ease$_{grid}$Documentation

TU Wien

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The Equal-Area Scalable Earth (EASE) Grid is a system of projections that is used by NASA and others for distribution of remote sensing data.

You can find some overview information at the NSIDC website. Unfortunately from the documentation it was not clear to me how the latitude, longitude values of certain EASE grid resolutions were calculated. So I wrote this package to find out.

CHAPTER 1

Citation

If you use the software in a publication then please cite it using the Zenodo DOI.

CHAPTER 2

Installation

This package should be installable through pip:

```
pip install ease_grid
```

CHAPTER 3

Supported EASE Grids

There are two versions of EASE grid systems. This package focuses on EASE-Grid 2.0 at the moment. The data we were reading is disseminated on the global EASE-Grid projection which is why this is the one that is currently supported.

Calculation of any global EASE2 grid should work. Compability with the tiling scheme of NASA is tested for the global 36km grid (`EASE2_M36KM`) and the global 25km grid (`EASE2_M25KM`). The tiling of the 25km grid is only the same as the NASA tiling if the `map_scale` parameter is given explicitely. This will also be the case for the subgrids of the 36km grid like `EASE2_M09KM` and `EASE2_M03KM`. The `map_scale` parameters used by NASA are available from the file `ease2_grid_info.pro` inside the `easeconv*.tgz` file at ftp://sidads.colorado.edu/pub/tools/easegrid/geolocation_tools/

CHAPTER 4

How to use

To get the coordinates of a EASE2 grid:

```
from ease_grid import EASE2_grid
egrid = EASE2_grid(36000)
assert egrid.shape == (406, 964)
# these two attributes contain the longitude and latitude coordinate dimension
egrid.londim
egrid.latdim
```

CHAPTER 5

Contribute

We are happy if you want to contribute. Please raise an issue explaining what is missing or if you find a bug. We will also gladly accept pull requests against our master branch for new features or bug fixes.

5.1 Development setup

For Development we recommend a `conda` environment

5.2 Guidelines

If you want to contribute please follow these steps:

- Fork the ease_grid repository to your account
- make a new feature branch from the ease_grid master branch
- Add your feature
- Please include tests for your contributions in one of the test directories. We use py.test so a simple function called test_my_feature is enough
- submit a pull request to our master branch

CHAPTER 6

Note

This project has been set up using PyScaffold 2.5.6. For details and usage information on PyScaffold see http://pyscaffold.readthedocs.org/.

CHAPTER 7

Contents

7.1 License

The MIT License (MIT)

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7.2 Developers

- Christoph Paulik <cpaulik@vandersat.com>

7.3 Changelog

7.3.1 Unreleased

-

7.3.2 Version 0.2

- Update readme
- Switch to pyscaffold 3

7.3.3 Version 0.1

- Initial version with support for Global EASE2 grids.
- The ad hoc calculation of some grids will not work out of the box and the map_scale will have to be given manually. The reason for this is that the official NASA grids use manual tweaks to define their grids.

7.4 ease_grid

7.4.1 ease_grid package

Submodules

ease_grid.ease2_grid module

Module contents

CHAPTER 8

Indices and tables

- genindex
- modindex
- search