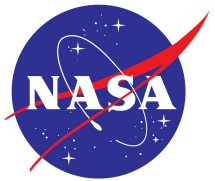
State of the ADS

Alberto Accomazzi and the ADS Team

ADS Users Group Meeting, 9-10 Nov. 2022



Overview

- Project Funding
- ADS Staffing
- Programmatic Goals for FY22 and FY23/24
- Review of 2021 ADSUG Recommendations
- 2022 ADS Staff Retreat

Project Funding

March 2021: ADS baseline funding set by NASA Astrophysics Division

- Five-year cooperative Agreement started on March 1, 2021
- Funds ADS at optimal levels with a staff of 16 FTEs

May 2021: Augmentation for Planetary Science and Heliophysics

- Adds 3 FTEs, expands scope of ADS's content and user base
- 15-month effort, includes request to develop larger plan for SMD

Sep. 2022: Augmentation for Earth and Biological and Physical Sciences

- 3.5-year plan with incremental staff increases
- Retains 3 FTEs increment for PS and HP, adds 4 FTEs in FY23
- Increases overall staffing to 16 FTEs over "baseline ADS" by 2026
- Ultimate goal is to serve all of NASA SMD's disciplines

ADS Staffing

Recruiting and retaining talent has always been a challenge for the project, which makes further expansion all the more difficult

- Currently ADS consists of 15 full-time employees, 7 working remotely
- Suffered three resignations this year (incl. system architect)
- Position of Project Scientist (Astrophysics) now open
- Additional part-time efforts and external sub-contracts have helped shore up our development needs

Expansion plan requires doubling this size over the next 3.5 years

- Biggest hiring effort yet, ramping up now
- Exploring new ways to recruit/screen candidates
- ADS obtained special dispensation from CfA telework policy, allowing more flexibility and hiring of remote employees

ADS Staff and Roles

- Alberto Accomazzi, PI and Program Manager
- Michael J. Kurtz, Project Scientist Emeritus
- Edwin A. Henneken, Content, Curation and Collaborations Lead
- Sergi Blanco-Cuaresma, **Technical Lead**
- Kelly Lockhart, **Back-End Development Lead**
- Carolyn S. Grant, **Data Ingestion Lead**
- Donna M. Thompson, Data Curation Librarian
- Tim Hostetler, User Interface and Front-end Developer
- Golnaz Shapurian, Senior Developer, Applications & Services
- Matthew Templeton, Data Ingestion and Curation Development
- Jennifer Chen, User Experience and Front-End Development
- Felix Grezes, Machine Learning and Natural Language Processing
- Jenny Koch, Digital Technologies Development Librarian
- Tom Allen, Astrophysics Data Support (**now full-time**)
- Taylor Jacovich, Back-office Development and Data Analysis
- **Vacant** - Back-office Development
- **Vacant** - DevOps Engineer
- **Vacant** - Search & Back-office developer
- **Vacant** - ADS Project Scientist for Astrophysics

Current ADS staff summary:

- 15 FTEs, 7 remote
- 4 vacant positions
- expansion: adds 4 additional FTEs this year

External Associates & Contractors

- Peter Williams, Back-office Development (part-time through end of 2022)
- Pavlos Protopapas, Interim Project Scientist for Data Science (part time)
- Winterway Consulting

Programmatic Goals FY2022

- ✓ Legacy System Updates: rewrite of ADS Article service has been completed, currently being tested prior to AAS launch
- ✓ Update curation workflows, ingest system, and data model (ongoing)
- ✓ User Interface refactor: build system with new javascript framework, develop full functionality (ongoing)
- ✓ Outreach: engage the community through participation at DPS, AGU, AAS, LPSC meetings
- ✓ Incorporate Machine Learning efforts in metadata enrichment and curation workflows (ongoing)
- ● Develop prototype for automated topic detection for papers using the Unified Astronomy Thesaurus
- ● Implement indexing of high-level data products published by NASA and other major archives

- ✓ Ingest 100% of available refereed literature in PS and HP, up to 50% of available gray literature
- ● Index content from ESSOAr preprints; index/link data and software records cited in PS and HP lit.
- ✓ Improve citation processing for PS and HP content (ongoing)
- ✓ Complete census of literature for Earth Sciences and Biological and Physical Sciences (ongoing)
- ✓ Deliver Updated Proposal for SMD Expansion Plan

Highlights for FY23-24

- Collection Development: Develop reporting system and metrics to evaluate coverage levels for all collections (metadata, fulltext, references, data, software) to inform prioritization and acquisition strategy
- System Architecture: updates to back-office and cloud infrastructure (storage layer, workflow engine, data schemas, disaster recovery)
- Legacy System Updates: continue work to replace back-office components (identifiers, harvesting pipelines, reference resolver, curation workflows)
- User Interface: achieve functional parity of new interface with existing one, prioritizing accessibility, maintainability, and speed
- AI/ML Efforts: Continue development of language models, use for metadata enrichment, document classification, and future text mining tasks; collaborate with other NASA archives and initiatives

2021 Recommendations - Outreach

The ADS Blog posts provide a very useful process for learning about these new features: it should be kept current as new features appear. Unfortunately, searching for instructions on how to achieve a particular goal (e.g., the NSF collaborator option mentioned above) is not as successful as searching ADS itself.

Three new blog posts written over the last year, more in the pipeline

The ADSUG suggests considering additional outlets to help communicate ADS's features and plans. One specific suggestion might be short (~1 minute) ADS YouTube videos (or GIFs) to highlight tips or to showcase one part of an under-used service or feature. These can be pushed out on social media, or highlighted in the newsletter one at a time. ADS should also consider a dedicated @AskADS Twitter helpdesk, plus integration of questions asked over Twitter, Messenger, WhatsApp, etc with the existing feedback system

Conducted #ADShelp twitter campaign with short animations; planning to reuse material in help pages and other support material

2021 Recommendations - UI

A simple way to generate a printable list of publications, with a small number of very basic formatting options, would benefit hiring search committees and grant applications. Specific formatting rules do not apply to many of these settings, and the existing mechanism (to print the HTML page) is often suitable.

Done - we now export a PDF document with list of papers, but further customizations require additional development

The final common feature request is a collection of minor requests to improve UI functionality, or to better highlight the existing functionality

Given the current list of priorities, all major UI efforts are being left for the next version of the interface. Regarding the expansion, we are developing a list of requirements for making the system more usable and accessible to a variety of new and novice users

2021 Recommendations - Expansion

The ADSUG recommends that (1) ADS prioritize maintaining its excellent quality of service to the astrophysics community while expanding into additional disciplines, and (2) that ADS engage in a thought-out branding / marketing strategy to communicate the expansion to the various SMD communities.

- *Balance between Communities/Disciplines*
- *Branding/Marketing of Expansion*
- *Considerations for Expanded Organizational Chart and Team Structure*
- *Remote and distributed teams*
- *ADS interactions/relationship with NASA*

We thank the panel for its thoughtful advice. All recommendations were considered and have been incorporated into the proposal / future plans.
Details on the expansion in tomorrow's presentation.

1st ADS Retreat - Schedule

	Monday 12th	Tuesday 13th	Wednesday 14th	Thursday 15th	Friday 16th
8:00 9:00					
9:00 10:00		Hackathon	Hackathon	Hackathon	SWOT Analysis
10:00 11:00				Presentations	
11:00 12:00		CfA Tours of the Great Refactor			Closure
12:00 13:00			Lunch	Lunch	
13:00 14:00	Expansion	Lunch			
14:00 15:00	Architecture	CfA Scavenger Hunt	Hackathon	Free Time / Cambridge Visit	
15:00 16:00	Activity				
16:00 17:00	Hack. Ideas	Progress Update			
17:00 18:00			CfA BBQ	CfA Trivia	
18:00 19:00			CfA BBQ	CfA Trivia	

1st ADS Retreat - Hackathon


Kelly

- Blog post:
  - Doc matcher: https://ui.adsabs.harvard.edu/blog/docmatcher
- myADS podcast
  - Listen to abstracts from your myADS emails
- Autocomplete
  - Test to auto-complete author names
- Graph database & Metrics computation
  - Tests to compute metrics faster than current implementation

1st ADS Retreat - Take-away messages

- What we accomplished
  - First time together for many staff members
  - We had fun and the hackathon was a success!

- Next Steps
  - Plan 3 events per year
  - Seek external help with event planning