



JUNE 2018

MAST NEWSLETTER

THE LATEST UPDATES FROM THE BARBARA A. MIKULSKI ARCHIVE FOR SPACE TELESCOPE

STSCI

HUBBLE PUBLIC DATA NOW AVAILABLE IN THE CLOUD

A LARGE PORTION OF HUBBLE SPACE TELESCOPE PUBLIC OBSERVATIONS ARE NOW AVAILABLE THROUGH AMAZON WEB SERVICES.

JUNE 18, 2018



We are pleased to announce that as of May 2018, approximately 110 TB of Hubble's archival observations are available in cloud storage on Amazon Web Services (AWS) as part of Amazon's public dataset program.



These data consist of all raw and processed observations from the currently active HST instruments: the Advanced Camera for Surveys (ACS), the Wide Field Camera 3 (WFC3), the Cosmic Origins Spectrograph (COS), the Space Telescope Imaging Spectrograph (STIS) and the Fine Guidance Sensors (FGS).

However, the Hubble AWS Public Dataset is not a substitute for the data held at Mikulski Archive for Space Telescopes (MAST). Data are, and always will be, available free of charge from MAST. This extra copy of the data in the cloud is designed for astronomers wishing to compute against significant volumes of the Hubble data (e.g. training a Machine Learning algorithm).

Additional information on this dataset is available on our [MAST Labs technical blog](#), along with an example of how to use a cloud computing service with the dataset. If you're interested in doing more with these data, then you might want to take a look at the [HST Cycle 26 Call for Proposals](#), which includes a new type of proposal: [Legacy Archival Cloud Computation Studies](#). This proposal category is specifically aimed at teams that would like to leverage this dataset. Further questions can be directed to the [Archive Helpdesk](#) or sent to archive@stsci.edu.

Back to top   

HIGH-LEVEL SCIENCE PRODUCTS: THE HUBBLE DEEP UV LEGACY SURVEY (HDUV)

**A NEW HLSP PROVIDES COMPLEMENTARY DEEP UV-BAND DATA FOR THE
GOODS/CANDELS-DEEP FIELDS DOWN TO 27.5-28.0 MAG.**

JUNE 18, 2018



The Great Observatories Origins Deep Survey (GOODS) fields have been one of the most iconic and scientifically productive extragalactic datasets for more than a decade. They are covered by extensive multi-wavelength data from the major space-based observatories spanning all the way from X-rays to the infrared. However, one wavelength has, so far, been missing in this panchromatic high-definition view of galaxies: the ultra-violet (UV).

The Hubble Deep UV (HDUV) Legacy Survey is a 132-orbit program designed to fill in this missing piece. Using the unique capability of Hubble and the WFC3/UVIS camera to observe at UV wavelengths, the HDUV builds on the few previous UV imaging surveys to provide deep UV images in two filters (F275W and F336W) over a total area of ~100 square arcminutes in the central parts of the two GOODS/CANDELS-Deep fields. By reaching depths of 27.5-28.0 mag, these are the deepest high-resolution UV data taken over such a large area to date.

The fully-reduced HDUV survey data including source catalogs are now available as High-Level Science Products on MAST. The primary observations of the HDUV survey include 10-orbit-deep F275W and 8-orbit-deep F336W filter images over a total of 13 WFC3/UVIS pointings, but the image release also includes all the F275W imaging data taken by the CANDELS survey in GOODS-N, as well as the UVUDF imaging.

The addition of the HDUV imaging further enhances the tremendous legacy value of the two GOODS/CANDELS-Deep fields, which now include deep 11-band imaging data from HST as well as very deep ancillary data at all wavelengths from the X-rays to the radio, enabling unique multi-wavelength studies of galaxy evolution.

For more information about the HDUV High-Level Science Products, visit the MAST webpage and see Oesch, Montes, et al. 2018. Additional questions or comments can be directed to the Archive Helpdesk or sent to archive@stsci.edu.



Figure 1. A small region of the HDUV survey in the GOODS-S field (blue = WFC3/UVIS)

F275W+F336W, green = ACS/WFC F606W+F775W, red = WFC3/IR F125W+F160W). The HDUV data complete the panchromatic view of distant galaxies in this field. They probe recent star-formation, which can be seen as blue, young stars in this image.

Back to top   

THE LATEST NEW AND UPDATED HIGH-LEVEL SCIENCE PRODUCTS

IGM-GAL HAS BEEN ADDED TO MAST AS A NEW HLSP, ALONG WITH UPDATES TO HTTP, LEGUS, AND WFC3BULGE.

JUNE 18, 2018



NEW:

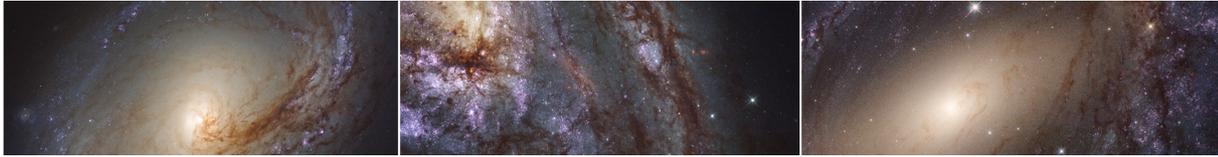


- [IGM-GAL](#) (Keeney et al. 2018), a galaxy redshift survey around 47 sight lines to UV-bright AGN observed by the Cosmic Origins Spectrograph (COS) in order to establish the connection between galaxies and UV-detected absorption systems in the local Universe. The collection of UV-detected absorption systems was released previously as a MAST HLSP ("[IGM](#)"; Danforth et al. 2016). "[IGM-GAL](#)" releases the galaxy spectra obtained as a part of this survey for ~9,000 individual galaxies whose redshifts are measured. The galaxy spectra are organized by nearest COS sight line, and for most sight lines this survey is >90% complete to ~0.1 L* galaxies within ~1 Mpc of the sight line. Repeat observations imply that this survey has a redshift accuracy of 60 km/s for emission-line galaxies, 100 km/s for absorption-line galaxies, and 80 km/s for composite galaxies that show both emission and absorption.

UPDATED:



- [HTTP \(Hubble Tarantula Treasury Project\)](#) have released version 2.0 of their mosaics. In addition to the previous F110W and F160W, all other filters (F275W, F336W, F555W, F658N, F775W) are now available. See the project page to access the data and Interactive Displays.



- [LEGUS](#) released new mosaics, new cluster catalogs, and numerous photometric catalogs for 53 nearby galaxies. The star cluster catalogs include 8,000 young clusters, while the star catalogs consist of 39 million stars larger than five solar masses. In addition to the catalogs themselves, diagnostic plots and an iPython notebook are available for the catalogs. In addition to the MAST page, see the accompanying [STScI Press Release](#).



- [WFC3BULGE \(Brown et al.\)](#) have updated their data products with new 'art.fits' artificial star tests, to be used along with the existing source catalogs. See the MAST project page to access the data for all four fields: Baade, OGLE29, STANEK, and SWEEPS.

If you are thinking about contributing an HLSP of your own, please fill out the [HLSP Interest Form](#) to get started. Any additional questions on the process can be sent to the [Archive Helpdesk](#) or to archive@stsci.edu. We look forward to working with you!

Back to top   

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THE LATEST NEW AND UPDATED HIGH-LEVEL SCIENCE PRODUCTS

SCOTT FLEMING



ABOUT

This newsletter is a MAST publication produced by Jonathan Hargis, Peter Forshay, and Randy Thompson, on behalf of the entire MAST staff, who welcome your comments and suggestions.

The Mikulski Archive for Space Telescopes (MAST) is a NASA funded project to support and provide to the astronomical community a variety of astronomical data archives, with the primary focus on scientifically related data sets in the optical, ultraviolet, and near-infrared parts of the spectrum. MAST is located at the Space Telescope Science Institute (STScI).

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