

# OpenAPI

*Disclaimer: page under development*

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## How to:

<https://data.oceannetworks.ca/OpenAPI>

- Uses the Oceans 3.0 API web services described here: [Oceans 3.0 API Home](#)
- See below tree structure:
- Each tree item is expandable: displays parameter fields, some default/examples, links to documentation, response field and URL links


Oceans 3.0 Public API	
▼ ▲	OPERATIONS
Discover Locations	>
Discover Device Categories	>
Discover Deployments	>
Discover Properties	>
Discover Devices	>
Discover Data Products	>
Scalar Data	>
Raw Data	>
Archive File	>
Data Product Delivery	>

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## Discovery Services: Locations

- Just use the default settings and hit "Try"

**QUERY-STRING PARAMETERS**

locationCode string	FGPD	 <b>Default parameter</b>
Return a single Location matching a specific location code. Location Code must be valid and match exactly, including case. Specific Location Codes can be found by simply running the service without this parameter to get a list of all locations. <b>Examples:</b> FGPD		
deviceCategoryCode string		
Return all Locations that have devices with a specific Device Category Code. DeviceCategoryCodes can be found through the deviceCategory discovery service, see <a href="https://wiki.oceannetworks.ca/display/O2A/deviceCategories+Discovery+Service">https://wiki.oceannetworks.ca/display/O2A/deviceCategories+Discovery+Service</a> for more information		
propertyCode string		
Return all Locations that have devices with a sensor with a specific Property Code. Specific Property Codes can be obtained using the properties service, see <a href="https://wiki.oceannetworks.ca/display/O2A/properties+Discovery+Service">https://wiki.oceannetworks.ca/display/O2A/properties+Discovery+Service</a> for more information		
dataProductCode string		
Return all of the Locations that support a specific Data Product Code. DataProductCodes can be found through the dataProduct discovery service, see <a href="https://wiki.oceannetworks.ca/display/O2A/dataProducts+Discovery+Service">https://wiki.oceannetworks.ca/display/O2A/dataProducts+Discovery+Service</a> for more information		
dateFrom date-time		<b>Pattern:</b> ^\d{4}-\d{2}-\d{2}T\d{2}:\d{2}:\d{3}Z\$
Return all of the Locations that have a Deployment Beginning on or after a specific date/time. Dates are formatted yyyy-MM-dd'THH:mm:ss.SSS'Z'		
dateTo date-time		<b>Pattern:</b> ^\d{4}-\d{2}-\d{2}T\d{2}:\d{2}:\d{3}Z\$
Return all of the Locations that have a Deployment Ending before a specific date/time. Dates are formatted yyyy-MM-dd'THH:mm:ss.SSS'Z'		
locationName string		
Return all of the Locations where the Location Name contains a keyword.		
deviceCode string		
Return all of the Locations where a specific device with that Device Code has been deployed. Devices can be found through the device discovery service, see <a href="https://wiki.oceannetworks.ca/display/O2A/devices+Discovery+Service">https://wiki.oceannetworks.ca/display/O2A/devices+Discovery+Service</a> for more information		
includeChildren boolean		
Return all Devices that are deployed at a specific Location and sub-tree Locations.		

API Server <https://data.oceannetworks.ca/api>  
Authentication API Key (token) in query

[FILL EXAMPLE](#) [CLEAR](#) [TRY](#)

- results will be returned as following options:
  - JSON formatted response to copy and paste
  - CURL - URL response to use in script or browser to query programmatically

Response Status: OK:200  
Took 779 milliseconds

[CLEAR RESPONSE](#)

**RESPONSE**   [RESPONSE HEADERS](#)   [CURL](#)

```

"deployments": 47,
"locationName": "Folger Deep",
"depth": 96.515085,
"bbox": {
  "maxDepth": 105,
  "maxLat": 48.814029,
  "maxLon": -125.274604,
  "minDepth": 94,
  "minLat": 48.813667,
  "minLon": -125.28195
},
"description": " Folger Deep is a deep location in Folger Passage near a pillar-like seamount, where productivity and marine mammals are observ",
"hasDeviceData": "true",
"lon": -125.280577,
"locationCode": "FGPD",
"hasPropertyData": "false",
  
```

[Copy](#)

## Discovery Services: Data Products

- <https://data.oceannetworks.ca/OpenAPI-get-/dataProducts>
- Discover all data products for a CTD (Conductivity-Temperature-Depth) device at Barkley Canyon Upper slope (locationCode: NCBC)

GET Returns a location tree

Discover Device Categories

GET Returns a list of device categories

Discover Deployments

GET Returns a list of device deployments

Discover Properties

GET Returns a list of properties

Discover Devices

GET Returns a list of devices

Discover Data Products

GET Returns a list of data products

Scalar Data

GET Returns data from a specific location and device category

GET Returns data from a specific device

Raw Data

GET Returns data from a specific location and device category

GET Returns data from a specific device

Archive File

QUERY-STRING PARAMETERS

dataProductCode

string

Return all Data Product Extensions matching a specific Data Product Code.  
Examples: [HSD](#)

extension

string

Return all Data Products that have a specific File Extension.  
Examples: [png](#)

dataProductName

string

Return all Data Products where the Data Product Name contains a keyword.

propertyCode

string

Return all Data Products available for a specific Property. Specific Property Codes can be obtained using the properties service, see <https://wiki.oceannetworks.ca/display/O2A/properties+Discovery+Service> for more information

locationCode

string

NCBC

Return all Data Products available for a specific Location. Location Code must be valid and match exactly, including case. Specific Location Codes can be found by simply running the service without this parameter to get a list of all locations.

deviceCategoryCode

string

CTD

Return all Data Products available for devices belonging to a specific Device Category. DeviceCategoryCodes can be found through the deviceCategory discovery service, see <https://wiki.oceannetworks.ca/display/O2A/deviceCategories+Discovery+Service> for more information

deviceCode

string

Return all Data Products available for a specific Device. Specific Device Codes can be obtained using the Devices service, see <https://wiki.oceannetworks.ca/display/O2A/devices+Discovery+Service> for more information

API Server <https://data.oceannetworks.ca/api>

Authentication [API Key \(token\)](#) [In query](#)

FILL EXAMPLE

CLEAR

TRY

- The response field can be adjusted (expand/compress with corners; scroll within the response field) to view all data products and their available options.

GET Returns a location tree

Discover Device Categories

GET Returns a list of device categories

Discover Deployments

GET Returns a list of device deployments

Discover Properties

GET Returns a list of properties

Discover Devices

GET Returns a list of devices

Discover Data Products

GET Returns a list of data products

Scalar Data

GET Returns data from a specific location and device category

GET Returns data from a specific device

Raw Data

GET Returns data from a specific location and device category

GET Returns data from a specific device

Archive File

RESPONSE

RESPONSE HEADERS

CURL

[

{

"dataProductCode": "LF",

"dataProductName": "Log File",

"dataProductOptions": [

{

"allowableRange": null,

"allowableValues": [

"0",

"1"

],

"documentation": [

"https://wiki.oceannetworks.ca/display/DP/Data+Gaps"

],

"option": "dpo\_dataGaps",

"suboptions": null

},

{

"allowableRange": null,

"allowableValues": [

"0",

"1"

],

"documentation": [

"https://wiki.oceannetworks.ca/display/DP/Mobile+Plot+Options"

],

"option": "dpo\_qualityControl",

"suboptions": null

},

],

}

Copy

## Data Delivery Services

### Request data product (LF - logfile; extension: txt) from CTD at NCBC

- <https://data.oceannetworks.ca/OpenAPI#get-/dataProductDelivery-request>

GET Returns a list of devices

Discover Data Products

GET Returns a list of data products

Scalar Data

GET Returns data from a specific location and device category

GET Returns data from a specific device

Raw Data

GET Returns data from a specific location and device category

GET Returns data from a specific device

Archive File

GET Returns archive files from a specific location and device category

GET Returns archive files from a specific device

GET Download an archive file

Data Product Delivery

GET Request a data product

GET Check status of a requested data product

GET Run a requested data product

GET Download a data product

REQUEST

QUERY-STRING PARAMETERS

\* dataProductCode

string

LF

Request a Data Product for a specific Data Product Code. DataProductCodes can be found through the dataProduct discovery service, see <https://wiki.oceannetworks.ca/display/O2A/dataProducts+Discovery+Service> for more information.  
Examples: TSSD

\* extension

string

txt

Request a Data Product for a specific File Format Extension. Extensions available for specific Data Product Codes can be obtained programmatically from <https://wiki.oceannetworks.ca/display/O2A/dataProducts+Discovery+Service> or interactively from <https://wiki.oceannetworks.ca/display/O2A/Available+Data+Products>.  
Examples: caw

\* dateFrom

string

2023-05-28T00:00:00.000

Pattern: ^d(4)-d(2)-d(2)T\d(2)-d(2)-d(2)T\d(3)Z\$

Return files that have a timestamp on or after a specific date/time. Dates are formatted yyyy-MM-ddTHH:mm:ss.SSS'Z'

Examples: 2019-11-23T00:00:00.000Z

\* dateTo

string

2023-05-28T00:00:10.000

Pattern: ^d(4)-d(2)-d(2)T\d(2)-d(2)-d(2)T\d(3)Z\$

Return files that have a timestamp before a specific date/time. Dates are formatted yyyy-MM-ddTHH:mm:ss.SSS'Z'

Examples: 2019-11-24T00:00:00.000Z

locationCode

string

NCBC

Request a Data Product from a specific Location. Location Code must be valid and match exactly, including case. Specific Location Codes can be obtained programmatically from <https://wiki.oceannetworks.ca/display/O2A/Available+Properties> or interactively from <https://wiki.oceannetworks.ca/display/O2A/Available+Properties>

+ FILTER DPO

+ DISPLAY ALL DPO

- Once all required parameters are filled in (\* indicated) data product options can be filtered (see arrow)
- The return field indicates the approx. time for the request to run and the file size to be expected from this data request
- The dpRequestId is utilized in the next step

GET Returns a list of devices

Discover Data Products

GET Returns a list of data products

Scalar Data

GET Returns data from a specific location and device category

GET Returns data from a specific device

Raw Data

GET Returns data from a specific location and device category

GET Returns data from a specific device

Archive File

GET Returns archive files from a specific location and device category

GET Returns archive files from a specific device

GET Download an archive file

Data Product Delivery

GET Request a data product

GET Check status of a requested data product

GET Run a requested data product

GET Download a data product

API Server

<https://data.oceannetworks.ca/api>

Authentication

API Key (token) in query

FILL EXAMPLE

CLEAR

TRY

Response Status: OK:200

Took: 646 milliseconds

CLEAR RESPONSE

RESPONSE

RESPONSE HEADERS

CURL

{

"disclaimer": "Software Developers are implementing estimates of processing time"

"dpRequestId": "14497987",

"estimatedFileSize": "16 MB",

"estimatedProcessingTime": "5 s"

}

## Run data product request(LF - logfile; extension: txt) from CTD at NCBC

- <https://data.oceannetworks.ca/OpenAPI#get-dataProductDelivery-run>
- The page prefills the dpRequestId from your previous step.
- You can re-run any requests multiple times by filling in the appropriate dpRequestId.
- Notes:
  - the dpRunId is utilized in next step
  - the status indicates the process state: queued, completed (hit **Try** to update status)
  - fileCount: indicates how many files to be downloaded

GET Returns a list of properties

Discover Devices

GET Returns a list of devices

Discover Data Products

GET Returns a list of data products

Scalar Data

GET Returns data from a specific location and device category

GET Returns data from a specific device

Raw Data

GET Returns data from a specific location and device category

GET Returns data from a specific device

Archive File

GET Returns archive files from a specific location and device category

GET Returns archive files from a specific device

GET Download an archive file

Data Product Delivery

GET Request a data product

GET Check status of a requested data

DATA PRODUCT DELIVERY

API Key (token)

Run a requested data product

GET /dataProductDelivery-run

The run method runs the data product created by a call to the request method. Pressing the try button again after the run has started will return the runs status.

REQUEST

QUERY-STRING PARAMETERS

dpRequestId integer 14497987

A dpRequestId returned from the request service. This field will be auto populated when you press try in the request service

API Server https://data.oceannetworks.ca/api

Authentication API Key (token) in query

FILL EXAMPLE CLEAR TRY

Response Status: Accepted:202

Took 1051 milliseconds

CLEAR RESPONSE

RESPONSE RESPONSE HEADERS CURL

[
{
"dpRunId": 32581245,
"queuePosition": 1,
"fileCount": 0,
"status": "queued"
}
]

Copy

## Download data product

- The page prefills the dpRunId from your previous step.
- The index indicates the file number to download: 1 to the number of result files. If index is string **meta**, metadata file will be downloaded.
- The data product will be automatically downloaded from your browser. It can take a while for the download to complete – be patient.

GET Returns a list of properties

Discover Devices

GET Returns a list of devices

Discover Data Products

GET Returns a list of data products

Scalar Data

GET Returns data from a specific location and device category

GET Returns data from a specific device

Raw Data

GET Returns data from a specific location and device category

GET Returns data from a specific device

Archive File

GET Returns archive files from a specific location and device category

GET Returns archive files from a specific device

GET Download an archive file

Data Product Delivery

GET Request a data product

GET Check status of a requested data

DATA PRODUCT DELIVERY

API Key (token)

Download a data product

GET /dataProductDelivery-download

The download method downloads a file for the specified data product run request. The file to download is specified by index, with the first valid index being 1 and the last being the total number of files generated by the request. If the data product delivery process has not completed you can periodically press the try button to get current status

REQUEST

QUERY-STRING PARAMETERS

dpRunId integer 32581245

The dpRunId returned from the run service. This field will be auto populated when you press try in the run service

index string 1

The index of the file to be downloaded, valid values are 1 to the number of result files. If the index is greater than the number of result files a response code of 204 is returned, indicating no file at that index. If index is string meta, metadata file will be downloaded

API Server https://data.oceannetworks.ca/api

Authentication API Key (token) in query

FILL EXAMPLE CLEAR TRY

Response Status: OK:200

Took 96 milliseconds

CLEAR RESPONSE

RESPONSE RESPONSE HEADERS CURL

RESPONSE

200

Downloads the file determined by the index query parameter

EXAMPLE SCHEMA

application/json

## How to get from Oceans3.0 Plotting utility to the scalar data

See this video clip for some guidance: [https://drive.google.com/drive/folders/1S7-jFsQv3shwDvi9zZ5YdL2cIWtYYwIS?usp=drive\\_link](https://drive.google.com/drive/folders/1S7-jFsQv3shwDvi9zZ5YdL2cIWtYYwIS?usp=drive_link)