

JWST Community Engagement Data Analysis

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Scope and audience

Based on the Cycle 1 submission statistics, the observer community includes >4000 scientists.

Consider 3 different audience groups:

1. Highly experienced users
 - GTOs, instrument teams, STScI staff, ...
 2. Members of the community at-large with approved JWST open time programs
 - ERS teams, GO teams, teams with AR support
 3. Members of the community *without* active JWST observing programs, but who plan to analyze public data sets during Cycle 1
 - Many (most?) members of the JWST Observer community will not manage their own programs during cycle 1.
 - ~460 hours of ERS time, some GTO programs, and likely some GO programs will be available.
- Special focus on *both* groups 2 and 3.



Community input

- User surveys
 - 1-2 times a year, topical
 - Previous in 2019 on data analysis
 - upcoming is a survey on the GO1 proposal process
- Summary of 2019 data analysis survey
 - Python is common, but many also use other languages
 - Most expect to process data from individual, calibrated exposures
 - Most expect to download data from the archive and analyze locally
 - User expect training in JWST data, rather than general Python/non-specific tools
 - Critical need for just-in-time training
- Usage metrics
 - Google analytics of JDox and jwst.stsci.edu, ETC usage metrics, engagement on social media, youtube views, download statistics
- JSTUC Data Analysis Advisory Group (DAAG) – see presentation by George Becker
- Engagement by DD-ERS teams
 - Surveys and individual interviews



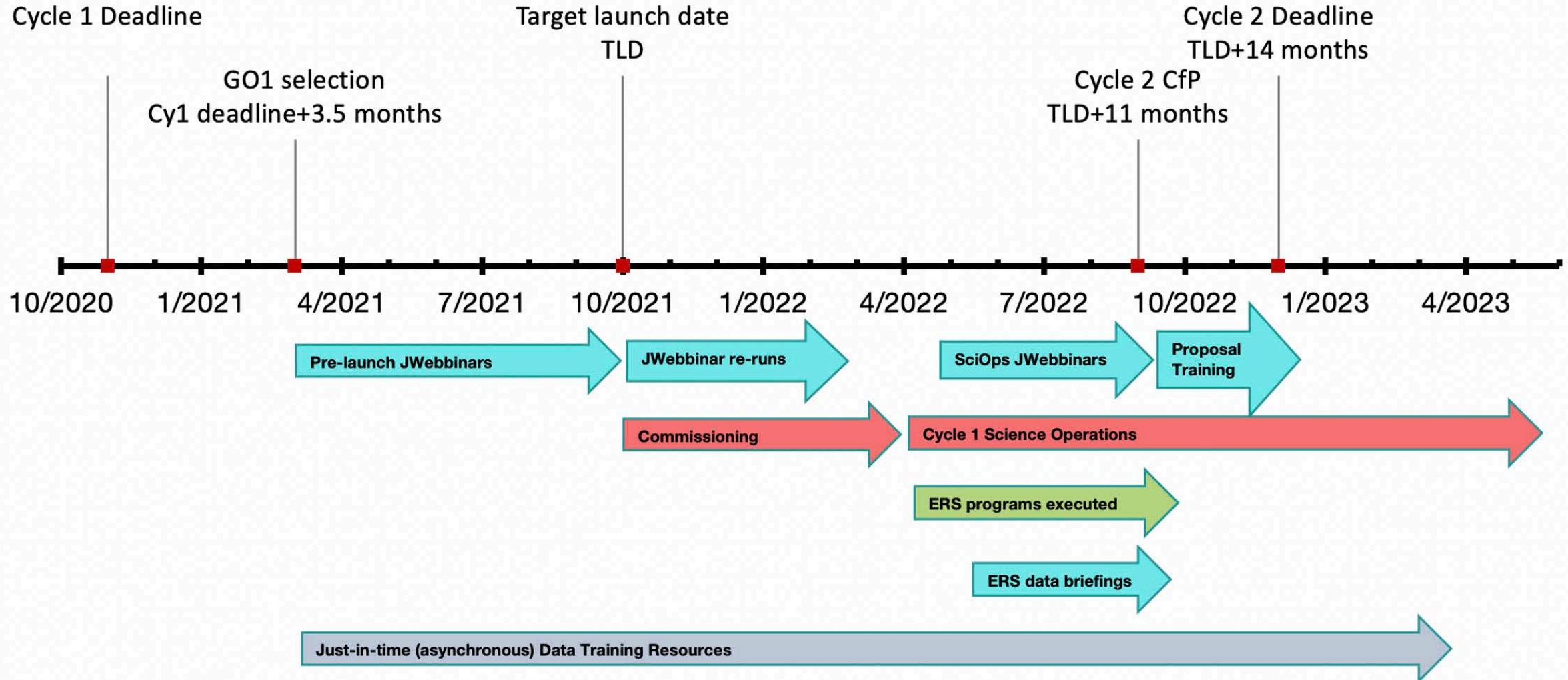
Workshops and events

- Events at large meetings (AAS)
 - Limited activities while AAS is virtual (no major advantage in hosting virtual workshops at the AAS – see JWebbinars).
 - Feedback at STScI booth and JWST Town Halls at winter AAS
- **Flagship activity – JWebbinar data analysis series**
 - Presentation by Susan Mullally
 - Objective is to reach a broad fraction of the community.
 - Online format offers flexibility
 - Anticipate multiple campaigns – one pre-launch and one post-commissioning
- Science conferences and workshops after the end of commissioning
 - Initial discussions begun

DPS 2020	Spokane, WA	10/23/20 - 10/30/20	<ul style="list-style-type: none"> • STScI booth • Town Hall 	2 weeks
AAS 237	Phoenix, AZ	1/11/21 - 1/15/21	<ul style="list-style-type: none"> • JWST Town Hall • STScI booth 	8 weeks
Cycle 1 Deadline	N/A	11/24/20	<ul style="list-style-type: none"> • Milestone 	N/A
Pre-launch JWebbinars	Virtual	4/1/21 - Launch	<ul style="list-style-type: none"> • Series of webinars 	1.2 year
AAS 238	Anchorage, AK	6/6/21 - 6/10/21	<ul style="list-style-type: none"> • Information Session/Town Hall? • Presentation of selected GO-1 program • Exhibit 	8
Target Launch Date	N/A	10/31/21	<ul style="list-style-type: none"> • Milestone 	N/A
JWebbinar repeats	Virtual	L – L+6 months	<ul style="list-style-type: none"> • Re-runs of previously held webinars 	2 weeks
First Science Observations	N/A	L+6 months	<ul style="list-style-type: none"> • Milestone 	N/A
DPS 2021	Providence, RI	10/3/21 - 10/8/21	<ul style="list-style-type: none"> • STScI booth 	2 weeks
Science operations JWebbinars	Virtual	L+8 months	<ul style="list-style-type: none"> • Series of webinars 	1 year
Cycle 2 CfP	N/A	L+8 months	<ul style="list-style-type: none"> • Milestone 	N/A
AAS 239	Salt Lake City, UT	1/9/22 - 1/13/22	<ul style="list-style-type: none"> • JWST Town Hall • First JWST science or ERO session? • Data Analysis Workshop 	8 weeks



Timeline





STScI resources for community engagement during commissioning

- While community interest in training is likely high during commissioning, STScI resources will be very limited during commissioning. **How to train the community during this time?**
 1. Existing JWebinars prepared for the pre-launch campaign will be repeated for new audiences. The number of repeated *JWebinars* will be scaled by demand.
 2. Extensive just-in-time resources for data analysis will be assembled and clearly linked, similar to what was done for proposal planning in the form of the “Workshop-in-a-box”.
 3. The JWST Help Desk will be available and responsive following normal guidelines and policies.
 4. Promotion of community-led data analysis workshops.



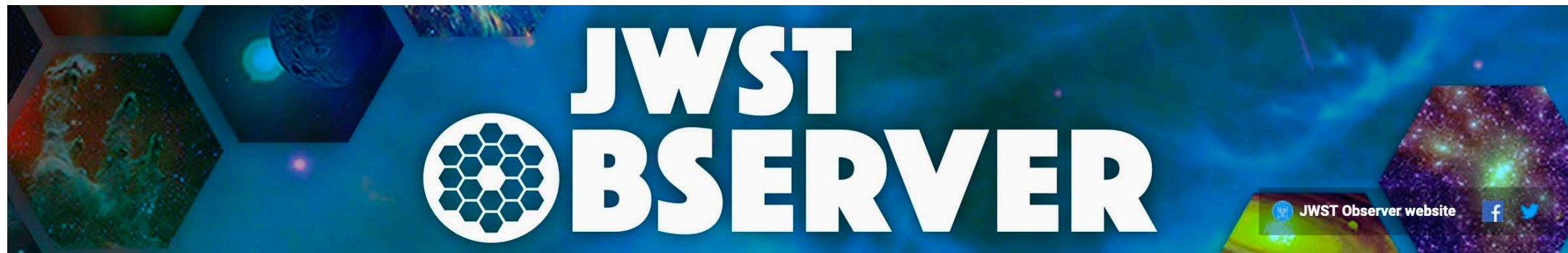
Online and asynchronous resources

- **Science use case Jupyter Notebooks for data analysis**
 - At least 22 on-track for completion (16 available now)
 - https://spacetelescope.github.io/jdat_notebooks/
- **Data analysis training videos on [youtube.com/jwstobserver](https://www.youtube.com/jwstobserver)**
 - Scope of these still to be determined
 - Examples may include visualization tools tutorials, data retrieval from MAST, use of selected Jupyter notebooks, recordings from JWebbinars
- **Simulated data**
 - As used by Jupyter Notebooks, but also available separately
 - Some simulated data sets expected from ERS teams
- **Data analysis documentation**
 - Level 0: jwst.stsci.edu eagle's-eye overview of complete data analysis ecosystem with links
 - Level 1: JDox articles providing scientific overview, best practices, use case examples
 - Level 2: Detailed software and reference documentation available on readthedocs



Data analysis on JWST Observer

- jwst.stsci.edu will have a central web area for data analysis to collect links to all appropriate resources
 - Notebooks, tools download and installation, JWebinars and other training events, documentation on JDox and readthedocs, etc.
 - Will also contain a curated summary list of simulated data sets.
 - Completion target date in spring 2021 (following the GO1 selection).
- News about data analysis tools will be disseminated on JWSTObserver news and social media
- New opt-in mailing list in staging for those who do not use social media
- Data analysis will take part in the bi-monthly JWST news roundup.





Proposal planning resources for Cycle 2

- Forward-looking, data analysis engagement will “compete” with the next proposal planning training campaign for Cycle 2.
- Campaign nominally to begin at least 3 months before the Cycle 2 deadline, at the latest at the Cy2 CfP, and about 5 months following the end of commissioning.
 - ERS programs will be available
 - Updated observatory performance will be available
- Training will be based on in-orbit performance, as far as is possible (but will be a challenge)
 - Significant ETC model updates
 - APT updates, including any new functionality
 - Updated JDOx articles
- Will take advantage of existing just-in-time resources as much as possible.
- Workshops (online or in-person) TBD.



JWST Cycle 1 User Survey

- To be announced on JWSTObserver and with the email exploder
- Includes questions on
 - Demographics of respondents (which sample of the community did we get?)
 - Training resources (Master class, asynchronous resources)
 - Proposal Tools (APT, ETC, ancillary tools)
 - Documentation and Help Desk (JDox, knowledgebase, live interactions)
 - News (JWST Observer, website, news roundup, social media)
 - Call for Proposals
- Plan to keep active through the winter AAS, probably closing toward the end of January
- Will solicitate at AAS, ask ESA to circulate through their channels
- Will send out a reminder one week before close.

Please circulate announcement to maximize response. We aim for >300 responses, but hope for more (10% of community).