

## Monthly Review: March 2013

*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. Subscribe to receive the Geopolicy Monthly Review by email.*

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### **1. AGI Conducting Assessment of the Sequester's Impact on the Geosciences**

On March 1, the Federal Government's discretionary spending accounts were cut by \$85 billion through the rest of the fiscal year. These across-the-board spending reductions, known as the sequester, were first proposed in 2011 as a penalty so severe they would force Congress to work together to solve the nation's deficit woes. Unfortunately, no agreement on a package of replacement cuts or additional revenue was made in time to avoid the sequester. To assess the sequester's impact on the geosciences, AGI will be administering weekly surveys gauging individuals' experiences with the sequester as it relates to their professional situations. We greatly appreciate your participation, as your responses will provide us with valuable insights and real-life reports about how the sequester is, or, alternatively, is not affecting geoscientists' ability to address our nation's critical needs.

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### **2. Congressional Visits Day in 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 at this year's Geoscience Congressional Visits Day (GEO-CVD) on September 17-18, 2013.

Decision makers need to hear from geoscientists. Become a citizen geoscientist and join many of your colleagues for a workshop followed by a day of conducting visits with members of Congress or congressional staff on Capitol Hill to speak about the importance of geoscience research, development, and education.

Please send an email to [bonner@agiweb.org](mailto:bonner@agiweb.org) for more information or to sign up.

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### **3. AGI Seeks Geoscience Policy Associate**

The American Geosciences Institute, a non-profit federation of 49 geoscience societies, seeks a policy staff member. Primary duties and responsibilities include: monitoring, analyzing, and reporting on appropriations bills, legislation, and policy developments in geoscience-related issues; managing a website and social media accounts; handling logistics for Congressional visits, internship and fellowship programs; and fostering information flow between the geosciences community and policymakers. The preferred candidate will have exceptional, demonstrable, written and oral communication and organizational skills; experience in public policy (especially with the federal government and the U.S. Congress); a degree in the physical sciences—a geosciences background is strongly preferred; and familiarity with social media communications. Position will remain open until filled. EOE

Candidates should submit a cover letter with resume, salary requirements, and the names and contact information of three references (as one Word or PDF document) to [jobs@agiweb.org](mailto:jobs@agiweb.org). Inquiries only to [govt@agiweb.org](mailto:govt@agiweb.org).

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### **4. AGI's 2013 AAPG/AGI Fall Internship Applications Due April 15**

The American Geosciences Institute's Geoscience Policy program offers summer and semester internship opportunities for geoscience students (undergraduate students 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, 2013 for spring 2014.

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 Wilson Bonner at [bonner@agiweb.org](mailto:bonner@agiweb.org) for more information.

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### **5. Obama Announces Nominations to Head DOE, EPA, and NRC**

President Obama announced in March 2013 his nomination of Ernest Moniz for Secretary of Energy, Gina McCarthy for administrator of the Environmental Protection Agency (EPA), and Allison Macfarlane for a complete term as chairwoman of the

Nuclear Regulatory Commission (NRC).

Ernest Moniz would replace outgoing Secretary of Energy Steven Chu. Moniz is a nuclear physicist at the Massachusetts Institute of Technology (MIT) and heads the MIT Energy Initiative (MITEI) and the Laboratory for Energy and the Environment. A hearing on his nomination is scheduled for April 9, 2013 before the Senate Committee on Energy and Natural Resources.

Gina McCarthy would replace former EPA administrator Lisa Jackson. Currently, McCarthy is the assistant administrator for the EPA's Office of Air and Radiation. Allison Macfarlane has been nominated to continue as chairwoman of the NRC for a five-year term. She has served as interim chairwoman for the past nine months after former chairman, Gregory Jazcko, stepped down amid controversy in July. Macfarlane is a geologist and former professor at George Mason University.

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#### **6. PCAST Announces Key Components for Addressing Climate Change**

The President's Council of Advisors on Science and Technology (PCAST) released a report to President Obama on March 22, 2013 identifying six key components for addressing climate change.

The report lists national preparedness, decarbonizing the economy, leveling the "playing field for clean-energy and energy-efficiency technologies," continuing next-generation clean-energy technology research, increasing U.S. global leadership on climate change, and initiating a Quadrennial Energy Review as key steps the government must make to respond to climate change. The letter highlights the need to take action to mitigate as well as adapt to the impacts of climate change.

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#### **7. Obama Advocates for Creating Energy Security Trust**

President Obama delivered his March 16, 2013 weekly address from the Argonne National Laboratory. In his address, he reiterated the need for an "all-of-the-above" energy strategy and his support for the creation of an Energy Security Trust to apply offshore oil and gas revenues from public lands to research into transitioning cars and trucks away from oil.

Obama indicated that the \$2 billion trust would lessen the spikes in oil prices at the pump and carbon emissions while generating jobs and saving money. The funds would support research into technology such as more efficient batteries as well as biofuel, biocell, natural gas, and electricity powered vehicles. Chairman Lamar Smith (R-TX) of the House Science, Space and Technology Committee and Subcommittee on Energy Chairwoman Cynthia Lummis (R-WY) criticized the trust for not effectively addressing the country's energy challenges and not opening additional public lands for production. House Energy and Commerce Ranking Member Henry Waxman (D-CA) praised the proposal.

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## **8. Appropriations Update for March 2013**

The House and Senate passed the Consolidated and Further Continuing Appropriations Act, 2013 (H.R. 933) in March to fund the federal government through the end of fiscal year (FY) 2013. The President signed the bill on March 26. The budget process for FY 2014 is expected to pick up in April after the President releases his budget request on April 10.

H.R. 933 essentially maintains funding at FY 2012 levels for the rest of the fiscal year but subtracts \$85 billion in required cuts as a result of sequestration. The sequester was first proposed in the Budget Control Act of 2011 (P.L. 112-25) and modified in the American Taxpayer Relief Act of 2012 (P.L. 112-240). Because Congress could not agree on a deficit reduction measure by March 1, mandated spending caps for discretionary accounts will be in place through FY 2021 though these could be modified through later congressional action.

H.R. 933 is a hybrid of appropriations bills and a continuing resolution. The original House bill contained the Defense and Military Construction appropriations bill and the Veterans Affairs appropriations bill along with a CR for the remaining accounts. The Senate added the Commerce, Justice, Science (CJS); Agriculture; and the Homeland Security appropriations bills. The CJS appropriations bill funds the National Science Foundation (NSF), the National Institute for Standards and Technology (NIST), the National Oceanic and Atmospheric Administration, and the National Aeronautics and Space Administration (NASA). Senate Appropriations Committee Chairwoman Barbara Mikulski (D-MD) stated on the Senate floor that “the Senate bill provides [NSF] \$220 million more than the House CR” and committee documents predict that amount will provide funding for 550 more grants than the House bill.

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## **9. Senate Energy Committee Approves Sally Jewell Nomination**

The Senate Committee on Energy and Natural Resources approved the nomination of Sally Jewell to be the next Secretary of the Interior on March 21, 2013 with a vote of 19-3. The nomination now goes to the full Senate for consideration.

Three senators opposed the nomination: John Barrasso (R-WY), Mike Lee (R-UT), and Tim Scott (R-SC). Barrasso indicated concerns over Jewell’s level of experience and what he considered incomplete responses to committee questions. Committee Chairman Senator Ron Wyden (D-OR) praised Jewell for her love of the outdoors and various careers in petroleum geology, banking, and business.

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## **10. Multiple New Critical Minerals Bills Introduced in House**

Several members of the House Natural Resources Committee introduced critical minerals legislation in March. All three of the bills were first introduced in the 112th Congress.

On March 12, 2013, Representative Doug Lamborn (R-CO) introduced the National Strategic and Critical Minerals Policy Act of 2013 (H.R. 1063) to mandate that the Department of the Interior evaluate the nation’s supply of and foreign dependence on critical minerals. Representatives Hank Johnson (D-GA) and Ed Markey (D-MA) introduced the Resource Assessment of Rare Earths Act of 2013 (H.R. 981) on March 6, 2013 to require a survey of global rare earth element resources. On February 15, 2013, Representative Mark Amodei (R-NV) introduced the Critical and Strategic Minerals Production Act (H.R. 761) to increase mine permitting efficiency. H.R. 761 would characterize all mines that “will provide strategic and critical minerals” to be considered an “infrastructure project” as defined by an Executive Order (EO) issued in March 2012. In the EO, all infrastructure projects deemed regionally and nationally significant will be reviewed by a Steering Committee of multiple federal agencies in an effort to reduce the amount of time it takes to make permitting decisions. The bill would designate the federal agency responsible for issuing a mineral exploration or mine permit as the lead agency and require that agency to coordinate and consult with other permitting agencies to minimize permitting delays. The House Committee on Natural Resources Subcommittee on Energy and Mineral Resources held a hearing on March 21, 2013 to examine recently introduced legislation on mining and critical minerals.

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## **11. Soda Ash Bill Seeks to Reduce Royalties**

On March 5, 2013, Representative Cynthia Lummis (R-WY) introduced the American Soda Ash Competitiveness Act (H.R. 957) to temporarily decrease the soda ash royalty rate. For five years, the bill reduces royalties on sodium compounds and related products produced on federal lands to two percent from the current six percent. The current rate was set in October 2011.

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## **12. House Helium Bill Approved by Natural Resources Committee**

The House Committee on Natural Resources held a full committee markup of the proposed Responsible Helium Administration and Stewardship Act (H.R. 527) on March 20, 2013. The bill, which aims to keep the Federal Helium Reserve open past its projected closure date later this year, was approved unanimously in committee by voice vote. The Federal Helium Reserve provides 42 percent of the domestic and 35 percent of the global helium supply.

The Helium Preservation Act of 1996 (P.L. 104-273) directed the Bureau of Land Management (BLM) to sell the helium supply until the Reserve's debt was paid. The debt is set to be paid in October and the Reserve will close ahead of the predicted closure date with significantly more helium remaining than the target amount.

H.R. 527 would keep the Federal Helium Reserve open until nearly all the helium is sold, raise BLM helium prices closer to market value, establish a semiannual auction, improve transparency, and prevent supply disruptions. It would require studies of international and domestic helium resources as well as the development of domestic and global helium demand forecasts, domestic helium use accounts, and assessments and research into the extraction and refining of the isotope helium-3 and the viability of creating a facility to separate the isotope helium-3.

During a hearing on February 14, 2013, helium refiners and distributors expressed concern that the auctions would occur too frequently, preventing them from making long term contracts and adding uncertainty to the market.

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## **13. Senate Committee Releases Draft Helium Legislation**

On March 22, 2013, Senators Ron Wyden (D-OR) and Lisa Murkowski (R-AK) released draft legislation addressing the impending closure of the Federal Helium Reserve later this year and request comments on the draft before introducing legislation during the spring. The draft proposes establishing an auction of 10 percent of the reserve in fiscal year (FY) 2015 and increasing the percentage auctioned annually by another 10 percent. Operation would remain unchanged for FY 2013 and 2014. Wyden and Murkowski are the chairman and ranking member, respectively, of the Senate Committee on Energy and Natural Resources.

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## **14. House Democrats Introduce Oil and Natural Gas Export Bills**

On March 14, 2013, Representative Ed Markey (D-MA) introduced three bills regarding export of oil and natural gas: the Keep America's Oil Here Act (H.R. 1190), Keep American Natural Gas Here Act (H.R. 1191), and American Natural Gas Security and Consumer Protection Act (H.R. 1189).

H.R. 1190 and H.R. 1191 would prohibit the export of oil and natural gas produced on federal lands. These bills would apply to new leases. H.R. 1189 alters the permitting process for export of liquefied natural gas (LNG) allowing permits when export is deemed in the "public interest."

Markey and Representative Rush Holt (D-NJ) cited, as the motivation behind these bills, concerns that increasing or allowing exports will result in higher oil and natural gas prices for Americans. With the U.S. producing oil and natural gas at record levels, the prospect of exporting increases. In evaluating a trade partners for exports, the DOE would consider the impact on consumers, jobs, national security, and greenhouse gas emissions when determining "public interest." Currently, trade with free-trade partners is rapidly approved while non-free-trade partner applications face heavy scrutiny.

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## **15. Legislation on Oil Royalties and Tax Deductions Introduced in Senate**

On March 18, 2013, Senator Dianne Feinstein (D-CA) introduced the Deepwater Drilling Royalty Relief Prohibition Act (S. 598) ending royalty payment exemptions for new leases for offshore drilling in water over 400 meters deep. The same day, Senator Bill Nelson (D-FL) introduced the Oil Spill Tax Fairness Act (S. 599) to keep companies from claiming offshore oil spill clean-up and legal fees as tax deductions.

Both senators cited the 2010 BP Deepwater Horizon oil spill as the motivation for the development of these two bills. They argued that the federal government should not provide incentives such as royalty exemptions and tax deductions to encourage offshore drilling or reward companies paying to clean-up a spill. Nelson's bill exempted clean-up of disasters caused by nature or war.

Feinstein claimed that, given the current budget deficit, the government needs to collect royalties.

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#### **16. NASA and USGS Release First Images from Landsat 8**

The National Aeronautics and Space Administration (NASA) and the U.S. Geological Survey (USGS) released the first image collected by the Landsat Data Continuity Mission (LDCM), or Landsat 8.

The image, taken at 1:40 pm EDT on March 18, 2013, covers the intersection of the Rocky Mountain Front Ranges and Great Plains in Colorado and Wyoming. The Operational Land Imager (OLI) captured the natural color image as well as the near infrared and short wave infrared bands. The Thermal Infrared Sensor (TIRS) simultaneously imaged the surface using two longer wavelength thermal infrared bands to record surface emitted heat.

LDCM launched February 11, 2013 and is currently undergoing checkout procedures with NASA who plans to transfer the satellite to USGS in May 2013. Future images collected simultaneously with Landsat 7 will allow cross-calibration of the LDCM sensors with Landsat 7's Enhanced Thematic Mapper-Plus instrument.

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#### **17. Keystone XL Pipeline Draft Environmental Impact Statement Released**

On March 1, 2013, the Department of State released the draft of the Supplemental Environmental Impact Statement (EIS) for the proposed Keystone XL pipeline that would connect Canada's oil sands to refineries on the Gulf Coast.

The report did not make a recommendation regarding approval or rejection of the pipeline application but concluded that Keystone XL will have little impact on the rate at or the extent to which Canada develops the oil sands. The EIS indicated that the pipeline poses no significant risk to nearby resources. The State Department is accepting public comments on the draft EIS to be submitted by April 22, 2013.

The 2013 EIS reviewed the 2012 proposal which takes into account concerns that contributed to the 2008 proposal's rejection. The 2012 proposal shortens the pipeline and follows a route that avoids environmentally sensitive areas in Nebraska.

Some consider the draft a sign that President Obama is leaning toward approving the pipeline; however, the Administration will not make a decision until later this summer. Environmentalists disagreed strongly with the draft findings and criticized the validity of the EIS based on the use of contractors linked with the oil industry.

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#### **18. Interior Reviews Shell's Arctic Drilling Practices**

On March 14, 2013, Secretary of the Interior Ken Salazar announced the release of the Department of the Interior (DOI) review evaluating Shell's 2012 Arctic operations and providing recommendations for Shell's future drilling efforts.

The review criticized Shell's lack of preparation, failure to finalize the containment system, and mismanagement of contractors. DOI recommended Shell submit a comprehensive, integrated, Arctic-specific plan outlining all stages of the operation as well as undergo a full management review by a third party. The review praised Shell for their level of communication with Alaskan native communities.

In 2012, Shell began their drilling program in the Beaufort and Chukchi Seas offshore Alaska. The company faced a number of problems including failing to obtain certification of its containment vessel *Arctic Challenger*, difficulty deploying *Arctic Challenger's* containment dome, and troubles transporting drilling rigs. Shell has suspended its 2013 offshore drilling plans due to damage sustained by one drill ship and the need for further preparation.

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#### **19. BLM Approves Utah Helium Project**

The Bureau of Land Management (BLM) approved a project on March 25, 2013 to develop the Harley Dome helium resource in eastern Utah.

Flatirons Resources, LLC will drill a 1,100 foot exploratory well and, if production is proved to be technologically and economically viable, build a 1.4 mile pipeline to transport the gas to a plant that will extract and compress the gas for truck



transport. BLM cited no significant impact from the project. Approval of the project comes as Congress seeks to address and avoid the approaching early closure of the Federal Helium Reserve set to occur in October.

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## **20. DOI Reducing Mineral Revenue Payments to States**

The Department of the Interior (DOI) announced that it will be cutting mineral revenue payments to 36 states by around five percent, or \$109 million, due to sequestration. In letters to each state, DOI indicated that reductions will take place through July 2013, but may continue through the end of the fiscal year (FY). Wyoming, New Mexico, Utah, Colorado, and California face the largest losses as they receive the majority of the annual \$2.1 billion (FY 2012) paid to all states annually.

Wyoming expects a reduction of \$53 million for FY 2013, from its FY 2012 level of \$955 million. New Mexico will lose \$26 million, Utah \$8.7 million, Colorado \$8.4 million, and California \$5.5 million.

Some governors protest that they have not received sufficient advanced notice to prepare for such large cuts while others fear more reduction are headed their way. Governor Matt Mead (R-WY) objected to the legality of the reductions citing that federal law dictates state mineral revenue payments; however, according to the Office of Management and Budget, these funds are subject to sequestration reductions. He indicated the possibility of legally challenging DOI's decision.

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## **21. Forest Service to Reopen Caves Out West**

On March 25, 2013, the U.S. Forest Service (USFS) released the report titled, "Environmental Assessment for Cave and Abandoned Mine Management for White-Nose Syndrome." The agency plans to reopen most of the USFS caves closed since August 2010 in Colorado, Wyoming, Kansas, Nebraska and South Dakota.

Cave closure occurred over concerns that humans could spread white-nose syndrome to bats in these states which currently are not affected by the disease. Restrictions on entering caves with hibernating bats during winter or using gear previously used in states experiencing white-nose syndrome aim to minimize the risk to bats of contracting the disease. Decontamination procedures will also be put in place for cavers.

White nose syndrome refers to the fuzzy white fungal spores visible on the nose, ears, and wings of an infected bat caused by a fungal pathogen that attaches itself to the hair and exposed skin of bats causing lesions and burning holes in their wings so they can no longer fly. The fungi can kill as much as ninety percent of a hibernating bat colony and has killed an estimated seven million bats in eastern North America since its discovery in 2006. For more information on white-nose syndrome in bats, please refer to the AGI Environmental Policy web page.

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## **22. EPA Creates Hydraulic Fracturing Advisory and Review Panel**

On March 24, 2013, the Environmental Protection Agency's (EPA) Science Advisory Board announced the establishment of the Hydraulic Fracturing Research Advisory Panel. Composed of 31 experts, the panel will independently review EPA's draft report evaluating the effects of hydraulic fracturing on drinking water. EPA plans to release the draft report in late 2014.

The panel and the public will have an opportunity to comment on the study's progress report at a meeting on May 7 and 8, 2013. The report is the preliminary result of Congress's directive to EPA to investigate possible contamination of drinking water due to hydraulic fracturing and potential associated health issues. The panel has experts in "Petroleum/Natural Gas Engineering; Petroleum/Natural Gas Well Drilling; Hydrology/Hydrogeology; Geology/Geophysics; Groundwater Chemistry/Geochemistry; Toxicology/Biology; Statistics; Civil Engineering; and Waste Water and Drinking Water Treatment."

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## **23. New Power Plant Carbon Dioxide Emissions Rule Likely Delayed by EPA**

The Environmental Protection Agency (EPA) is scheduled to release its final rule limiting greenhouse gas (GHG) emissions from new or modified power plants on April 13 but most expect the agency to delay the rule once again. The agency has received over 2 million comments on the proposed rule.

EPA first proposed the New Source Performance Standard (NSPS) on April 13, 2012 which limited both coal-fired and natural gas-fired power plants to 1,000 pounds of carbon emission per megawatt-hour. The standard as it was proposed could only be achieved

by natural gas-fire power plants and would require coal-fired power plants to implement carbon capture technology. Critics of the proposed rule point out it would be an effective ban on coal-fired power plants since carbon capture and sequestration (CCS) technologies are not commercially viable.

On March 14, 2013, Senators Joe Manchin (D-WV), Joe Donnelly (D-IN), Heidi Heitkamp (D-ND), and Mary Landrieu (D-LA) wrote a letter to President Obama urging an alternative rule that would treat coal-fired and natural gas-fired power plants as separate categories.

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#### **24. NOAA Report Details Increasing Coastal Population**

On March 25, 2013, the National Oceanic and Atmospheric Administration announced the release of the National Coastal Population Report: Population Trends from 1970 to 2020. Analysis of data from the U.S. Census Bureau indicates an increase in coastal population from 123 million to almost 134 million people by 2020. Such a migration, NOAA noted, would leave more people facing extreme storms and risk the health of nearby ecosystems.

The report tracks population data for 769 coastal watershed counties and 452 coastal shoreline counties. The former include counties along watersheds that flow to the coast while the latter border the coast and Great Lakes. Coastal watershed counties are home to 52 percent of the American population while 39 percent live in coastal shoreline counties. Not including Alaska, the watershed counties make up less than 20 percent of the entire U.S. land area and the combined area of shoreline counties accounts for less than 10 percent. Between 1970 and 2010, 50.9 million people moved into coastal watershed counties and 34.8 million moved to coastal shoreline counties. This represents a population increase in each sector of 45 percent and 39 percent, respectively.

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#### **25. Final Report on NOAA R&D Issued**

On March 27, 2013, the National Oceanic and Atmospheric Administration (NOAA) released their final report evaluating research and development (R&D) at NOAA titled, “In the Nation’s Best Interest: Making the Most of NOAA’s Science Enterprise.” The report notes that, as coastal zones experience more the effects of climate change and extreme weather, NOAA R&D will become increasingly vital. It calls for following recommendations in the Next Generation Strategic Plan and, specifically, for budget flexibility to shift R&D funds as needed.

The report outlines six recommendations to help better focus NOAA R&D on areas of greatest importance: increase the Chief Scientist’s responsibility and budget authority, “maintain a strong core of internal scientists” focused on NOAA R&D priorities, involve the “extramural research community” in a “stable and consistent” manner, “develop a strong internal and external research capability in the socioeconomic and integrated ecosystem sciences,” “ensure that the nation’s science and information needs are met by NOAA’s observation and data sharing systems,” and “obtain budget flexibility... [for] eliminating or consolidating duplicative R&D and research unrelated to NOAA’s strategic priorities.” NOAA also points out that it has only “approximately 2 [percent] of the research budget of the National Institutes of Health (NIH).”

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#### **26. DOD Releases Report on Stockpile Requirements for Critical Materials**

In its regular report to Congress on potential problems arising in a conflict scenario regarding strategic and critical minerals, the Department of Defense (DOD) reports potential shortfalls for 23 materials out of 76 investigated as part of the exercise. The report is titled, “Strategic and Critical Materials 2013 Report on Stockpile Requirements.”

DOD reported that the potential shortfalls could be mitigated through substitution, increased buys of foreign supplies from friendly nations, and reduced usage in exported goods. The report claims that a “substantial share” of the originally estimated shortfalls could be mitigated through options other than “traditional stockpiling.”

The report details the strategy for each specific mineral and material except for four which are kept classified. Some of the minerals and materials that the report examines are tin, antimony, yttrium, tungsten, tantalum, bismuth, beryllium metal, terbium, and scandium.

DOD is required to recommend authorizations for mineral stockpiling by the Strategic and Critical Materials Stock Piling Act (50 U.S.C. Sec. 98d(a)(1)).



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## **27. Japan Produces Methane Gas from Marine Hydrates**

On March 12, the Japan Oil, Gas and Metals National Corporation (JOGMEC) began the first successful extraction of methane gas from marine methane hydrates.

JOGMEC utilized depressurization to free methane gas from hydrates located 300 meters below the seafloor in the Nankai Trough, 80 kilometers off the Pacific coast of central Japan. The production test ceased on March 18, and resulting data analysis will indicate if gas can be produced at commercially viable levels. Provisional data indicates that during the six day test, the well produced 120,000 cubic meters of natural gas with an average daily production of 20,000 cubic meters.

An estimated 1.1 trillion cubic meters of methane hydrates reside in the marine sediments around Nankai. Such a reserve could replace all of Japan's liquid natural gas (LNG) imports for 11 years. As Japan's once prominent nuclear program faces an unsure future and the country depends on imported energy resources, methane hydrates offer the possibility of a domestic energy source for Japan. Japan aims for technologically and economically viable production levels in five years.

Methane hydrates, or clathrates, are methane (CH<sub>4</sub>) molecules surrounded by solid water-ice lattices that form in high pressure and low temperature regions. Outside this stable zone the methane gas dissociates from the lattice structure and, if ignited, appears as "burning ice."

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## **28. ASCE Releases America's Infrastructure Report Card**

The American Society of Civil Engineers (ASCE) released the 2013 Report Card for America's Infrastructure on March 19, 2013 granting the nation an average grade of D+ compared to 2009's D.

The report card graded 16 categories: aviation (D), bridges (C+), dams (D), drinking water (D), energy (D+), hazardous waste (D), inland waterways (D-), levees (D-), ports (C), public parks and recreation (C-), rail (C+), roads (D), schools (D), solid waste (B-), transit (D), and wastewater (D). No grade decreases were recorded and grades increased for solid waste, drinking water, wastewater, roads, bridges, and rail. ASCE noted that improvement will require an estimated \$3.6 trillion by 2020.

ASCE analyzed the current state of and investment needed in infrastructure for all 50 states and provided information on state projects aimed at improving infrastructure. Grading was based on "capacity, condition, funding, future need, operation and maintenance, public safety, resilience, and innovation." ASCE releases the report card every four years.

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## **29. Resources for the Future Releases Shale Gas and Environment Report**

Resources for the Future released the report titled Pathways to Dialogue: What the Experts Say about the Environmental Risks of Shale Gas Development. The report presents results from a survey of experts from government agencies, industry, academia, and nongovernmental organizations that characterizes what each group views as risks associated with shale gas development that are currently not adequately addressed by government and industry. Respondents exhibited a high level of consensus. More expressed concern over the impact of shale gas on surface water than on groundwater. Other agreed-upon risks were related to casing and cement leaks, roads, well pads, and pipelines.

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## **30. Pennsylvania College Dedicates Campus to Petroleum and Natural Gas Studies**

Lackawanna College announced on March 13, 2013 that its New Milford branch will be home to the new School of Petroleum and Natural Gas, offering two Associates of Science Degrees: Petroleum and Natural Gas Technology, and Natural Gas Compression Support Technology.

The decision to dedicate the campus to petroleum and natural gas studies stems from the region's increased need for graduates in such fields caused by the boom in natural gas production in the Marcellus Shale.

Industry partners supporting the school include Anadarko, Cabot Oil & Gas, Chesapeake Energy Corp., Williams Midstream, and Southwestern Energy. Students will be trained to fill a variety of petroleum technologist and technician positions. Continuing education courses will also be available. The school will enroll 50 students per class and currently reports a job placement rate of

about 90 percent.

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### **31. Key Reports and Publications**

#### **\*\*\*National Academies\*\*\***

##### **Emerging Workforce Trends in the U.S. Energy and Mining Industries: A Call to Action**

The National Research Council conducted a study, at the request of the Department of Energy's National Energy Technology Laboratory, of current state of the nation's energy and mining workforce and the projected availability of qualified individuals to fill future positions. The report noted that the majority of workers in the industry are 45 or older and there is a need to bring more women, minorities, and young people to sustain the energy and mining workforce in the future.

#### **\*\*\*Government Accountability Office (GAO)\*\*\***

##### **National Science Foundation: Steps Taken to Improve Contracting Practices, but Opportunities Exist to Do More**

The National Science Foundation (NSF) spends more than \$400 million of its \$7 billion annual budget on contracts to support its mission to promote science and engineering. Their largest contracts involve exploration activities in the Arctic and Antarctic. The Government Accountability Office (GAO) investigated NSF's contracting practices and found the agency generally uses key contracting practices in the three phases of the acquisition process, but the agency needs additional guidance on early acquisition planning as well as arrangements for contract audits.

##### **Department of Energy: Status of Loan Programs**

In Title XVII of the Energy Policy Act of 2005 (P.L. 109-58), the Department of Energy's (DOE) Loan Guarantee Program (LGP) was established to encourage early commercial use of new or significantly improved technologies in energy projects. The Government Accountability Office (GAO) has an ongoing mandate established in the 2007 Revised Continuing Appropriations Resolution (H.J. Res. 20) to review DOE's execution of the Loan Guarantee Program and to report its findings to the House and Senate Appropriations Committees. GAO found that DOE was considering using \$15.1 billion of the \$34.8 billion in remaining loan guarantee authority for loan guarantees requested by 13 active LGP applications.

##### **Water Infrastructure: Approaches and Issues for Financing Drinking Water and Wastewater Infrastructure**

The Government Accountability Office (GAO) reviewed the Environmental Protection Agency's (EPA) Clean Water and Drinking Water State Revolving Fund programs. The programs are the largest source of federal assistance to states and local communities for funding drinking water and wastewater infrastructure. GAO reviewed three of the approaches proposed to pay for the nation's drinking water and wastewater needs by surveying stakeholders, industry representatives, and federal, state, and local government officials. The three approaches are a clean water trust fund, a national infrastructure bank, and public-private partnerships.

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### **32. Key Federal Register Notices**

**EPA** – The Environmental Protection Agency announced the draft document titled Watershed Modeling to Assess the Sensitivity of Streamflow, Nutrient, and Sediment Loads to Climate Change and Urban Development in 20 U.S. Watersheds (EPA/600/R-12/058) is available for comment. Comments should be submitted by April 15, 2013. [Friday, March 1, 2013 (Volume 78, Number 41)]

**EPA** – The Environmental Protection Agency announced a final rule identifying additional renewable fuel pathways that meet the requirements in the Renewable Fuel Standards Program. More information is available in the notice. [Tuesday, March 5, 2013 (Volume 78, Number 43)]

**EPA** – The Environmental Protection Agency's Clean Air Scientific Advisory Committee (CASAC) is hosting a public teleconference on May 8, 2013 from 1 pm to 3 pm to discuss draft letters on EPA's Integrated Science Assessment for Lead (Third External Review Draft—November 2012) and EPA's Policy Assessment for the Review of the Lead National Ambient Air Quality Standards (First External Review Draft—January 2013). [Wednesday, March 6, 2013 (Volume 78, Number 44)]

**EPA** – The Environmental Protection Agency issued a final decision on the reconsideration of a new method ASTM D7575 for oil and grease under the Clean Water Act. [Wednesday, March 6, 2013 (Volume 78, Number 44)]

**NASA** – The National Aeronautics and Space Administration’s Planetary Science Subcommittee of the NASA Advisory Council (NAC) will hold an open meeting on April 4, 2013 from 8:30 am to 5:30 pm and April 5, 2013 from 8:30 am to 12 pm. [Monday, March 11, 2013 (Volume 78, Number 47)]

**FERC** – The Federal Energy Regulatory Commission will host a technical conference on natural gas and electric scheduling on April 25, 2013 from 9 am to 5 pm. [Tuesday, March 12, 2013 (Volume 78, Number 48)]

**NSF** – The National Science Foundation’s Advisory Committee for Geosciences is holding an open meeting on April 11, 2013 from 8:30 am to 5 pm and April 12, 2013 from 8:30 am to 1:30 pm. [Tuesday, March 19, 2013 (Volume 78, Number 53)]

**NSF** – The National Science Foundation’s Advisory Committee for Mathematical Sciences and Physical Sciences is holding an open meeting on April 4, 2013 from 1 pm to 5 pm and April 5, 2013 from 8:30 am to 12pm. [Wednesday, March 20, 2013 (Volume 78, Number 54)]

**EPA** – The Environmental Protection Agency’s National Advisory Council for Environmental Policy and Technology is holding a teleconference on April 4, 2013 from 12 pm to 4 pm. This meeting is rescheduled from a previous date. [Thursday, March 21, 2013 (Volume 78, Number 55)]

**PRESIDENT** – President Obama issued Executive Order 13638 to amend the Liability Limit Adjustment section of Executive Order 12777, Implementation of Section 311 of the Federal Water Pollution Control Act of October 18, 1972 and the Oil Pollution Act of 1990. [Thursday, March 21, 2013 (Volume 78, Number 55)]

**NOAA** – The National Oceanic and Atmospheric Administration renewed the charter for the National Climate Assessment and Development Advisory Committee (NCADAC) through July 10, 2013. [Friday, March 22, 2013 (Volume 78, Number 56)]

**EPA** – The Environmental Protection Agency released the draft report of the National Rivers and Streams Assessment 2008-2009. Comments will be accepted until May 9, 2013. [Monday, March 25, 2013 (Volume 78, Number 57)]

**NASA** – The National Aeronautics and Space Administration’s (NASA) Earth Science Subcommittee of the NASA Advisory Council will hold a meeting telephonically on April 11, 2013 from 12:30 pm to 3 pm. [Tuesday, March 26, 2013 (Volume 78, Number 58)]

**NOAA** – The National Oceanic and Atmospheric Administration released the Draft Programmatic Environmental Assessment of the proposed United States Regional Climate Reference Network (USRCRN). Comments should be submitted by April 25, 2013. [Tuesday, March 26, 2013 (Volume 78, Number 58)]

**STATE** – The State Department announced the renewal of the charter of the Advisory Committee for the U.S National Commission for UNESCO which provides recommendations on policy regarding UNESCO and education, science, communications, and culture. [Tuesday, March 26, 2013 (Volume 78, Number 58)]

**COAST GUARD** – The Coast Guard’s National Offshore Safety Advisory Committee is holding a meeting on April 17, 2013 from 1 pm to 3 pm and April 18, 2013 from 8:30 am to 4 pm to discuss issues affecting the offshore oil and gas industry. [Wednesday, March 27, 2013 (Volume 78, Number 59)]

**COAST GUARD** – The Coast Guard’s National Offshore Safety Advisory Committee is requesting applications for new members. The committee advises the Secretary of the Department of Homeland Security on issues regarding offshore mineral and energy resource exploration. Applications are due May 28, 2013. [Wednesday, March 27, 2013 (Volume 78, Number 59)]

**CEQ** – The Council on Environmental Quality announced the release of the draft revisions of the Interagency Guidelines section of the Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies. Comments are due May 28, 2013. [Wednesday, March 27, 2013 (Volume 78, Number 59)]

**CEQ** – The Council on Environmental Quality announced the release of the final revisions of the Principles and Requirements component of the Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies. This component lays out policy and principles regarding investment in water resource and infrastructure projects. [Wednesday, March 27, 2013 (Volume 78, Number 59)]

**DOE** – The Department of Energy’s State Energy Advisory Board is holding an open teleconference on April 18, 2013 from 3:30

pm to 4 pm. [Wednesday, March 27, 2013 (Volume 78, Number 59)]

**EPA** – The Environmental Protection Agency’s Office of External Affairs and Environmental Education is requesting applications for environmental education professionals to serve on the National Environmental Education Advisory Council. Applications are due April 15, 2013. [Wednesday, March 27, 2013 (Volume 78, Number 59)]

**DOI** – The Department of the Interior’s United States Extractive Industries Transparency Initiative (USEITI) Multi-Stakeholder Group (MSG) Advisory Committee is holding a teleconference on April 11, 2013 from 1:30 am to 3:30 pm, and a meeting on May 1 and 2, 2013 from 9:30 am to 5 pm. [Wednesday, March 27, 2013 (Volume 78, Number 59)]

**BLM** – The Bureau of Land Management announced a proposed rule to amend commercial oil shale regulations regarding royalties and environmental protection requirements. Comments will be accepted until May 28, 2013. [Wednesday, March 27, 2013 (Volume 78, Number 59)]

**STATE** – The State Department is holding a meeting on April 18, 2013 from 12 pm to 3:30 pm and 4 pm to 8 pm in Grand Island, Nebraska regarding the Draft Supplemental Environmental Impact Statement for the proposed Keystone XL pipeline. The draft was released March 1, 2013. [Wednesday, March 27, 2013 (Volume 78, Number 59)]

**USGS** – The U.S. Geological Survey’s Scientific Earthquake Studies Advisory Committee is holding a meeting on April 4, 2013 at 8:30 am and April 5, 2013 ending at 12 pm. [Thursday, March 28, 2013 (Volume 78, Number 60)]

**NOAA** – The National Oceanic and Atmospheric Administration announced the release of the Supplemental Draft Environmental Impact Statement for the Effects of Oil and Gas Activities in the Arctic Ocean. Comments are due May 28, 2013. [Friday, March 29, 2013 (Volume 78, Number 61)]

**NSF** – The National Science Foundation’s Advisory Committee for Polar Programs is holding a meeting on May 1, 2013 from 12:30 pm to 5 pm. [Friday, March 29, 2013 (Volume 78, Number 61)]

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### 33. Key AGI Geoscience Policy Updates

- Hearing on NASA Oversight (3/20/13)
- Hearing on DOE's Applied Energy Funding (3/14/13)
- Hearing to Review the Nomination of Sally Jewell as Interior Secretary (3/07/13)
- Hearing on America's Offshore Energy Resources (3/05/13)
- Hearing on Federal Travel and Conference Spending (2/27/13)

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Monthly Review prepared by Wilson Bonner and Kimberley Corwin 2013 AAPG/AGI Spring Intern.

Sources: Associated Press, AAAS, Environment and Energy Daily, Greenwire, 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, Department of Commerce, United Nations, Department of Education, Department of Defense, Department of State, Federal Emergency Management Agency, U.S. Global Change Research Program, Bureau of Land Management, American Society of Civil Engineers, Resources for the Future, Lackawanna College, and Japan Oil, Gas and Metals National Corporation.

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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.

Compiled April 3, 2013.

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