National Aeronautics and Space Administration

SCIENCE ACTIVATION

Presentation to:

Decadal Survey on Planetary Science and Astrobiology: State of the Profession Writing Group

February 18, 2021

Active participation in the advancement of knowledge

https://science.nasa.gov/learners

Purpose

"The members of SoPWG are interested to hear something about mentorship and other STEM programs in SMD that support the NASA's space programs and capabilities in terms of DEIA and data collected to monitor progress"

Today's Discussion

- *SMD Science Activation*
- *NASA Continuing Opportunities*
- *Student Collaboration*

…And so, we lift our gazes not to what stands between us,
but what stands before us.
We close the divide because we know,
to put our future first,
we must first put our differences aside.
We lay down our arms so we can reach out
our arms to one another. We seek harm to none
and harmony for all.
Let the globe,
if nothing else, say this is true…

Amanda Gorman,
“The Hill We Climb”
January 20, 2021

NASA’s Commitment to DEIA
(Diversity, Equity, Inclusion and Accessibility)

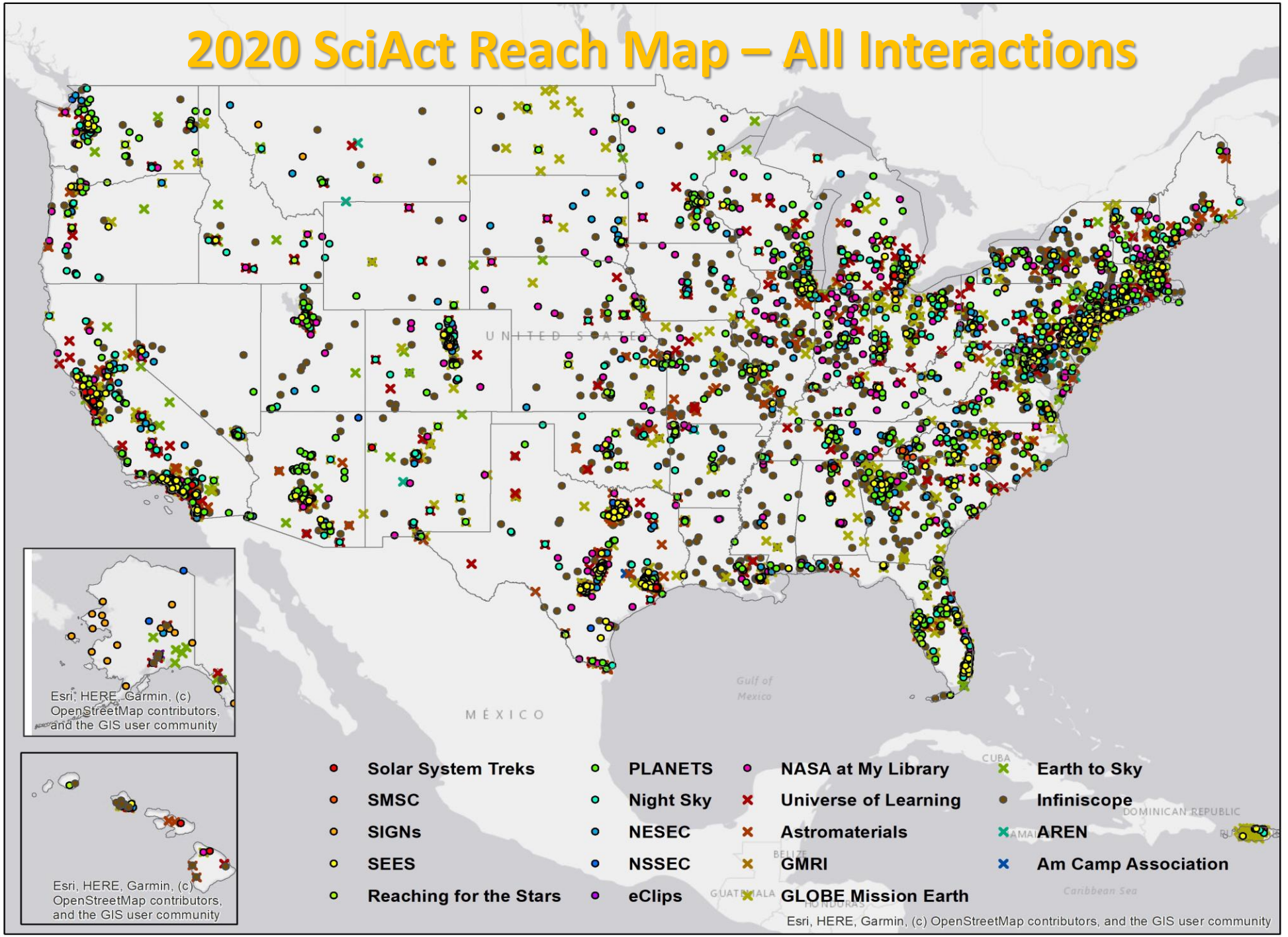
Core Value of Inclusion: NASA is committed to a culture of diversity, inclusion, and equity, where all employees feel welcome, respected, and engaged. To achieve the greatest mission success, NASA embraces hiring, developing, and growing a diverse and inclusive workforce in a positive and safe work environment where individuals can be authentic. This value will enable NASA to attract the best talent, grow capabilities of the entire workforce, and empower everyone to fully contribute.

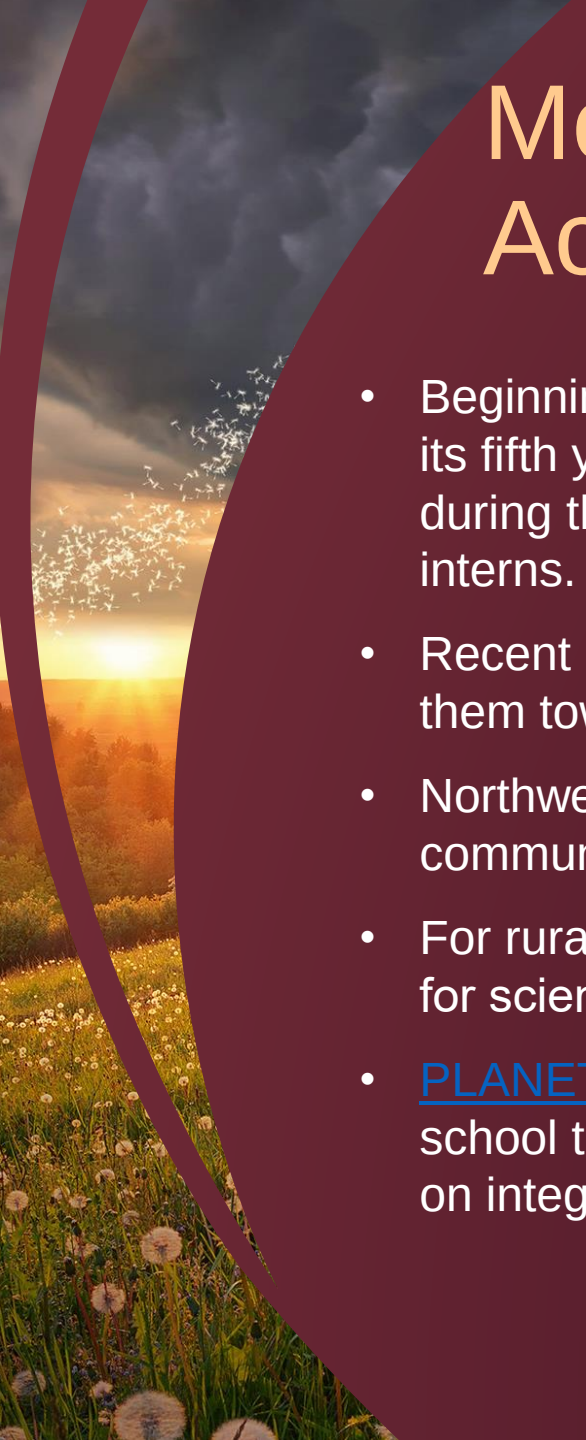
SMD 2020 Science Plan Strategy 4.1: Increase diversity of thought and backgrounds represented across the entire SMD portfolio through a more inclusive and accessible environment.

Science Activation (SciAct) Summary

- Baselined in November 2016, this collaborative model leverages over 220 partnerships through a network of science and community-based institutions using “multiplier effect” across U.S. to achieve objectives
- 31 Competitively-selected awardees enables NASA science experts and content to engage more effectively and efficiently with learners of all ages – broadening participation has been a focus area since 2016
- Each agreement uses independent evaluators to validate performance; new community of practice established. Independent portfolio evaluators added in 2020
- Volunteer networks, such as Solar System Ambassadors and Night Sky Network, mobilized across the U.S.
- National Academies **report** completed in 2019. Validated the program!
- Annual SMD funding $46M for Science Activation activities (includes citizen science initiative) https://science.nasa.gov/learners

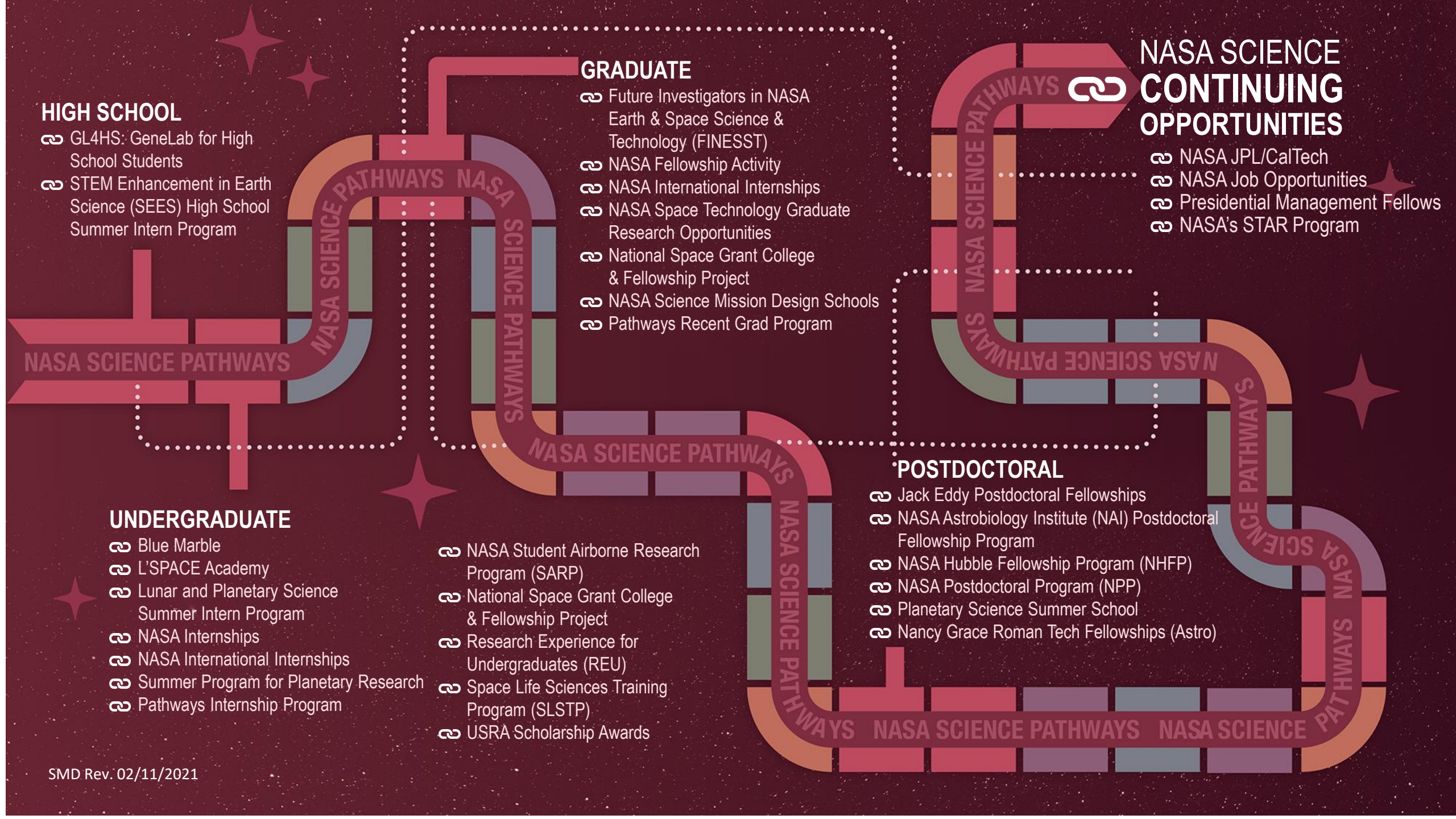
2020 SciAct Reach Map – All Interactions





Mentoring and Diversity: Science Activation Examples

- Beginning at the high school level, the STEM Enhancement in Earth Sciences (SEES) Project is in its fifth year. Students receive mentorship from NASA-funded SMEs to conduct STEM projects during the summer. Also, High schoolers from previous years are available to mentor current year interns.
- Recent awardee at Sonoma State will work with neurodiverse learners with a goal of mentoring them towards positions in the STEM workforce
- Northwest Earth and Space Pipeline joins underserved rural and Native American learners with community-based organizations to support them throughout their educational career path
- For rural Appalachia and the regional Cherokee Nation, Southwest Community College is the hub for science learning, since leading the regions' efforts in the 2017 Total Solar Eclipse
- PLANETS award with Northern Arizona U, Museum of Science/Boston, and USGS, is an out-of-school time (OST) program for youth in grades 3–8 that provides STEM learning with an emphasis on integrating NASA planetary science and engineering, particularly for underserved audiences



SMD Rev. 02/11/2021

Student Collaborations

- April 2018, SMD updated its policy (SPD-31) for Announcements of Opportunities to incentivize student collaborations, defined as:

  Student Collaborations (SCs) are defined as hands-on opportunities across the life cycle of flight or instrument projects (design, build, test, and operations) performed by current or future undergraduate or graduate students, including advanced high schoolers.

- Policy included a student collaboration incentive of 1% of mission cost cap, with conditions
- Policy stated that mentoring is an essential part of student collaborations and flexible approaches are appropriate. NASA expects that funding will go to the student collaboration mentors