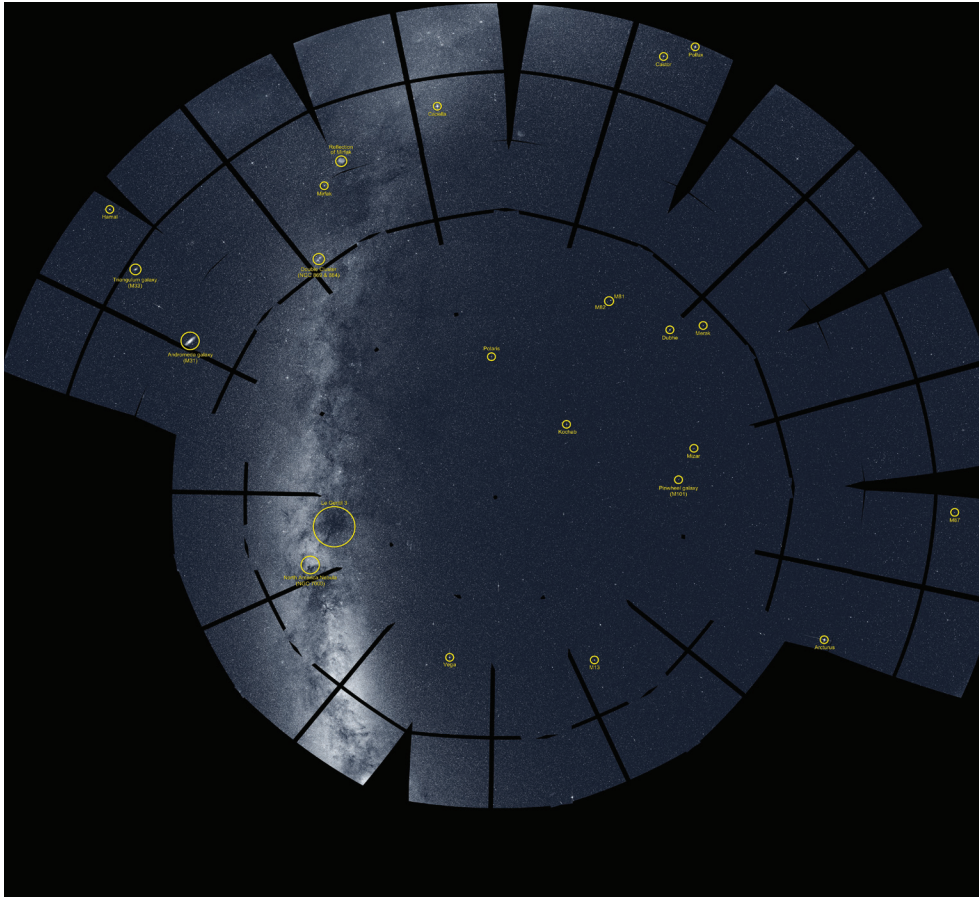


A northern sky panorama as viewed by NASA's Transiting Exoplanet Survey Satellite (TESS). Overlaid in orange are the locations of over 600 planet candidates detected by TESS, in the northern hemisphere, as of September 15th 2020. The blue points mark the location of the confirmed planets discovered by TESS. Image produced by: NASA/MIT/TESS and Ethan Kruse (USRA)

TESS's Northern Sky Vista



This mosaic of the northern sky is composed of 208 images taken by TESS during the second year of its prime mission. Overlaid on top of this image in yellow are several remarkable celestial objects. These objects include the Milky Way (left), the Northern American Nebula (lower left), Arcturus and Vega, two bright stars which are so bright that they create a long spike-like artifact in the image called saturation trails, and our closest galactic neighbours - M31, M81, and M82. Credit: NASA/MIT/TESS and Ethan Kruse (USRA).

A year in review

NASA's Transiting Exoplanet Survey Satellite (TESS) is an Explorer-class mission, operated by MIT, that is designed to detect planets in our galaxy transiting their host stars.

The primary mission ran from July 25th, 2018 until July 4th, 2020. In its first year, TESS observed the southern ecliptic hemisphere, dividing it into 13 month-long observing regions. In the second year, it did the same, but for the northern ecliptic hemisphere.

The northern panorama seen here is composed of 208 images. This mosaic covers slightly less sky than the southern hemisphere, as the pointing of the cameras were adjusted slightly to avoid light from the Earth and Moon.

Some of the many noticeable features found within the mosaic include;

The Milky Way: The glowing arc to the left. This is our home galaxy.

The Andromeda Galaxy: An oval to the center left. This is our nearest large galactic neighbor, located 2.5 million light-years away.

The North America Nebula: Lower left - this is part of a stellar factory complex located 1.7 thousand light-years away.

The center of the mosaic displayed is the north ecliptic pole and marks the center of the mission's northern continuous viewing zone. Targets in the central portion of this zone will be continuously available for observation by the James Webb Space Telescope.

As of September 15th, 2020, more than 600 planet candidates have been detected by TESS, in the northern hemisphere, with six confirmations that are marked in blue on the mosaic image. Now in its extended mission, TESS will view the northern hemisphere once again in Cycle 4, which goes from June 2021 to September 2022.