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Earth Science Data Systems (ESDS) Program, HQ SMD

Open Source Software Development Plan Guidelines

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**Headquarters
Washington, DC**

National Aeronautics and
Space Administration

Open Source Software Development Plan Guidelines (February 2019)

NASA's Earth Science Data Systems (ESDS) Program requires that all software developed through research and technology awards (i.e., ROSES or unsolicited proposals) or in-house government funded development be made available to the public as Open Source Software (OSS). Solicitations referencing this policy require a plan for committing software as OSS. The Open Source Software Development Plan Guidelines serves as a starting point for tailoring a project's specific software development plan. Not all elements may be applicable or appropriate for every project.

Open Source Software Development Plan Guidelines (February 2019)

NASA’s Earth Science Data Systems (ESDS) Program requires that all software developed through research and technology awards (i.e., ROSES or unsolicited proposals) or in-house government funded development be made available to the public as Open Source Software (OSS). This includes all software developed with ESDS funding used in the production of data products, as well as software developed to discover, access, analyze, visualize, and transform NASA data.

Earth Science Data System Open Source Software Policy

The Earth Science Data Open Source Software Policy (<https://earthdata.nasa.gov/earth-science-data-systems-program/policies/esds-open-source-policy>) requires that all software source code developed through ESDS-funded research solicitations be designated, developed, and distributed to the public as OSS. Solicitations referencing this policy require proposals to include a plan for committing software as OSS; all software components developed as part of the proposed work must identify a permissive, widely accepted OSS license and be developed within a public repository hosting service, beginning at the inception of the proposed work.

OSS is defined as software that can be accessed, used, modified, and shared by anyone. OSS is often distributed under licenses that comply with the definition of “Open Source” provided by the Open Source Initiative (<https://opensource.org/osd>) or meet the definition of “Free Software” provided by the Free Software Foundation (<https://www.gnu.org/philosophy/free-sw.html>).

Open Source Software Development Plan

“The Software Development Plan (SDP) describes a developer’s plans for conducting a software development effort. The SDP provides .. insight and a tool for monitoring the processes to be followed for software development. It also details methods to be used and approach to be followed for each activity, organization, and resources”¹

The outline provided here serves as a starting point for tailoring a project’s specific software development plan. Not all elements may be applicable or appropriate for every project.

¹ Source: <http://acqnotes.com/acqnote/careerfields/software-development-pla>

Sample Open Source Software Development Plan Outline

- Project Overview/Background
- Project Goals
- Project Timeline/Milestones
- Open Source Information
- Open Sourcing Process History
 - License Information
 - Code Repository Location(s)
 - Bug/Issue Tracking Repository
 - Documentation Location(s)
 - Developers Guide
 - Deployment
 - Testing
 - Usage
- Project Assumptions
- Project Organizational Roles/Description
 - Example Roles
 - Project Management Board
 - Project Leadership Team
 - Users
 - Testers
 - Technical Leadership Team
 - Developers/Committers
 - External Contributors
- Development Process Overview
- Testing Process Overview
- External Contribution Plan (e.g. Any Applicable [Contributor License Agreements](#))
- Communication Plan
- Code of Conduct
- Security Considerations
- Project Closeout Process
- Acronyms/Glossary