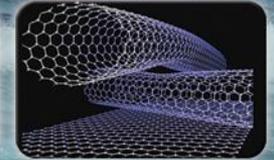
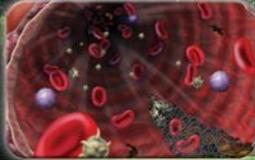




Celebrating
60 *years*
of Discovery

Directorate for Geosciences

Fiscal Year 2011 Budget





GEO: The Big Picture

- American Recovery Act GEO investments: \$601M
- FY2010: 10.% increase over FY2009
 - Includes Agency-wide climate initiative

FY2011: President's budget request includes a 7.4% increase for GEO





Examples of GEO ARRA Investments

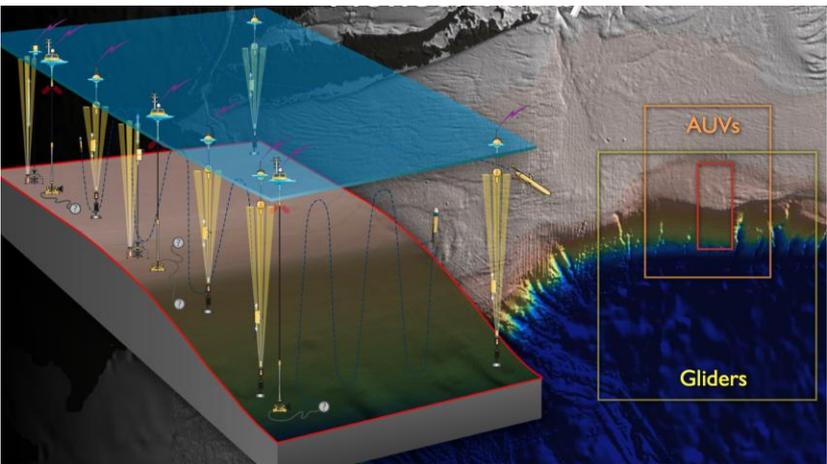
- R/V Sikuliaq (formerly the Alaska Region Research Vessel-ARRV)
- ARRA Investment: \$148.1M





ARRA Investment: Ocean Observatories Initiative

- ARRA Investment: \$105.9M
- FY2011 Presidential Request: \$90.7M





FY2010 Climate Research Investment Solicitations (\$197M across agency; \$46M GEO)

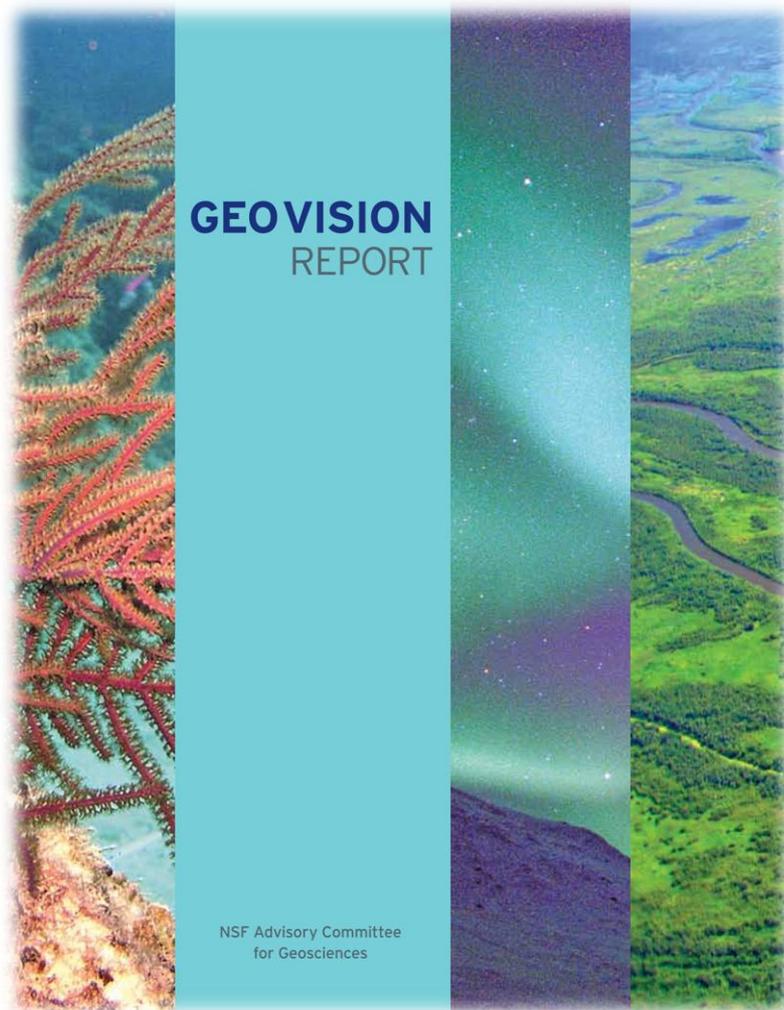
- Water: Sustainability and Climate
- Ocean Acidification
- Dimensions of Biodiversity
- Climate Change Education Partnership
- Decadal and Regional Climate Prediction using Earth System Models





2011 Budget

- The 2011 Request represents opportunity for GEO to make advances on several important fronts:
 - Research: new thrusts
 - Infrastructure: advancement and renewal
 - Education: expansion of programs





FY 2011 Investments in Divisional Research and Education

- Ocean Sciences: 8.3% increase
- Atmospheric and Geospace Sciences: 8.1% increase
- Earth Sciences: 8.7% increase
- Education: 7.9% increase





2011 Research Themes

- Science, Engineering, and Education for Sustainability (SEES +\$35M to \$230M)
 - Follow-on to 2010 Climate Research activity
 - In 2011, GEO will support research to study regions that are highly susceptible to the impacts of environmental changes, such as:
 - Coastal areas subject to sea-level rise
 - The Arctic, where warming temperatures and waning ice cover challenges communities and ecosystems





Science, Engineering, and Education for Sustainability

SEES will generate the discoveries in climate and energy science and the innovations in educational practices needed to inform societal actions for environmental and economic sustainability.

- Emergence of new areas of research that help close key gaps in the knowledge base.
- Development of new models for research, specifically employing integrative, systemic approaches.
- Generation of new integrated understanding of the interplay of environment, energy, and the economy.
- SEES cross-agency portfolio totals \$765.5 million in 2011.





2011 Infrastructure Investments

- OOI Operations and Management – 2011 brings a ramp-up in O&M support for the OOI
- Regional Class Research Vessels – 2011 will see continued planning for the construction of up to three Regional Class Research Vessels starting in 2012.
- NCAR-Wyoming Supercomputer Center – 2011 sees the continuation of support for the construction of a new community supercomputer center.





GEO Investment in Infrastructure

GEO Funding for Facilities

(Dollars in Millions)

	FY 2009	FY 2009 ARRA Actual	FY 2010 Estimate	FY 2011 Request	Change Over FY 2010	
	Omnibus Actual				Amount	Percent
Facilities	\$374.10	\$86.34	\$367.79	\$387.60	\$19.81	5.4%
<i>National Astronomy and Ionosphere Center</i>	-	-	2.20	3.00	0.80	36.4%
<i>National Center for Atmospheric Research</i>	106.79	13.20	97.00	108.00	11.00	11.3%
<i>National Nanotechnology Information Network</i>	0.60	-	0.60	0.60	-	-
<i>Academic Research Fleet</i>	88.95	18.00	80.00	77.00	-3.00	-3.8%
<i>Integrated Ocean Drilling Program</i>	47.95	25.00	43.40	46.41	3.01	6.9%
<i>Incorporated Research Institutions for Seismology</i>	12.00	-	12.36	12.73	0.37	3.0%
<i>EarthScope</i>	24.29	9.00	25.05	26.00	0.95	3.8%
<i>Ocean Observatories Initiative</i>	17.84	-	16.50	27.50	11.00	66.7%

- Total ARRA Investment in facilities: \$254M, including funds to build the Alaskan Region Research Vessel





2011 Education Themes

- Graduate Research Fellowships are increasing to \$2.74 million from \$1 million.
- ADVANCE is increasing to \$4.28 million from \$3.46 million.





Budget by Division and Area

GEO Funding (Dollars in Millions)

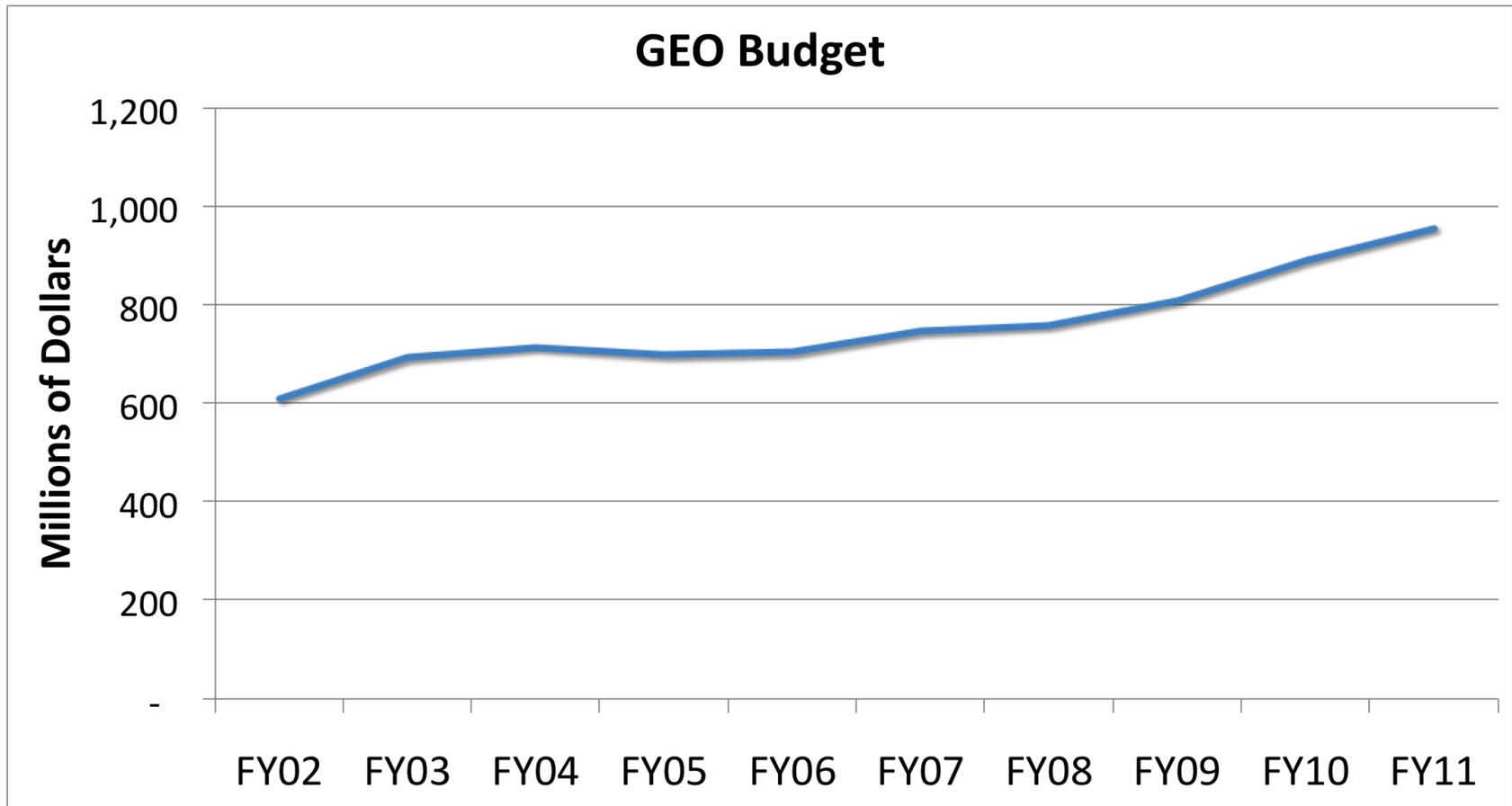
	FY 2009	FY 2009	FY 2010 Estimate	FY 2011 Request	Change Over	
	Omnibus Actual	ARRA Actual			FY 2010 Estimate	Amount
Atmospheric and Geospace Sciences (AGS)	\$245.54	\$68.20	\$259.80	\$280.80	\$21.00	8.1%
Earth Sciences (EAR)	171.01	85.22	183.00	199.00	16.00	8.7%
Integrative and Collaborative Education & Research (ICER)	61.47	79.58	97.92	97.60	-0.32	-0.3%
Ocean Sciences (OCE)	330.51	114.00	348.92	377.89	28.97	8.3%
Total, GEO	\$808.53	\$347.00	\$889.64	\$955.29	\$65.65	7.4%
Research	389.11	224.69	464.12	505.17	41.05	8.8%
Education	31.82	35.98	41.40	44.68	3.28	7.9%
Infrastructure	374.10	86.34	367.79	387.60	19.81	5.4%
Stewardship	13.51	-	16.33	17.84	1.51	9.2%

Totals may not add due to rounding.





GEO 10 Year Budget





AGS Personnel Update

- Michael Morgan will be new DD for AGS
- Anjuli Bamzai is new PD for Climate & Large-scale Dynamics Program
- Eric Deweaver is the permanent Associate PD for the Climate & Largescale Dynamics Program
- Brad Smull is the new PD for Physical and Dynamic Meteorology Program
- Chungu Lu is the Associate PD for PDMP

