



**STScI** | SPACE TELESCOPE  
SCIENCE INSTITUTE

EXPANDING THE FRONTIERS OF SPACE ASTRONOMY

## Cycles 2 and 3 Science Timelines

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August 26<sup>th</sup>, 2022



Cycle 1 proposal review summary

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## Proposal ingest

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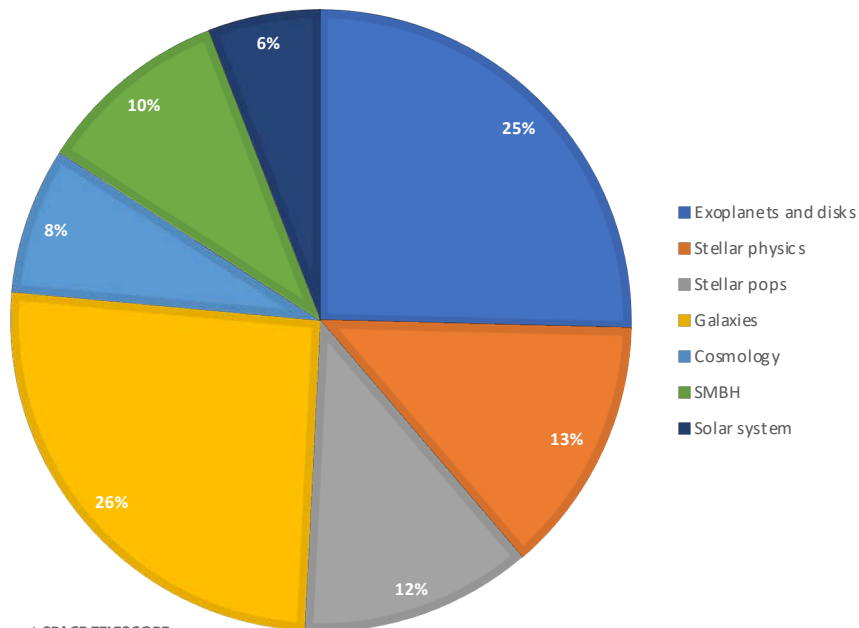
- Cycle 1 GO/AR deadline was November 24, 2020
  - 1174 proposals were received by this date
  - 40 proposals requested extension – all granted
  - 1173 proposals were complete by the December 3 deadline
- The 1173 submitted proposals included
  - 1084 GO proposals
    - 879 small (<25 hours), 168 medium (25→75 hours), 28 Large, 9 Pure Parallel
  - 14 Survey proposals
  - 75 AR proposals
    - 39 Regular, 33 Theory, 3 Legacy
- The proposals were assigned to 18 topical panels + Executive Committee for review



## Topical panel distribution

- Mirror panel numbers were adjusted to allow for proposal submission statistics
- 50-70 proposals per panel
- ~9 reviewers per panel → 183 TAC members including Chairs & At-Large

CYCLE 1 SUBMISSIONS



Science Category	Number of Topical Panels
Solar System	1
Exoplanets and Disks	3 → 4
Stars	5 → 3
Stellar Pops + ISM	2
Galaxies	4
Cosmology	2
Black Holes/AGN/QSOs	3 → 2



## Cycle 1 Review Schedule

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- Proposals were assigned to reviewers and distributed by mid-December 2020
- Preliminary reviews were due 2 weeks before the panel meeting
- Triage lists circulated ~10 days before panel meeting
- JWST Cycle 1 TAC met over a three week period to accommodate all the panels
  - February 16-19, 2021 - 10 Galactic panels
  - February 22-25, 2021 - 10 Extragalactic panels
  - March 1-4, 2021 – Executive Committee

All meetings were virtual

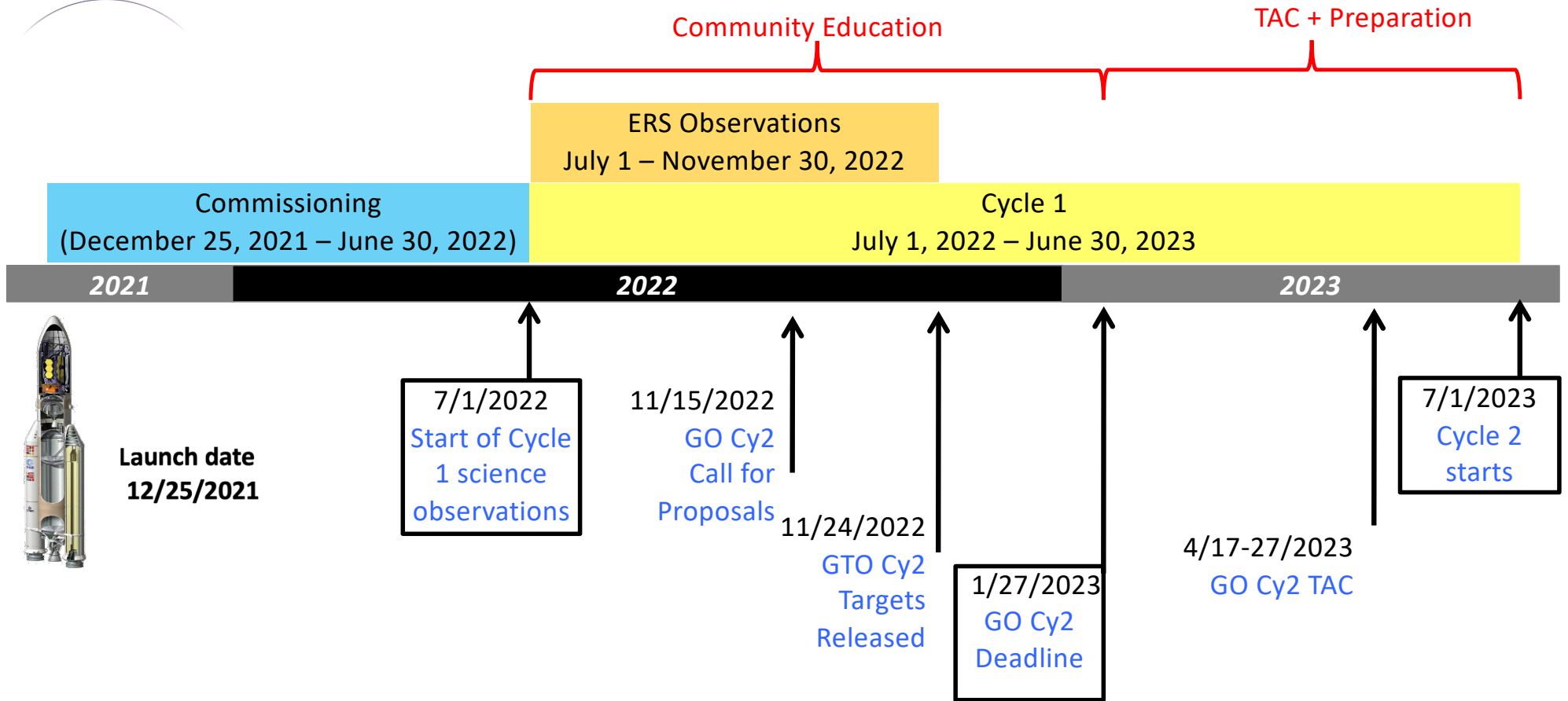
- March 18, 2021 - Director's review
  - High-level technical review of accepted programs
- Cycle 1 GO/AR results released by March 31, 2021

The background of the slide is a deep blue and purple starry night sky. A large, diffuse nebula with wispy, ethereal structures is visible on the left side, extending towards the center. The sky is filled with numerous stars of varying brightness and colors, including some prominent blue stars. A thin, horizontal orange line spans the width of the slide, positioned just below the text.

## Cycle 2 schedule



# Currently Published JWST Timeline





## Cycle 2 proposal expectations

JWST is now commissioned and is producing frontier science

- We should expect to receive substantially more proposals in Cycle 2
- The Cycle 2 TAC process needs to take this into account and ensure that we do not
  - Overload the workload for reviewers
  - Extend the TAC timeline by requiring too many topical panels
    - Our limit is ~10 panels in person, ~15 virtual panels
- Assume Cycle 1 proposal topical demographics – how many panels are required as a function of total submissions?

Total proposals	Solar system	Exoplanets	Stellar Physics	Stellar Pops	Galaxies	SMBH	LSS	Total panels
1170	1 (61)	4 (70)	3 (49)	2 (67)	4 (75)	2 (54)	2 (15)	18
1500	1 (78)	5 (72)	3 (63)	3 (57)	5 (77)	2 (69)	1 (38)	20
2000	2 (52)	7 (68)	4 (63)	3 (73)	7 (73)	3 (61)	1 (51)	27



## The hybrid approach

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- Reviewer fatigue is a common challenge
- Several observatories, including ALMA and HST, have adopted a hybrid process combining external reviewers & virtual panels
  - NB: The hybrid process was adopted to reduce workload, not because of covid
- Discussion meetings
  - Synchronous
  - Limited geographic reach: travel costs (in person), timezones (virtual)
  - High time commitment and workload for reviewers (50-70 proposals)
- External review
  - Asynchronous
  - Broader participation and representation of global JWST users
  - Reduced time commitment and workload (typically < 15 proposals)
  - Geographically more inclusive, with flexible schedules



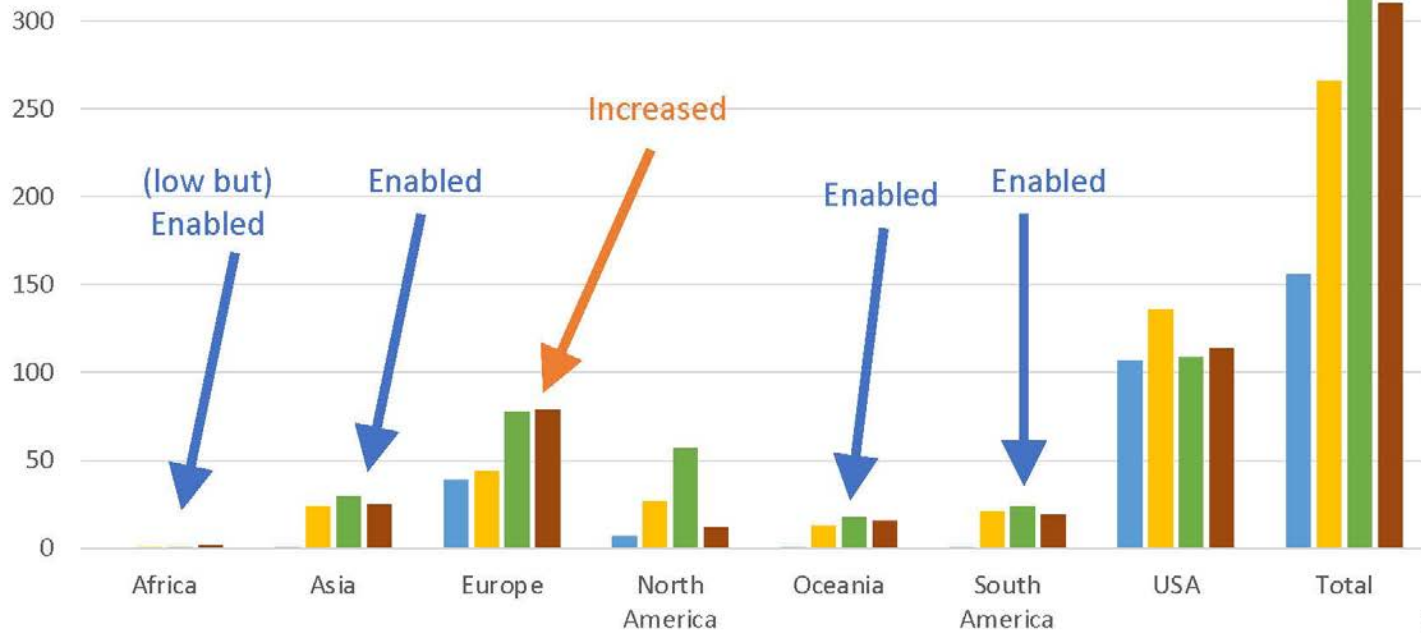
# How is it working for HST?



## The Hybrid Approach Enables More Global Participation

Panelist Region Representation by Cycle

■ Cycle 27 Discussion ■ Cycle 28 Hybrid ■ Cycle 29 Hybrid ■ Cycle 30 Hybrid



From May 2022 STUC meeting – Watkins presentation



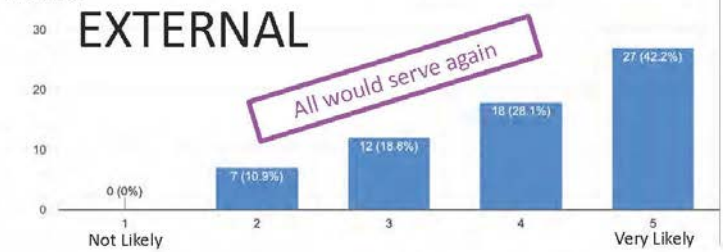
# How is it working for HST?



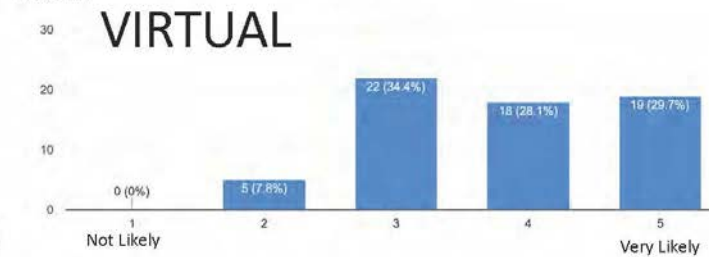
## How is it going?

### Survey responses from external reviewers

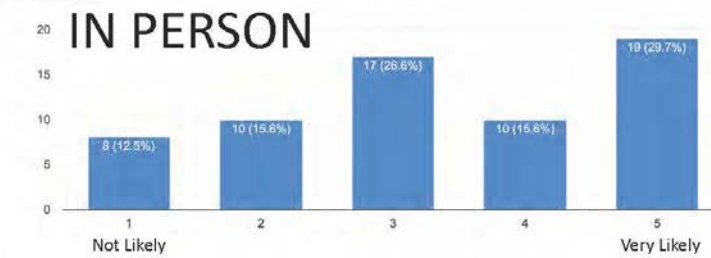
How likely are you to participate as an external reviewer for HST or JWST?  
64 responses



How likely are you to participate in a virtual HST or JWST review?  
64 responses



How likely are you to participate in an in-person HST or JWST review?  
64 responses



External review most popular response for future service, but geography....

From May 2022 STUC meeting – Watkins presentation



## How is it working for HST?

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### How is it going?

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- More global participation.
- Panelist survey responses mostly positive.
- Panelists workload:
  - Discussion: same or slightly lower than before, but for fewer panelists
  - External: much lower than discussion, for more panelists
  - **Ask External panelists to serve 2 years + mid-cycles.**
- Recruitment effort:
  - Discussion, usually 3x invitations as panelists, now for fewer panelists
  - External, usually 2x invitations as panelists, more panelists but only half recruited each year
  - **Overall more efficient SPG effort.**

From May 2022  
STUC meeting –  
Watkins  
presentation

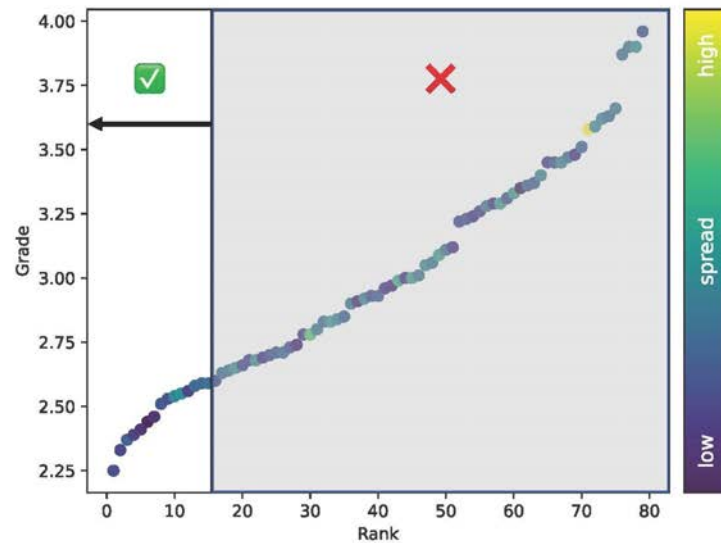


## Proposal grading



### Selection of Proposals Reviewed by External Panels

- 5 reviewers per proposal.
- STScI averages grades, makes ranked list.
- Panel is allocated N orbits.
- Cumulative orbit count calculated in rank order.
- Top-ranked proposals that total <N orbits recommended for acceptance.
- **Separate orbit pool for external panels.**



From May 2022  
STUC meeting –  
Watkins  
presentation

Note that external reviewers grade against an absolute scale using a standard rubric – grades for externally-reviews proposals have similar (often smaller) dispersion as in-panel proposals.



## Applying the process for JWST Cycle 2

- We plan to adopt a hybrid process for JWST Cycle 2
  - Small proposals will be distributed for external review (5 reviewers)
  - Intermediate & medium proposals will be reviewed by virtual panels
  - Large, Treasury & Legacy proposals will be reviewed by in-person Executive Committee
- Estimating the appropriate cutoff for small proposals – Cycle 1 demographics

	Solar system	Exoplanets	Stellar Physics	Stellar Pops	Galaxies	SMBH	LSS	Overall
10 hours	29%	31%	29%	32%	25%	28%	39%	28%
15 hours	42%	44%	48%	41%	42%	39%	42%	42%

- Estimated impact for 1500 total proposals

	Solar system	Exoplanets	Stellar Physics	Stellar Pops	Galaxies	SMBH	LSS	Panels
10 hours	1 (55)	4 (62)	2 (65)	2 (60)	4 (67)	2 (48)	1 (27)	16
<b>15 hours</b>	<b>1 (47)</b>	<b>3 (71)</b>	<b>2 (55)</b>	<b>2 (51)</b>	<b>3 (77)</b>	<b>2 (42)</b>	<b>1 (23)</b>	<b>14</b>



## External Reviews

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Small proposals requesting  $\leq 15$  hours of telescope time will be reviewed by External Panelists and not at the Telescope Allocation Committee (TAC) by Topical Panels.

### Rationale

- Broadens the community participation (i.e. geographic, early career) and expertise available for JWST proposal reviews.
- Reduces the work load for panelists by removing the smallest proposals, especially at a time when STScI expects increased interest in JWST.
- Develops a pool of External Reviewers for Director's Discretionary Time and Joint Proposals.



## Cycle 2 Science Timeline

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Date	Milestone
November 15, 2022	GO/AR Cycle 2 Call for Proposals Issued
January 27, 2023	GO/AR Cycle 2 Proposal Deadline
February 10, 2023	STScI Releases proposals to panelists for review and preliminary grading
March 29, 2023	Deadline for panelists to submit preliminary grades for proposals that they are assigned
April 17 – 20, 2023	Telescope Allocation Committee: Virtual Topical Panels (14 expected)
April 24 – 27, 2023	Telescope Allocation Committee: In-person Executive Committee Meeting
May 8, 2023	Director's Review
May 9 – June 30, 2023	Program Implementation of accepted proposals
May 10, 2023	PI notification letters are distributed
July 1, 2023	Beginning of Cycle 2 Observations



## Program Implementation of Accepted Proposals

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- Before observations can begin, programs must pass technical reviews by Program Coordinators and Instrument Scientists and be laid out in a Long Range Plan
- Technical Reviews of accepted programs and construction of the Long Range Plan usually take 12 weeks; however, the Cycle 2 science timeline only has 7 weeks allotted for these activities.
- Cycle 1, including all of the accepted Early Release Science (ERS), Guaranteed Time Observer (GTO), and General Observer (GO) programs, contains 16 months of planned observations.
- To provide sufficient time for Technical Reviews and Long Range Planning, the first month of Cycle 2 will be filled with Cycle 1 observations. Routine Cycle 2 observations will begin on August 1, 2023, a month later than the nominal beginning of Cycle 2.



## Cycle 2 Grants Timeline

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Date	Milestone
May 9, 2023	PI Notification Letters are distributed
May 16, 2023	Cycle 2 Budget Notification Letters are distributed
June 29, 2023	GO Cycle 2 Budget Deadline
July 1, 2023	Beginning of Cycle 2 Observations
July 13, 2023	STScI Releases budgets to Financial Review Committee (FRC) for review
Mid-August 2023	JWST Financial Review Committee (FRC) meeting
September 18, 2023	Director's Office Debrief
September 25, 2023	PI Budget Notification Letters are distributed

Since the Cycle 2 proposal deadline is late compared with the beginning of the Cycle 2, Cycle 2 grants will not be available for US investigators until approximately three months after the beginning of the cycle.



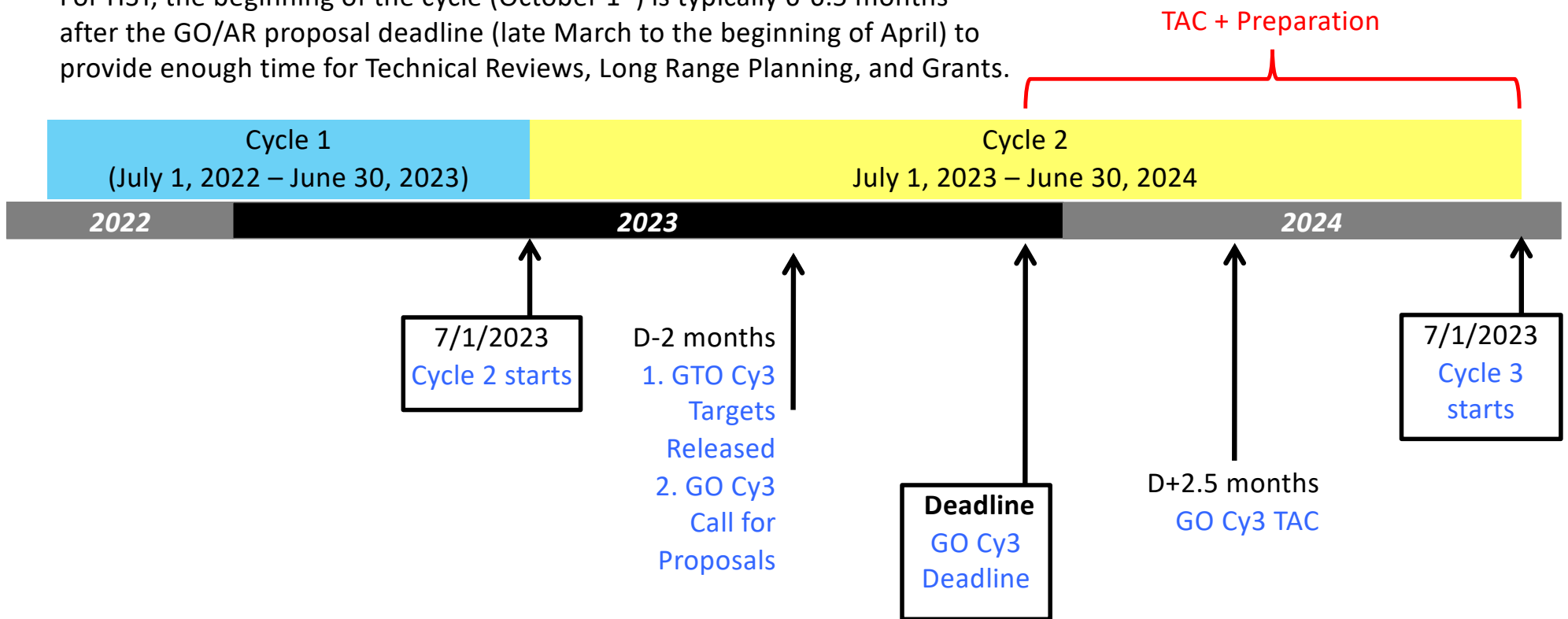
# JWST Science Timelines for Future Cycles

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## Future JWST Timeline

For HST, the beginning of the cycle (October 1<sup>st</sup>) is typically 6-6.5 months after the GO/AR proposal deadline (late March to the beginning of April) to provide enough time for Technical Reviews, Long Range Planning, and Grants.





## Setting the Cycle 3 schedule

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**We aim for a balance that maximises data access while allowing sufficient time to build an executable observing schedule**

We present three example schedules, setting the proposal deadline at

- October 27, 2023
  - Baseline plan, partly based on negative feedback from community on having the Cycle 1 GO/AR Proposal Deadline near the NSF AAG Proposal Deadline and Thanksgiving.
- December 1, 2023
- January 26, 2024
  - Neither mission starts on time, delayed start dates and access to grant funding.



## Option 1: October 2023 Deadline

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Date	Milestone
August 9, 2023	Call for Proposals
October 27, 2023	GO/AR Cycle 3 Proposal Deadline
January 22 – February 2, 2024	Telescope Allocation Committee
February 13, 2024	PI notification letters are distributed
June 1, 2024	Cycle 3 Observations Available to Schedule
July 1, 2024	Cycle 3 Start



## Option 1: October 2023 Deadline

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- Approximately 2340 hours (32%) Cycle 1 Data Public
- Advantages
  - Community: Deadline is in the middle of the quarter or semester.
  - Technical Reviews and Scheduling: Groups have ample time to perform Technical Reviews and build the Long Range Plan before the beginning of Cycle 3.
  - Grants: Cycle 3 funding will be available at the beginning of Cycle 3.
- Challenges
  - The least amount of cycle 1 data is public.



## Option 2: December 2023 Deadline

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Date	Milestone
September 13, 2023	Call for Proposals
December 1, 2023	GO/AR Cycle 3 Proposal Deadline
February 19 – March 1, 2024	Telescope Allocation Committee
March 12, 2024	PI notification letters are distributed
July 1, 2024	Cycle 3 Start
July 1, 2024	Cycle 3 Observations Available to Schedule



## Option 2: December 2023 Deadline

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- Approximately 2620 hours (35%) Cycle 1 Data Public
- Advantages
  - Technical Reviews and Scheduling: Groups have just enough time to perform Technical Reviews and build the Long Range Plan before the beginning of Cycle 3.
- Challenges
  - JWST Grants: Cycle 2 grants will be available no earlier than 1 month (with no margin) after the beginning of the cycle. Disproportionately disadvantages US scientists compared with scientists from other countries.
  - Community: The proposal deadline is coincident with the end of the Fall quarter for schools on the quarter system
  - HST Grants: HST Cycle 32 grants will be available no earlier than 1 month late (with no margin) after the beginning of the cycle. Disproportionately disadvantages US scientists compared with scientists from other countries.



## Option 3: January 2024 Deadline

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Date	Milestone
November 15, 2023	Call for Proposals
January 26, 2024	GO/AR Cycle 3 Proposal Deadline
April 15 – 26, 2024	Telescope Allocation Committee
May 7, 2024	PI notification letters are distributed
July 1, 2024	Cycle 3 Start
August 15, 2024	Cycle 3 Observations Available to Schedule



## Option 3: January 2024 Deadline

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- Approximately 3530 hours (48%) Cycle 1 Data Public
- Advantages
  - The largest amount of cycle 1 data is public.
- Challenges
  - JWST Grants: Cycle 2 grants will be available no earlier than 3 months (with no margin) after the beginning of the cycle.
  - Community: The proposal deadline is coincident with postdoc recruitment and Postdoc Fellowship search committees meetings (e.g. NASA NHFP).
  - JWST Program Review and Scheduling: The schedule does not have sufficient time for technical reviews and production of the Long Range Plan.
  - HST Scheduling: Significant impact on HST cycle schedule through overlapping activities. May require adjustments to cycle contract value/grant funding. Would require discussions with HST Project and STUC.
  - HST Grants: HST Cycle 32 grants will be available no earlier than 3 months (with no margin) after the beginning of the cycle.



## Summary

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- Cycle 2 will include
  - Nominal beginning of the cycle (August 1, 2023) occurring approximately one month later than the official beginning of the cycle (July 1, 2023)
  - Grants for US Investigators beginning 3 months after the beginning of the Cycle
- Cycle 2 GO/AR Proposal Review will be hybrid with small proposals (< 15 hours) reviewed externally
- Possible Cycle 3 proposal deadlines
  - October 27, 2023 has the advantage that there is sufficient time for cycle preparation and grants but the disadvantage that the least amount of Cycle 1 data is public at the time of the proposal deadline
  - December 1, 2023 has the advantage that there is sufficient time for cycle preparation but the disadvantage that grants would not be available at the beginning of Cycle 3.
  - January 27, 2023 has the advantage that the largest amount of Cycle 1 data is public but the disadvantages that there is not sufficient time for cycle preparation and grants are even later after the beginning of Cycle 3.
  - We ask for feedback from the JSTUC on their perspective on these options. We will finalize the schedule at the next JSTUC meeting.

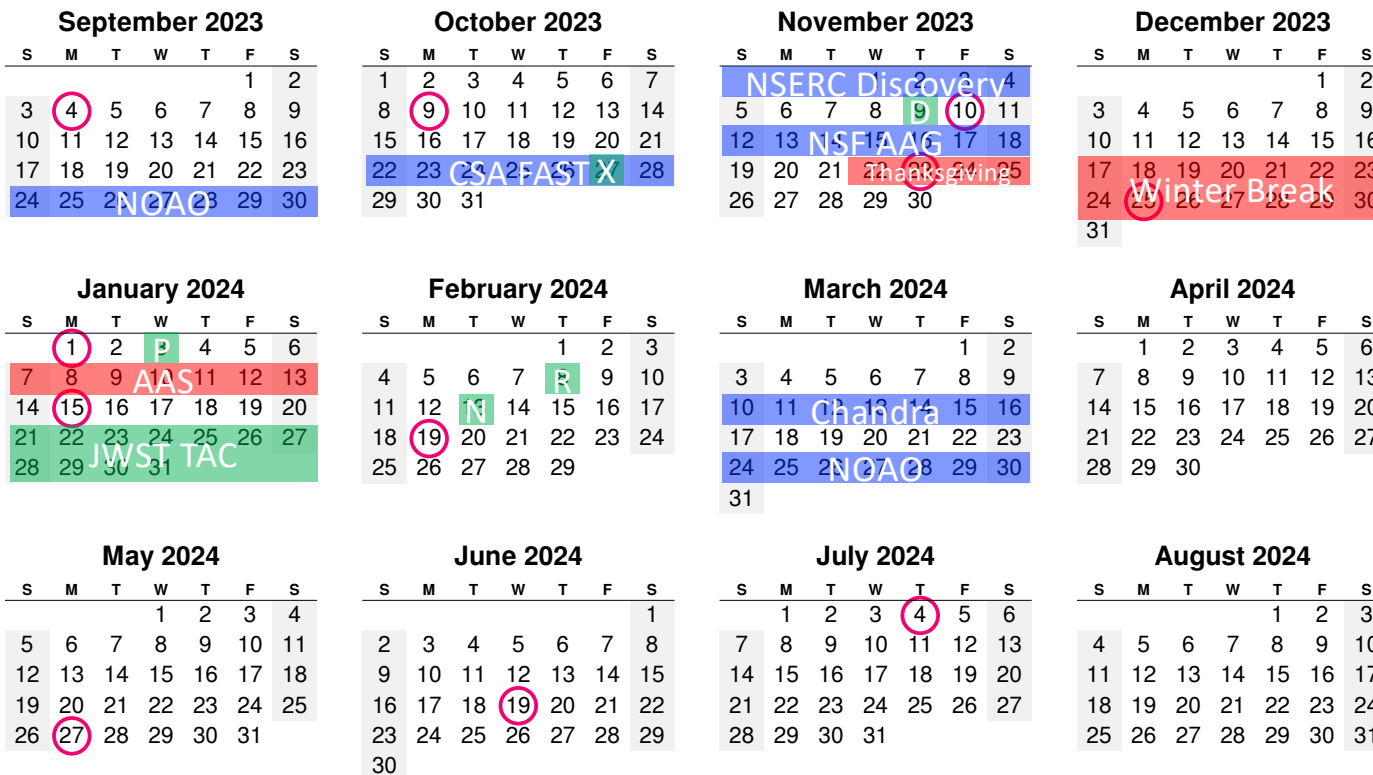


Backup Slides

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# October 27, 2022 Deadline

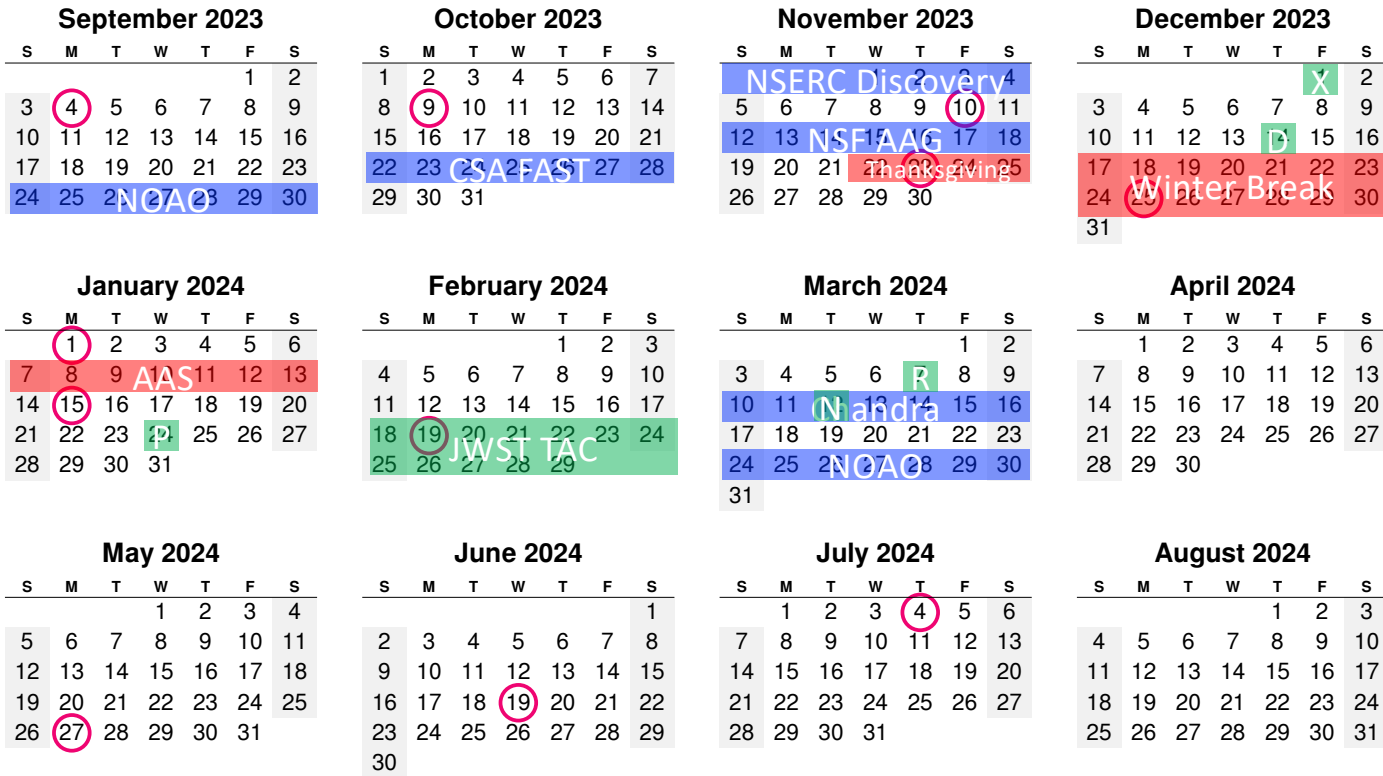
## September 2023–August 2024 (United States)



- |   |  |  |   |
|---|--|--|---|
| <b>Sep 4, 2023</b> • Labor Day<br><b>Oct 9, 2023</b> • Columbus Day<br><b>Oct 31, 2023</b> • Halloween<br><b>Nov 7, 2023</b> • Election Day<br><b>Nov 10, 2023</b> • 'Veterans Day' day off<br><b>Nov 11, 2023</b> • Veterans Day<br><b>Nov 23, 2023</b> • Thanksgiving Day | <b>Nov 24, 2023</b> • Black Friday<br><b>Dec 24, 2023</b> • Christmas Eve<br><b>Dec 25, 2023</b> • Christmas Day<br><b>Dec 31, 2023</b> • New Year's Eve<br><b>Jan 1, 2024</b> • New Year's Day<br><b>Jan 15, 2024</b> • Martin Luther King Jr. Day<br><b>Feb 14, 2024</b> • Valentine's Day | <b>Feb 19, 2024</b> • Presidents' Day<br><b>Mar 17, 2024</b> • St. Patrick's Day<br><b>Mar 31, 2024</b> • Easter Sunday<br><b>Apr 1, 2024</b> • Easter Monday<br><b>Apr 15, 2024</b> • Tax Day<br><b>May 5, 2024</b> • Cinco de Mayo<br><b>May 12, 2024</b> • Mother's Day | <b>May 27, 2024</b> • Memorial Day<br><b>Jun 14, 2024</b> • Flag Day<br><b>Jun 16, 2024</b> • Father's Day<br><b>Jun 19, 2024</b> • Juneteenth<br><b>Jul 4, 2024</b> • Independence Day |
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# December 1, 2022 Deadline

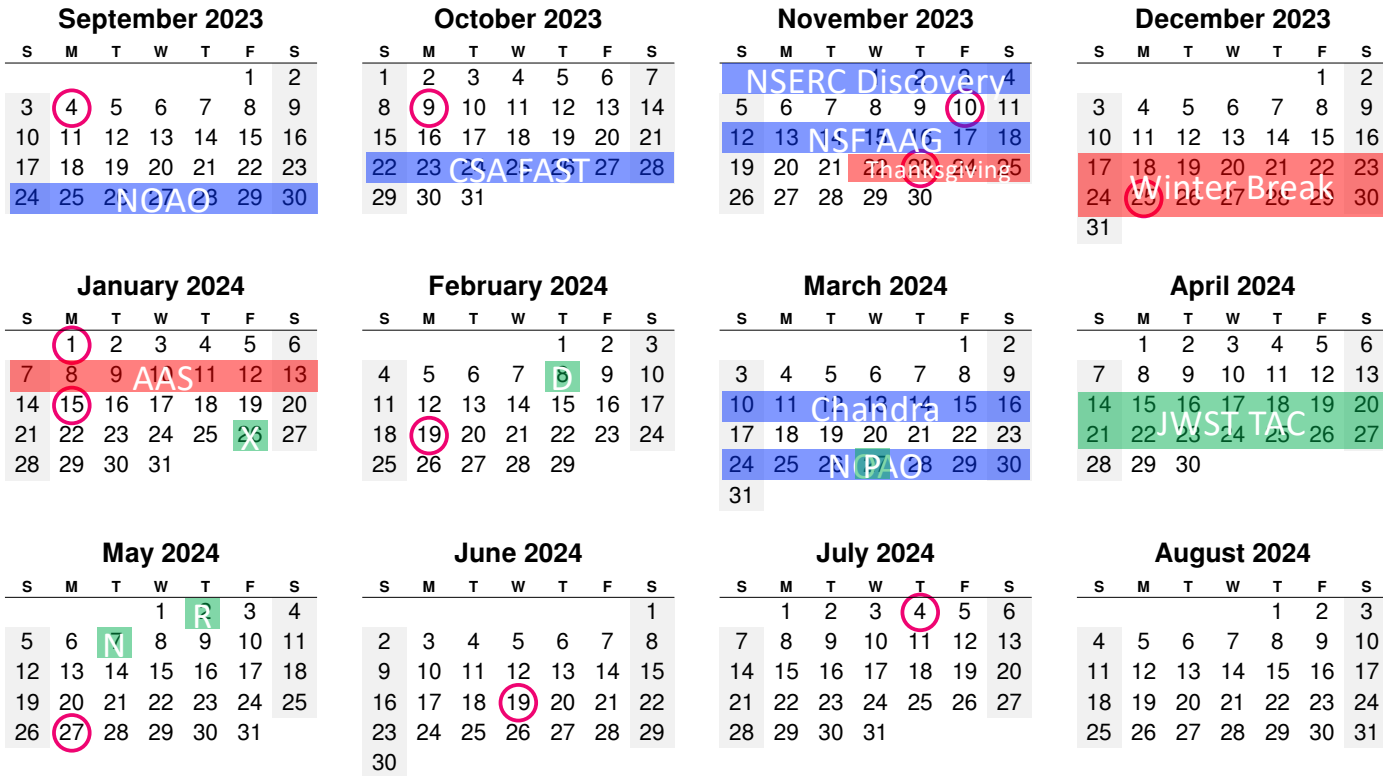
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# January 26, 2024 Deadline

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