

OOI API Cheat Sheet

The following list includes some of the most useful API endpoints available for the OOI machine-to-machine interface. All of these requests will require your OOI API username and token, which you can find on your profile page in the OOI Data Porta.

Quick Start

To play around with the OOI API, we recommend using Insomnia, available at <http://insomnia.rest>

You can also use Python...

```
import requests
requests.get(URL, auth=(API_USERNAME,
API_TOKEN))
```

Or even Matlab...

```
urlread(URL, 'Authentication', 'Basic',
'Username', API_USERNAME, 'Password',
API_TOKEN);
```

The following examples use placeholders for the reference designator codes. For example, to specify the Global Papa Flanking Mooring B CTD at 30m, you can use:

```
{site}/{node}/{sensor}
GP03FLMB/RIM01/02-CTDMOG060
```

All of the following URLs should be prepended with <https://ooinet.oceanobservatories.org/api/m2m/>

Sensor Information

/12576/sensor/inv

Returns a list of all available sites in the system.

/12576/sensor/inv/{site}

Returns a list of nodes for a given site.

/12576/sensor/inv/{site}/{node}

Returns a list of sensors (instruments) for a given site and node.

/12576/sensor/inv/{site}/{node}/{sensor}

Returns a list of instrument methods for a given sensor. This will generally be telemetered, streamed and recovered.

/12576/sensor/inv/{site}/{node}/{sensor}/metadata

Returns a metadata dictionary with the parameters and times available for a sensor. You can specify /times or /parameters to return just that element. Note, that times outputted covers the full range of the data available, first point to last point. There may be gaps.

/12576/sensor/inv/{site}/{node}/{sensor}/{method}

Returns a list of available streams for the specified instrument and method.

Requesting Data

Synchronous Requests – Returned as JSON

```
/12576/sensor/inv/{site}/{node}/{sensor}/{method}/{stream}?beginDT=2017-10-01T00:00:00.000Z&endDT=2017-11-01T00:00:00.000Z&limit=1000&parameters=7,13
```

- Parameters (optional) – The numeric parameter IDs for just those parameters that should be included in the output (default is all).
- Limit (required) – Specifies the approximate number of data points that will be returned within the given time range. The maximum limit is 20,000.

Asynchronous Requests – Returned as NetCDF or CSV

```
/12576/sensor/inv/{site}/{node}/{sensor}/{method}/{stream}?beginDT=2017-10-01T00:00:00.000Z&endDT=2017-11-01T00:00:00.000Z&format=application/netcdf&parameters=7,13&include_provenance=true&include_annotations=true
```

- Begin/End datetimes are optional but highly recommended. If left out, all data in the system will be included.
- Removing the limit parameter will initiate an asynchronous request, defaulting to NetCDF output.
- format – Specifies whether the output should be NetCDF, CSV or JSON.
- include_provenance – Denotes whether to include a separate provenance file in the output (default is false)
- include_annotations – Denotes whether to include a separate annotations file in the output (default is false)

Preload Information

/12575/parameter/100

Retrieve information for a parameter given its ID.

/12575/stream/byname/cg_cpm_eng_cpm

Retrieve information for a stream given its name.

Asset Information

/12587/asset?uid=ATAPL-65310-010-0003

Get asset information for a given unique asset identifier (UID).

/12587/asset/10

Get asset information for a given asset identifier (assetId).

/12587/asset?serialnumber=SN0003

Get asset information for a given serial number.

Deployment Information

/12587/events/deployment/inv/{site}/{node}/{sensor}

Returns a list of unique deployment numbers for the specified instrument.

/12587/events/deployment/inv/{site}/{node}/{sensor}/{deployment_number}

Returns asset and calibration information for the specified sensor and deployment.

/12587/asset/deployments/ATAPL-65244-060-0028?editphase=ALL

Returns asset and calibration information for all deployments for the specified unique asset identifier (UID).

Calibration Information

/12587/asset/cal?uid=CGINS-CTDMOH-13655

Returns all calibration information for a given unique asset identifier (UID).

/12587/asset/cal?assetid=344

Returns all calibration information for a given asset identifier (assetId).

/12587/asset/cal?refdes=GS03FLMA-RIM01-02-CTDMOH051&beginDT=2016-01-

17T19:42:00.000Z&endDT=2016-02-18T00:00:00.000Z

Returns a list of deployments with calibration information for the given reference designator, using begin and end times to limit response output. Keep the time range limited (e.g. 1 day) to limit response to a single deployment with calibration information for just that deployment.

Annotations

To retrieve all annotations for a specific time frame and for a known reference designator, stream and method, use the following format.

/12580/anno/find?beginDT=1374274800000&endDT=1481546694325&refdes=GP05MOAS-GL365-01-FLORDM000&method=telemetered&stream=flord_m_glider_instrument

- beginDT is required, but can be specified as 0.
- The begin and end times must be specified to be in Unix Epoch micro-seconds. In python you can use `int(datetime.date(2018,1,1).strftime('%s'))*1000`
- refdes (required) – Specify some or all of “{site}-{node}-{sensor}” to return annotations for the given site, node or sensor.
- method (optional) – Only return annotations for the given method
- stream (option) – Only return annotations for a given stream name

Vocabulary

12586/vocab/inv/{site}/{node}/{sensor}

Returns the vocabulary record for a given sensor.

For more information on using the OOI API, visit <http://oceanobservatories.org/ooi-m2m-interface/>