

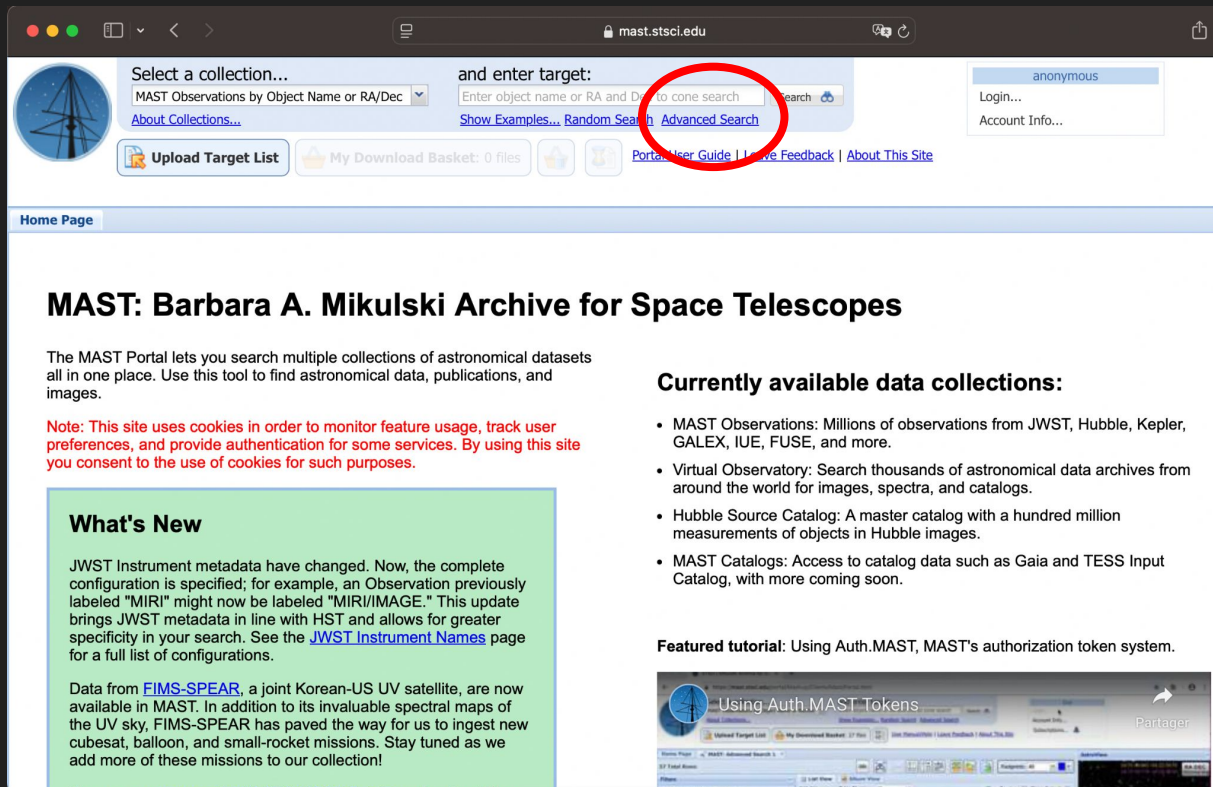
Final Project: Downloading NGC 3324 data

Instructions for the ASTR 19 Final Project

Step 1: Go to the MAST website

Go to
mast.stsci.edu

And press
“advanced
search”



The screenshot shows the MAST website homepage. At the top, there is a navigation bar with a logo on the left and a search area on the right. The search area has a dropdown menu for "Select a collection..." and a text input field for "and enter target:". The "Advanced Search" link is circled in red. Below the navigation bar, there is a "Home Page" tab. The main content area has a heading "MAST: Barbara A. Mikulski Archive for Space Telescopes" and a paragraph describing the portal. A note about cookies is displayed. There is a "What's New" section with two updates. A list of "Currently available data collections" is provided. A "Featured tutorial" section is at the bottom right, with a thumbnail image of a tutorial titled "Using Auth.MAST Tokens".

Select a collection... MAST Observations by Object Name or RA/Dec

and enter target: Enter object name or RA and Dec to cone search

[About Collections...](#) [Show Examples...](#) [Random Search](#) [Advanced Search](#)

[Upload Target List](#) [My Download Basket: 0 files](#) [Portals User Guide](#) [Leave Feedback](#) [About This Site](#)

anonymous
Login...
Account Info...

Home Page

MAST: Barbara A. Mikulski Archive for Space Telescopes

The MAST Portal lets you search multiple collections of astronomical datasets all in one place. Use this tool to find astronomical data, publications, and images.

Note: This site uses cookies in order to monitor feature usage, track user preferences, and provide authentication for some services. By using this site you consent to the use of cookies for such purposes.

What's New

JWST Instrument metadata have changed. Now, the complete configuration is specified; for example, an Observation previously labeled "MIRI" might now be labeled "MIRI/IMAGE." This update brings JWST metadata in line with HST and allows for greater specificity in your search. See the [JWST Instrument Names](#) page for a full list of configurations.

Data from [FIMS-SPEAR](#), a joint Korean-US UV satellite, are now available in MAST. In addition to its invaluable spectral maps of the UV sky, FIMS-SPEAR has paved the way for us to ingest new cubesat, balloon, and small-rocket missions. Stay tuned as we add more of these missions to our collection!

Currently available data collections:

- MAST Observations: Millions of observations from JWST, Hubble, Kepler, GALEX, IUE, FUSE, and more.
- Virtual Observatory: Search thousands of astronomical data archives from around the world for images, spectra, and catalogs.
- Hubble Source Catalog: A master catalog with a hundred million measurements of objects in Hubble images.
- MAST Catalogs: Access to catalog data such as Gaia and TESS Input Catalog, with more coming soon.

Featured tutorial: Using Auth.MAST, MAST's authorization token system.

Using Auth.MAST Tokens

Step 2: Find the data

Fill the following fields:

- Object Name: NGC 3324
- Observation type: science
- Mission: JWST
- Instrument: NIRCam/IMAGE
- Product type: image

Let it load (it takes a while...)

The screenshot shows the MAST Advanced Search interface. At the top, there's a search bar with the text "Select a collection... and enter target:". Below this, the "MAST Advanced Search" section displays "Records Found: 274 608 935" with load and download limits. The "Applied Filters" section shows a "Clear All" button. The "Columns" section on the left lists various fields with checkboxes, including "Object Name or Position", "Observation Type", "Mission", "Provenance Name", "Instrument", "Project", "Filters", "Waveband", "Target Name", "Target Classification", "Sequence Number", and "Observation ID". The "Filters" section on the right contains four panels: "Object Name or Position" (with a search input and a "Show Examples..." link), "Observation Type" (with a table showing counts for "science" and "calibration"), "Mission" (with a search input and a table showing counts for "HLSP" and "SPITZER_SHA"), and "Provenance Name" (with a search input and a table showing counts for "QLP" and "SSC Pipeline").

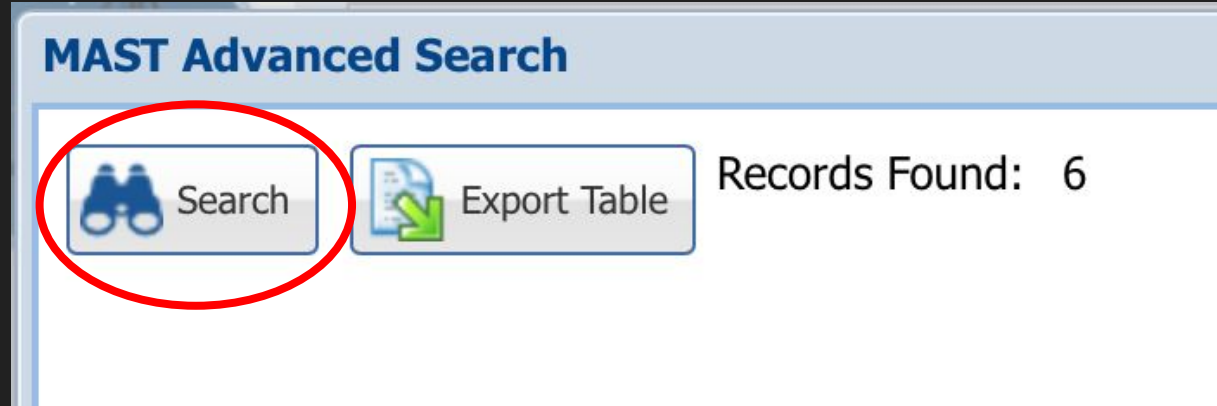
Name	Quantity
science	(268 370 394 Total)
calibration	(6 051 147 Total)

Name	Quantity
HLSP	(197 502 680 Total)
SPITZER_SHA	(65 500 521 Total)

Name	Quantity
QLP	(86 980 090 Total)
SSC Pipeline	(65 500 521 Total)

Step 3: Search

The search should return 6 records. Press “Search” to access them in the main menu.



Step 4: Select data to download

Select all the data and press “Add to download basket” to open the download manager.

The screenshot displays the MAST Advanced Search interface. At the top, there's a search bar with the text "Select a collection..." and "and enter target:". Below this, there's a section for "Upload Target List" and "My Download Basket: 0 files". The main content area shows a table of search results with columns for "Actions", "Observation T...", "Mission", "Provenance Name", and "Instr". A red circle highlights the "Add to download basket" icon (a green square with a white plus sign) in the "Actions" column of the first row. On the right side, there's an "AstroView" panel showing a celestial image with coordinates and a red box indicating a region of interest.

Actions	Observation T...	Mission	Provenance Name	Instr
1	science	JWST	CALJWST	NIR
2	science	JWST	CALJWST	NIR
3	science	JWST	CALJWST	NIR
4	science	JWST	CALJWST	NIR
5	science	JWST	CALJWST	NIR
6	science	JWST	CALJWST	NIR

Step 5: Select images and download

In each folder, select only the file name that ends with “i2d.fits”. These contain the 2D images (i2d). Download everything on your computer.

!! Warning !! : The downloaded zip file is 9 Go, and the extracted files are 19 Go, meaning you need ~30 Go of available space on your disk. If you don't have that space, let your instructor know.

The screenshot displays the MAST Download Manager web interface. At the top, there are search fields for 'Select a collection...' and 'and enter target:'. Below these, the 'Download Manager' window is open, showing a list of files under the 'JWST' mission. The 'Files' list includes folders like 'JWST' and 'JWST2731-0001_t017_nircam_clear-f444w', each containing several files. The 'Recommended Products' sidebar on the left shows filters for 'Minimum Recommended Products' (30 of 30), 'Product Category' (AUXILIARY, SCIENCE, PREVIEW, INFO), 'Extension' (fits, jpg, csv, json, ersv), and 'Group' (GS-TRACK). The 'Details' sidebar on the right provides metadata for the selected file, including Product Group ID, Mission, Product Type, Observation ID, Description, Type, URI, Product Category, Product Group, Product Subgroup, Product Documentation, Project, Calibration Version, Proposal ID, Filename, File Size, and Parent Product Group ID.

Mission	Observation	File	Files	Actions	File S
JWST			30		
JWST2731-0001_t017_nircam_clear-f444w			5		
JWST2731-0001_t017_nircam_clear-f444w_seg.f...			1		
JWST2731-0001_20250410t003255_image3_0000...			0		
JWST2731_20250410t003255_pool.csv			0		
JWST2731-0001_t017_nircam_clear-f444w_cat.ecsv			4		
JWST2731-0001_t017_nircam_clear-f444w_i2d.fits			9		
JWST2731-0001_t017_nircam_f444w-f470n			5		
JWST2731-0001_t017_nircam_f444w-f470n_seg.m...			1		
JWST2731-0001_20250410t003255_image3_0000...			0		
JWST2731_20250410t003255_pool.csv			0		
JWST2731-0001_t017_nircam_f444w-f470n_cat.e...			3		
JWST2731-0001_t017_nircam_f444w-f470n_i2d.fits			9		
JWST2731-0001_t017_nircam_clear-f187n			5		
JWST2731-0001_t017_nircam_clear-f187n_seg.f...			4		
JWST2731-0001_20250410t003255_image3_0000...			0		
JWST2731_20250410t003255_pool.csv			0		
JWST2731-0001_t017_nircam_clear-f187n_cat.ecsv			1		

Summary	
Product Group ID (obsID):	221760668
Mission (obs_collection):	JWST
Product Type (datapoint_type):	image
Observation ID (obs_id):	jw02731-o001_t017_nircam_clear-f335m
Description (description):	exposure/target (L2b/L3): rectified 2D image
Type (type):	D
URI (dataURI):	mast:JWST/product/jw02731-o001_t017_nircam_clear-f335m_i2d.fits
Product Category (productType):	SCIENCE
Product Group (productGroupDescription):	Minimum Recommended Products
Product Subgroup (productSubGroupDescription):	I2D
Product Documentation (productDocumentationURL):	
Project (project):	CALJWST
Calibration Version (prvversion):	1.17.1
Proposal ID (proposal_id):	2731
Filename (productFilename):	jw02731-o001_t017_nircam_clear-f335m_i2d.fits
File Size (size):	944812800
Parent Product Group ID	221760668

Step 6: Ask for help if you need it!

The ASTR 19 TA and Instructor are here to help you. Please reach out in class, via Slack, or via email if you need assistance!