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# **pyxylookup Documentation**

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Python client for the OBIS xylookup API

Source on GitHub at [iobis/pyxylookup](https://github.com/iobis/pyxylookup)

Other OBIS xylookup clients:

- R: *obistools*, [iobis/obistools](https://github.com/iobis/obistools)



# CHAPTER 1

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## Getting help

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Having trouble? Or want to know how to get started?

- Looking for specific information? Try the [genindex](#)
- Report bugs with pyxylookup in our [issue tracker](#).





## CHAPTER 2

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### Getting started

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The main function in this package is the lookup function:

```
import pyxylookup as xy

xy.lookup([[120,0], [-170,1]])
```

*Usage* More examples

*LICENSE* The pyxylookup license.

### 2.1 Usage

The *lookup* function supports 3 different inputs for the points parameter. A nested list of longitude/latitude values, a 2D numpy array or a pandas DataFrame with 2 columns.

```
# nested list of longitude/latitude
import pyxylookup as xy
xy.lookup([[120,0], [-170,1]])

# numpy 2d array
import numpy as np
points = np.asarray([[120,0], [-170,1]])
xy.lookup(points)

## pandas DataFrame
import pandas as pd
points = pd.DataFrame({'x': [120,-170], 'y': [0,1]})
## retrieve results as a pandas DataFrame
xy.lookup(points, asdataframe = True)
```

Additional parameters allow you to specify the data returned by the service:

```
import pyxylookup as xy
points = [[120,0], [-170,1]]
# only distance to the shore
xy.lookup(points, shoredistance=True, grids=False, areas=False, asdataframe=False)
# only grids (bathymetry, sea surface temperature, ...)
xy.lookup(points, shoredistance=False, grids=True, areas=False, asdataframe=False)
# all data
xy.lookup(points, shoredistance=True, grids=True, areas=True, asdataframe=False)
```

For those using the pandas package, a pandas.DataFrame can be used for the points parameter and can be returned by the *lookup* function:

```
import pandas as pd
points = pd.DataFrame({'x': [120,-170], 'y': [0,1]})
## retrieve results as a pandas DataFrame
xy.lookup(points, shoredistance=True, grids=True, areas=True, asdataframe = True)
```

Please report bugs, questions and suggestions in our [issue tracker](#).

## 2.2 LICENSE

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