

How to find and access **TESS** data

NASA's Transiting Exoplanet Survey Satellite (TESS) is a space-based observatory that is performing a near all-sky survey to search for planets transiting nearby stars, as well as a variety of transient and variable events. During science operations, continually over 27 days TESS takes a stream of images which are later reprocessed into three data products: Full-Frame Images (FFIs) are stacked, full-CCD images. Target Pixel Files (TPFs) are CCD cutouts of regions around selected targets stacked at the 20-second or 2-minute cadences. Light Curve Files are time-series measurements of source targets in the high-cadence TPFs.

Tools to discover if TESS data of an object(s) exist:

TESS Web Viewing Tool

- Enter an individual ra, dec or upload target list csv file on an interactive web page

TESS-Point

- Command line python script
- Enter an individual RA, Dec or pass a csv file
- Most accurate, but requires download & setup

toco

- Command line python script(s)
- Requires download & setup, but gives a bit more supporting information

Tools to discover if TESS data of an object(s) exist, and access that data:

lightcurve

- Used to find and download TESS data at the start of many Python Jupyter Notebooks and pipelines
- Individual search methods for different data products
 - [search_lightcurve\(\)](#) will search for SPOC calibrated TESS 20-s or 2-minute light curves
 - [search_targetpixelfile\(\)](#) will search for tpfs associated with SPOC calibrated light curves
 - [search_tesscut\(\)](#) will use TESSCut's API (below) to create a custom target pixel files
 - [search_result.download\(\)](#) to download search data

MAST Web Portal

- Individual target search and file upload
- Can also browse data products and products across missions

TESScut

- Allows you to create a 'postage stamp' cutout (TPF) from a given sector's FFIs
- Single target via website and API for automation and bulk downloads

Tools to access large amounts of TESS bulk data

MAST TESS Bulk Downloads

- Bulk Download options for FFI's, TPF's & Light Curves and TIC/TOI/TCE Catalogs

TICA Calibrated FFIs

- A High Level Science Product (HLSP) of calibrated TESS FFI's that serve as the input to the MIT Quick Look Pipeline

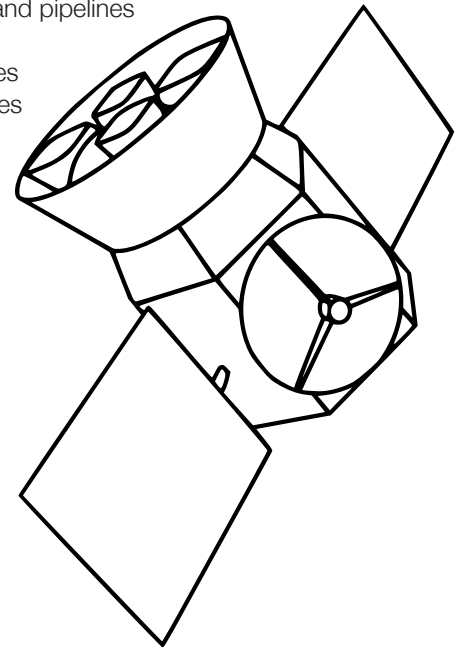
General information and resources on TESS data products & pointings:

TESS Pointings - Details of where TESS has observed and future plans

TESS Input Catalog (TIC) - TIC is a compiled catalog of every persistent, non-solar system object in the sky that is a potentially observable TESS target. All TESS GI targets will have a unique TIC, but not all TICs will have been targeted with high cadence observations

Exoplanet Follow-up Observing Program (ExoFOP) - ExoFOP serves as a repository for project and community-gathered data by allowing upload and display of data and derived astrophysical parameters

Timeseries Integrated Knowledge Engine (TIKE) - Online JupyterHub for accessing and processing TESS data in the cloud



Check to see **if a target was observed** by TESS

A few targets:

[TESS Web Viewing Tool](#)

[TESS-Point](#)

[MAST Portal Search](#)

[TESScut Web Service](#)

[toco](#)

Lots of targets:

[TESS Web Viewing Tool](#)

[TESS-Point](#)

[MAST Portal Search](#)

Check to see **what kind of data exists** for a target

A few targets:

[Lightcurve](#) - [search lightcurve](#) AND [tesscut](#)

[MAST Portal Search](#)

[toco](#)

Lots of targets:

[Lightcurve](#) - [search lightcurve](#) AND [tesscut](#)

[MAST Portal Search](#)

Get TESS **processed lightcurves** for high-cadence targets

A few targets:

[Lightcurve](#) - [search lightcurve\(\)](#)

[MAST Portal Search](#)

Lots of targets:

[Lightcurve](#) - [search lightcurve\(\)](#)

[MAST Portal Search](#)

[MAST Bulk Downloads](#)

Get TESS **processed target pixel files** for high-cadence targets

A few targets:

[MAST Portal Search](#)

[Lightcurve](#) - [search targetpixelfile\(\)](#)

Lots of targets:

[MAST Portal Search](#)

[Lightcurve](#) - [search targetpixelfile\(\)](#)

[MAST Bulk Downloads](#)

Get TESS **custom target pixel files** for targets in FFI data

A few targets:

[Lightcurve](#) - [search tesscut\(\)](#)

[TESScut Web Service](#)

Lots of targets:

[Lightcurve](#) - [search tesscut\(\)](#)

[TESScut API](#)

Get **bulk downloads** for any kind of TESS data & products

Lots of targets:

[MAST Bulk Downloads](#)

[TICA Calibrated FFI's](#)

