

NOAA Software and Software Products

Public Release Guidance

NOAA Research Council

Software Policy Tiger Team

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Introduction

Software and software-based products are at the foundation of NOAA's mission and the value that NOAA provides to the Nation. In order to provide the most value for the public's investment in software development, it is important to transition these products from the lab to operations, applications, and/or commercial use *to the highest degree possible*. In addition, we should ensure we develop the most innovative and useful capabilities, products and services, by *actively pursuing research and development collaborations* with non-NOAA partners.

Once NOAA is ready to transition its software products from an internal R&D or operational environment to a public environment, whether in its final form or for collaborative, community development, staff must *first* ensure all questions related to intellectual property rights have been identified and resolved before the software may be released. The following guidance will assist NOAA staff to conduct their due diligence and speed the release of NOAA software and software products to the public.

Scope and Policy Considerations

This guidance applies to all software and software-based products, whether as stand-alone code, algorithms, complete applications, or as code that is part of a larger system (e.g. radars, sensors, etc.), that are to be released to the public.

This guidance is primarily focused on intellectual property (ownership) and licensing considerations that must be addressed before releasing NOAA software into a public environment. A public environment may include applications that are running or providing output publicly, including NOAA operational applications, even if the executable code is not openly available; and written publications, such as peer reviewed literature, white papers, or software development platforms, where executable codes or similar texts are available to non-NOAA personnel and/or the public.

Data gathered or generated using software-enabled systems are not specifically covered under this guidance, although staff should be aware that data distribution rights for certain co-developed software packages may be impacted by provisions of the Bayh-Dole Act (Patent and Trademark Law Amendments Act - see Appendix C).

This guidance may be used together with the **DoC and NOAA GitHub.com Usage Guidelines**¹ released by the Office of the Chief Information Officer on August 23, 2017.

Public Release Guidance for **In-Development** Software Products

To encourage collaborative, community-based development, staff may wish to make software available in a beta format on a development platform (e.g. VLab, GitHub). Prior to release, staff must first address any intellectual property concerns (see flowchart in Appendix A for guidance), then may follow the NOAA GitHub guidance for release to the community. If staff are unable to answer any of the intellectual property questions from the flow chart, they should contact the NOAA Technology Partnerships Office for assistance.

Once the In-Development Software has reached an acceptable level of maturity and quality, it may be released as a **Final Public Software Product** by following the Public Release Guidance for Final Software Products below.

Public Release Guidance for **Final** Software Products

Prior to release of final software products to the public, the software should be disclosed to the NOAA Technology Partnerships Office through the **Online Software Disclosure Portal** (https://docs.google.com/forms/d/11rnO01qypr4RDCiMAnJnquQ-MeTFrGEBolFO7LXC_o/edit). This short disclosure will ensure staff have completed actions described in the intellectual property flowchart and will allow NOAA a basic accounting of all final software products delivered to the public.

Future releases of the same software package (i.e. v. 1.2, 2.0, etc.) do not need to be re-evaluated unless there is a substantive change that warrants a new review.

¹ DoC GitHub Policy (October 2017):

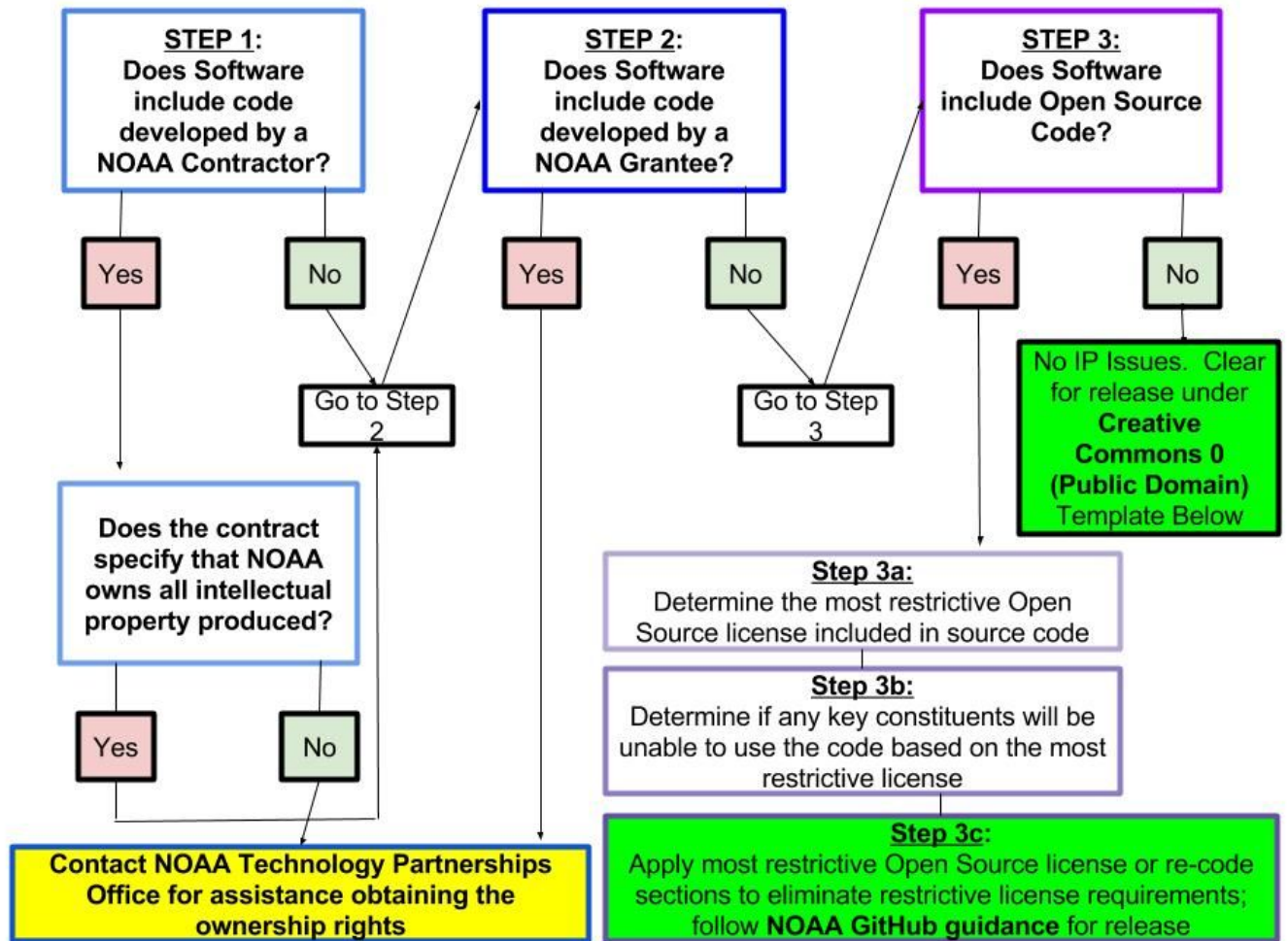
<https://github.com/CommerceGov/Policies-and-Guidance/blob/master/GithubGuidanceforDepartmentofCommerce.md>

NOAA GitHub Guidance (Aug 2017):

<https://drive.google.com/a/noaa.gov/file/d/0B4ITZCk3bqGTdE9aZktHWFhoUUk/view?usp=sharing>

Appendix A
Intellectual Property Flowchart for Public Software Products

The following process may be used to determine if there are any intellectual property concerns before software is released in beta or final form. **Remember:** all final software products, in-house and co-developed, must be disclosed to the NOAA Technology Partnerships Office https://docs.google.com/forms/d/11m001qypr4RDCiMANJnquQ-MeTFrfGEBolFO7LXC_o/edit before release.



Appendix B

NOAA Public Domain (CC0) Software Warranty and Disclaimer Statement

The following statement may be added to software that is wholly developed by NOAA federal staff. NOTE: this may NOT be used if university (cooperative institute) or contractors/grantees were involved in the development, or if any licensed (Open Source or other restricted) code was used in the development of the final product.

NOAA Software Public Domain Statement

As a work of the United States Government, this project is in the public domain within the United States. Software, as understood herein, shall be broadly interpreted as being inclusive of algorithms, source code, object code, databases and related documentation, all of which shall be furnished free of charge to the User.

Additionally, we waive copyright and related rights in the work worldwide through the CC0 1.0 Universal public domain dedication.

CC0 1.0 Universal Summary

This is a human-readable summary of the [Legal Code \(read the full text\)](#).

No Copyright

The person who associated a work with this deed has dedicated the work to the public domain by waiving all of his or her rights to the work worldwide under copyright law, including all related and neighboring rights, to the extent allowed by law.

The User can copy, modify, distribute and perform the work, even for commercial purposes, all without asking permission.

Other Information

Use of the NOAA (National Oceanic and Atmospheric Administration) or [INSERT LAB NAME] and [INSERT SOFTWARE PACKAGE NAME] names and/or visual identifiers are protected under trademark law and may not be used without written permission from NOAA. Use of these names and/or visual identifiers to identify unaltered NOAA content or links to NOAA websites are allowable uses. Permission is not required to display unaltered NOAA products which include the NOAA, [INSERT LAB NAME], or [INSERT SOFTWARE PACKAGE NAME] names and/or visual identifiers as part of the original product. Neither the names nor the visual identifiers may be used, however, in a manner that implies an endorsement or affiliation with NOAA.

The United States Government makes no warranty, expressed or implied, as to the usefulness of this software and documentation for any purpose. The U.S. Government, its instrumentalities, officers, employees, and agents assume no responsibility (1) for the use of the software and documentation contained in this package, or (2) to provide technical support to users.

The user assumes the entire risk related to its use of this software. NOAA is providing this software "as is," and NOAA disclaims any and all warranties, whether express or implied, including (without limitation) any implied warranties of merchantability or fitness for a particular purpose. In no event will NOAA be liable to you or to any third party for any direct, indirect, incidental, consequential, special or exemplary damages or lost profit resulting from any use or misuse of this software.

This notice, in its entirety, must be included in all copies or substantial portions of the Software.

Appendix C

Ownership, Licensing, and the Bayh-Dole Act

A large portion of NOAA's software is developed by working groups composed of federal employees and non-federal partners. The non-federal partners are most frequently employees of a cooperating university or they are working for NOAA under a contract or grant. In all these cases, the **employers of the non-federal partners may have some ownership rights to the work** of their employees.

Bayh-Dole Act and Patented Technologies

In the case of innovative technologies *that can be patented*, federal contractors and grantees are given the first right to patent and license the work of their employees under the Bayh-Dole Act of 1980 (35 U.S.C. Chapter 18, 37 C.F.R. 401 *et seq.*). These rights are very important for NOAA managers to understand, as they **could possibly limit our ability to use or distribute technology we have developed in our labs/programs.**

Under Bayh-Dole, the federal agency still maintains a fairly broad right to use, or have others use, a federally-funded technology for "government purposes", but conflicts may arise should the government's intended uses infringe on commercial uses being pursued by a licensee. Managers should plan for this possibility and work with TPO to mitigate any risks early in the process.

For software developers, Bayh-Dole is not often an issue, as software on its own is not usually patentable. However, for complex systems that include software components (for example, a complex system including an algorithm), Bayh-Dole may still apply. In certain cases, even the data generated as a result of running a software package/algorithm may be restricted, if those data are determined to be a value-added, proprietary feature of the full system (e.g. - Special Sensor Microwave Imager algorithms for measuring sea ice, etc.).

When working on a potentially patentable technology with non-federal collaborators, remember that negotiating intellectual property (ownership) agreements prior to development will likely save time in the long run. If you have questions, please contact the NOAA Technology Partnerships Office.

Copyrights

U.S. copyright protection is not available to works created by the U.S. Government, so software developed by federal employees as part of their official duties are not protected through copyright in the United States. The work is considered to be in the **Public Domain**. NOAA may enforce copyrights to federal works overseas, but the cost and complexity of doing so is often prohibitive, so it is rarely done at NOAA.

However, U.S. copyright protection is available to non-federal collaborators (e.g. - contractors, cooperative institute employees) on their works. While U.S. copyright law provides these overall

rights, the specific rights for non-federal collaborators are either conveyed by the contract between NOAA and the collaborator's employer or by statute/federal regulations in the case of grantees (including Cooperative Institutes).

For contracts, if the contract does not specify the U.S. government retains all rights, the collaborator could choose to assert their copyrights to the specific text generated by their employees. In cases where the collaborator's work comprises the majority of the software package, the collaborator could decide to license the the work to one or more outside organizations.

As with Bayh-Dole, NOAA always retains the right to use the work for government purposes, but there is a high likelihood of conflict between NOAA's intended use and the licensee's applications. **It is therefore extremely important for federal managers to work with your Contracting Officers to ensure contracts provide ownership of software back to NOAA.**

Trademarks and Federal Software

The use of a trademark is often the most effective way to promote NOAA's brand and its contributions to society, while still providing a measure of protection against others using NOAA-developed software without appropriate attribution. Trademarking registers and protects a name and/or graphic representation (e.g. a logo) of a product or agency. For example, the NOAA acronym and logo are both trademarked, as well as many other NOAA-related names or phrases.

Filing for a trademark on a name and/or logo associated with our software (e.g. WAVEWATCH III) allows NOAA the right to exclude others from using that name in association with their software package or other related activities. The only way other entities could then use a NOAA trademarked name in association with their product would be to obtain a license from NOAA for those rights. This restriction often provides sufficient protection, even for software that is not patented or otherwise protected.

Implications of Open Source

Another important aspect of software development is the concept of reuse and Open Source. Developers will frequently reuse code that has been developed by others to run standard procedures. Sometimes this code comes without restriction, but often there is some sort of license and associated restrictions applied to the use of the code. The Open Source community has developed a range of licenses that can be used, but **the U.S. Government has not specifically identified one specific license that works best for distributing federal software products**. As a result, federal agencies are applying various licenses without any consistency.

Despite the inconsistency in federal licensing schemes, it is very important for developers to understand that **using Open Source code may restrict how NOAA can release a piece of software to the public or to other entities**. For example, our partners, both domestic and

international, may have requirements that do not allow them to use or further develop software with certain licensing restrictions, as any new developments will also fall under that licensing scheme. Developers should also be aware that having multiple licenses included in a single software product may decrease the likelihood of the software being adopted outside of NOAA, especially in a commercial setting.

To ensure the broadest adoption, licensing should be rolled up to the most restrictive of all the included licenses, which will then allow for easier adoption of the code for future uses. Co-mingled licensing is not considered a best practice, so it is to be avoided as much as possible.

Intellectual Property Best Practices Summary:

- **Be aware of Bayh-Dole and copyrights** when you are putting together your development teams for a new project. If you will have non-federal partners and you anticipate new, innovative technology might be created as a part of a new project, work with the TPO to get the appropriate agreements in place up front.
- **Work with your Contracting Officer** to ensure contracts have intellectual property rights clauses providing ownership back to NOAA. If you have questions about language, contact the TPO or GC.
- **Consider trademarking** final software products. Trademarks provide some legal ownership for NOAA and increase the brand recognition for NOAA products.
- **Consider open source licensing limitations** before including Open Source code into your products. Will you be limited in your distribution by the code you include?

Appendix D

Definitions

- **Software:** A compilation of code or instructions that when executed enable a machine to do something. Software and Software Products will be synonymous for the purposes of this guidance.
- **Code:** Programming language or sets of programming language for use in developing a software application when combined with other code.
- **In-Development Software:** Software or code that is in pre-final form and requires additional development.
- **Software Product/Application:** A user-ready functionality that is enabled by running code on a computer or other machine incorporating computer processing capabilities.
- **Final Software Product:** Software that has gone through alpha and beta testing and development and is deemed to be in final ready-for-release form.
- **Federally Developed Software:** Software that is compiled and developed solely by federal employees without any contractor work involvement.
- **Jointly Developed Software:** Software that is jointly developed by both federal employees and non-federal partners.
- **Co-Mingled Software:** Co-mingled software may include a combination of federally-developed code and Open Source and/or contractor-developed code, where the combination did not arise from joint work developing the software.
- **Public Domain:** Written material, in this case software, that has no ownership rights and no licensing restrictions associated. It is free and open for unrestricted use by all parties.
- **Open Source:** Software and code that meets the criteria established by the Open Source Initiative.² Open Source software includes licensing restrictions.
- **Copyright:** the exclusive legal right given to an originator or an assignee to print or publish a work, or authorize others to do so.
- **ITAR/EAR Regulations:** International Traffic in Arms Regulations and Export Administration Regulations, respectively.³
- **Data:** Structured information or collections of structured information. For the purposes of this guidance, data are inputs to and outputs from software and software products. Public release of NOAA data is governed by the **Open Data Policy**.⁴

² <https://opensource.org/definition>, Accessed May 25, 2017.

³ <https://www.bis.doc.gov/index.php/regulations/export-administration-regulations-ear>, Accessed May 25, 2017.

⁴ <https://project-open-data.cio.gov/policy-memo/>, Accessed on May 25, 2017.