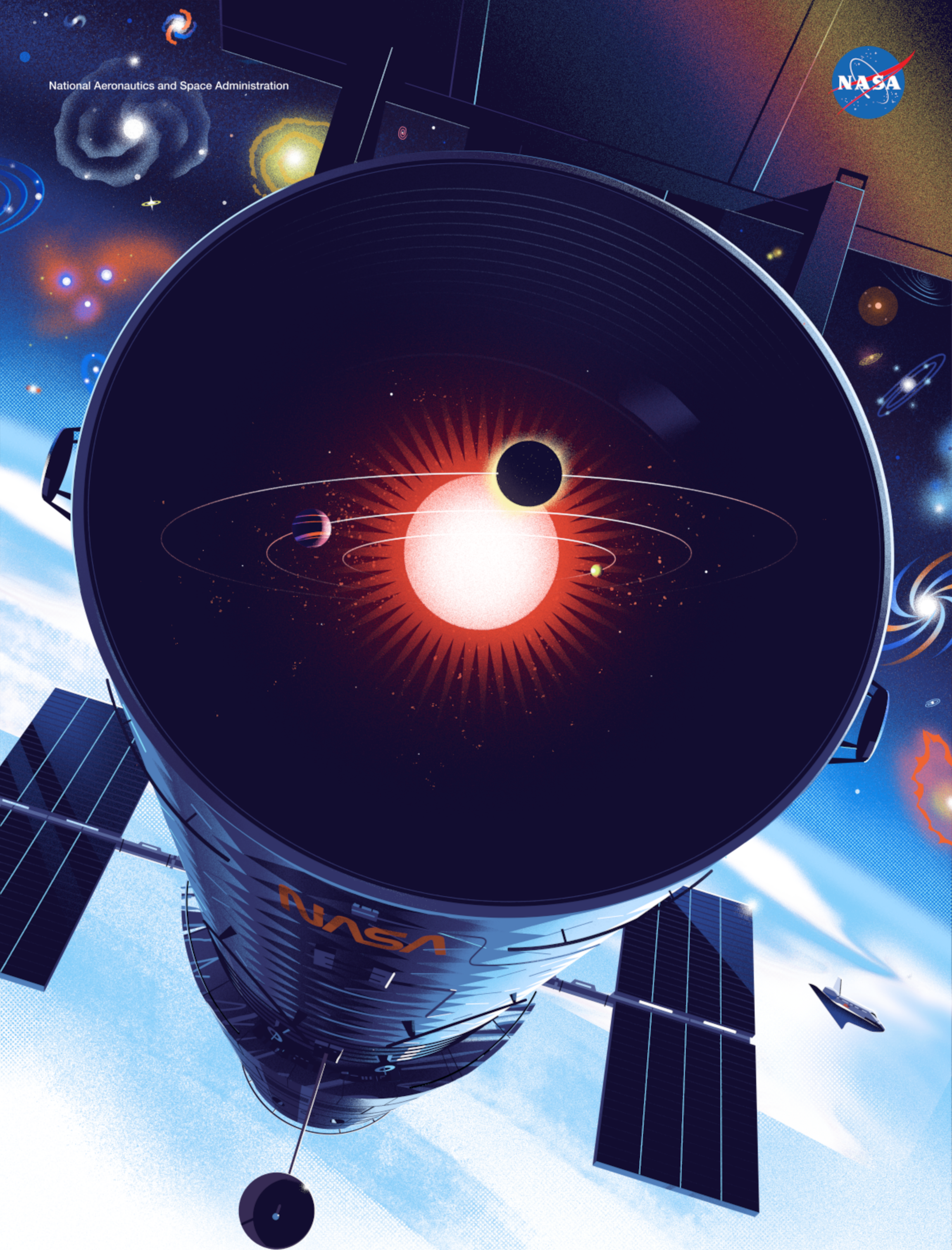
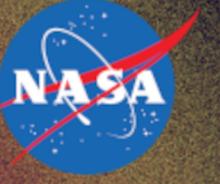


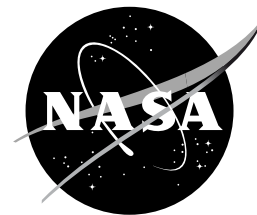
National Aeronautics and Space Administration



HUBBLE

SPACE TELESCOPE

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Launched in 1990, the Hubble Space Telescope is a large, space-based observatory that has revolutionized astronomy. One of NASA's great observatories, Hubble has observed planets inside and outside our solar system and some of the most distant stars and galaxies yet seen. Exoplanets, which are planets outside our solar system, are incredibly hard to image directly due to how far they are from Earth, and their proximity to bright stars.

In 2000, Hubble studied HD 209458 b – the first exoplanet known to transit, or pass in front of, its star. Hubble also was the first telescope to directly detect an exoplanet's atmosphere, by observing the star's light passing through it. Using this method of "transit spectroscopy," Hubble observed signatures of sodium in the planet's atmosphere.

In 2018, Hubble studied the TRAPPIST-1 planetary system. Its observations revealed that at least three planets in the star's habitable-zone exhibited characteristics of dense atmospheres that might be rich in heavier gases.

More than 30 years after launch, Hubble continues to investigate the atmospheres of transiting exoplanets, and remains one of our most valuable and successful windows on the cosmos.