
QGreenland Documentation

Release v0.2.0

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Attention: QGreenland Custom is no longer supported. This was an experiment, and we decided to go in a different direction. It shouldn't be expected to work.

WHAT IS QGREENLAND CUSTOM?

QGreenland is a free and open-source Greenland-focused GIS environment for data analysis and viewing, powered by [QGIS](#). QGreenland is delivered in two ways:

1. **QGreenland Core:** a large Zip package containing a core set of data curated to serve the majority of users. This documentation page is about QGreenland Core. QGreenland Core has its own [documentation](#).
2. **QGreenland Custom (beta):** a QGIS plugin for downloading a custom set of data, including data which is not part of the QGreenland Core zip package (for example, due to filesize constraints). QGreenland Custom enables you to access only the QGreenland layers you are interested in.

Visit the [QGreenland website](#)

CITING QGREENLAND

We request that QGreenland be cited or acknowledged when publishing a QGreenland-made image or map.

2.1 Citation

Moon, T., M. Fisher, L. Harden, & T. Stafford (2021). QGreenland[software]. Available from <https://qgreenland.org>. <https://doi.org/10.5281/zenodo.4558266>.

2.2 Acknowledgement

We acknowledge the National Snow and Ice Data Center QGreenland package.

CONTRIBUTOR HOW-TO GUIDES

3.1 How to develop QGreenland Custom

3.1.1 Install the plugin to QGIS for development

Install the plugin by symlinking this repository to your plugins directory, e.g.:

```
ln -s $PWD ~/.local/share/QGIS/QGIS3/profiles/default/python/plugins/.
```

Then in the QGIS “Manage and Install Plugins...” dialog’s “Installed” tab, ensure the “QGreenland Custom” plugin is enabled (checked).

3.1.2 Development loop

Before starting, instal the Plugin Reloader plugin. The development feedback loop looks like this:

- Make code changes
- Use Plugin Reloader to reload the plugin
- Test

3.1.3 Automated testing

If you want to write automated unit or regression tests, the `scripts/run-env-linux.sh` script should be used to run your tests in the QGIS environment without running QGIS itself.

This should be handled by the Makefile target `make test`.

3.2 How to release a new version of QGreenland Custom

3.2.1 Increment the version

Use `bumpversion` to bump the specified part of the version:

```
$ bumpversion part={major|minor|patch}
```

Versions should be in one of the following forms:

- `vX.Y.ZalphaN`: An alpha pre-release, e.g. `v1.2.3beta2`

- vX.Y.ZbetaN: A beta pre-release, e.g. v1.2.3alpha2
- vX.Y.ZrcN: A release candidate, e.g. v1.2.3rc3.
- vX.Y.Z: A final release, e.g. v1.2.3.

Warning: When using `bumpversion build`, ensure you’ve already used `bumpversion prerelease`. Running `bumpversion build` from a final release version number can result in an incorrect patch number, e.g. v1.2.304.

3.2.2 Tag the release with the new version

```
git tag {vX.Y.Z}
```

3.2.3 Build a package zip

Using the tag from the previous step, build a package:

```
make package VERSION={vX.Y.Z} # Outputs a zip
```

3.2.4 Upload the zip to QGIS Plugin Repository

- Visit <https://plugins.qgis.org/plugins> in your browser. Make an account if needed.
- Click the “Plugins” tab, then “Upload a Plugin”.
- Upload the zip package from the previous step.
- Wait for approval.

3.3 How to edit documentation

3.3.1 Local development and preview

To preview docs locally, create a local Python environment and install dependencies, then make the docs.

```
virtualenv env
. env/bin/activate
pip install -r dev-requirements.txt
cd help
make html
```

3.3.2 Structure

We follow a conceptual framework called [Diátaxis](#). For a primer, watch [this video](#).

USER HOW-TO GUIDES

4.1 Downloading Arctic DEM (100m) via the QGreenland Custom Plugin

As of version 2.0.0 of QGreenland Core, the Arctic DEM (100m) data layer has been removed from the QGreenland Core base package due to filesize. Now, this layer is available via the QGreenland Custom QGIS plugin. To learn about how to install and configure the plugin, visit the [QGreenland Custom documentation](#) on Read the Docs. This how-to will show you how to add the Arctic DEM (100m) layer to your QGIS project using the QGreenland Custom plugin.

Note: The Polar Geospatial Center also provides a custom Greenland 32m resolution Arctic DEM for added detail. To download this package, visit qgreenland.org/download and scroll to the Additional Data for QGreenland section.

First, open a project in QGIS and open the plugin window via the QGIS **Menu Bar**, choosing ‘Download Data’ to directly access the correct window. You will see a set of directories of data layers underneath a search bar.

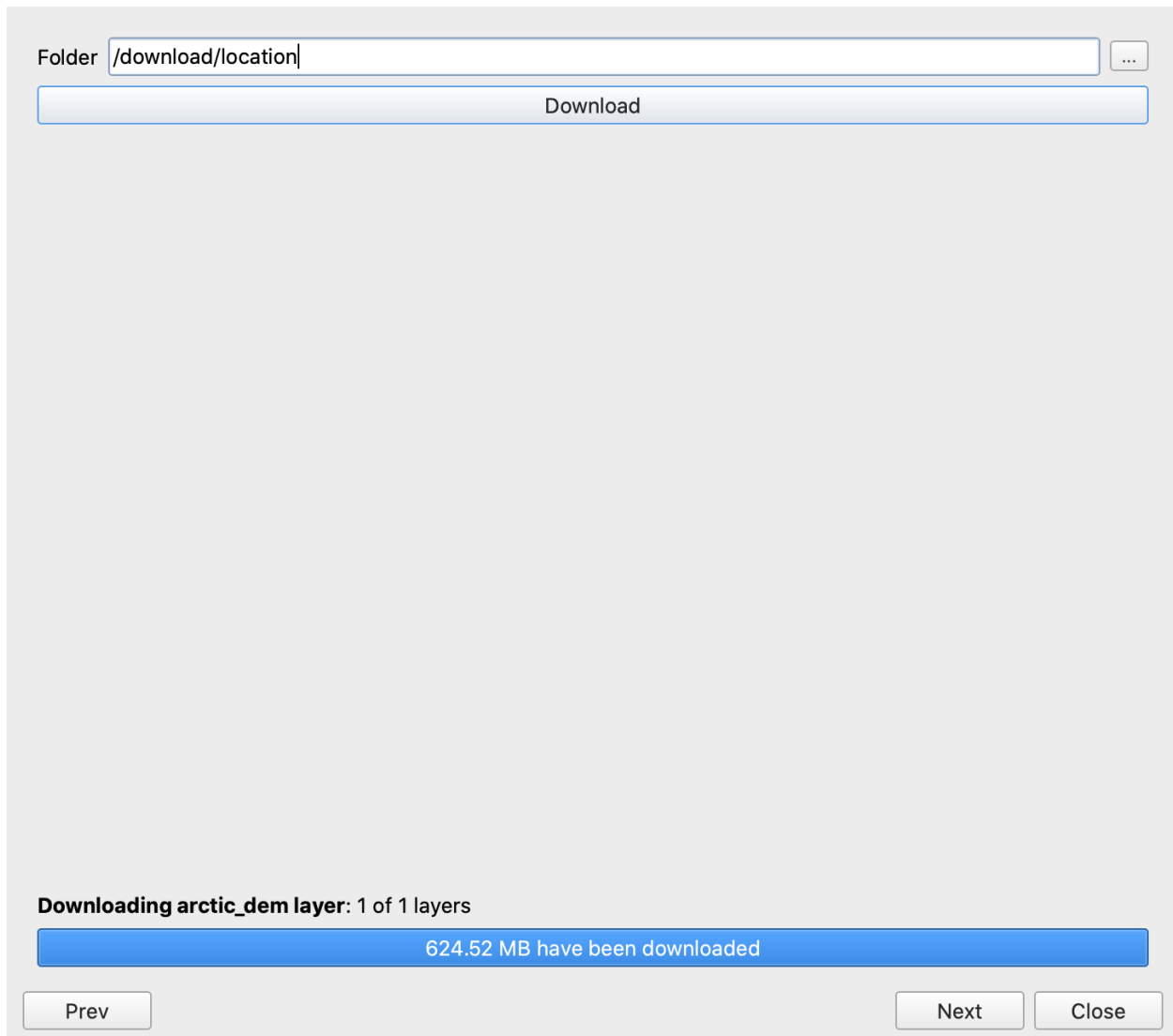
Select the data to download

Search...

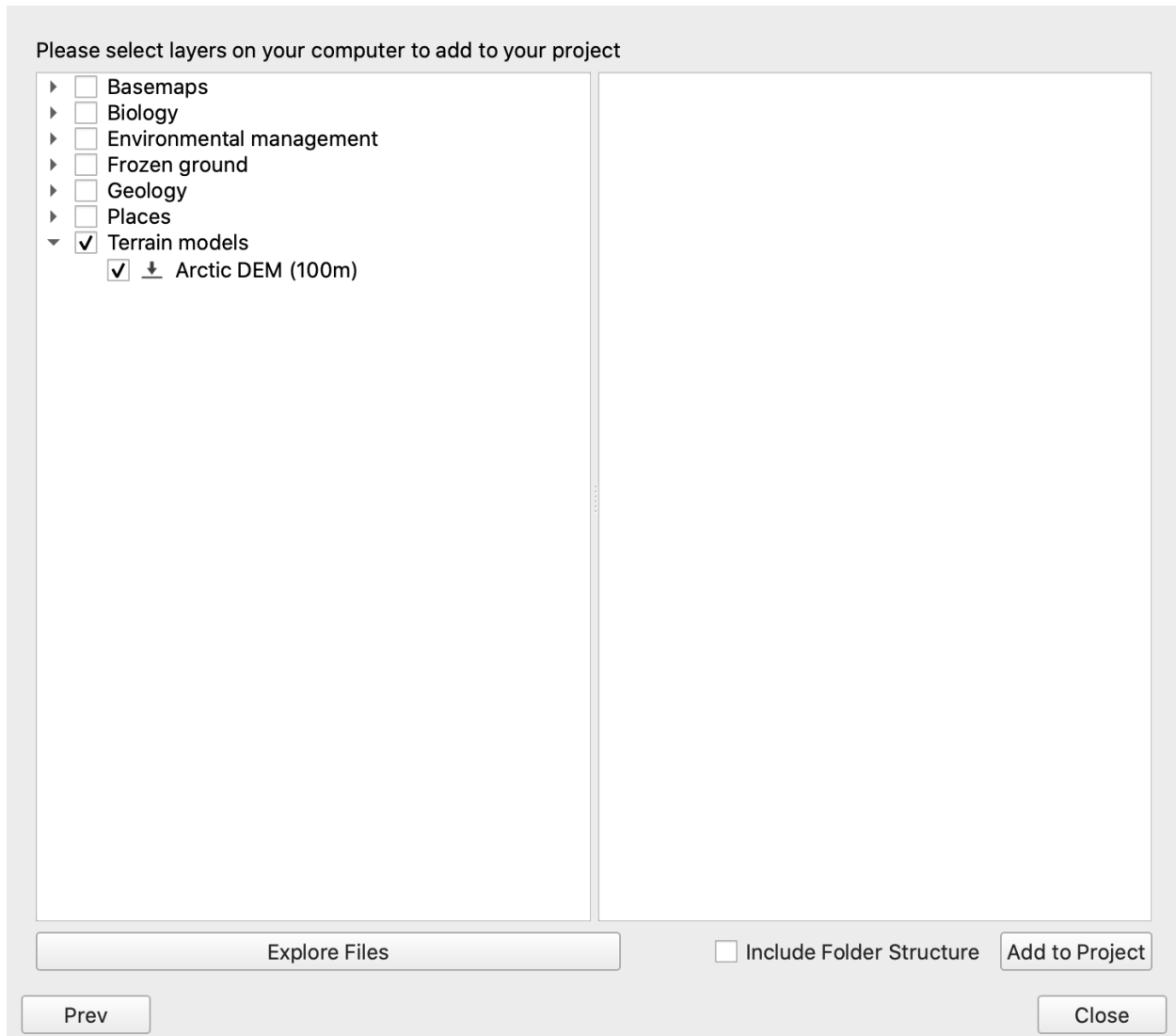
▶ <input type="checkbox"/>	Basemaps
▶ <input type="checkbox"/>	Biology
▶ <input type="checkbox"/>	Environmental management
▶ <input type="checkbox"/>	Frozen ground
▶ <input type="checkbox"/>	Future projections
▶ <input type="checkbox"/>	Geology
▶ <input type="checkbox"/>	Geophysics
▶ <input type="checkbox"/>	Glaciology
▶ <input type="checkbox"/>	Human activity
▶ <input type="checkbox"/>	Hydrology
▶ <input type="checkbox"/>	Oceanography
▶ <input type="checkbox"/>	Places
▶ <input type="checkbox"/>	Reference
▶ <input type="checkbox"/>	Regional climate models
▶ <input type="checkbox"/>	Sea ice
▶ <input type="checkbox"/>	Terrain models

Next

To find the Arctic DEM, search 'DEM' in the search bar. Once located, click the checkbox next to the layer name. Next, you will need to choose a download location for this layer. Select a file location using the three-dot icon, and when you are finished, click the Download button. Once the download is complete, you will see a blue progress bar showing the layer filesize. Click Next.



Next, you will use the plugin to add the downloaded layer to your QGIS project. You will see a list of directories for data you have downloaded using the plugin. If this is your first time using the plugin, the only directory you will see will be Terrain Models (this is the parent directory for Arctic DEM). Click the checkbox next to Arctic DEM (100m) and click Add to Project, then click Close.



Now you have successfully used the QGreenland Custom plugin to download and add the Arctic DEM (100m) data layer to your QGIS project. Over in the QGIS **Layers Panel**, make sure the Arctic DEM (100m) layer is toggled on in order to see the layer in the **Map View**.

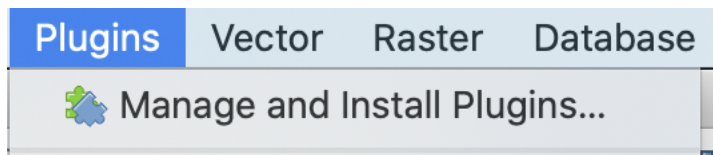


4.2 Install and use QGreenland Custom

QGreenland Custom is a QGIS plugin for downloading a custom set of data, including data which is not part of the QGreenland Core zip package. This how-to guide walks through how to install the plugin and how to use its basic functions.

4.2.1 Installing QGreenland Custom

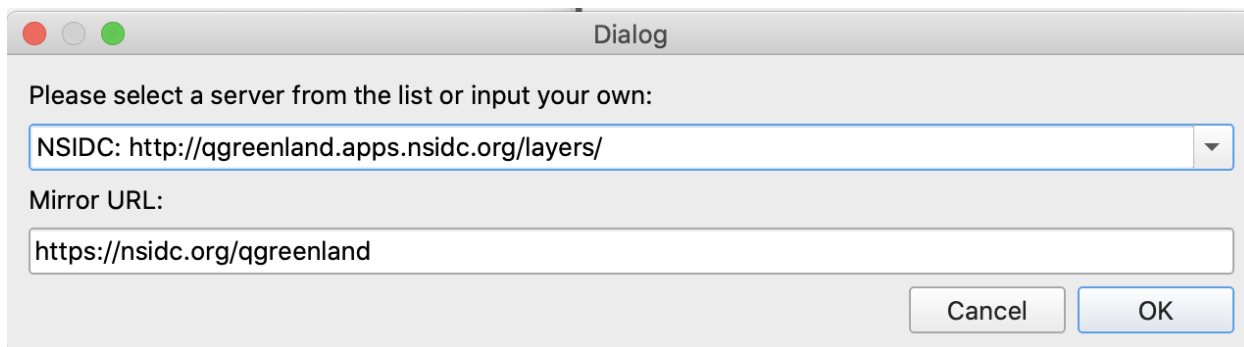
To get started with this guide, access the **Plugin** tab in the top *Menu Bar**, and select **Manage and Install Plugins**.



First, navigate to the **Settings** tab, and select the check box, **Show also experimental plugins**. Next, Navigate to the **All** tab in the plugin window, and search for QGreenland Custom. Click **Install plugin** and close.

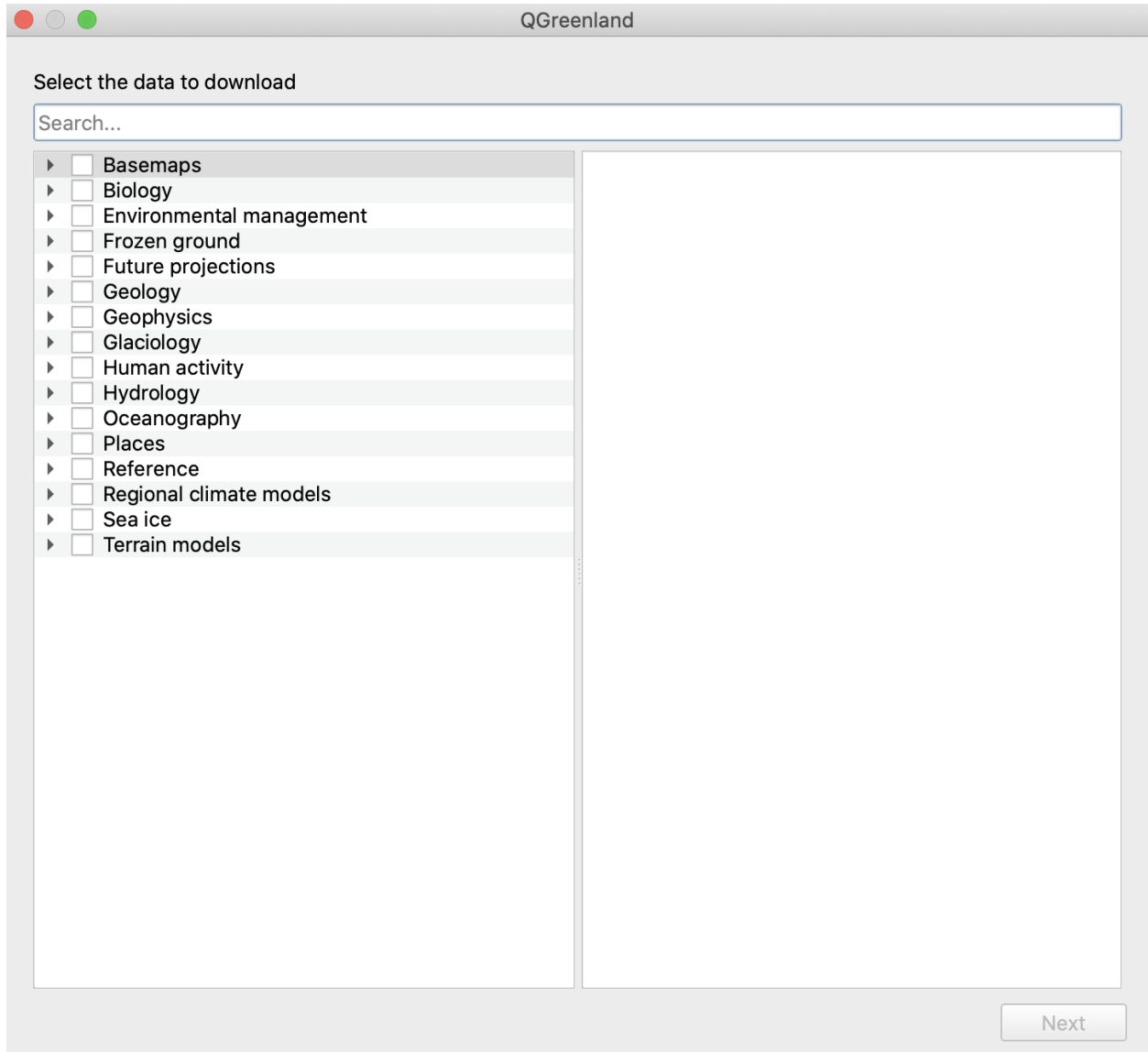
4.2.2 Configuring QGreenland Custom

To use QGreenland Custom, first navigate to **Web -> QGreenland -> Configure the Server**. Leave the default options and press OK.

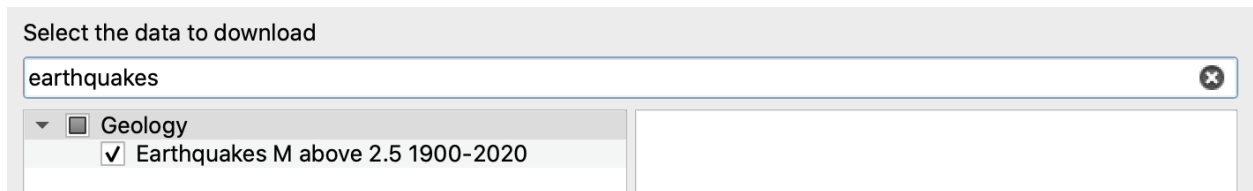


4.2.3 Searching for data layers

Now that you have the plugin installed and configured, you can begin downloading and using data in QGreenland Custom. To access the plugin, find the QGreenland logo in the **Menu Bar**. Clicking on this icon will open the plugin. Initially, you should see a list of layer directories.



Using the top search bar, type in a layer or keyword, such as ‘towns’ or ‘earthquakes’. Once you have located a layer of interest, click the checkbox and click **Next** at the bottom of the window.



4.2.4 Downloading the data

Next, you will need to choose a storage location to download the data. Select your location using the three dot icon, and once you have chosen a location, click the **Download** button. When the download is finished, you will see a blue bar at the bottom of the window showing your downloaded layer. Click **Next**.

Downloading earthquakes layer: 1 of 1 layers

126.14 MB have been downloaded

Note: Note that the beta version of the QGreenland Custom plugin currently functions separately from the QGreenland Core package in regards to storing and adding data, which means that the QGreenland Custom plugin does not access and read the QGreenland Core downloaded data. To add a data layer to a new project, that layer needs to be downloaded within QGreenland Custom to be accessible within it.

Next, you will be asked to select which downloaded layers you would like to add to your QGIS project. This will be a full list of downloaded layers, so there may be more than one layer listed if you have used the plugin more than once or selected to download multiple layers at once.

Please select layers on your computer to add to your project

- ▶ ☐ Basemaps
- ▶ ☐ Environmental management
- ▼ ☒ Geology
 - ☒ ⬇ Earthquakes M above 2.5 1900-2020
 - ☐ 🌐 Tectonic plate boundaries
- ▶ ☐ Places

Find your layer of interest and click the checkbox, then click **Add to project**. Once the layer has been added, you should see the new layer in the QGIS **Layer Panel** and in the **Map View**. Click **Close** to exit the plugin.