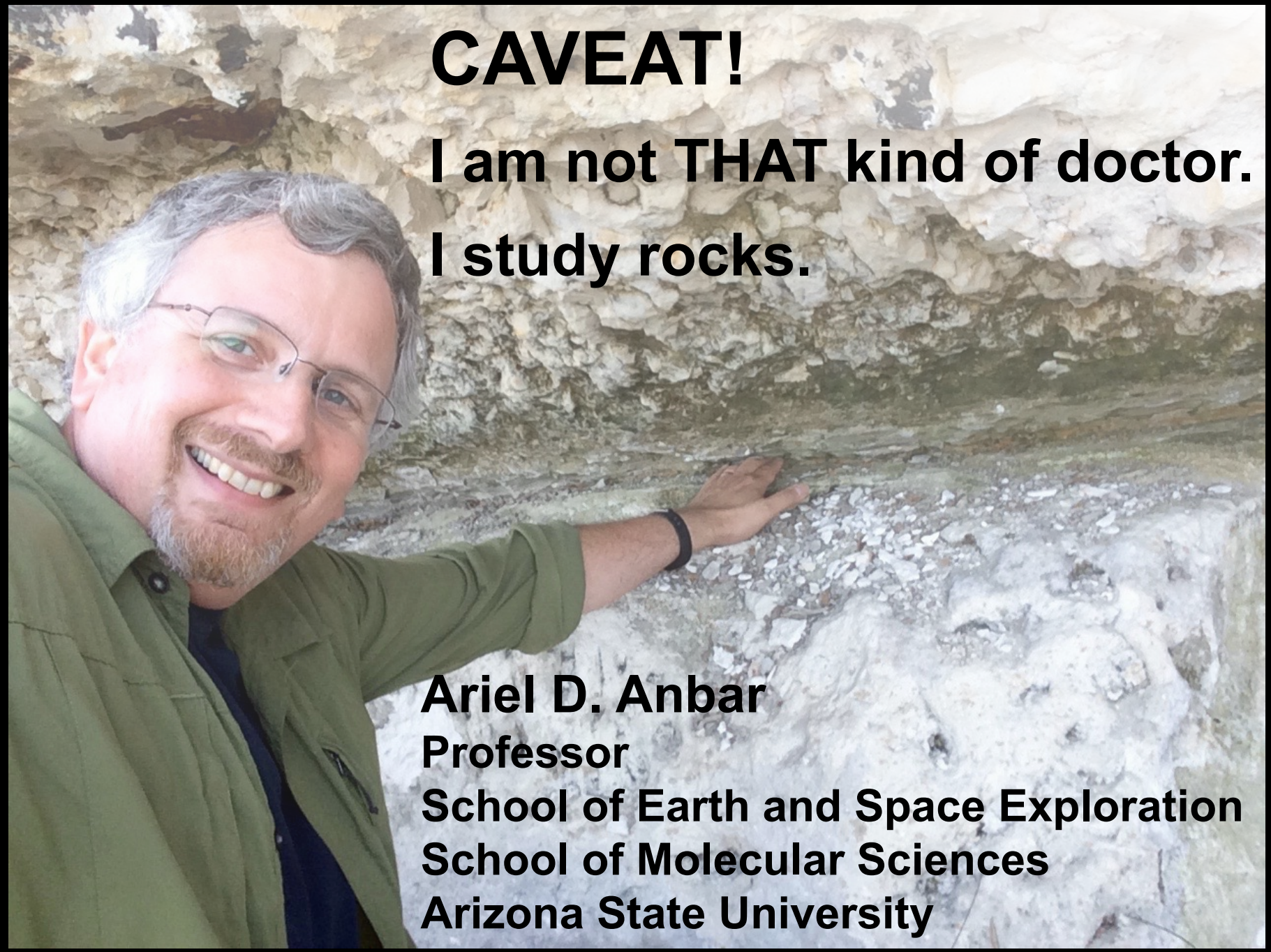
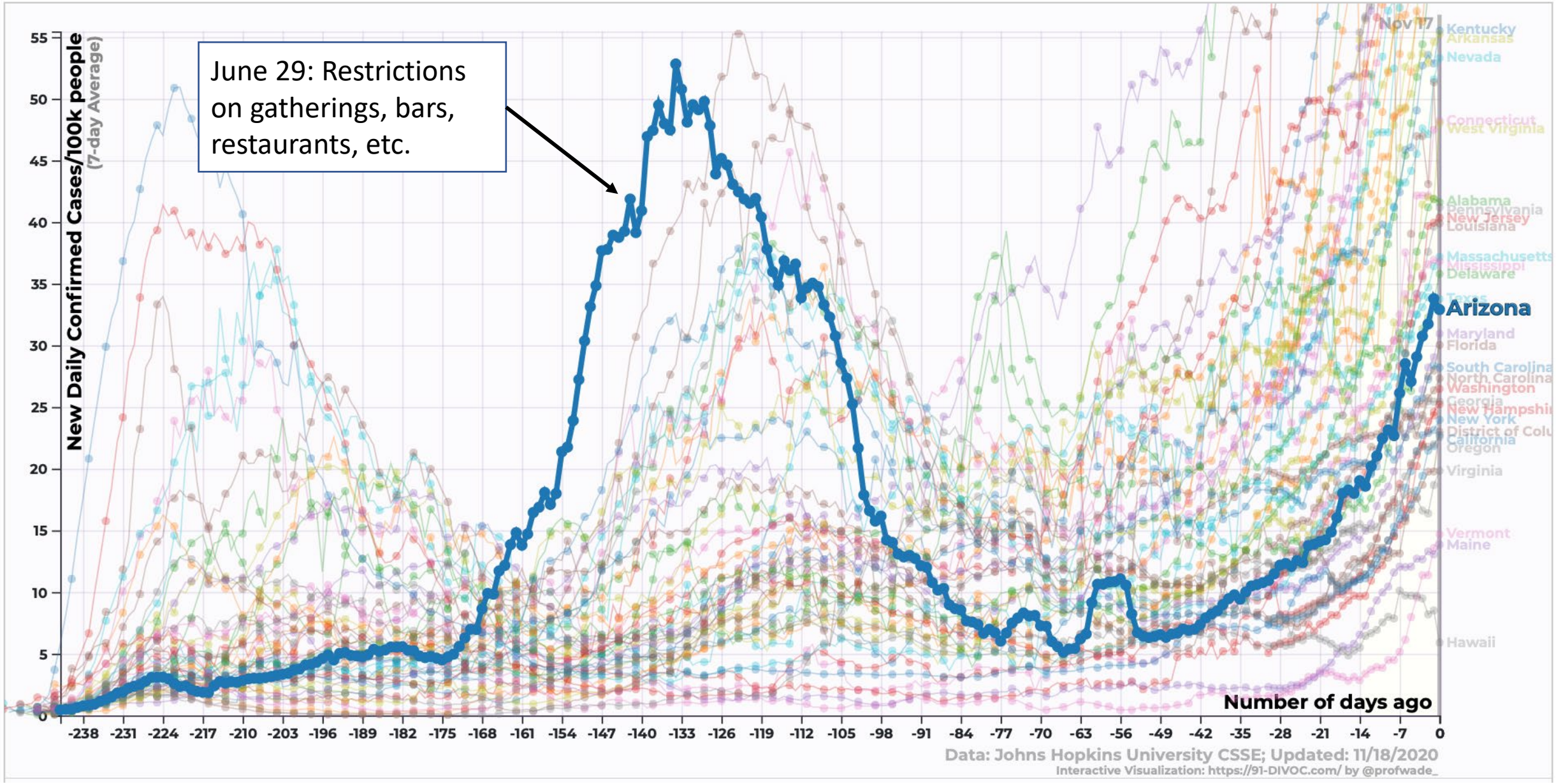
The COVID-19 Crisis

Update November 19, 2020

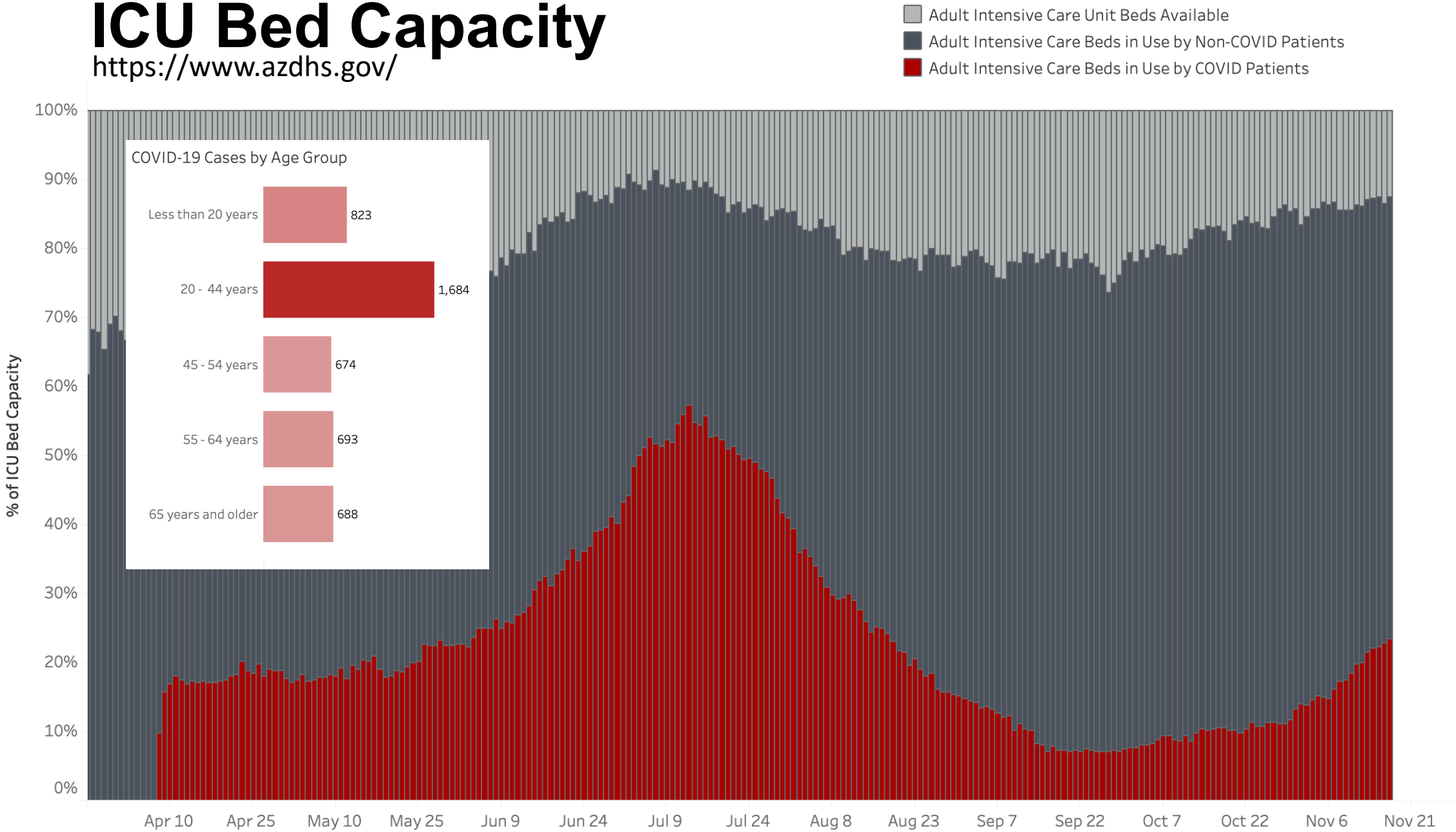

CAVEAT!
I am not THAT kind of doctor.
I study rocks.
Ariel D. Anbar
Professor
School of Earth and Space Exploration
School of Molecular Sciences
Arizona State University

New Confirmed COVID-19 Cases per Day by US States/Territories, normalized by population

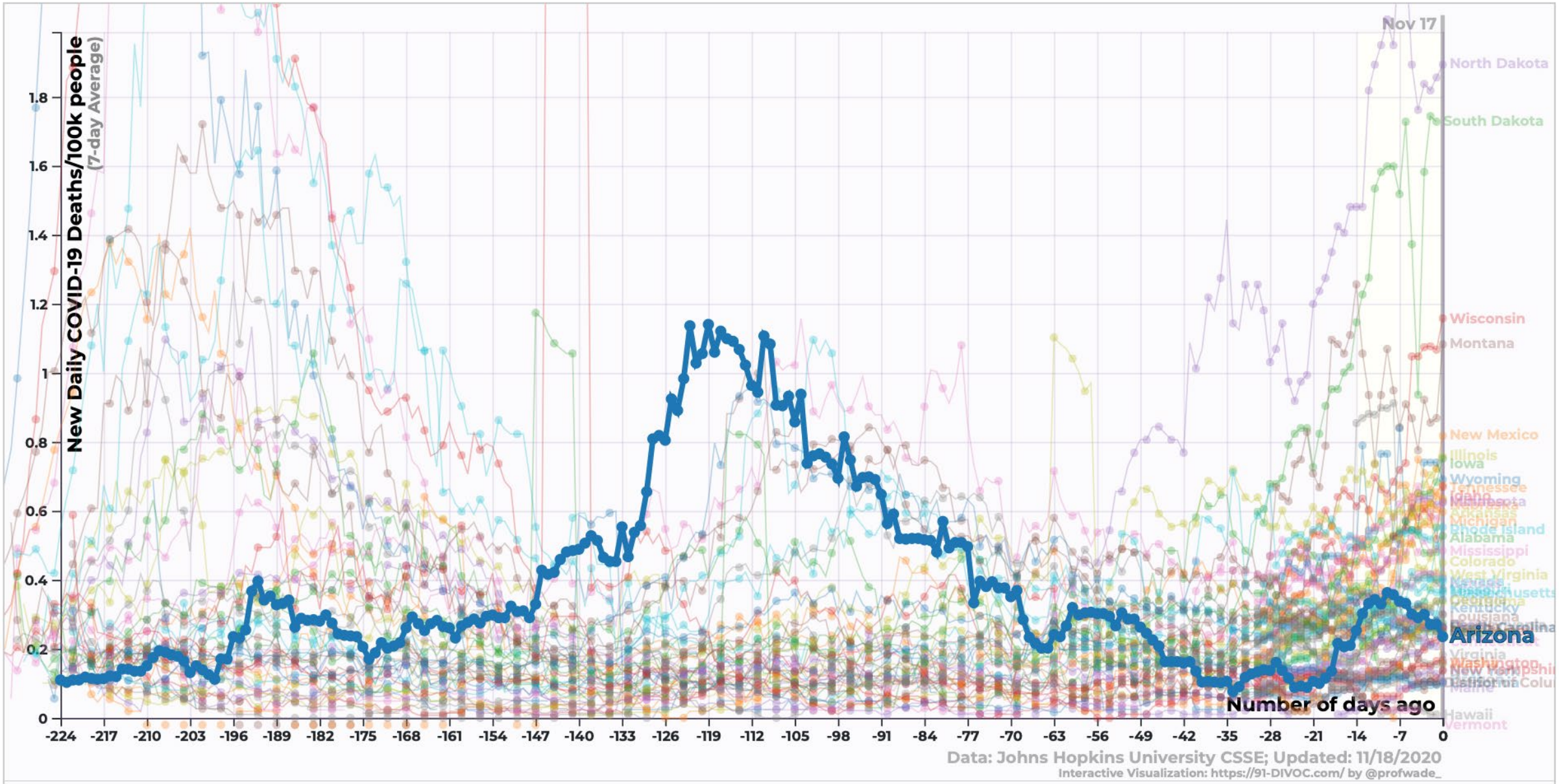


ICU Bed Capacity

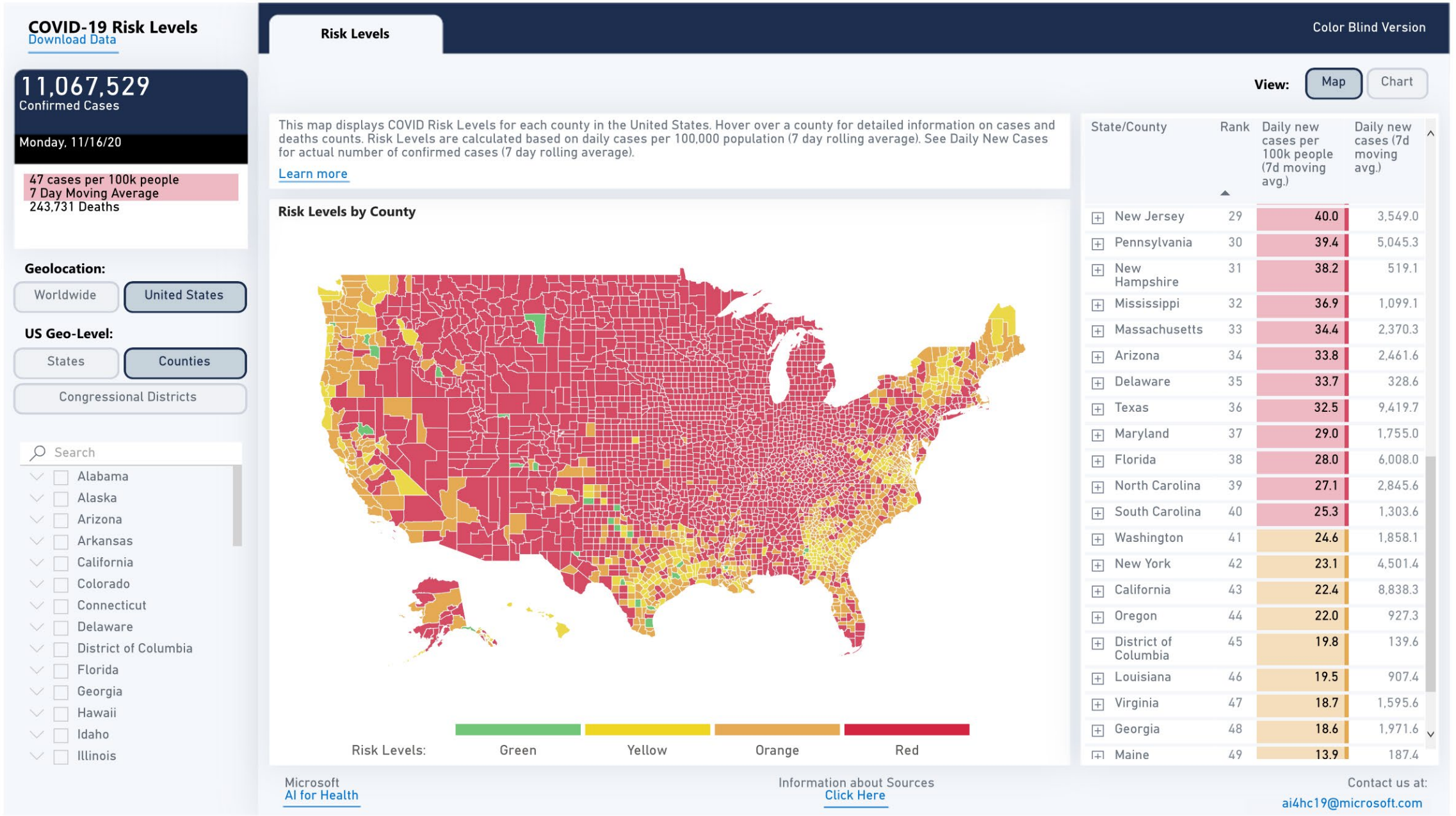
https://www.azdhs.gov/



New Deaths from COVID-19 per Day by US States/Territories, normalized by population



https://globalepidemics.org

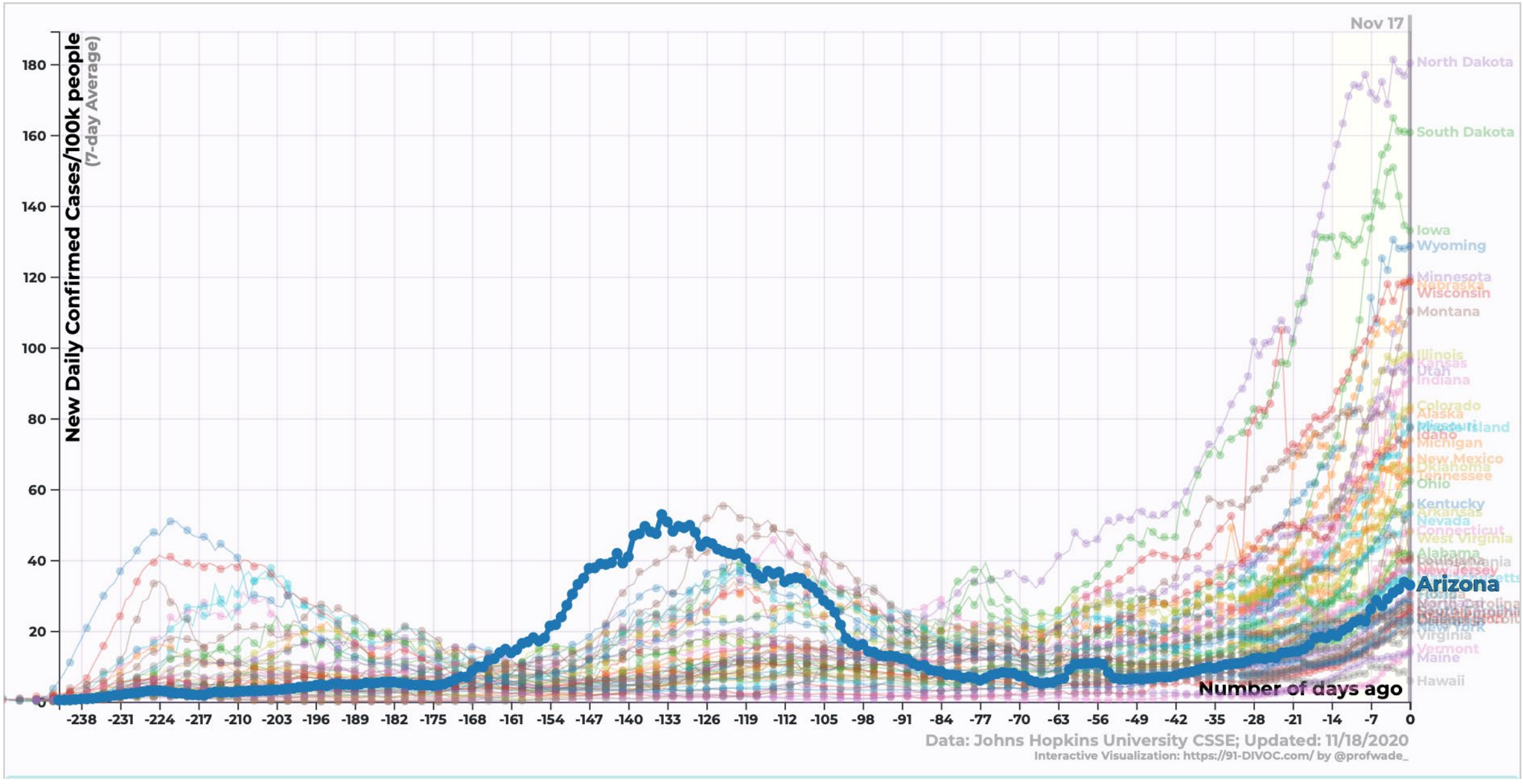


State/County	Rank	Daily new cases per 100k people (7d moving avg.)	Daily new cases (7d moving avg.)
New Jersey	29	40.0	3,549.0
Pennsylvania	30	39.4	5,045.3
New Hampshire	31	38.2	519.1
Mississippi	32	36.9	1,099.1
Massachusetts	33	34.4	2,370.3
Arizona	34	33.8	2,461.6
Delaware	35	33.7	328.6
Texas	36	32.5	9,419.7
Maryland	37	29.0	1,755.0
Florida	38	28.0	6,008.0
North Carolina	39	27.1	2,845.6
South Carolina	40	25.3	1,303.6
Washington	41	24.6	1,858.1
New York	42	23.1	4,501.4
California	43	22.4	8,838.3
Oregon	44	22.0	927.3
District of Columbia	45	19.8	139.6
Louisiana	46	19.5	907.4
Virginia	47	18.7	1,595.6
Georgia	48	18.6	1,971.6
Maine	49	13.9	187.4

MY MASK PROTECTS YOU, AND
YOUR MASK PROTECTS ME.

Where are we headed?

New Confirmed COVID-19 Cases per Day by US States/Territories, normalized by population



Vaccine Progress!

https://www.theatlantic.com/health/archive/2020/11/vaccines-end-covid-19-pandemic-sight/617141/

https://www.nytimes.com/interactive/2020/science/coronavirus-vaccine-tracker.html

HEALTH

The End of the Pandemic Is Now in Sight

A year of scientific uncertainty is over. Two vaccines look like they will work, and more should follow.

SARAH ZHANG 3:57 PM ET November 18, 2020

SESE Undergrad Program Update

School of Earth and Space Exploration
Arizona State University

ASU Online

ASU Online is a college of ASU that permits students to earn degrees entirely online.

ASU offers 255 degree programs online, with over 30,000 students enrolled.

In the past few years, ASU has been pushing to offer science and engineering degrees online.

SESE's new Astronomical and Planetary Sciences BS degree is one of the first natural sciences degrees offered online by ASU, and is the first online astronomy degree offered in the United States.

The Astronomical and Planetary Sciences BS

The online Bachelor of Science in astronomical and planetary sciences program provides you with broad training in the scientific foundations and fundamentals of space exploration, including ongoing advances in the field.

Learners can expect to find careers in fields that value scientific knowledge and complex problem-solving skills. This includes the ability to use modern statistical data analysis techniques. Graduates may find jobs within K-12 STEM teaching, writing and journalism, science policy or statistical data analysis and computer programming.

This online astronomy degree is ideal for individuals who would like to gain a solid understanding of astronomy and planetary science. Because this program focuses on critical thinking and innovative problem-solving, it may prepare you for law school or other graduate school opportunities related to this skill set.

However, if you plan to apply to a graduate program in astronomy or astrophysics or pursue a path as a university professor or professional astronomer, you'll need additional advanced coursework in mathematics and physics and in-person research experience not currently provided in this degree. You may want to consider ASU's campus Bachelor of Science in earth and space exploration.

Degree Status

Courses Now

All physics and math
Intro Astronomy AST111/112/113/114
SES106 Habitable Worlds
SES376/377 Science communications
AST301 Physics of Astrophysics

Spring 21

Scientific Programming in Python SES350

Fall 21

Planetary and Stellar Astrophysics AST321
A Solar System Journey SES107

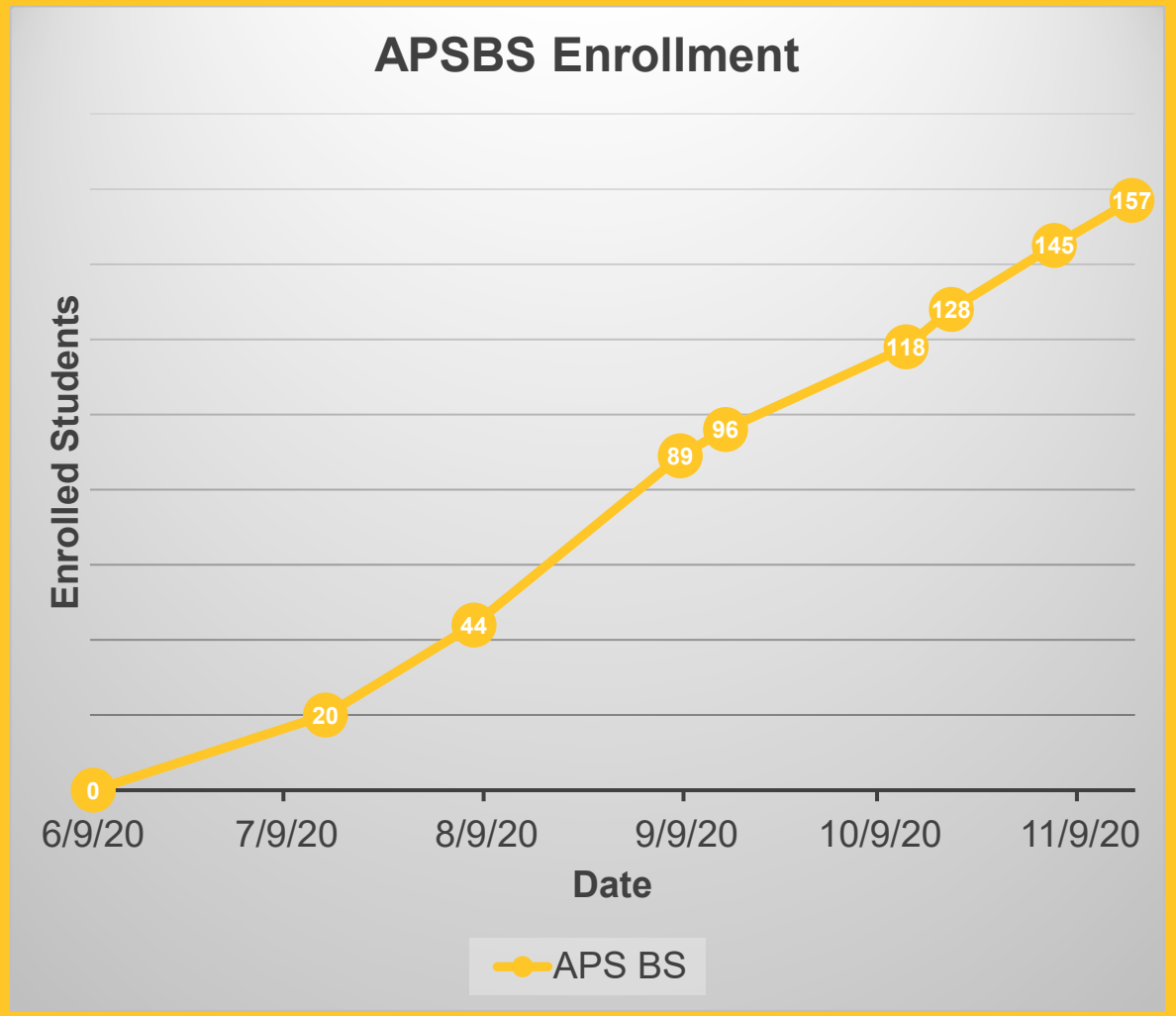
Spring 22

Galactic and Extragalactic Astrophysics AST322

Degree Launch and Growth

The APSBS degree became available for students to enroll on June 6, 2020

The degree is now tied for the largest SESE undergrad degree (as of this Tuesday).



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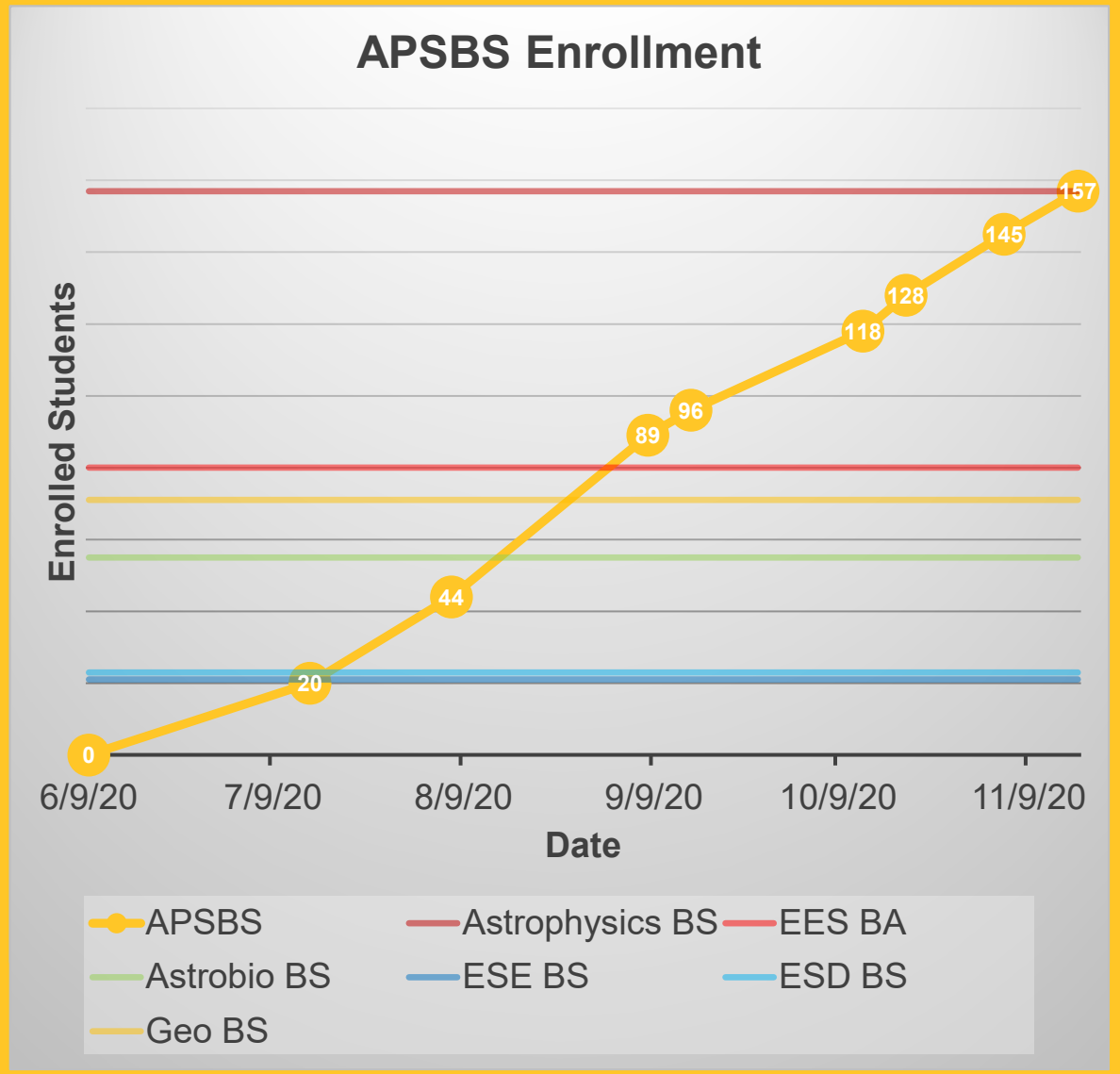


New In person options: MS degree in Exploration Systems Design and Joint 4+1 MS with Fulton Schools of Engineering

- We're working on new 4+1 MS degree options
- SESE students will be able to do a +1 MS degree in a selection of Fulton degrees (EE and Aerospace at first, but more to come)
- FSE students will be able to do a +1 in a SESE degree (Astro, Geo or ESD)
- ESD MS should be available in Fall 2021, with 4+1 options to follow.

Community Engagement 2020

Community Conversation 11/19/20

Patrick Young on behalf of Karin Valentine, Ric Alling, Meg Hufford, Kim Baptista, Cathy Shappell, docents

Virtual Night Sky

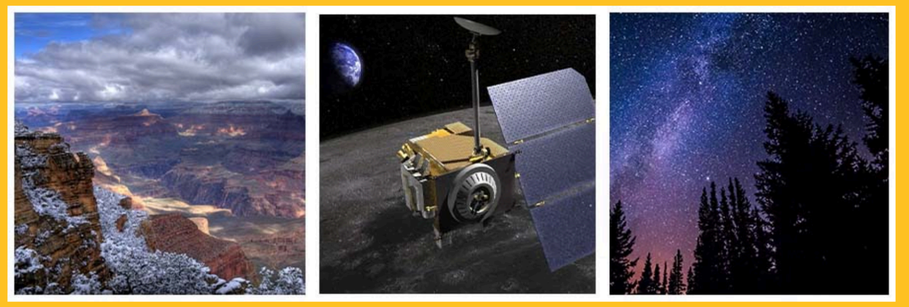
- Zoom webinar every 2 weeks
- Sharing Marston content that participants can take outside on mobile devices and follow along in the sky
- Guest speakers
- >250 active participants each event

Signature Events

- Virtual ESE Day: almost 200 participants, 50 SESE presenters, 22 activities
- New Discoveries Lecture Series - Elizabeth Trembath-Reichert
- Ask Me Anything with Cady Coleman
- Mars 2020 and EMIR launch events
- Fall welcome and recruitment webinars

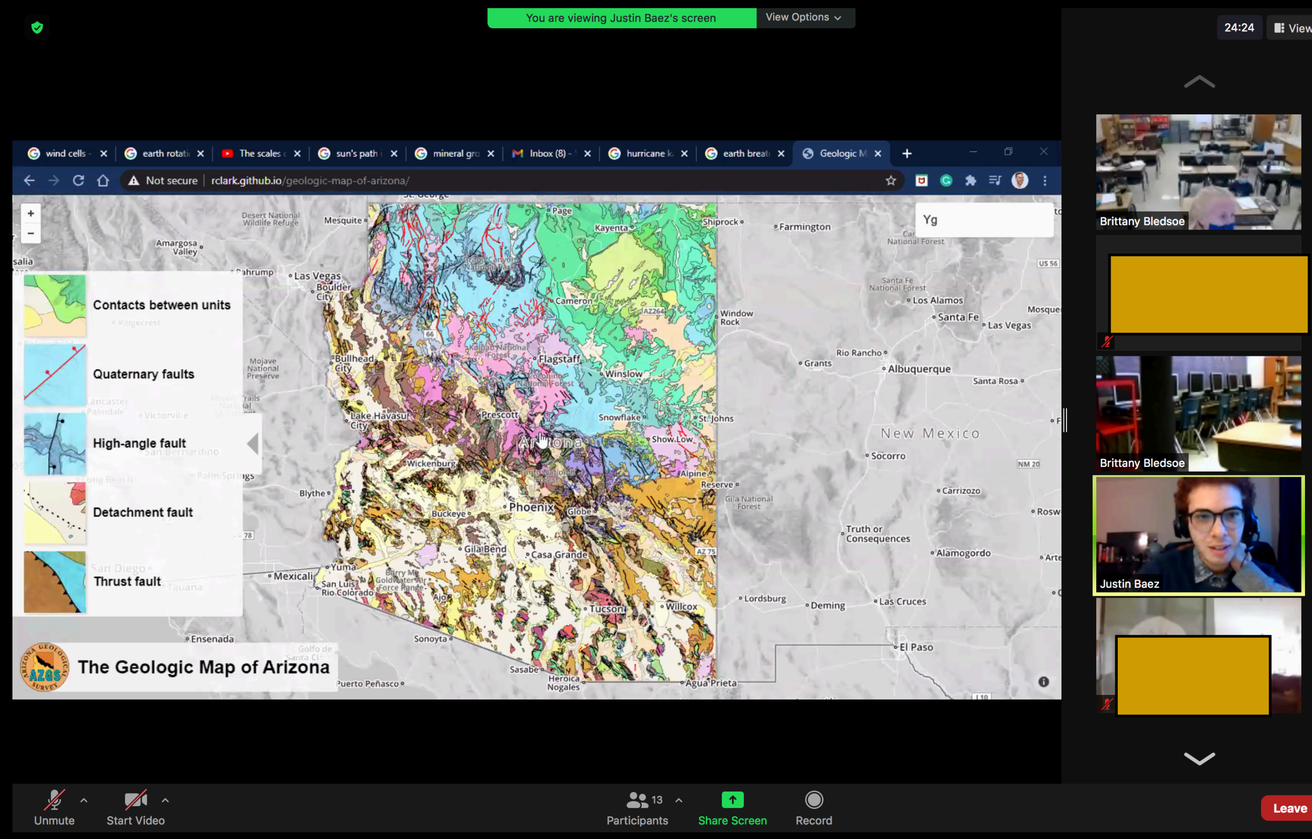
ASU School of Earth and Space Exploration
Arizona State University

Welcome to Earth and Space Exploration Day 2020



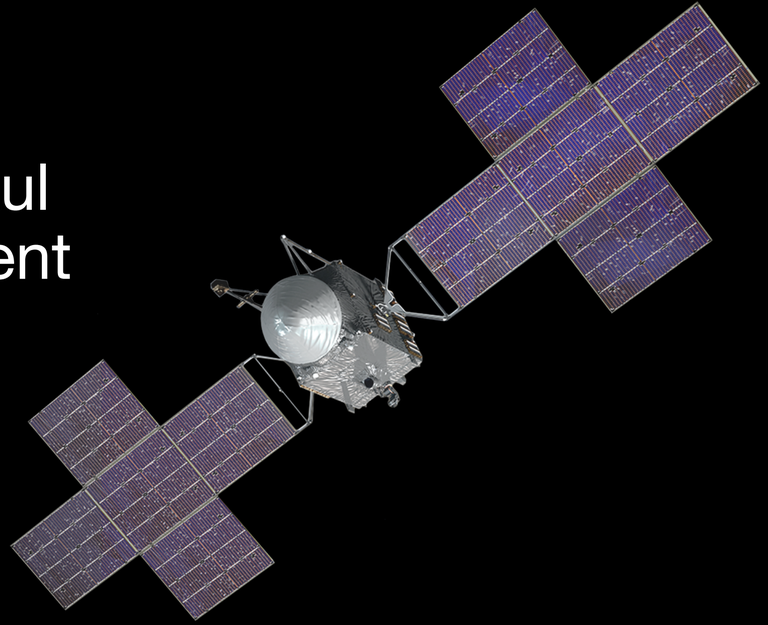
Virtual Classroom Visits and Online Labs

- Virtual SESE field trips and in-class activities
- Developed and presented by docents in collaboration with Mary Lou Fulton Teachers College
- Schools in AZ and CA
- Labs for online AST courses and Astronomical and Planetary Science BS
- Developing labs for sale to other universities



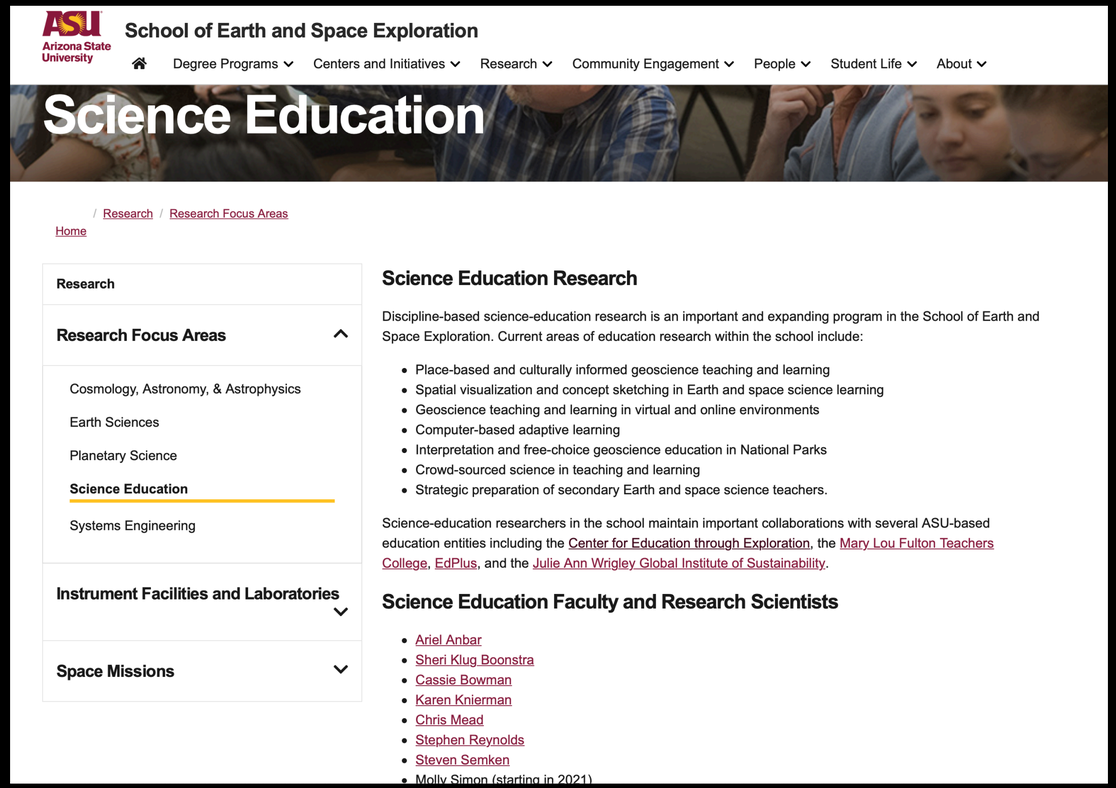
Gallery of Scientific Exploration and Marston

- Update of Curiosity rover to Perseverance
- Psyche model structurally complete, parts prepared for assembly
- Marston servers upgraded
- Magic Planet software overhaul allows for custom SESE content



SESE Website and Intranet

- Website revamp rollout Dec. 4th
- Staff and grad students please fill out iSearch profiles! Contact Cathy Shappell for help (catherine.Shappell@asu.edu).
- Limited rollout of SESE Intranet on Canvas - guidelines, contacts, forms for business office, HR, etc.



SESE Inclusive Community

COMMUNITY CONVERSATION

NOVEMBER 18, 2020

Meet the Task Force

Christy Till, Associate Professor and Associate Director for an Inclusive Community

Elizabeth Trembath-Reichert, Assistant Professor

Phil Christensen, Full Professor

Enrique Vivoni, Full Professor and Associate Dean for Graduate Programs

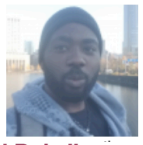
Desiree Crawl, SpaceGrant Coordinator

Kimberly Baptista, Alumni & Special Events Coordinator

Aaron Boyd, LROC research staff

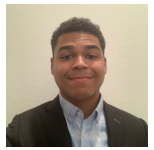
Sean Peters, Postdoctoral fellow

Christine O'Donnell, Postdoctoral fellow

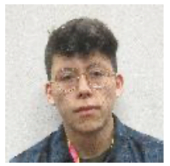


Ed Buie II, Graduate Student

Alexa Drew, Graduate Student



Miles English, Undergraduate Student



Eric Gutierrez, Undergraduate Student

Ex-Officio Members of the Task Force

Hilairy Hartnett, (ex-officio) Full Professor and College JEDI Task Force chair

AD Grad Program

Patrick Young (ex-officio), Associate Professor

AD Outreach & ASU ADVANCE Fellow

- **Meets weekly**
- **Highest priority activity is developing a 3-5 year plan to improve equity within SESE structures & communities**
- **Leading development of a SESE Code of Conduct**
- **Oversee SESE JEDI Small Grants Program**

Reminder!

SESE JEDI Seed Grants are due tomorrow Nov. 20th!

Submit to sesejeditaskforce@gmail.com.

School of Earth and Space Exploration JEDI Seed Grant

–Fall 2020 Application–

Motivation

The School of Earth and Space Exploration solicits seed grant applications that promote the mission statement of the JEDI Task Force: *The SESE JEDI Task Force empowers a just, equitable, and inclusive School of Earth & Space Exploration by facilitating and promoting individual action, dialog, education, long-term planning and systemic change.*

Who Can Apply?

We encourage applications from the broad SESE community including students, staff, and faculty. Alumni are welcome to co-propose with current SESE students, staff, and/or faculty.

Funding Amount and Relevant Dates

Total funding available for all grants awarded through this call is $2,000. The number of grants awarded will depend on the number and size of the submitted compelling applications. To fund as many grants as possible, we encourage applications with the minimum funding necessary to accomplish goals. We welcome applicants to reach out to the SESE Seed Grant Task Force to discuss their proposed budget. Applications are due by **November 20th**. We anticipate the first round of selections by the end of Fall term.

Selection Criteria

We encourage all potential applicants to reach out to the SESE Seed Grant Task Force to discuss their proposal or be connected with others with similar objectives in SESE to strengthen individual proposals.

In addition to the Application Elements outlined below, successful applications will endeavor to include the following, as appropriate to the proposed initiative:

- Discussion of relevance to JEDI Task Force mission statement
- Feasibility of implementing the initiative with the funding
- Metrics to evaluate effectiveness of the proposed initiative and discuss the likelihood of the initiative producing desired outcomes
- Include a proposed plan of sustainability of the initiative beyond seed funding
- Be developed **with** the target audience, rather than **for** those individuals
- Will discuss the scope of the impact in SESE and beyond (larger scope of impact will generally viewed as more favorable, with some exceptions)
- Articulate the "level of need" (e.g., are there other ways to achieve the desired outcomes besides this initiative?).

Application Elements

Please submit no more than 2 pages, single spaced, 12 point arial font with the following information:

1. Title of initiative.
2. Name and email of all applicants.
3. Description of program or initiative - this can include goals of the project, why it is needed in SESE, proposed methods, and any evidence that supports proposed

What are microaggressions?

"...the brief and commonplace daily verbal, behavioral, and environmental indignities, whether intentional or unintentional, that communicate hostile, derogatory, or negative racial, gender, sexual-orientation, and religious slights and insults to the target person or group" (Sue et al., 2007)

Can you identify microaggressions?

Alien in One's Own Land
To a Latinx: "No, where are you really from?"

Ascription of Intelligence
To person of Asian descent, "You're all good at computers, can you help me with this problem?"

Color Blindness
"I don't see race."

Traditional Gender Role
A teacher asks a student if she is planning to have children.

Pathologizing Cultural Values/Communi-cation Styles
To a Black woman: "Why are you always so angry?"

"You Latinos are always so loud."

Myth of Meritocracy
"Everyone can succeed if they work hard enough."

Use of Heterosexist Language
"That's so gay."

ADVANCEGeo PARTNERSHIP

Real Microaggressions Witnessed by SESE Members

1. **Suggesting that someone achieved their position based on something other than merit (gender, race, etc.)**
2. **Suggesting that someone will 'understand better' once they are more senior**
3. **Taking credit for someone else's ideas.**
4. **Asking where someone is from ("But where are you REALLY from??").**
5. **Using ableist language (e.g., dumb, lame, retarded, schizophrenic, insane)**
6. **Consistently using the incorrect pronouns for someone when they've told you what pronouns they prefer.**
7. **Assuming that an unnamed scientist in a story is male/white.**
8. **"I know what you're going through and I'm here to fix it," from someone with a very different level of privilege.**
9. **Saying you are "color blind".**
10. **Assumed a person could take the stairs, do a "walking meeting", or walk to a distant location without asking or knowing about their mobility requirements.**
11. **"You're not like other XXXXX" as a compliment.**
12. **Asked me if belonged in the building (asked to see my ID).**
13. **Refused to use a microphone when someone requested it.**
14. **Asking a minoritized person to 'speak generally' for a group**
15. **Talked over quieter people because your "opinion" mattered more**
16. **Eye-rolling about ASU Religious holidays.**
17. **Failing to directly invite someone who is minoritized to an event.**
18. **Referring to "illegal immigrants" instead of "undocumented immigrants".**
19. **Suggesting to a student that they might not be cut out for the field**.

Documented Effects of Microaggresions

Psychological
Personal relationships
Safety
Mental health
Depression
Fear
Trust
Trauma

Professional
Access to opportunities
Personal relationships
Insecurity
Productivity
Recruitment
Retention
Advancement

Physiological
Physical injuries
Trauma
High blood pressure
Weight gain

Economic
Access to opportunities
Productivity
Job insecurity
Promotion

Societal
Distrust in leadership
Hostile climates
Weakens academic enterprise

Poll Question (Multiple Choice)

I regularly experience or witness microaggressions by members the SESE Community.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

SESE's Current Mission Statement

The mission of the School of Earth and Space Exploration centers on four points.

1. We conduct pathbreaking research on the Earth, other planets and space.

At SESE, our faculty, researchers and students seek to expand the frontiers of knowledge through the exploration of Earth, space, matter, time and life. More and more, successful exploration depends on engineering theory and practice to create technologies for scientific advances. Our programs explicitly emphasize the importance of technology in modern scientific research.

2. We focus on the education of our undergraduate and graduate students.

Our educational aim is to produce and evolve scientists and engineers who can tackle significant problems across traditional disciplines and create new instruments to push out the frontiers of knowledge. SESE students learn the means to advance Earth, planetary and astrophysical sciences.

3. We reach out to the community and K-12 students and educators with our research and training.

Tomorrow's explorers are in elementary, middle and high schools today. We provide educators of all levels with professional development to advance their understanding of science and technology. We seek to inspire the next generations to be open to science and to understand it both as a quest and as a way to answer questions — not as a set of facts to memorize.

4. We foster a positive collaborative academic community.

We are a community of researchers who look beyond traditional boundaries for big problems to solve, and we invent the means to solve them. Interdisciplinary work requires team support, and we strive to maintain a team-oriented, positive community.

Poll Question:

What (if anything) do you think is missing from SESE's current Mission Statement regarding SESE's Inclusive Community values?

(Open Answer)