MAX-PLANCK-INSTITUT
FÜR METEOROLOGIE

Software Licensing and Copyright Policy for Research Software CODE@MPI-M

Preamble

The Max Planck society is determined to promote Open Access to research data, and Open Science (Berliner Erklärung[1]).

MPI for Meteorology in Hamburg (**MPI-M**) has developed, partly on its own, partly in collaboration with partners, various Research Software, for example the ICON Model Code[2], the Climate Data Operators cdos[3], and others.

MPI-M believes that for the benefit of science such Research Software should be released as Open-Source Software.

Rules

This policy treats the issues of copyright and licensing. It is applicable and restricted to Research Software Source Code developed at MPI-M (**CODE**). CODE must either be copyright of MPI-M alone (i.e. new code for, or code developed earlier at, MPI-M under the copyright of the institute) or code contributed by third parties to MPI-M code, which has been licensed to MPI-M under a permissive license like MIT/X11, (2- or 3-Clause) BSD or Apache 2.0 under a Contributor License Agreement ,see below, or where unlimited copyrights have been transferred to MPI-M by other means under similar conditions.

Contributor License Agreement (CLA)

Every developer of CODE at MPI-M, being an employee or in any other employment contractual connection to MPI-M (e.g. freelancer, guest, post-doc, scholarship etc.) (**CONTRIBUTOR**) must sign (and send the signed copy to personal@mpimet.mpg.de) a Contributors License Agreement (CLA[4])to be allowed to contribute to an MPI-M project in the field of Research Software development. To clarify: MPI-M can agree upon co-operations with other institutions where this policy is not applicable.

"External" developers[5] and guests developing code with and for MPI-M need to ensure to have the right (by their employer) to do code development and transfer the respective rights to MPI-M.

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[1] https://openaccess.mpg.de/Berliner-Erklaerung
[2] https://mpimet.mpg.de/en/science/models
[3] https://code.mpimet.mpg.de/projects/cdo/
[4]https://mpimet.mpg.de/fileadmin/02_Forschung/08_Gute_wissenschaftliche_Praxis/CLA-MPI-M.pdf

[5] People collaborating closely with MPI-M, but w/o a current working contract

License

CODE shall be licensed under the BSD-3-Clause License[6], see attachment. For any other open source license, you must consult with the MPI-M person responsible for licenses[7].

Software can be used but **must never be distributed without a license.**

Copyright notice

Attach a copyright notice to CODE e.g. in one of the following manners[8]:

- ©2021 MPI-M
- ©2016-2021 MPI-M, name of coder 1, name of coder 2, etc.
- ©2020/2021 MPI-M, name of coder 1, name of coder 2, etc.; Name of Professorship

Distribution of Code

To MPI-M

CODE can be uploaded to an MPI-M code repository[9] at a regular basis. For more details, see the coding rules of your project. In general, MPI-M staff should be able to find your code as part of your publication also on public servers like PURE or Zenodo.

To Third Parties

This policy gives every contributor of CODE the permission to distribute CODE to any distribution channel licensed under BSD-3-Clause as open-source software. Distribution must be lawful and compliant with MPG Good Scientific Practice. **To clarify**: This policy gives no permission for any commercial distribution of the code or any non-open-source distribution.

MPI-M Coding Rules

Please follow the coding rules or best practice of your project. If no such rules are obviously available, invent some; it may be a good idea to read literature like „Producing Open-Source Software: How to run a successful Free Software Project"by Karl Fogel[10] first.

Use of Third-Party Code

Third-party code must only be included into the CODE if it is licensed under one of the following permissive open-source licenses: BSD-2-/3-Clause, MIT/X11, Apache 2.0. The same rules apply

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[6] See https://opensource.org/licenses/BSD-3-Clause , SPDX short identifier: BSD-3-Clause

[7] Currently: The person responsible for strategic IT partnerships, or the head of the MPI-M administration. mailto: licenses@mpimet.mpg.de

[8] At least the contributors name, the affiliation and the year(s) the software was written in, if it is open source under a CLA

[9] E.g. the git installation at MPI-M, or the gitlab installation at DKRZ.

10 See https://producingoss.com, CC BY-SA 3.0

for the use, modification, incorporation, propagation, copying, distribution (with or without modification) or making available to the public of third-party code.

All code that is not contributed under the CLA is considered third-party code.

To get permission to, and advice how to incorporate any other third-party code, you must consult with the MPI-M person responsible for strategic IT partnerships, or the head of the MPI-M administration.

Good Scientific Practice

Always work following the rules MPI-M for good scientific practice[11]. Useful advice on GSP for scientific software can be found here[12].

Practical Hints

If you develop software, think about a useful name for it. Then, to stick to well-established standards in the open-source community, a proper header of a licensed source code file that you, the author, have developed on your own, could look something like this:

——————————— 8< ———————————

```
/*
 * <Software_Name>
 *
 * Copyright ( (C) or ©) <year(s)>, <Institution>, <Author<s>>
 * All rights reserved
 *
 * Please, refer to the LICENSE.txt file in the root directory.
 * SPDX-License-Identifier: BSD-3-Clause
 */
```

——————————— >8 ———————————

Put in the respective attributes into the < > brackets. SPDX is explained shortly below. The content of the LICENSE.txt file is the text in the box in attachment 1.

If this is shared work, list the authors separated by commas, or have an AUTHORS.txt containing the list of authors, separated by commas, in the root directory. If the authors are from different institutions, it might be advisable to also include the affiliations into the AUTHORS.txt file. In this case the header could look like:

——————————— 8< ———————————

```
/*
 * <Software_Name>
```

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[11] https://mpimet.mpg.de/en/science/good-scientific-practice
[12] https://www.forschungsdaten.info/themen/ethik-und-gute-wissenschaftliche-praxis/softwareentwicklung-und-gute-wissenschaftliche-praxis/

```
*
* Copyright ( (C) or ©) <year(s)>
* All rights reserved
*
* Please, refer to the LICENSE.txt file in the root directory.
* Please, refer to the AUTHORS.txt file in the root directory.
* SPDX-License-Identifier: BSD-3-Clause
*/
```

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If you have a collection of software with possibly different licenses, it is even more relevant to try and stick to standards, see SPDX, below.

If you are about to publish only one file with only a few lines of code – without different directories, that is w/o a root directory - you could consider replacing the line

```
* Please, refer to the LICENSE.txt file in the root directory.
```

by the text of the license (see box in the attachment).

A **proper /src directory** for a larger software project with a number of authors, institutions involved, and licenses should contain a README file explaining the software structure, the people involved in the development over the years, their affiliations where useful and/or necessary, and an overview about the license situation. Such it should also contain an AUTHORS-file and a directory "/src/license" containing the text of the different license involved.

The SPDX-System:

As can be inferred form the website https://spdx.dev/ The "Software Package Data Exchange" is a specification – freely available as an international open standard (ISO/IEC 5692:2021) – "describing SBOMs (Software Bill of Materials), communicating a release: name, version, components, licenses, copyrights, and useful security references. As a common format, SPDX reduces redundant work related to sharing important release data, thereby streamlining distribution and compliance." Sounds good? Use it for your software!

Motivation for this Policy

Copyright

Work made for hire: Who is the author of the software and who is the owner of it?

Copyright protection exists from the time the work is created in fixed form (e.g. writing it down, coding software, etc.). The author is the creator of the work.

In case of software the author is the person which has materially written the program code, thus the developer(s) (or coders) of the software are the authors of the software.

If the software was created during the official duties of employment at MPI-M, according to Sec./ ¤ 69 b Urheberrechtsgesetz, MPG has the exclusive exploitation right and any right derived from such exclusive exploitation rights, i.e. the exclusive right of usage and distribution (sublicensing)

of the software. In such case, due to the rights granted to MPG by the law, MPG/MPI-M is considered the "owner" of the software.

Open Source

The project license chosen is important, even crucial for publicly available projects. Project funding can end after a certain period, and maintainers may change their employers or even fields of interest. Thus, to ensure the continued availability of the project, the developers need to come to a formal agreement, i.e. a software license, under which terms the project should be available.

For reasons of traceability, connectivity of research and reusability, scientists deposit the research data and central materials underlying the publication - following the FAIR principles ("Findable, Accessible, Interoperable, Re-Usable") - e.g. accessible in recognized archives and repositories whenever possible. (Draft GSP MPG 2021).

In the eyes of MPI-M, the conclusion is that research software should be open data and open access, regardless of whether it is research data or research result. In the opinion of MPI-M, this is only comprehensively guaranteed by licensing as open source software.

This means you, the contributor, and MPI-M share the rights on the software in equal shares.

Permissive Licenses (e.g. BSD, MIT, Apache v2, etc.)

A permissive license comes with only minimal restrictions on how the software can be used, modified and redistributed. Almost all permissive licenses require that the copyright notice shall be maintained if the software is modified or software is integrated/embedded in new program code, and it generally includes a warranty disclaimer.

Program code under a permissive license can be modified or integrated into other software, and the newly obtained program code can be distributed under a different license, theoretically also under a proprietary closed source license.

Why BSD-3C?

BSD licenses are a family of permissive free software licenses, imposing minimal restrictions on the use and distribution of covered software.

BSD-3-Clause was selected as the choice of license for MPI-M Code for several reasons

- It has a very simple and easy to understand text, but yet has proven to be legally sufficiently sound

- BSD allows no endorsement of MPI-M: The MPG (the society, not so much the Institute) is very interested in restricting the use of its name

- It has no explicit Patent Clause: the MPG technology transfer department does not allow patent grants to be given for free.

- compatible with non-copyleft and copyleft licenses (i.e. gpl, agpl, lgpl).

One of the big advantages of BSD-licenses is the compatibility with proprietary licenses and general flexibility, meaning that the BSD-style licenses place only "minimal restrictions on future

behaviour"[11] and are not "legal time-bombs"[13], unlike copyleft licenses. The BSD License allows proprietary use and allows the software released under the license to be incorporated into proprietary products. Works based on the material may be released under a proprietary license as closed source software, allowing usual commercial usages under them. The BSD-3-Clause license, like most permissive licenses, is compatible with almost all Free and Open-Source Software (FOSS) (and, also, proprietary) licenses.

The version of the BSD license applicable at MPI-M can be found in the attachments to this policy.

Why we ask for you to sign a CLA:

No other occupational field sees a greater level of fluctuation in the work force than science, spanning over the whole globe. The relationships between MPI-M and CONTRIBUTORS are various: Some have employee status, others don't. Coding happens in both planned and more spontaneous ways: this leaves MPI-M with an unpredictable, unclear copyright situation for code developed under MPI-M supervision.

MPI-M believes that the solution is open science and open source. But to be allowed to license all the code, MPI-M must have permission by the copyright owner, the CONTRIBUTOR.

In cases where software is created outside the official duties of an employment at MPI-M, MPI-M does not claim ownership or exploitation rights. We only ask for the right of use under open-source license conditions: MPI-M thinks that its CLA is the least invasive possible. Because MPI-M does not ask of its contributors for more than the right of use for the code under the conditions of the BSD-3-Clause license.

Attachments

1. Text of BSD-3-Clause license
2. Note on Copyright notice

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[13] https://docs.freebsd.org/en/articles/bsdl-gpl/

Text of BSD-3-Clause License

(also called "BSD License 2.0", "Revised BSD License", "New BSD License", or "Modified BSD License")

The 3-Clause BSD License

SPDX short identifier: BSD-3-Clause

See https://opensource.org/licenses/BSD-3-Clause

Copyright <year> <copyright holder>

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Note on Copyright notice

The registration of copyrights is not possible in Germany; it is also not required to make an explicit reference to the copyright.

However, since there are countries in which copyright can be registered and in which clear references must be made to the copyright, it is recommended that, for software coded by MPI-M employees and CONTRIBUTORS, a © or (c) mark is included in a clearly visible place along with the name of MPI-M, the author(s) (the software coder), and the year of first distribution. Please note that the coders may waive their right to be named.