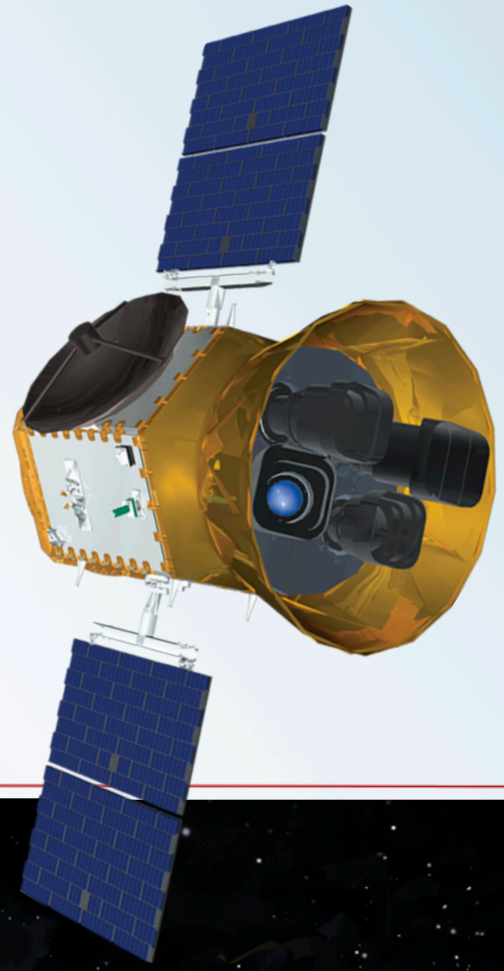

The Transiting Exoplanet Survey Satellite (TESS): Opening the Door for Comparative Planetology

Stephen Rinehart
NASA's Goddard Space Flight Center
TESS Project Scientist

Principal Investigator: G. Ricker (MIT)

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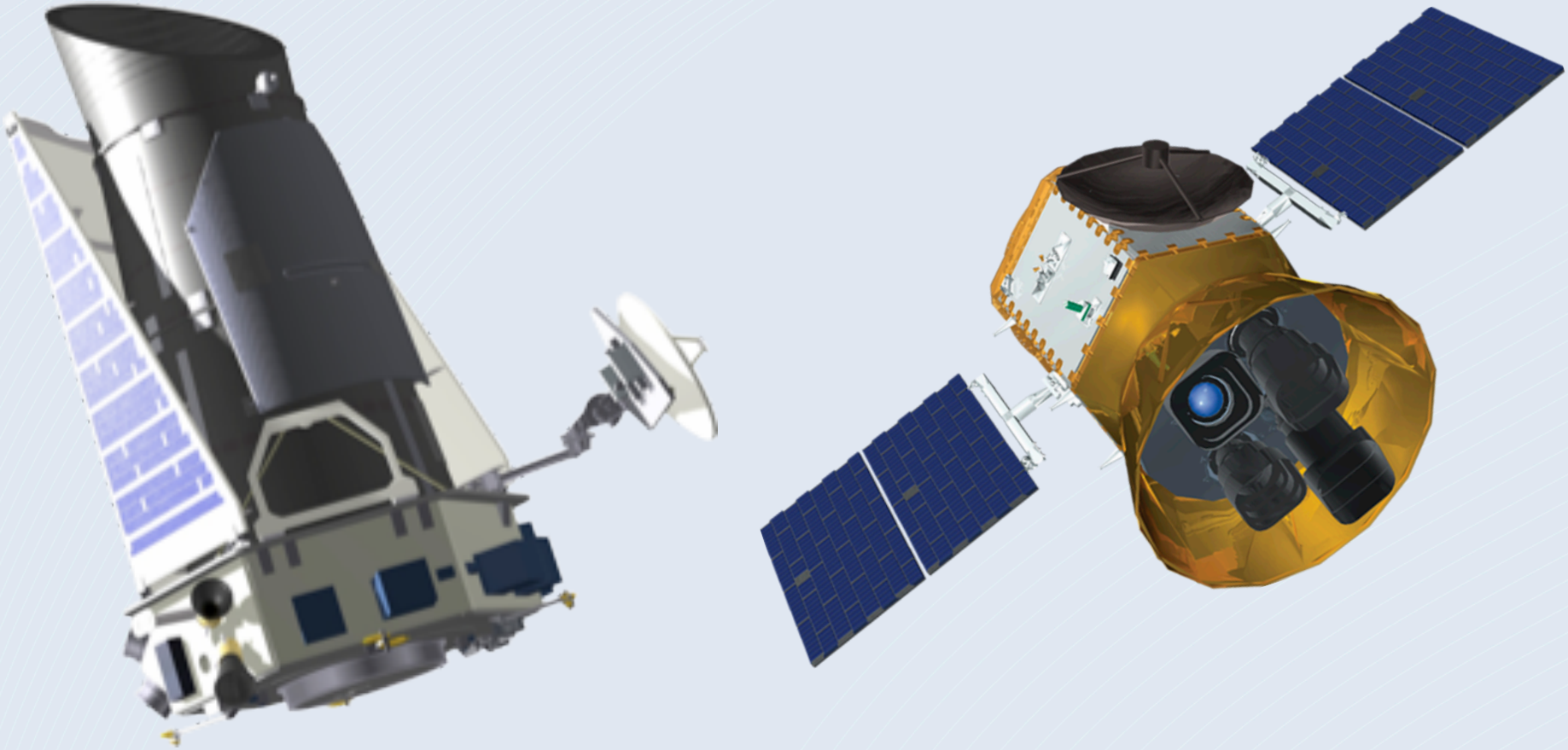
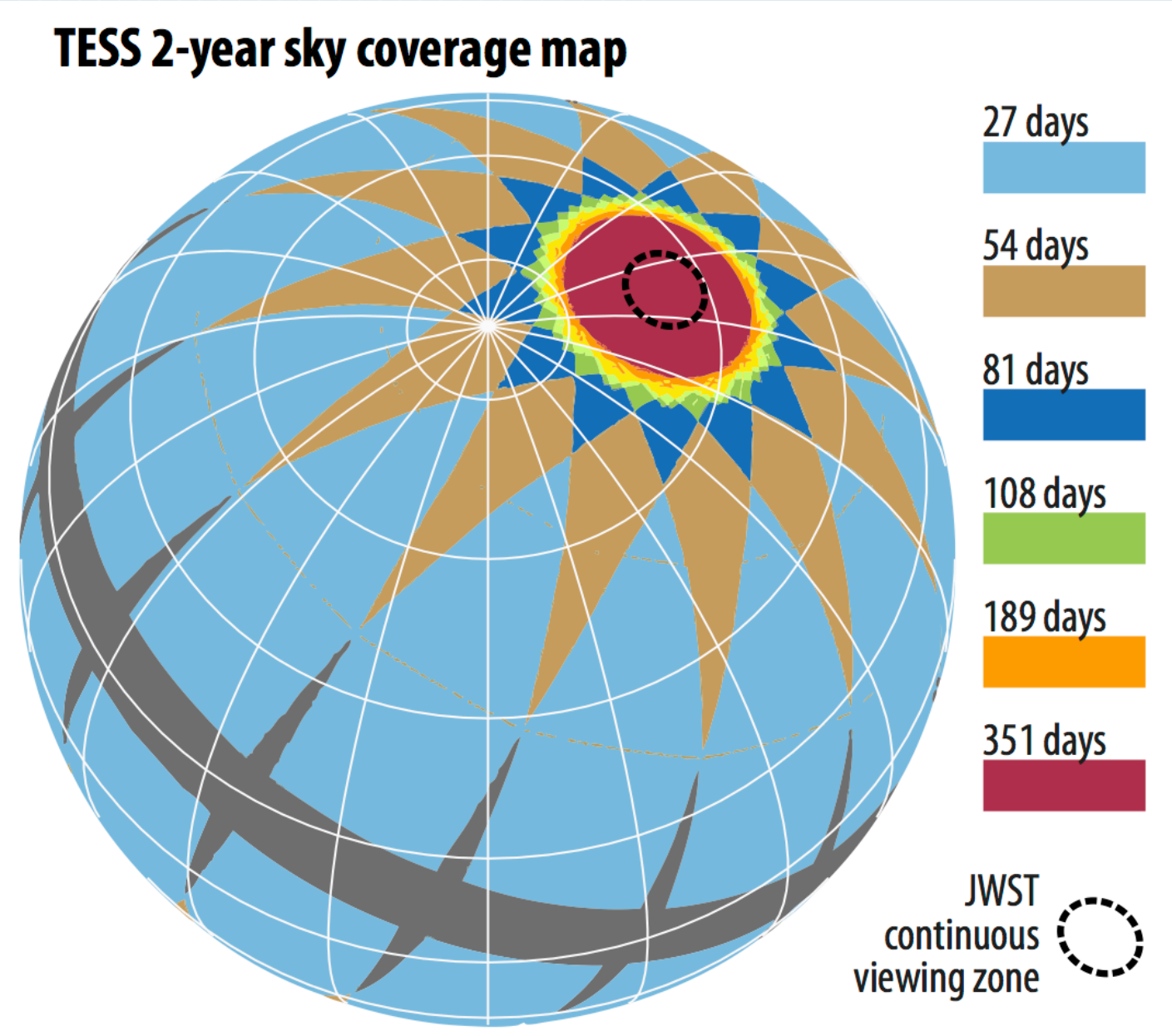
Kepler vs. TESS

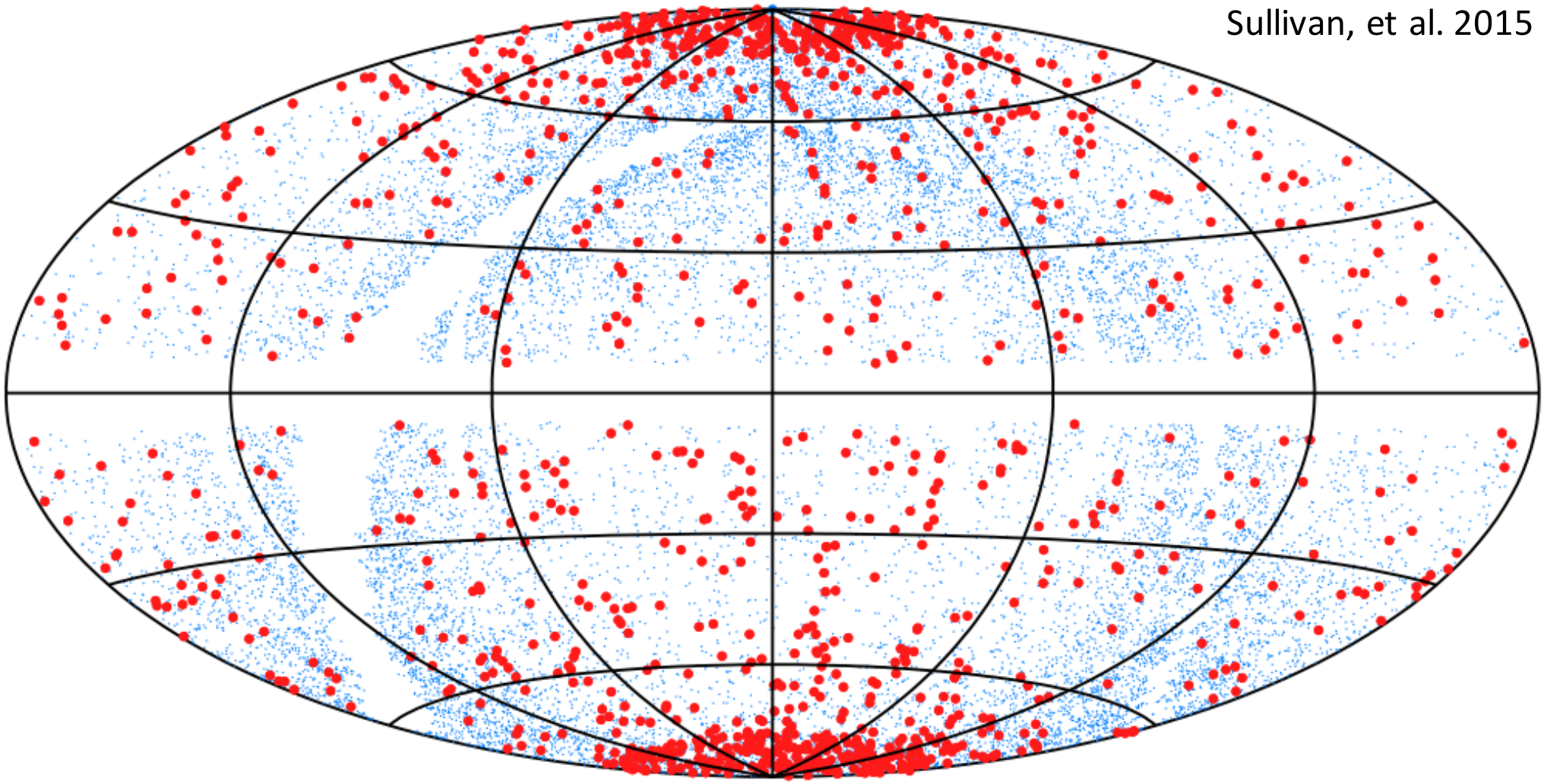


- Kepler: The Statistics of Exoplanets - **Find η_{Earth}**
- TESS: Open the Door for **Characterizing** Exoplanets


TESS 2-year sky coverage map
27 days
54 days
81 days
108 days
189 days
351 days
JWST
continuous
viewing zone

What will TESS find?

Sullivan, et al. 2015

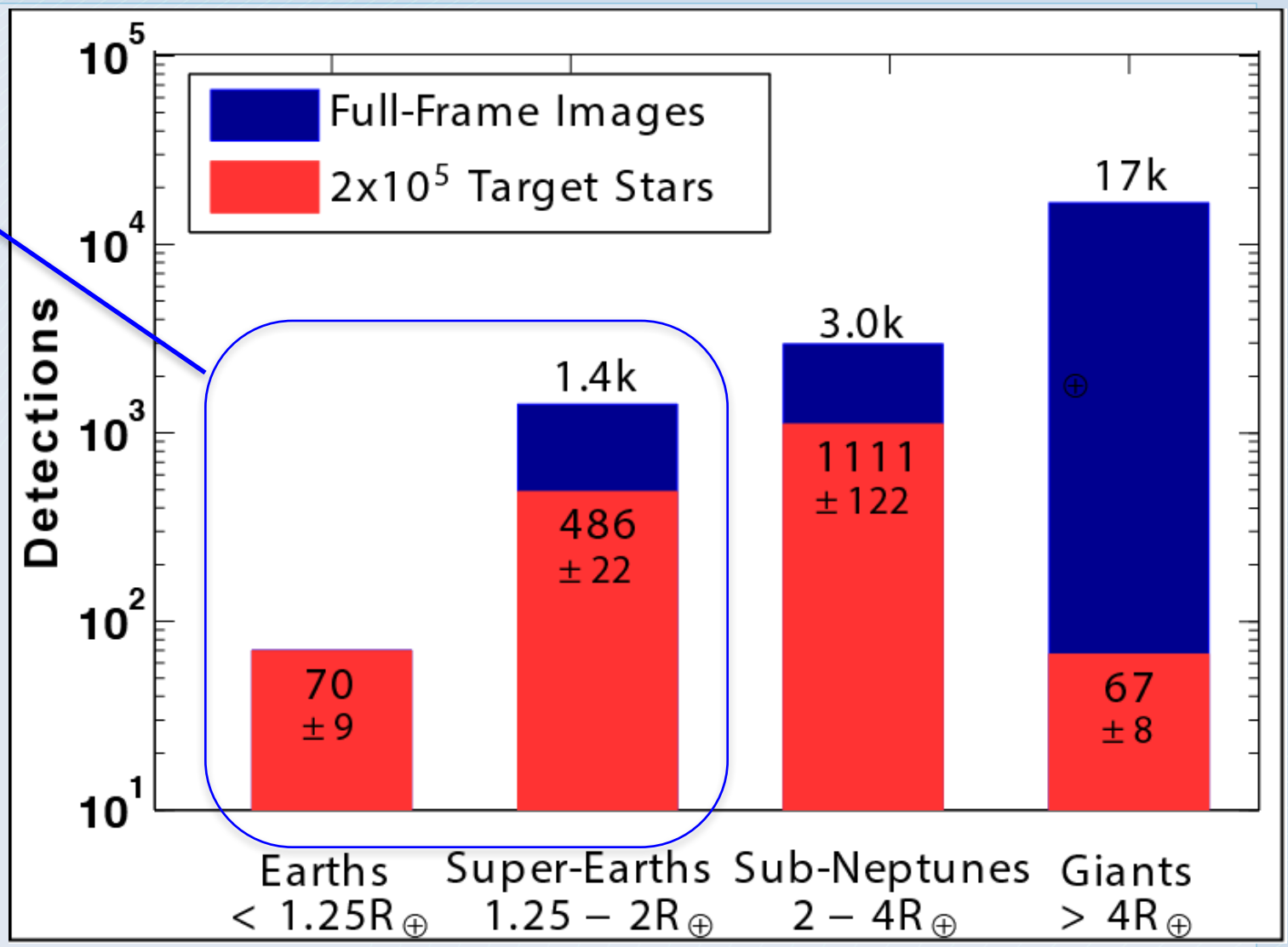


Detectable planets around **200,000 pre-selected stars**

Detectable planets around **20,000,000 stars in full images**

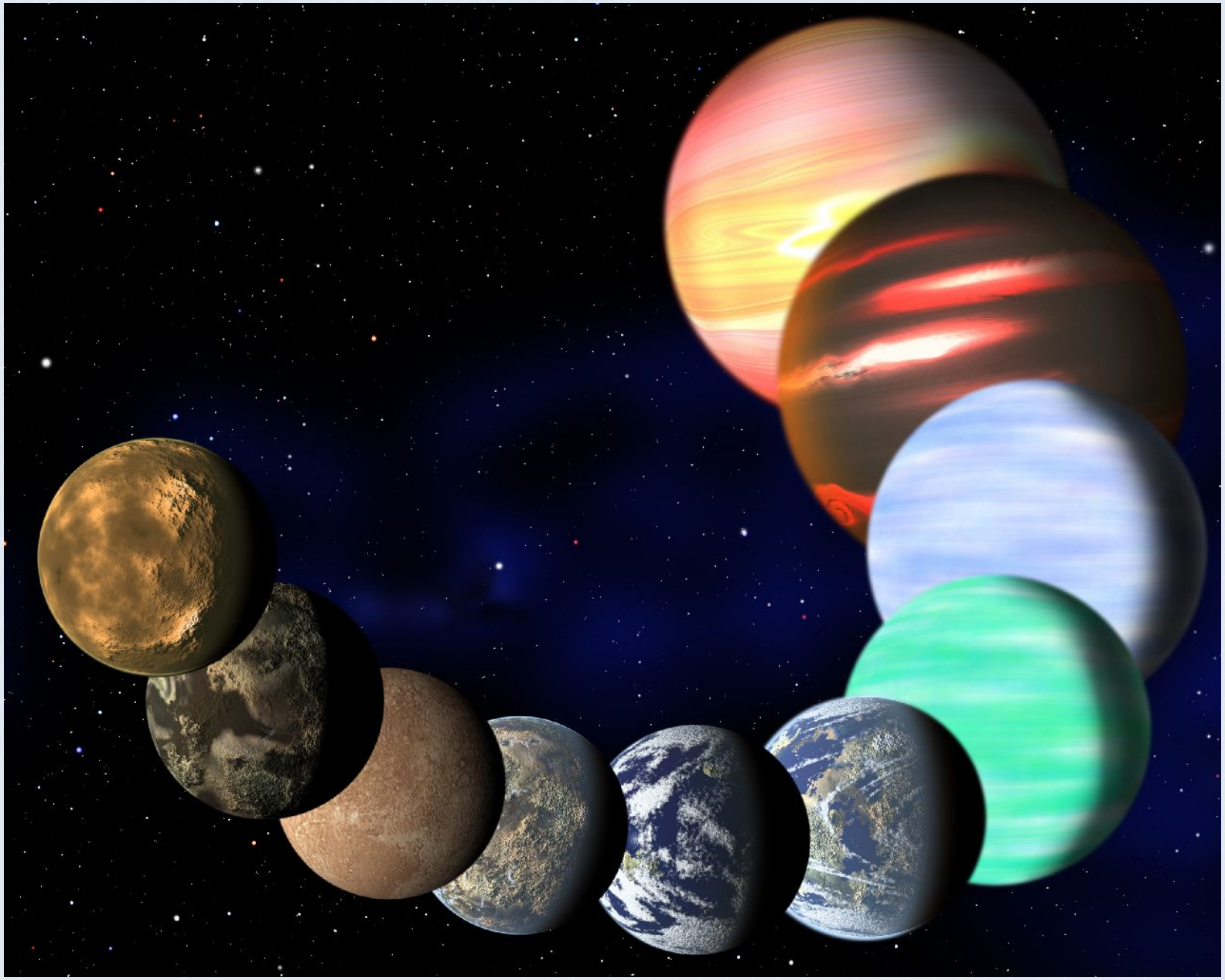
Statistics

Over **500** Small Planets!



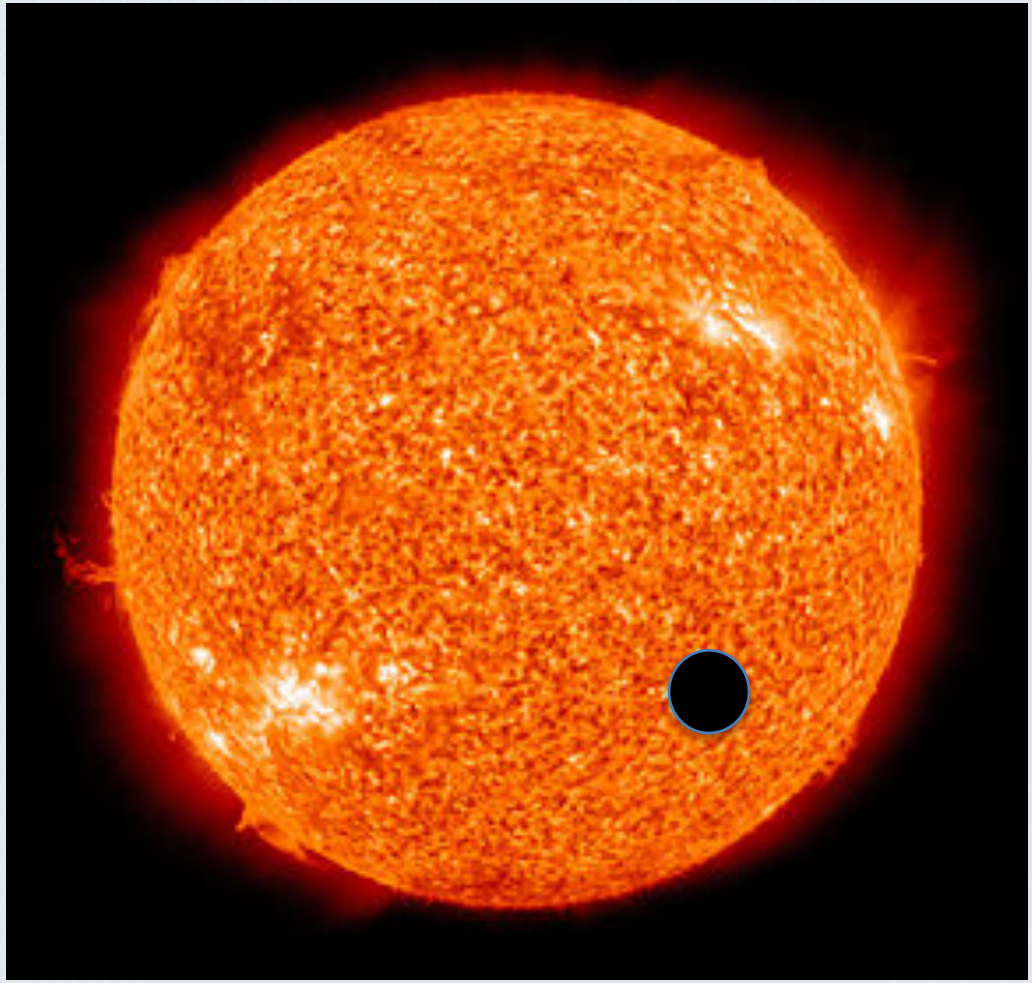
Sullivan, et al. 2015

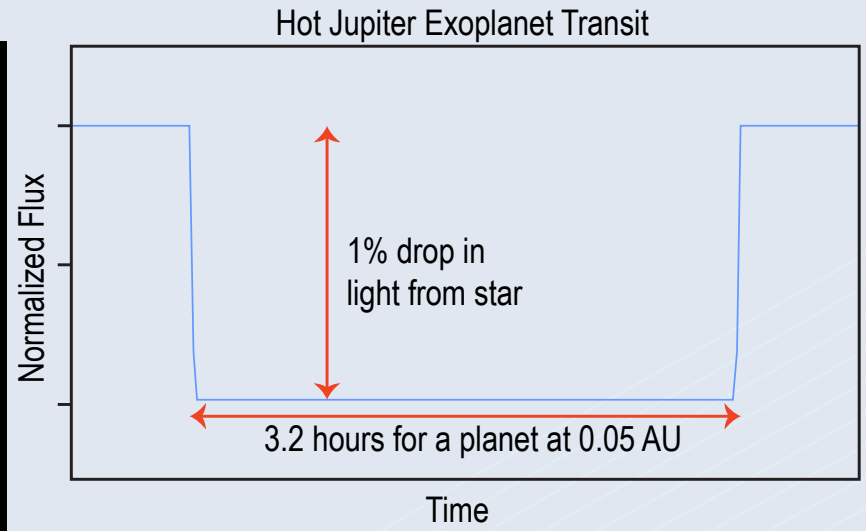
The Diversity of Worlds

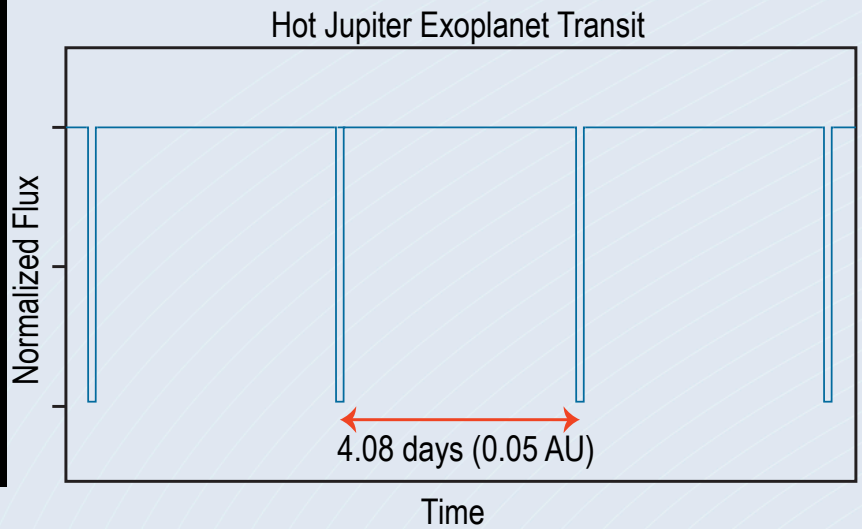


Pulliam & Aguilar (CfA)

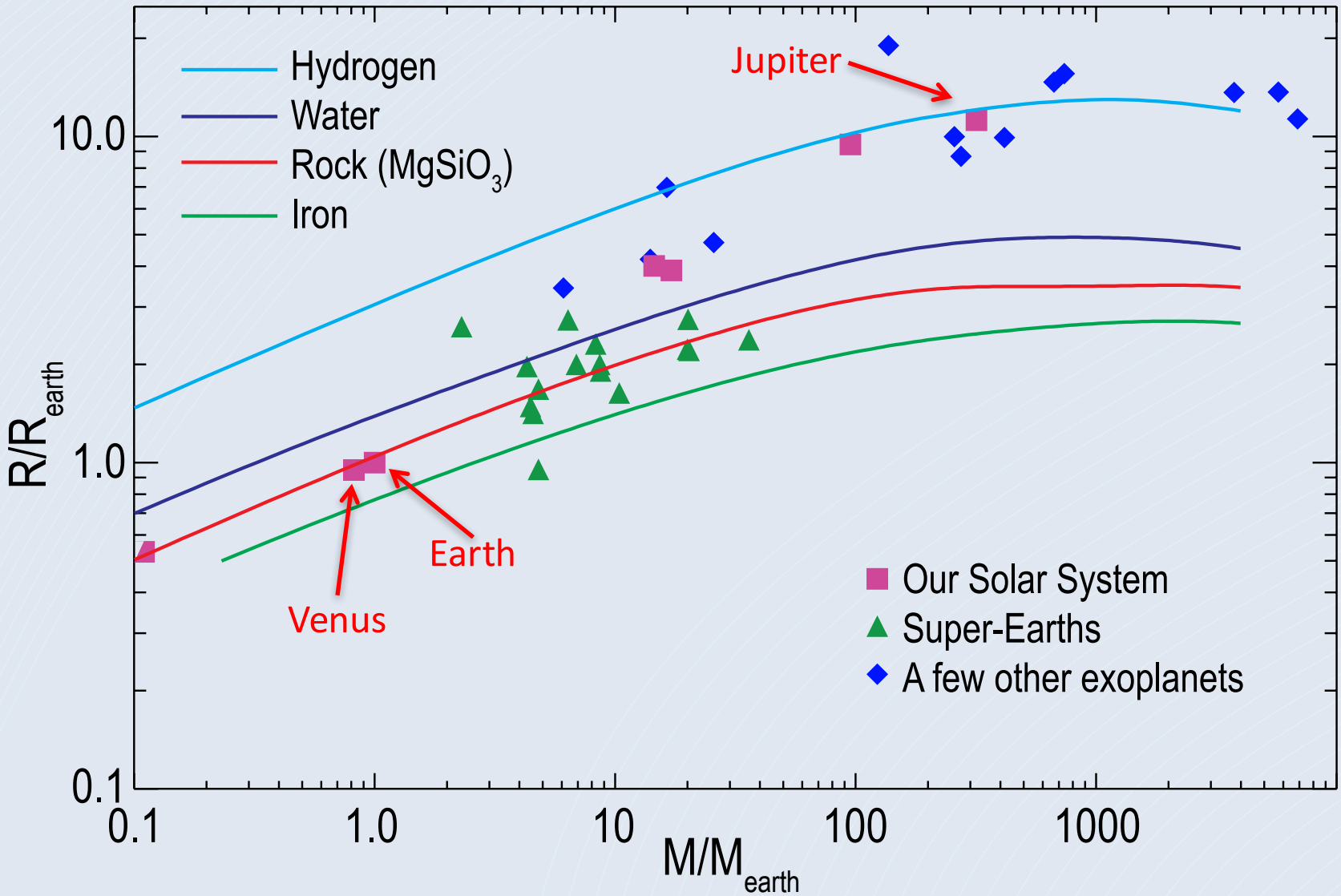
What do Transits teach us?





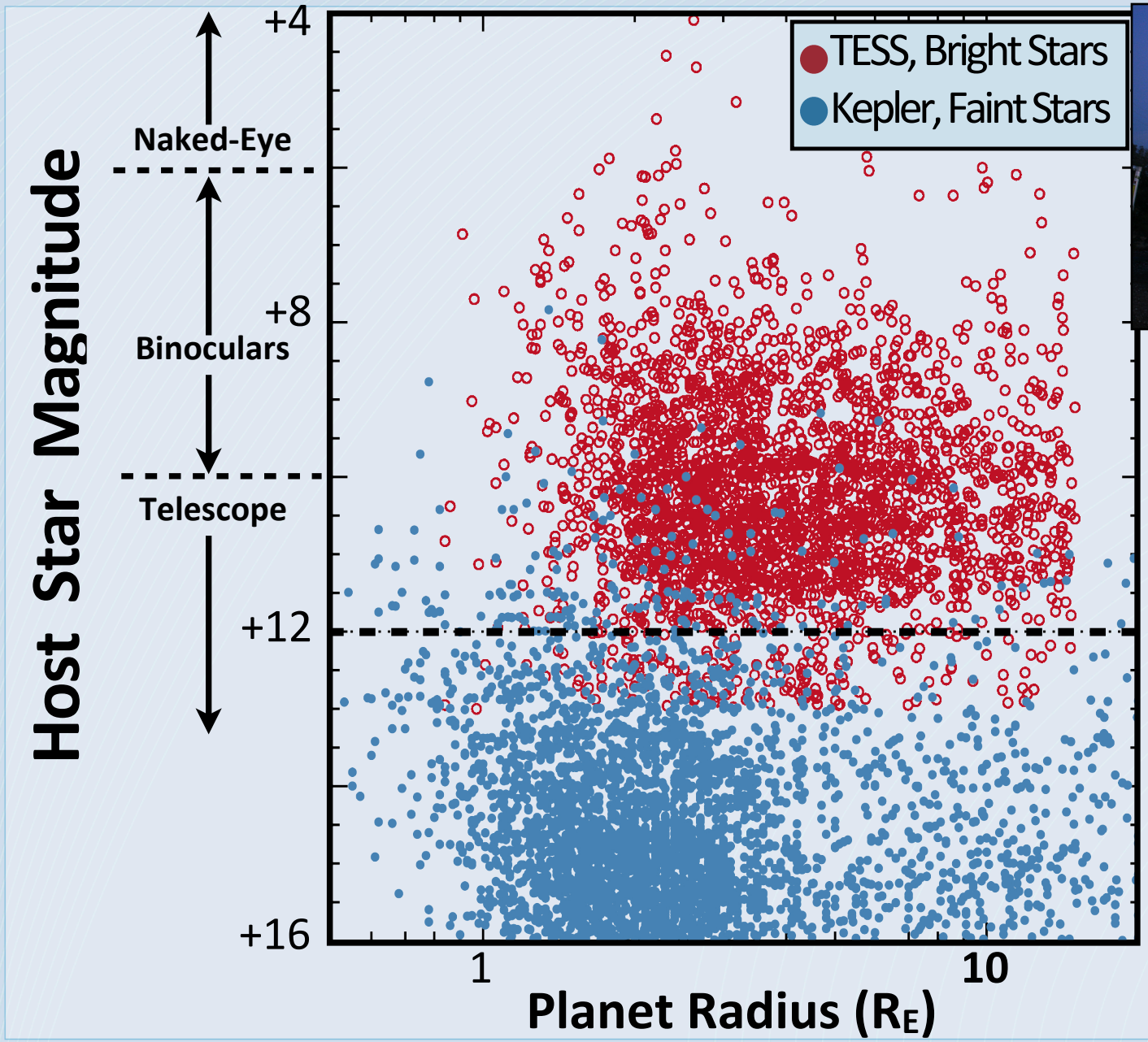


Density Differentiates



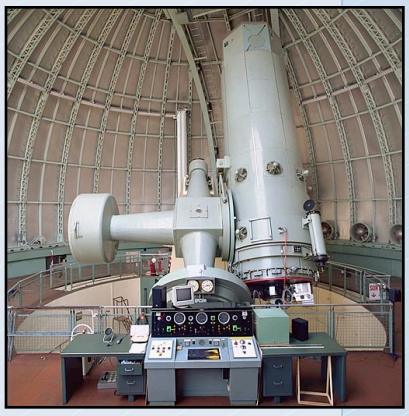
Seager et al. 2007

Follow-up Observations are Critical



LCOGT

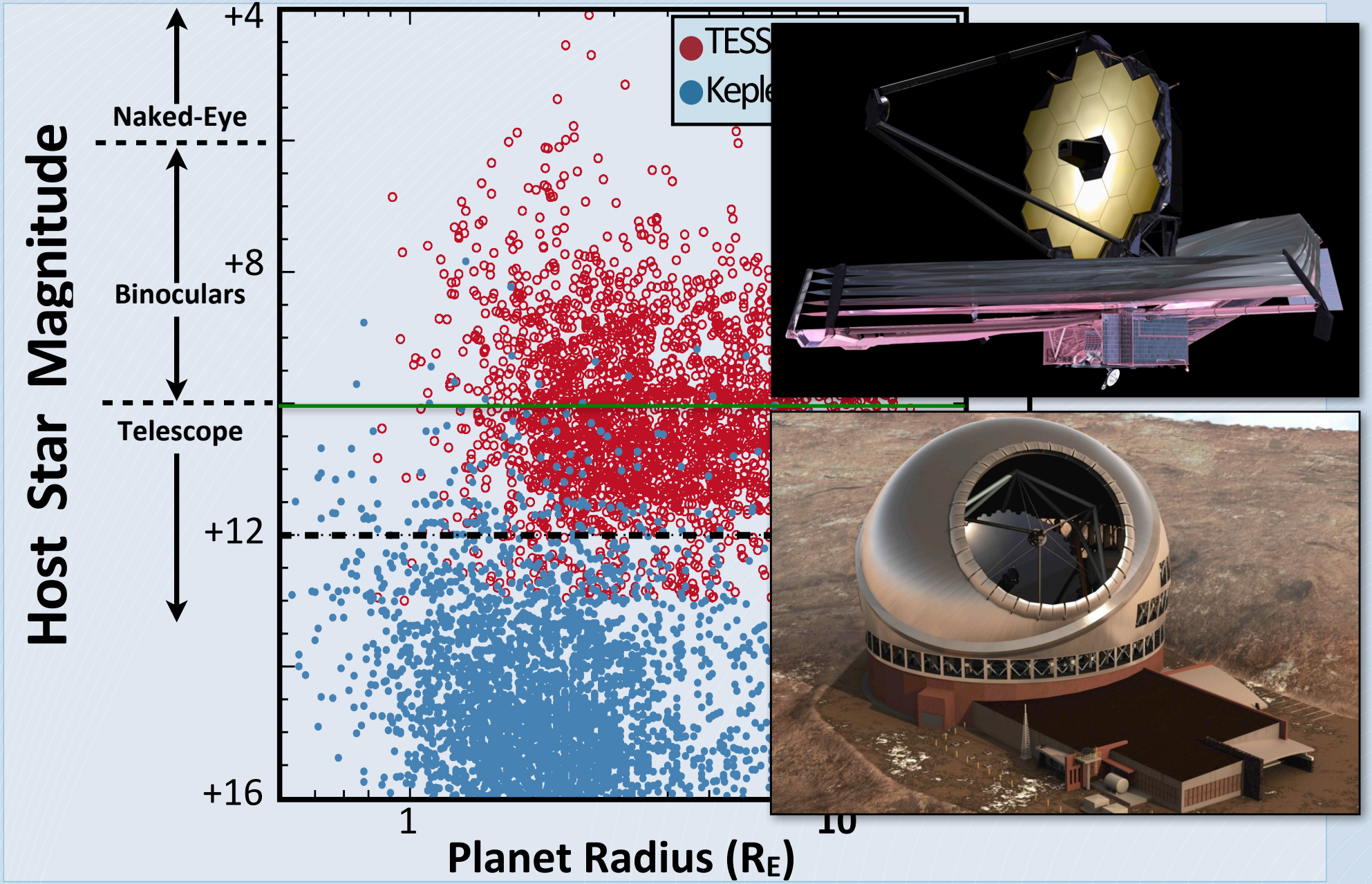
OHP



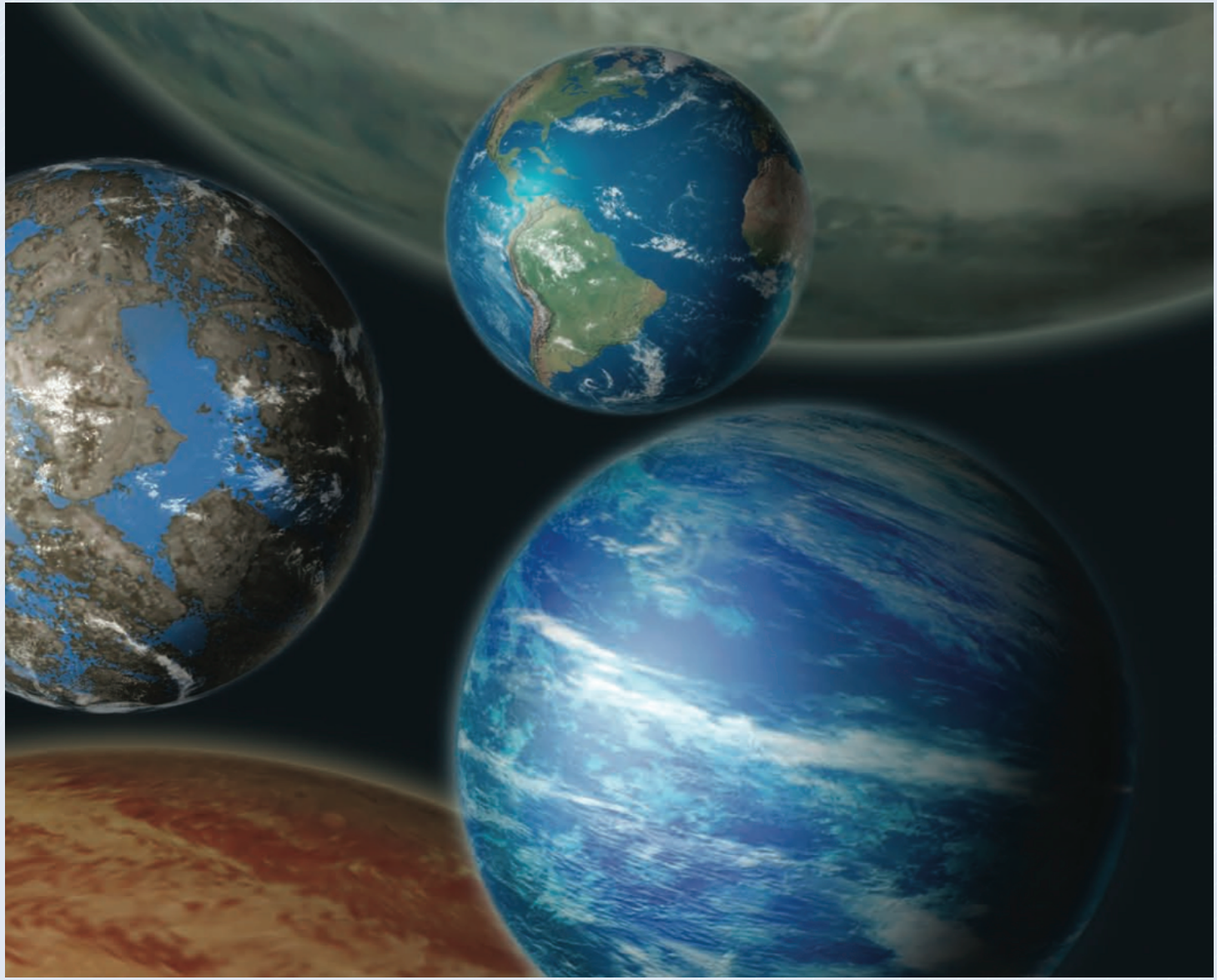
100 x Brighter

HARPS

Follow-up Observations are Critical



Thank You



http://tess.gsfc.nasa.gov http://tess.mit.edu http://nexsci.caltech.edu