



The role of research funder data policies and investments toward making data FAIR in the Earth and space sciences

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Federal data policy - NSF example

- **OSTP "Holdren" Memo (2013):** Federal-wide public access plan
- **NSF "Public Access Plan" (2015):** NSF response to OSTP memo
- **NSF Proposal & Award Policies & Procedures Guide (PAPPG):** High level guidelines, including data management plan (DMP) requirement (since 2011)
- **GEO data policies:** Division-specific (AGS, EAR, OCE, OPP) and some programs

NSF data guidance to PIs

NSF-wide (PAPPG) – DMP components:

1. Data types
2. Data standards
3. Access and sharing
4. Reuse and redistribution
5. Archiving and preservation

GEO Division and program policies:

- "Data" definition
- Repository selection (suggested or required)
- Timeframe for data release (typically, 2 years)
- Reporting guidelines (annual and final reports)

NSF merit review and data

	NSF proposal & award process	Data sharing policy, resource, or enforcement
PRE-PROPOSAL	Program solicitation / announcement	NSF data policy (PAPPG) Division data policies and resource lists Program data policies (solicitation)
	Proposal preparation	Training / coordination with data facility DMP template
PROPOSAL	Ad hoc review	Ad hoc reviewer guidance
	Panel review	Panel orientation training
	Program officer (PO) comments	PO may require panel discussion and panel summary description of DMP
		PO may require update to DMP prior to award recommendation
PROJECT	Annual project reports	Division data policies and solicitations may specify reporting requirements
	Final project report	PO may reject project reports without adequate description of data sharing
		Data facilities assist with data deposit
POST-PROJECT	Results from prior research	Document data products from prior NSF research
	Biosketch	

Strengthening data practices

- **Training for merit review:** PIs, proposal reviewers and panelists, project personnel (students, postdocs, staff), NSF program officers
- **Data skills training:** domain repositories, general-purpose repositories, libraries, professional societies
- **Other resources:** DMP tools (e.g., actionable DMPs), merit review templates (e.g., panel summaries), FAQs

Supporting FAIR data infrastructure

- **Cyberinfrastructure:**
 - Data facilities (typically supported at GEO Division level)
 - EarthCube projects for "system of systems" integration and interoperability (GEO-wide program)
 - NSF Office of Advanced Cyberinfrastructure (OAC)
- **Community activities:**
 - Workshops -- planning and standards
 - Research Coordination Networks (RCNs)
 - EarthCube governance committees