

Update from the Committee on Astronomy and Astrophysics

Rachel Osten, CAA Co-Chair

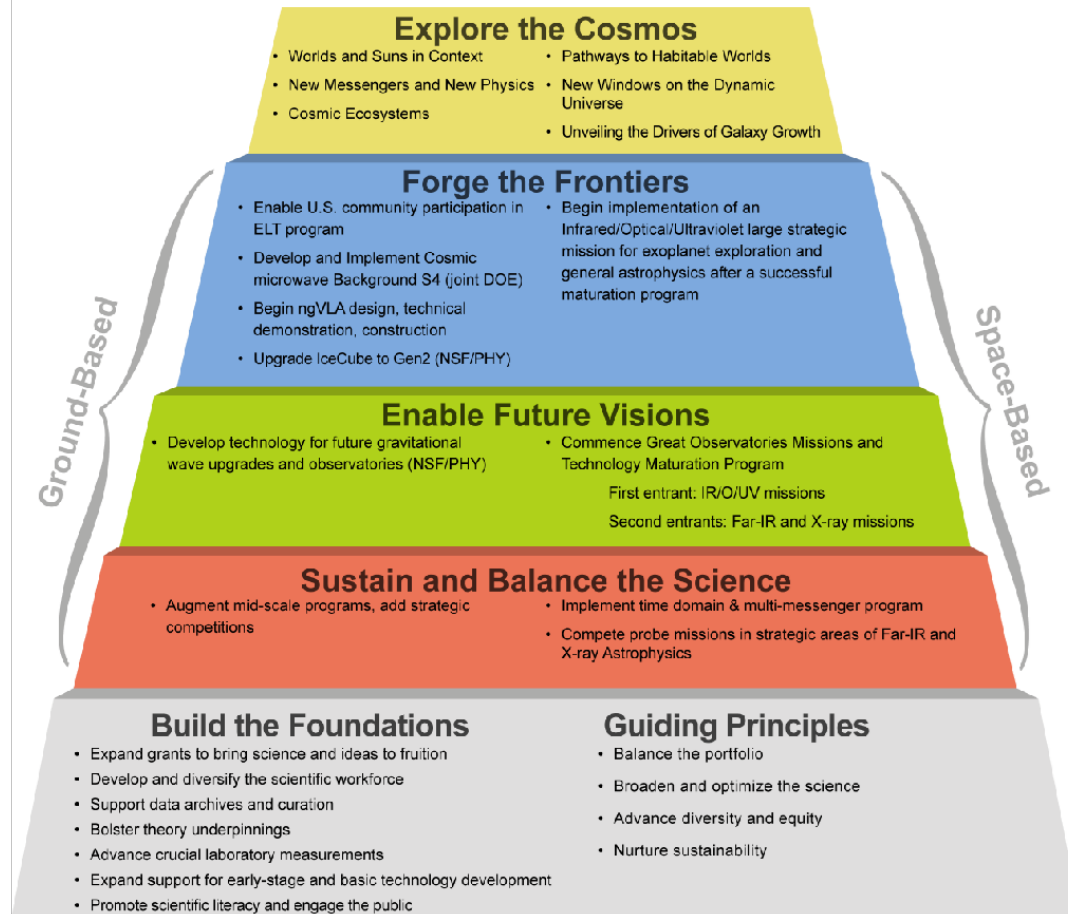
Alycia Weinberger, CAA Co-Chair

Disclaimer: These slides represent a personal assessment of the issues discussed by the CAA. This document should not be cited or quoted because the views expressed do not necessarily reflect those of CAA, SSB, BPA, or the NRC.

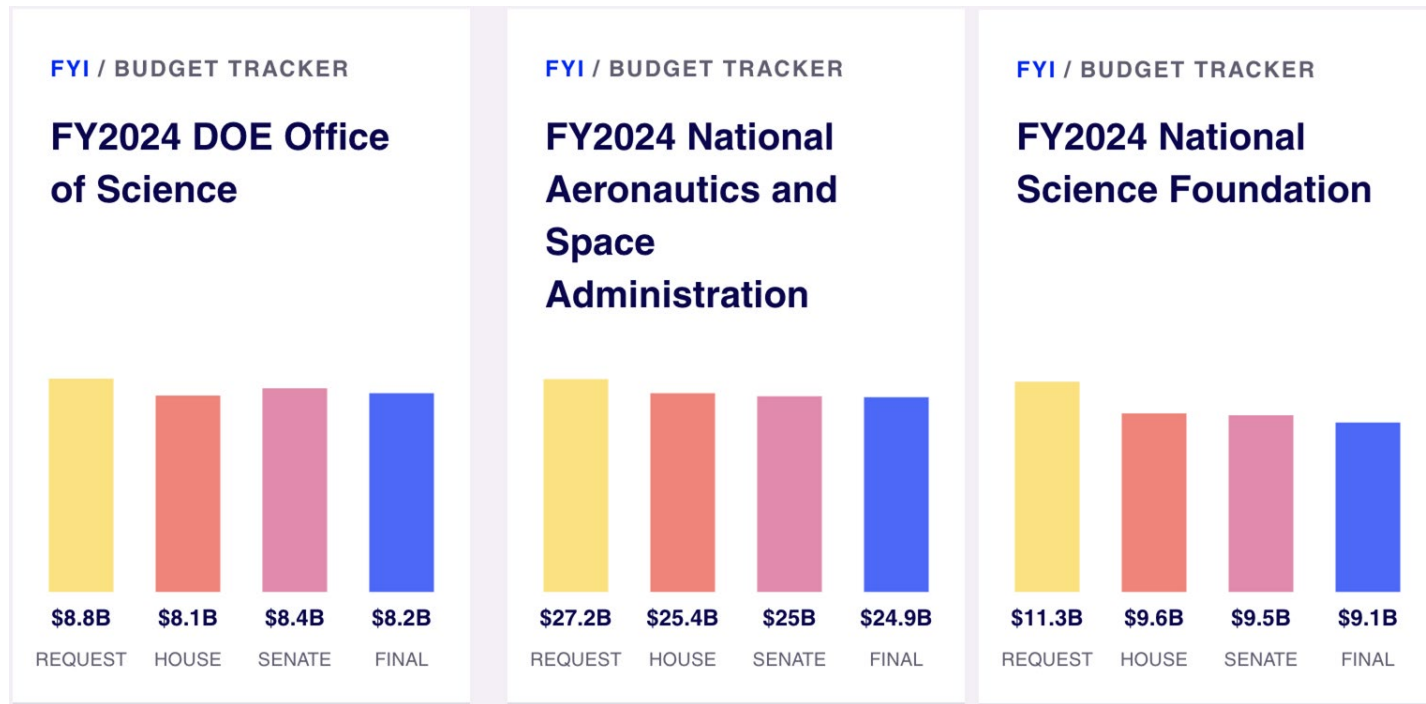
Membership

- Rachel Osten, Co-Chair, Space Telescope Science Institute
- Alycia Weinberger, Co-Chair, Carnegie Institution of Washington
- William Nielsen Brandt, Pennsylvania State University
- Ian Crossfield, University of Kansas
- Gabriela Gonzalez, NAS, Louisiana State University
- Alyssa A. Goodman, Harvard University
- Shaul Hanany, University of Minnesota
- Elizabeth Hays, NASA Goddard Space Flight Center
- Rob Kennicutt, NAS, Texas A&M University and University of Arizona
- Jeffrey R. Kuhn, University of Hawaii
- Elisa V. Quintana, NASA Goddard Space Flight Center
- Scott M. Ransom, National Radio Astronomy Observatory
- Brant Robertson, University of California, Santa Cruz
- Kate Scholberg, NAS, Duke University
- Joseph Silk, NAS, Université Pierre et Marie Curie
- Grant Stokes, NAE, MIT Lincoln Laboratory

Realizing the Astro2020 Program: Pathways From Foundations to Frontiers



Budgets for Agencies Supporting Astronomy – top line



Source: AIP Federal Science Budget Tracker

Budgets for Agencies Supporting Astronomy – programs

Agency	Actual 2023	Enacted 2024	Request 2025
NASA Astrophysics	\$1510 M	~\$1530 M	\$1578 M
NSF Astronomy	\$288 M	overall 7.5% NSF cut	\$318 M
DOE Cosmic Frontier	\$108 M	~\$105 M	\$98 M

Community Reviews – NSF

Advancing Astronomy
in the Coming Decade:
Opportunities and Challenges

Report of the National Science Foundation
Division of Astronomical Sciences
Portfolio Review Committee

August 14, 2012

Recommendation: The National Science Foundation Division of Astronomical Sciences should establish a regular cadence of reviews of its operational portfolio, at a frequency that is sufficient to respond to changes in scientific and strategic priorities in the field. An appropriate target is at least two reviews per decade.

Last NSF Portfolio Review in 2012

Recommendation from Astro2020

Community Reviews – NSF

DIVISION OF ASTRONOMICAL SCIENCES (AST)

\$294,050,000
+\$4,780,000 / 1.7%

	AST Funding (Dollars in Millions)			Change over	
	FY 2021	FY 2022	FY 2023	FY 2021 Actual	
	Actual	(TBD)	Request	Amount	Percent
Total	\$289.27	-	\$294.05	\$4.78	1.7%
Research	52.61	-	73.74	21.13	40.2%
CAREER	3.60	-	4.81	1.21	33.6%
Centers Funding (total)	0.30	-	0.30	-	-
Artificial Intelligence Research Institutes	0.30	-	0.30	-	-
Education	3.54	-	6.10	2.56	72.3%
Infrastructure	233.12	-	214.21	-18.91	-8.1%
Arecibo Observatory ¹	13.83	-	3.00	-10.83	-78.3%
Green Bank Observatory	8.90	-	9.12	0.22	2.5%
Mid-scale Research Infrastructure	19.17	-	19.50	0.33	1.7%
National Radio Astronomy Observatory (NRAO)	98.21	-	91.16	-7.05	-7.2%
NRAO O&M ²	49.53	-	40.53	-9.00	-18.2%
Atacama Large Millimeter Array (ALMA) O&M	48.68	-	50.63	1.95	4.0%
National Solar Observatory (NSO)	24.19	-	25.46	1.27	5.3%
NSO O&M	4.65	-	5.88	1.23	26.5%
Daniel K. Inouye Solar Telescope (DKIST) O&M	19.54	-	19.58	0.04	0.2%
NSF's National Optical-Infrared Astronomy Research Laboratory (NOIRLab)	60.32	-	58.97	-1.35	-2.2%
NOIRLab O&M (Mid-Scale Observatories & Community Science and Data Center) ³	29.95	-	25.99	-3.96	-13.2%
Gemini Observatory O&M	24.27	-	22.98	-1.29	-5.3%
Vera C. Rubin Observatory O&M	6.09	-	10.00	3.91	64.2%
Research Resources	7.94	-	7.00	-0.94	-11.8%

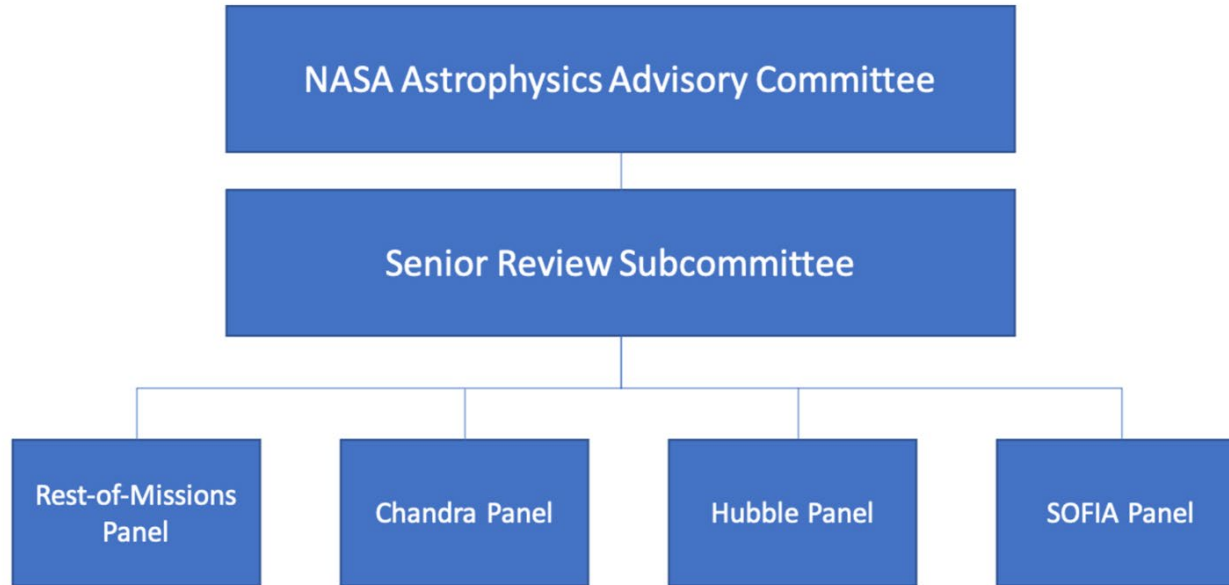
NSO
NRAO
NOIRLab } 3 FFRDCs within AST

¹ FY 2021 Actual includes \$10.57 million for emergency cleanup of the Arecibo site following the collapse of the platform above the 305-meter telescope in December 2020. FY 2021 Actual excludes \$0.53 million of O&M funding obligated in FY 2020.

² FY 2021 Actual includes funding for the ngVLA program office.

³ FY 2021 Actual includes special projects funding of \$9.44 million. FY 2023 Request contains \$4.86 million in additional research infrastructure and O&M costs, including additional costs for repairs and maintenance.

Community Reviews: NASA has a well-established route to evaluating missions in extended operations



graphic from 2022 Call for Proposals for NASA Astrophysics Division Senior Review of Operating Mission

Community Reviews

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Operations Paradigm Change Review (OPCR)

The APD will host an Mini-Senior Review of the Chandra and HST missions in 2024. The Review will assess proposed options for approaches to continue operations of missions in the extended operations phase, with reduced funding as proposed in the FY2025 President's Budget. The purpose of the review is to assist NASA in assessing the potential for limited scientific productivity and decreased operating efficiency of the HST and Chandra missions under the current and future budget realities. NASA will use the findings to:

- Define an implementation approach consistent with astrophysics strategic objectives,
- Prioritize the operating mode(s),
- Provide programmatic direction to the missions and projects concerned for FY25, FY26 and FY27; and
- Issue initial funding guidelines for FY28 and FY29 (possibly to be revisited in the 2025 Senior Review).

NASA actions resulting from the review could include authorizing a mission to; maintain the status quo; restructure the project; or terminate an ongoing science mission.

slide from Mark Clampin March 2024 presentation to CAA

Thank You!