

# Installation Instructions for **allplot**

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- 1) Retrieve the **allplot** distribution source. This can be found on Github at <https://github.com/grondeau/allplot>  
With the CODE button, select the zip file and empty everything into an **allplot** working directory such as **C:\Users\You\allplot**
- 2) Install Anaconda on your computer:  
<https://www.anaconda.com/products/distribution>  
Download and install Anaconda3 following the directions at the website.  
This process will take about 30 minutes and require about 4 GB of disk space for the Python environment.
- 3) Run Anaconda Navigator (found in the start menu on Windows systems)  
You may be asked to update Anaconda Navigator the first time you run it –which is probably a good idea.  
Once running... you will be in the **base** environment. This has lots of stuff you will not need and will confuse the additional packages that are required, so we will need to create a new environment just for **allplot**. On the left panel of the Anaconda Navigator, click on **Environments**. On the middle panel, click on **+ Create**. Give your new environment a name, e.g., **allenv**, and let Anaconda build the new environment, which it will do with just a minimal distribution.
- 4) In your new environment, go back to **Home** (left panel) and notice the applications that are part of the environment. The only thing you really need to install here is the **CMD.exe Prompt**. So do that by clicking the Install button. ( If you want to get into your own programming, you could install **Spyder**, but for simplicity sake I would wait on that... )

Note: You may wish to make it easy to launch the **Anaconda Command Prompt (allenv)** at a future time without launching the entire Navigator again. Search in the Windows Start Menus under Anaconda3 for the “Anaconda Prompt (allenv)”; right click on it and pin it to the Start Menu where you can find it and launch it directly in the future. You can then close Anaconda Navigator; you will not need it again.

- 5) From now on everything will be done through the **Anconda Prompt (allenv)** window. After installing the CMD.exe Prompt, the “Install” button will now say “Launch.” Click that or launch the Anaconda Prompt from the Windows start menu. After launching, you should see something like this:

**(allenv) C:\Users\You>**

The prompt shows you explicitly which Python environment it is aware of. So now we will add the packages we need to make **allplot** work.

There are several ways to do this, but not all of them work! Particularly difficult is the **cartopy** package which handles all of the mapping. So we will start by loading this package and let **conda** figure out all of the dependencies. Conda-forge is a community repository for contributed packages that are designed to be installed by conda.

- 6) Type into the command window (or copy & past the **bolded** lines below):  
**conda install --channel=conda-forge cartopy=0.21.1**  
When it asks you to proceed... say yes. Several other packages are also required:  
the giant math/graphing/array package called pandas...  
**conda install pandas**

the XML parser...

**conda install beautifulsoup4**

the curve fitting package..

**conda install -c conda-forge symfit**

and the movie maker...

**conda install -c conda-forge ffmpeg-python**

- 7) Move the console focus to the allplot directory where the program resides:

**cd allplot**

should take you to

**(allenv) C:\Users\You\allplot>**

where you can now run the program with the command:

**python allplot.py**

See the **allplot Command & Instruction Manual** for instruction for operating the program.

- 8) Here is the list of what is in my environment when after doing his installation. You can see it is quite a list!

**(allenv) C:\Users\Gary>conda list**

```
# packages in environment at C:\Users\Gary\anaconda3\envs\allenv:
#
# Name                                Version                                Build                                Channel
aom                                    3.5.0                                h63175ca_0                           conda-forge
appdirs                               1.4.4                                pyh9f0ad1d_0                         conda-forge
beautifulsoup4                        4.11.1                                py39haa95532_0                       conda-forge
blas                                  1.0                                    mkl                                   conda-forge
bottleneck                            1.3.5                                py39h080aedc_0                       conda-forge
brotli                                1.0.9                                hcfcfb64_8                           conda-forge
brotli-bin                            1.0.9                                hcfcfb64_8                           conda-forge
brotlipy                               0.7.0                                py39ha55989b_1005                   conda-forge
bzip2                                  1.0.8                                h8ffe710_4                           conda-forge
ca-certificates                       2022.12.7                            h5b45459_0                           conda-forge
cartopy                               0.21.1                                py39h25ee47b_0                       conda-forge
certifi                               2022.12.7                            pyhd8ed1ab_0                         conda-forge
cffi                                   1.15.1                                py39h68f70e3_3                       conda-forge
charset-normalizer                    2.1.1                                pyhd8ed1ab_0                         conda-forge
console_shortcut                      0.1.1                                4                                     conda-forge
contourpy                             1.0.6                                py39h1f6ef14_0                       conda-forge
cryptography                          39.0.0                                py39h58e9bdb_0                       conda-forge
cyclor                                0.11.0                                pyhd8ed1ab_0                         conda-forge
expat                                  2.5.0                                h1537add_0                           conda-forge
ffmpeg                                 5.1.2                                gpl_h5b1d025_105                     conda-forge
ffmpeg-python                         0.2.0                                py_0                                  conda-forge
fftw                                   3.3.9                                h2bbff1b_1                           conda-forge
font-ttf-dejavu-sans-mono              2.37                                  hab24e00_0                           conda-forge
font-ttf-inconsolata                  3.000                                h77eed37_0                           conda-forge
font-ttf-source-code-pro              2.038                                h77eed37_0                           conda-forge
font-ttf-ubuntu                       0.83                                  hab24e00_0                           conda-forge
fontconfig                             2.14.1                                hbde0cde_0                           conda-forge
fonts-conda-ecosystem                 1                                      0                                     conda-forge
fonts-conda-forge                     1                                      0                                     conda-forge
fonttools                              4.38.0                                py39ha55989b_1                       conda-forge
```

|                         |                    |                |             |
|-------------------------|--------------------|----------------|-------------|
| freetype                | 2.12.1             | h546665d_1     | conda-forge |
| future                  | 0.18.2             | pyhd8ed1ab_6   | conda-forge |
| geos                    | 3.11.1             | h1537add_0     | conda-forge |
| icc_rt                  | 2022.1.0           | h6049295_2     |             |
| idna                    | 3.4                | pyhd8ed1ab_0   | conda-forge |
| intel-openmp            | 2021.4.0           | haa95532_3556  |             |
| jpeg                    | 9e                 | h8ffe710_2     | conda-forge |
| kiwisolver              | 1.4.4              | py39h1f6ef14_1 | conda-forge |
| krb5                    | 1.20.1             | h6609f42_0     | conda-forge |
| lcms2                   | 2.14               | ha5c8aab_1     | conda-forge |
| lerc                    | 4.0.0              | h63175ca_0     | conda-forge |
| libbrotlicommon         | 1.0.9              | hcfcfb64_8     | conda-forge |
| libbrotlidec            | 1.0.9              | hcfcfb64_8     | conda-forge |
| libbrotlienc            | 1.0.9              | hcfcfb64_8     | conda-forge |
| libcurl                 | 7.87.0             | h68f0423_0     | conda-forge |
| libdeflate              | 1.14               | hcfcfb64_0     | conda-forge |
| libhwloc                | 2.8.0              | h039e092_1     | conda-forge |
| libiconv                | 1.17               | h8ffe710_0     | conda-forge |
| libjpeg-turbo           | 2.1.4              | hcfcfb64_0     | conda-forge |
| libpng                  | 1.6.39             | h19919ed_0     | conda-forge |
| libsqlite               | 3.40.0             | hcfcfb64_0     | conda-forge |
| libssh2                 | 1.10.0             | h680486a_3     | conda-forge |
| libtiff                 | 4.5.0              | hc4f729c_0     | conda-forge |
| libwebp-base            | 1.2.4              | h8ffe710_0     | conda-forge |
| libxcb                  | 1.13               | hcd874cb_1004  | conda-forge |
| libxml2                 | 2.10.3             | hc3477c8_0     | conda-forge |
| libzlib                 | 1.2.13             | hcfcfb64_4     | conda-forge |
| m2w64-gcc-libgfortran   | 5.3.0              | 6              | conda-forge |
| m2w64-gcc-libs          | 5.3.0              | 7              | conda-forge |
| m2w64-gcc-libs-core     | 5.3.0              | 7              | conda-forge |
| m2w64-gmp               | 6.1.0              | 2              | conda-forge |
| m2w64-libwinpthread-git | 5.0.0.4634.697f757 | 2              | conda-forge |
| matplotlib-base         | 3.6.2              | py39haf65ace_0 | conda-forge |
| mk1                     | 2021.4.0           | haa95532_640   |             |
| mk1-service             | 2.4.0              | py39h2bbff1b_0 |             |
| mk1_fft                 | 1.3.1              | py39h277e83a_0 |             |
| mk1_random              | 1.2.2              | py39hf11a4ad_0 |             |
| mpmath                  | 1.2.1              | pyhd8ed1ab_0   | conda-forge |
| msys2-conda-epoch       | 20160418           | 1              | conda-forge |
| munkres                 | 1.1.4              | pyh9f0ad1d_0   | conda-forge |
| numexpr                 | 2.8.4              | py39h5b0cc5e_0 |             |
| numpy                   | 1.23.5             | py39h3b20f71_0 |             |
| numpy-base              | 1.23.5             | py39h4da318b_0 |             |
| openh264                | 2.3.1              | h63175ca_1     | conda-forge |
| openjpeg                | 2.5.0              | ha2aaf27_2     | conda-forge |
| openssl                 | 1.1.1s             | hcfcfb64_1     | conda-forge |
| packaging               | 22.0               | pyhd8ed1ab_0   | conda-forge |
| pandas                  | 1.5.2              | py39hf11a4ad_0 |             |
| pillow                  | 9.4.0              | py39h9767c21_0 | conda-forge |
| pip                     | 22.3.1             | py39haa95532_0 |             |
| pooch                   | 1.6.0              | pyhd8ed1ab_0   | conda-forge |
| proj                    | 9.1.0              | heca977f_1     | conda-forge |
| pthread-stubs           | 0.4                | hcd874cb_1001  | conda-forge |
| pthread-win32           | 2.9.1              | hfa6e2cd_3     | conda-forge |
| pycparser               | 2.21               | pyhd8ed1ab_0   | conda-forge |

|                 |              |                |             |
|-----------------|--------------|----------------|-------------|
| pyopenssl       | 23.0.0       | pyhd8ed1ab_0   | conda-forge |
| pyparsing       | 3.0.9        | pyhd8ed1ab_0   | conda-forge |
| pyproj          | 3.4.1        | py39h9727d73_0 | conda-forge |
| pyshp           | 2.3.1        | pyhd8ed1ab_0   | conda-forge |
| pysocks         | 1.7.1        | pyh0701188_6   | conda-forge |
| python          | 3.9.15       | h6244533_2     |             |
| python-dateutil | 2.8.2        | pyhd8ed1ab_0   | conda-forge |
| python_abi      | 3.9          | 2_cp39         | conda-forge |
| pytz            | 2022.7       | py39haa95532_0 |             |
| requests        | 2.28.1       | pyhd8ed1ab_1   | conda-forge |
| scipy           | 1.9.3        | py39he11b74f_0 |             |
| setuptools      | 65.5.0       | py39haa95532_0 |             |
| shapely         | 2.0.0        | py39h7c5f289_0 | conda-forge |
| six             | 1.16.0       | pyh6c4a22f_0   | conda-forge |
| soupsieve       | 2.3.2.post1  | py39haa95532_0 |             |
| sqlite          | 3.40.0       | h2bbff1b_0     |             |
| svt-av1         | 1.4.1        | h63175ca_0     | conda-forge |
| symfit          | 0.5.5        | pyhd8ed1ab_0   | conda-forge |
| sympy           | 1.11.1       | py39hcbf5309_2 | conda-forge |
| tbb             | 2021.7.0     | h91493d7_1     | conda-forge |
| tk              | 8.6.12       | h8ffe710_0     | conda-forge |
| toposort        | 1.7          | pyhd8ed1ab_0   | conda-forge |
| tzdata          | 2022g        | h04d1e81_0     |             |
| ucrt            | 10.0.22621.0 | h57928b3_0     | conda-forge |
| unicodedata2    | 15.0.0       | py39ha55989b_0 | conda-forge |
| urllib3         | 1.26.13      | pyhd8ed1ab_0   | conda-forge |
| vc              | 14.2         | h21ff451_1     |             |
| vs2015_runtime  | 14.32.31332  | h1d6e394_9     | conda-forge |
| wheel           | 0.37.1       | pyhd3eb1b0_0   |             |
| win_inet_pton   | 1.1.0        | pyhd8ed1ab_6   | conda-forge |
| wincertstore    | 0.2          | py39haa95532_2 |             |
| x264            | 1!164.3095   | h8ffe710_2     | conda-forge |
| x265            | 3.5          | h2d74725_3     | conda-forge |
| xorg-libxau     | 1.0.9        | hcd874cb_0     | conda-forge |
| xorg-libxdmcp   | 1.1.3        | hcd874cb_0     | conda-forge |
| xz              | 5.2.6        | h8d14728_0     | conda-forge |
| zstd            | 1.5.2        | h7755175_4     | conda-forge |