



# ONC Data Policy

Scope of Policy:	All ONC
Area:	Corporate Services
Contact:	ONC Administration team
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## Data Policy

Ocean Networks Canada (ONC) follows the federal government of Canada policies on open data for all data owned by ONC.

The Canadian government policy defines open data as structured data that are “machine-readable, freely shared, used and built on without restrictions.”

All ONC-owned data are available free of charge through web services, internet downloads, special requests, and through other internet and user-based access tools. These data are provided under a [Creative Commons CC-BY 4.0 License](#), open and free for anyone to use. Data owned or co-owned by a data partner may be subject to alternative licensing such as a Creative Commons CC-BY-NC license, depending on the established partner agreement with ONC.

A limited amount of ONC-hosted data are not readily accessible. Request for these data may require that the user pay an administrative fee, which would cover the costs of their delivery to the user.

ONC-owned data can be re-used and redistributed without restriction, including intermixing with other datasets.

ONC-owned data hold no discrimination from access or use against any specific fields of endeavour or against persons or groups, including, for example, commercial users.

ONC captures and delivers data owned by others. ONC encourages these owners to follow this ONC policy. Should other data owners wish to follow other policies, for example, restricted use, ONC will review the impacts of following other owners’ policies. Approvals of alternative data sharing approaches in ONC’s data management system will be made on a case by case basis. Approvals are made by the ONC Executive.

This policy is implemented within ONC following best practices described in the ONC Data Policy Implementation Plan, which is updated regularly to ensure data management at ONC continues to follow best practices as they evolve.

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## Overview

This data implementation plan describes ONC's approach to:

- data access and usage;
- data citation;
- standards and formats;
- data versioning and provenance;
- preservation and storage;
- metadata and data harvesting; and
- data partnerships.

Since 2014, ONC has been a certified data repository through its [World Data System](#). ONC strives to meet the following sets of community-developed principles through its data and stewardship practices (Table 1).

Table 1. ONC Data and Stewardship Practices

Principles	Application	Reference
FAIR (Findable, Accessible, Interoperable, Reuseable) Principles	Scientific datasets	Wilkinson, M., Dumontier, M., Aalbersberg, I. et al. The FAIR Guiding Principles for scientific data management and stewardship. <i>Sci Data</i> 3, 160018 (2016). <a href="https://doi.org/10.1038/sdata.2016.18">https://doi.org/10.1038/sdata.2016.18</a>
TRUST (Transparency, Responsibility, User focus, Sustainability, Technology) Principles	Digital repositories	Lin, D., Crabtree, J., Dillo, I. et al. The TRUST Principles for digital repositories. <i>Sci Data</i> 7, 144 (2020). <a href="https://doi.org/10.1038/s41597-020-0486-7">https://doi.org/10.1038/s41597-020-0486-7</a>
CARE (Collective benefit, Authority to control, Responsibility, Ethics) Principles	Indigenous data governance	Carroll, S.R., Garba, I., Figueroa-Rodríguez, O.L., Holbrook, J., Lovett, R., Materchera, S., Parsons, M., Raseroka, K., Rodriguez-Lonebear, D., Rowe, R., Sara, R., Walker, J.D., Anderson, J. and Hudson, M., 2020. The CARE Principles for Indigenous Data Governance. <i>Data Science Journal</i> , 19(1), p.43. DOI: <a href="http://doi.org/10.5334/dsj-2020-043">http://doi.org/10.5334/dsj-2020-043</a>

## Data Access and Usage

As described in the ONC Data Policy, data collected and owned by Ocean Networks Canada are provided under a Creative Commons CC-BY 4.0 License, open and free for anyone to use. Data owned or co-owned by a data partner may be subject to alternative licensing such as a Creative Commons CC-BY-NC license, depending on the established agreement. While ONC generally recommends all data be publicly available, there may be ethical reasons for restricting datasets to a specific set of users. For a particular dataset, data licensing and use constraint details are found with dataset metadata. Datasets may be considered sensitive if they relate to Indigenous partnerships, personally identifying information, endangered or threatened species protection, military concerns or technology demonstration activities. In effect, the datasets hosted at ONC are 'as open as possible, as closed as necessary.

For the rare situations where data restrictions are imposed, the embargo may be for the entire dataset, specific subsets, or most recent data (e.g., last 4 hours). ONC's data access interfaces and services are generally

designed to show the existence of datasets, even if access to the datasets requires specific permissions. Requests to access any restricted datasets will be evaluated on a case by case basis.

Data fitness for use depends on the context, purpose and application, and is at the discretion of the end-user. These decisions can be based upon the metadata and data quality information accompanying their data. For any clarifications or additional information, [contact ONC for support](#). Data that has been flagged as poorer quality by ONC is still accessible, since these may be useful in some applications and for troubleshooting purposes.

Ocean Networks Canada data are not to be used for navigation. Although these data are of high quality and useful for planning and modeling purposes, they do not meet the requirements of the Charts and Nautical Publications Regulations, 1995 under the Canada Shipping Act, 2001. [Official charts](#) and publications are available from the Canadian Hydrographic Service.

## Login Requirements

While many Oceans 2.0 functionality is available without registering for an account and logging in, there are some data access tools and services that do require being logged in so that ONC can:

- respond to users if we notice data access difficulties or failures;
- assist users in making custom tools, saving settings, plots, data and code;
- automatically track usage statistics as required by our funding agencies;
- contact affected users regarding data quality and control issues, including re-calibration;
- allow users to generate tokens to use web services;
- provide access to restricted datasets, if permissions are applied; and
- allow users to share project ideas or participate in social networking in the spaces we provide.

We will not use or provide any personal data to individuals or organizations outside Ocean Networks Canada without permission.

## Real-time aspect

Ocean Networks Canada provides data in near real-time for most of the observatories and platforms. Depending on the measurement technique and latency of any transmission, the latest record may be available within seconds to minutes.

Exceptions include:

- some complex data are not real time and may have delayed access;
- non-networked data from autonomous instruments, expeditions or from analysis of physical samples will be ingested as they become available;
- cast data from our Community Fishers programme which are uploaded by partner organization participants after they return to shore;
- some instrument data such as seismic and hydrophone data are subject to screening by the Canadian and US navies for national security reasons and may be diverted prior to archiving. Most diverted data are later returned; and
- real-time data access can be interrupted by planned and unplanned power outages.

## Data Citation

Data accessed or downloaded from Ocean Networks Canada for publications are required to include a full citation with the dataset author, title, publisher, publication year, digital object identifier and local query

persistent identifier. For more comprehensive guidelines and details, refer to <https://wiki.oceannetworks.ca/display/DP/Data+Citations>.

## Standards and Formats

Metadata are provided using the ISO 19115(2014) standard in an XML format with data products obtained via the Oceans 2.0 Data Search and a CKAN Metadata Catalogue. Additional metadata are also available within Oceans 2.0 and downloaded data products. Numerous controlled vocabularies are integrated to enhance interoperability.

Data are distributed in a wide range of standards and formats. For a given device, this usually includes raw proprietary manufacturer formats, a derived non-proprietary community-standardized format, and data visualizations.<sup>1</sup>

For complete documentation regarding the data products offered by ONC, refer to our [data product wiki documentation](#).

## Data Versioning and Provenance

Data versioning may occur for corrective or enhancement purposes at any stage of the data processing pipeline. The ability for ONC to track and convey these changes is improving over time, particularly as the wider research data management community develops conventions and guidelines. With the introduction of persistent identifiers for ONC datasets using [DataCite](#) Digital Object Identifiers (DOIs), more sophisticated versioning and related provenance frameworks are being applied. This advancement not only allows for better association of the versioning reasons, extent and processes, but also mints a new DOI for each version and provides the version history to users via the dataset landing page. For more details, refer to <https://wiki.oceannetworks.ca/display/DP/Data+Citations>. For any earlier versioning history enquiries, [contact ONC for support](#).

## Preservation and Storage

ONC is committed to data preservation for the long-term. Rigorous practices and workflows are documented and executed by expertly-trained staff to ensure data authenticity, data storage redundancy, digital security, technology upgrades and data format migration.

## Metadata and Data Harvesting

To enhance data discovery, metadata records and data can be harvested by third party portals and applications via ONC's supported web services and catalogues. In some instances ONC directly facilitates or supports these linkages, although that is not always the case. Since it is important that these entities abide by the legal and usage constraints which accompany these datasets, ONC strives to include these limitations in standardized and machine-readable sections of the metadata records.

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<sup>1</sup> Data that are acquired via file transfer are ingested on a schedule and therefore are not real-time. These instruments usually have longer acquisition times or duty cycles that build up data into a file before transfer, such as a RADAR or SONAR sweep. Some data products may also require raw file archival before generation and are delayed by up to 24 hours (recently reduced to only two: Kongsberg rotary imaging sonars and BioSonics echosounders). Some value-added data products also require accumulation of data. See instrument metadata and data product documentation for more information. Data products displayed on the Data Preview portal are updated once per day.

## Data Partnerships and Agreements

ONC has established data integration partnerships with numerous organizations in government, academic, Indigenous, non-profit, and industry sectors. Agreements stipulate attributions for credit and ownership, as well as any usage restrictions. For more information, refer to our [Data Partner documentation](#).