

# International Polar Year awards by the National Science Foundation



NSF/15 March 2010

## National Science Foundation support of the International Polar Year

The accompanying list of grants, cooperative agreements, and contracts tabulates the National Science Foundation's support of research, education, and operational support in the 2007-2009 International Polar Year (IPY).

The Foundation (or NSF, for short), an agency of the U.S. Government, does not itself perform research. Rather, it formulates basic research programs responsive to scientific and societal needs and obtains public funding for them as part of the President's annual budget request to Congress. Then it issues solicitations, evaluates proposals from universities and other institutions located throughout the United States, and awards funds to support the meritorious projects.

NSF issued two IPY solicitations. The first, in 2006, reflecting the National Research Council's *A Vision for the International Polar Year 2007-2008* (2005), identified IPY as an intense scientific campaign to explore frontiers, improve understanding of the poles in global processes, and educate the public. Projects were to be interdisciplinary and to leave a legacy of infrastructure and data. They also were expected to expand international cooperation, engage the public, and develop new scientists and engineers. The emphasized research was ice sheet history and dynamics, biotic adaptation to extreme cold and prolonged darkness, and an arctic observing network. The educational emphasis was on formal science education for teachers and students, and informal science education for the public.

NSF's second IPY solicitation, in 2007, extended goals to physical, geological, chemical, human, and biological drivers of environmental change, how these drivers relate to climate, and how they impact ecosystems and link to global processes. Proposals were invited for study of social, behavioral, and natural systems and of how humans and other organisms function. Education proposals were invited to invigorate science, technology, engineering, and mathematics education.

Both solicitations noted that other, existing NSF solicitations were suitable for IPY proposals for projects within the IPY scope.

For the 445 IPY projects on the list, awards went to 341 different investigators or project leaders at 169 institutions in 44 of the 50 states. The awards were made over four fiscal years, 2006-2009, with more than half the money going out during the 2007-2009 IPY field period. Many awards, though, were of several years' duration – to accommodate laboratory work and other follow-up after return from the field – so final funding increments for some of the later ones will not be sent until 2013. The NSF IPY awards are expected to sum to a little over \$347 million, of which Congress appropriated \$60 million specifically for IPY. The balance of funding came from NSF's annual appropriation in which IPY and program goals are congruent – for example, climate research or geophysics.

A broad spectrum of researchers and educators responded to NSF's IPY calls, and their proposals covered nearly the entire range of NSF's discipline-oriented programs.

Whether a particular NSF proposal was labeled IPY, or not, initially was the judgment of the proposers, who described the IPY relevance in the project summaries. The 54 NSF program officers who administered the awards labeled proposals judged to be IPY with any of eight funding codes the Foundation had set up as signifying IPY. For example, 5293 stands for “AON [Arctic Observing Network] implementation,” an IPY topic. The community also was cognizant of the 55 Activity IDs whose “lead country” had been designated USA by the IPY international office in the UK. NSF did not cross-link individual awards to IPY Activity IDs.

International collaborations during the IPY were extensive and are likely to have risen to a much higher level than before the IPY began. The 2010 edition of the National Science Board’s *Science and Engineering Indicators*,<sup>i</sup> latest in a series of biennial compilations of statistical data, states, “International collaboration has become the norm.” It documents a rise in international coauthorship of research articles from 8 percent in 1988 to 22 percent in 2007 – more recent information not being readily available. Polar research during that period was significantly more collaborative internationally, with 14 percent of the Arctic and Antarctic research literature having international coauthorship in 1988, rising to 41 percent in 2007.<sup>ii</sup> NSF-funded IPY projects collaborated with investigators in 28 countries. Comments from U.S. investigators and others suggest that collaboration was higher than before IPY and that a number of projects whose scope demanded international collaboration would not have taken place at all without the enabling framework of IPY’s international structure.

Through workshops, national and international meetings, scientific papers, educational materials, and headlines, IPY research results already are finding their way into the broader research and education communities – partly because of the pressing need for polar climate and ice data to inform global models. The *IPY Publications Database*<sup>iii</sup> describes 2,900 research publications and provides links to PDF files of most.

NSF is one of several U.S. Federal agencies funding or performing IPY research. For more information about the International Polar Year, see:

<http://www.nsf.gov/od/opp/ipy/ipyinfo.jsp> (the NSF site)

<http://ipy.gov/> (the U.S. site)

<http://ipy.org/> (the international site)

Office of Polar Programs  
National Science Foundation  
Arlington, Virginia 22230 USA

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<sup>i</sup> <http://www.nsf.gov/statistics/seind10/start.htm>

<sup>ii</sup> “The structure and development of polar research (1981-2007): a publication-based approach,” Dag W. Aksnes and Dag O. Hessen, *Arctic, Antarctic, and Alpine Research* (41): 2, 155-163, May 2009.

<sup>iii</sup> <http://nisc.com/ipy>

Cover photo: John Goadge, University of Minnesota, and a colleague collect specimens in the Transantarctic Mountains. NSF/USAP photo by John Goadge.

## National Science Foundation International Polar Year awards

## Biosciences

Award	Investigator	Institution	IPY \$	Title
0732664	Griffin, Kevin	Columbia University	\$ 389,689	Autotrophic respiration in a changing Arctic climate: mechanistic responses and ecosystem consequences
0732755	O'Brien, Diane	University of Alaska Fairbanks Campus	\$ 428,750	Extremes of hibernation physiology: patterns of expression, regulation and limits
0732763	Buck, Charles	University of Alaska Anchorage Campus	\$ 387,932	
0733078	Whittall, Justen	Santa Clara University	\$ 358,493	Flower color evolution: integrating genomic research and undergraduate education
0733092	Carlson, Matthew	University of Alaska Anchorage Campus	\$ 199,557	
0733033	Wayne, Robert	University of California-Los Angeles	\$ 902,010	Genomic-scale SNP genotyping of the Arctic wolf: ecology and adaptation over space and time
0732758	Chapin, F. Stuart	University of Alaska Fairbanks Campus	\$ 2,142,115	Impact of high-latitude climate change on ecosystem services and society
0732956	Kerkhof, Lee	Rutgers University New Brunswick	\$ 538,647	Microbial subzero activity and its impact on biogeochemical processes in frozen tundra and permafrost
0732966	Panikov, Nicolai	Dartmouth College	\$ 469,752	
0733053	Zhang, Tingjun	University of Colorado at Boulder	\$ 155,863	
0701911	Olson, Matthew	University of Alaska Fairbanks Campus	\$ 1,687,757	Population genomics of cold adaptation in poplar
			\$ 7,660,565	

## Education and human resources

0632397	Duffy, Lawrence	University of Alaska Fairbanks Campus	\$ 72,354	Adapting SENCER to the Arctic. improving polar science education as a legacy
0732907	Wu, Norbert	Norbert Wu Productions	\$ 381,639	Beneath Antarctic seas: visual documentation of marine ecosystems
0733024	Lightle, Kimberly	Ohio State U. Research Foundation	\$ 1,616,125	Beyond penguins and polar bears: integrating literacy and IPY in the K-5 classroom
0731739	Yoshikawa, Kenji	University of Alaska Fairbanks Campus	\$ 592,109	Climate change over eastern Siberia and interior Alaska and its impact on permafrost, ecosystem, hydrology
0733055	Velasco, Aaron	Soc. Adv. Chicanos & Native Am. in Sci.	\$ 645,332	Engaging new audiences in polar science

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0654441	Kofinas, Gary	University of Alaska Fairbanks Campus	\$ 3,187,173	Global-local interactions: resilience and adaptation of social-ecological systems in a rapidly changing North
0732835	Schloss, Annette	University of New Hampshire	\$ 1,122,333	Ice planet Earth
0733048	Miller, Mary	Exploratorium	\$ 1,816,717	Ice stories: a public educational resource
0732955	Neill, Christopher	Marine Biological Laboratory	\$ 365,289	Improving the public's understanding of polar research through hands-on fellowships for science journalists
0632064	Fontaine, Paul	Museum of Science	\$ 97,202	Live from the poles: a multimedia educational experience
0632219	Linder, Christopher	Woods Hole Oceanographic Institution	\$ 483,955	
0703197	Sullivan, Deidre	Monterey Peninsula College	\$ 1,601,358	Marine advanced technology education resource center
0741610	Pfeffer, W. Tad	University of Colorado at Boulder	\$ 75,000	Outreach and educational support for ongoing research at Columbia Glacier, Alaska
0610122	Ainley, David	H.T. Harvey & Associates	\$ 75,000	Penguins teaching the science of climate change
0732502	Ainley, David	H.T. Harvey & Associates	\$ 140,772	
0732752	McLain, Brad	Space Science Institute	\$ 366,955	Polar hydrobot simulation of scientific explorations by Antarctic underwater remotely operated vehicles
0632262	Haines-Stiles, Geoffrey	Geoff Haines-Stiles Productions	\$ 1,370,994	Polar Palooza project using three strategies to engage, inform, and inspire audiences
0732879	Haines-Stiles, Geoffrey	Geoff Haines-Stiles Productions	\$ 399,912	
0732469	Sobczak, William	College of the Holy Cross	\$ 48,328	Polaris project: rising stars in the Arctic, field course and research experience for undergraduate students in the Siberian Arctic
0732477	Bunn, Andrew	Western Washington University	\$ 45,227	
0732533	Walter, Katey	University of Alaska Fairbanks Campus	\$ 104,963	
0732586	Frey, Karen	Clark University	\$ 59,441	
0732609	Chandra, Sudeep	University of Nevada Reno	\$ 47,609	
0732618	Schade, John	Saint Olaf College	\$ 112,583	
0732944	Holmes, Robert	Woods Hole Research Center	\$ 753,892	
0632401	Warburton, Janet	Arctic Research Consortium of the U.S.	\$ 1,227,637	
0632194	Rankin, Moira	Soundprint Media Center, Inc.	\$ 579,087	Pole to Pole multi-part radio project
0732438	Nelson, Richard	KCAW-FM Raven Radio	\$ 349,075	Radio programs in the North
0732945	Sternheim, Morton	University of Massachusetts Amherst	\$ 597,503	STEM polar connections
0732793	Schuster, Glen	U.S. Satellite Laboratory, Inc.	\$ 926,371	Student polar research with national (and international) teacher training
0632085	Sicker, Theodore	WGBH Educational Foundation	\$ 236,342	Teachers' domain -- polar sciences digital library
0632175	Farrell, J Michael	University of Nebraska-Lincoln	\$ 1,246,068	Television documentary, "Antarctica's Icy Secrets"
			\$ 20,671,991	

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Geosciences

0649549	Dong, Xiquan	University of North Dakota Main Campus	\$ 99,822	Aerosol-cloud-radiation processes and feedbacks in the Alaskan Arctic
0649570	Garrett, Timothy	University of Utah	\$ 324,121	
0608577	Kelly, John	SRI International	\$ 5,000,000	Advanced modular incoherent scatter radar
0730336	Cullenberg, Paula	University of Alaska Fairbanks Campus	\$ 2,632,531	Alaska: people, oceans and climate change
0751291	Bromwich, David	Ohio State U. Research Foundation	\$ 390,000	Antarctic climate variability and tropical teleconnections
0703825	Prakash, Anupma	University of Alaska Fairbanks Campus	\$ 98,183	Attracting minorities to geosciences through involved digital story telling
0823535	Jennings, Anne	University of Colorado at Boulder	\$ 399,402	High northern latitude linkages between Atlantic Water, DSOw formation, and GIS stability during the Holocene
0404790	Killeen, Timothy	University Corp. for Atmos. Research	\$ 34,000,000	National Center for Atmospheric Research
0807702	Anastasio, Cort	University of California-Davis	\$ 543,432	Physical, chemical, and optical properties of snow: impacts on ocean-atmosphere-sea ice-snowpack interactions
0705363	Johnson, Roberta	University Corp. for Atmospheric Res	\$ 59,986	Polar education and outreach leveraging windows to the universe
0752893	Stamnes, Knut	Stevens Institute of Technology	\$ 514,273	Properties of mixed phase and ice clouds in the Arctic using a tethered balloon system
0612568	Brooks, Steven	NOAA Air Resources laboratory	\$ 55,105	Radical chemistry over sunlit snow at Summit, Greenland
0612075	Dibb, Jack	University of New Hampshire	\$ 299,093	
0612136	Lefer, Barry	University of Houston	\$ 89,998	
0612279	Stutz, Jochen	University of California-Los Angeles	\$ 344,596	
0612387	Huey, L.	Georgia Institute of Technology	\$ 317,355	
0612426	Blake, Donald	University of California-Irvine	\$ 71,920	
0836152	Stromme, Anja	SRI International	\$ 10,534,693	Sondrestrom upper atmospheric research facility: research, operation and coordination
0720114	Anderson, Brian	Johns Hopkins University	\$ 299,849	Sustained subauroral storm electric fields: polarization or minimum dissipation?
0716512	Abramenko, Valentyna	New Jersey Institute of Technology	\$ 300,933	Turbulence in the solar photosphere
0732222	Mechoso, Carlos	University of California-Los Angeles	\$ 461,978	Waves and circulation studies in the Antarctic stratosphere using VORCORE data
0711471	Spangler, Timothy	University Corp. for Atmospheric Res	\$ 70,000	Weather prediction for Antarctica
			\$ 48,850,796	

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International Science and Engineering

0832335	Sparrow, Elena	University of Alaska Fairbanks Campus	\$ 49,939	U.S.-Australia workshop: ice e-mysteries polar e-book - science and literacy education
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Legislative and public affairs

0909437	O'Leary, James	Maryland Science Center	\$ 322,313	Artists and writers exhibition
0646829	Savage, Terry	Eagle Design & Management, Inc.	\$ 485,918	Web site design and maintenance
			\$ 808,231	

Antarctic Earth Sciences

0639006	Luyendyk, Bruce	University of California-Santa Barbara	\$ 168,293	10th international symposium on Antarctic earth science
0639409	Dunbar, Robert	Stanford University	\$ 91,707	
0342484	Harwood, David	University of Nebraska-Lincoln	\$ 10,978,282	ANDRILL -- investigating Antarctica's role in Cenozoic global environmental change
0537228	O'Riordan, Catherine	Consortium for Ocean Leadership, Inc	\$ 15,027	
0537371	Nyblade, Andrew	Pennsylvania State Univ University Park	\$ 410,596	Broadband seismic imagery of the lithosphere beneath the Gamburtsev Mountains and surrounding areas
0537597	Wiens, Douglas	Washington University	\$ 455,715	
0723044	Simpson, David	Inc. Research Inst for Seismology	\$ 1,981,035	
0636850	Dalziel, Ian	University of Texas at Austin	\$ 511,808	Central Scotia seafloor and the Drake Passage deep ocean current gateway
0733025	Blankenship, Donald	University of Texas at Austin	\$ 698,183	Cryospheric evolution of the central Antarctic plate
0632125	Fahnestock, Mark	University of New Hampshire	\$ 149,054	
0632210	LeCompte, Malcolm	Elizabeth City State University	\$ 142,417	
0632239	Finn, Carol	Geological Survey-Denver	\$ 123,771	Gamburtsev aerogeophysical mapping of bedrock and ice targets
0632292	Bell, Robin	Columbia University	\$ 1,650,497	
0632321	Braaten, David	University of Kansas	\$ 597,000	
0753663	Morin, Paul	University of Minnesota-Twin Cities	\$ 1,410,613	Geospatial information center: collecting, creating, delivering and archiving for the community
0233246	Mullins, Jerry	U.S. Geological Survey	\$ 1,714,336	Mapping, geodesy, geospatial data, satellite image mapping, and resource center management
0619457	Bell, Robin	Columbia University	\$ 1,966,795	Multidisciplinary airborne imaging system
0732940	Scher, Howard	University of California-Santa Cruz	\$ 105,662	Polar gateway hypothesis: an integrated record of Drake Passage opening and Antarctic glaciation
0732995	Barbeau, David	University South Carolina	\$ 595,190	
0652864	Wiens, Douglas	Washington University	\$ 19,494	
0652688	Wilson, Terry	Ohio State U. Research Foundation	\$ 22,785	POLENET workshops: GPS and seismology planning

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0632136	Nyblade, Andrew	Pennsylvania State Univ University Park	\$ 863,618	POLENET-Antarctica: investigating links between geodynamics and ice sheets
0632185	Aster, Richard	N. Mexico Inst. Mining and Technology	\$ 297,610	
0632209	Wiens, Douglas	Washington University	\$ 736,354	
0632322	Wilson, Terry	Ohio State U. Research Foundation	\$ 3,459,507	
0632330	Dalziel, Ian	University of Texas at Austin	\$ 465,542	
0632335	Raymond, Carol	NASA	\$ 178,750	
0632339	Smalley, Robert	University of Memphis	\$ 292,980	Power and communication system for remote autonomous GPS and seismic stations in Antarctica
0619708	Simpson, David	Inc. Research Institutions for Seismology	\$ 652,394	
0739745	Sorlien, Christopher	University of California-Santa Barbara	\$ 62,050	Seismic stratigraphic correlations across Ross Sea for ROSSMAP: paleoclimate and tectonics
0731478	Lang, Michael	Smithsonian Institution	\$ 30,000	Smithsonian at the Poles: contributions to IPY science symposium
0732796	Pekar, Stephen	CUNY Queens College	\$ 256,958	Tectonic and stratigraphic history of offshore New Harbor, Ross Sea, Antarctica
0732875	Speece, Marvin	Montana Tech University of Montana	\$ 226,166	
0723223	Meertens, Charles	UNAVCO, Inc.	\$ 233,205	Terrestrial laser scanning system
0635746	Geist, Dennis	University of Idaho	\$ 15,616	Transition from subduction to extensional magmatism in the Dry Valleys of Antarctica
0749583	Kennicutt, Mahlon	Texas A&M University Main Campus	\$ 25,828	Workshop: China-US polar region partnerships
0824796	Kennicutt, Mahlon	Texas A&M Research Foundation	\$ 85,137	Workshop: SCAR/IASC 2008 IPY open science conference

\$ 31,689,975

Antarctic Glaciology

0828786	Barletta, Robert	University of South Alabama	\$ 79,687	μ-raman analysis of ice core samples
0636506	Mayewski, Paul	University of Maine	\$ 190,000	2000+ year climate reconstruction from a South Pole ice core set in an Antarctic-global context
0636515	Dunbar, Nelia	N. Mexico Inst. of Mining and Technology	\$ 25,576	
0739766	Brook, Edward	Oregon State University	\$ 708,341	Atmospheric carbon dioxide and climate change: the WAIS Divide ice core record
0636929	Bales, Roger	University of California - Merced	\$ 343,856	Atmospheric, snow and firn chemistry studies for interpretation of WAIS Divide cores
0424589	Gogineni, S. Prasad	University of Kansas	\$ 16,032,230	Center for remote sensing of ice sheets

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0440817	Taylor, Kendrick	U. Nevada Desert Research Institute	\$ 1,671,043	Climate, ice dynamics, and biology using a deep ice core from the West Antarctic Ice Sheet ice divide
0632161	Johnson, Jesse	University of Montana	\$ 315,000	Community ice sheet model for scientists and educators
0632168	Hulbe, Christina	Portland State University	\$ 145,000	
0632208	Barrett, Martin	East Tennessee State University	\$ 116,813	
0632267	Robertson, William	University of Texas at El Paso	\$ 79,998	
0632325	Seals, Cheryl	Auburn University	\$ 90,001	
0632346	Tulaczyk, Slawek	University of California-Santa Cruz	\$ 105,493	
0631973	Joughin, Ian	University of Washington	\$ 475,205	Constraining the mass-balance deficit of the Amundsen Coast's glaciers
0631994	Gogineni, S. Prasad	University of Kansas	\$ 157,029	
0632031	Das, Sarah	Woods Hole Oceanographic Institution	\$ 244,976	Continuous black carbon analysis on the Norwegian-U.S. traverse ice core measurements
0733089	Edwards, P. Ross	U. Nevada Desert Research Institute	\$ 245,077	
0739743	Bay, Ryan	University of California-Berkeley	\$ 248,600	Dust logging at Dome C for abrupt climate changes, large volcanic eruptions, and bolide impacts
0440899	Dupont, Todd	Pennsylvania State Univ University Park	\$ 196,496	Dynamics of surface-slope reversals and their role in the formation and stability of subglacial lakes
0636719	Joughin, Ian	University of Washington	\$ 237,886	Elevation change anomalies in West Antarctica and dynamics of water transport beneath ice streams and
0636970	Tulaczyk, Slawek	University of California-Santa Cruz	\$ 326,405	
0636584	Studinger, Michael	Columbia University	\$ 65,587	
0632198	Anandakrishnan, Sridhar	Pennsylvania State Univ University Park	\$ 494,082	Estimating the salinity of subglacial lakes from existing aerogeophysical data
0440498	White, James	University of Colorado at Boulder	\$ 129,523	Flow dynamics of the Amundsen Sea glaciers: Thwaites and Pine Island
0440509	Battle, Mark	Bowdoin College	\$ 41,235	
0440602	Saltzman, Eric	University of California-Irvine	\$ 149,602	
0440615	Brook, Edward	Oregon State University	\$ 90,287	
0440701	Severinghaus, Jeffrey	Scripps Institution of Oceanography	\$ 123,637	
0440759	Sowers, Todd	Pennsylvania State Univ University Park	\$ 136,479	
0003289	Bentley, Charles	University of Wisconsin	\$ 121,000	Gases in firn air and shallow ice at the proposed WAIS drilling site
0841135	Bentley, Charles	University of Wisconsin-Madison	\$ 13,503,346	
0841166	Twickler, Mark	University of New Hampshire	\$ 553,585	
0841225	Bentley, Charles	University of Wisconsin-Madison	\$ 1,041,907	
0841308	Albert, Mary	Dartmouth College	\$ 1,412,973	
				Ice drilling programs

National Science Foundation International Polar Year awards

0632195	Chen, Jianli	University of Texas at Austin	\$ 430,008	Ice sheet mass balance from satellite gravity measurements
0739372	Conway, Howard	University of Washington	\$ 225,087	Ice-flow history of the Thwaites Glacier, West Antarctica
0739654	Catania, Ginny	University of Texas at Austin	\$ 364,058	
0439589	Mayewski, Paul	University of Maine	\$ 505,002	ITASE glaciochemistry phase 2: East Antarctica
0440792	Hamilton, Gordon	University of Maine	\$ 299,659	ITASE ice dynamics and surface glaciology along traverse routes in East Antarctica
0538494	Meese, Debra	University of Maine	\$ 326,982	ITASE physical properties of firm and ice cores from South Pole to Taylor Dome
0829227	Mayewski, Paul	University of Maine	\$ 35,000	ITASE synthesis workshop
0440679	Mayewski, Paul	University of Maine	\$ 420,422	ITASE U.S. science management office
0538553	Cole-Dai, Jihong	South Dakota State University	\$ 336,188	Major ion chemistry of WAIS Divide ice core
0636740	Kreutz, Karl	University of Maine	\$ 530,548	Microparticle/tephra analysis of the WAIS Divide ice core
0636767	Dunbar, Nelia	N. Mexico Inst. of Mining and Technology	\$ 44,677	
0538049	Steig, Eric	University of Washington	\$ 317,853	Multiple-isotope analysis of nitrate and sulfate in the West Antarctic Ice Sheet Divide ice core
0538520	Thiemens, Mark	University of California-San Diego	\$ 192,000	
0538657	Severinghaus, Jeffrey	Scripps Institution of Oceanography	\$ 431,644	N and O isotopes in the WAIS Divide ice core as constraints on chronology, temperature, accumulation
0537532	Liston, Glen	Colorado State University	\$ 246,776	Norwegian-United States scientific traverse: climate variability and glaciology in East Antarctica
0538103	Scambos, Ted	University of Colorado at Boulder	\$ 299,043	
0538185	Neumann, Thomas	U. Vermont & State Agricultural College	\$ 164,102	
0538416	McConnell, Joseph	U. Nevada Desert Research Institute	\$ 415,812	
0538422	Hamilton, Gordon	University of Maine	\$ 249,831	
0538495	Albert, Mary	Dartmouth College	\$ 423,647	
0539578	Alley, Richard	Pennsylvania State Univ University Park	\$ 93,000	
0538639	Waddington, Edwin	University of Washington	\$ 84,994	Spatial variability in firm properties from borehole optical stratigraphy at the inland WAIS core site
0732946	Steffen, Konrad	University of Colorado at Boulder	\$ 356,408	Stability of Larsen C Ice Shelf in a warming climate
0537593	White, James	University of Colorado at Boulder	\$ 97,000	Stable isotopes of ice in the WAIS Divide deep ice core
0537661	Cuffey, Kurt	University of California-Berkeley	\$ 2,000	
0537930	Steig, Eric	University of Washington	\$ 27,128	
0440819	Taylor, Kendrick	U. Nevada Desert Research Institute	\$ 805,502	Stratigraphy and time scale of the WAIS Divide ice core using electrical methods

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0636883	Bell, Robin	Columbia University	\$ 326,280	Subglacial lakes and the onset of ice streaming: recovery lakes
0636537	Dupont, Todd	University of Illinois at Chicago	\$ 51,401	Thwaites Glacier dynamics: diagnostic and prognostic sensitivity studies of a West Antarctic outlet system
0636724	Blankenship, Donald	University of Texas at Austin	\$ 191,058	
0636867	Parizek, Byron	College of New Jersey	\$ 7,225	
0758274	Parizek, Byron	Pennsylvania State Univ University Park	\$ 212,021	
0809106	Dupont, Todd	University of California-Irvine	\$ 116,657	
0538427	McConnell, Joseph	U. Nevada Desert Research Institute	\$ 273,425	Trace and ultra-trace chemistry measurements of the WAIS Divide ice core
0538538	Sowers, Todd	Pennsylvania State Univ University Park	\$ 151,200	Ultra-high-resolution atmospheric methane record for the last 140,000 years from WAIS Divide core
0538578	Brook, Edward	Oregon State University	\$ 19,487	
0642288	Bindschadler, Robert	NASA/Goddard Space Flight Center	\$ 218,480	West Antarctic Ice Sheet workshops and web site
			\$ 49,189,560	

Antarctic Infrastructure and Logistics

0438466	Schommer, John	Department of the Interior	\$ 500,000	Aviation management services
0138572	Webb, James	Naval Electronics Systems Engr. Ctr.	\$ 500,000	Electronics and communications
0714577	Lang, Michael	Smithsonian Institution	\$ 25,000	Polar scientific diving workshop
0000373	Feola, Sam	Raytheon Technical Services Co.	\$ 15,000,000	Support for the U.S. Antarctic Program
			\$ 16,025,000	

Antarctic Integrated System Science

0732738	Pettit, Erin	Portland State University	\$ 33,825	Abrupt environmental change in the Larsen Ice Shelf system - cryosphere and oceans
0732602	Truffer, Martin	University of Alaska Fairbanks Campus	\$ 296,601	
0732651	Gordon, Arnold	Columbia University	\$ 608,701	
0732655	Mosley-Thompson, Ellen	Ohio State U. Research Foundation	\$ 682,698	
0732921	Scambos, Ted	University of Colorado at Boulder	\$ 630,907	
0855265	Pettit, Erin	University of Alaska Fairbanks Campus	\$ 156,431	Abrupt environmental change in the Larsen Ice Shelf system - marine and Quaternary geosciences
0732467	Domack, Eugene	Hamilton College	\$ 561,715	
0732554	Ishman, Scott	Southern Illinois University at Carbondale	\$ 382,462	
0732605	Brachfeld, Stefanie	Montclair State University	\$ 247,459	
0732614	Wellner, Julia	University of Houston	\$ 269,025	
0732625	Leventer, Amy	Colgate University	\$ 162,707	

National Science Foundation International Polar Year awards

0732450	Van Dover, Cindy	Duke University	\$ 284,962	Abrupt environmental change in the Larsen Ice Shelf system - marine ecosystems
0732711	Smith, Craig	University of Hawaii	\$ 285,103	
0732917	McCormick, Michael	Hamilton College	\$ 113,810	
0732983	Vernet, Maria	Scripps Institution of Oceanography	\$ 498,264	Deciphering the Antarctic MSA-sea ice link with a combined regional forecast and atmospheric chemistry model
0739127	Bitz, Cecilia	University of Washington	\$ 375,422	
0739779	Warren, Stephen	University of Washington	\$ 956,261	Ocean surfaces on Snowball Earth
0732730	Truffer, Martin	University of Alaska Fairbanks Campus	\$ 605,135	Ocean-ice interaction in the Amundsen Sea sector of West Antarctica
0732804	McPhee, Miles	McPhee Research Company	\$ 199,322	
0732844	Anandakrishnan, Sridhar	Pennsylvania State Univ University Park	\$ 253,934	
0732869	Holland, David	New York University	\$ 596,452	
0732906	Bindschadler, Robert	NASA/Goddard Space Flight Center	\$ 25,000	
0732926	Stanton, Timothy	Naval Postgraduate School	\$ 1,610,156	
			\$ 9,836,352	

Antarctic Ocean and Atmospheric Sciences

0440775	Jacobs, Stanley	Columbia University	\$ 33,184	Amundsen Continental Shelf and the Antarctic Ice Sheet
0632282	Jacobs, Stanley	Columbia University	\$ 1,581,138	Amundsen Sea Influence on West Antarctic Ice Sheet stability and sea level rise
0741379	Dickhut, Rebecca	William & Mary Va. Inst. Marine Science	\$ 45,000	Atlantic Ocean and Antarctic ice sheet: sources or sinks for atmospherically transported organic contaminants?
0836137	Sambrotto, Raymond	Columbia University	\$ 300,699	Bio-physical variability in the eastern Amundsen & Ross Seas with contrasting climatic response
0818061	Orsi, Alejandro	Texas A&M Research Foundation	\$ 199,996	Direct cross-slope ventilation of the ACC at the western Scotia Ridge
0830398	Padman, Laurence	Earth and Space Research	\$ 49,806	Driftsondes for the CONCORDIASI project
0733007	Cohn, Stephen	University Corp. for Atmospheric Res	\$ 1,080,000	Dynamics and transport of the Antarctic Circumpolar Current in Drake Passage
0635437	Donohue, Kathleen	University of Rhode Island	\$ 2,179,343	Humidity and ice supersaturation observations at South Pole Station
0636493	Chereskin, Teresa	Scripps Institution of Oceanography	\$ 1,068,130	Icebreaker Oden cruise: ocean-atmosphere-ice interactions and changes
0840385	Gottelman, Andrew	University Corp. for Atmospheric Res	\$ 55,667	Mooring array in western Antarctica Peninsula
0741510	Yuan, Xiaojun	Columbia University	\$ 62,330	
0732656	Martinson, Douglas	Columbia University	\$ 735,715	

National Science Foundation International Polar Year awards

0849474	Brandes, Jay	Skidaway Institute of Oceanography	\$ 47,549	Non-Redfieldian P cycling in the Southern Ocean: insights from X-ray spectromicroscopy and
0849494	Ingall, Ellery	Georgia Institute of Technology	\$ 96,699	
0338226	Dempsey, John	Clarkson University	\$ 367,953	Physics and mechanics of the breakup of warm Antarctic sea ice: in-situ experiments and modeling
0636946	Deshler, Terry	University of Wyoming	\$ 381,557	Quasi-Lagrangian measurement of polar stratospheric cloud particle development from long-duration balloons
0538516	Ackley, Stephen	Clarkson University	\$ 533,089	Sea ice mass balance in the Antarctic-SIMBA drift station
0703682	Ackley, Stephen	University of Texas at San Antonio	\$ 61,980	
			\$ 8,879,835	

Antarctic Organisms and Ecosystems

0632278	Ducklow, Hugh	Marine Biological Laboratory	\$ 230,530	Bacterioplankton genomic adaptations to Antarctic winter
0632389	Murray, Alison	U. Nevada Desert Research Institute	\$ 466,622	
0732665	Saito, Mak	Woods Hole Oceanographic Institution	\$ 425,416	Comparative genomic and proteomic survey of major Antarctic marine phytoplankton
0732822	Allen, Andrew	J. Craig Venter Institute, Inc.	\$ 546,810	
0741409	Yager, Patricia	University of Georgia	\$ 80,093	Icebreaker Oden cruise: Antarctic bacterial remineralization
0741403	Sherrell, Robert	Rutgers University New Brunswick	\$ 80,821	Icebreaker Oden cruise: bioactive trace metals in the Amundsen and Ross Seas
0741428	Hutchins, David	University of Southern California	\$ 78,476	Icebreaker Oden cruise: phytoplankton global change experiments and vitamin/iron colimitation
0742057	Gallager, Scott	Woods Hole Oceanographic Institution	\$ 74,950	Icebreaker Oden cruise: primary and secondary production measurements along the western Antarctic coastline
0732535	Arrigo, Kevin	Stanford University	\$ 587,443	Interplay of iron limitation and dynamic irradiance in governing the phytoplankton distribution in the Ross Sea
0646308	Lemaitre, Rafael	Smithsonian Institution	\$ 497,318	Managing the 19-million-specimen resource of the Antarctic marine invertebrate collection
0638867	Arrigo, Kevin	Gordon Research Conferences	\$ 30,000	Marine science
0632250	Cary, Stephen	University of Delaware	\$ 121,859	Metagenomic investigation of adaptation to prolonged cold and dark of the Lake Vostok microbial community
0632359	Lanoil, Brian	University of California-Riverside	\$ 359,243	
0741380	Smith, Walker	William & Mary Va. Inst. Marine Science	\$ 85,300	Oceanography in the Amundsen and Ross Seas:

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0631494	Priscu, John	Montana State University	\$ 235,388	Plankton dynamics in the McMurdo Dry Valley lakes during the transition to polar night
0631659	Morgan-Kiss, Rachael	Miami University	\$ 70,987	
0631888	Lizotte, Michael	University of Wisconsin-Oshkosh	\$ 47,813	Primary and secondary production and carbon flux through microbial community, west Antarctic marginal ice zone
0708292	Gallager, Scott	Woods Hole Oceanographic Institution	\$ 68,611	
0700770	Schofield, Oscar	Rutgers University New Brunswick	\$ 56,438	Slocum glider in western Antarctic Peninsula continental shelf waters pilot study
0701232	Martinson, Douglas	Columbia University	\$ 15,000	
0850004	Hofmann, Eileen	Old Dominion U. Research Foundation	\$ 20,000	Third GLOBEC open science meeting: support and facilitation
0725471	Boersma, P. Dee	University of Washington	\$ 10,000	Workshop: travel support for the 6th international penguin conference
			\$ 4,189,118	

Arctic Cyberinfrastructure

0856292	Rigor, Ignatius	University of Washington	\$ 1,000,000	International Arctic buoy program
0632354	Parsons, Mark	University of Colorado at Boulder	\$ 469,112	International Polar Year data and information service
			\$ 1,469,112	

Arctic Natural Sciences

0732713	Harlow, Henry	University of Wyoming	\$ 732,924	Adaptive long-term fasting in land- and ice-bound polar bears: coping with ice loss in the Arctic
0817967	Post, Eric	Pennsylvania State Univ University Park	\$ 10,000	After the melt: an international conference on the ecology of Arctic climate change
0856479	Toole, John	Woods Hole Oceanographic Institution	\$ 4,622,113	AON: ice-tethered profiler for sampling meteorological, sea ice, and ocean mixed layer
0856868	Stanton, Timothy	Naval Postgraduate School	\$ 2,099,512	Autonomous ocean flux buoys to observe turbulent vertical fluxes of heat, salt, and momentum
0732668	Grebmeier, Jacqueline	University of Tennessee Knoxville	\$ 151,611	Bering ecosystem study: benthic ecosystem response to changing ice cover
0714605	Moore, James	University Corp. for Atmospheric Res	\$ 224,841	Bering ecosystem study: data management
0808853	Moore, James	University Corp. for Atmospheric Res	\$ 608,758	
0612380	Shull, David	Western Washington University	\$ 411,945	Bering ecosystem study: denitrification and global change in Bering Sea shelf sediments
0612436	Devol, Allan	University of Washington	\$ 540,287	
0813985	Sonnerup, Rolf	University of Washington	\$ 128,789	Bering ecosystem study: hydrographic structure and nutrients during summer

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0732359	Lomas, Michael	Bermuda Institute of Ocean Sciences	\$ 381,179	Bering ecosystem study: impact of changes in sea ice extent on primary production, phytoplankton, and
0732680	Moran, S. Bradley	University of Rhode Island	\$ 418,950	
0611967	Zhang, Jinlun	University of Washington	\$ 460,127	Bering ecosystem study: impact of changes in sea ice on physical forcings of the ecosystem
0732640	Sonnerup, Rolf	University of Washington	\$ 538,343	Bering ecosystem study: impacts of sea-ice on hydrographic structure and nutrients
0732772	Whitledge, Terry	University of Alaska Fairbanks Campus	\$ 210,966	
0732773	Whitledge, Terry	University of Alaska Fairbanks Campus	\$ 121,839	
0732430	Sonnerup, Rolf	University of Washington	\$ 784,838	Bering ecosystem study: impacts of sea-ice on the distribution of chlorophyll-a
0810459	Whitledge, Terry	University of Alaska Fairbanks Campus	\$ 117,689	
0722448	Hunt, George	University of Washington	\$ 164,697	Bering ecosystem study: impacts of sea-ice on the hydrographic structure, nutrients, and mesozooplankton
0816805	Coyle, Kenneth	University of Alaska Fairbanks Campus	\$ 220,154	Bering ecosystem study: mesozooplankton population and biomass
0732301	Sherr, Evelyn	Oregon State University	\$ 786,421	Bering ecosystem study: mesozooplankton-microbial food web in a climatically changing sea ice environment
0732362	Campbell, Robert	University of Rhode Island	\$ 432,268	
0732382	Ashjian, Carin	Woods Hole Oceanographic Institution	\$ 608,159	
0612198	Sigman, Daniel	Princeton University	\$ 466,135	Bering ecosystem study: nitrogen supply for new production and its relation to climatic conditions
0612427	Sambrotto, Raymond	Columbia University	\$ 1,219,495	
0612538	Wu, Jingfeng	University of Alaska Fairbanks Campus	\$ 273,098	Bering ecosystem study: role of ice melting in providing available iron to the surface water
0732767	Gradinger, Rolf	University of Alaska Fairbanks Campus	\$ 1,061,747	Bering ecosystem study: sea ice algae, a major food source for herbivorous plankton and benthos
0732389	Lessard, Evelyn	University of Washington	\$ 644,558	Bering ecosystem study: trophic role of euphausiids: ecosystem responses to changing sea-ice conditions
0732667	Harvey, H.	U. Maryland Ctr Environmental Sciences	\$ 583,456	
0732428	Aagaard, Knut	University of Washington	\$ 673,882	Bering Shelf stratification and its consequences for nutrients and the ecosystem
0732771	Weingartner, Thomas	University of Alaska Fairbanks Campus	\$ 920,308	
0612636	Warren, Stephen	University of Washington	\$ 925,687	Black carbon in Arctic snow and ice and its effect on surface albedo
0632139	Shaver, Gaius	Marine Biological Laboratory	\$ 1,398,345	Carbon, water, and energy balance of the Arctic landscape at flagship observatories and in a pan-Arctic
0632264	Bret-Harte, Marion	University of Alaska Fairbanks Campus	\$ 1,939,401	
0632233	Kirchman, David	University of Delaware	\$ 417,466	Chemolithoautotrophy in the Arctic Ocean-- environmental genomics and functional analyses

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0743972	Minnett, Peter	U. Miami Rosenstiel School	\$ 82,090	Cloud radiative forcing in the high Arctic
0732431	Curchitser, Enrique	Rutgers University New Brunswick	\$ 246,678	Downscaling global climate projections to the ecosystems of the Bering Sea with nested biophysical models
0732534	Bond, Nicholas	University of Washington	\$ 802,861	
0732538	Hedstrom, Katherine	University of Alaska Fairbanks Campus	\$ 263,635	Dynamic component of sea ice mass balance
0611991	Geiger, Cathleen	U.S. Army CRREL	\$ 386,169	
0612105	Geiger, Cathleen	University of Delaware	\$ 525,149	
0612527	Hutchings, Jennifer	University of Alaska Fairbanks Campus	\$ 439,327	Genomics investigation of fungal adaptation to cold
0632332	Taylor, Donald	University of Alaska Fairbanks Campus	\$ 743,697	
0649006	Roof, Steven	Hampshire College	\$ 924,974	Holocene and modern climate change in the high Arctic
0855828	Stafford, Kathleen	University of Washington	\$ 271,917	Interdisciplinary mooring in the western Arctic Boundary Current: climatic forcing and ecosystem response
0856210	Mathis, Jeremy	University of Alaska Fairbanks Campus	\$ 195,417	
0856244	Pickart, Robert	Woods Hole Oceanographic Institution	\$ 2,317,495	Macro- and microphysical structure of Arctic clouds
0732925	Persson, Ola P	University of Colorado at Boulder	\$ 299,852	
0714045	Nolan, Matt	University of Alaska Fairbanks Campus	\$ 1,141,030	Mass balance and glacier dynamics modeling on Arctic glaciers for better prediction and hindcasting
0632105	Laird, Claude	University of Kansas	\$ 150,221	NEEM deep ice core
0632222	White, James	University of Colorado at Boulder	\$ 169,996	
0806339	Baker, Ian	Dartmouth College	\$ 254,987	
0806377	Severinghaus, Jeffrey	Scripps Institution of Oceanography	\$ 316,442	
0806387	White, James	University of Colorado at Boulder	\$ 776,627	
0806407	Sowers, Todd	Pennsylvania State Univ University Park	\$ 437,690	
0806414	Brook, Edward	Oregon State University	\$ 515,392	O-buoy project: deployment of a network of Arctic Ocean chemical sensors
0611992	Perovich, Donald	U.S. Army CRREL	\$ 385,021	
0612047	Shepson, Paul	Purdue University	\$ 507,518	
0612331	Matrai, Patricia	Bigelow Laboratory for Ocean Sciences	\$ 413,994	
0612457	Simpson, William	University of Alaska Fairbanks Campus	\$ 349,330	Pacific gateway to the Arctic: quantifying and understanding Bering Strait oceanic fluxes
0631713	Weingartner, Thomas	University of Alaska Fairbanks Campus	\$ 552,805	
0632154	Woodgate, Rebecca	University of Washington	\$ 1,071,793	Participation of graduate students in the annual Arctic workshops 2005-2007
0425387	Pfeffer, W. Tad	University of Colorado at Boulder	\$ 8,000	
0612289	Baldwin, Mark	NorthWest Research Associates, Inc.	\$ 65,638	Polar stratosphere and vertical coupling
0632310	Csatho, Beata	SUNY at Buffalo	\$ 204,762	POLENET-Greenland: using bedrock geodesy to constrain past and present day changes in Greenland's
0632320	Bevis, Michael	Ohio State U. Research Foundation	\$ 1,234,621	

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0631309	Ballantyne, Ashley	Ballantyne, Ashley P.	\$ 238,000	Postdoctoral research fellowship
0732885	Tweedie, Craig	University of Texas at El Paso	\$ 747,684	Resampling old research sites to assess change in high latitude terrestrial ecosystem structure and function
0714088	Zender, Charles	University of California-Irvine	\$ 518,482	Snow process studies and modeling to improve Arctic climate prediction
0856377	Perovich, Donald	U.S. Army CRREL	\$ 603,615	State of the Arctic sea ice cover: sustaining the integrated seasonal ice zone observing network
0856867	Eicken, Hajo	University of Alaska Fairbanks Campus	\$ 1,419,891	
0520578	Romanovsky, Vladimir	University of Alaska Fairbanks Campus	\$ 375,021	Thermal state of permafrost: U.S. contribution to the international permafrost observatory network
0732954	Goetz, Scott	Woods Hole Research Center	\$ 796,041	Tundra ecosystem responses to climate change
0732948	Pearson, Richard	American Museum of Natural History	\$ 145,320	
0830146	Hunt, George	University of Washington	\$ 119,172	U.S. liaison activity for international ecosystem studies of sub-Arctic seas
			\$ 46,318,342	

Arctic Observing Network

0856421	Shiklomanov, Nikolay	University of Delaware	\$ 1,662,201	Active layer monitoring network: long-term observations on the climate - active layer - permafrost system
0633979	Proshutinsky, Andrey	Woods Hole Oceanographic Institution	\$ 76,260	Aerial hydrographic surveys: tracking change and understanding seasonal variability
0634097	McPhee, Miles	McPhee Research Company	\$ 118,991	
0634122	Collier, Robert	Oregon State University	\$ 289,384	
0634167	Guay, Christopher	Pacific Marine Sciences & Technology	\$ 74,989	
0634226	Morison, James	University of Washington	\$ 703,627	
0732522	Holmes, Robert	Woods Hole Research Center	\$ 369,223	Arctic great rivers observatory
0732583	Raymond, Peter	Yale University	\$ 331,366	
0732821	McClelland, James	University of Texas at Austin	\$ 190,690	
0732985	Peterson, Bruce	Marine Biological Laboratory	\$ 653,314	Beaufort gyre system: flywheel of the Arctic climate?
0424864	Proshutinsky, Andrey	Woods Hole Oceanographic Institution	\$ 2,422,948	
0634079	Gofman, Victoria	Aleut International Association	\$ 677,816	Bering Sea subnetwork: community-based observation alliance for Arctic Observing Network
0856305	Alessa, Lilian	University of Alaska Anchorage Campus	\$ 545,143	
0856774	Gofman, Victoria	Aleut International Association	\$ 2,499,989	Cloud properties across the Arctic basin from surface and satellite measurements
0632177	Walden, Von	University of Idaho	\$ 197,559	
0632187	Shupe, Matthew	University of Colorado at Boulder	\$ 184,340	

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0632312	Drobot, Sheldon	University of Colorado at Boulder	\$ 35,429	Collaborative, interdisciplinary relationships among the new generation of polar researchers
0632296	Fetterer, Florence	University of Colorado at Boulder	\$ 681,497	Cooperative Arctic data and information service
0632313	Moore, James	University Corp. For Atmospheric Res	\$ 1,526,962	
0336450	Bales, Roger	University of California - Merced	\$ 381,803	Core measurements at Summit, Greenland, environmental observatory
0856634	Gearheard, Shari	University of Colorado at Boulder	\$ 1,968,016	Data management support for community-based observations
0612452	Eloranta, Edwin	University of Wisconsin-Madison	\$ 466,647	Data products for the University of Wisconsin high spectral resolution lidar
0732726	Pfeffer, W. Tad	University of Colorado at Boulder	\$ 615,449	Dynamic controls on tidewater glacier retreat
0732739	Conway, Howard	University of Washington	\$ 117,217	
0632201	Timmermans, Mary-Louise	Woods Hole Oceanographic Institution	\$ 204,406	Dynamics of the deepest waters in the Arctic Ocean
0632144	Klein, Julia	Colorado State University	\$ 52,707	Ecosystem-change studies using the International Tundra Experiment
0632184	Welker, Jeffrey	University of Alaska Anchorage Campus	\$ 270,173	
0632263	Hollister, Robert	Grand Valley State University	\$ 172,152	
0632277	Oberbauer, Steven	Florida International University	\$ 651,394	
0632345	Gearheard, Shari	University of Colorado at Boulder	\$ 658,093	Exchange for local observations and knowledge of the Arctic
0732556	Shepson, Paul	Purdue University	\$ 543,661	Halogen chemistry and ocean - atmosphere - sea ice - snowpack chemical exchange
0612391	Richter-Menge, Jacqueline	U.S. Army CRREL	\$ 869,766	Ice mass-balance buoy network: coordination with DAMOCLES
0631951	Toole, John	Woods Hole Oceanographic Institution	\$ 1,735,332	Ice-tethered profilers to sample the upper ocean water properties
0520287	Rigor, Ignatius	University of Washington	\$ 600,000	International Arctic buoy program
0638408	Kruse, John	University of Alaska Anchorage Campus	\$ 894,556	Is the Arctic human environment moving to a new state?
0638413	Hamilton, Lawrence	University of New Hampshire	\$ 200,708	North Pole Station: a distributed long-term environmental observatory
0352687	McPhee, Miles	McPhee Research Company	\$ 27,584	
0352754	Morison, James	University of Washington	\$ 4,416,807	
0352984	Collier, Robert	Oregon State University	\$ 198,924	Observational network for critical Arctic gateways -- understanding exchanges through Davis and Fram straits
0632231	Lee, Craig	University of Washington	\$ 2,339,463	

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0633343	Kwok, Ronald	NASA	\$ 188,000	Observing system in the Switchyard region of the Arctic Ocean
0633878	Schlosser, Peter	Columbia University	\$ 1,421,665	
0633885	Steele, Michael	University of Washington	\$ 2,444,666	
0722694	Proshutinsky, Andrey	Woods Hole Oceanographic Institution	\$ 1,439,952	Oceanographic instrumentation to enhance the Arctic Ocean Observing Network
0907819	Bernhard, Germar	Biospherical Instruments Inc	\$ 64,111	Recent changes of solar ultraviolet radiation in the Arctic
0842779	Cooper, Lee	U. Maryland Ctr Environmental Sciences	\$ 48,827	Science plan and workshop support for Bering Strait environmental observations
0632041	Stanton, Timothy	Naval Postgraduate School	\$ 1,090,150	Surface buoys to sample turbulent ocean heat and salt fluxes
0856330	Morison, James	University of Washington	\$ 4,100,675	Sustained observations of the North Pole environment to characterize ongoing Arctic change
0856808	Collier, Robert	Oregon State University	\$ 575,552	
0645895	Byers, Albert	National Science Teachers Assoc	\$ 33,359	Symposia and web seminars
0622406	Tweedie, Craig	University of Texas at El Paso	\$ 750,126	Terrestrial circum-Arctic environmental observatories network
			\$ 42,783,669	

Arctic Research and Education

0700233	Sturm, Matthew	U.S. Army CRREL	\$ 119,960	Alaska-Canada barrenlands traverse
0632324	Weiler, C. Susan	Whitman College	\$ 206,929	Collaborative, interdisciplinary relationships among the new generation of polar researchers
0829225	Byers, Albert	National Science Teachers Assoc	\$ 39,616	Conferences on science education
0723343	Pfirman, Stephanie	Columbia University	\$ 27,928	NYC international polar weekend
0806509	Pfirman, Stephanie	Columbia University	\$ 40,218	
0806933	Borrero, Roberto	American Museum of Natural History	\$ 34,410	
0632360	Tweedie, Craig	University of Texas at El Paso	\$ 457,444	Research and educational opportunities in Antarctica for minorities
			\$ 926,505	

Arctic Research Support and Logistics

0718422	Virginia, Ross	Dartmouth College	\$ 42,714	Arctic science summit week 2007
0738306	Karlqvist, Anders	Swedish Polar Research Secretariat	\$ 3,663,977	Icebreaker Oden: support to NSF/OPP funded research
0618885	Fox, Susan	Arctic Research Consortium of the U.S.	\$ 6,440,175	Organizational support to the U.S. Arctic science program
0647022	Elfring, Chris	National Academy of Sciences	\$ 135,000	Polar Research Board

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0520837	Craft, Gary	CH2M Hill Constructor, Inc.	\$ 14,000,000	Research support and logistics
0902165	Helmig, Detlev	University of Colorado at Boulder	\$ 98,554	Surface and boundary-layer profiling of ocean, atmosphere, sea ice, and snowpack using tethered balloons

\$ 24,380,420

Arctic Social Sciences

0611978	John, Mark	Calista Elders Council	\$ 597,487	Bering ecosystem study: Nelson Island natural and cultural knowledge project
0755832	Beach, Hugh	Portland State University	\$ 805,000	Circumpolar land use and ethnicity: social impacts of policy and climate change
0733929	Sider, Gerald	CUNY College of Staten Island	\$ 5,996	Crises and vulnerability: historical perspective on contemporary problems in Labrador Innu and Inuit communities
0732787	Krauss, Michael	University of Alaska Fairbanks Campus	\$ 1,408,380	Documenting Alaskan and neighboring languages
0732973	Salzman, Hal	Urban Institute	\$ 574,355	Employment and sustainability in a time of transition
0903589	Salzman, Hal	Rutgers University New Brunswick	\$ 212,901	
0631970	Ziker, John	Boise State University	\$ 375,365	Home, hearth, and household in Siberia and northern Canada
0732620	LeMoine, Genevieve	Bowdoin College	\$ 210,276	Inglefield land archaeology project: dynamic social systems at the entrance to Greenland
0732850	Darwent, Christyann	University of California-Davis	\$ 195,837	
0711965	Wheelerburg, Robert	Elizabethtown College	\$ 70,000	International directory of Arctic social scientists
0732327	McGovern, Thomas	CUNY Hunter College	\$ 896,724	Long term human ecodynamics in the Norse North Atlantic: cases of sustainability, survival, and collapse
0802390	Snodgrass, James	University of Oregon Eugene	\$ 166,860	Metabolic adaptation among indigenous Siberians: causes and consequences
0705654	Heleniak, Timothy	University of Maryland College Park	\$ 330,873	Moved by the state: perspectives on relocation and resettlement in the circumpolar North
0713896	Schweitzer, Peter	University of Alaska Fairbanks Campus	\$ 695,364	
0755966	Alessa, Lilian	University of Alaska Anchorage Campus	\$ 865,815	Municipal water systems and the resilience of Arctic communities
0754787	Kral, Michael	University of Illinois Urbana-Champaign	\$ 254,206	Negotiating pathways to adulthood: social change and indigenous culture in four circumpolar communities
0755348	Wexler, Lisa	University of Massachusetts Amherst	\$ 500,139	
0756211	Allen, James	University of Alaska Fairbanks Campus	\$ 413,806	
0631419	Koester, David	University of Alaska Fairbanks Campus	\$ 621,495	New religious movements in the Russian north: competing uses of religiosity after socialism

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0638897	Ogilvie, Astrid	University of Colorado at Boulder	\$ 285,000	Northern narratives: social and geographical accounts from Norway, Iceland and Canada
0732846	O'Rourke, Dennis	University of Utah	\$ 552,543	Reconstruction of human genetic history along the North Slope
0732857	Hayes, Geoffrey	Northwestern University at Chicago	\$ 504,819	
0838678	Schweitzer, Peter	University of Alaska Fairbanks Campus	\$ 120,000	Sixth international congress of Arctic social sciences
0631230	Zubrow, Ezra B.	SUNY at Buffalo	\$ 174,256	Social change and the environment in Nordic prehistory: evidence from Finland and Northern Canada
0804290	Martin, Patrick	Michigan Technological University	\$ 21,999	Social perspectives on the industrial archaeology of the Arctic
0639211	Huskey, Terry	University of Alaska Anchorage Campus	\$ 381,452	Understanding migration in the circumpolar North
0756122	Matland, Richard	Loyola University of Chicago	\$ 374,986	Women candidates in regional Russia: religion and culture as barriers to women's participation
0724229	Kruse, John	University of Alaska Anchorage Campus	\$ 19,766	Workshop for comprehensive release of SLICA results
			\$ 11,635,700	

Arctic System Science

0852396	Vorosmarty, Charles	CUNY City College	\$ 403,770	Arctic community-wide hydrological analysis and monitoring
0732650	Walsh, John	University of Illinois Urbana-Champaign	\$ 328,260	Arctic system reanalysis, a blend of modeling and observations
0732986	Serreze, Mark	University of Colorado at Boulder	\$ 359,799	
0733023	Bromwich, David	Ohio State U. Research Foundation	\$ 1,142,474	
0733058	Kuo, Ying-Hwa	University Corp. For Atmospheric Res	\$ 944,075	
0732168	Post, Eric	Pennsylvania State Univ University Park	\$ 85,893	Ecological consequences of Arctic climate change
0856516	Hollister, Robert	Grand Valley State University	\$ 502,600	Ecosystem-change studies using the International Tundra Experiment
0856628	Tweedie, Craig	University of Texas at El Paso	\$ 400,471	
0856710	Oberbauer, Steven	Florida International University	\$ 1,200,070	
0856728	Welker, Jeffrey	University of Alaska Anchorage Campus	\$ 591,914	
0732735	Walter, Katey	University of Alaska Fairbanks Campus	\$ 646,940	Impacts of icy permafrost degradation and thermokarst-lake dynamics on carbon cycling, CO <sub>2</sub> and CH <sub>4</sub> emissions

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0335941	Kane, Douglas	University of Alaska Fairbanks Campus	\$ 594,558	Long-term measurements and observations on the Kuparuk River basin, Alaska
0733074	Schimmel, Joshua	University of California-Santa Barbara	\$ 904,623	Microbial winter survival physiology: a driver on microbial community composition and carbon cycling
0632387	Collins, Richard	University of Alaska Fairbanks Campus	\$ 803,668	Pan-Arctic studies of the coupled tropospheric, stratospheric, and mesospheric circulation
0632400	Romanovsky, Vladimir	University of Alaska Fairbanks Campus	\$ 945,276	Permafrost observatories in North America and Russia
0805703	Eicken, Hajo	University of Alaska Fairbanks Campus	\$ 49,946	Polar sea-ice information needs: training, outreach, and legacy products through a system services approach
0632131	Sturm, Matthew	U.S. Army CRREL	\$ 571,342	Prototype network for measuring Arctic winter precipitation and snow cover
0632133	Liston, Glen	Colorado State University	\$ 351,000	
0632160	Kane, Douglas	University of Alaska Fairbanks Campus	\$ 537,565	
0632130	Perovich, Donald	U.S. Army CRREL	\$ 458,321	State of the Arctic sea ice cover: sustaining the integrated seasonal ice zone observing network
0632398	Eicken, Hajo	University of Alaska Fairbanks Campus	\$ 891,329	
			\$ 12,713,894	

Social, behavioral, and economic sciences

0553831	Tuttle, Siri	University of Alaska Fairbanks Campus	\$ 72,306	Ahtna texts
0652146	Haakanson, Sven	Alutiiq Heritage Foundation	\$ 118,229	Alutiiq living words project
0820630	Josephson, Paul	Colby College	\$ 100,147	Arctic science and Arctic politics under Soviet power, 1930-1990
0651853	Hargus, Sharon	University of Washington	\$ 64,797	Athabaskan personal histories of climate change in Alaska and Canada
0617803	Diebold, Francis	University of Pennsylvania	\$ 293,944	Bayesian estimation, forecasting, and policy analysis in stochastic general equilibrium macroeconomic models
0649967	Holland, Dorothy	University of North Carolina Chapel Hill	\$ 6,000	Conflict, knowledge, and conservation in the Mi'kmaq fisheries, Atlantic Canada
0548846	Eisner, Wendy	University of Cincinnati Main Campus	\$ 66,277	Connecting indigenous knowledge to landscape process research, Arctic coastal plain of Alaska
0651787	Dauenhauer, Richard	University of Alaska Southeast Juneau	\$ 100,000	Documenting and archiving Deg Xinag, Tlingit, and other northern languages
0632431	Pesetsky, David	Massachusetts Institute of Technology	\$ 12,000	Interrogative structures and clausal architecture of Tlingit

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0554163	Lachler, Jordan	Sealaska Heritage Institute	\$ 81,211	Narratives and conversations in Tlingit, northern Haida, and Tsimshian
0646619	DeVorkin, David	Smithsonian Institution	\$ 25,004	Social and intellectual implications of the International Polar Years
0612808	Durrenberger, E. Paul	Pennsylvania State Univ University Park	\$ 6,000	Thai migrant women and relative success of integration in Iceland
			\$ 945,915	

Notes

1. Titles shown here have been shortened and/or edited from official award titles.
2. Some awards were split-funded by one or more NSF offices or programs. Awards are listed here under the principal or originating NSF entity.
3. For further information, including abstracts, about individual awards, use the proposal number to query the "Search NSF Awards" database at <http://www.nsf.gov/>.
4. Amounts in the IPY \$ column are NSF International Polar Year funds awarded in fiscal years 2006 through 2009 and expected to be added -- as continuing increments -- to existing IPY grants in fiscal years 2010 through 2013. Because some awards are for both IPY and non-IPY purposes, amounts in this list may differ from the amounts shown in the NSF awards database.

## National Science Foundation award commitments for the International Polar Year

Fiscal year	NSF commitments for 445 IPY project awards (2006-2009 actual; 2010-2013 estimated)							
	Special IPY solicitations <sup>1</sup>			Other IPY proposals <sup>2, 3</sup>			Total <sup>3</sup>	
2006	\$ 5,613,980	6%		\$ 25,347,870	10%		\$ 30,961,850	9%
2007	\$ 38,505,811	42%	67%	\$ 71,845,340	28%	53%	\$ 110,351,151	32%
2008	\$ 23,246,385	25%		\$ 63,504,747	25%		\$ 86,751,132	25%
2009	\$ 17,081,148	18%		\$ 48,924,257	19%		\$ 66,005,405	19%
2010	\$ 5,942,045	6%		\$ 16,305,796	6%		\$ 22,247,841	6%
2011	\$ 1,960,859	2%		\$ 10,951,113	4%		\$ 12,911,972	4%
2012				\$ 10,392,179	4%		\$ 10,392,179	3%
2013				\$ 7,532,217	3%		\$ 7,532,217	2%
		100%			100%			100%
<b>Total<sup>3</sup></b>	<b>\$ 92,350,228</b>	<b>27%</b>		<b>\$ 254,803,519</b>	<b>73%</b>		<b>\$ 347,153,747</b>	<b>100%</b>

<sup>1</sup> Funded under International Polar Year solicitations NSF 06-534 and NSF 07-536

<sup>2</sup> Funded under these other NSF program solicitations:

Advanced Technological Education (NSF 05-530)	1
Antarctic Artists and Writers Program (NSF 07-550)	2
Antarctic Research (NSF 02-086, 03-551, 04-559, 05-567, 06-549, 07-549, 08-535)	3
Arctic Observing Network (NSF 08-579)	4
Arctic Research Opportunities (NSF 00-96, 03-574, 05-514, 05-618, 06-603)	5
Bering Ecosystem Study, BEST (NSF 07-533)	6
Communicating Research to Public Audiences (NSF 03-509)	7
Documenting Endangered Languages (NSF 05-590, NSF 06-577)	8
Ice Coring and Drilling Services (NSF 08-555)	9
Major Research Instrumentation (NSF 05-515, 07-510)	10
National Space Weather Program (NSF 07-520)	11
Plant Genome Research (NSF 06-529, 06-581)	12
Postdoctoral Fellowships in Polar Regions Research (NSF 08-1)	13
SBE Doctoral Dissertation Research Improvement (NSF 05-588)	14
Science and Society (NSF 03-550)	15
Science and Technology Centers Integrative Partnerships (NSF 07-2)	16
Also: PD 98-1320, 98-1352, 04-1524, 05-5221, 06-5740	
Also: Grant Proposal Guide (NSF-wide, various years)	

<sup>3</sup> Includes \$29,000,000 in fiscal years 2007 and 2008 for operational field support.

NSF/OPP 1/15/2010