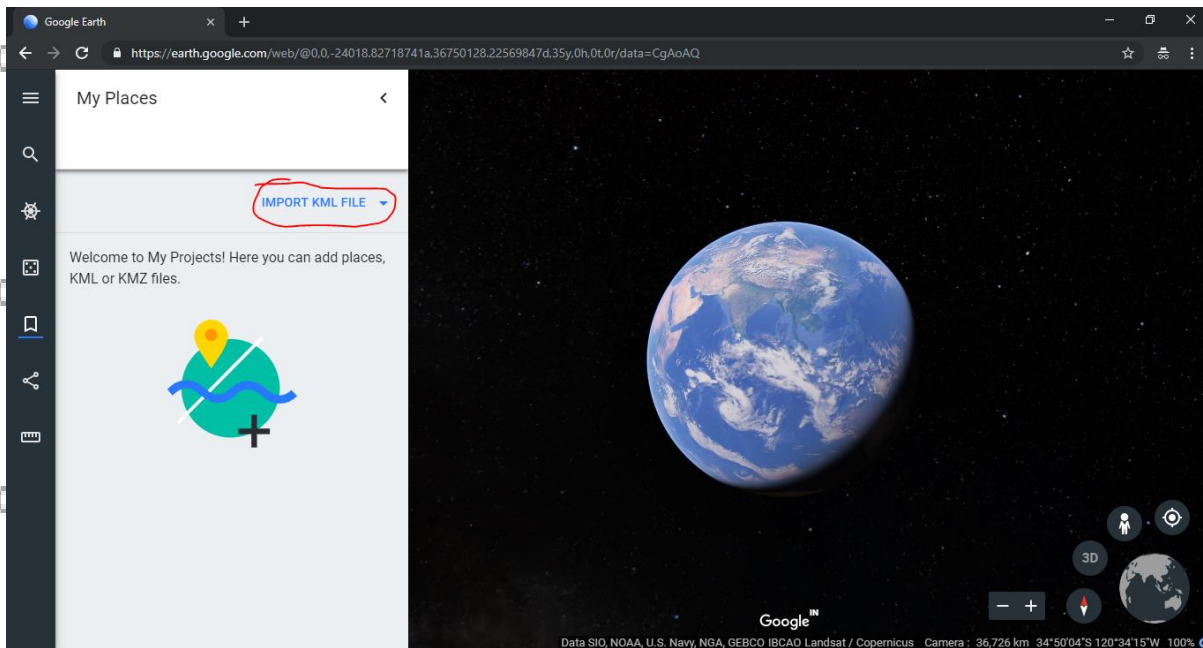


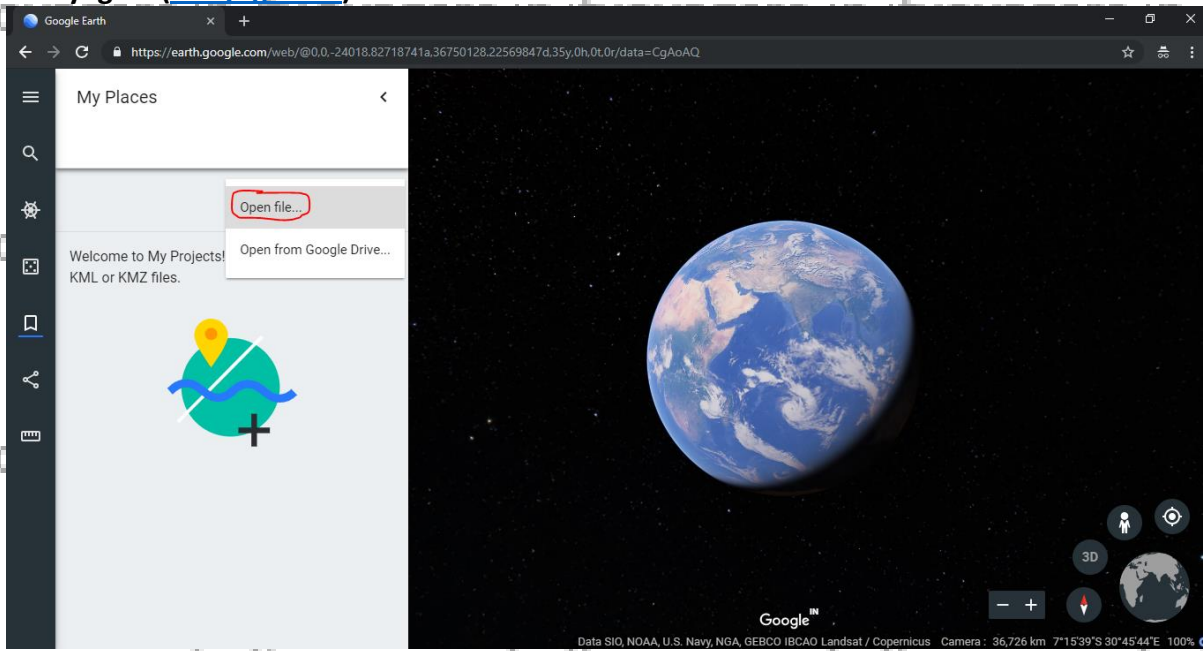
Click on enable toggle button front of “Enable KML file import”.



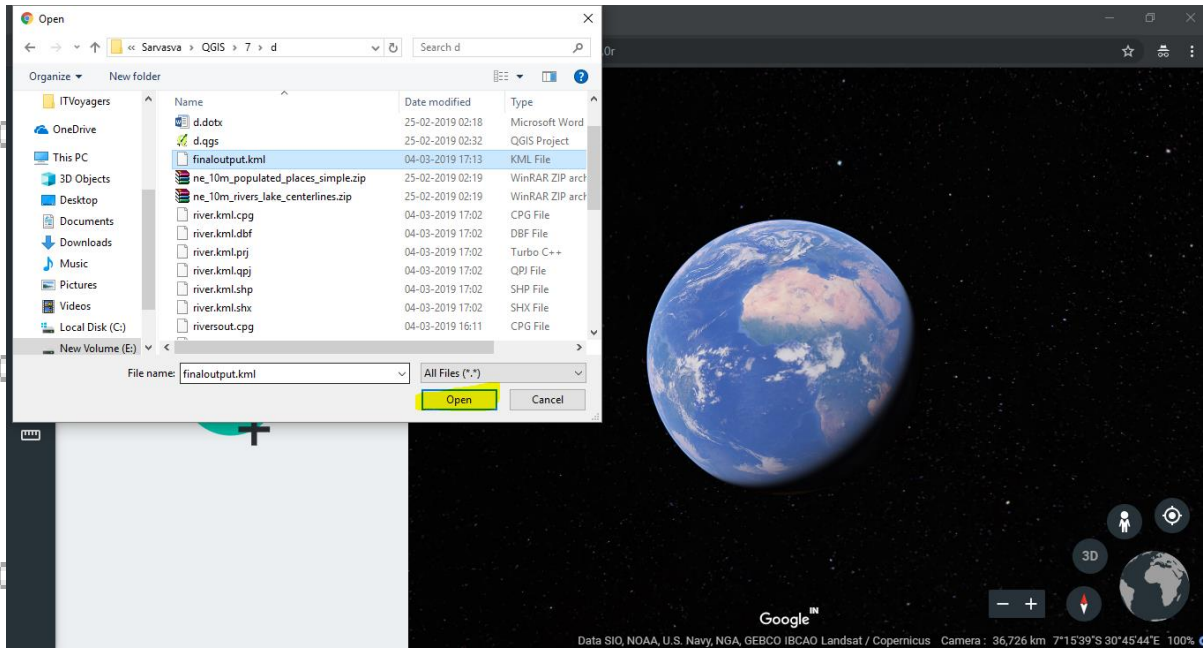
Click on **“SAVE”**.

Once you enable go to **“IMPORT KML FILE”** and select **“Open file...”**.

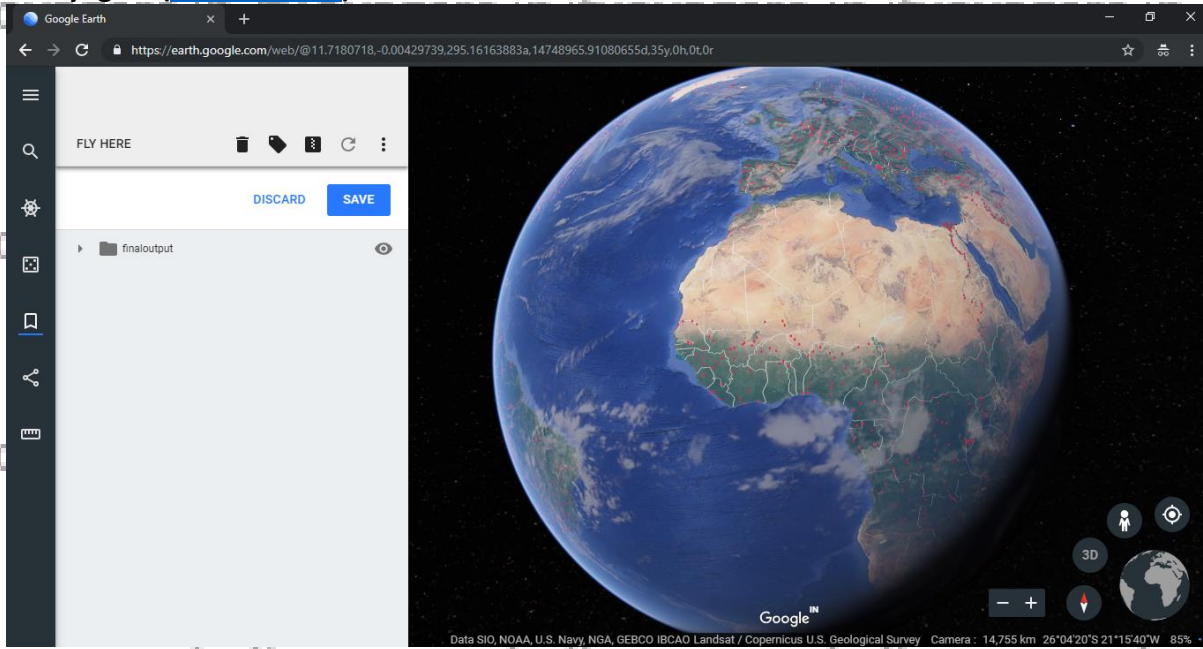




Select .kml file and click on "Open".



Yes we have our output.



Zoom in a little you can see each data is been plotted on Google Earth.

