Atlite: A light-weight xarray-based Python library for processing weather data

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Atlite: xarray-based Python library for converting reanalysis weather data

Atlite is designed to be modular, so that it can work with any weather datasets; at the moment

- NCEP CFSV2 hourly historical reanalysis weather data (currently from 2011, but in principle since 1979).
- EURO-CORDEX Climate Change Projection three-hourly up until 2100

It processes the following weather data fields:

- Temperature
- Downward short-wave radiation
- Upward short-wave radiation
- Wind speeds
- Runoff
- Surface roughness

to generate for spatial distributions of assets:

- Wind power generation
- Solar PV power generation
- Solar thermal collector heat output
- Hydroelectric inflow (very simplified: height × runoff)
- Heating demand (based on the degree-day approximation)
https://github.com/FRESNA/openmod-atlite-de/blob/master/openmod-atlite-de.ipynb