Administration Priority Areas

Racial Equity
Economic Recovery
COVID-19
Climate Change
## NSF Fiscal Year 2022 Budget Request

<table>
<thead>
<tr>
<th></th>
<th>FY 2020 Actual</th>
<th>FY 2021 Estimate</th>
<th>FY 2022 Request</th>
<th>Change over FY 2021 Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Dollars in Millions)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biological Sciences</td>
<td>$809.31</td>
<td>$818.14</td>
<td>$948.51</td>
<td>$130.37</td>
</tr>
<tr>
<td>Computer &amp; Information Science &amp; Engineering</td>
<td>996.40</td>
<td>1,005.49</td>
<td>1,116.06</td>
<td>110.57</td>
</tr>
<tr>
<td>Engineering</td>
<td>754.31</td>
<td>761.85</td>
<td>916.79</td>
<td>154.94</td>
</tr>
<tr>
<td>Geosciences</td>
<td>993.72</td>
<td>1,004.18</td>
<td>1,194.92</td>
<td>190.74</td>
</tr>
<tr>
<td>Mathematical &amp; Physical Sciences</td>
<td>1,530.12</td>
<td>1,580.48</td>
<td>1,690.74</td>
<td>110.26</td>
</tr>
<tr>
<td>Social, Behavioral &amp; Economic Sciences</td>
<td>280.35</td>
<td>282.06</td>
<td>319.66</td>
<td>37.60</td>
</tr>
<tr>
<td>Technology, Innovation, &amp; Partnerships</td>
<td>352.31</td>
<td>364.87</td>
<td>864.87</td>
<td>500.00</td>
</tr>
<tr>
<td>Office of International Science &amp; Engineering</td>
<td>51.04</td>
<td>51.32</td>
<td>75.32</td>
<td>24.00</td>
</tr>
<tr>
<td>Office of Polar Programs</td>
<td>480.59</td>
<td>483.35</td>
<td>506.29</td>
<td>22.94</td>
</tr>
<tr>
<td>Integrative Activities²</td>
<td>352.97</td>
<td>527.14</td>
<td>504.90</td>
<td>-22.24</td>
</tr>
<tr>
<td>U.S. Arctic Research Commission</td>
<td>1.60</td>
<td>1.60</td>
<td>1.65</td>
<td>0.05</td>
</tr>
<tr>
<td><strong>Total, Research and Related (R&amp;RA)</strong></td>
<td><strong>$6,602.70</strong></td>
<td><strong>$6,880.48</strong></td>
<td><strong>$8,139.71</strong></td>
<td><strong>$1,259.23</strong></td>
</tr>
<tr>
<td><strong>Total, NSF Discretionary Funding</strong></td>
<td><strong>$8,210.09</strong></td>
<td><strong>$8,486.76</strong></td>
<td><strong>$10,169.30</strong></td>
<td><strong>$1,682.54</strong></td>
</tr>
</tbody>
</table>
# GEO’s Fiscal Year 2022 Budget Request

<table>
<thead>
<tr>
<th>Scientific Discipline</th>
<th>FY 2020 Actual</th>
<th>FY 2021 Estimate</th>
<th>FY 2022 Request</th>
<th>Change over FY 2021 Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Atmospheric and Geospace Sciences (AGS)</strong></td>
<td>$280.08</td>
<td>$283.47</td>
<td>$341.71</td>
<td>$58.24 20.5%</td>
</tr>
<tr>
<td><strong>Earth Sciences (EAR)</strong></td>
<td>199.21</td>
<td>201.36</td>
<td>240.04</td>
<td>38.68 19.2%</td>
</tr>
<tr>
<td><strong>Integrative &amp; Collaborative Education &amp; Research (ICER)</strong></td>
<td>113.07</td>
<td>116.30</td>
<td>137.03</td>
<td>20.73 17.8%</td>
</tr>
<tr>
<td><strong>Ocean Sciences (OCE)</strong></td>
<td>401.36</td>
<td>403.05</td>
<td>476.14</td>
<td>73.09 18.1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$993.72</td>
<td>$1,004.18</td>
<td>$1,194.92</td>
<td>$190.74 19.0%</td>
</tr>
</tbody>
</table>
# NSF FY22 Request for Climate and Clean Energy

## Total Funding for USGCRP

<table>
<thead>
<tr>
<th></th>
<th>FY 2020 Actual</th>
<th>FY 2021 Estimate</th>
<th>FY 2022 Request</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO</td>
<td>$90.00</td>
<td>$145.00</td>
<td>$212.15</td>
</tr>
<tr>
<td>GEO</td>
<td>$294.17</td>
<td>$329.23</td>
<td>$481.70</td>
</tr>
<tr>
<td>MPS</td>
<td>-</td>
<td>$10.00</td>
<td>$14.63</td>
</tr>
<tr>
<td>SBE</td>
<td>$19.61</td>
<td>$17.18</td>
<td>$25.14</td>
</tr>
<tr>
<td>OPP</td>
<td>$15.40</td>
<td>$19.40</td>
<td>$28.38</td>
</tr>
<tr>
<td>Total, NSF</td>
<td>$419.18</td>
<td>$520.81</td>
<td>$762.00</td>
</tr>
</tbody>
</table>

## Clean Energy Technology Funding

<table>
<thead>
<tr>
<th></th>
<th>FY 2020 Actual</th>
<th>FY 2021 Estimate</th>
<th>FY 2022 Request</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO</td>
<td>$18.00</td>
<td>$45.00</td>
<td>$59.28</td>
</tr>
<tr>
<td>CISE</td>
<td>$18.50</td>
<td>$23.50</td>
<td>$31.12</td>
</tr>
<tr>
<td>ENG</td>
<td>$113.54</td>
<td>$123.03</td>
<td>$178.57</td>
</tr>
<tr>
<td>MPS</td>
<td>$92.62</td>
<td>$90.00</td>
<td>$118.56</td>
</tr>
<tr>
<td>TIP</td>
<td>$48.47</td>
<td>$52.47</td>
<td>$52.47</td>
</tr>
<tr>
<td>Total, NSF</td>
<td>$291.13</td>
<td>$334.00</td>
<td>$440.00</td>
</tr>
</tbody>
</table>

Footnotes:

1. Data based on budget estimates. 
2. TIP includes Technology for Climate Change (TCC) and Technology for Clean Energy (TCE) programs.
GEO’s FY22 Budget Themes

Addressing national priorities:

• Climate Change
• Racial Equity
• Pandemic Recovery
GEO’s Climate Change Budget Theme

• Investment in core science & infrastructure
  • Discovery Machine

• Cross-Directorate efforts
  • CoPe, NNA
  • Climate Modeling (CISE)
  • TIP Directorate
GEO’s Climate Change Budget Theme

• Climate Change Coordinating Committee (C4)
• GEO and OCE observatories
• USGCRP
GEO’s Racial Equity Budget theme

Removal of barriers to participation in the geosciences.

Climate change and social justice activity to build diverse research ecosystems focused on institutional transformation.
GEO’s Recovery from the Pandemic Budget Theme

- Help the academic community recover
- Help restart field campaigns / ship operations
- Research support (e.g., postdocs)
Combating Racism in the Geosciences: Reflections From a Black Professor

Vernon R. Morris

First published: 25 March 2021 | https://doi.org/10.1029/2020AV000358
Convergence Accelerator: Networked Blue Economy

- Convergence Accelerator Program Phase One awarded $21 million to 27 multidisciplinary teams
- Networked Blue Economy Track represented by 16 awards
- Goal of producing innovative tools, techniques, methods, and resources to improve human engagement with oceans
New Science and Technology Centers

Elizabeth Kujawinski

*Center for Chemical Currencies of a Microbial Planet (C-CoMP)*

C-CoMP will leverage recent advances in analytical and data sciences, incorporate new ocean sampling technologies and an open-science framework, and engage educators and policymakers to promote a deeper understanding and appreciation of the chemicals and chemical processes that underpin ocean ecosystems and other microbiomes that affect daily life.
Mid-scale Research Infrastructure

MSRI-1: Ocean Bottom Seismometers

MSRI-2: GO-BGC Array
Coastlines and People (CoPe) Research Hubs

Focused Hubs: $1M/Yr for 3-5 Yrs
Supporting Environmental Justice in Connected Coastal Communities through a Regional Approach to Collaborative Community Science

Large-Scale Hubs: $2-4M/Yr up to 5 Yrs
Megalopolitan Coastal Transformation Hub (MACH): Researching complex interactions between climate hazards and communities to inform governance of coastal risk
NASEM Study – *Next Generation Earth Systems Science at the National Science Foundation*

**Vision**
A next generation Earth Systems Science that explores interactions among natural and social processes that affect Earth’s capacity for sustaining life, now and in the future.

**NSF Role**
To innovate, advance, and nurture systems approaches to discover how our planet functions and to inform how society can function as part of Earth’s systems for the well-being of communities, regions, the nation, and world.
NSF By the Numbers

Statistical and funding information for awards, NSF-funded institutions, funding rate, proposals evaluated, and obligations by fiscal year.

Graphs and visuals:

- 10-year view for all measures
- Map view and bar graph view of States, Congressional Districts, Institutions,
- Metrics at the Directorate level
- Detailed reports for Awards
- Trendline comparisons for all metrics
GEO Senior Staff Updates

Alexandra Isern
Assistant Director
Directorate for Geosciences

Lina Patino
Acting Deputy Assis. Dir.
Directorate for Geosciences

Roberta Marinelli
Director
Office of Polar Programs

Shelby Walker
Senior Advisor for Facilities
Directorate for Geosciences
OCE Staff Updates

Kanchan Maiti
Program Officer
Chemical Ocean.
IPA

Elizabeth Canuel
Program Officer
Chemical Ocean.
Permanent

Katsumi Matsumoto
Program Officer
Chemical Ocean.
IPA

Maurice Tivey
Section Head
Marine Geosciences
IPA
Thank you for nurturing the next generation of scientists!