Monthly Review: August 2011

The American Geological Institute's monthly review of geosciences and policy goes out to the leadership of AGI's member societies, members of the AGI Government Affairs Advisory Committee, and other interested geoscientists as part of a continuing effort to improve communications between GAP and the geoscience community. The current monthly review and archived monthly reviews are all available online. Subscribe to receive the Government Affairs Monthly Review by email.

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1. White House Hosts Budget Meeting for Science Programs

On August 10, the White House Office of Science and Technology Policy (OSTP) hosted a meeting with leaders in the science and technology community to discuss the impact that the current fiscal environment will have on science programs in the U.S. This issue is of particular concern in light of the recent debt ceiling agreement. John Holdren, Director of OSTP and science advisor to the President, noted that the nation's science budget will be stringent and that states, philanthropies, and the private sector will need to contribute to promoting research and development. Representatives from about thirty institutions and corporations were present at the meeting.

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2. OMB Releases FY 2013 Budget Guidance

On August 17, Office of Management and Budget Director Jack Lew released the fiscal year (FY) 2013 Budget Guidance to the heads of departments and agencies. The guidance calls for FY 2013 budget submissions to be at least five percent less than the FY 2011 enacted levels. Lew clarified that the cuts "should not be achieved by proposing across-the-board reductions or reductions to mandatory spending in appropriations bills, reclassifications of existing discretionary spending to mandatory, or enactment of new user fees to offset existing spending." As part of budget submissions, agencies should offer reductions that would bring the requests down to at least 10 percent below FY 2011 enacted levels. Agencies should identify programs that could enhance economic growth.

The request comes soon after President Obama signed the Budget Control Act of 2011 (P.L. 112-25) on August 2. The law calls for $2 trillion in deficit reduction over the next decade and the administration is beginning the process of finding savings in discretionary spending by the federal government. The law creates a joint select committee (the "supercommittee") to identify $1.5 trillion in savings over the next decade by late November.

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3. President Declares September National Preparedness Month

In a proclamation dated August 31, President Barack Obama declared September to be National Preparedness Month. The president pointed out how natural disasters had particularly "tested our response ability" in 2011 and that this month marks the tenth anniversary of the terrorist attacks of September 11, 2001. The proclamation calls for Americans to "recognize the importance of preparedness" and to work together to increase national security, resilience, and readiness.

On September 7, 2011, the National Science Foundation (NSF) will hold a showcase of NSF-funded research on hazards on Capitol Hill. The event will take place from 10:30 AM to 2:00 PM in Hart Senate Office Building Room 902.

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4. Joint Select Committee on Deficit Reduction

House Speaker John Boehner (R-OH), House Minority Leader Nancy Pelosi (D-CA), Senate Majority Leader Harry Reid (D-NV) and Senate Minority Leader Mitch McConnell (R-KY) each selected three lawmakers for the Joint Select Committee on Deficit Reduction. Created by Budget Control Act of 2011 (P.L. 112-25) the joint committee is tasked with finding $1.5 trillion in deficit reductions. There is no upper limit to how much the committee produces in savings and no restrictions as to how they find the savings. At least seven of the 12 committee members must approve of a plan before it can be presented to Congress. Like the committee, Congress can then vote for the plan and a simple majority is enough for passage. No Senate filibuster will be allowed because there is limited time to pass any legislation and no one wants to allow one person to potentially halt the proceedings. The committee must present its plan by November 23 and Congress will vote on this plan by December 23, 2011. It remains unclear whether or how the committee might consider taxes in their planning. If the committee does not come up with an agreeable plan, then automatic cuts would be divided over security, non-security and Medicare spending. Social Security and Medicaid would not be considered in this measure. The committee is co-chaired by Senator Patty Murray (D-WA) and Representative Jeb Hensarling (R-TX). Senators John Kerry (D-MA), Max Baucus (D-MT), John Kyl (R-AZ), Pat Toomey (R-PA), and Rob Portman (R-OH) are the other members from the Senate. Representatives Dave Camp (R-MI), Fred Upton (R-MI), James Clyburn (D-SC), Xavier Bacerra (D-CA), and Chris Van Hollen (D-MD) are the other members from the House.

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5. Congress Asks Pentagon for Late Rare Earth Report

Representative Mike Coffman (R-CO) and eight other bipartisan members submitted a letter to the Department of Defense (DOD) requesting information about the Pentagon's failure to submit a rare earths-related report, originally due July 6, 2011. The report is part of an effort by Congress to gain a better understanding on the current supply-chain of rare earth elements. DOD is obligated

under Section 843 of the Ike Skelton National Defense Authorization Act for Fiscal Year 2011 (P.L. 111-383) to submit an assessment report. In the letter, Coffman states his frustration about the lack of a report and the "conflicting reasons for the report's tardiness." Coffman called the report a "critical first step in identifying our rare earth requirements for defense applications and reducing our nation's unacceptable dependency on unreliable foreign suppliers for these materials." He requested an interim report to be submitted by August 19, 2011, should DOD not be able to present the full report. It is not clear whether the full report or an interim report was submitted by that date.

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6. Biological Hazards Bill Passes Energy and Commerce Committee

On July 28, the Energy and Commerce committee passed on a voice vote the bipartisan Pandemic and All-Hazards Preparedness Reauthorization Act of 2011 (H.R. 2405) which reauthorizes programs within the Department of Health and Human Services to conduct research, development, procurement, and stockpiling of medical countermeasures (MCM) to chemical, biological, radiological, and nuclear threats. The bill would authorize $415 million annually from 2012-2016 for advanced biomedical research and $2.8 billion for the Project BioShield Special Reserve Fund. Bioshield is a President George W. Bush-era program that procures and stockpiles MCMs. The bill was introduced by Representative Mike Rogers (R-MI) and is cosponsored by Representatives Gene Green (D-TX), Sue Myrick (R-NC), and Michael Burgess (R-TX).

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7. Schumer Floating Legislation on Mandatory Background Checks

To prevent security threats against infrastructure facilities, Senator Charles Schumer (D-NY) will introduce legislation to run background checks on employees at power plants, water treatment plants, and other critical infrastructure. Brought to light by a July 2011 Department of Homeland Security (DHS) report, the upcoming legislation would increase the role of the Federal Bureau of Investigation (FBI) in the employment process. The DHS report warned that extremists are likely to launch physical and cyber attacks from the inside of a major U.S. utility facility. The DHS report cited "high confidence in [DHS's] judgment that insiders and their actions pose a significant threat to the infrastructure and information systems of U.S. utilities." If Schumer's legislation is passed, background investigations will be run against the FBI's criminal history record and the Interstate Identification Index, a system that contains fingerprint records from U.S. states, territories, and federal and international criminal justice agencies.

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8. Bill to Facilitate Wind Energy Research and Development Introduced

On August 1, Representative Paul Tonko (D-NY) introduced the Wind Energy Research and Development Act of 2011 (H.R. 2782). The bill would provide $1 billion over five years for the Secretary of Energy to direct a research program to improve the efficiency, reliability, and capacity of wind turbines. The program would work to optimize the design of wind energy systems to meet a wider range of atmospheric conditions and reduce the cost of creating and maintaining such systems. Tonko introduced a similar bill (H.R. 3165) in 2009, which passed in the House but stalled in the Senate.

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9. Capps Introduces Bill to Enhance Water Supply Sustainability

Representative Lois Capps (D-CA) introduced the Water Infrastructure Resiliency and Sustainability Act of 2011 (H.R. 2738) in August. The legislation would award grants totaling $50 million per year beginning in 2012 through fiscal year 2016. The grants would be given to owners or operators of water systems to improve water resiliency and sustainability in the face of climate change. Water systems with greater vulnerability to climate-related risks as well as a greater number of users would be addressed first. The funds could be used to cover up to 50 percent of the costs for a variety of projects that include improving water usage efficiency, reducing flooding damage, and relocating infrastructure susceptible to changing climate conditions.

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10. NSF Will Restructure Ocean Drilling Program

In a letter addressed to the ocean drilling community, National Science Foundation (NSF) Assistant Director for Geosciences Tim Killeen and Division Director for Ocean Sciences David Conover announced that NSF will review the Integrated Ocean Drilling Program (IODP) and consider future options beyond the end of the IODP contract in September 2013. NSF and Japan's Ministry of Education, Culture, Sports, Science and Technology are currently co-lead agencies of IODP. Through contributing and associate member nations and consortia, IODP operates three drilling ships including *JOIDES Resolution* (*JR*) which will be operated independently by the United States under the proposed operating model. The new operating plan is intended to lower costs and generate new sources of revenue to allow *JR* to conduct more research than it could as part of IODP.

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11. NSF Gets Russian Icebreaker for Antarctica

In order to refuel the McMurdo and South Pole Stations in Antarctica, the National Science Foundation (NSF) has announced a

one year contract with the Murmansk Shipping Company in Russia for the use of a diesel-fueled icebreaker. NSF had previously relied on the Swedish icebreaker, *Oden*, but the Swedish government did not renew its contract this year because they may need *Oden* in the Baltic Sea where heavy ice disrupted cargo traffic last winter. The Murmansk Shipping Company will provide *Vladmir Ignatyuk*, a Canadian built icebreaker, to escort 5 million gallons of diesel fuel and other supplies to McMurdo in January and February 2012.

The United States owns three icebreakers. The *Healy* is being used in the Arctic, the *Polar Sea* is being decommissioned, and the *Polar Star*, currently undergoing an extensive refit,will not be available until 2014. Even though the contract with the Murmansk Shipping Company includes an option for additional years, the U.S.'s inability to provide its own icebreakers will be a long-term problem.

The U.S. needs icebreakers in Antarctica and the Arctic, yet it only has one working icebreaker that cannot meet research, exploration or strategic needs at both poles. The Arctic is opening up to research and exploration because of the decreasing ice sheet and the rise of the price of vital commodities such as petroleum. The *Healy* is servicing a joint U.S.-Canada mission to map part of the continental shelf and seafloor in the Arctic that began on August 22.

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12. NASA Worries about Space Station and Lunar Sites

On August 24, an unmanned Russian rocket carrying supplies to the International Space Station (ISS) failed to reach orbit and crashed in a Siberian forest. The National Aeronautics and Space Administration (NASA) recently signed a contract with the Russian Space Agency to use these rockets, made by Soyuz, after the American shuttle fleet was retired in July. The Russian Space Agency said it could delay all manned flights on the Soyuz rockets if the cause for this month's failure is not determined soon. More astronauts are scheduled to go to the ISS in September and December of 2011. Fortunately, the current roster of researchers on ISS is not short on resources due to Atlantis' last flight, STS-135. Atlantis brought 11,600 pounds of supplies to the space station and removed 5,700 pounds of materials to be returned to Earth.

While the Russian and American governments are concerned with connecting with ISS, many private teams are attempting to land on the moon's surface as soon as next year. Funded in part by Google and the X Prize Foundation, the private entrepreneurs racing to the moon requested guidelines from NASA about how to protect historical sites from several Apollo missions. NASA's recommendations include approaching Apollo landing sites and artifacts at a tangent to avoid spraying dust and rocket exhaust onto historical equipment. NASA included in the list of recommendations several requests for the explorers to collect and photograph other items left behind by the Apollo missions. The 1967 Outer Space Treaty says the moon is "not subject to national appropriation by claim of sovereignty" and therefore the NASA recommendations are nonbinding.

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13. BOEMRE Report on Oil Spill Monitoring and Climate Change

On August 29, the Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE) released a report, "Evaluation of the Use of Hindcast Model Data for Oil Spill Risk Analysis (OSRA) in a Period of Rapidly Changing Conditions," evaluating how climate change will affect the environmental conditions used in modeling oil spill trajectories and analyses in the Arctic. The report recommends that BOEMRE improve their data coverage, improve their modeling and forcing tools, and to consider Intergovernmental Panel on Climate Change (IPCC) scenarios in their OSRA's. The report also urges BOEMRE to consider a case study of an oil spill response with no sea ice in the Arctic.

Oil and gas companies are setting their sights on the Arctic. ExxonMobil just signed an agreement with Russia's Rosneft oil company to partner in petroleum drilling leases in the Arctic and the Gulf of Mexico. House Natural Resources Committee Chairman Doc Hastings (R-WA) urged his colleagues on the Joint Select Committee on Deficit Reduction (the "supercommittee") to raise revenues by expanding oil and gas production in an op-ed in early September 2011.

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14. Secretary of Energy Advisory Board Releases Shale Gas Report

The Natural Gas Subcommittee of the Secretary of Energy Advisory Board released a preliminary report on August 11 calling for improvement in the management of shale gas development in the U.S. The subcommittee was charged with identifying actions that can be taken to reduce environmental impact and increase safety. The report's recommendations include the creation of a public database of information about shale gas drilling, disclosure of fracturing fluid composition, reduction in the use of diesel fuel, creation of a national organization to improve best practices, and investment in research and development. The report will be available for public comment for 90-days with a final report to be released on November 18.

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15. EIA Releases Carbon Dioxide Emissions Report

The U.S. Energy Information Administration released their annual Carbon Dioxide Emissions Report on August 18. The report

analyzes the level and drivers of carbon dioxide emissions for 2010 including data on changes in population, output per capita, energy intensity of the economy, and carbon intensity of the energy supply. After declines in each of the previous four years, energy-related carbon dioxide emissions in 2010 showed the largest percent increase since 1988, though emissions were 358 million metric tons below the 2005 level. The large percent increase is partially attributed to economic growth over the past year after a historic decline in emissions in 2009.

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16. EPA Defends Endangerment Finding

On August 18, 2011, the U.S. Environmental Protection Agency (EPA) filed a brief with the U.S. Circuit Court of Appeals for the District of Columbia after states and industry groups asked the court to dismiss EPA's endangerment findings. The brief defends the 2009 endangerment finding by EPA, which established the foundation for new carbon dioxide emissions standards from cars and trucks and initiated limits on greenhouse gases (GHG) from power and other industrial plants. This brief follows the orders by the Supreme Court to determine whether GHG do pose a threat to human health. The EPA findings were challenged by states and industry groups stating that the EPA failed to identify a level at which GHG pose a threat to human health.

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17. Online Tool to Report Greenhouse Gas Emissions Launched

The Environmental Protection Agency (EPA) has launched a new internet tool to help over 7,000 facilities across 28 industrial sectors submit their 2010 greenhouse gas emission data as required by the Greenhouse Gas Reporting Program. The deadline for submission falls on September 30 which is the same day for the release of the planned proposal for the New Source Performance Standards (NSPS) for power plants which was delayed earlier this year.

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18. FTA Releases Report on Public Transportation and Climate Change

The Federal Transit Administration (FTA) released Flooded Bus Barns and Buckled Rails: Public Transportation and Climate Change Adaptation in August to provide transit officials with information relevant to adapting public transportation infrastructure to the effects of climate change. The overall adaptation strategies outlined in the report include maintaining and managing, strengthening and protecting, enhancing redundancy, and abandoning infrastructure in severely vulnerable areas. An interdisciplinary risk management effort would include the expertise of climatologists, geoscientists, engineers, emergency response professionals, public officials, and others.

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19. Federal Agencies Submit Scientific Integrity Documents

The White House Office of Science and Technology Policy announced that all agencies have submitted some form of a scientific integrity document before the August 5 deadline. The Department of the Interior (DOI) was the first to finalize their scientific integrity policies and make it available in January. Originating from a 2009 Presidential memorandum directing agencies to develop policies to ensure research is transparent and apolitical, the reports have received criticism from nonprofit watchdog organizations for their differing levels of availability and for the length of time it took to develop them. As of early September 2011, the Environmental Protection Agency, the National Aeronautics and Space Administration, the National Institute of Standards and Technology, the Department of Commerce, and the National Science Foundation have made their drafts or final versions publicly available.

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20. DOC Report Finds More Women are Needed in STEM

The Economics and Statistics Administration of the U.S. Department of Commerce released a report investigating the representation of women in the Science, Technology, Engineering, and Mathematics (STEM) workforce. The report, Women in STEM: A Gender Gap to Innovation, found that women hold less than 25 percent of STEM jobs, yet they hold almost 50 percent of all other jobs. Women earn 33 percent more in STEM jobs than their non-STEM counterparts, creating a smaller gender wage gap in STEM jobs. However, women have a "disproportionately low share of STEM undergraduate degrees." The report is an effort to provide the evidence for a need for greater representation of women in STEM careers. Women present an "untapped opportunity" to expand the STEM workforce and improve the competitiveness of the United States.

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21. NSF Grants $10 Million to Improve Geoscience Education

The National Science Foundation (NSF) awarded a $10 million grant to Carleton College's Science Education Resource Center (SERC) to improve geoscience education and integrate the geosciences into societal challenges including natural hazards, resource issues, and environmental impacts. This five-year grant presented to SERC will create teaching materials and programs to use in undergraduate education through the program InTeGrate (Interdisciplinary Teaching of Geoscience for a Sustainable Future.) The

activities within InTeGrate will target undergraduates who do not take geoscience courses, in hopes of improving geoscience literacy. Program leaders anticipate that InTeGrate will influence 1,400 faculty members, 59 geoscience departments, and half a million undergraduate students across the nation over the lifetime of the grant.

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22. Two Earthquakes Strike Seismically Quiet States in August

Within 24 hours of each other, two relatively strong earthquakes occurred in Colorado and Virginia on August 22 and 23 respectively. While many earthquakes occur around the world every day, Colorado and Virginia are not known for profuse seismicity. Both of these earthquakes were the largest natural earthquakes seen in their respective areas in over 100 years. In the United States, the U.S. Geological Survey (USGS) Earthquake Hazards program is responsible for earthquake monitoring and notifications to responders and the public.

At about 11:46 p.m. local time on August 22, a centroid moment magnitude (Mw) 5.3 earthquake occurred nine miles west-southwest of Trinidad, Colorado near the border of New Mexico. Based on over 1700 responses to the USGS Did You Feel It web site, shaking was felt as far north as Fort Collins, Colorado and as far south as Las Cruces, New Mexico. The event was the largest natural earthquake in the state since an estimated magnitude 6.5 earthquake in 1882 in what is now Rocky Mountain National Park. The area around Trinidad experienced a magnitude 4.6 event in 1966, two earthquake swarms in 1973 and 2001 and a Mw 5.0 earthquake in 2005. The 2011 event was preceded by a swarm of smaller magnitude earthquakes and is in a similar region as the 2001 swarm. Concerns have been raised about whether some of the past events could be attributed to the development and impoundment of the reservoir (Lake Trinidad) in the 1970s or to waste water disposal related to coal-bed methane gas drilling more recently. An investigation of the 2001 swarm by the USGS suggests that waste water disposal is unlikely to have induced the seismic swarm. Early analyses of the 2011 swarm suggests the 2001 and 2011 swarm are associated with east-west extension on a previously unmapped fault that is similar to the extension of the Rio Grande rift to the west.

Across the continent, at 1:51 pm local time on August 23, a Mw 5.8 earthquake occurred about five miles south-southwest of Mineral, Virginia and about 84 miles southwest of Washington, DC. Originating at about 6 kilometers depth, the relatively shallow earthquake occurred as reverse faulting on a northeast striking plane within the Central Virginia Seismic Zone. This zone has been the source of small to sometimes damaging earthquakes since at least 1774. The earthquake is the largest recorded in the state with seismic instruments. The largest historic event, with an estimated magnitude of 5.9 (5.6 in a 2006 publication), occurred near Pearisburg, Virginia in 1897, much further to the west in the Appalachian Mountains, in what is called the Giles County Seismic Zone (see the USGS page on Virginia Earthquake History for more details).

The 2011 earthquake caused significant structural damage near the epicenter and minor damage further away. Two reactors at the North Anna Nuclear Plant, operated by Dominion Resources and located near Mineral, were taken offline because the earthquake triggered an automatic shutdown. Nuclear Regulatory Commission (NRC) officials have begun to inspect the 1,806 Megawatt facility and it will remain shut down until the inspection is complete. Twelve other nuclear power plants along the East coast that were shaken by the earthquake declared “Unusual Events” and were inspected for damage, but none needed to be taken offline, according to the NRC.

The earthquake was felt as far north as Canada and as far south as Alabama according to more than 130,000 responses on the USGS Did You Feel It web site. While earthquakes in the East are less frequent than along the seismically active West coast, they are often felt over a larger area due to the efficiency of wave propagation through the cold and dense North American craton as well as attenuation of wave energy by less consolidated sediments that cover the coastal plain.

What generated the earthquake in the Central Virginia Seismic Zone is unknown. The zone is diffuse, the earthquakes do not line up along easily discernable fault lines and the earthquakes have different directions of motions. Current information suggests the earthquake occurred on a small segment of an ancient, buried fault (possibly related to a boundary between two different terranes added to the continent more than 300 million years ago), is associated with crustal rebound of the eroding Appalachians or was initiated by regional compression caused by the distant push of the Mid-Atlantic Ridge (the plate boundary between the North American and Eurasian plates).

The National Science Foundation-funded EarthScope project includes a dense array of seismic instruments that are moving across the country. The array has just crossed the Mississippi River and has not been deployed in Virginia yet. The array allows geoscientists to gather detailed information about earthquakes and to develop a much better understanding of the structure beneath

the surface. The array caught the Virginia earthquake as the seismic waves moved across the country and will help geoscientists better understand the earthquake. With more time, more observations and the movement of the array further east, geoscientists will develop a far better understanding of what is going on beneath the surface in Virginia and elsewhere. The knowledge gained from EarthScope will immensely improve our understanding of the ground beneath our feet and why earthquakes occur when and where they do.

The reactions of people in the East to the Virginia earthquake were mixed. Based on news reports, posted videos and our own experiences at the American Geological Institute's headquarters in Alexandria, Virginia, some people stood in hazardous areas or ran out of buildings during the earthquake. Although many people in the East have little experience with earthquakes and little confidence in the earthquake resistance of structures, the safest action to take during an earthquake is to drop, cover and hold. FEMA Earthquake provides information on what to do before, during and after an earthquake. USGS and its partners for the Great California Shakeout have some excellent videos on earthquake preparedness and response, especially Preparedness Now which was prepared with the Art Center College of Design.

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23. Hurricane Irene hits East Coast; Tenth $1 Billion Natural Disaster in 2011

On the morning of August 27, 2011, Hurricane Irene made landfall in the Outer Banks of North Carolina and continued up the Eastern Seaboard causing more than $7 billion in total losses according to early estimates making it the tenth natural disaster costing over $1 billion in 2011. Irene is the first hurricane to hit the United States since Hurricane Ike hit Texas in 2008 and it is the first hurricane to affect New York City since Hurricane Gloria in 1985. About 2.3 million people were under mandatory evacuation orders and 40 fatalities were attributed to the storm. Vermont was particularly affected by the hurricane where many roads and bridges were destroyed by flooding. On August 29, Irene dissipated into a tropical storm and continued moving in a northeast direction towards Iceland.

Though the hurricane caused extensive damage, its track fell within the cone modeled by the National Oceanic and Atmospheric Administration’s (NOAA) National Hurricane Center on Tuesday, August 23. Hurricane track and intensity prediction models have been improved through advancements in supercomputing and satellite observations. NOAA’s National Weather Service’s homepage had more than 51 million hits per hour as people sought information about how the hurricane might affect where they live.

The U.S. Geological Survey deployed 260 storm surge sensors along the East coast to measure the height and intensity of the storm surge to help determine the amount of storm surge for coastal communities and to improve models to forecast future storm surges.

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24. U.S. Chamber of Commerce Releases Index of Energy Security Risk

On August 4, the Energy Institute of the U.S. Chamber of Commerce released their second annual Index of Energy Security. The group calculated an energy security risk score of 98.0 for 2010. This is the fourth highest score since 1970 and an increase from the 2009 score of 91.5. The index measures energy security based on 37 individual geopolitical, economic, reliability, and environmental metrics. Of these metrics, 20 increased, 11 decreased, and six remained constant in 2010, with the largest numerical changes attributed to energy prices and price volatility, particularly in crude oil. The index tracks changes in energy security risk beginning in 1970 and projects future risk to 2035.

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25. California Science Center and American Freedom Alliance Reach Settlement

The American Freedom Alliance (AFA) and the California Science Center (CSC) have reached a settlement in a lawsuit dating back to 2009. AFA was scheduled to show "Darwin's Dilemma: The Mystery of the Cambrian Fossil Record" and hold a subsequent debate in the center's theater as part of a fundraiser two years ago. Before the event, CSC canceled the showing citing a breach in contract after the Discovery Institute, known proponents of intelligent design, promoted the event. As part of the settlement, CSC will pay AFA $110,000 and allow the showing of the film.

"Darwin's Dilemma" questions the validity of Charles Darwin's theory of evolution in light of the Cambrian Explosion 545 million years ago.

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26. Republican Presidential Candidates Debate Evolution, Climate Change

On August 18, while campaigning in New Hampshire, Republican presidential candidate and Texas Governor Rick Perry told the crowd that he thinks evolution “has some gaps” in it. “It’s a theory that’s out there. It’s got some gaps in it. In Texas we teach both creationism and evolution, because I figure you’re smart enough to figure out which one’s right,” Perry said in response to a question from a young boy prompted by his mother. The mother also encouraged her son to ask Governor Perry how old the earth

is (Perry responded, “I think it’s pretty old…”) and she told her son to ask Perry “if he believes in science.” Perry did not answer the last question.

The Texas School Board does not allow the teaching of creationism in science classes in public schools, which prompted some to declare Governor Perry’s statement as inaccurate regarding curricula in Texas. Scientists and others have commented about the inaccuracies of Governor Perry’s suggestion that evolution has gaps and problems with considering creationism as part of science curricula in Texas and elsewhere.

Republican presidential candidate and former Utah Governor Jon Huntsman responded to Perry’s comments in a tweet “To be clear. I believe in evolution and trust scientists on global warming. Call me crazy.” Former Massachusetts Governor and Republican presidential candidate, Mitt Romney has said he believes the world’s climate is warming and that humans are contributing to the pattern. Romney opposed the teaching of intelligent design in public schools when he was governor.

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27. University of Texas at Austin Responds to Texas Public Policy Foundation

Several academics from the University of Texas at Austin have responded to a series of seven proposals offered by the Texas Public Policy Foundation (TPPF) to reform higher education. A think tank linked to Governor Rick Perry, TPPF issued these seven proposals as “7 Solutions” to run higher education on a more business oriented model. Research and teaching budgets would be split, students would be viewed as “customers,” and teachers would be rewarded for their “efficiency and effectiveness.” In a response offered by several academics at the University of Texas at Austin, lead author and Dean of the University’s College of Liberal Arts Randy Diehl wrote that higher education in Texas would “face radical change” if the seven proposals were implemented.

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28. Key Reports and Publications

*****Congressional Research Services (CRS)*****

Offshore Oil and Gas Development: Legal Framework

Developing offshore oil and gas resources falls under multiple legal regimes – international, federal, and state. Generally states have authority in three-geographical-mile area extending from their coastlines whereas the federal government has authority at least 200 nautical miles out from the end of the states’ authority. This report clarifies and elaborates on the legal questions raised by an expansion of oil and gas development. Multiple executive orders, appropriations-based measures, and proposed legislation are examined.

Clean Energy Standard: Potential Qualifying Sources

A clean energy standard (CES) has been discussed in Congress as a potential legislative option to diversify domestic energy production. A CES would require energy providers to obtain the energy from qualifying clean energy sources. This report recommends selection criteria for determining which energy sources would be considered “clean energy.” Policymakers should consider geographic location of the energy source, energy source supply levels, job creation associated with the energy source, environmental regulations, and cost of the energy source.

Nuclear Energy Policy

This report looks at the current nuclear energy issues facing the 112 Congress including federal incentives for commercial development, federal waste management policies, research and development priorities, power plant safety and regulation, and nuclear weapon proliferation and safety.

FEMA’s Disaster Proclamation Process: A Primer

A President is authorized to issue “major disaster” or “emergency” proclamations under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5721). This report examines the difference in response based on the type of proclamation made by the President in the event of a disaster.

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

National Earthquake Resilience: Research, Implementation, and Outreach

2011 was a year in which many newsworthy earthquakes occurred and the public was reminded even more about the potential disasters earthquakes can cause. This report provides a roadmap for increasing our national resiliency to earthquakes by assessing the costs and activities needed to achieve resiliency in 20 years. The report interprets resiliency to include physical, behavioral, and governing dimensions and pre-disaster preparedness activities and post-disaster response. The report was compiled at the request of the National Institute of Standards and Technology (NIST) which leads the National Earthquake Hazards Reduction

Program (NEHRP).

Increasing National Resilience to Hazards and Disasters: The Perspective from the Gulf Coast of Louisiana and Mississippi
This report, a product of a workshop held in January 2011, reviews the effects of several natural disasters in the Gulf Coast to learn more about the resilience of those areas to future disasters. The report contains a summary of the first of three workshops to be held by the Committee on Increasing National Resilience to Hazards and Disasters and covers a wide range of topics including insurance, building codes, public health, and governance. The committee is tasked with increasing the nation's resilience at federal, state, local, and community levels through "actionable recommendations" and providing best practices to reduce the negative impacts of hazards and disasters.

Global Change and Extreme Hydrology: Testing Conventional Wisdom
This report is the summary of a workshop held in January 2010 to examine how climate warming translates into hydrologic extremes such as drought or flooding. It explores the "conventional wisdom" that warmer temperatures will accelerate the hydrologic cycle based on the increased capacity of a warmer atmosphere to hold more water vapor and discusses the challenges of communicating the best science to water resource managers.

Grand Challenges in Earthquake Engineering Research: A Community Workshop Report
This report is the product of a two day workshop intending to allow members of the community to help identify grand challenges for earthquake engineering research to increase national resiliency. 13 grand problems were identified and were categorized under either community resilience framework, decision making, simulation, mitigation, or design tools. Participants also suggested experimental facilities and cyber infrastructure tools to carry out testing, observations, and simulations.

Limiting Future Collision Risk to Spacecraft: An Assessment of NASA's Meteorological and Orbital Debris Programs
Abandoned satellites, equipment and other debris that orbit the earth (known as space junk) has been accumulating for many years and could potentially damage or destroy active satellites or human spacecraft. This report examines the National Aeronautics and Space Administration's (NASA) efforts to mitigate the risks posed by this threat and recommends ways to improve their programs. NASA should complete a strategic plan to prioritize funds towards mitigating the risks of space junk through better modeling and measurements and more regular updates of the debris environment.

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

Environmental Litigation: Cases Against EPA and Associated Costs Over Time
Prepared at the request of Senate Committee on Environment and Public Works Ranking Member James Inhofe (R-OK) and Senator David Vitter (R-LA), the Government Accountability Office (GAO) investigated the number and cost amounts of lawsuits against the Environmental Protection Agency (EPA). Many of the nation's prominent environmental laws have statutes that allow individuals, companies, and states to sue EPA. Most of EPA's lawsuits are handled by the Department of Justice Environment and Natural Resource Division. Most of the costs paid are the result of the Equal Access to Justice Act (28 U.S.C. 2412) which provides the award of attorney's fees (up to $125 per hour) and other expenses to eligible individuals and small entities that are parties to litigation against the federal government.

Climate Engineering: Technical Status, Future Directions, and Potential Responses
The Government Accountability Office (GAO) examined the current peer-reviewed scientific literature and government reports to assess the maturity of climate engineering technologies, focusing on their technical status, future directions of research on them, and public response. Climate engineering (geoengineering) attempts to mitigate the effects of climate change by deploying technologies to reduce the atmospheric concentrations of carbon dioxide and scatter or reflect sunlight. The report found climate engineering technologies to be immature "with potentially negative consequences." Most Americans interviewed as part of this report had not heard of climate engineering but when explained, were more open to research but concerned about the safety of each approach.

Hazardous Waste: Early Goals Have Been Met in EPA's Corrective Action Program, but Resources and Technical Challenges will Constrain Future Progress
Prepared at the request of House Committee on Natural Resources Ranking Member Ed Markey (D-MA), the Government Accountability Office (GAO) conducted a report on the Environmental Protection Agency's (EPA) Resource Conservation and

Recovery Act of 1976 (RCRA) corrective action programs. These programs require owners and operators to correct contamination at sites that treat store and dispose of hazardous waste. EPA targeted 2025 to be the year by which 95 percent 3,747 would have completed construction of all cleanup remedies. This report interviewed several state and EPA officials most of which agreed the 2025 goal was unlikely to be met. Fiscal and human resource constraints were the main reasons given for missing the 2025 goal.

Energy Development and Water Use: Impacts of Potential Oil Shale Development on Water Resources
Submitted as testimony to the Subcommittee on Energy and Mineral Resources of the House Committee on Natural Resources, the Government Accountability Office (GAO) reported on the potential effects of oil shale development on water resources. GAO found that Oil shale development could have significant impacts on the quality and quantity of water resources, but the magnitude is unknown because technologies are not yet commercially proven, the size of a future industry is uncertain, and knowledge of current water conditions is limited.

Environmental Protection Agency: To Better Fulfill Its Mission, EPA Needs a More Coordinated Approach to Managing Its Laboratories
Prepared for Representative Brad Miller (D-NC), Ranking Member of the Subcommittee on Energy and Environment of the House Committee on Science, Space, and Technology, the Government Accountability Office (GAO) recommended ways for the Environmental Protection Agency (EPA) to better manage its 37 laboratories across the United States. GAO recommended, among other things that EPA develop a coordinated planning process for its scientific activities and appoint a top-level official with authority over all the laboratories, improve physical and real property planning decisions, and develop a workforce planning process for all laboratories that reflects current and future needs of laboratory facilities.

Green Information Technology: Agencies Have Taken Steps to Implement Requirements, but Additional Guidance on Measuring Performance Needed
"Green IT" refers to practices for using computing resources in a more sustainable manner. Two executive orders from 2007 and 2009 required agencies to increase their sustainability and contain green IT requirements. The Government Accountability Office (GAO) recommends that the Office of Management and Budget (OMB) and the Council on Environmental Quality (CEQ) provide agencies guidance to more effectively measure their performance.
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29. Key Federal Register Notices

DOD – The Department of Defense (DOD) Strategic and Environmental Research and Development Program Scientific Advisory Board will hold an open meeting on September 14 in Arlington, Virginia. [Wednesday, August 3, 2011 (Volume 76, Number 149)]

EPA – The Environmental Protection Agency (EPA) is proposing to amend several provisions in the Mandatory Reporting of Greenhouse Gas Rule. The public is encouraged to submit comments on the proposal on or before September 19, 2011. [Thursday, August 4, 2011 (Volume 76, Number 150)]

NSF – The National Science Foundation (NSF) Implementation of Scientific Integrity Principles report is available for review. Public comments are due before September 6, 2011. [Thursday, August 4, 2011 (Volume 76, Number 150)]

NWTRB – The Nuclear Waste Technical Review Board (NWTRB) will meet on September 13 and 14, 2011 in Salt Lake City, Utah to discuss the Department of Energy's plans for used fuel disposition research and development. [Friday, August 5, 2011 [Volume 76, Number 151)]

EPA – The Environmental Protection Agency (EPA) is proposing a rule to exempt carbon dioxide streams from being classified as hazardous waste under the Resource Conservation and Recovery Act if they are the result of carbon capture and injected with the appropriate controls and with the purpose of geological sequestration. Public comments are due on or before October 7, 2011. [Monday August 8, 2011 (Volume 76, Number 152)]

NHTSA – The National Highway Traffic Safety Administration (NHTSA) and the Environmental Protection Agency announce the joint proposal the two agencies plan to issue to reduce fuel consumption by and greenhouse gas emissions of light-duty vehicles for model years 2017-2025. [Tuesday, August 9, 2011 (Volume 76, Number 153)]

DOD – The Department of Defense (DOD) Strategic and Environmental Research and Development Program Scientific Advisory Board will hold an open meeting on October 12, 2011 in Arlington, Virginia. [Thursday, August 11, 2011 (Volume 76, Number 155)]

FWS – The U.S. Fish and Wildlife Service (FWS) announce the availability of a draft environmental impact statement and draft comprehensive conservation plan for the Arctic National Wildlife Refuge. Instructions on how to submit comments, due on or before November 14, 2011, can be found in the notice. [Monday, August 15, 2011 (Volume 76, Number 157)]

EPA – The Environmental Protection Agency (EPA) Science Advisory Board announce two upcoming open teleconferences of the Augmented Radiation Advisory Committee to discuss a draft report related to thorium and uranium in-situ leach recovery. The meetings will be held on September 6 and October 5, 2011. [Tuesday, August 16, 2011 (Volume 76, Number 158)]

EPA – The Environmental Protection Agency (EPA) Science Advisory Board announce an upcoming open teleconferences to a quality review of a draft report concerning peer review of a draft nation-scale mercury risk assessment. The meeting will be held on September 7, 2011. [Tuesday, August 16, 2011 (Volume 76, Number 158)]

EPA – The Environmental Protection Agency (EPA) Science Advisory Board announces a public teleconference of the CASAC Lead Review Panel on September 15, 2011. [Thursday, August 18, 2011 (Volume 76, Number 160)]

EPA – The Environmental Protection Agency (EPA) Science Advisory Board announces a public teleconference to discuss the board's draft advisory report on the interagency Great Lakes Restoration Initiative Action Plan for fiscal years 2010-2014 on September 16, 2011. [Thursday, August 18, 2011 (Volume 76, Number 160)]

DOD – The United States Navy Ocean Research Advisory Panel is soliciting nominations for new members. [Thursday, August 18, 2011 (Volume 76, Number 160)]

NASA – The National Aeronautics and Space Administration (NASA) announces an open joint meeting of the International Space Station Advisory Committee and the Aerospace Safety Advisory Panel on September 9, 2011 at NASA Headquarters in Washington, DC. [Friday, August 19, 2011 (Volume 76, Number 161)]

NASA – The National Aeronautics and Space Administration (NASA) is seeking nominations for new members for several of its federal advisory committees. [Friday, August 19, 2011 (Volume 76, Number 161)]

NOAA – The National Oceanic and Atmospheric Administration (NOAA) announces an open meeting of the U.S. Coral Reef Task Force to be held on October 21, 2011 in Fort Lauderdale, FL. [Monday, August 22, 2011 (Volume 76, Number 162)]

EPA – The Environmental Protection Agency (EPA) announces an open meeting of its Good Neighbor Environmental Board to be held in Las Cruces, NM on September 8, 2011. [Tuesday, August 23, 2011 (Volume 76, Number 163)]

EPA – The Environmental Protection Agency (EPA) announces its plan to address the reviews of the new source performance standards for hazardous air pollutants from natural gas processing plants. Public comments are to be submitted on or before October 24, 2011. [Tuesday, August 23, 2011 (Volume 76, Number 163)]

ED – The US Department of Education (ED) announces an open teleconference of the Advisory Committee on Student Financial Assistance on September 13, 2011. [Wednesday, August 24, 2011 (Volume 76, Number 164)]

EPA – The Environmental Protection Agency (EPA) is delaying the reporting date for greenhouse gases under the Mandatory Greenhouse Gas Reporting Rule for all electricity generating sources, stationary fuel combustion sources, oil and gas production, and for many other greenhouse gas emitters. The new deadlines, depending on the source, are now March 31, 2013 and March 31, 2015. [Thursday, August 25, 2011 (Volume 76, Number 165)]

EPA

- The Environmental Protection Agency (EPA) is announcing three public hearings for the proposed New Source Performance Standards and National Emissions Standards for the oil and gas sector. They will be held on September 27, 2011 in Pittsburgh, Pennsylvania and on September 28, 2011 in Denver, Colorado and on September 29, 2011 in Arlington, Texas. [Friday, August 26, 2011 (Volume 76, Number 166)]

State – The Department of State announces a series of public meetings to provide the public the opportunity to comment on the proposed Keystone XL pipeline. A list of dates and locations can be found in the notice. [Friday, August 26, 2011 (Volume 76, Number 166)]

DOE – The National Petroleum Council will meet on September 15 at the St. Regis Hotel in Washington, DC. This will be an open meeting. [Tuesday, August 30, 2011 (Volume 76, Number 168)]

DOE – The Energy Efficiency and Renewable Energy Advisory Committee will hold an open meeting on September 23, 2011 in San Mateo, California. [Wednesday, August 31, 2011 (Volume 76, Number 169)]

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30. Key AGI Government Affairs Updates

- Senate Hearing on Nuclear Reactor Safety (8/5/11)
- House Hearing on Offshore Energy Revenue Sharing (8/5/11)

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Monthly Review prepared by Wilson Bonner and Linda Rowan, Staff of Government Affairs Program; Lauren Herwehe, 2011 AIPG/AGI Summer Intern; Vicki Bierwirth, 2011 AIPG/AGI Summer Intern and Erica Dalman 2011 AIPG/AGI Summer Intern. Sources: Associated Press, AAAS, Environment and Energy Daily, Greenwire, New York Times, Washington Post, National Academies Press, American Institute of Physics, Soil Science Society of America, 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 Transportation, Department of Commerce, Department of State, Department of Education, Twitter, US Chamber of Commerce, EarthScope, Rosneft

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This monthly review goes out to members of the AGI Government Affairs Program (GAP) Advisory Committee, the leadership of AGI's member societies, and other interested geoscientists as part of a continuing effort to improve communications between GAP and the geosciences community that it serves. For additional information on specific policy issues, please visit the web site or contact us at govt@agiweb.org.

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