

## Monthly Review: March 2011

*This monthly review 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. Paid Geoscience Public Policy Summer Internship—Deadline March 15

The American Geological Institute's Government Affairs Program offers summer and semester internship opportunities for geoscience students (undergraduates and/or Masters students) with an interest in public policy and in how Washington impacts the geoscience community. Interns gain a first-hand understanding of the legislative process and the operation of executive branch agencies while enhancing their writing, research, and web publishing skills. Deadlines for online submission of applications are March 15 for summer, April 15 for fall and October 15, 2011 for spring 2012.

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

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### 2. Administration's Response to the Tohoku Earthquake

On March 11, 2011, a magnitude 9.0 earthquake hit about 80 miles (129 kilometers [km]) from the northeast coast of Honshu, Japan at a depth of 19.9 miles (32 km). The earthquake resulted from thrust faulting on the subduction zone plate boundary between the Pacific and North American plates. Modeling indicates the fault moved upwards about 30 to 40 meters and slipped over an area of about 300 km by 150 km. The earthquake was preceded by magnitude 6s and 7s foreshocks and followed by dozens of large magnitude aftershocks. Large earthquakes and tsunamis have been recorded in the area in 869, 1611, 1896 and 1933. More information about the Tohoku earthquake is available from the U.S. Geological Survey, which is the lead federal agency for earthquakes in the United States. The National Earthquake Hazards Reduction Program (NEHRP) is monitoring the response of the built environment to the earthquake and tsunami. A PDF presentation of a March 20 initial assessment in Japan suggests the built environment did well in the earthquake.

The Tohoku earthquake generated a tsunami that hit the coast of Japan within minutes and moved across the Pacific Ocean to U.S. coastlines in Hawaii, California, Oregon, Washington and Alaska within hours. The waves that hit Sendai Japan and other coastal communities may have been as large as 37.9 meters (114 feet) in height. The tsunami led to the greatest devastation in northern Japan. The waves overcame a 207 foot breakwater and many 30 to 10 foot high seawalls along the coast. While these structures may have muted the impact, the tsunami waves are likely to be the main causes for the estimated 28,000 fatalities, 250,000 displaced, and \$300 billion in damages in Japan. Damage in the U.S. from the tsunami was confined to harbors and coastal areas with \$30 million in damage in Hawaii, \$7 million in Oregon and one fatality and \$50 million in damage in California. The National Oceanic and Atmospheric Administration (NOAA) detected the tsunami, modeled its path, sent out warnings and recorded its movement across the ocean. More information about the Honshu tsunami is available from the National Oceanic and Atmospheric Administration (NOAA), which is the lead federal agency for tsunamis in the United States.

In the aftermath of the earthquake and tsunami, Japan's Fukushima Daiichi nuclear power plant suffered massive failures at its six nuclear reactors. Initially the loss of power caused active reactors and spent fuel housed in cooling ponds to overheat, leading to over pressurization, hydrogen gas explosions, loss of cooling water, radiation leaks and extensive additional damage to power and cooling systems. As of April 5, reactors remain in a critical state, with responders forced to add more water to keep the fuel cooled at the same time as radiated water is leaking from identified and un-identified areas.

President Obama offered condolences and help to Japan immediately after the earthquake and tsunami. The U.S. military based in Okinawa, Japan started helping with rescue and response efforts while nuclear power plant experts from the Nuclear Regulatory Commission (NRC), Department of Energy and other agencies provided help, starting with 11 NRC experts dispatched on March 14. As the nuclear reactor crisis worsened, the President increased U.S. efforts, sending more experts and a significant amount of equipment to try to contain the nuclear reactor crisis.

The U.S. called for a 50 mile radius evacuation zone for U.S. citizens located around the Daiichi plant on March 16, which is far larger than the evacuation zone instituted by the Japanese. The President also requested that the NRC review safety and preparedness for disasters at all nuclear power plants in the United States. On March 21, the NRC established a task force that will review safety at U.S. nuclear power plants. NRC provided an update on its efforts in an April 4 press release.

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### 3. Update on FY 2011 Budget

The sixth continuing resolution (CR) expires on April 8, yet Congress does not seem to be close to resolving their differences regarding the fiscal year (FY) 2011 budget. Vice President Joe Biden has been trying to facilitate a compromise without much success. In general the Republicans, especially in the House, would like to have significant cuts to discretionary spending in the range of \$60 billion plus restrictions placed on the Environmental Protection Agency's (EPA) efforts to reduce greenhouse gas emissions. Democrats have suggested cuts in the range of \$30 billion and would like the EPA restrictions removed.

Congress has been chipping away at the discretionary spending budget in the two continuing resolutions passed in March. The fifth CR (H.J. Res. 44); Public Law 112-4) cut about \$4 billion from discretionary spending. The sixth CR (H.J. Res. 48; Public Law 112-6) cut about \$6 billion from discretionary spending, targeting climate change programs within the U.S. Geological Survey (USGS), National Oceanic and Atmospheric Administration (NOAA), the Department of Agriculture and the Environmental Protection Agency (EPA) (see the press release from the House Appropriations Committee for more details on these and other cuts).

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#### 4. House Science Committee Releases FY 2012 Budget Views

The House Science, Space, and Technology Committee has released its Views and Estimates for Fiscal Year (FY) 2012, which outlines the Committee's stance on budgetary issues concerning research and development at the National Aeronautics and Space Administration (NASA), the National Science Foundation (NSF), the Department of Energy (DOE), the National Oceanic and Atmospheric Administration (NOAA), the National Institute of Standards and Technology (NIST), the Environmental Protection Agency (EPA) and other federal agencies. It includes majority and minority party opinions and additional individual views from members of the committee.

Highlights from the Republican views include opposition to the increased funding for the Earth Science programs within NASA; concern over funding new science, technology, engineering and mathematics (STEM) education programs at NSF at the expense of others; support for considering cuts to DOE's Atmospheric System Research and the Climate and Earth Systems Modeling programs, disapproval of reduced funding for DOE's Office of Fossil Energy; and disapproval of the proposed Climate Service at NOAA. The majority states support for funding for the Joint Polar Satellite System (JPSS) at NOAA.

The Democrats of the committee in general support the President's budget request for federal science agencies, though they did express "disappointment" with the NASA budget request, saying the goals outlined by Congress for NASA are not reflected in the request. The minority supports increased funding for Earth Science at NASA and calls for funding NSF and NOAA at the requested levels.

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#### 5. Senate Passes Bipartisan Patent Reform Act

Sponsored by a trio of senators from both parties, the America Invents Act of 2011 (S.23) passed the Senate overwhelmingly on March 8, 2011. The measure reforms America's patent system to improve patent quality, reduce backlogs at the U.S. Patent and Trademark Office (USPTO), and provide funds to ensure processing of the 700,000 backlogged applications in USPTO. One significant change that has generated controversy would be the initiation of a "first-to-file" model rather than a "first-to-invent" system. Senator Orrin Hatch (R-UT), a co-sponsor of the bill along with Senator Patrick Leahy (D-VT) and Senator Chuck Grassley (R-IA), said the bill has "widespread support from lawmakers and the business community." The bill now moves to the House for consideration.

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#### 6. Bill to 'Rein in' EPA Climate Regulation on the Move

The House Energy and Commerce Committee passed the Energy Tax Prevention Act of 2011 (H.R. 910), a bill that would prohibit the Environmental Protection Agency (EPA) from regulating greenhouse gases (GHG) under the Clean Air Act, on March 15, 2011. The bill, crafted by Energy and Commerce Chairman Fred Upton (R-MI) and Senator James Inhofe (R-OK), would repeal EPA's 2009 finding that carbon dioxide and other GHG endanger human health and public safety. It would strip the agency's authority to regulate GHG emissions from stationary sources and, in 2016, from vehicles.

Supporters of the bill say EPA has overstepped its authority and that GHG regulation is a congressional responsibility; some claim the regulations would drive up energy cost. Opponents warn that the bill would prevent EPA from carrying out its crucial mission—to protect public health. Others argue that repealing the endangerment finding is what Representative Ed Markey (D-MA) has called an "arbitrary rejection of scientific fact."

The bill moves to the Senate, where its fate is unclear. Senator Jay Rockefeller (D-WV) has introduced a bill (S. 231) as an alternative that would delay any EPA actions on GHG emissions by two years.

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## 7. Amendments to Limit EPA and cut \$200 Billion from Spending

The Senate is expected to bring to the floor in early April three amendments concerning the Environmental Protection Agency's (EPA) ability to regulate greenhouse gases (GHG). The most prominent amendment attached to the Small Business Innovation Research/Small Business Technology Transfer Reauthorization Act of 2011 (S. 493) is one that would prohibit EPA from regulating GHG. The amendment (S.AMDT. 183) was introduced by Senate Minority Leader Mitch McConnell (R-KY) and reflects a bill sponsored by Senator James Inhofe (R-OK) (H.R. 910).

Senator Jay Rockefeller (D-WV) is behind an amendment (S.AMDT. 280) that began as a bill (S. 231) that would delay any EPA actions on GHG by two years. It is seen as an alternative to the McConnell amendment.

The third amendment (S.AMDT. 236), by Senator Max Baucus (D-MT), would in part reinforce EPA's tailoring rule by making the agricultural exemption from GHG regulations permanent. The agricultural community is divided over whether the measure would protect farmers from potential negative impacts, such as increased energy costs, of GHG regulations.

Senator Rand Paul (R-KY) added an unrelated amendment (S.AMDT. 199) to cut \$200 billion in federal spending for the remainder of fiscal year (FY) 2011, down from his original previously filed budget bill of \$500 billion. It proposes to reduce funding to the Department of Energy by 50 percent.

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## 8. Oil and Gas Leasing Legislation

Policymakers introduced legislation in the House and Senate this month aimed at giving oil and gas companies in the Gulf of Mexico more time to develop their leases due to time lost during permitting delays following the BP oil spill and drilling moratorium in 2010. The "Lease Extension and Secure Energy Act of 2011" (S. 516 and H.R. 993) would extend leases for one year and provide operators time to meet new drilling and safety requirements put in place since the spill.

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## 9. Legislation to Tighten Natural Gas Drilling Oversight

Members of Congress have introduced legislation that would tighten oversight of natural gas drilling companies by removing exemptions from the Safe Drinking Water Act (SDWA) and the Clean Air Act (CAA). The Fracturing Responsibility and Awareness of Chemicals Act of 2011 (H.R. 1084 and S. 587), or FRAC Act, would repeal an exemption included in the SDWA for hydraulic fracturing, a practice associated with natural gas drilling operations that involves injecting a mixture of chemicals, fluids and sand to ease gas extraction. Representative Diana DeGette (D-CO) introduced the House version, and Senator Bob Casey (D-PA), whose state has seen a Marcellus Shale drilling boom, is sponsoring the Senate counterpart.

Representative Jared Polis (D-CO) introduced companion legislation, the Bringing Reductions to Energy's Airborne Toxic Health Effects Act, or the BREATHE Act. The "sister legislation" would end a hydrogen sulfide exemption (the gas was originally included as a CAA pollutant but later removed) and require industry to follow "major source" requirements under National Emission Standards for Hazardous Air Pollutants (NESHAP), taking into consideration aggregate air pollution from clusters of wells rather than only individual wells.

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## 10. Senators Introduce Carbon Capture and Sequestration Legislation

Senator Jeff Bingaman (D-NM), with Senators Lisa Murkowski (R-AK), John Barrasso (R-WY) and Jay Rockefeller (D-WV), introduced the Department of Energy Carbon Capture and Sequestration Program Amendments Act of 2011 (S. 699). The text of the bill is available [here](#). The bill would establish a program through the Department of Energy (DOE) to provide financial and technical assistance to up to 10 commercial scale carbon capture and sequestration (CCS) projects, which the Senators say would help build confidence in CCS technology developers. Monitoring, accounting and verification of the injected plume would be required at each project, and the bill lays out framework for assessment and long-term assurance of geologic storage sites. Lastly, recognizing the need for a capable workforce as the number of CCS projects increases, the legislation would set up a grant program to train personnel at state agencies responsible for regulatory aspects.

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## 11. Lummis Introduces Soda Ash Legislation

Representative Cynthia Lummis (R-WY) introduced the Soda Ash Royalty Extension, Job Creation, and Export Enhancement Act of 2011 (H.R. 1192) in March, a bill that would extend the current royalty rate for soda ash, which is 2 percent. The rate was lowered from 6 percent in 2006 with help from Wyoming lawmakers and is set to return to the higher rate without congressional action.

Lummis said that in the midst of rising energy costs, the lower rate will help continue to support jobs and keep Wyoming competitive in the global market, where China has recently taken the lead in soda ash production. Soda ash is used to make glass, chemicals and detergents, and Sweetwater County in Wyoming has one of the largest deposits of trona, a mineral mined for the

substance.

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## 12. Senators Introduce Paper on Clean Energy Standard

Senate Committee on Energy and Natural Resources Chairman Jeff Bingaman (D-NM) and Ranking Member Lisa Murkowski (R-AK) released a document on March 21 that outlines the key elements and questions to consider when developing a clean energy standard (CES). The paper puts forward six broad questions, such as what resources would qualify as clean energy and how a CES would affect technology deployment, each with corresponding subtopics. The CES White Paper is available online and responses and comments are welcomed and encouraged until April 11, 2011.

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## 13. Johnson Introduces Women in Science Bill

Representative Eddie Bernice Johnson (D-TX), Ranking Member of the House Science, Space, and Technology Committee, introduced the Fulfilling the Potential of Women in Academic Science and Engineering Act of 2011 (H.R. 889). The bill would require the National Science Foundation (NSF), the White House Office of Science and Technology Policy (OSTP) and other federal agencies to take actions to reduce gender bias in grant distribution and academic advancement within science, technology, engineering and mathematics (STEM) fields. It directs agencies to hold workshops on gender bias; develop policies for extended research grant support for individuals who have care-giving responsibilities; and requires NSF to collect detailed demographic data on STEM faculty and grant awardees across the country.

The bill is similar to an amendment by Representative Johnson that was included in the House version of the America COMPETES Reauthorization Act of 2010 (H.R. 5116) but was removed by the Senate from the final version.

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## 14. Congressional Response to Japan Disaster: Earthquake/Tsunami Bills

The Tohoku earthquake, devastating Honshu tsunami and ongoing nuclear power plant crisis in Japan has brought congressional attention to earthquake hazards. Californian Senators Boxer and Feinstein introduced two measures after the tragic events. The Earthquake Insurance Affordability Act of 2011 (S.637) would establish guarantees for debt related to state catastrophe insurance programs that cover earthquakes. The Natural Hazards Risk Reduction Act of 2011 (S.646) would re-authorize the National Earthquake Hazard Reduction Program (NEHRP) and the National Windstorm Impact Reduction Program. NEHRP is a long-standing cooperative program involving the National Science Foundation, the U.S. Geological Survey, the National Institute of Standards and Technology and the Federal Emergency Management Agency to understand earthquakes, monitor and analyze earthquakes and prepare and mitigate earthquake risks.

Over in the House, Representatives Steve Cohen (D-TN), John Duncan (R-TN), David Wu (D-OR) and Mazie Hirono (D-HI) introduced Critical Infrastructure Earthquake Preparedness Act of 2011 (H.R. 1132). The measure would ask FEMA to establish a grant program to improve the ability of trauma center hospitals and airports to withstand earthquakes.

In the aftermath of Japan's crippling tsunami, Puerto Rico's Resident Commissioner Pedro Pierluisi reintroduced legislation that would require NOAA to build and operate a tsunami center in Puerto Rico (H.R. 1100). Currently, NOAA operates two centers on the Pacific Ocean. One is located at Ewa Beach, Hawaii and the other is in Palmer, Alaska. Though NOAA has already begun a "phased" approach to establishing a tsunami center for the Caribbean and East Coast in Puerto Rico, this legislation would require a Caribbean Tsunami Warning Center by amending the 2005 Tsunami Warning and Education Act (PL 109-424).

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## 15. House Holds Climate Hearings to Investigate Science Behind Findings

House panels held two hearings in March to examine climate science and findings and implications such as the Environmental Protection Agency's (EPA) controversial greenhouse gas (GHG) regulations currently being contested in Congress. The House Committee on Energy and Commerce Subcommittee on Energy and Power held a hearing on March 8 entitled "Climate Science and EPA's Greenhouse Gas Regulations," and the House Science, Space and Technology Committee held their own hearing on March 31 with the title "Climate Change: Examining the Processes Used to Create Science and Policy."

The hearings had one overlapping witness. Dr. John Christy, a climatologist and director of the Earth System Science Center at the University of Alabama in Huntsville. He appeared at both hearings as a majority witness to testify about his concerns with the Intergovernmental Panel on Climate Change (IPCC). Christy said at the Energy and Power hearing that EPA regulations would have no effect on climate change. However, Richard Somerville, a climate scientist and professor emeritus at Scripps Institution of Oceanography at the University of California, San Diego, and Knute Nadelhoffer, an ecologist and the director of the University of Michigan's Biological Station, stressed that global warming is occurring and that the U.S. must take action by reducing GHG emissions to avoid detrimental and irreversible effects to the climate.

At the Science Committee hearing, Dr. Richard Muller, a renowned physicist at the University of California, Berkeley, discussed



the current research project he is heading called the Berkeley Earth Science Temperature (BEST) project. The effort aims to use new methods to assess and analyze global temperature data and provide a model in addition to those from the three major groups that undertake climate analyses: the National Aeronautics and Space Administration (NASA) Goddard Institute for Space Studies, the National Oceanic and Atmospheric Administration (NOAA) and the United Kingdom's Hadley Centre, all of which provide information to the IPCC. BEST's work has yet to be peer-reviewed, but Muller said that their data so far shows "a global warming trend that is very similar to that previously reported by the other groups." Read testimony from the chairs and witnesses and watch the archived webcast of the Science Committee hearing [here](#), and the Energy and Power Subcommittee hearing [here](#).

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#### 16. Secretary Salazar Sets the Course for Landsat Program

Secretary of the Interior Ken Salazar discussed the future of the Landsat program and announced plans for the Department of the Interior to become the primary agency responsible for managing the Earth observation satellites on March 21. The President's fiscal year (FY) 2012 budget request calls for the U.S. Geological Survey (USGS) to become the permanent budgetary and managerial home for future Landsat satellite missions, a position currently held by the National Aeronautics and Space Administration (NASA). NASA would continue to work in partnership with USGS and would build and launch future satellites.

Landsat satellites use remote sensing technology to capture images and obtain data that is useful for agriculture, emergency response, water management, land use and national security issues. USGS Director Marcia McNutt said that the reorganization would "ensure that we continue to see the land so broadly, so distinctly, so objectively, that we can better understand our lands and manage them more efficiently, based on science, for the benefit of the American people." Salazar claims the shift will create stability for Landsat stakeholders, such as the company Ball Aerospace where Salazar made the announcement, resulting in reliable and sustained job creation and innovation

There is concern in Congress that the \$48 million increase in Landsat funds for USGS in the FY 2012 request has come at the expense of other crucial programs. Some say the shift in responsibility should be paired with a transfer of funds from NASA. The reorganization will require congressional approval before becoming final.

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#### 17. Failed Blowout Preventer Contributed to Oil Spill

The results are out on why the blowout preventer on the BP Deepwater Horizon rig failed to stop the Macondo well from gushing more than 200 million gallons of oil into the Gulf of Mexico from April to July 2010. The Columbus, Ohio office of the Norwegian company Det Norske Veritas (DNV) completed a forensic examination of the blowout preventer at a NASA facility in Michoud, Louisiana. The two volume report (Volume 1, Volume 2) was made available on March 23 by the U.S. Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE).

The report concludes that a buckled piece of drill pipe within the wellbore prevented the heavy duty blades called blind shear rams from cutting through the pipe and sealing the well. After loss of well control, the sudden rush of oil and gas had forced the drill pipe upward, and additional forces from below caused the pipe to bend and move off center. Based on the findings, the report recommends that industry study the equipment responsible for the failure and implement additional blowout preventer testing. The BOEMRE/U.S. Coast Guard Joint Investigation Team announced it will hold a seventh session of public hearings to focus on the results the week of April 4 in Metairie, Louisiana.

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#### 18. EPA Drafts Toxic Emissions Rules for Power Plants

Alongside the leaders of the American Lung Association and the American Academy of Pediatrics, EPA Administrator Lisa Jackson revealed a draft plan to require coal- and oil-fired power plants to reduce emissions of mercury and 83 other toxins by 2016. The proposed rules, which limit the amount of toxin released for every unit of electricity generated, are projected to cost about \$10.9 billion per year. Many power plants will need to purchase and operate carbon injection units to reduce mercury emissions, desulfurization scrubbers to limit acid gas emissions, and filtering units to keep toxic metals out of the air, among other capture technologies. While acknowledging the high cost of implementation, Jackson compared those costs to health saving benefits of \$59 billion to \$140 billion according to EPA's analysis. "The Clean Air Act is literally a lifesaver," Jackson stated, referring to the landmark law at the heart of these proposed rules. The final rule will be announced in November.

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#### 19. USGS Accepting Comments on Ten Year Strategies for Mission Areas

After reorganizing its structure last year, the United States Geological Survey (USGS) is creating 10-year strategies for each of its new Mission Areas: Climate and Land Use Change, Core Science Systems, Ecosystems, Energy and Minerals, Environmental Health, Natural Hazards, and Water. This process involves gathering input from the public on draft strategy documents and

questions that will inform the creation of these documents.

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## 20. DOE Releases Quadrennial Technology Review Framing Document

The U.S. Department of Energy (DOE) has begun a Quadrennial Technology Review (DOE-QTR) of its energy technology policies and programs and has made its DOE-QTR Framing Document available for public comment. The DOE-QTR is part of the government-wide Quadrennial Energy Review as recommended by the President's Council of Advisors on Science and Technology (PCAST). The framing document describes the nation's energy situation, outlines important future research and development policy decisions and summarizes current DOE energy technologies and technology program goals. Comments will be received until April 15, 2011.

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## 21. NASA's Glory Satellite Fails to Launch

For the second time in two years, a NASA satellite set to monitor Earth's climate and perform other Earth observations failed to reach orbit. The \$424 million satellite, known as Glory, and its rocket crashed into the Pacific Ocean on March 4. The satellite was equipped with a new Total Irradiance Monitor (TIM) to measure the Sun's energy output and an Aerosol Polarimetry Sensor (APS) to look at types and amounts of atmospheric aerosols.

It was the first time NASA has used a Taurus XL rocket since the failed launch of the Orbiting Carbon Observatory (OCO) in 2009. A NASA review panel assembled after OCO's plunge in 2009 discovered the cause of the crash to be the rocket's fairing, a protective nose cone that is supposed to detach once it travels through the Earth's atmosphere. Orbital Science Corporation, the maker of the Taurus XL, subsequently modified the fairing's design to prevent another disaster, but based on preliminary reports the fairing is likely to be at fault again.

The loss of Glory may result in a gap in a 32 year record of solar energy output. NASA has a couple of options to avoid this data gap. NASA can assemble a new version of TIM to install on a satellite already under construction or extend the battery life of NASA's aging TIM, which is on the satellite SORCE, by shutting down the rest of SORCE's instruments. Europe launched a solar energy monitoring satellite in 2010 called PICARD, but the French team in charge has not released any data so far.

Glory's crash prolongs the puzzle of aerosol behavior in the atmosphere. While some aerosols reflect radiation, cooling the climate, others, like black carbon, absorb radiation, warming the climate. Atmospheric aerosols are believed to exert an influence on the climate roughly equal to that of greenhouse gases, but that estimate carries a large margin of error. The APS was not only built to monitor the amounts of absorbing and reflecting aerosols, but to clarify what scale of influence aerosols actually have on Earth's climate.

On March 9, NASA announced that Bradley C. Flick, director of the Research and Engineering Directorate at NASA's Dryden Flight Research Center in Edwards, CA, will lead the mishap investigation board. He will be joined by six other voting members in gathering information to identify why Glory failed on launch.

The implications for NASA's Earth observing program are stark. Weakened by years of low budgets, a backlog of planned satellites and the loss of two expensive rockets, the program needs to recoup costs for the failed launches and continue with planned launches as Congress and the Administration look to reduce discretionary spending. House Republicans in the 112th Congress are targeting any projects related to climate change science for cuts (see H.R. 1) and those reduction efforts include programs with NASA's Earth Science division.

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## 22. BOEMRE to Recruit Environmental Scientists

The Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE) has begun a nationwide recruiting effort to attract the nation's top environmental scientists for positions at the agency responsible for offshore energy development. Director Michael Bromwich will visit 12 colleges and universities throughout April and early May to seek candidates for positions relating to environmental studies, National Environmental Policy Act (NEPA) review and environmental compliance. "These aggressive recruitment efforts underscore our seriousness about environmental issues and reflect our emphasis on science in decision-making," Bromwich explained. See the press release for more information.

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## 23. EarthScope Crosses Mississippi

The EarthScope Transportable Array seismic network crossed the Mississippi river on March 31, 2011 according to a press release from the National Science Foundation. For six years the array has been monitoring earthquakes and collecting massive amounts of data as it has marched from the west coast to the middle of the country. The data provides essential and abundant information

about the surface and near subsurface including information about faults, earthquakes and other important structural features. The network will significantly advance our knowledge of natural resource and natural hazards across the country. In addition to the research and data, the installed instruments can be kept by local communities for future research and monitoring if funds are provided for operation and maintenance.

The Transportable Array is part of the National Science Foundation (NSF)-funded EarthScope project, an integrated Earth science effort to explore the structure, evolution and dynamics of the North American continent. EarthScope has additional support from NASA and the U.S. Geological Survey. The Transportable Array is constructed, operated and maintained by the Incorporated Research Institutions for Seismology (IRIS) as part of EarthScope.

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#### 24. Judge Rules Google Cannot Digitize Books

A federal judge in New York denied the \$125 million settlement between Google and groups representing authors and publishers of books that the company planned to digitize to create the world's largest online library. Citing copyright issues and antitrust laws, Judge Denny Chin called the settlement, which would have allowed Google to continue plans to make every book available online, "not fair, adequate and reasonable." The settlement had been in the works since 2005, and the decision marks a setback for those involved; Judge Chin acknowledged that a revised agreement could gain favor in the courts. Google has said it wants to organize and make available all of the world's information, but academics, copyright experts and members of the Justice Department have expressed concern that the library would give Google unfair rights to profit from books without permission.

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#### 25. Anti-Evolution Bill in Tennessee Legislature

A bill is being considered in the Tennessee House of Representatives that would allow teachers to teach the "scientific strengths and scientific weaknesses" of topics such as global warming and evolution based on the assertion that they are "controversial." House Bill 368, introduced in February, would require state and local educational authorities to "assist teachers to find effective ways to present the science curriculum as it addresses scientific controversies," naming only biological evolution, the chemical origins of life, global warming, and human cloning as controversial topics. The bill is the sixth anti-evolution bill introduced in state legislatures in 2011. A similar Oklahoma bill (Senate Bill 554) died in committee.

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#### 26. Key Reports and Publications

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

##### **Earthquakes: Risk, Detection, Warning, and Research**

Released February 8, 2011. This report by Pete Folger describes efforts in the U.S. to understand and prepare for earthquakes. It discusses the National Earthquake Hazards Reduction Program (NEHRP) and its congressional history and the Advanced National Seismic System (ANSS), the Global Seismic Network (GSN), both monitoring systems. The report outlines detection, notification and warning efforts and research at agencies such as the U.S. Geological Survey (USGS) and the National Science Foundation (NSF).

##### **A U.S.-Centric Chronology of the International Climate Change Negotiations**

Released February 8, 2011. This document presents a U.S.-centric chronology of the international climate change policy from 1979 to 2010 as a background for congressional deliberations. It includes U.S. and international actions regarding the United Nations Framework Convention on Climate Change (UNFCCC), to which the U.S. is a party, the Kyoto Protocol, with which the U.S. is not involved, and the more recent 2009 "Copenhagen Accord" and 2010 "Cancun Agreements," both of which the U.S. acknowledged.

##### **Federal Agency Actions Following the Supreme Court's Climate Change Decision: A Chronology**

Released February 2, 2011. A landmark 2007 Supreme Court decision in *Massachusetts vs. EPA* found that greenhouse gases (GHG) constitute "air pollutants" as defined by the Clean Air Act (CAA). This report presents a chronology of U.S. Environmental Protection Agency (EPA) following the decision, including its endangerment finding for GHG and actions that led to developing regulations for GHG emissions.

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



### **National Earthquake Resilience: Research, Implementation, and Outreach**

Released March 30. This National Research Council report presents a roadmap for increasing national resilience to earthquakes. It warns that because the country has not seen a devastating earthquake in decades that society risks complacency. It endorses the 2008 strategic plan by the National Earthquake Hazards Reduction Program (NEHRP), says NEHRP needs sustained, increased funding to achieve its goals and advocates deploying the remaining 75 percent of the Advanced National Seismic System (ANSS).

### **National Water Resources Challenges Facing the U.S. Army Corps of Engineers**

Prepublication released March 29, 2011. This report, by the National Research Council (NRC) Committee on U.S. Army Corps of Engineers on Water Resources Science, Engineering, and Planning, aims to provide independent advice to the Corps on an array of strategic and planning issues. It gives finding but no recommendations on key water resource challenges.

### **Frontiers in Understanding Climate Change and Polar Ecosystems: Summary of a Workshop**

Prepublication released March 29, 2011. This publication summarizes the results of a workshop the Polar Research Board held to gather experts on Arctic and Antarctic issues from multiple fields and discuss what is known now, what needs to be addressed, and how to solve research questions associated with climate change in polar ecosystems.

### **National Security Implications of Climate Change for U.S. Naval Forces**

Released March 14, 2011. This report, by the National Research Council Committee on National Security Implications of Climate Change for U.S. Naval Forces, finds that moderate current trends in climate will present new national security challenges for the U.S. Navy, Marine Corps, and Coast Guard, though the timing, degree, and consequences of such changes remain uncertain. It addresses both near- and long-term implications and makes recommendations for U.S. naval leadership.

### **Managing University Intellectual Property in the Public Interest**

Released March 8, 2011. This book summarizes the findings and recommendations of the National Research Council committee charged with reviewing the system of intellectual property ownership at universities. Since passage of the Bayh-Dole Act of 1980 there has been concern that universities may prioritize commercial opportunities and applications that could yield financial returns over pursuing fundamental knowledge through basic research.

### **Tsunami Warning and Preparedness: An Assessment of the U.S. Tsunami Program and the Nation's Preparedness Efforts**

Released March 8, 2011. Recognizing that a significant portion of U.S. coastal areas are at risk for tsunamis, this book assesses the U.S. tsunami forecasting, detection and preparedness systems, advances made since the 2004 Indian Ocean tsunami and challenges that still remain. It describes research areas to improve tsunami education and outreach and suggests that persistent progress in risk assessment, public education, government coordination, detection and forecasting and warning-center operations will minimize future losses.

### **Vision and Voyages for Planetary Science in the Decade 2013-2022**

Released March 8, 2011. This book surveys the current state of knowledge of the solar system and recommends a suite of planetary science flagship missions for the decade 2013-2022 that could provide a steady stream of important new discoveries about the solar system. It identifies research and mission priorities, naming the NASA Mars Astrobiology Explorer Cacher (MAX-C) the highest priority to understand the geologic and climatic history of the red planet. The report suggests that the National Science Foundation expand funding for existing laboratories and establish new facilities as needed while enlisting the participation of international partners.

### **Building Community Disaster Resilience through Private-Public Collaboration**

March 2011. This book assesses the current state of private-public sector collaboration dedicated to strengthening community resilience from natural disasters, identifies gaps in knowledge and practice, and recommends research that could be targeted for investment. Specifically, the book finds that local-level private-public collaboration is essential to the development of community resilience.

### **S&T Strategies of Six Countries: Implications for the United States**

March 2011. In response to the rapidly growing global science and technology (S&T) market, this book analyzes the S&T strategies of Japan, Brazil, Russia, India, China, and Singapore, which are undergoing or have undergone remarkable S&T growth. The book recognizes that the U.S. faces increasing global competition to retain its economic and technological dominance and that this must be taken into consideration when developing S&T strategies.

### **Warming World: Impacts by Degree**

March 2011. This booklet outlines the scientific information that demonstrates that emission reductions today affect future impacts of climate change over the coming decades, centuries and millennia. It explains how policy decisions can be based on climate science that shows the relationships among increasing carbon dioxide concentrations, global warming, related physical changes and resulting impacts. It is based on the National Research Council report *Climate Stabilization Targets: Emissions, Concentrations, and Impacts Over Decades to Millennia* (2011).

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

### **Oil and Gas Leasing: Past Work Identifies Numerous Challenges with Interior's Oversight**

Released March 17, 2011. Prepared as testimony for the House Natural Resources Committee, this study used past GAO work to identify and outline five challenges that the Department of Interior may face: (1) Reorganization, (2) Balancing Responsibilities, (3) Human Capital, (4) Revenue Collection, and (5) Development of Existing Leases. GAO has named DOI's oil and gas resource management a high risk area.

### **Recovery Act: Status of Department of Energy's Obligations and Spending**

Released March 17, 2011. Frank Rusco, GAO Director of Natural Resources and Environment, delivered this testimony to the House Committee on Energy and Commerce Subcommittee on Oversight and Investigations as a review of the status of the \$41.7 billion provided to the Department of Energy (DOE) through the American Recovery and Reinvestment Act of 2009, \$35.2 billion of which was for projects and activities. GAO found that DOE had obligated \$33.1 billion and spent \$12.5 billion as of March 10, 2011.

### **Measuring Disaster Preparedness: FEMA Has Made Limited Progress in Assessing National Capabilities**

Released March 17, 2011. This testimony was given by William O. Jenkins, Director of GAO Homeland Security and Justice Issues, to the Senate Committee on Homeland Security and Governmental Affairs. The Post-Katrina Emergency Management Reform Act of 2006 required that the Federal Emergency Management Agency (FEMA) develop a national preparedness system and assess preparedness capabilities—capabilities needed to respond effectively to disasters—to determine the nation's preparedness capability levels and the resources needed to achieve desired levels of capability. The testimony states that, despite efforts, FEMA has made limited progress in achieving this.

### **Additional Cost Transparency and Design Criteria Needed for National Aeronautics and Space Administration (NASA) Projects**

Released March 3, 2011. Following a third annual assessment of selected large-scale NASA projects, GAO recommends in this report and letter to NASA Administrator Charles Bolden that the agency (1) provide increased transparency into project costs to the Congress to conduct oversight and ensure earlier accountability and (2) develop a common set of measurable and proven criteria to assess the design stability of projects before proceeding into later phases of development.

### **NASA: Assessments of Selected Large-Scale Projects**

Released March, 2011. The third of its kind, this GAO study assesses 21 NASA projects that each cost more than an estimated \$250 million to see how the agency is planning and executing large-scale projects. It provides observations on NASA's project management, outlines steps NASA is taking to improve its acquisitions and identifies challenges that lead to cost and schedule growth.

### **Environmental Protection Agency: Major Management Challenges**

Released March 2, 2011. This testimony was given to the House Committee on Appropriations Subcommittee on Interior, Environment, and Related Agencies by David C. Trimble, Acting Director of GAO Natural Resources and Environment. It highlights some of the major management challenges the Environmental Protection Agency (EPA) faces based on previous GAO work, steps the agency has taken to address them, and provides recommendations to make improvements.

### **Department of the Interior: Major Management Challenges**

Released March 1, 2011. Anu K. Mittal and Frank Rusco, GAO Directors of Natural Resources and Environment provided this testimony to the House Committee on Appropriations Subcommittee on Interior, Environment, and Related Agencies. Based on prior GAO reports, it highlights some of the major management challenges the Department of the Interior (DOI) faces and presents recommendations to improve DOI's programs.

## **Nuclear Waste: DOE Needs a Comprehensive Strategy and Guidance on Computer Models that Support Environmental Cleanup Decisions**

Released February 2011. Noting that the Department of Energy (DOE) is responsible for treatment and disposal of radioactive and hazardous waste from nuclear weapons and energy production, GAO was asked to describe how DOE's Office of Environmental Management (EM) uses computer models in cleanup decisions and ensures their quality and assess EM's overall strategy for managing its computer models. The report recommends that DOE clarify quality assurance requirements, assess computer models for compliance and develop a comprehensive strategy for its models.

## **Climate Change Issues: Options for Addressing Challenges to Carbon Offset Quality**

Released February 2011. In response to international and regional U.S. programs and congressional proposals, this report for the House Committee on Oversight and Government Reform examined various aspects of carbon offsets, which are reductions in greenhouse gas emissions in one place to compensate for emissions elsewhere. It identifies the following as key challenges in assessing the quality of different types of offsets and offers options for addressing them: (1) Additionality, (2) Measuring and managing soil and forestry offsets, and (3) Verification.

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### **27. Key Federal Register Notices**

**DOE** – The EIA is soliciting comments on the proposed revision and 3-year extension of the surveys in the Natural Gas Data Collection Program Package. More information can be found at the EIA website. [Wednesday, March 2, 2011 (Volume 76, Number 41)]

**DOI** – BOEMRE announces the availability of Environmental Assessments (EA) and Finding of No Significant Impact (FONSI) reports prepared by BOEMRE for oil and gas activities proposed on both the Alaska Outer Continental Shelf (OCS) and the Gulf of Mexico OCS. The documents and more information can be found here. [Thursday, March 3, 2011 (Volume 76, Number 42)]

**NSF** – Public commenting is requested on the quality of Earthquake Engineering Research Awards made by NSF from 2003-2009. Comments, to be submitted to the Office of Management and Budget, period will be accepted until April 2. See Federal Register notice for submission details. [Thursday, March 3, 2011 (Volume 76, Number 42)]

**NSF** – There will be a public meeting of the Advisory Committee for Geosciences to be held in Arlington, VA on April 13 and 14. Attendants are requested to provide advice, recommendations, and oversight concerning support for geosciences. [Friday, March 4, 2011 (Volume 76, Number 43)]

**CEQ** – As ordered by the President, federal agencies are now required to integrate climate change adaptation into policies and practices. CEQ's report to all agencies, Instructions for Implementing Climate Change Adaptation Planning, is now available. [Wednesday, March 9, 2011 (Volume 76, Number 46)]

**USGS** - USGS is creating 10-year strategies for each of its Mission Areas: Climate and Land Use Change, Core Science Systems, Ecosystems, Energy and Minerals, Environmental Health, Natural Hazards, and Water. This process involves gathering input from the public on draft strategy documents and questions that will inform the creation of these documents. [Thursday, March 10, 2011 (Volume 76, Number 47)]

**DOE** – DOE has begun a Quadrennial Technology Review (DOE-QTR) of its energy and technology policies and programs and has made its Framing Document available for comments here until April 15, 2011. [Monday, March 14, 2011 (Volume 76, Number 49)]

**NSF** – NSF announced it will establish the U.S. Antarctic Program Blue Ribbon Panel to conduct an independent review of the U.S. Antarctic Program to ensure the nation is pursuing the best 20 year trajectory for conducting science and diplomacy in Antarctica. [Monday, March 14, 2011 (Volume 76, Number 49)]

**USGS** – USGS has made available for public review and comment until April 22 a draft report entitled "Strengthening the Scientific Understanding of Climate Change Impacts on Freshwater Resources of the United States." A federal interagency team completed the report, which may be accessed here. [Wednesday, March 23, 2011 (Volume 76, Number 56)]

**DOE** – DOE is seeking information on rare earth elements and other materials used in energy technologies to support analyses for updating its 2010 Critical Materials Strategy until May 24, 2011. Visit their web site for more information. [Thursday, March 24, 2011 (Volume 76, Number 57)]

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### **28. Key AGI Government Affairs Updates**

- [Hearings on USGS FY 2012 Budget \(3/17/11\)](#)
- [Hearings on DOE FY 2012 Budget \(3/17/11\)](#)

- Hearings on NSF FY 2012 Budget (3/17/11)
- Hearings on DOI FY 2012 Budget (3/16/11)
- Hearings on Federal Agencies (3/15/11)
- Hearings on Earth Observations and Space Policy (3/7/11)
- Hearings on Environmental Policy (3/7/11)
- Hearings on Water and Oceans Policy (3/4/11)

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Monthly Review prepared by Linda Rowan and Wilson Bonner, Staff of Government Affairs Program and Dana Thomas, AGI/AAPG Spring 2011 Intern.

Sources: Associated Press, AAAS, Environment and Energy Daily, Greenwire, New York Times, Science Magazine, National Academies Press, Government Accountability Office, Thomas, House of Representatives, U.S. Senate, the White House, Department of the Interior, and Environmental Protection Agency.

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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](mailto:govt@agiweb.org).

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