EAP Community Survey - Update on Results

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Reminder: Current EAPs and Motivation for the Survey

- Current status: EAPs in place for JWST and HST.
- NASA mandate applies to future missions *not* current missions.
- Survey requested by JSTUC and STUC to gather information from both user communities. (Lead was Molly Peeples. **Thanks also for your inputs!**)
- Survey results won’t dictate policy but will help inform future discussions.
- There are lots of stakeholders (and formal agreements) — all would have to agree **IF** a change is ever proposed.
Survey Details

- **Released:** Monday November 28, 2022
- **Advertised broadly:**
  - >15k astronomers via STScI mailing list
  - publicised at AAS
  - circulated by NEXSci via their mailing list
  - posted on social media
- **Deadline:** Wednesday February 15, 2023
- **Total Responses:** 1171
- **Very preliminary results:** JSTUC meeting March 1, 2023

Data analysis is still ongoing!
Demographics
Preliminary Demographics

What is your gender identity?
1,171 responses

- Female: 60.8%
- Male: 31%
- Non-binary: [Small segment]
- Prefer not to say: [Small segment]
- "Tonka Truck": [Small segment]
- "Yes": [Small segment]
- "meat popsicle": [Small segment]
- "transgender woman": [Small segment]
What do you identify as your race and/or ethnicity?
1,171 responses

- American Indian or Alaskan... 8 (0.7%)
- Asian 109 (9.3%)
- Black or African American 11 (0.9%)
- Hispanic or Latinx 80 (6.8%)
- Native Hawaiian or Pacific Islander 4 (0.3%)
- White 879 (75.1%)
- Prefer not to respond 117 (10%)

+ write-ins
So far...

- **7 key questions:**
  - Have you used Archival HST data?
  - Have you used Archival JWST data?
  - Have you ever not done a project because of an EAP?
  - How would a reduced or zero EAP affect your research plans?
  - How do you think the following groups would be impacted by reduced or zero EAP?
  - What are the potential benefits of zero EAP?
  - What are the potential downsides of zero EAP?

- **3 demographic groups:**
  - Career Stage
  - Research Field
  - Geographic Region
Career Stage
Career Stage

- Undergraduate Student: 13 (1.1%)
- Graduate Student (PhD/Masters): 167 (14.3%)
- Postdoc: 190 (16.2%)
- Research Scientist / Long-Term: 225 (19.2%)
- Non Tenure-Track Faculty: 47 (4.0%)
- Tenure-Track Faculty: 120 (10.2%)
- Tenured Faculty: 357 (30.5%)
- Emeritus: 4 (0.3%)
- Other or No Response: 48 (4.1%)

Number of Respondents
Archival HST Data Use / Career Stage

Archival Hubble Data Use by Career Stage

- Yes:
  - Undergraduate Student: 13 (1.1%)
  - Graduate Student (PhD/Masters): 167 (14.3%)
  - Postdoc: 190 (16.2%)
  - Research Scientist / Long-Term: 225 (19.2%)
  - Non Tenure-Track Faculty: 47 (4.0%)
  - Tenure-Track Faculty: 120 (10.2%)
  - Tenured Faculty: 357 (30.5%)
  - Emeritus: 4 (0.3%)
  - Other or No Response: 48 (4.1%)
  - Total Yes: 86.6%

- No:
  - Undergraduate Student: 19.1%
  - Graduate Student (PhD/Masters): 38.4%
  - Postdoc: 24.9%
  - Research Scientist / Long-Term: 20.0%
  - Non Tenure-Track Faculty: 12.0%
  - Tenure-Track Faculty: 0.0%
  - Tenured Faculty: 29.2%
  - Emeritus: 0.0%
  - Other or No Response: 0.0%
  - Total No: 22.0%
Archival JWST Data Use / Career Stage

- Used publicly-available data in a paper submitted for publication
- Explored publicly-available reduced images (jpegs, pngs, tiff files)
- Explored publicly-available data (fits files)
- Explored publicly-available data for a potential science project

Archival JWST Data Use by Career Stage

- End Nov through mid Feb.

- Undergraduate Student: 13 (1.1%)
- Graduate Student (PhD/Masters): 167 (14.3%)
- Postdoc: 190 (16.2%)
- Research Scientist / Long-Term Visitor: 225 (19.2%)
- Non Tenure-Track Faculty: 47 (4.0%)
- Tenure-Track Faculty: 120 (10.2%)
- Tenured Faculty: 357 (30.5%)
- Emeritus: 4 (0.3%)
- Other or No Response: 48 (4.1%)
Have you ever not done a project because of EAP? / Career Stage

Did not do project because of non-zero EAP by Career Stage

- **Yes**
  - Undergraduate Student: 23.1%
  - Graduate Student (PhD/Masters): 16.8%
  - Postdoc: 20.0%
  - Research Scientist / Long-Term: 26.2%
  - Non Tenure-Track Faculty: 10.6%
  - Tenure-Track Faculty: 18.3%
  - Tenured Faculty: 29.1%
  - Emeritus: 18.8%

- **No**
  - Undergraduate Student: 53.8%
  - Graduate Student (PhD/Masters): 80.8%
  - Postdoc: 77.4%
  - Research Scientist / Long-Term: 77.0%
  - Non Tenure-Track Faculty: 87.2%
  - Tenure-Track Faculty: 81.7%
  - Tenured Faculty: 70.0%
  - Emeritus: 77.1%

- **No Response**
  - Undergraduate Student: 2.4%
  - Graduate Student (PhD/Masters): 2.6%
  - Postdoc: 1.3%
  - Research Scientist / Long-Term: 2.1%
  - Non Tenure-Track Faculty: 0.0%
  - Tenure-Track Faculty: 0.8%
  - Tenured Faculty: 0.0%
  - Emeritus: 4.2%

Number of Respondents:
- Undergraduate Student: 13 (1.1%)
- Graduate Student (PhD/Masters): 167 (14.3%)
- Postdoc: 190 (16.2%)
- Research Scientist / Long-Term: 225 (19.2%)
- Non Tenure-Track Faculty: 47 (4.0%)
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- Tenured Faculty: 357 (30.5%)
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- Other or No Response: 48 (4.1%)
Effect of Zero EAP on research plans / Career Stage

Zero EAP affect on research plans by Career Stage

- Undergraduate Student: 13 (1.1%)
- Graduate Student (PhD/Masters): 167 (14.3%)
- Postdoc: 190 (16.2%)
- Research Scientist / Long-Term: 225 (19.2%)
- Non-Tenure-Track Faculty: 47 (4.0%)
- Tenure-Track Faculty: 120 (10.2%)
- Tenured Faculty: 357 (30.5%)
- Emeritus: 4 (0.3%)
- Other or No Response: 48 (4.1%)

Number of Respondents

Fraction of Respondents in Career Stage
Effect of Zero EAP on research plans / Career Stage

Zero EAP affect on research plans by Career Stage

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- Tenured Faculty: 357 (30.5%)
- Emeritus: 4 (0.3%)
- Other or No Response: 48 (4.1%)

Number of Respondents

0 100 200 300 400 500 600 700 800
Potential Benefits/Downsides of Reduced EAP / Career Stage

Potential Benefits by Career Stage

Potential Downsides by Career Stage

Undergraduate Student - 13 (1.1%)
Graduate Student (PhD/Masters) - 167 (14.3%)
Postdoc - 190 (16.2%)
Research Scientist / Long-Term - 225 (19.2%)
Non Tenure-Track Faculty - 47 (4.0%)
Tenure-Track Faculty - 120 (10.2%)
Tenured Faculty - 357 (30.5%)
Emeritus - 4 (0.3%)
Other or No Response - 48 (4.1%)

Number of Respondents
Potential Benefits/Downsides of Reduced EAP / Career Stage

- **Potential Benefits by Career Stage**
  - Synergy / Translational: 88.9%, 61.7%, 61.7%
  - Information Management: 82.6%, 61.7%, 61.7%
  - Learning: 72.2%, 53.6%, 53.6%
  - Faster Results: 77.2%, 71.9%, 71.9%
  - Accelerated Mentoring: 56.4%, 48.2%, 48.2%
  - Citizen Science: 55.4%, 55.4%, 55.4%
  - Public Engagement: 57.2%, 57.2%, 57.2%
  - None or Write-In: 57.2%, 57.2%, 57.2%

- **Potential Downsides by Career Stage**
  - Rushed Publications: 88.9%, 61.7%, 61.7%
  - Pressure to publish: 82.6%, 61.7%, 61.7%
  - Unfair-Playing Field: 77.9%, 71.9%, 71.9%
  - Pressure to Small-Grant: 69.2%, 54.2%, 54.2%
  - Groups/Institutions: 47.4%, 37.2%, 37.2%
  - Discretionary-Creativity: 37.2%, 37.2%, 37.2%
  - None or Write-In: 16.3%, 16.3%, 16.3%

**Number of Respondents**
- Undergraduate Student: 13 (1.1%)
- Graduate Student (PhD/Masters): 167 (14.3%)
- Postdoc: 190 (16.2%)
- Research Scientist / Long-Term: 225 (19.2%)
- Non Tenure-Track Faculty: 47 (4.0%)
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- Other or No Response: 48 (4.1%)

**Legend**
- Green: < 50%
- Orange: 50% - 75%
- Red: > 75%
Potential Benefits/Downsides of Reduced EAP / Career Stage

Potential Benefits by Career Stage:
- Synergy
- Transfer
- Informed
- Proposal
- Theory
- Fetish
- Foster
- Results
- Accelerated
  Ment.
- Citizen
  Science
- Public
  Engagement
- None
  or
  Write-In

Potential Downsides by Career Stage:
- Rushed
  Publications
- Pressure
  Junior
- Unequal
  Playing Field
- Unfair
  Smoothening
- Group/Institution
  Resources
- Discontinuing
  Creativity
- None
  or
  Write-In

Undergraduate Student: 13 (1.1%)
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Other or No Response: 48 (4.1%)

Number of Respondents

0 100 200 300 400 500 600 700 800

Fraction of Respondents in Geographic Region

Fraction of Respondents in Career Stage

 lots of white space

little white space
Potential Benefits/Downsides of Reduced EAP / Career Stage

Some genuine potential benefits:

- Helps researchers with language barriers.
- Those who don't have access to a supportive community of mentors and resource analysts would have access to the data at the same time as their more well resourced colleagues.
- It will make the field much more diverse, equitable, and inclusive. It enables access to datasets required to be a successful astronomer. This obviously has a cascading effect in terms of who gets to do astronomy.

Some where a no response didn’t suffice:

- There are no benefits.
- I really don’t see any benefits. There is no need to share the photons right away.
- I see no positives that outweigh the negatives.
- I see zero benefits whatsoever. None of the above items will/would actually happen, and certainly not by making results or analyses that stand the test of time.
- There are no overall benefits that are in the public interest.
- <redacted for rudeness>
Impacts of reduced or zero EAP / Career Stage

+2: mostly positive
+1: somewhat positive
0: no impact
-1: somewhat negative
-2: mostly negative

Calculated average of responses in each bin.
Research Field
Research Subfield (multiple responses ok)

- Solar System: 98 (8.4%)
- Exoplanets: 344 (29.4%)
- Stellar Physics: 342 (29.2%)
- Local Interstellar Medium: 146 (12.5%)
- Resolved Stellar Populations: 154 (13.2%)
- Galaxy Evolution: 384 (32.8%)
- Black Holes and AGNs: 238 (20.3%)
- Circum- or Intergalactic Medium: 92 (7.9%)
- Cosmology: 137 (11.7%)
- Transients: 138 (11.8%)
Archival JWST Data Use / Research Field

- Used publicly-available data in a paper submitted for publication
- Explored publicly-available reduced images (jpegs, pngs, tiff files)
- Explored publicly-available data (fits files)
- Explored publicly-available data for a potential science project

End Nov through mid Feb.

- Solar System: 98 (8.4%) / 344 (29.4%)
- Exoplanets: 146 (12.5%) / 342 (29.2%)
- Stellar Physics: 154 (13.2%) / 384 (32.8%)
- Local Interstellar Medium: 238 (20.3%)
- Resolved Stellar Populations: 92 (7.9%)
- Galaxy Evolution: 137 (11.7%)
- Black Holes and AGNs: 138 (11.8%)
- Circum- or Intergalactic Medium: 32.1%
- Cosmology: 31.6%
- Transients: 36.6%
Have you ever not done a project because of EAP? / Research Field

Did not do project because of non-zero EAP by Science Area

- Solar System
  - No: 75.5% 344 (29.4%)
  - Yes: 146 (12.5%)

- Exoplanets
  - No: 75.0% 342 (29.2%)
  - Yes: 154 (33.2%)

- Stellar Physics
  - No: 72.2% 384 (32.8%)
  - Yes: 12.9%

- Local Interstellar Medium
  - No: 76.7% 238 (20.3%)
  - Yes: 7.2%

- Resolved Stellar Populations
  - No: 80.5% 138 (11.8%)
  - Yes: 137 (11.7%)

- Galaxy Evolution
  - No: 76.4% 138 (11.8%)
  - Yes: 77.2%

- Black Holes and AGNs
  - No: 65.7%
  - Yes: 65.9%

- Circum- or Intergalactic Medium
  - No: 65.9%
  - Yes: 1.9%

- Cosmology
  - No: 65.9%
  - Yes: 1.9%

- Transients
  - No: 65.9%
  - Yes: 1.9%

- Other
  - No: 65.9%
  - Yes: 1.9%

- None
  - No: 65.9%
  - Yes: 1.9%

- Don't know/Prefer not to answer
  - No: 65.9%
  - Yes: 1.9%

- Other category
  - No: 65.9%
  - Yes: 1.9%
Effect of Zero EAP on research plans / Research Field

Zero EAP affect on research plans by Science Area

- Solar System: 98 (8.4%) 344 (29.4%)
- Exoplanets: 146 (12.5%) 342 (29.2%)
- Stellar Physics: 154 (13.2%)
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- Transients: 

Number of Respondents

0 100 200 300 400
Potential Benefits/Downsides of Reduced EAP / Research Field

Potential Benefits by Science Area

Potential Downsides by Science Area

- Solar System: 344 (29.4%)
- Exoplanets: 98 (8.4%)
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- Resolved Stellar Populations: 154 (13.2%)
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- Black Holes and AGNs: 238 (20.3%)
- Circum- or Intergalactic Medium: 92 (7.9%)
- Cosmology: 137 (11.7%)
- Transients: 138 (11.8%)
people who study transients see benefits for transient science
Potential Benefits/Downsides of Reduced EAP / Research Field

Potential Benefits by Science Area

Potential Downsides by Science Area

Solar System
Exoplanets
Stellar Physics
Local Interstellar Medium
Resolved Stellar Populations
Galaxy Evolution
Black Holes and AGNs
Circum- or Intergalactic Medium
Cosmology
Transients

Number of Respondents

0 100 200 300 400

98 (8.4%) 344 (29.4%)
146 (12.5%) 342 (29.2%)
154 (13.2%)
384 (32.8%)
92 (7.9%)
137 (11.7%)
138 (11.8%)
Impacts of reduced or zero EAP / Research Field

+2 : mostly positive
+1 : somewhat positive
0 : no impact
-1 : somewhat negative
-2 : mostly negative

Calculated average of responses in each bin.
Geographic Region
Geographic Region

- United States: 662 (56.5%)
- North America, not US: 98 (8.4%)
- Europe: 348 (29.7%)
- Central or South America: 25 (2.1%)
- Australasia: 18 (1.5%)
- Asia: 19 (1.6%)
- Africa: 1 (0.1%)

Stats show either 0% or 100% of respondents.
Archival HST Data Use / Geographic Region

Archival Hubble Data Use by Geographic Region

Fraction of Respondents in Geographic Region

United States: 662 (56.5%) 98 (8.4%)
North America, not US: 348 (29.7%)
Central or South America: 25 (2.1%)
Australasia: 18 (1.5%)
Asia: 19 (1.6%)
Africa: 1 (0.1%)

Number of Respondents
Archival JWST Data Use / Geographic Region

Used publicly-available data in a paper submitted for publication

Explored publicly-available reduced images (jpegs, pngs, tiff files)

Explored publicly-available data (fits files)

Explored publicly-available data for a potential science project

End Nov through mid Feb.

Archival JWST Data Use by Geographic Region

- United States: 662 (56.5%)
- Europe: 348 (29.7%)
- Central or South America: 25 (2.1%)
- Australasia: 18 (1.5%)
- Asia: 19 (1.6%)
- Africa: 1 (0.1%)

Number of Respondents

Fraction of Respondents in Geographic Region
Have you ever not done a project because of EAP? / Geographic Region

Did not do project because of non-zero EAP by Geographic Region

- United States: 662 (56.5%)
- North America, not US: 98 (8.4%)
- Europe: 348 (29.7%)
- Central or South America: 25 (2.1%)
- Australasia: 18 (1.5%)
- Asia: 19 (1.6%)
- Africa: 1 (0.1%)

Fraction of Respondents in Geographic Region

Number of Respondents
Effect of Zero EAP on research plans / Geographic Region

Zero EAP affect on research plans by Geographic Region

- **United States**: 662 (56.5%)
  - Mostly Positively: 24.0%
  - Somewhat Positively: 15.3%
  - No Impact: 10.9%
  - Somewhat Negatively: 5.6%
  - Mostly Negatively: 7.3%

- **North America, not US**: 98 (8.4%)
  - Mostly Positively: 10.2%
  - Somewhat Positively: 10.6%
  - No Impact: 8.0%
  - Somewhat Negatively: 5.6%
  - Mostly Negatively: 7.9%

- **Europe**: 348 (29.7%)
  - Mostly Positively: 27.8%
  - Somewhat Positively: 13.5%
  - No Impact: 17.3%
  - Somewhat Negatively: 20.0%
  - Mostly Negatively: 15.3%

- **Central or South America**: 25 (2.1%)
  - Mostly Positively: 27.1%
  - Somewhat Positively: 20.4%
  - No Impact: 16.0%
  - Somewhat Negatively: 13.5%
  - Mostly Negatively: 15.3%

- **Australasia**: 18 (1.5%)
  - Mostly Positively: 34.5%
  - Somewhat Positively: 35.7%
  - No Impact: 39.6%

- **Asia**: 19 (1.6%)
  - Mostly Positively: 42.1%
  - Somewhat Positively: 22.2%
  - No Impact: 24.0%
  - Somewhat Negatively: 5.6%
  - Mostly Negatively: 7.3%

- **Africa**: 1 (0.1%)
  - Mostly Positively: 42.1%
  - Somewhat Positively: 22.2%
  - No Impact: 24.0%
  - Somewhat Negatively: 5.6%
  - Mostly Negatively: 7.3%
Potential Benefits/Downsides of Reduced EAP / Geographic Region

- **Potential Benefits by Geographic Region**
  - Symposium Transfers
  - Informal Proposals
  - Leveling Mix
  - Faster Results
  - Accelerating Mix
  - Citizen Science
  - Public Engagement
  - None or Write-In

- **Potential Downsides by Geographic Region**
  - Rushed Publications
  - Pressure Journal
  - Unequal Playing Field
  - Pressure Small Benefit
  - Group/Write-NS
  - Disincentivize Creativity
  - None or Write-In

- **Geographic Regions**
  - United States: 662 (56.5%)
  - North America, not US: 98 (8.4%)
  - Europe: 348 (29.7%)
  - Central or South America: 25 (2.1%)
  - Australasia: 18 (1.5%)
  - Asia: 19 (1.6%)
  - Africa: 1 (0.1%)

- **Fraction of Respondents in Geographic Region**
Potential Benefits/Downsides of Reduced EAP / Geographic Region

- **Potential Benefits by Geographic Region**
  - Symmetry/Transparency: 93.2%
  - Environment: 92.8%
  - Informed Proposals: 92.2%
  - Level/Title: 91.2%
  - Faster Results: 84.6%
  - Accelerating Minds: 70.2%
  - Citizen Science: 68.9%
  - Public Engagement: 61.1%
  - None or W/hite in: 52.0%

- **Potential Downsides by Geographic Region**
  - Rushed Publications: 93.2%
  - Pressure/Journal: 90.6%
  - Unequal Playing Field: 82.5%
  - Pressure/Small Grants: 65.0%
  - Groups/Wealth/Power Resources: 62.9%
  - Discriminates Creativity: 45.7%
  - None or W/hite in: 32.9%

**Number of Respondents**
- United States: 662 (56.5%)
- North America, not US: 98 (8.4%)
- Europe: 348 (29.7%)
- Central or South America: 25 (2.1%)
- Australasia: 18 (1.5%)
- Asia: 19 (1.6%)
- Africa: 1 (0.1%)
Impacts of reduced or zero EAP / Geographic Region

+2 : mostly positive
+1 : somewhat positive
0 : no impact
-1 : somewhat negative
-2 : mostly negative

Calculated average of responses in each bin.
Preliminary results so far

• A minority of the astronomy community favours moving to zero EAP.
• A majority does not favour moving to zero EAP and feels:
  • The disadvantages significantly outweigh the advantages.
  • Junior researchers (students and postdocs) and researchers at small/low-resource/teaching-heavy institutions will be most impacted.
• These results do not vary with research field, career stage, or geographic region.
• A large fraction of the community had already explored JWST by mid-February. (Very likely more now 3 months later!)
Next Steps

• Finish analysing the survey and compile report.
• Form a working group including STUC and JSTUC members.
• Working group will review the report and provide input to the STScI Director (and NASA).

• Anticipated timeline: report ready by mid-October.
This is still a work in progress…

More to come!