

Monthly Review: February 2012

The American Geosciences Institute's monthly review of geosciences and policy goes out to the leadership of AGI's member societies, members of the AGI Geoscience Policy Committee, and others as part of a continuing effort to improve communications about the role of geoscience in policy. The current monthly review and archived monthly reviews are all available online.

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1. Apply for AGI's 2012 Internships By March 15 and April 14

The American Geosciences Institute's Geoscience Policy offers summer and semester internship opportunities for geoscience students (undergraduates and/or Masters students) with an interest in public policy and in how Washington impacts the geoscience community. Interns gain a first-hand understanding of the legislative process and the operation of executive branch agencies while enhancing their writing, research, and web publishing skills. Deadlines for online submission of applications are March 15 for

summer, April 15 for fall and October 15, 2012 for spring 2013.

The American Geophysical Union, the Soil Science Society of America, the American Institute of Physics, the American Association for the Advancement of Science and the American Chemical Society offer similar internships that may be of interest to geoscience students. Please visit their web sites or contact AGI at govt@agiweb.org for more information.

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2. Congressional Visits Day in April and September – Join Us in DC

Geoscientists are invited to join organized groups of scientists and engineers for workshops and visits with congressional members and committees (SET-CVD April 24-25 and GEO-CVD September 11-12, 2012). Decision makers need to hear from geoscientists. Become a citizen geoscientist and join many of your colleagues for a workshop followed by a day conducting visits with members of Congress or congressional staff on Capitol Hill to speak about the importance of geoscience research, development, and education.

April 24-25, 2012

Science-Engineering-Technology Congressional Visits Day (SET-CVD) is a larger event for all the sciences.

September 11-12, 2012

Geosciences Congressional Visits Day (GEO-CVD), an event specifically geared towards geoscientists.

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3. Register to Attend AGU Science Policy Conference in DC on April 30 – May 3

The American Geophysical Union (AGU) is holding their first annual Science Policy Conference from April 30 to May 3 in Washington, DC. The conference will bring together scientists, policymakers, and other stakeholders to discuss the intersection of the earth and space sciences and public policy.

The conference includes an AGU and National Geographic cosponsored training session on science communication for scientists on April 30 followed by two days of forums on the Arctic, renewable energy, critical minerals, hydraulic fracturing, water resources, natural hazards, coastal management, and oceans. Speakers include Director of the United States Geological Survey Marcia McNutt and Administrator of the National Oceanic and Atmospheric Administration Jane Lubchenco. The registration deadline is March 30 and a full list of speakers, a detailed agenda, and other business items can be found at AGU's Science and Policy Conference web site.

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4. Administration's Fiscal Year 2013 Budget Proposal Released

On February 13, 2012, the Obama Administration released its budget request for fiscal year 2013 (FY 2013). The request would provide \$142.2 billion for federal research and development (R&D), with defense R&D receiving \$72.6 billion. The request represents a 1.2 percent increase (+\$1.7 billion) for R&D compared to FY 2012. For nondefense geosciences R&D, the request provides small increases to the total budgets of the National Science Foundation (NSF), the National Oceanic and Atmospheric Administration (NOAA), the National Institute of Standards and Technology (NIST), the U.S. Geological Survey (USGS) and the Department of Energy (DOE). The total budget and science budget for the National Space and Aeronautics Administration (NASA) would see small decreases in total funding. The American Geosciences Institute provides an overview of FY 2013 budget decisions for specific geosciences programs.

The Office of Management and Budget (OMB) overview of the FY 2013 budget notes that the request and future spending outlook is tightly constrained by the Budget Control Act of 2011 (S.365; Public Law 112-25). The law limits discretionary spending from FY2012 to FY2021 and would reduce discretionary spending from 8.7 percent of GDP in 2011 to 5 percent in 2022. Congress will need to consider appropriations limited by this decade-long series of automatic spending cuts, which include sequestration (cancellation of budgetary resources). The automatic reductions are supposed to go into affect starting on January 31, 2012. The Congressional Budget Office has estimated that discretionary programs will have to be reduced by about 8 percent in FY 2013. As an example of the possible impact of sequestration, the National Education Association prepared a factsheet of potential reductions in federal education programs. Such automatic cuts would be disastrous to education and to R&D.

The President's budget overview highlights job creation, education, innovation and manufacturing, infrastructure, tax reform, government efficiency, Medicare, Medicaid and other health program reforms, and defense reductions. Within education the administration provides \$850 million for Race to the Top, \$5 billion for states for teacher enhancements, provisions to ensure

college is affordable (e.g. sustains Pell Grant program, prevent student loan interest increases, provides incentives to keep tuitions from rising and makes permanent a tax credit for college).

Congress is beginning to consider the President's budget request and the constraints of the Budget Control Act. The budget committees in both chambers are now considering budget resolutions, while the appropriations subcommittees in both chambers are waiting for budget allocations. Members of Congress may submit programmatic requests to the subcommittees in March. The Senate Committee on Appropriations announced an extension of the moratorium on earmarks and the House does not allow earmarks on appropriations. The appropriation and authorizing committees in both chambers are holding hearings about the budgets of federal programs. Schedules of hearings and archival information from past hearings are available from the committee web sites. There is some optimism in Congress that appropriation subcommittees in both chambers will advance their individual appropriation bills by the summer. This would provide a blueprint of possible budget priorities before election year politics stall the appropriation process. Passage of the budget for FY 2013 is not likely until December of 2012 or later.

The President's budget requests for geosciences R&D within non-defense programs are covered in more detail by AGI's Geoscience Policy's overview of FY 2013 budget. The web pages provide budget tables covering specific programs, summaries of agency overviews of budget priorities, updates of congressional actions, and summaries of congressional appropriation hearings.

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5. Obama Announces Undergraduate STEM Education Plan

On February 7, 2012, the President's Council of Advisors on Science and Technology (PCAST) released a report to President Obama laying out a strategy to increase the number of college undergraduate majors in science, technology, engineering, and mathematics (STEM) by one million graduates over the next decade. The report is titled "Engage to Excel: Producing One Million Additional College Graduates with Degrees in Science, Technology, Engineering, and Mathematics."

PCAST, along with an assembled group of experts in post secondary education teaching, formulated five recommendations to increase STEM education pathways in the first two years of an undergraduate education. The recommendations included implementing a system to validate teaching practices, shifting from traditional laboratory courses to more engaging research courses, solving the growing mathematics preparation gap, engaging stakeholders to diversify pathways to STEM careers, and creating a presidential council with leaders from academics and business to help provide leadership for STEM education. The United States only produces 300,000 STEM bachelor and associate degrees annually, and only 40 percent of students that enter college declared in a STEM field actually graduate in a STEM field.

On the same day at the White House Science Fair, President Obama proposed steps to increase STEM education funding in the United States. This K-16 funding would be from a variety of sources: \$80 million in Department of Education funding, \$100 million in National Science Foundation (NSF) funding, \$60 million in NSF and Department of Education co-funding, and \$22 million in private funding. President Obama's request of \$80 million and the \$22 million in private funding will go towards organizing preparation programs for STEM teachers, which would allow undergraduate students receiving their teaching certification to simultaneously earn a STEM teaching certificate. NSF will invest \$100 million in undergraduate STEM programs like the Widening Implementation and Demonstration of Evidence-based Reforms (WIDER) program and the Transforming Undergraduate Education in Science, Technology, Engineering and Mathematics (TUES) program. A \$60 million NSF and Department of Education co-sponsored education initiative is proposed to enhance K-16 mathematics education.

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6. President Obama Nominates Burke for DOI Assistant Secretary

President Obama has nominated Marcilynn Burke as the Department of the Interior (DOI) Assistant Secretary for Land and Minerals Management.

Burke has been acting as Assistant Secretary since July 2011 when Wilma Lewis vacated the position on a presidential nomination to become a judge in the District Court of the U.S. Virgin Islands. As Assistant Secretary, Burke will be responsible for oversight of energy development of public lands and waters with additional oversight of the Bureau of Land Management (BLM), Bureau of Ocean Energy Management, Bureau of Safety and Environmental Enforcement, and the Office of Surface Mining Reclamation and Enforcement. Burke previously served as the BLM's Deputy Director for Programs and Policy. Secretary of the Interior Ken Salazar praised the nomination saying, "Her common sense approach to solving problems is just the type of leadership our nation needs and it is why she has earned the respect of such a wide range of people with whom she has worked over her career."

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7. Energy Portions of Transportation Reauthorization Bill Draw Controversy

Passed by the House on February 15, the American Energy and Infrastructure Jobs Act of 2012 (H.R. 7) contained provisions that would open the Arctic National Wildlife Refuge for exploration and development, approve the construction of the Keystone XL

pipeline, and open public lands to oil shale exploration and development. The measures are within H.R. 7 and H. Res 547, a resolution which defined the rules of debate regarding H.R. 7. Congress is attempting to reauthorize several transportation programs before many expire on March 31 and it is likely these energy measures will either be scaled back or removed in the final version of the reauthorization.

Several Republican members of Congress opposed the provision in the bill to open ANWR for exploration and development as a partial funding offset for the transportation projects in the reauthorization bill. Representatives Charlie Bass (R-NH), Dave Reichert (R-WA), Robert Dold (R-IL), Mike Fitzpatrick (R-PA), Nan Hayworth (R-NY), and Timothy Johnson (R-IL) sent a letter to Speaker of the House John Boehner (R-OH) and other leaders of the majority expressing concern with the development of ANWR. In addition to “serious questions from both a fiscal and environmental perspective,” the members tell Boehner they “believe that this measure can achieve broader support and better force Senate consideration if ANWR were removed.”

Most of the oil shale development language is found in the Protecting Investment in Oil Shale the Next Generation of Environmental, Energy, and Resource Security Act, or the PIONEERS Act (H.R. 3408) which was added to H.R. 7 as part of H. Res. 547. The PIONEERS Act implements rules for the development of oil shale resources and promotes oil shale technology through research and development. The bill would require a lease sale by the Secretary of the Interior on 10 parcels of land to be used strictly for the research, development, and demonstration of oil shale resources. The bill requires the Secretary of the Interior to issue commercial leases on a minimum of five parcels of land at a minimum of 25,000 acres each by January 1, 2016. Rules set forth by the bill require that Congress ensure American manufacturing and technology benefit by the creation of jobs through oil shale development.

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8. Two Education Reform Bills Introduced in House

Chairman John Kline (R-MN) of the House Committee on Education and the Workforce introduced two pieces of legislation to replace the latest reauthorization of the Elementary and Secondary Education Act, the No Child Left Behind Act of 2001 (P.L. 107-110), which expired in 2007. The committee held a hearing on February 16 to begin discussions on the Student Success Act (H.R. 3989) and the Encouraging Innovation and Effective Teachers Act (H.R. 3990).

Since the expiration of the No Child Left Behind Act (NCLB), there have been several attempts to find a long-term solution. President Obama submitted its plan for replacing NCLB in 2010 titled, Blueprint for Reform, but no reauthorization plan in the past five years has received bipartisan support.

H.R. 3989 would remove a requirement for state testing in science according to the committee’s bill summary. “States would retain the option to develop assessments in science and other subjects at their discretion,” the summary explains. H.R. 3990 would eliminate more than 70 elementary and secondary education programs according to the committee’s bill summary.

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9. Education Bill to Repeal Federal Definition of Credit Hour Passes House

A measure to block the Department of Education’s (DoEd) state authorization and credit hour definition for non-religious institutions of higher education passed the House on February 28, 2012. The Protecting Academic Freedom in Higher Education Act (H.R. 2117) was introduced in June of 2011 by Representative Virginia Foxx (R-NC) who chairs the Subcommittee on Higher Education and Workforce Training in the House Committee on Education and Workforce.

In October of 2010, DoEd issued a series of regulations to improve student financial aid programs including one to create a federal definition for a credit hour. The amount of federal aid awarded to students is based on the number of credits he or she takes each term. The American Council on Education (ACE) opposes a credit hour definition and state authorization. ACE wrote Foxx a letter in June 2011 in support for H.R. 2117, explaining that the new rules put an undue burden on institutions and may interfere with online learning efforts that tend to cross state lines. The bill would prohibit the Secretary of Education from enforcing any regulation or rule that defines a credit hour and remove the requirement for state authorization of an institution.

Under the Higher Education Act (P.L. 89-329), any college or university participating in federal student aid programs must be authorized to provide a postsecondary educational program within the state. H.R. 2117 would repeal DoEd’s 2010 requirements for how an institution is authorized.

Senator Richard Burr (R-NC) has introduced a companion bill (S. 1297) in the Senate that has 24 cosponsors.

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10. Issa Will Not Seek Passage of Research Work Act, Elsevier Drops Support

After initially supporting the Research Works Act (H.R. 3699) when it was introduced in December of 2011, Elsevier released a statement on February 27 withdrawing support of the bill. H.R. 3699 would prevent any federal agency from disseminating any private-sector research paper without the permission of the publisher, author, or employer.

H.R. 3699 was introduced by Representative Darrell Issa (R-CA) and is cosponsored by Representative Carolyn Maloney (D-NY). The measure would prevent federal agencies from any type of “network dissemination” of “private-sector research” without the prior consent of the publisher, or the assent of the author or employer. “Private-sector research” is defined as an article intended to be published in a scientific journal describing or interpreting research funded by a federal agency to which the publisher has entered into an agreement to make a value-added contribution such as editing or peer review. Since Elsevier’s withdrawal of support, Issa has announced he will no longer seek passage of the bill.

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11. Boxer, Inhofe, and Cardin Introduce Water Research Bill

On February 14, Senators Barbara Boxer (D-CA), James Inhofe (R-OK), and Benjamin Cardin (D-MD) introduced the Water Resources Research Amendments Act of 2012 (S. 2104) to reauthorize funding for applied water supply research.

The bipartisan backed bill reauthorizes an amended version of the Water Resources Research Act of 1983 (P.L. 98-242). From 2006-2011 the program annually received \$12 million for institutions and \$6 million for competitive grants. The Water Resources Research Amendments Act of 2012 calls for five years of annual funding at \$7.5 million for institutions and \$1.5 million for competitive grants. Cardin said that past grants led to tools for the restoration of the Chesapeake Bay and the development of cost effective water resources strategies in West Virginia among other benefits. Cardin called the bill “an intelligent and necessary investment in the future of our water resources.” It has been referred to the Committee on Environment and Public Works where Boxer and Inhofe sit as chair and ranking member respectively.

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12. U.S. Joins U.N. Program to Reduce Methane and Black Carbon Emissions

Secretary of State Hillary Clinton announced the U.S. will participate in an international initiative to reduce methane, black carbon, and hydrofluorocarbons (HFC) emissions. The Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants will be administered by the United Nations Environment Program (UNEP). A recent study published in Science found that reducing the emissions of black carbon, or soot, and methane would slow global warming and save lives by preventing lung and cardiovascular disease.

At a joint press conference with Environmental Protection Agency (EPA) Director Lisa Jackson, Secretary Clinton said the coalition will “mobilize resources, assemble political support, help countries develop and implement a national action plan, raise public awareness, and reach out to other countries, [non-governmental organizations], and foundations.” The U.S. would be joined by Canada, Sweden, Mexico, Ghana, and Bangladesh and would contribute \$12 million for the first two years in addition to the \$10 million provided annually to the Global Methane Initiative and the \$10 million provided annually to the Global Alliance for Clean Cookstoves. The State Department has issued a fact sheet that explains the coalition and potential to reduce the impacts of global warming by limiting methane, black carbon, and HFC emissions.

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13. EPA Releases Draft GHG Report for Comment

On February 27, 2012, the Environmental Protection Agency released the draft 1990-2010 Greenhouse Gas Emissions Inventory for public comment. The report gives an overview of greenhouse gas emission sources and sinks and discusses causes for changes in emissions. Comments are due by March 28.

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14. Oil Spill Response System for Arctic

On February 7, the Bureau of Safety and Environmental Enforcement (BSEE) and the National Oceanic and Atmospheric Administration (NOAA) announced they will be enhancing the Environmental Response Management Application (ERMA) for the Arctic by the summer of 2012.

ERMA was first designed in 2007 and saw full implementation in 2010 during the BP Deepwater Horizon oil spill. ERMA brings together static and real time data through an interactive map that is continuously updated with oceanographic observations and weather data from NOAA as well as critical information from BSEE and a number of other agencies. Monica Medina NOAA Principal Deputy Undersecretary for Oceans and Atmosphere recently said, “Reconfiguring this application to meet the needs of responders in the remote marine Arctic environment could prove to be the most critical tool in effectively preparing for, responding to, and mitigating situations where limited assets, personnel and facilities exist.” NOAA and BSEE will educate the state of Alaska, local communities, academia, and industry on ERMA and how it will protect their communities. NOAA and

BSEE have stated their goal is to get ERMA up and running before any new oil and gas exploration begins in the Arctic.

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15. USGS Releases Shale Oil and Shale Gas Assessment for North Slope

On February 24, the United States Geological Survey (USGS) released the first assessment of shale oil and shale gas reserves of Alaska's North Slope. The estimates of technically recoverable resources range from 0 to 2 billion barrels of oil and 0 to 80 trillion cubic feet of natural gas.

The resource estimates were derived from USGS assessments of Mesozoic shale formations. The high degree of uncertainty in the estimates reflects the lack of drilling data for these deposits. The assessed formations are known to have produced large quantities of oil and natural gas that migrated and accumulated in the Prudhoe Bay field in the North Slope. This assessment explores the potential of oil and natural gas still trapped in these formations.

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16. Landsat Imaging Suspended for Additional 90 Days

The United States Geological Survey (USGS) announced in February 2012, the suspension of Landsat 5 Earth Imaging Operations for an additional 90 days. Landsat 5 imaging has been on hold since a transmission component started malfunctioning in November 2011.

The prolonged suspension allows the USGS Flight Operations Team to investigate means of getting the transmission component of the satellite's Thematic Mapper back online. The USGS said if continued attempts at recovering the component fail then they will attempt to get a second imaging instrument online. If both attempts fail the USGS will look to decommission the nearly 28 year old satellite. The USGS hopes to avoid any data gaps by launching Landsat 8 in January 2013 to replace Landsat 5 and supplement the aging Landsat 7. Further information on Landsat missions can be found on the USGS Landsat Missions web site.

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17. USGS Establishes California Volcano Observatory

The U.S. Geological Survey (USGS) established the California Volcano Observatory (CalVO) on February 9 to manage the volcanic threats of potentially active volcanoes in California and some in Nevada. CalVO will be based in Menlo Park, California and will assume the monitoring responsibilities of the former Long Valley Observatory while relieving the USGS Cascades Volcano Observatory in Vancouver, Washington of its monitoring responsibilities for Northern California.

CalVO will monitor active and potentially active areas including Mount Shasta, Medicine Lake Volcano, Clear Lake Volcanic Field, Lassen Volcanic Center, Long Valley Caldera, Mono-Inyo Craters, Salton Buttes, Coso Volcanic Field, the Ubehebe Craters in California and Soda Lakes in central Nevada. Under the Robert Stafford Disaster Relief and Emergency Assistance Act (P.L. 93-288), the USGS has the federal responsibility to issue warnings of potential volcanic disasters. The USGS operates four volcano observatories in addition to CalVO – the Cascades Volcano Observatory, the Yellowstone Volcano Observatory, the Alaska Volcano Observatory, and the Hawaiian Volcano Observatory. The establishment of CalVO is part of the USGS's efforts to build the National Volcano Early Warning System.

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18. EarthScope Transportable Array Seismic Station Reaches Florida

The National Science Foundation-funded EarthScope project includes a dense array of seismic instruments that are moving across the country. EarthScope announced on February 15, that its array station 457A is the first to reach the eastern coast of the United States.

EarthScope has been implementing seismic stations in 43 mile grids across the nation since starting on the West Coast in 2004. Data from the seismic stations is used to create three dimensional models of the Earth's crust and upper most mantle. These models provide a better understanding of the subsurface geologic structure of the United States. Each seismic station is online for two years and data collected by EarthScope instruments has been collected from 1,350 locations. Another 400 are expected to join Florida's "457A" on the eastern coast and will be on line by 2013. Once the array is done along the East Coast the instruments will be sent to Alaska to survey the geologic structure beneath the largest state in the union.

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19. USDA Releases Resource, Education, and Economics Action Plan

The Department of Agriculture (USDA) Resource, Education, and Economics (REE) Mission Area has released an action plan to identify and outline focused efforts in core agricultural research areas to establish a shared vision for USDA research across the department. REE is made up of the Agricultural Research Service, the National Institute of Food and Agriculture, Economic Research Service, and the National Agricultural Statistics Service.

The plan is organized around seven goals: local and global food supply and security; responding to climate and energy needs;

sustainable use of natural resources; nutrition and childhood obesity; food safety; education and science literacy; and rural prosperity/rural-urban interdependence. For each of the goals, the action plan defines REE's role and lists strategies and "actionable items" that it should undertake to reach those goals. Each actionable item is then assigned to one or more of the agencies within REE.

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20. AGU Issues Statement on Science Ethics After Gleick Incident

The American Geophysical Union (AGU) issued two statements regarding the inappropriateness of the actions of Peter Gleick and AGU's support for scientific integrity. Gleick resigned as chair of AGU's Task Force on Scientific Ethics citing personal reasons, hours before admitting that he lied to obtain internal documents from the Heartland Institute and then gave those documents to the media and others.

Gleick, President of the Pacific Institute for Studies in Development, Environment and Security, obtained internal documents from the Heartland Institute through misrepresentation and gave the documents to the media and others. After intense media scrutiny of the documents and outrage from Heartland over the privacy breach, Gleick admitted to obtaining and publicizing the documents. Gleick and Heartland have engaged in vitriolic arguments over climate change for some time, adding to the severity of the incident. Heartland is considering legal action and Gleick has taken a leave of absence from the Pacific Institute. Although Gleick apologized in his blog admission, it is likely significant damage has been done to science, scientific debate and the intersection of science and policy. In addition, as Michael Hiltzik suggests in a Los Angeles Times column, Gleick's actions may end up giving Heartland more momentum in their efforts to subvert the use of sound science in policy discussions.

AGU issued a press release on February 21 noting that Gleick resigned as chair of AGU's Task Force on Scientific Ethics and that Linda Gundersen, Director, Office of Science Quality and Integrity at the United States Geological Survey would be the new chair. AGU did not have any knowledge of Gleick's actions at the time of his resignation, but quickly prepared the press release after the blog admission by Gleick. On February 27, AGU President Michael McPhaden issued a statement about maintaining scientific integrity and the negative effects of Gleick's inappropriate actions.

The illicit, but now public documents have been reviewed by some policymakers and Representative Edward Markey (D-MA) has sent a letter to the Heartland Institute requesting original copies of the documents to investigate the institute's "efforts to influence science education and debate" according to a press release.

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21. AAAS Launches Web Site on Presidential Candidates' Views on Science

The American Association for the Advancement of Science (AAAS) has launched a web site that collects statements made by 2012 Presidential candidates on science and technology. Each page includes statements made by the candidates on science and technology issues including energy, the environment, climate change, competitiveness, innovation, education, and homeland security.

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22. Key Reports and Publications

*****Government Accountability Office (GAO)*****

Energy-Water Nexus: Information on the Quantity, Quality, and Management of Water Produced During Oil and Gas Production

Produced water is a chemically enhanced potentially harmful byproduct associated with oil and gas production. This Government Accountability Office report was conducted to investigate the practices undertaken in the disposal of produced water, the regulation of produced water at the state and federal level, and research and development done on produced water in the last ten years. The report found that the volume of produced water varied based off the hydrocarbon being produced, the geographic location of the well, and the method of production used. The quality of the produced water varied based off the same three factors, but was found to be predominantly poor and required treating prior to alternative uses. The report found that 90 percent of produced water is disposed of in underground wells designed for disposal. The management of this disposal is done through the Safe Water Drinking Act and by the Environmental Protection Agency (EPA). The report found that the last ten years has seen research and development by the EPA, U.S. Geological Survey, and the Department of Energy on various techniques for treating produced well water.

Department of Energy: Additional Opportunities Exist to Streamline Support Functions at NNSA and Office of Science Sites

This Government Accountability Office (GAO) report was designed to evaluate support functions at the Department of Energy's (DOE) 17 National Nuclear Security Administration (NNSA) sites and Office of Science sites in an attempt to make DOE more efficient. Officials from DOE and NNSA have focused on streamlining support functions in procurement, human resources, and

infrastructure. The total savings from this streamlining is inconclusive because of unclear DOE guidance in evaluating savings estimates. The GAO report recommended that DOE implement a quality control system, ensure streamlining steps are being taken at all 17 sites, and clarify guidance on estimating cost savings.

Departments of Defense and Energy Need to Address Potentially Duplicative Investments

Government investment in information technology was \$79 billion in fiscal year 2011. A Government Accountability Office (GAO) report was conducted to assess the overlap of funding for information technology between the Department of Defense (DOD), Department of Energy (DOE), and the Department of Homeland Security (DOH). The report found 37 of a sample group of 810 investments between the DOD and DOE that had potential overlaps in funding. These investments accounted for \$1.2 billion of the total information technology funding from 2007-2012. The GAO report did not identify any overlap in funding involving the DOH, but DOH independently identified several overlaps in funding.

Status of EPA's Efforts to Improve Its Management and Oversight of Special Accounts

The Superfund program of the Environmental Protection Agency (EPA) allows EPA to enter into agreements with potentially responsible parties for them to conduct a cleanup at hazardous waste sites or compel potentially responsible parties to do so. The agency is permitted to retain and use funds received from settlements in site-specific special accounts. EPA Headquarters is responsible for overseeing its regions' management of special accounts. This report examines the status of the Superfund special accounts and the extent to which headquarters has implemented previous recommendations to improve the monitoring and management of the accounts.

The Department of Energy's Office of Science Uses a Multilayered Process for Prioritizing Research

This report was requested by Congress to review how the Office of Science determines which research to pursue. The report describes the Office of Science's research priorities, how those priorities were established, and how the Office of Science coordinates with other federal agencies to identify and mitigate potential areas of duplication. The Government Accountability Office (GAO) found that the Office of Science uses many formal and informal mechanisms to coordinate with other DOE offices and other federal agencies that fund basic research.

*****National Academy of Sciences (NAS)*****

NASA Space Technology Roadmaps and Priorities: Restoring NASA's Technological Edge and Paving the Way for a New Era in Space

In 2010, the National Aeronautics and Space Administration's (NASA) Office of Chief Technologist released 14 draft roadmaps to guide the development of technologies in 14 strategic areas. The National Research Council was asked to review the roadmaps and this report ranks the top technological challenges and highest priority technologies that NASA should emphasize in the next five years. The report provides specific guidance on how the effectiveness of the new technologies can be enhanced in the current budget climate. The 14 different technology areas include launch propulsion systems, in-space propulsion technologies, space power and energy storage, robotics, communications and navigation, human health, human exploration destination systems, science instruments, descent and landing technologies, nanotechnology, modeling and simulation, materials, ground and launch systems processing, and thermal management systems.

Improving Measures of Science, Technology, and Innovation: Interim Report

This report examines the status of the National Center for Science and Engineering Statistics (NCSES) and their science, technology, and engineering indicators. The report provides near-term recommendations for revised and refocused indicators to better reflect changes shaping global science, technology, and engineering systems. Recommendations for near-term action include development of new policy-relevant indicators based on NCSES survey data and exploration of new data extraction and management tools for generating statistics. A complete report with final recommendations is expected in December 2012.

Effective Tracking of Building Energy Use: Improving the Commercial Buildings and Residential Energy Consumption Surveys

The Energy Information Administration (EIA) of the Department of Energy conducts two major surveys every year designed to collect energy consumption data from the residential and commercial sectors. The Commercial Buildings Energy Consumption Survey (CBECS) and the Residential Energy Consumption Survey (RECS) were developed in the 1970's and 1980's and resource limitations have prevented EIA from updating the data collections. This report makes recommendations to EIA for ways to update CBECS and RECS based on user needs and an assessment of new developments in relevant survey methods.

Challenges and Opportunities in the Hydrological Sciences

New technological capabilities in remote sensing, chemical analysis, computation, and modeling have broadened the opportunities for research in the hydrological sciences. Encouraging collaboration among hydrologists, engineers, and other scientists, this report organizes its recommended opportunities in interdisciplinary research in three chapters – the Water Cycle: An Agent of Change, Water and Life, and Clean Water for People and Ecosystems. The last National Academies report to recommend

opportunities for research in the hydrological sciences was published in 1991.

International Science in the National Interest at the U.S. Geological Survey

This report examines existing international projects at the U.S. Geological Survey (USGS) and includes opportunities for the USGS in international science for the next 5 – 10 years. International science projects undertaken by the USGS serve U.S. national interests by leveraging research capabilities in climate and ecosystem changes, natural disasters, spread of invasive species, and diminishing natural resources. While the report commends the USGS for carrying out many successful international projects in the past, it recommends that taking “a more coherent, proactive agency approach to international science would help the USGS participate in international science activities more effectively.”

Approaches for Ecosystems Services Valuation for the Gulf of Mexico After the Deepwater Horizon Oil Spill: Interim Report

The explosion on the Deepwater Horizon Oil rig in April 2010 left 11 dead, 17 injured, and 5 million barrels of spilled crude oil. The spill resulted in the closing of 80,000 square miles of vitally important fishing grounds in the U.S. Exclusive Economic Zone in the Gulf of Mexico resulting in a temporary loss of food and jobs. The U.S. Oil Pollution Act of 1990 called for a Natural Resources Damage Assessment (NRDA) to assess the “injury” of the situation on the public trust. This interim report provides the NRDA with options for the inclusion of an analysis of ecosystem services within the assessment.

Report of a Workshop on Science, Technology, Engineering, and Mathematics (STEM) Workforce Needs for the U.S. Department of Defense and the U.S. Defense Industrial Base

This report summarizes the findings of an 18 month study, discussed at a workshop held on August 11, 2011, on the Science, Technology, Engineering, and Mathematics (STEM) workforce trends for the U.S. Department of Defense (DOD) and the U.S. Defense Industrial Base. This report addresses whether the DOD has the STEM capabilities to meet the current and future demands required to meet its goals, objectives, and priorities.

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23. Key Federal Register Notices

DOE – The Wind Water and Power Program of the Department of Energy Office of Energy Efficiency and Renewable Energy has announced a funding opportunity titled, “U.S. Offshore Wind: Advanced Technology Demonstration Projects.” [Wednesday, February 1, 2012 (Volume 77, Number 21)]

EPA – A Memorandum of Understanding has been released between the Environmental Protection Agency and the Department of the Interior’s Bureau of Land Management to cooperate on reviewing and regulating pesticide activities under the Federal Insecticide, Fungicide, and Rodenticide Act. [Wednesday, February 1, 2012 (Volume 77, Number 21)]

DOE – There will be a meeting of the Ultra-Deepwater Advisory Committee on March 1, 2012 at the Houston, Texas. Details can be found in the notice. [Thursday, February 2, 2012 (Volume 77, Number 22)]

EPA – The Environmental Protection Agency’s National Center for Environmental Assessment has released its second external review Draft Integrated Science Assessment for Lead . Public comments are due on April 2, 2012. [Thursday, February 2, 2012 (Volume 77, Number 22)]

NPS – The National Park Service has announced its intent to adopt the Department of the Interior’s scientific integrity policy for its scientific and scholarly activities. [Friday, February 3, 2012 (Volume 77, Number 23)]

BOEM - The Bureau of Ocean Energy Management has released the form it intends to use to issue renewable energy leases on the outer continental shelf. [Friday, February 3, 2012 (Volume 77, Number 23)]

EPA – The Environmental Protection Agency (EPA) has announced the availability of BEACH Act grants for fiscal year 2012. These grants are available to all coastal and Great Lakes states that meet the requirements of the Clean Water Act. [Monday, February 6, 2012 (Volume 77, Number 24)]

DOI – The Department of the Interior has renewed the National Geospatial Advisory Committee in order to provide recommendations for a number of important geospatial management, development, and implementation programs. [Monday, February 6, 2012 (Volume 77, Number 24)]

NRC - The United States Nuclear Regulatory Commission has reopened the comment period for a draft on the “Common-Cause Failure Analysis in Event and Condition Assessment: Guidance and Research” report until March 2, 2012. [Monday, February 6, 2012 (Volume 77, Number 24)]

NRC – The United States Nuclear Regulatory Commission (NRC) has established a Memorandum of Understanding with the Department of Homeland Security (DHS) as required by the Energy Policy Act of 2005 that states NRC shall consult with DHS on the vulnerability of proposed nuclear power plant sites to terrorist attacks. [Tuesday, February 7, 2012 (Volume 77, Number 25)]

EPA – The Environmental Protection Agency (EPA) Science Advisory Board has announced an open teleconference on March 9, 2012 to discuss a draft review of the EPA’s Integrated Science Assessment for Ozone and Related Photochemical Oxidants.

[Thursday, February 9, 2012 (Volume 77, Number 27)]

EPA – The Environmental Protection Agency (EPA) Science Advisory Board announces a series of three public teleconferences on March 1, 2, 8, 2012, to discuss the President's FY 2013 Budget Request for the EPA Office of Research and Development.

[Thursday, February 9, 2012 (Volume 77, Number 27)]

NASA – The National Aeronautics and Space Administration (NASA) is announcing an open meeting of the Human Exploration and Operations Committee of the NASA Advisory Council on March 6-7, 2012 in Washington, DC. [Thursday, February 9, 2012 (Volume 77, Number 27)]

NASA – The National Aeronautics and Space Administration (NASA) is announcing an open meeting of the Information Technology Infrastructure Committee of the NASA Advisory Council on March 7, 2012 in Washington, DC. [Thursday, February 9, 2012 (Volume 77, Number 27)]

NASA – The National Aeronautics and Space Administration (NASA) is announcing an open meeting of the Science Committee of the NASA Advisory Council on March 6, 2012 in Washington, DC. [Thursday, February 9, 2012 (Volume 77, Number 27)]

NSF – The National Science Foundation is announcing an open meeting of the Advisory Committee for Environmental Research and Education on March 14-15, 2012 in Arlington, VA. [Thursday, February 9, 2012 (Volume 77, Number 27)]

EPA – The Environmental Protection Agency has announced the approval of two final permits for granting Clean Air Act Outer Continental Shelf applications, both for Shell drill ships in the Chukchi and Beaufort Seas. [Friday, February 10, 2012 (Volume 77, Number 28)]

FEMA – The Federal Emergency Management Administration (FEMA) is enacting the Disaster Assistance Recoupment Fairness Act of 2011. This will allow the administrator of FEMA the ability to erase all debt occurring from improper disaster relief payments from 2005-2010. [Monday, February 13, 2012 (Volume 77, Number 29)]

NRC – The Advisory Committee on Reactor Safeguards (ACRS) Subcommittee on Planning and Procedures will hold a public meeting on March 7, 2012 in Rockville, MD to discuss ACRS activities. [Monday, February 13, 2012 (Volume 77, Number 29)]

NRC – The Advisory Committee on Reactor Safeguards Subcommittee on Regulatory Policies and Practices will be holding a public meeting on March 6, 2012 in Rockville, MD to discuss the new Construction Reactor Oversight Process Pilot Program Plan. [Monday, February 13, 2012 (Volume 77, Number 29)]

NRC – The Advisory Committee on Reactor Safeguards Subcommittee on Reliability and PRA will be holding a public meeting on March 7, 2012 in Rockville, MD to discuss the draft Commission Report. [Monday, February 13, 2012 (Volume 77, Number 29)]

NSF – The National Science Foundation is announcing a teleconference meeting of the Astronomy and Astrophysics Advisory Committee on March 2, 2012 to receive agency suggestions on areas of mutual interest and concern within the field of astronomy and astrophysics. [Tuesday, February 14, 2012 (Volume 77, Number 30)]

EPA – The Environmental Protection Agency is rescheduling an open meeting of National Advisory Council for Environmental Policy and Technology to the new date of March 26, 2012 in Washington, DC. [Wednesday, February 15, 2012 (Volume 77, Number 31)]

EPA – The Environmental Protection Agency is requesting nominations to fill vacancies on the National Advisory Committee and the Governmental Advisory Committee to the U.S. Representative to the Commission for Environmental Cooperation by March 31, 2012. [Wednesday, February 15, 2012 (Volume 77, Number 31)]

USFS – The United States Forest Service announces a request for applications to the Community Forest and Open Space Conservation Program, which is a grant program that allows eligible groups to apply for grants that would establish community forests through fee acquisition of private forest land. [Wednesday, February 15, 2012 (Volume 77, Number 31)]

DOE – The Department of Energy (DOE) and the National Science Foundation (NSF) are announcing a meeting of the DOE/NSF Nuclear Science Advisory Committee on March 6, 2012 in Bethesda, MD. [Thursday, February 16, 2012 (Volume 77, Number 32)]

NASA – The National Aeronautics and Space Administration (NASA) is announcing an open meeting of the Education and Public Outreach Committee of the NASA Advisory Council on March 5, 2012 in Washington, DC. [Friday, February 17, 2012 (Volume 77, Number 33)]

NASA – The National Aeronautics and Space Administration (NASA) is announcing an open meeting of the Technology and Innovation Committee of the NASA Advisory Council on March 6, 2012 in Washington, DC. [Friday, February 17, 2012 (Volume 77, Number 33)]

NSF – The National Science Foundation is announcing an open meeting of the U.S. Antarctic Program Blue Ribbon Panel Review on March 5, 2012 in Arlington, VA to discuss the nation's twenty-year plan for conducting science in Antarctica. [Friday, February 17, 2012 (Volume 77, Number 33)]

NASA – The National Aeronautics and Space Administration (NASA) is announcing an open meeting of the NASA Advisory Council on March 8, 2012 in Washington, DC. [Tuesday, February 21, 2012 (Volume 77, Number 34)]

DOE – The Department of Energy is announcing an open meeting of the Electricity Advisory Committee on March 5-6, 2012 in Washington, DC to discuss activities of their various subcommittees. [Wednesday, February 22, 2012 (Volume 77, Number 35)]

DOE – The Department of Energy is announcing an open meeting of the Ultra-Deepwater Advisory Committee on March 8, 2012 in Washington, DC to provide the Secretary of Energy with advice on the development and implementation of programs relating to ultra-deepwater architecture and technology. [Wednesday, February 22, 2012 (Volume 77, Number 35)]

DOE – The Department of Energy is announcing an open meeting of the Unconventional Resources Technology Advisory Committee on March 8, 2012 in Washington, DC to provide the Secretary of Energy with advice on the development and implementation of programs related to unconventional oil and natural gas plays. [Wednesday, February 22, 2012 (Volume 77, Number 35)]

NRC – The Nuclear Regulatory Commission is announcing a public meeting on March 2, 2012 in Phoenix, AZ to discuss revisions to the framework of the management of low level nuclear waste. [Wednesday, February 22, 2012 (Volume 77, Number 35)]

PCAST – There will be a public meeting of the President's Council of Advisors on Science and Technology on March 9, 2012 in Washington, DC where the council will receive an update of science and technology activities. [Thursday, February 23, 2012 (Volume 77, Number 36)]

EPA – The Environmental Protection Agency is requesting nominations for the Local Government Advisory Committee, a committee of local government officials that will inform the EPA administrator on environmental issues affecting their communities. [Thursday, February 23, 2012 (Volume 77, Number 36)]

NASA – The National Aeronautics and Space Administration (NASA) has announced a meeting of the Earth Science Subcommittee of the NASA Advisory Council on March 21 in Washington, DC. [Tuesday, February 28, 2012 (Volume 77, Number 39)]

USGS – The United States Geological Survey (USGS) is announcing an open meeting of the Scientific Earthquake Studies Advisory Committee on March 29-30 at USGS Headquarters in Reston, VA in which the committee will advise the Director of the USGS on matters pertaining to USGS participation in the National Earthquake Hazards Reduction Program. [Wednesday, February 29, 2012 (Volume 77, Number 40)]

NSF – The National Science Foundation (NSF) has announced the establishment of the Advisory Committee for Innovation Corps to provide advice to NSF on the I-Corps program. [Wednesday, February 29, 2012 (Volume 77, Number 40)]

NSF – The National Science Foundation is announcing the newest members of their Senior Executive Service Performance Review Board. The list of member can be found in the notice. [Wednesday, February 29, 2012 (Volume 77, Number 40)]

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24. Key AGI Geoscience Policy Updates

- [Hearing on DOI Budget Proposal for FY 2013 \(2/21/12\)](#)
- [Hearing on Nuclear Waste Policy \(2/6/12\)](#)
- [Hearing on EPA Hydraulic Fracturing Study \(2/6/12\)](#)
- [Hearing on Global Energy Outlook 2012 \(2/3/12\)](#)

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Monthly Review prepared by Wilson Bonner and Linda Rowan, Geoscience Policy Staff; and Aaron Rodriguez, AAPG/AGI Spring 2012 Intern.

Sources: Associated Press, AAAS, Environment and Energy Daily, Greenwire, New York Times, Washington Post, National Academies Press, Government Accountability Office, Open CRS, Thomas, House of Representatives, U.S. Senate, the White House, Department of Energy, Department of the Interior, National Aeronautics and Space Administration, Environmental Protection Agency, National Science Foundation, National Oceanic and Atmospheric Administration, Nuclear Regulatory Commission, Bureau of Safety and Environmental Enforcement, Department of State, Department of Commerce, United Nations, Department of Education, Department of Defense, Department of State, Department of Agriculture, American Geophysical Union, Elsevier, American Council on Education and National Education Association.

This monthly review goes out to members of the AGI Geoscience Policy Committee, the leadership of AGI's member societies, and others as part of a continuing effort to improve communications about the role of geoscience in policy. For additional information on specific policy issues, please visit the web site or contact us at govt@agiweb.org or (703) 379-2480.

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