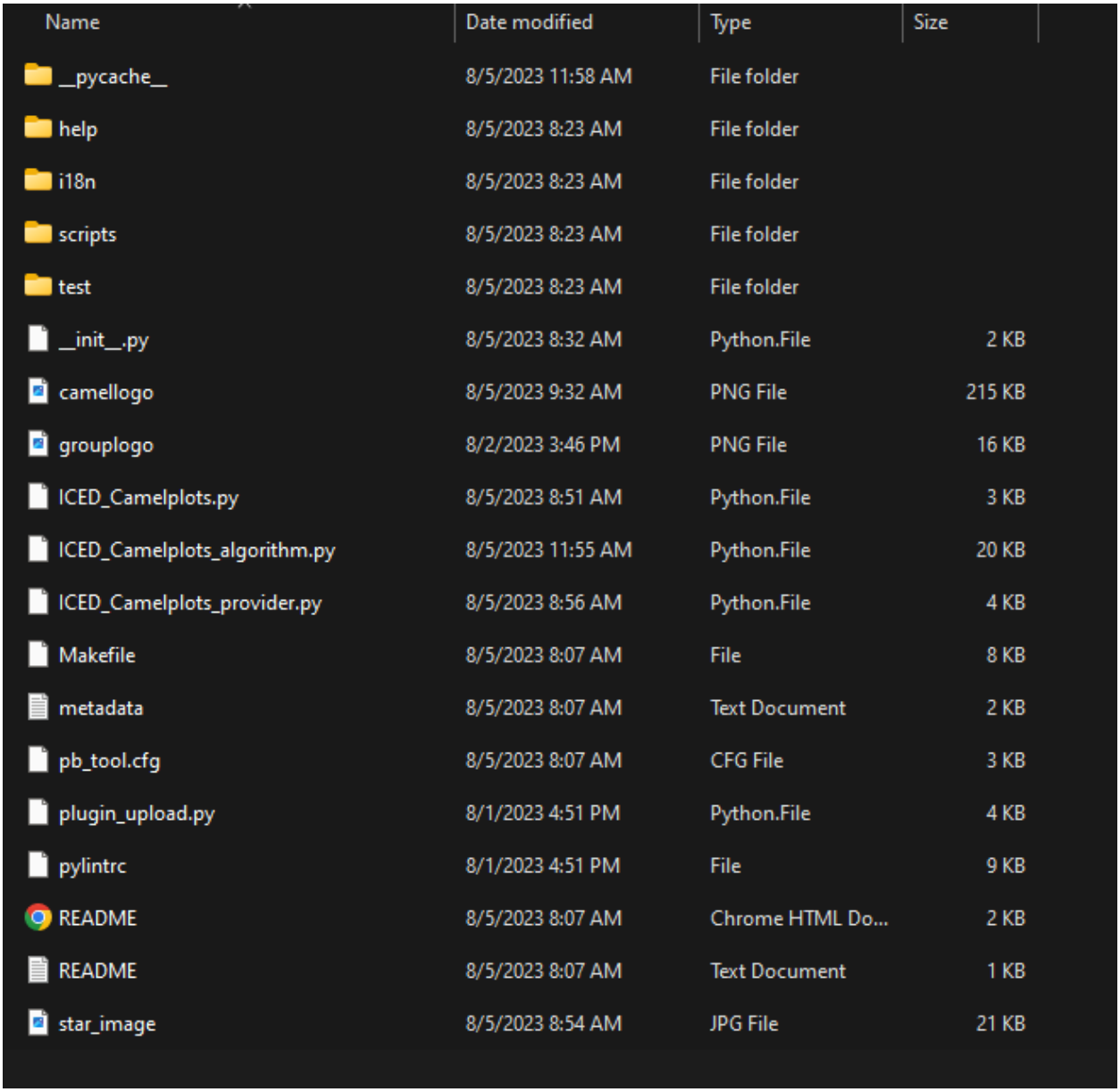
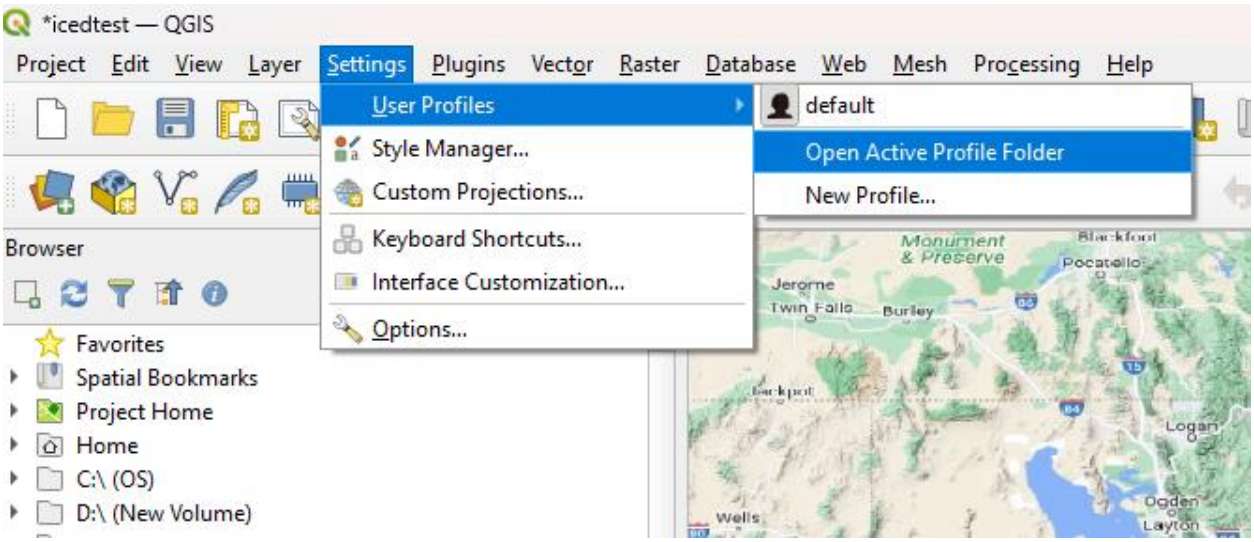
1. How to install and use the ICE-D Analysis plugin in QGIS

1. Unzip the iced_camelplots.zip file to a folder in your computer. Find the “iced_camelplots” folder and check if there are a set of folders and files (similar to the following screenshot) within the folder:

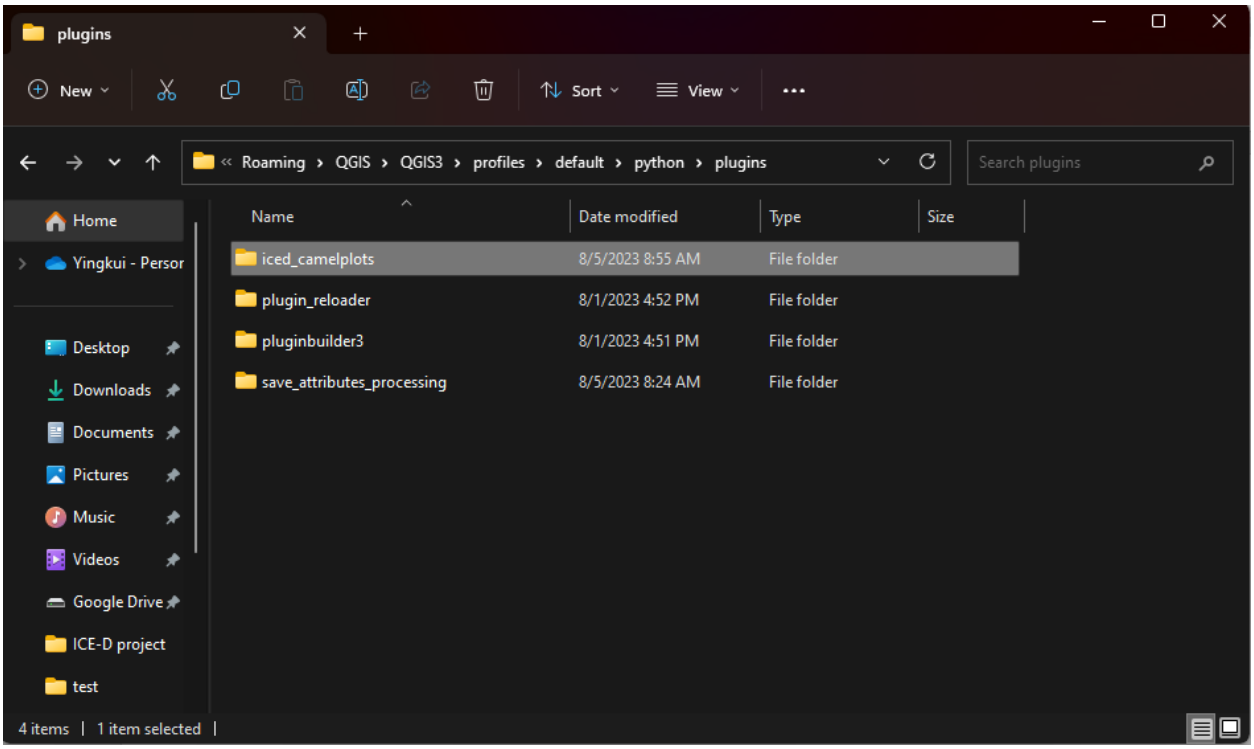


Name	Date modified	Type	Size
__pycache__	8/5/2023 11:58 AM	File folder	
help	8/5/2023 8:23 AM	File folder	
i18n	8/5/2023 8:23 AM	File folder	
scripts	8/5/2023 8:23 AM	File folder	
test	8/5/2023 8:23 AM	File folder	
__init__.py	8/5/2023 8:32 AM	Python.File	2 KB
camellogo	8/5/2023 9:32 AM	PNG File	215 KB
grouplogo	8/2/2023 3:46 PM	PNG File	16 KB
ICED_Camelplots.py	8/5/2023 8:51 AM	Python.File	3 KB
ICED_Camelplots_algorithm.py	8/5/2023 11:55 AM	Python.File	20 KB
ICED_Camelplots_provider.py	8/5/2023 8:56 AM	Python.File	4 KB
Makefile	8/5/2023 8:07 AM	File	8 KB
metadata	8/5/2023 8:07 AM	Text Document	2 KB
pb_tool.cfg	8/5/2023 8:07 AM	CFG File	3 KB
plugin_upload.py	8/1/2023 4:51 PM	Python.File	4 KB
pylintrc	8/1/2023 4:51 PM	File	9 KB
README	8/5/2023 8:07 AM	Chrome HTML Do...	2 KB
README	8/5/2023 8:07 AM	Text Document	1 KB
star_image	8/5/2023 8:54 AM	JPG File	21 KB

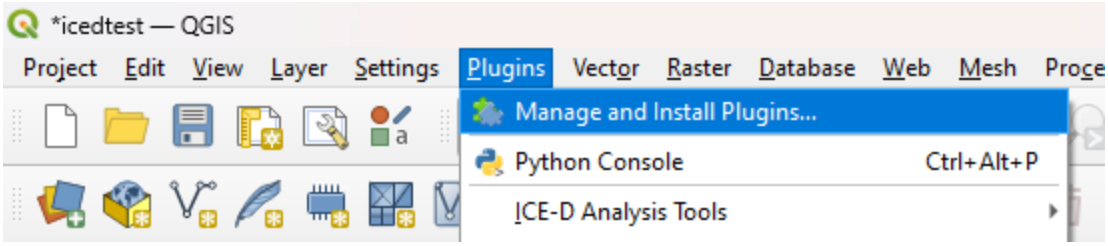
2. Open QGIS and under the “Setting” menu, choose User profile -> Open Active Profile Folder. See the following screenshot.



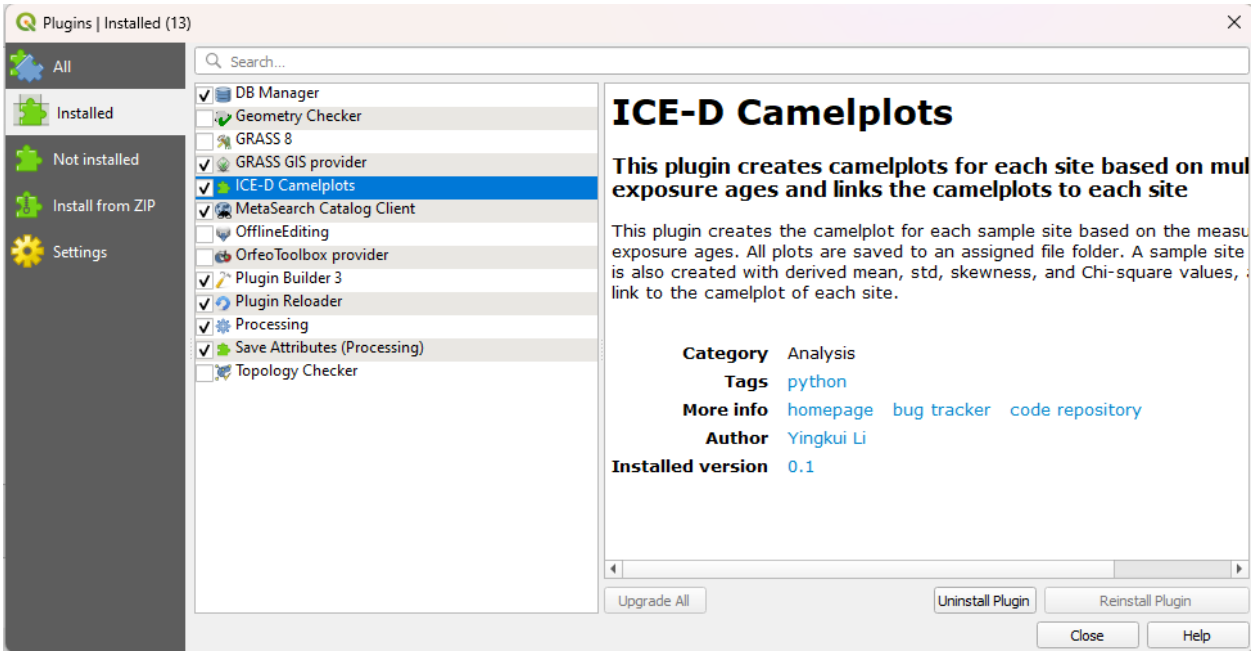
This will open the active profile folder. Then, copy the “iced_camelplots” folder to the “python->plugins” folder in the active profile folder. If there is no the “plugins” folder, create one.



Close and reopen QGIS. Under the “Plugin” menu, Click “Manage and Install Plugins…”.

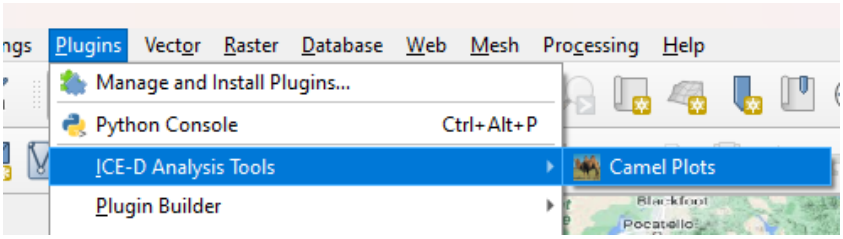


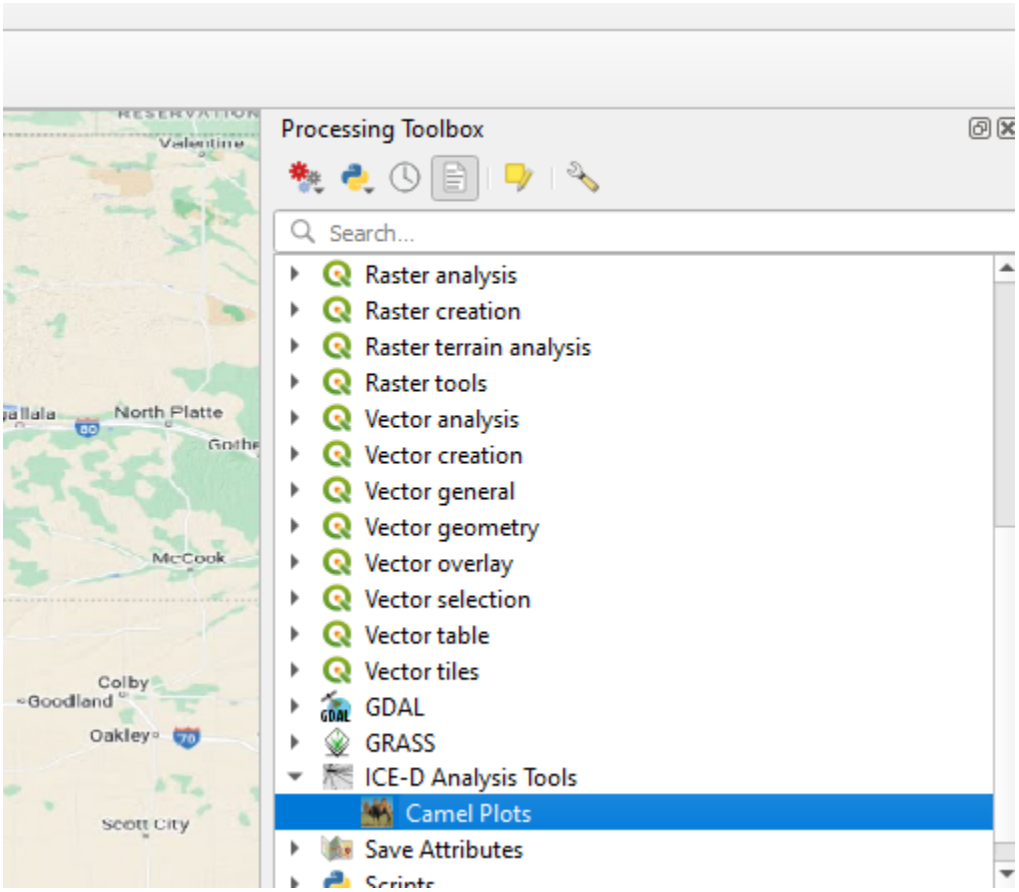
In the left panel of the Plugins window, Click “Installed” and You should find the “ICE-D Camelplots” plugin (the following screenshot). Chick it and close the window.



Note that this plugin is in the development mode. More functions will be added in the future. After the plugin is finalized, it can be published directly in QGIS, so that no copy/paste folder is needed in the future.

You should be able to see the plugin in three locations: the Plugin menu, the toolbar, and the processing toolbox.

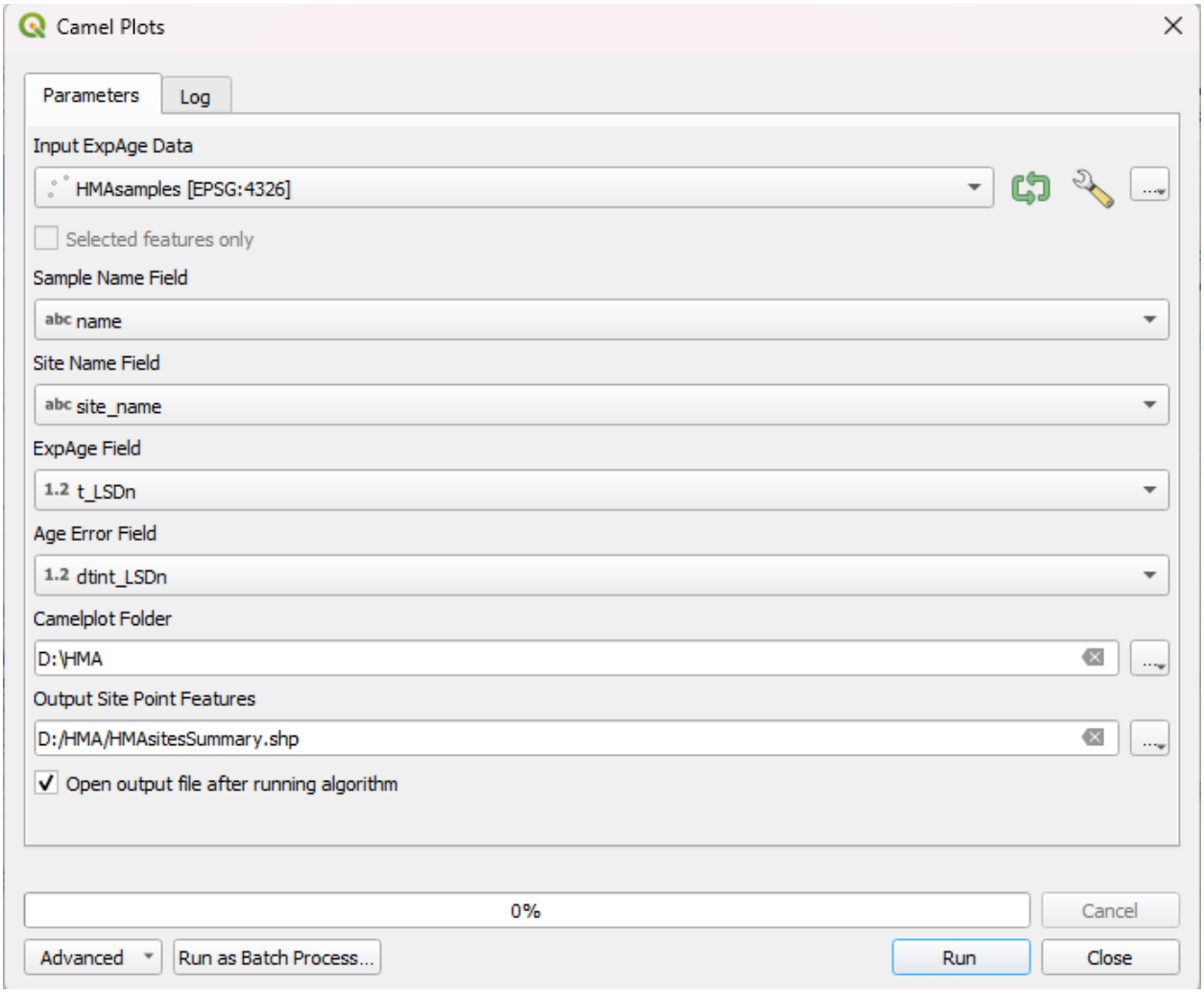




You can run the “Camel Plots” tool from one of these three locations.

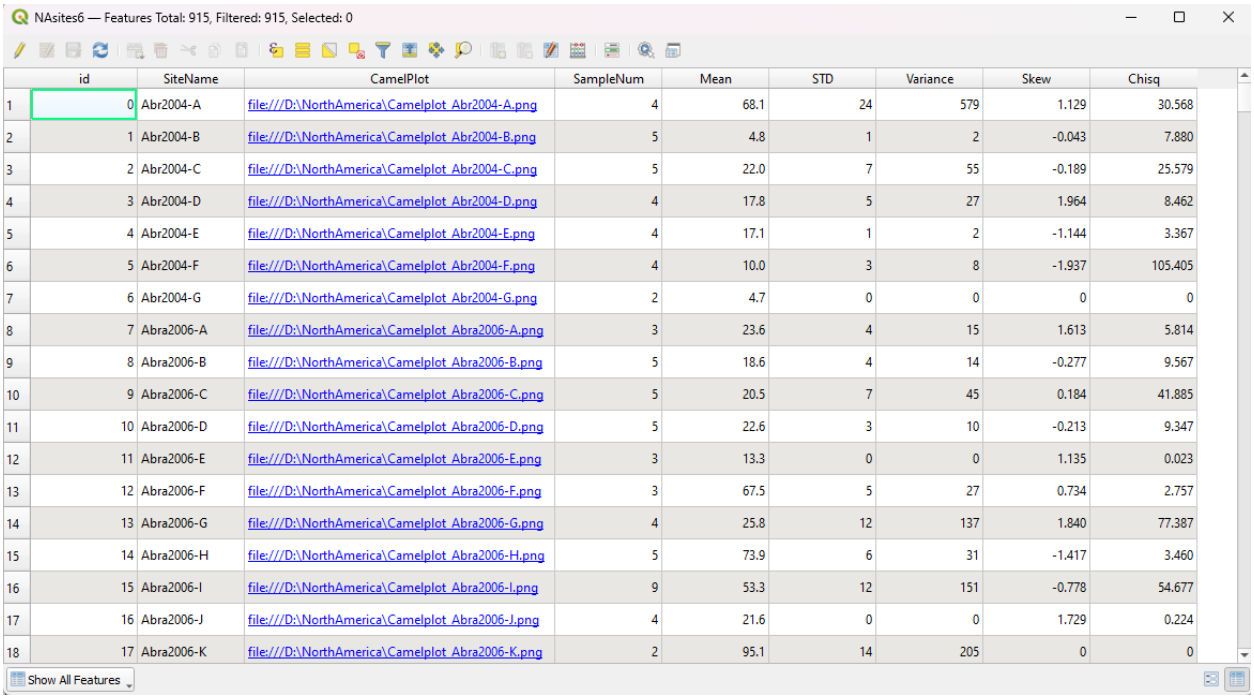
2. How to use the “Camel Plots” tool and view the camelplots in QGIS

The following screenshot shows the interface of the “Camel Plots” tool after running it.



You need to specify the ExpAge data (a subset layer of the WFS feature of the ICE-D database), then select the Sample Name Field (name), Site Name Field (site_name), ExpAge Field (t_LSDn or t_St), and Age Error Field (t_dint_LSDn or t_dint_St). You also need to choose a folder to save the camelplot for each site and an Output Site Point Feature as a shapefile or other GIS format. After that, click Run to run the tool.

The progress bar will show the progress of the calculation. After finishing, a site point layer will be added to the map to show the summary (#samples, mean, std, variance, skewness, and Chi-square) of each site and the link to the camelplot images. The following is a screenshot of the attribute table of the created site layer.

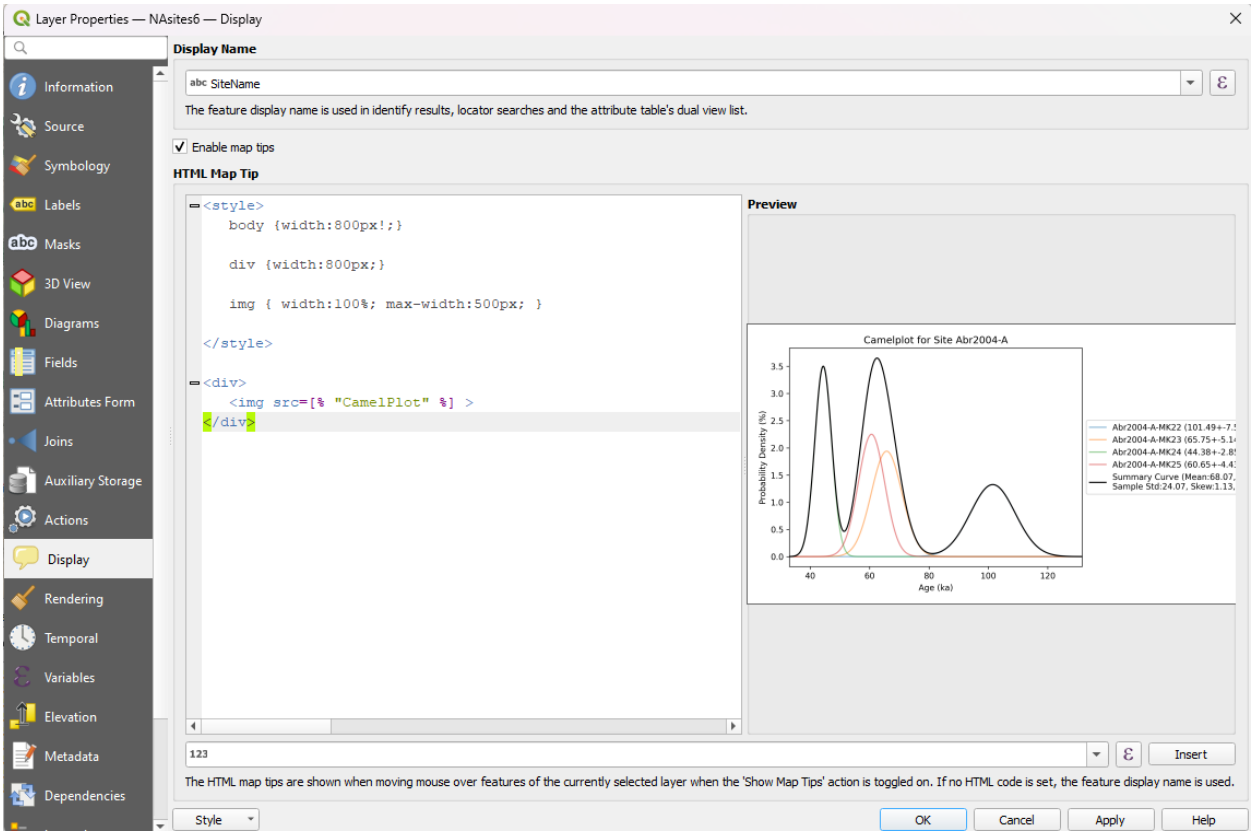


NAsites6 — Features Total: 915, Filtered: 915, Selected: 0

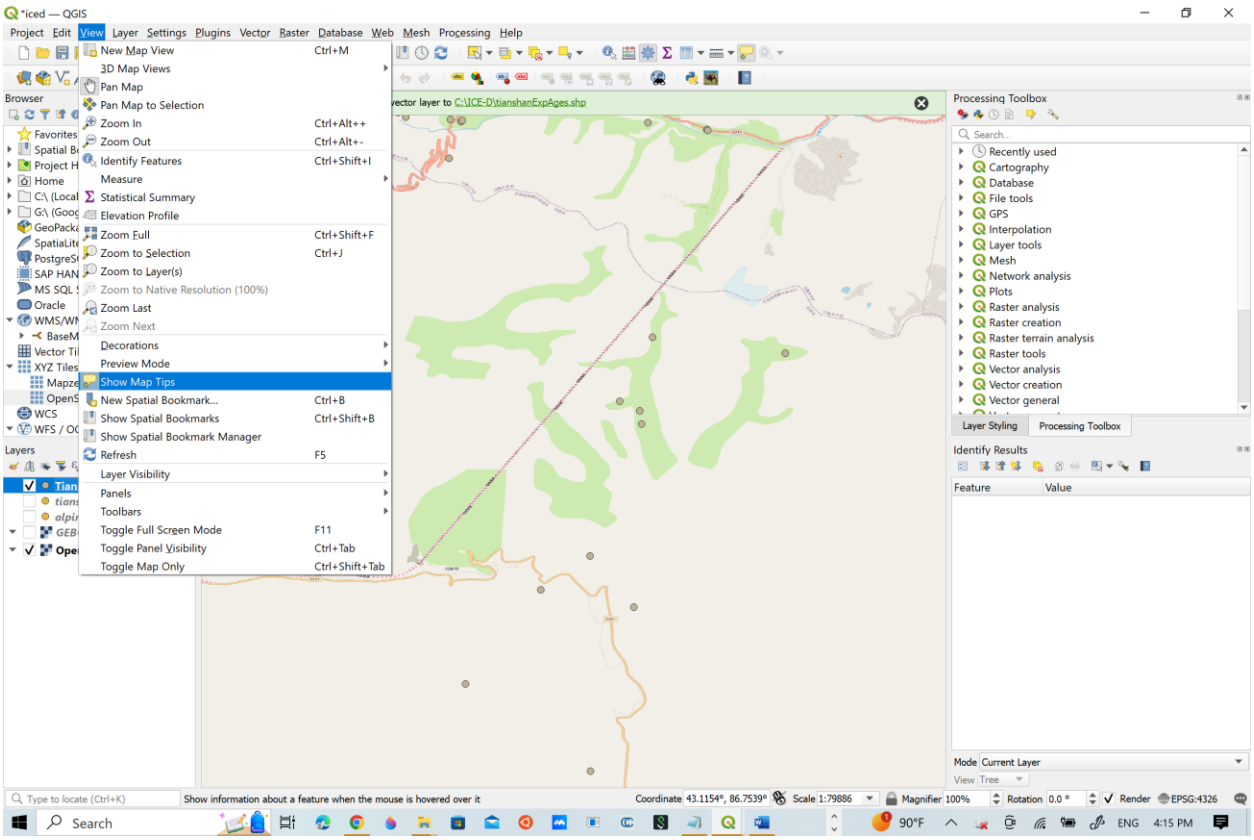
	id	SiteName	CamelPlot	SampleNum	Mean	STD	Variance	Skew	Chisq
1	0	Abr2004-A	file:///D:\NorthAmerica\Camelplot_Abr2004-A.png	4	68.1	24	579	1.129	30.568
2	1	Abr2004-B	file:///D:\NorthAmerica\Camelplot_Abr2004-B.png	5	4.8	1	2	-0.043	7.880
3	2	Abr2004-C	file:///D:\NorthAmerica\Camelplot_Abr2004-C.png	5	22.0	7	55	-0.189	25.579
4	3	Abr2004-D	file:///D:\NorthAmerica\Camelplot_Abr2004-D.png	4	17.8	5	27	1.964	8.462
5	4	Abr2004-E	file:///D:\NorthAmerica\Camelplot_Abr2004-E.png	4	17.1	1	2	-1.144	3.367
6	5	Abr2004-F	file:///D:\NorthAmerica\Camelplot_Abr2004-F.png	4	10.0	3	8	-1.937	105.405
7	6	Abr2004-G	file:///D:\NorthAmerica\Camelplot_Abr2004-G.png	2	4.7	0	0	0	0
8	7	Abra2006-A	file:///D:\NorthAmerica\Camelplot_Abra2006-A.png	3	23.6	4	15	1.613	5.814
9	8	Abra2006-B	file:///D:\NorthAmerica\Camelplot_Abra2006-B.png	5	18.6	4	14	-0.277	9.567
10	9	Abra2006-C	file:///D:\NorthAmerica\Camelplot_Abra2006-C.png	5	20.5	7	45	0.184	41.885
11	10	Abra2006-D	file:///D:\NorthAmerica\Camelplot_Abra2006-D.png	5	22.6	3	10	-0.213	9.347
12	11	Abra2006-E	file:///D:\NorthAmerica\Camelplot_Abra2006-E.png	3	13.3	0	0	1.135	0.023
13	12	Abra2006-F	file:///D:\NorthAmerica\Camelplot_Abra2006-F.png	3	67.5	5	27	0.734	2.757
14	13	Abra2006-G	file:///D:\NorthAmerica\Camelplot_Abra2006-G.png	4	25.8	12	137	1.840	77.387
15	14	Abra2006-H	file:///D:\NorthAmerica\Camelplot_Abra2006-H.png	5	73.9	6	31	-1.417	3.460
16	15	Abra2006-I	file:///D:\NorthAmerica\Camelplot_Abra2006-I.png	9	53.3	12	151	-0.778	54.677
17	16	Abra2006-J	file:///D:\NorthAmerica\Camelplot_Abra2006-J.png	4	21.6	0	0	1.729	0.224
18	17	Abra2006-K	file:///D:\NorthAmerica\Camelplot_Abra2006-K.png	2	95.1	14	205	0	0

Show All Features

You can “Ctrl + Click” the image path to view the camelplot for each site. You can also view the camelplot in QGIS as HTML map tips. To enable this function, right click the create site layer and choose “Properties”. In the Layer Properties Dialog, chick “Display” on the left panel.



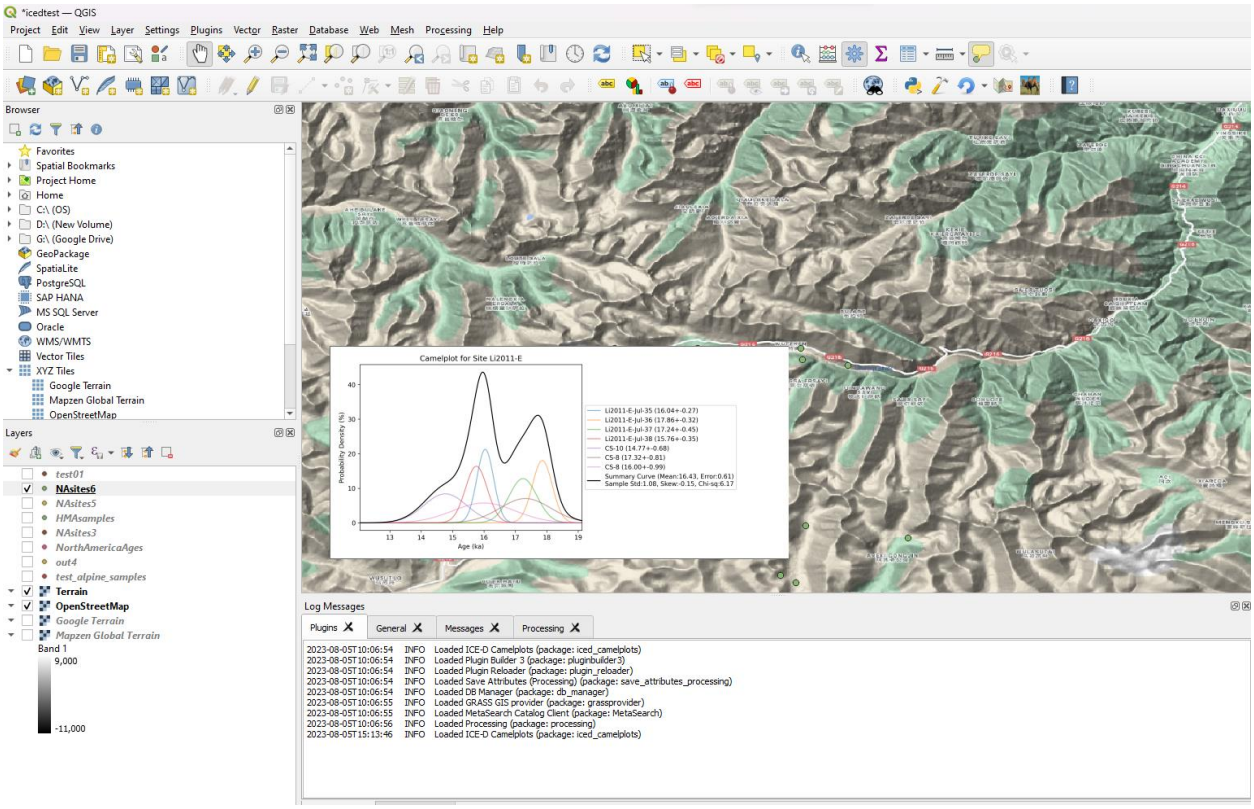
Make sure to check “Enable Map tips” (QGIS 3.32). If using the old version of QGIS, you need to Click the “View” menu and click “Show Map Tips” to enable this function (see the following screenshot).



In the Layer Properties Dialog, add the following part to the box under “HTML Map Tip”:

```
<style>
  body {width:800px!;}
  div {width:800px;}
  img { width:100%; max-width:500px; }
</style>
<div>
  <img src=[% "CamelPlot" %] >
</div>
```

Click OK. This will show the camelplot as a map tip when the cursor is close to each site (the site layer needs to be selected). The following screenshot is an example.


*icedtest — QGIS
Project Edit View Layer Settings Plugins Vector Raster Database Web Mesh Processing Help
Browser
Favorites
Spatial Bookmarks
Project Home
Home
C:\ (OS)
D:\ (New Volume)
G:\ (Google Drive)
GeoPackage
SpatiaLite
PostgreSQL
SAP HANA
MS SQL Server
Oracle
WMS/WMTS
Vector Tiles
XYZ Tiles
Google Terrain
Mapzen Global Terrain
OpenStreetMap
Layers
test01
NAsites6
NAsites5
HMAsamples
NAsites3
NorthAmericaAges
out4
test_alpine_samples
Terrain
OpenStreetMap
Google Terrain
Mapzen Global Terrain
Band 1
9,000
-11,000
Camelplot for Site LI2011-E
Probability Density (%)
Age (ka)
Log Messages
Plugins
General
Messages
Processing
2023-08-05T10:06:54 INFO Loaded ICE-D Camelplots (package: iced_camelplots)
2023-08-05T10:06:54 INFO Loaded Plugin Builder 3 (package: pluginbuilder3)
2023-08-05T10:06:54 INFO Loaded Plugin Reloader (package: plugin_reloader)
2023-08-05T10:06:54 INFO Loaded Save Attributes (Processing) (package: save_attributes_processing)
2023-08-05T10:06:54 INFO Loaded DB Manager (package: db_manager)
2023-08-05T10:06:55 INFO Loaded GRASS GIS provider (package: grassprovider)
2023-08-05T10:06:55 INFO Loaded MetaSearch Catalog Client (package: MetaSearch)
2023-08-05T10:06:56 INFO Loaded Processing (package: processing)
2023-08-05T15:13:46 INFO Loaded ICE-D Camelplots (package: iced_camelplots)