

properties Discovery Service

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Description

The API **properties** service returns all properties defined in Oceans 2.0 that meet a filter criteria.

Properties are observable phenomena (aka, variables) and are the common names given to sensor types (i.e., oxygen, pressure, temperature, etc)

The primary purpose of this service, is to find the available properties of the data you want to access; the service provides the `propertyCode` that you can use to request a data product via the [dataProductDelivery](#) web service.

URL

```
https://data.oceannetworks.ca/api/properties
```

Method	Description	Example
get	Retrieve a list Property codes and descriptions	method=get

get

The get method retrieves a list of property codes and descriptions

Parameters

Parameter	Type	Description	Example
Required			
token	string	All Web Services require a token. Once logged in at https://data.oceannetworks.ca/login , your token can be retrieved or generated at https://data.oceannetworks.ca/Profile . Click on the "Web Services" tab, then click "Generate Token".	token=YOUR_TOKEN_HERE
Optional			
propertyCode	string	Return a single Property matching a specific Property Code <ul style="list-style-type: none">• Property Code must be valid and match exactly, including case.• Run the service without this parameter to get a list of all devices.	propertyCode=beamposition
propertyName	string	Return all Properties where the Property Name contains a keyword <ul style="list-style-type: none">• Filter is not case sensitive, treating temp, Temp and TEMP as the same word.• Filter will find partial words. The filter propertyName=temp returns "Air Temperature", "Differential Temperature", "Internal Temperature", "Sea Ice Temperature", "Sea Water Temperature" and more.	propertyName=Temp
description	string	Return all Properties where Description contains a keyword <ul style="list-style-type: none">• Filter is not case sensitive and will find partial words. (See above)	description=water
locationCode	string	Return all Properties available at a specific Location <ul style="list-style-type: none">• Location Code must be valid and match exactly, including case.• Specific Location Codes can be obtained using the locations service.	locationCode=BACAX

deviceCategoryCode	string	Return all Properties that have devices belonging to a specific Device Category <ul style="list-style-type: none"> • Device Category Code must be valid and match exactly, including case • Specific Device Category Codes can be obtained using the deviceCategories service 	deviceCategoryCode=CTD
deviceCode	string	Return all Properties associated with or measured by a specific Device . <ul style="list-style-type: none"> • Device Code must be valid and match exactly, including case • Specific Device Codes can be obtained from the devices service 	deviceCode=AandOpt0581

Response

Example for request: [https://data.oceannetworks.ca/api/properties?method=get&token=\[YOUR_TOKEN_HERE\]&propertyCode=seawatertemperature](https://data.oceannetworks.ca/api/properties?method=get&token=[YOUR_TOKEN_HERE]&propertyCode=seawatertemperature)

Success (HTTP 200)

Returns a list of properties with values for Description, Property Code, Property Name, Units of Measure (UOM) and controlled vocabulary terms, ordered alphabetically by Property Code

```
[
  {
    "description": "Time: Gregorian days since 19700101T000000Z",
    "propertyCode": "gregoriantime",
    "propertyName": "Gregorian Time",
    "uom": "Gregorian days since 19700101T000000Z"
  },
  {
    "description": "Magnetic Heading",
    "propertyCode": "magneticheading",
    "propertyName": "Magnetic Heading",
    "uom": "deg",
    "cvTerm": [
      { "uom": [
          { "vocabulary": "BODC data storage units", "uri": "http://vocab.nerc.ac.uk/collection/P06/current/UAAA/" } ] } ]
  },
  {
    "description": "Pitch",
    "propertyCode": "pitch",
    "propertyName": "Pitch",
    "uom": "deg",
    "cvTerm": [
      { "uom": [
          { "vocabulary": "BODC data storage units", "uri": "http://vocab.nerc.ac.uk/collection/P06/current/UAAA/" } ] } ]
  },
  {
    "description": "Pressure",
    "propertyCode": "pressure",
    "propertyName": "Pressure",
    "uom": "decibar",
    "cvTerm": [
      { "uom": [
          { "vocabulary": "BODC data storage units", "uri": "http://vocab.nerc.ac.uk/collection/P06/current/UPDB/" } ] } ]
  },
  {
    "description": "Roll",
    "propertyCode": "roll",
    "propertyName": "Roll",
    "uom": "deg"
  },
  {
    "description": "Temperature: sea water",
    "propertyCode": "seawatertemperature",
    "propertyName": "Sea Water Temperature",
    "uom": "C"
  },
  {
    "description": "Sound Speed: sound velocity sensor",
    "propertyCode": "soundspeed",
    "propertyName": "Sound Speed",
    "uom": "m/s"
  },
  {
    "description": "Voltage: voltage sensor",
    "propertyCode": "voltage",
    "propertyName": "Voltage",
    "uom": "V",
    "cvTerm": [
      { "uom": [
          { "vocabulary": "BODC data storage units", "uri": "http://vocab.nerc.ac.uk/collection/P06/current/UULT/" } ] } ]
  }
]
```

Property	Type	Description	Example
description	string	Returns a description of the property.	"description": "Pressure"
hasDeviceData	string	Returns whether, among all properties that fit the query, any of them have a NEPTUNE-searchable sensor, device, and site	"hasDeviceData": "true"
hasPropertyData	string	Returns whether, among all properties that fit the query, any of them have a NEPTUNE-searchable primary sensor and device	"hasPropertyData": "false"
propertyCode	string	Returns the property code.	"propertyCode": "pressure"
propertyName	string	Returns the property name.	"propertyName": "Pressure"
uom	string	Returns the Unit Of Measure that the property measurements are in.	"uom": "decibar"

cvTerm	List	<p>Returns a list of controlled vocabulary terms associated with the Property and the Unit of Measure associated with the Property if one exists. The controlled vocabulary terms associated with the Property are included in the "property" list and the terms associated with the Unit of Measure are included in the "uom" list.</p> <p>Each vocabulary term is composed of:</p> <ol style="list-style-type: none"> 1. Key : "vocabulary" Value : "title of the vocabulary term belongs to". 2. Key : "uri" Value : "URL of the vocabulary term". 	<pre>"cvTerm": [{"property": [{"vocabulary": "NERC-??", "uri": "http://vocab/..."}]}, "uom": [{"vocabulary": "BODC data storage units", "uri": "http://vocab.nerc.ac.uk/collection/P06/current/UJVL/" }]}]</pre>
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Bad Request (HTTP 400)

errorCode	errorMessage	Description
127	Invalid parameter value	<p>Occurs when an invalid code is used in the filter. Most filters require an exact match, otherwise this error will occur.</p> <ul style="list-style-type: none"> • The name of the filter parameter is included in the "parameter" property
129	Invalid parameter name	<p>Occurs when a filter parameter is in the query but is not supported.</p> <ul style="list-style-type: none"> • The name of the filter parameter is included in the "parameter" property

URL Examples

- Return a list of **All Properties** (no filters)

[https://data.oceannetworks.ca/api/properties?method=get&token=\[YOUR_TOKEN_HERE\]](https://data.oceannetworks.ca/api/properties?method=get&token=[YOUR_TOKEN_HERE])

- Return the Property with the **Property Code** 'seawatertemperature'

[https://data.oceannetworks.ca/api/properties?method=get&token=\[YOUR_TOKEN_HERE\]&propertyCode=seawatertemperature](https://data.oceannetworks.ca/api/properties?method=get&token=[YOUR_TOKEN_HERE]&propertyCode=seawatertemperature)

- Return a list of all Properties with a **Name** containing 'pressure'

[https://data.oceannetworks.ca/api/properties?method=get&token=\[YOUR_TOKEN_HERE\]&propertyName=pressure](https://data.oceannetworks.ca/api/properties?method=get&token=[YOUR_TOKEN_HERE]&propertyName=pressure)

- Return a list of all Properties available at a location with the **Location Code** 'BACAX'

[https://data.oceannetworks.ca/api/properties?method=get&token=\[YOUR_TOKEN_HERE\]&locationCode=BACAX](https://data.oceannetworks.ca/api/properties?method=get&token=[YOUR_TOKEN_HERE]&locationCode=BACAX)

- Return a list of all Properties available for a device with the **Device Code** 'NORTEKAQDPRO8398'

[https://data.oceannetworks.ca/api/properties?method=get&token=\[YOUR_TOKEN_HERE\]&deviceCode=NORTEKAQDPRO8398](https://data.oceannetworks.ca/api/properties?method=get&token=[YOUR_TOKEN_HERE]&deviceCode=NORTEKAQDPRO8398)

- Return a list of all Properties that available for instruments with the **Device Category** 'ADCP2MHZ'

[https://data.oceannetworks.ca/api/properties?method=get&token=\[YOUR_TOKEN_HERE\]&deviceCategoryCode=ADCP2MHZ](https://data.oceannetworks.ca/api/properties?method=get&token=[YOUR_TOKEN_HERE]&deviceCategoryCode=ADCP2MHZ)

API Proxy

The <https://data.oceannetworks.ca/apiproxy/properties> URL link in the above examples can be used in a browser for sharing or testing purposes; however, it can not be accessed from code. Calls to the apiproxy server are redirected to a login screen to capture your user id. Accessing the apiproxy URL from code will return html in the payload, which may cause errors or unexpected behaviour. In order to use the properties endpoint from code, you must use the <https://data.oceannetworks.ca/api/properties> url along with a valid token.

Code Examples

Title	Creator	Modified
Python Client Library	Ryan Ross	16-Aug-19
MATLAB Client Library	Ryan Ross	26-Apr-19
Discover Properties	Ryan Ross	26-Sep-17



Please report all issues with the web services, documentation, samples and client libraries to the [Oceans 2.0 Help Centre](#)