geehydro Documentation

Release 0.2.0

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CHAPTER 1

geehydro

Python package for mapping inundation dynamics using Google Earth Engine

- PyPI: https://pypi.python.org/pypi/geehydro
- Conda-forge: https://anaconda.org/conda-forge/geehydro
- Documentation: https://geehydro.readthedocs.io
- Free software: MIT license

1.1 Important Note

This package is no longer being actively maintained. Please use the geemap package instead.

1.2 Installation

The **geehydro** Python package is built upon the folium package and implements several methods for interacting with Earth Engine data layers, such as `Map.addLayer()`, `Map.setCenter()`, and `Map.centerObject()`.

To install **geehydro**, run this command in your terminal:

```
pip install geehydro
```

geehydro is also available on conda-forge. If you have Anaconda or Miniconda installed on your computer, you can create a conda Python environment to install geehydro:

```
conda create -n gee python
conda activate gee
conda install -c conda-forge geehydro
```

If you have installed **geehydro** before and want to upgrade to the latest version, you can run the following command in your terminal:

```
pip install -U geehydro
```

To install the development version from GitHub, run the following command in your terminal:

```
pip install git+https://github.com/giswqs/geehydro
```

CHAPTER 2

Installation

2.1 Stable release

To install geehydro, run this command in your terminal:

```
$ pip install geehydro
```

This is the preferred method to install geehydro, as it will always install the most recent stable release.

If you don't have pip installed, this Python installation guide can guide you through the process.

2.2 From sources

The sources for geehydro can be downloaded from the Github repo.

You can either clone the public repository:

```
$ git clone git://github.com/giswqs/geehydro
```

Or download the tarball:

```
$ curl -OJL https://github.com/giswqs/geehydro/tarball/master
```

Once you have a copy of the source, you can install it with:

```
$ python setup.py install
```

CHAPTER 3

Usage

To use geehydro in a project:

```
import geehydro
```

CHAPTER 4

Contributing

Contributions are welcome, and they are greatly appreciated! Every little bit helps, and credit will always be given.

You can contribute in many ways:

4.1 Types of Contributions

4.1.1 Report Bugs

Report bugs at https://github.com/giswqs/geehydro/issues.

If you are reporting a bug, please include:

- Your operating system name and version.
- Any details about your local setup that might be helpful in troubleshooting.
- Detailed steps to reproduce the bug.

4.1.2 Fix Bugs

Look through the GitHub issues for bugs. Anything tagged with "bug" and "help wanted" is open to whoever wants to implement it.

4.1.3 Implement Features

Look through the GitHub issues for features. Anything tagged with "enhancement" and "help wanted" is open to whoever wants to implement it.

4.1.4 Write Documentation

geehydro could always use more documentation, whether as part of the official geehydro docs, in docstrings, or even on the web in blog posts, articles, and such.

4.1.5 Submit Feedback

The best way to send feedback is to file an issue at https://github.com/giswqs/geehydro/issues.

If you are proposing a feature:

- Explain in detail how it would work.
- Keep the scope as narrow as possible, to make it easier to implement.
- Remember that this is a volunteer-driven project, and that contributions are welcome :)

4.2 Get Started!

Ready to contribute? Here's how to set up *geehydro* for local development.

1. Fork the *geehydro* repo on GitHub.
2. Clone your fork locally:

```
$ git clone git@github.com:your_name_here/geehydro.git
```

3. Install your local copy into a virtualenv. Assuming you have virtualenvwrapper installed, this is how you set up your fork for local development:

```
$ mkvirtualenv geehydro
$ cd geehydro/
$ python setup.py develop
```

4. Create a branch for local development:

```
$ git checkout -b name-of-your-bugfix-or-feature
```

   Now you can make your changes locally.

5. When you're done making changes, check that your changes pass flake8 and the tests, including testing other Python versions with tox:

```
$ flake8 geehydro tests
$ python setup.py test or pytest
$ tox
```

   To get flake8 and tox, just pip install them into your virtualenv.

6. Commit your changes and push your branch to GitHub:

```
$ git add .
$ git commit -m "Your detailed description of your changes."
$ git push origin name-of-your-bugfix-or-feature
```

7. Submit a pull request through the GitHub website.

4.3 Pull Request Guidelines

Before you submit a pull request, check that it meets these guidelines:

1. The pull request should include tests.
2. If the pull request adds functionality, the docs should be updated. Put your new functionality into a function with a docstring, and add the feature to the list in README.rst.
3. The pull request should work for Python 2.7, 3.5, 3.6, 3.7 and 3.8, and for PyPy. Check https://travis-ci.org/giswqs/geehydro/pull_requests and make sure that the tests pass for all supported Python versions.

4.4 Tips

To run a subset of tests:

```
$ python -m unittest tests.test_geehydro
```

4.5 Deploying

A reminder for the maintainers on how to deploy. Make sure all your changes are committed (including an entry in HISTORY.rst). Then run:

```
$ bump2version patch # possible: major / minor / patch
$ git push
$ git push --tags
```

Travis will then deploy to PyPI if tests pass.

CHAPTER 5

Credits

5.1 Development Lead

- Qiusheng Wu <giswqs@gmail.com>

5.2 Contributors

None yet. Why not be the first?

CHAPTER 6

History

6.1 0.2.0 (2020-03-21)

6.2 0.1.0 (2019-11-19)

- First release on PyPI.

CHAPTER 7

Indices and tables

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