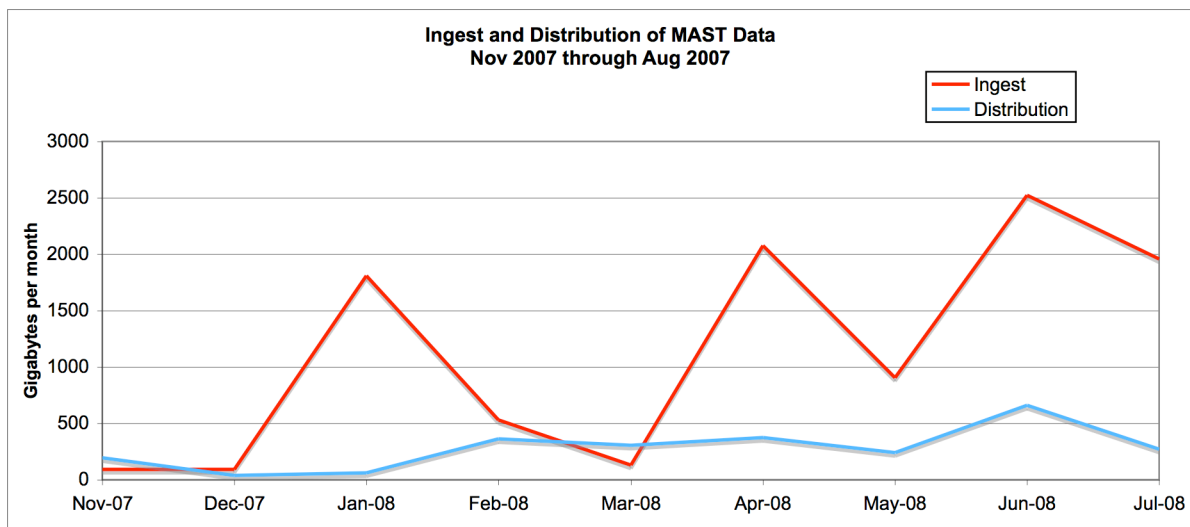


NASA Data Center Annual Program Plan
NASA Grant Number NNG05-GF75G / STScI Grant J1160
November 2007 through July 2008
Multi-mission Archive at Space Telescope (MAST)
(Optical/UV Science Archive Research Center)
Space Telescope Science Institute
3700 San Martin Drive
Baltimore, MD 21218

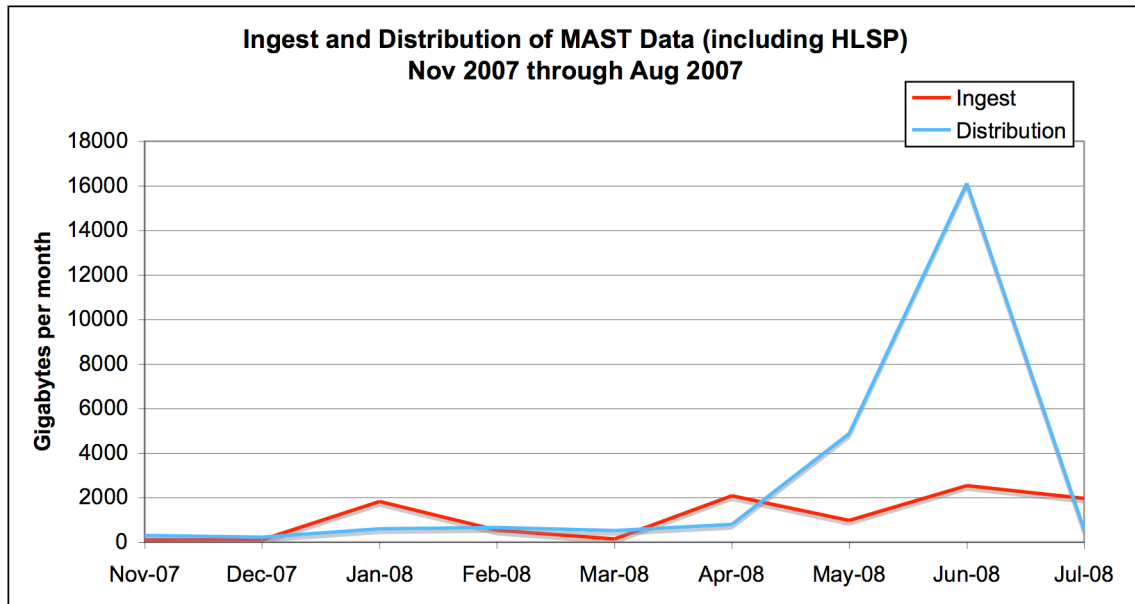
Overall Mission: MAST supports active and legacy mission datasets and related catalogs and surveys, focusing primarily on data in the ultraviolet, optical, and near-IR spectral regions. Support includes curation of the data, providing expert support to users of the data, providing access to data-specific calibration and analysis software, providing user support for this software, and maintaining public access interfaces to the data. This report covers data financially supported under the MAST contract. Archive and distribution activities for HST data are supported under the HST contract.

Holdings and distribution

As of August 1, 2007 MAST holdings total 16.66 TB, dominated by 14 TB of GALEX data. MAST has distributed over 2.5 TB of mission data between November 2007 and July 2008. MAST also holds nearly 460 GB of community-contributed high-level science products that are “science ready”. The figure below shows the statistics on data ingest and distribution to the public from last November to the present. The ingest curve is dominated by the series of 12 deliveries for the GALEX GR4.



The plot below includes the ingest and distribution of the community contributed high-level science products in addition to the mission data. The large bump in June corresponds to heavy downloads of the GOODS high-level products after a delivery of a new version of the data.



Mission report

Galaxy Explorer (GALEX)

The GALEX archive was augmented with the GR4 imaging releases containing 11.4 TB during the reporting period (at this writing, MAST is expecting the delivery of GR4 spectral data). The GALEX team developed and release a new search/discovery tool, “galexView,” that easily accommodates searches for object and tiles – see below. The GALEX team also deployed the browser tool, GALEX Map.

Far Ultraviolet Spectroscopic Explorer (FUSE)

The FUSE project has almost completed the final reprocessing of their data, with only a few observations requiring specialized processing remaining to complete the final archive. MAST staff and the FUSE project are working together to migrate the pertinent FUSE web pages and information into the MAST website.

X-ray Multi-Mirror (XMM) Optical Monitor (OM)

MAST received one additional delivery of XMM-OM mosaics. The XMM project is planning to change the method for creating these mosaics and we hope to get that new data in the future.

Outreach

Community interaction

Survey

In June 2008 MAST administered what has become a yearly survey to gather feedback about our service and to gauge priorities for future work. There were 344 respondents to the survey. The results and many of the comments will be posted on the MAST website.

(<http://archive.stsci.edu/surveyresults/2008/index.html>)

MAST Users Group

The MAST Users Group (MUG) met in July 2008. The MUG provides essential user perspective on archive operations and development. All the presentations have been posted on the MAST website. The MUG report will be posted upon receipt. (<http://archive.stsci.edu/mug/index.html>)

Forum

MAST recently established a forum to facilitate discussion between members of the MAST community, both users and staff. This was implemented in response to several suggestions made by responders to the MAST Survey.

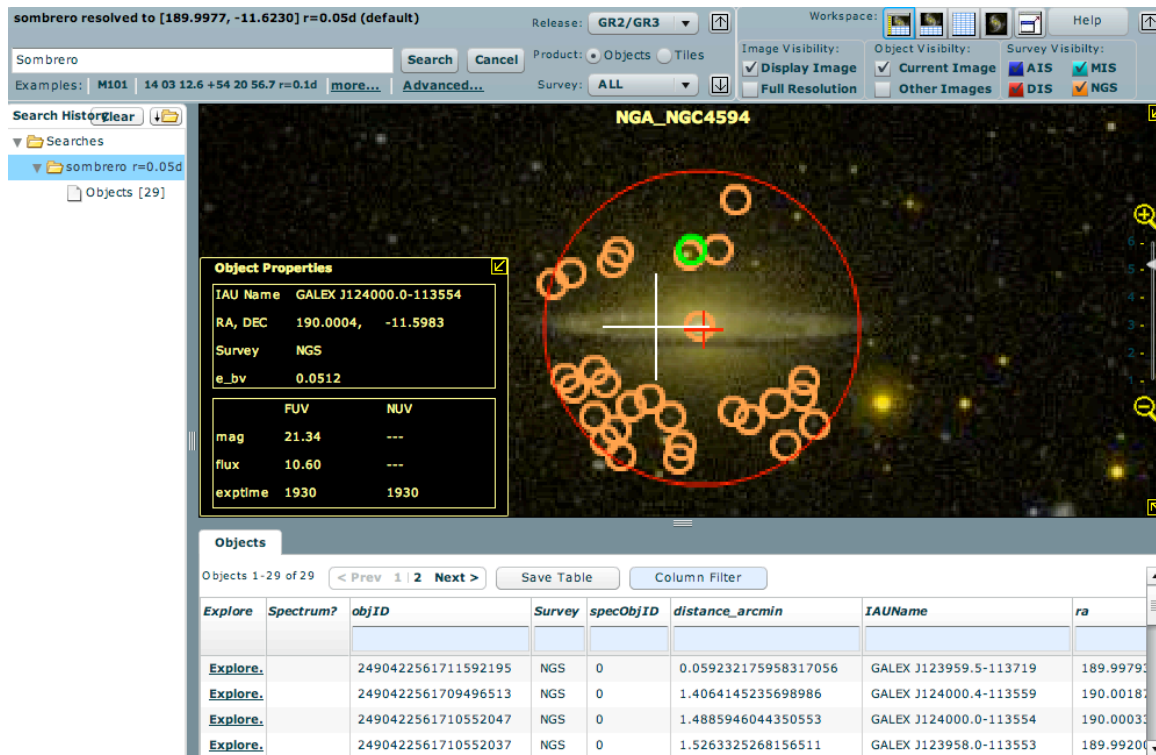
(<http://forums.stsci.edu/phpbb/viewforum.php?f=28>)

Major work efforts

MAST staff worked on many projects during the past 10 months that introduced new capabilities to the website. We describe a few highlights below.

GalexView

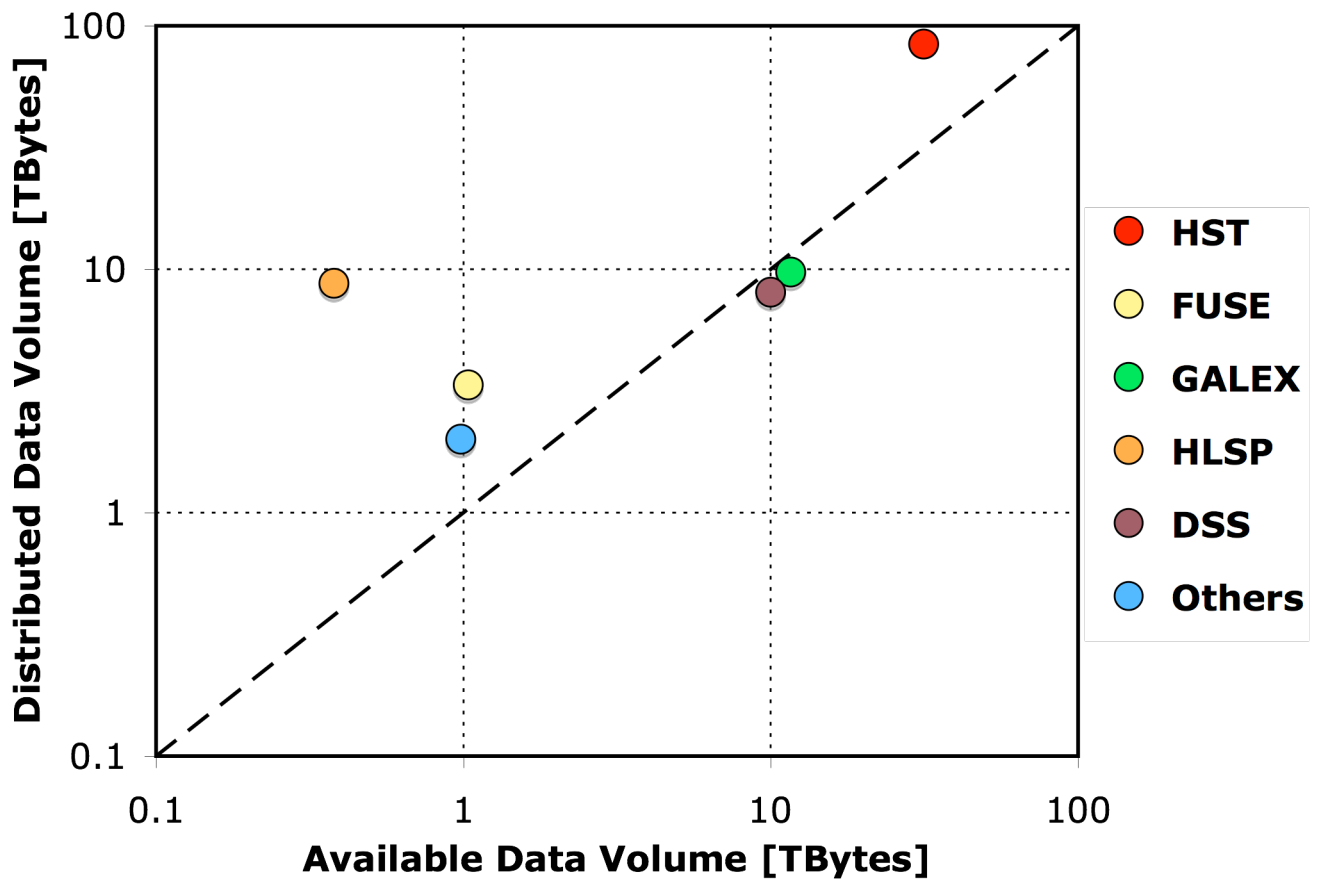
The galexView tool easily accommodates searches for tiles or objects. By using the new Adobe Flex technology, galexView gives the user the instantaneous "desktop feel" once the data are loaded. The galexView browser page may be divided into up to 3 separate panes that show the image for the tile the user has selected, a table giving information about each of the objects, and a search history, such that one can readily return to previous visits. The most recent Version 1.2 also provides an upload target list facility that allows one to collect search results for a large number of targets, specified by coordinates. Catalogued objects in the tile (or neighboring tiles) may be switched on, color coded by survey. The figure below shows catalogued objects from the Nearby Galaxy Survey (NGS) in the immediate vicinity of the Sombrero Galaxy.



Spectra in the Virtual Observatory (VO)

MAST staff members have modified the "spectral container" fits data files and associated webservices to meet the criteria of the VO Simple Spectral Access Protocol (SSAP), v1.1. The new services will be registered in the new VO registry once they are completed.

Community-Contributed High-Level Science Products (HLSP)



Nine sets of community contributed reduced science ready data sets were ingested into MAST over the past few months. Several new sets are in various stages of preparation and ingest. The plot compares the data volume for all MAST downloads over the past 4 years to the quantity of data currently stored in MAST for that mission. The distance above the line is a measure of the popularity of the datasets. The High-Level Science Products are extremely popular, which is attributable to their science –ready data quality.