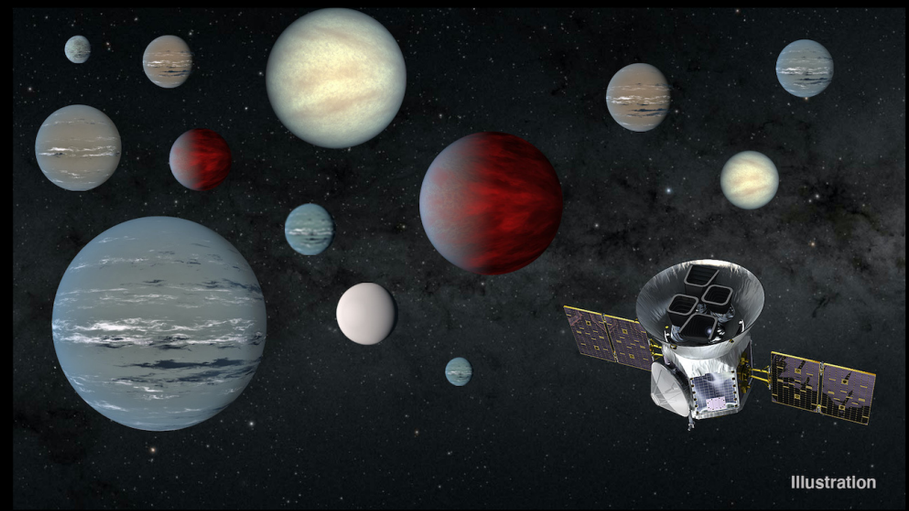
TESS Provides a Bounty of Targets for Webb

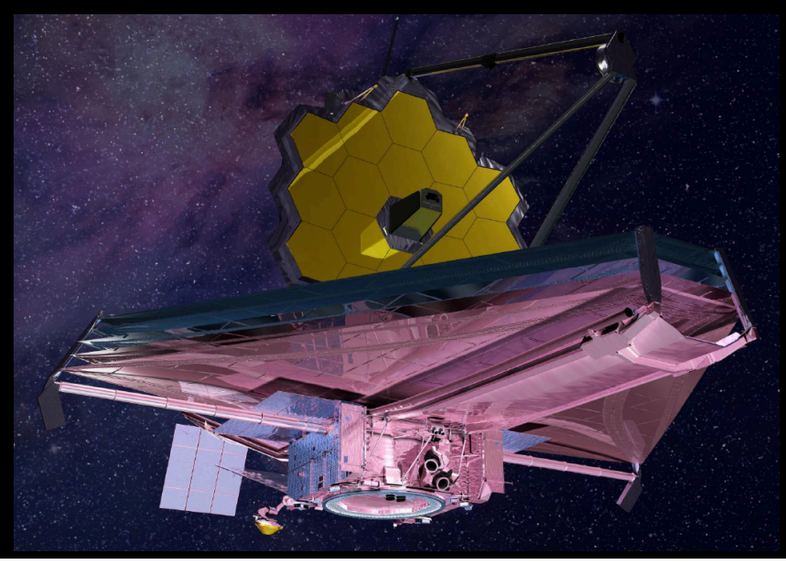
The number of known exoplanets, or worlds beyond our solar system, has ballooned to over 4,000 within the past decade. This tells us that exoplanets are common in our galaxy. NASA's Transiting Exoplanet Survey Satellite (TESS) is continuing the search by scanning nearly the entire sky to find more exoplanets.

TESS completed its initial two-year mission in July 2020. In that time, TESS discovered 2,241 exoplanet candidates, including many small potential worlds around nearby, bright stars. Such systems are the best targets for detailed follow-up observations to measure the candidates' masses, confirm their planetary nature, and study their atmospheres.

NASA's James Webb Space Telescope (Webb), is poised to take advantage of this bounty of TESS-discovered worlds. Once Webb launches, nearly a quarter of its time will be spent studying exoplanets and their atmospheres. Of the 68 exoplanets to be observed by Webb in its first year of science, 25 were found by TESS. These planets are predominantly small and potentially rocky. With Webb, we will soon learn about their atmospheric composition and whether any display signs of potential habitability.



TESS (above) is a powerful exoplanet finder for Webb (below).



N. M. Guerrero, et al., including P. T. Boyd (GSFC), E. V. Quintana (GSFC), T. Barclay (GSFC), K. D. Colón (GSFC), S. A. Rinehart (NASA HQ), J. E. Schlieder (GSFC), M. Clampin (GSFC), "The TESS Objects of Interest Catalog from the TESS Prime Mission", 2021, *Astrophysical Journal*, in press