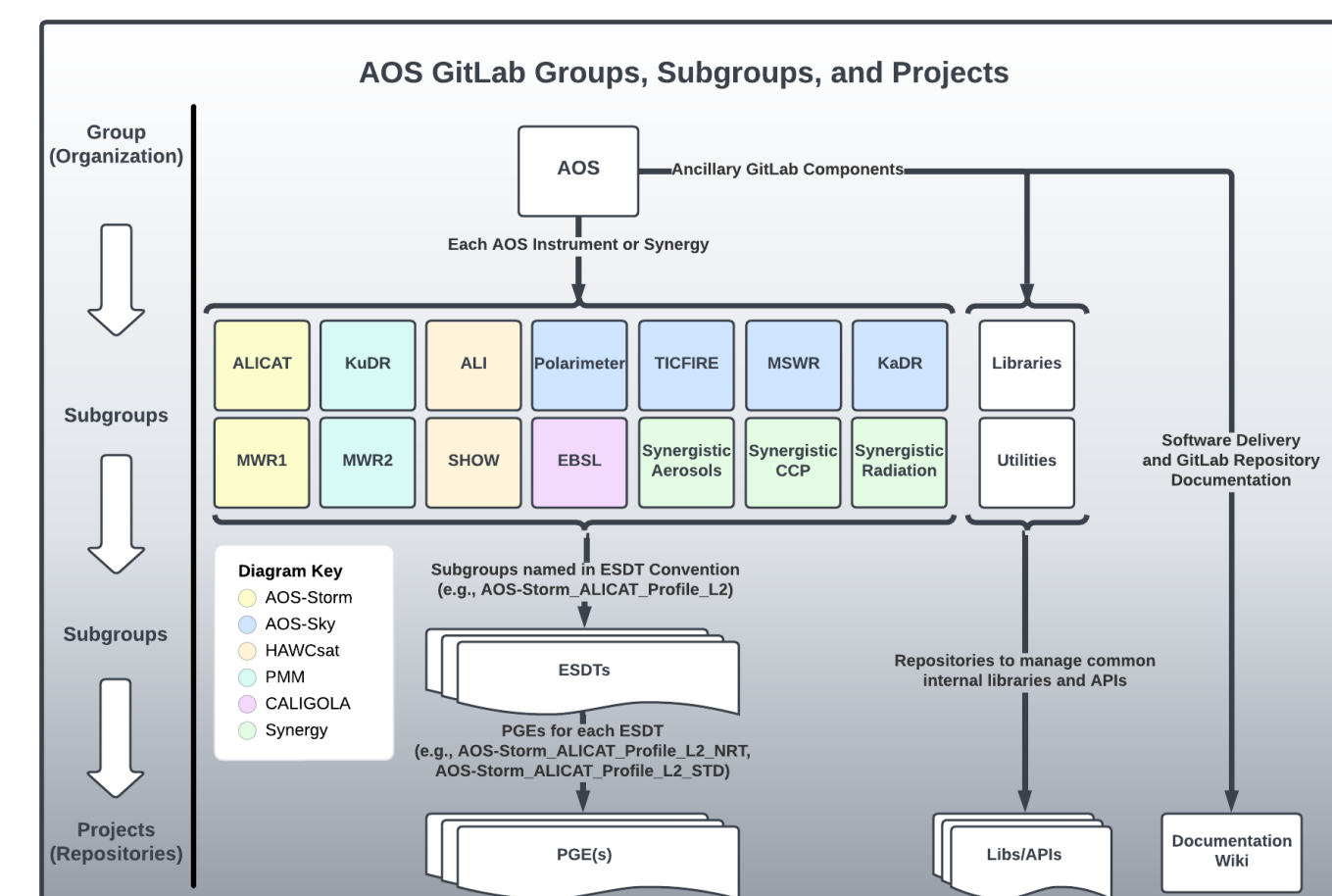
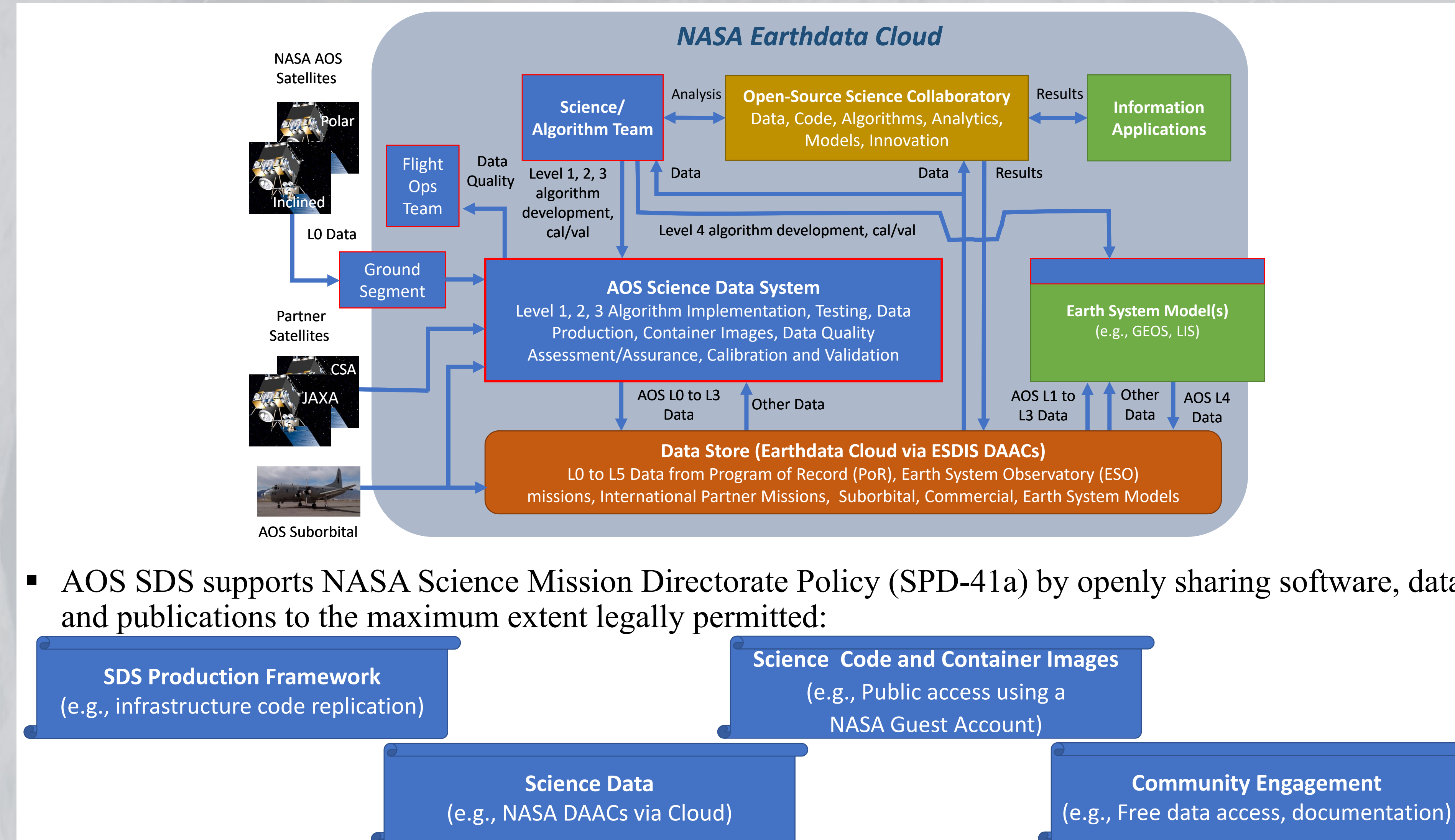


## AOS Mission

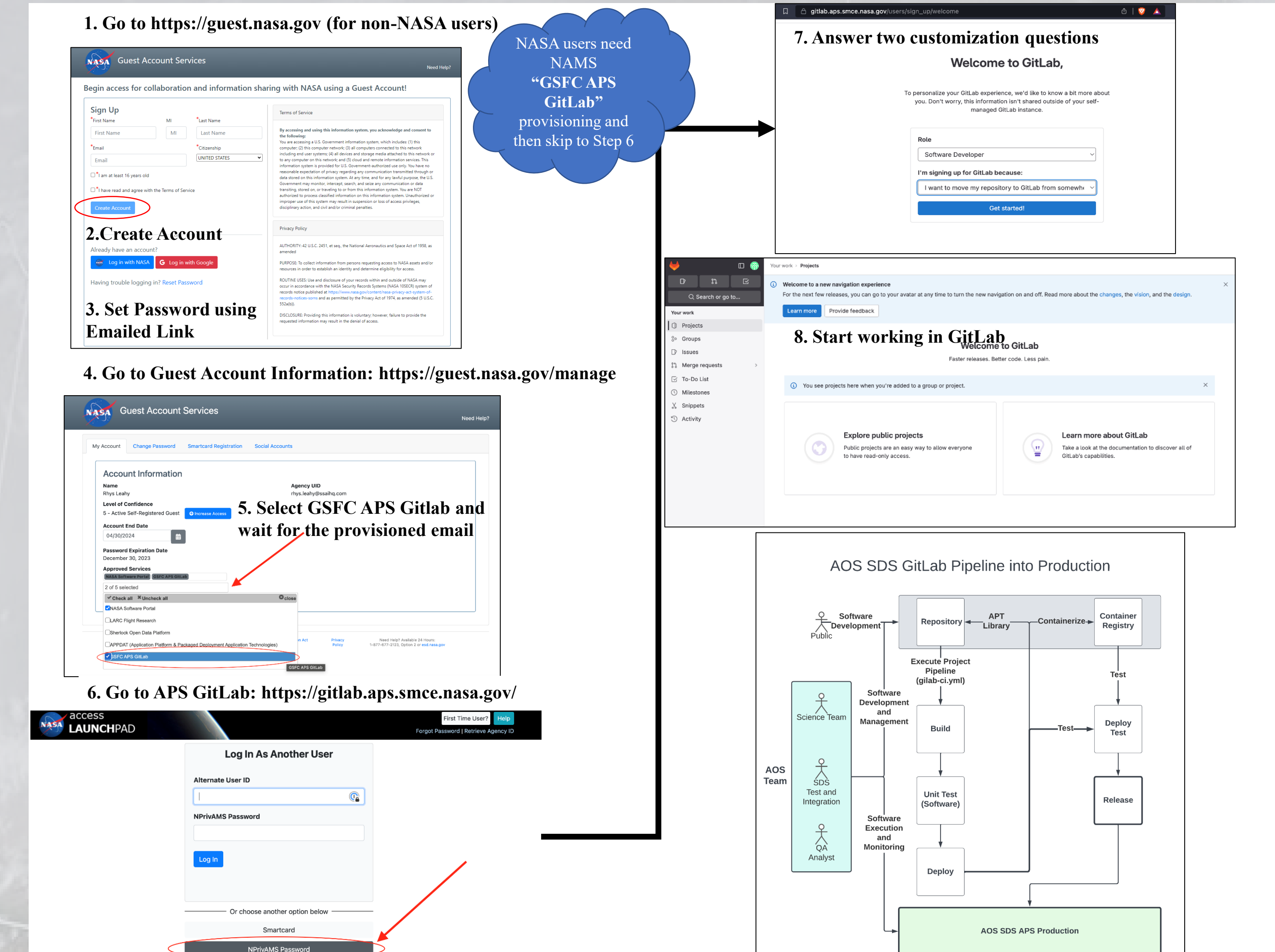
- The Earth System Observatory (ESO) Atmosphere Observing System (AOS) mission will provide space-based and suborbital observations of collocated cloud, convection, precipitation and aerosol processing leading to improved weather, air quality, and climate predictions.
- AOS SDS follows guidelines provided by NASA Earth Science Data Systems (ESDS) program including standard conventions for data file formats, naming, and metadata to improve data interoperability, interpretability, usability, discovery, provenance, and spatiotemporal representativeness.
- The AOS mission follows NASA's lead in making a commitment to Open-Source Science (OSS) including the sharing of data, software, and knowledge in an open and timely manner.
- The AOS mission is in Phase A, where SDS and other mission components (e.g., satellites and instrumentation) are pre-decisional (earliest planned launch 2029).**



## Open-Source Science and SDS



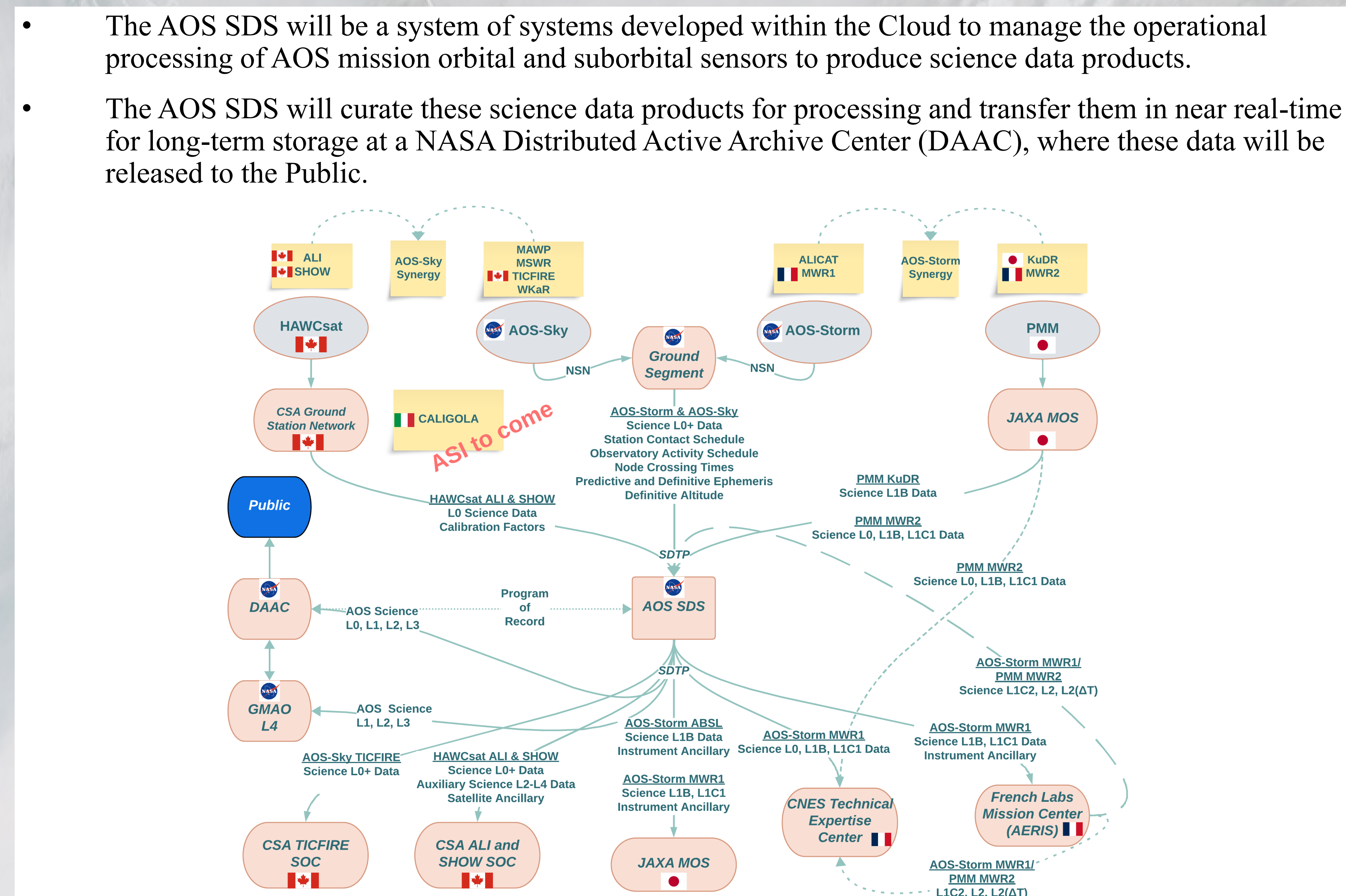
## Science Code and Container Images



## SDS Production Framework

- AOS SDS software will be released so the system can be replicated elsewhere following the two-step NASA software release process described below.
  - Submit a New Technology Transfer (NTR) request to identify the new technology (<https://invention.nasa.gov>).
  - Submit a NASA Software Release System (SRS) request to obtain open-source licenses (<https://softwarerelease.ndc.nasa.gov>).
- Each of the AOS SDS system components will be developed with open-source concepts including components of SDS itself as well as AOS mission algorithms. The AOS SDS Adaptive Processing System (APS) production framework will be developed using open-sourced components such as the ESDS emerging standard Science Data Transfer Protocol (SDTP).
- Other AOS SDS APS components such as Pinpoint, Metadata Extract and Access Database (MEAD), and Orchestra are currently in the process for open-source licensing.

## Science Data



## Community Engagement

- AOS SDS will promote the use of open-source science within AOS for sharing software, data, and knowledge in an open and timely manner.
  - Free unlimited data access
  - Fully documented open software and algorithms
  - Fully linked data and publications
  - Open access journal publications
  - Fully transparent processes
  - Reproducible across platforms
  - “Teaching” culture
  - Open science meetings

### Continuum of Open-Source Science



AOS Goal: *Open to the maximum extent possible!*

NASA OSS: <https://science.nasa.gov/researchers/open-science/>