CLASSICAL ATLAS (BETA)

A Python Package for Open-Access Geospatial Datasets

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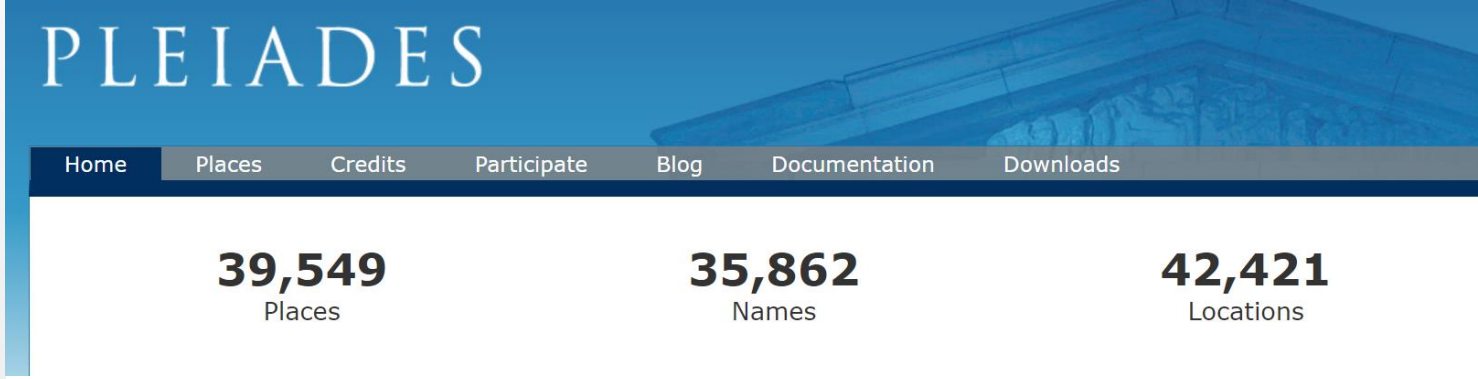
"Freeing datasets from their tools is another crucial step for re-use as well as sustainability."

Simon, R., Barker, E., de Soto, P., & Isaksen, L. (2014). "Pelagios." *Institute for the Study of the Ancient World (ISAW) Papers 7.27*.

PLEIADES

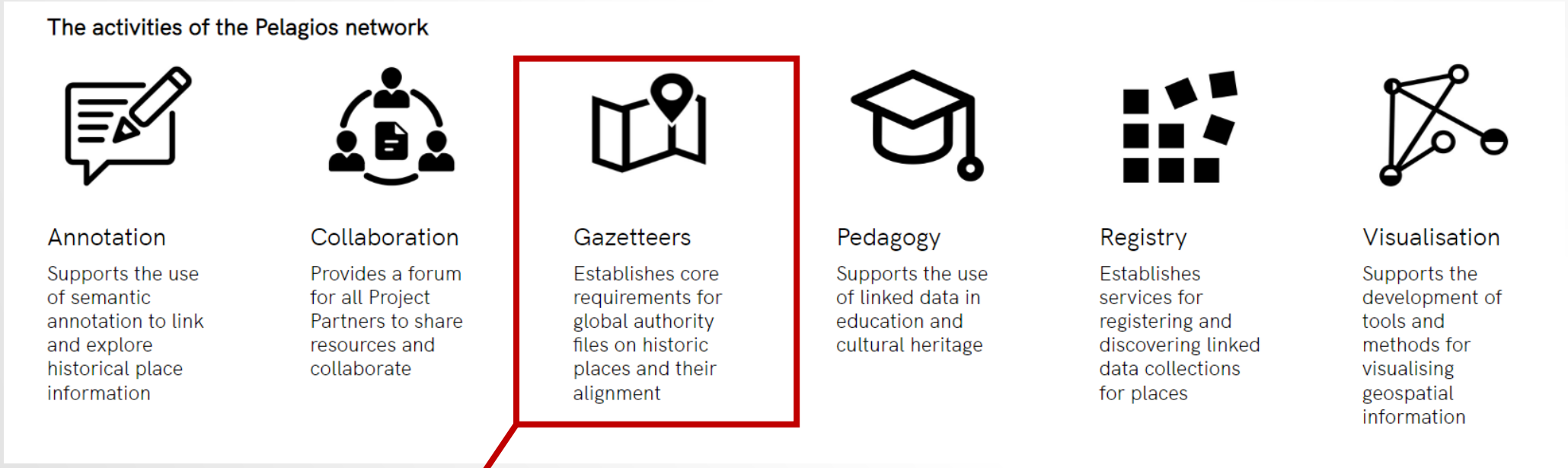
pleiades.stoa.org



- Community-built gazetteer with incredible amounts of data about places in the ancient world.
- Every **place** can be linked to one or more **locations** and **names**.
- Every **place** has a unique Pleiades ID.
- All data is available to download.

PELAGIOS

"PELAGIOS is an international consortium that is using Linked Open Data approach and the Pleiades gazetteer to join up a variety of online resources that refer to places in the ancient world."
– *pleiades.stoa.org/docs/partners/pelagios*



Pelagios uses Pleiades IDs to refer to historical places, allowing information from many distinct datasets to be linked.

ACCESSING PLEIADES & LINKED DATA

- Although most datasets are available in a variety of file formats, the most complete datasets are usually JSON files.
- Linked datasets often only include the relevant Pleiades ID in the downloadable JSON files.
- These JSON files are large, heavily nested, and often have inconsistent object typing.
- Parsing JSON files with these attributes requires considerable time and more specific technical ability.

CLASSICAL ATLAS: A PYTHON PACKAGE FOR LINKED PLEIADES DATASETS

The goal of Classical Atlas is to make datasets linked by a Pleiades ID…

- **Accessible for more researchers**: Lower both the **level of technical ability** needed to parse through this data and the **time required** to work with complicated JSON files.

- **Available as network structures:** Many researchers using these datasets are network scientists, and these datasets have clear and obvious **connections** within them.

- **Available as Python objects:** By building object classes to represent Pleiades types (places, locations, and names), **manipulating metadata** and **building data structures** becomes easier.

INTRODUCING CLASSICAL ATLAS

```
pip install classical-atlas
```

Like most Python packages, Classical Atlas can be installed using pip.

With Classical Atlas, you can turn the entire Pleiades dataset into a networkX graph with one command.

```
def get_pleiades_network_shortcut()
```

```
def add_topos_text_data_to_network(graph)
```

Easily incorporate linked datasets, like ToposText, to existing network structures.

WHAT IS CLASSICAL ATLAS DOING?

```
def get_pleiades_network_shortcut()
```

- (optional) downloads the most recent version of the Pleiades dataset, otherwise uses the stored project file.
- Opens, parses, and performs data validation on the contents of the Pleiades JSON file.
- Converts the contents of the JSON file into Python objects.
- Adds all Pleiades **places** as nodes in a graph.
- Creates a dictionary of all Pleiades place connections.
- Adds connections between places as edges in a graph, retaining connection type information as attributes.
- Returns a network graph object
- Allows for keyword searching through all text-based fields associated with a Pleiades place, location, or name.

```
def add_topos_text_data_to_network(graph)
```

- Classical Atlas includes a full copy of the Topos Text dataset of .htm files. These files have been mined in advance for all Pleiades IDs.
- Every place is ToposText has a ToposText ID, most of which can be matched to a Pleiades ID in a separate data file from ToposText.
- Matches ToposText IDs to Pleiades IDs.
- For every node (place) in the graph, adds as a node attribute a list of texts that reference that place.

OTHER AVAILABLE FUNCTIONS

- Access all Pleiades metadata for every place in a clean, consistent, and convenient manner.
- Convenience methods, e.g. find the earliest/latest date associated with any location for a particular place.
- View organized and formatted metadata, e.g. the list of locations associated with a place and their corresponding degrees of certainty.
- Access explanations for Pleiades place types, connection types, date ranges, etc.
- All metadata can be accessed as variables and printed to screen with helper functions.
- Search for keywords throughout a graph, including a place's description, title, and other text-based information.
- Get a list of places mentioned by a text, or a list of texts that mention a particular place.
- Comprehensive documentation available, as well as a quick start tutorial.
- …and more!

PROJECT DOCUMENTATION

Package `classical_atlas`

▶ EXPAND SOURCE CODE

Sub-modules

`classical_atlas.downloaders`

Contains methods to download and unzip JSON files.

`classical_atlas.location`

This module represents a Pleiades location ...

`classical_atlas.name`

This module represents a Name object ...

`classical_atlas.pleiad`

Module to represent a Pleiades place ...

`classical_atlas.pleiades_wrangler`

Classical Atlas : A Python Package for Open-Access Geospatial Datasets about the Ancient World
Developed by Annie K. Lamar (Stanford University | ...

`classical_atlas.topos_wrangler`

annieklamar.github.io/classical_atlas

CLASSICAL ATLAS: EXPANSION

- Allow for filtering of data prior to graph creation (e.g. create a graph only of locations that existed prior to 100 BCE)
- Include data from more linked datasets (taking suggestions!)
- Integrate with custom additions to networkX functions (e.g. network metrics)
- Allow for variety in graph structure (e.g. use a different attribute as an edge criteria)
- Make lesson plans that make use of Classical Atlas publically available (*email me if you want copies of any current lesson plans)
- Suggestions or ideas from other researchers are welcome!

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Slides: kalamari.blog/2022/08/31/connected_past

Project docs: **annieklamar.github.io/classical_atlas**

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slido.com

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