gep$_{o}nsset$

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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.

CHAPTER 2

Contents

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 Electrificatio 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 succelfully 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