
gep*onsset*
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KTH dESA

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CHAPTER 1

gep_onsset

gep_onsset is a modified version of OnSSET model, openly distributed as [gep-onsset](#). It was developed to support the functionalities of the [Global electrification Platform](#). The package is available at [pypi](#) but installation is also possible through [github](#).

Note: This user guide is currently under development. Fully-fledged documentation over the use of **gep_onsset** will become available later in 2019. In the meantime feel free to take sneak peek of similar supporting material [here](#).

2.1 Overview

2.1.1 Installation

Requirements

gep_onsset requires Python ≥ 3.5 with the following packages installed:

- `et-xmlfile` ≥ 1.0
- `jdcal` ≥ 1.4
- `numpy` ≥ 1.16
- `openpyxl` ≥ 2.6
- `pandas` ≥ 0.24
- `python-dateutil` ≥ 2.8
- `pytz` $= 2019.1$
- `six` ≥ 1.12
- `xlrd` ≥ 1.2

Install with pip

```
` python -m pip install -i https://test.pypi.org/simple/ gep-onsset `
```

Install from GitHub

Download or clone the repository and install the required packages (preferably in a virtual environment):

```
` git clone https://github.com/global-electrification-platform/gep-onsset.git`
```

```
` cd gep-onsset `
```

```
` pip install -r requirements.txt `
```

Note: The use of GEP generator requires also installation of

- IPython
- jupyter
- matplotlib
- seaborn

2.1.2 Supporting Methods & Tools

The Open Source Spatial Electrification Tool (OnSSET)

gep_onsset code is a modified version of the OnSSET model, accustomed to serve the Global Electrification platform. The methodology behind the model is available in a [peer-reviewed academic publication](#) available online since April 2019.

Q-GIS plug-in for developing population clusters

The identification of population settlements is the basis of the electrification analysis in many models. **gep_onsset** requires that population settlements are represented as vector clusters. KTH dESA has developed a methodology for generating such vector clusters based on open access data. The [output dataset](#) is openly accessible. Furthermore, an open source [Q-GIS plug-in](#).

Note: The above methodology requires processing in [Q-GIS](#) (an open-source GIS software).

Q-GIS plug-in for extracting GIS information to vector clusters

Geospatial electrification models are inextricably connected with GIS data. Extracting geospatial information to each vector cluster (see above), is therefore a necessary yet time consuming process. The extraction commands can be executed manually in [QGIS](#); however, the KTH team has developed a [Q-GIS plugin](#) in order to automate the process.

Note: In order to run successfully run **gep_onsset** the vector clusters need to be attributed using 26 GIS layers. An extensive list of those together with open access sources is available [here](#).

2.1.3 Training material

Training material related to the use of **gep_onsset** package are available on [Google's Open Online Education platform](#).

2.2 Contact

You can send inquiries and feedback at seap@desa.kth.se.

Review and/or add your questions on our [Forum](#).

Meet the team [here](#).

2.3 License

MIT License

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