Independent, nonprofit pro-space organization supported by 50,000 individuals in 100 countries

Founded in 1980 by Carl Sagan & Bruce Murray

CEO Bill Nye and 22 full-time staff, including 2 dedicated staff for Space Policy & Advocacy

What we want
To defend the planet from asteroids

To explore more worlds with humans and robots

To discover life elsewhere in the universe
Space: Real Reasons and Acceptable Reasons
How and why does space policy get made?
Advantages for space advocates

- Weak ideological trigger
- Non partisan
- Generally positive baseline response
- No organized opposition

Image Credit:
NASA / JPL / SSI / Emily Lakdawalla The Planetary Society
Disadvantages for space advocates

- Weak ideological trigger
- Lobbying dominated by industry
- Long-term projects with uncertain payoff
- Abstract concept with disorganized public support

Image Credit:
NASA / JPL / SSI / Emily Lakdawalla The Planetary Society
There are significant opportunities in space advocacy!
The Problem: The universe is very big
Budgets are very small
Historically, proposed increase or decreased happens 83\% of the time.
United States government spending in fiscal year 2018 (1 October 2017 - 30 September 2018). Shades of blue represent mandatory spending programs. Shades of orange, discretionary programs requiring annual approval by Congress. Source: Office of Management and Budget Historical Tables 8.5 and 8.7.
Science Mission Directorate ~$7.1B/yr

- Heliophysics: $720M
- Earth Science: $1,972M
- Planetary Science: $2,713M
- Astrophysics: $1,495M
NASA Planetary Funding (2018 const dollars)

Adjusted (2018 constant dollars)  Presidential Request
The Answer: More resources to enable more missions

Image Credit: NASA/JPL/Space Science Institute
Who tells NASA what to do?

Executive Control (appts, etc)

NASA Advisory Council

Authorization Bills

Appropriations Bills

United States Congress

Legislation

National Academies

Formal advisory bodies

The White House

Washington

NASA
Important to remember:

*General* public attitudes do not drive investments in the space program!
More Americans view monitoring climate or asteroids as top NASA priorities than do so for sending astronauts to the moon or Mars

% of U.S. adults who say each of the following should be a top priority for NASA

<table>
<thead>
<tr>
<th>Priority</th>
<th>Top priority</th>
<th>Important but lower priority</th>
<th>Not too important/should not be done</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitor key parts of the Earth's climate system</td>
<td>63</td>
<td>25</td>
<td>11</td>
</tr>
<tr>
<td>Monitor asteroids/objects that could hit Earth</td>
<td>62</td>
<td>29</td>
<td>9</td>
</tr>
<tr>
<td>Conduct basic scientific research to increase knowledge of space</td>
<td>47</td>
<td>40</td>
<td>12</td>
</tr>
<tr>
<td>Develop technologies that could be adapted for other uses</td>
<td>41</td>
<td>44</td>
<td>14</td>
</tr>
<tr>
<td>Conduct research on how space travel affects human health</td>
<td>38</td>
<td>41</td>
<td>20</td>
</tr>
<tr>
<td>Search for raw materials/natural resources for use on Earth</td>
<td>34</td>
<td>43</td>
<td>22</td>
</tr>
<tr>
<td>Search for life and planets that could support life</td>
<td>31</td>
<td>42</td>
<td>27</td>
</tr>
<tr>
<td>Send astronauts to Mars</td>
<td>18</td>
<td>45</td>
<td>37</td>
</tr>
<tr>
<td>Send astronauts to the moon</td>
<td>13</td>
<td>42</td>
<td>44</td>
</tr>
</tbody>
</table>
Important to remember:

*Targeted* citizen advocacy *CAN* influence space policy
In-Person Visits from Constituents: 97%
Contact From Constituents' Reps.: 96%
Individualized Postal Letters: 90%
Individualized Email Messages: 88%
Phone Calls: 86%
Telephone Town Hall Comments: 85%
Visit From a Lobbyist: 82%
News Editorial: 75%
Individualized Faxes: 70%
Form Postal Letters: 54%
Form Email Messages: 51%
Postcards: 45%
Comments on Social Media Sites: 42%
Form Faxes: 30%

A Lot of Positive Influence
Some Influence
How to make space a priority then?

You need to convince Congress using *some* of the public. Enough to tip members into action, or to *prevent* anti-space activity.
This seems like a big problem, but we can simply it....

Space isn’t partisan and there is no organized opposition.

Therefore, we need only to convince key members of Congress who have control over funding legislation.
Committees write the laws that Congress then votes on.
Committees Are Powerful

- House:
  - Space, Science, and Technology Committee
  - Commerce, Justice, Science (CJS) Subcommittee of Appropriations
- Senate
  - Space, Science, and Competitiveness Subcommittee
  - Commerce, Justice, Science (CJS) Subcommittee of Appropriations
Communicating with Congress
In-person visit
Phone Call
Written Letter
Fax
Personalized Email
Form Email
Petition
How to learn about your Congressperson
Do your research

- Do they serve on a relevant committee?
- Have they made public statements about your policy priority? (i.e. use google)
- Is there a parochial connection to your district? (NASA center, major research university, local business with gov contracts)
Do your research

- Look up your legislator: http://govtrack.us

- NASA Contracts by Congressional District https://prod.nais.nasa.gov/cgibin/npdv/adhoc.cgi

- NASA’s Current Budget news: https://www.planetary.org/space-policy/nasas-fy-2021-budget
The Congressional Mind

Space has to fit in here somewhere!
Different Speeds of Communication

- Physical Letter
- Postcard
- In-person visit
- Email
- Phone Call

Slower → Faster
Writing Congress

Writing your representatives presents a challenge: how to get your point across most effectively?

Strategic writing focused on the reader:

- High signal-to-noise (no chatter).
- Be exceptionally clear.
- Create shortcuts to focus their attention (bullet points, bold text, short paragraphs, etc.).
- Use formal syntax.
<table>
<thead>
<tr>
<th><strong>Do</strong></th>
<th><strong>Don’t</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Keep it short</td>
<td>Be sarcastic</td>
</tr>
<tr>
<td>Be specific</td>
<td>Rant</td>
</tr>
<tr>
<td>Highlight your “ask”</td>
<td>Write people who aren’t your representatives</td>
</tr>
<tr>
<td>Your research</td>
<td></td>
</tr>
<tr>
<td>Mention that you vote</td>
<td></td>
</tr>
<tr>
<td>Make it relevant</td>
<td></td>
</tr>
<tr>
<td>Request a response</td>
<td></td>
</tr>
</tbody>
</table>
December 13, 2017

The Honorable Greg Harper
Chairman
Committee on House Administration
1300 Longworth House Office Building
Washington, DC 20515

Dear Chairman Harper,

We would like to request the Congressional Planetary Science Caucus as a Congressional Member Organization for the 115th Congress. The Congressional Planetary Science Caucus will serve as an informal group of Members dedicated to issues related to:

- To "find life in our lifetime," by advancing federal policies that support the search for life in our solar system and beyond.
- To raise awareness of the benefits to the U.S. economy and industrial base resulting from federal investment in planetary science, technology, exploration and STEM education.
- To support private industry, academic institutions and nonprofit that support planetary science and exploration.

Representative John Culberson and Derek Kilmer will serve as Co-Chairs of the Congressional Planetary Science Caucus. Our staff assigned to handle caucus related issues are listed below:

Cory Isakec
Rep. Culberson (Stafl)
202-225-2571
Cory.Isakec@mail.house.gov

Marc Carolini
Rep. Kilmer (Staff)
202-225-3016
Marc.Carolini@mail.house.gov

We trust that the information provided meets the requirements for registering a Congressional Member Organization in the 115th Congress. Thank you for your attention to this matter and please feel free to contact us with any questions.

Sincerely,

[Signatures]

John Culberson
Member of Congress

Derek Kilmer
Member of Congress
Takeaways

- Government space projects tend to be slower and more expensive than private efforts because of the democratic oversight process. As such they are responsive to public input.

- Space is under-represented and dominated by special interests, big opportunities for change with focused effort.

- Compete for the mindshare of congressional staff and legislators by establishing relevant and immediate political reasons for space investment, not just big-picture outcomes.
Planetary Radio: Space Policy Edition

(on Apple Podcasts & Spotify)

Or as part of Planetary Radio
planetary.org/radio
Backup Slides
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<thead>
<tr>
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<tr>
<td>CENTENE CORPORATION</td>
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</table>
SpaceX vs. NASA

- Founded in 2002 (18 years old)
- Privately-held company
- CEO: Elon Musk (benign dictatorship)
- Leadership term: in perpetuity
- Revenues: ~$1 billion/yr
- Programs: Falcon 9, Commercial Crew, Starlink, Starship/Super Heavy development
- Responsive to customers

- Founded in 1958 (62 years old)
- Government agency
- Administrator: Jim Bridenstine (White House appointment w/ congressional approval)
- Leadership term: a few years, on average
- Budget: ~$22.6 billion/yr
- Programs: broad R&D, ISS, SLS/Orion, space science, education, human spaceflight, deep space exploration, deep space communications, aeronautics, small business investment
- Responsive to Congress
YEAR-TO-DATE EQUITY INVESTMENTS

**Investment Amount**

|$5.8B| NUMBER OF ROUNDS | 198 | EARLY-STAGE INVESTMENT | $686M | EARLY-STAGE ROUNDS | 143 |

**By Stage**

**Investment Amount**

<table>
<thead>
<tr>
<th>Seed</th>
<th>Series A</th>
<th>Series B</th>
<th>Series C</th>
<th>Late Stage</th>
<th>Other</th>
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<tr>
<td>$0</td>
<td>$1.2B</td>
<td>$1.5B</td>
<td>$1.8B</td>
<td>$2.0B</td>
<td>$2.5B</td>
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</table>

**Round Share**

- Seed: 51%
- Series A: 22%
- Series B: 15%
- Series C: 4%
- Late Stage: 7%
- Other: 5%

Capital was mostly concentrated in Late Stage with SpaceX and OneWeb each raising $1B+ in later stage rounds. Jeff Bezos' self-capitalization of Blue Origin made Other the second largest investment category.

In 2019, the share of Seed and Series A deals declined slightly, while Series C, Late Stage, and Other increased. Growth in the number of Series C deals was most notable, increasing 75% Y/Y. Q4 was particularly active for Series C deals such as Landspace, Satelles, and Satellogic.
Good Science Politics Resources

- Science Magazine (sciencemag.org/news)
- The Planetary Society (planetary.org/blogs)
- Nature (nature.com/news)
- AAAS (https://www.aaas.org/program/rd-budget-and-policy-program)
“Exploration is in our nature. We began as wanderers, and we are wanderers still. We have lingered long enough on the shores of the cosmic ocean. We are ready at last to set sail for the stars.”

- Carl Sagan