

Provide formal comments to the proposed OCS implementation of Bathymetric Data Licensing

Topic: Bathymetric Data Licensing for the NOAA Office of Coast Survey

Timing/prepare: An HSRP working group will be asked to discuss and draft comments and continue to make updates at working group meetings and via email. Prepare a near final draft by March 4, 2022. The draft will be shared to the HSRP website as part of the documentation for the public meeting. Include this topic and any materials in the Federal Register Notice for the March public meeting.

Public Discussion: Include this as a topic for full membership discussion at the HSRP public meeting, March 9-11, 2022. Have a speaker (or possibly a panel) with discussion at the March meeting. Discuss if a vote is needed to advance it to the NOAA Administrator. Discuss if it should be a separate paper or a component of the recommendations letter.

Follow-up: After full HSRP discussion at the March 2022 public meeting, make any final edits to the draft HSRP comments. Provide any recommendations to the NOAA Administrator in the recommendation letter or as a free standing attachment.

POC/ SME:

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Background:

The NOAA Office of Coast Survey (OCS) increasingly relies on external data sources to achieve its mapping objectives, and the importance of external data and collaboration is further underscored in the NOMECS Strategy and Seabed 2030. External data submissions will only increase in the future, with continued collaboration and the proliferation of autonomous technology. It is critical to standardize the handling of external data, particularly when those data sets have any restrictions in its distribution or allowable usages. Such standardization makes its ingestion and applications faster, automated, and far more scalable. Furthermore, standardization has the potential to reduce the potential risk of mishandling data and associated legal risks.

The standardization of data handling is accomplished through data licensing, which defines the allowable distribution and usages of a particular data set. Importantly, the data license is machine-readable, facilitating the automation to occur in the downstream processes. Even for U.S. government data that has no restrictions, data licensing is needed. Stating that the data is in the public domain is not sufficient for many users, and thereby use of the data is restricted. A data license serves to reduce ambiguity with regards to copyright and intellectual property, effectively unlocking the full value of the data to all users. The importance of data licensing has been emphasized by the NOAA Data Strategy Team, the NOAA Science Advisory Board, the U.S. government, and the International Hydrographic Organization. Note that data licensing does not describe data quality, for which OCS has a formalized process to assess that is independent of the license. Rather, the data license should be thought of as a critical metadata field attached to a particular data set that prescribes its handling, allowing for the streamlined throughput as described above.

Well-known and internationally recognized licenses from Creative Commons are proposed for OCS. Creative Commons has been recommended by the U.S. government as a tool to assure all users have full data permissions. The NOAA Science Advisory Board and the International Hydrographic Organization have also both recommended Creative Commons explicitly. Additionally there are already prominent use-cases of Creative Commons licenses used in the hydrographic industry and applied to bathymetric data sets. The proposed implementation of data licensing in OCS is in accordance with the NOAA Data Strategy and associated Strategic Action Plan. The specific actions from this plan are listed in the reference documents.

The OCS policy for bathymetric data licensing has been reviewed by the NOAA Data Strategy Team, the Environmental Data Management Committee, and NOAA's Office of General Counsel, the Acquisition and Grants Office, and is currently in review by the Department of Commerce Office of General Counsel.

Requests:

Please comment on the proposed OCS implementation of Data Licensing

Proposed OCS implementation of Data Licensing:

As described in the Background section above, the Office of Coast Survey intends to implement Data Licensing to standardize and automate the handling of external data, and to provide better communication to users regarding the allowable uses of all Coast Survey data. Licenses from Creative Commons are proposed for adoption. Creative Commons licenses are very well-known, universal, internationally recognized, and already used in a wide variety of industries, including the hydrographic industry, where they are applied to bathymetric data sets. The CC0 1.0 Universal Public Domain

Dedication will be used for NOAA public domain data (whether already publicly available or for data yet forthcoming) to assure all users that they have full permission to freely use the work. For Coast Survey data with restrictions, the applicable Creative Commons license will be applied. The restrictions as defined by the Creative Commons license suite are one or more of the following:

- Attribution: credit must be given to the provider for the original data.
- Sharealike: any derivative products created from the original data must carry the same license.
- No Derivatives: derivative products may not be created from the original data.
- Non-commercial use only: the original data may only be used for non-commercial purposes.

Note that a product is considered derivative if it is fundamentally changed and cannot be easily reverse-engineered from the original data. Thus, the marine models, the ENC (Electronic Navigational Chart), and precision marine navigation products created by OCS are each considered derivative and would be prohibited for those licenses with Sharealike or No Derivatives restrictions. It is also understood the Non-commercial use only restriction may be applied, however, it cannot be enforced by NOAA.

An additional custom-made license is offered, in the case that the data submission is for internal use only (i.e. prohibited for public release). The Internal Use Only (IUO) license will be set to the relative level of sharing that is permissible, e.g. IUO relative to OCS, IUO relative to NOAA, or IUO relative to the U.S. government.

The proposed license suite has the most widely recommended tool (CC0) for U.S. government public domain dedications, applicable to NOAA public domain data and federal partners who contribute data to OCS. Additionally, the license suite encompasses all of the various external data restrictions that OCS receives, allowing for the rapid data ingest and handling. The Creative Commons licenses have the additional benefit of familiarity and recognition to many users, internationally and across multiple industries.

Are there any other considerations or matters to address in the OCS implementation of data licensing?

Reference documents:

2) The U.S. Hydrographic Conference 2021 paper, "Data Licensing for the NOAA Office of Coast Survey (attached).

3) NOAA Data Strategy, July 2020

<https://sciencecouncil.noaa.gov/Portals/0/2020%20Data%20Strategy.pdf?ver=2020-09-17-150024-997>

Objective 3.3. Develop NOAA Data Licensing Guidance to ensure NOAA's data are by default "open" with no restrictions on their use or reuse, unless specifically otherwise restricted by law, regulation, or policy.

4) The data licensing actions listed below are the four milestones and objectives required to complete Actions 11 and 21 of the NOAA Data Strategic Action Plan (draft 6A and predecisional): [NOAA Data Strategy -Draft_V6a.pdf](#)

Action 11) Develop and maintain NOAA data licensing guidance that is consistent with Open Data policies in the Evidence Act.

Milestones and Deliverables:

A. Develop and publish NOAA Data Licensing Guidance that is machine-readable and clearly defines characteristics for data licenses that conform with and support Evidence Act requirements.

B. Develop NOAA policy for specifying appropriate Data Licenses for data that NOAA creates, procures, or otherwise receives as in the case with NOAA Data Buys from commercial or outside vendors.

C. Promote NOAA Data Licensing Guidance within NOAA and with key partners.

Action 21) Increase engagement with stakeholders and gather external feedback on NOAA data management.

Milestones and Deliverables:

A. Coordinate with NOAA External Affairs to increase stakeholder identification and engagement, both nationally and internationally.

B. Chair dedicated sessions at major ocean, weather, and earth observation conferences as well as major business and data-centric conferences to raise awareness of NOAA data and to gather feedback on data management and usability.

C. Improve consistency in the processes for seeking stakeholder input on substantial changes to NOAA's data/data services.

D. Align coordination of data product development between the science subject matter experts and the product user communities to enhance development to best meet users' needs.

E. Coordinate NOAA's increasing use of data from external sources

via policies and best practices, including the EDMC Data Sharing Directive and new NOAA data licensing guidance.

5) NOAA Science Advisory Board (SAB) (Federal Advisory Committee - FAC) recommendation to NOAA, December 16, 2019:

https://sab.noaa.gov/wp-content/uploads/2021/08/SAB_Mtg_Dec19_Report_DAARWG_final_121619.pdf

NOAA SAB recommendation, “PREPARING FOR A CLOUDY FUTURE A report on preparing analysis-ready datasets, training researchers to work in the cloud, preparing training data for machine learning, and the process for agile cloud implementation and deployment”, Dec 16, 2019

WITH THE ASSISTANCE OF THE SAB DATA ARCHIVE AND ACCESS REQUIREMENTS WORKING GROUP DECEMBER 16, 2019:

Licensing: Simply stating that federal government data are in the public domain is not a sufficient license to maximize usage of federal government data. Public domain has a different definition and different restrictions in every legal jurisdiction around the world. It is far too ambiguous for many users, particularly those in industry, and prevents them from using any data licensed as such. NOAA should apply a license that is clear, consistent, concise, and open to each dataset. This license should provide the terms of use applied to each dataset, as well as any restrictions of use. A link to this license should be included at each access point to make it as easy as possible for users to discover and prevent any confusion as to whether the license applies to a specific dataset. This would help maximize the usage of federal data by eliminating confusion around the requirements to use the data. Examples of such a license are the Creative Commons CC0 license or the Open Data Commons Public Domain Dedication and License. NOAA should not use the Creative Common Public Domain Mark because it can be applied by someone other than the original provider of the data.

6) Resources.data.gov, A repository of Federal Enterprise Data Resources
<https://resources.data.gov/open-licenses/>

Open Licenses:

The default U.S. Public Domain status of U.S. Government Works is limited to the jurisdiction of the United States. If an agency is able to expand the public domain status to apply internationally for works that they have produced, they can use a worldwide public domain dedication such as [Creative Commons Zero](https://creativecommons.org/licenses/by/4.0/). This is an important tool to assure users of U.S. Government Works that they have full permission to freely use the work internationally.

7) International Hydrographic Organization Marine Spatial Data Infrastructures Working Group (MSDIWG)

“Guidance for Data Licensing: A contribution from expert contributors Draft v0.1 April 2018”

[https://iho.int/uploads/user/Inter-Regional%20Coordination/MSDIWG/MSDIWG10/MSDIWG10-11.1C-Guidance for Data Licensing.pdf](https://iho.int/uploads/user/Inter-Regional%20Coordination/MSDIWG/MSDIWG10/MSDIWG10-11.1C-Guidance%20for%20Data%20Licensing.pdf)

It is widely recognised that significant creative and economic potential may lie dormant in data locked up and not released on terms allowing re-use. The concepts behind MSDI recognise the potential held in data. However, if data is to be re-used by third parties it needs to be licensed. The Hydrographic Data Policy Best Practise Guidelines for Hydrographic Offices white paper states ‘fit for purpose hydrographic data and information is essential in underpinning evidence based decision making and asset management enabling governments and the commercial sector to deliver their policy objectives for the marine environment and coastal zone’. The paper points out the ‘use of this data outside of navigational products has been limited, but the requirement is growing very swiftly across the world’⁴. A data license provides users with legal clarity on how data can be used as well as defining user obligations. In most jurisdictions there are intellectual property rights that prevent third parties from using, reusing and redistributing data without explicit permission. Even if data is publically available, without a license a user may not have permission to access, use, or share it due to copyright laws. By applying an open license you enable users the freedom to use your data to experiment, explore and innovate.