



Local Insight. Global Perspective.

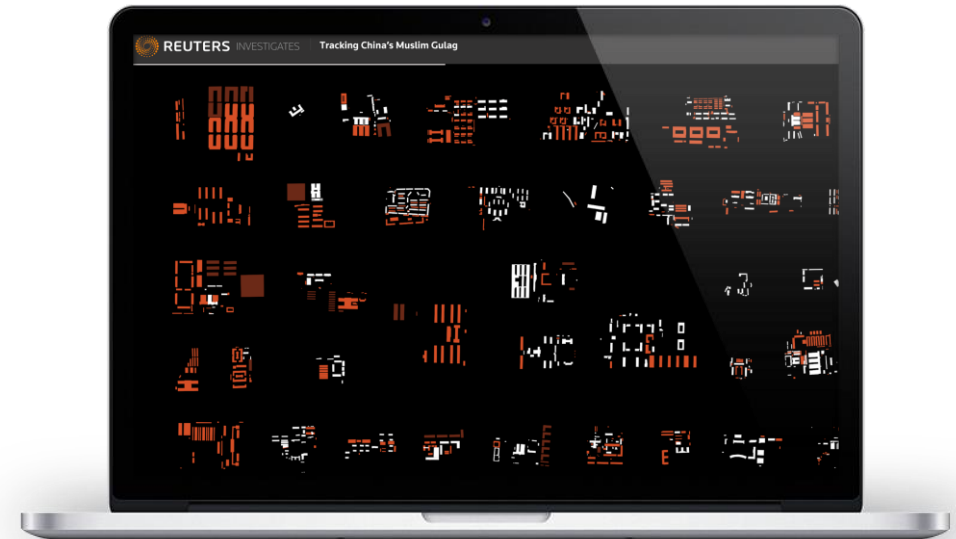
Earthrise Alliance is a philanthropic organization that converts Earth systems data into relevant and actionable knowledge to combat climate change.

MAKING SPACE-BASED INFORMATION ACCESSIBLE TO EVERYONE

Earth observation to support journalists



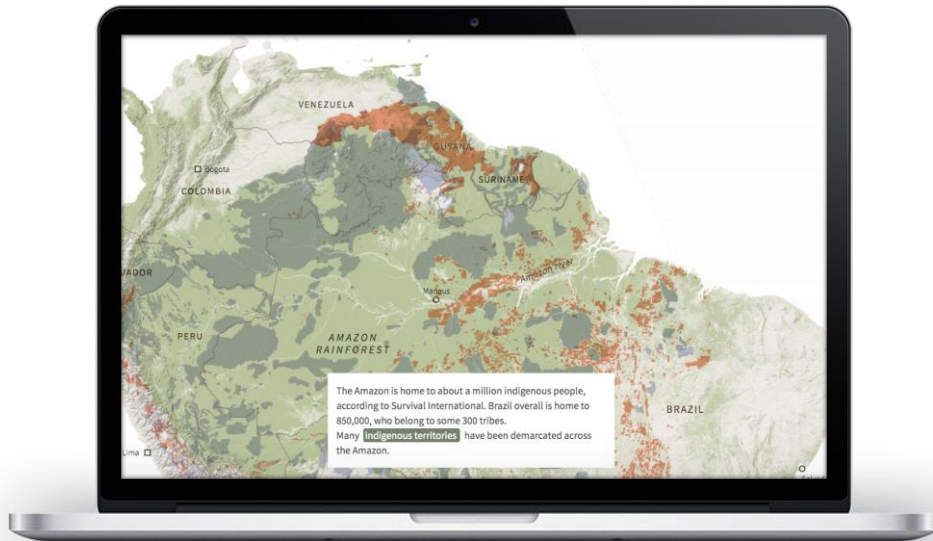
Environmental event:
Glacial melt



Humanitarian event:
Ethnic detention

... INCLUDING YOUNG STUDENTS

Enabling student-led investigations



Environmental event:
Illegal deforestation



THE POWER OF
Peer validation



"PULITZER OF
INFOGRAPHICS."

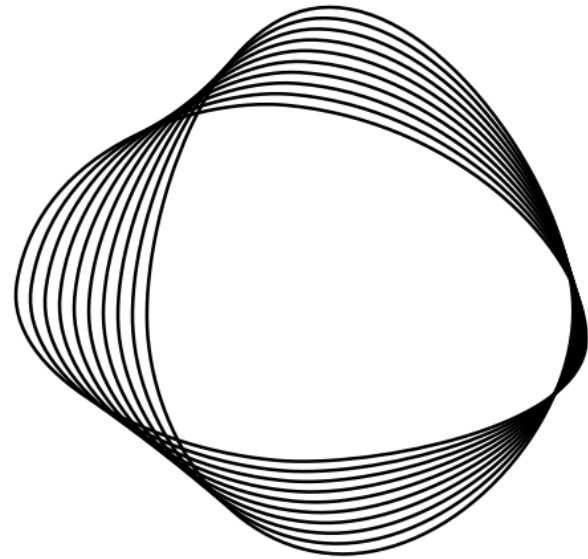


AWARD FOR INNOVATION
IN DATA JOURNALISM



BEST INDIVIDUAL
EDITORIAL FEATURE

Infrastructure and policy for emissions measurement, from space



**CLIMATE
TRACE**

Policies that land, internationally



Earth is a modern moonshoot

BY LORI GARVER

NASA was not created to do something *again*. It was created to push the limits of human understanding — to help the nation solve big, impossible problems that require advances in science and technology. Fifty years ago, the impossible problem was putting a human on the moon to win the space race, and all of humanity has benefited from the accomplishment.

The impossible problem today is not the moon. And it's not Mars. It's our home planet, and NASA can once again be of service for the betterment of all.

Let's remember our history. We went to the moon 50 years ago in response to the Soviet Union's perceived domination of spaceflight. The 12 Americans who walked on the moon brought back 842 pounds of lunar material (rocks and dust), learned about our closest planetary body's geology and gave us a view of the Earth that changed our perspective. But that's not what drove NASA spending to 4 percent of the federal budget in 1965. We were willing to stake so much on the moon landing — only because there was so much at stake.

After accomplishing this amazing feat, the aerospace community has again and again sought presidential proclamations to go further. President Trump is the fifth president to proclaim we will send humans to the moon and/or Mars within a specific time frame, a decree without a value proposition that has never inspired broad public support nor come close to coming true.

NASA remains one of the most revered and valuable brands in the world, and the agency is at its best when given a purpose. But the public doesn't understand the purpose of spending massive amounts of money to send a few astronauts to the moon or Mars. Are

we in another race, and if so, is this the most valuable display of our scientific and technological leadership? If sci-robots for pennies on the dollar. In a July Pew Research Center study, 63 percent of respondents said monitoring key parts of Earth's climate system should be the highest priority for the United States' space agency — sending astronauts to the moon was their lowest priority, at 13 percent; 18 percent favor Mars.

The public is right about this. Climate change — not Russia, much less China — is today's existential threat. Data from NASA satellites show that future generations here on Earth will suffer from food and water shortages, increased disease and conflict over diminished resources. In 2018, the National Academy of Sciences released its decadal survey for Earth science and declared that NASA should prioritize the study of the global hydrological cycle, distribution and movement of mass between oceans, ice sheets, ground water and atmosphere; and changes in surface biology and geology. Immediately developing these sensors and satellites while extending existing missions would increase the cadence of new, more precise measurements and contribute to critical, higher-fidelity climate models.

NASA could also move beyond measurement and into action — focusing on solutions for communities at the front lines of drought, flooding and heat extremes. It could develop and disseminate standardized applications that provide actionable information to populations that are the most vulnerable. NASA could create a Climate Corps — modeled after the Peace Corps — in which scientists and engineers spend two years in local communities understanding the unique challenges they face, training local populations and connecting them with the data

and science needed to support smart, local decision-making.

The fragmented system of roles and responsibilities related to handling the massive amounts of Earth science data is severely hampering global efforts required to make significant progress. The U.S. government role in addressing this challenge is foundational with leadership. Standardizing data collection and coordinating its storage, analysis and distribution require experience working across disciplines, government agencies and universities, as well as the private sector and international community. Only NASA has done this sort of thing before; only NASA has the credibility and expertise to do it again.

Assigning NASA this task would require an Apollo-scale change — but could be accomplished within its existing mandate and by shifting funding priorities. The National Aeronautics and Space Act of 1958 supports expansion of human knowledge of the Earth and phenomena in the atmosphere and directs the agency to develop and carry out a comprehensive program of research, technology and monitoring to understand and maintain the integrity of the Earth's atmosphere. The act requires NASA to work with other federal agencies, academia and the private sector to make the necessary observations, disseminate their results and enlist the support and cooperation of appropriate scientists and engineers of other countries and international organizations.

Apollo's legacy should not be more meaningless new goals and arbitrary deadlines. Let's not repeat the past. Let's try to save our future. Besides, humanity's intrinsic need to explore is driven by our need to survive.

The writer is chief executive at Earthrise Alliance and was deputy NASA administrator from 2009 to 2013.

