



March 2009

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INTRODUCTION

We are pleased to present you with *Sustainability at the National Academies*, a monthly update highlighting activities related to sustainable development from throughout the National Academies. Please visit our website for additional information on these and other activities at <http://sustainability.nationalacademies.org>.

The [Roundtable on Science and Technology for Sustainability](#) provides a unique forum for sharing views, information, and analyses related to sustainability. The goal for the Roundtable is to mobilize, encourage, and use scientific knowledge and technology to help achieve sustainability goals and to support the implementation of sustainability practices. Through its activities, the Roundtable identifies new ways in which science and technology can contribute to sustainability. What follows is a brief summary of sustainability-related activities being conducted throughout the National Academies.

You are receiving this update based on your participation in ongoing or past activities of the Roundtable. If you would prefer not to receive future monthly updates or would like to be added to the recipient list, please contact Kathleen McAllister at 202-334-2047 or Sustainability@nas.edu or visit our website.

NEWS

Summit on America's Climate Choices Webcast

The National Academies are holding the Summit on America's Climate Choices on March 30-31, 2009, in Washington, D.C. Summit registration is full; however, a live webcast of the proceedings will be available beginning at 8:30 a.m. EDT on Monday, March 30, 2009. Additional information on the summit, including the agenda and webcast information is available on the America's Climate Choices website.
<http://www.americasclimatechoices.org/index.shtml>

Webcasts: Twenty-first Century Ecosystems: Systemic Risk and the Public Good

Watch video from National Academies' symposium on biodiversity policy held on February 11-12, 2009. The symposium, in honor of the 200th anniversary of the birth of Charles Darwin, focused on biodiversity and ecosystems and their relevance to key policy issues such as climate change and energy, trade, pests and pathogens, and food security.

http://www7.nationalacademies.org/usnc-diversitas/Darwin_Symposium_Agenda.html

Network for Emerging Leaders in Sustainability, March 30, 2009

The Network for Emerging Leaders in Sustainability (NELS) invites you to attend an upcoming meeting on Monday, March 30th, at the Marian Koshland Science Museum at 600 E Street NW in Washington, DC, from 5:30pm to 7:30pm. NELS is a new organization for early-career professionals who are interested in building bridges with peers in DC-area agencies and organizations. Brian Czech, President, Center for the Advancement of the Steady State Economy (CASSE), will deliver a keynote speech at this meeting. To attend this free event, please register at: <http://sustainability.nationalacademies.org/NELS.shtml>.

NEW REPORTS

Informing Decisions in a Changing Climate

Climate change will create a novel and dynamic decision environment that cannot be envisioned from past experience. Moreover, climatic changes will be superimposed on social and economic changes that are altering the climate vulnerability of different regions and sectors of society, as well as their ability to cope. Decision makers will need new kinds of information and new ways of thinking and learning to function effectively in a changing climate. The information that is needed is not only about climate, but also about changes in social and economic conditions that interact with climate change. This report provides a framework and a set of strategies and methods for organizing and evaluating decision support activities related to climate change. Based on basic knowledge of decision making; past experiences in other fields; experience with early efforts in the climate arena; and input from a range of decision makers, the book identifies six principles of effective decision support and recommends a strategy for implementing them in a national initiative to inform climate-related decisions.

http://www.nap.edu/catalog.php?record_id=12626

Review of Use of Process Control Indicators in the FSIS Public Health Risk-Based Inspection System: Letter Report

The United States Department of Agriculture's Food Safety and Inspection Service (FSIS) is the government agency responsible for ensuring the safety of America's supply of meat, poultry, and egg products. In an effort to improve its inspection system, FSIS has proposed to modify the allocation of its inspection resources by establishing criteria to rank, based on public health risk, slaughtering and processing establishments. Before implementing the proposed inspection system, FSIS asked the Institute of Medicine (IOM) to evaluate the system, particularly the criteria for ranking slaughtering and processing establishments. In its 2009 letter report Review of the Use of Process Control Indicators in the FSIS Public Health Risk-Based Inspection System, the IOM committee concurs with the use of the risk-based inspection system but makes several recommendations to improve the process.

http://www.nap.edu/catalog.php?record_id=12617

Review of the Methodology Proposed by the Food Safety and Inspection Service for Risk-Based Surveillance of In-Commerce Activities: A Letter Report

The Food Safety and Inspection Service of the U.S. Department of Agriculture is the agency responsible for enforcing federal regulatory statutes applicable to meat, poultry, and egg products. The goal of the regulations is to ensure that the products are wholesome and safe for human consumption. This letter report, produced at the request of the Food Safety and Inspection Service, reviews new methods the agency has proposed to organize its inspection of businesses and their facilities. The report concludes that a risk-based approach for surveillance activities is an appropriate goal and commends the Food Safety Inspection Service for its efforts to develop a systematic approach to surveillance of businesses. The report offers several recommendations for the agency to consider for improving proposed methods.

http://www.nap.edu/catalog.php?record_id=12634

Transforming Agricultural Education for a Changing World

Many of today's major challenges – including energy security, national security, human health, and climate change – are closely tied to the global food and agriculture enterprise. Academic institutions with programs in agriculture are in a perfect position to foster the next generation of leaders and professionals needed to address these challenges, but many institutions have struggled to keep pace with changing times. At the request of the U.S. Department of Agriculture, the W.K. Kellogg Foundation, the National Science Foundation, the Farm Foundation, and the American Farm Bureau Foundation for Agriculture, the National Research Council convened a committee to examine ways to effect change in undergraduate agricultural education to attract top students and prepare them for the challenges of tomorrow. The committee's report identifies nine steps institutions can take to better meet the needs of students, employers, and the broader society.

http://www.nap.edu/catalog.php?record_id=12602

HHS in the 21st Century: Charting a New Course for a Healthier America

The U.S. Department of Health and Human Services (HHS) profoundly affects the lives of all Americans. Its agencies and programs protect against domestic and global health threats, assure the safety of food and drugs, advance the science of preventing and conquering disease, provide safeguards for America's vulnerable populations, and improve health for everyone. However, the department faces serious and complex obstacles, chief among them rising health care costs and a broadening range of health challenges. Over time, additional responsibilities have been layered onto the department, and other responsibilities removed, often without corresponding shifts in positions, procedures, structures, and resources. At the request of the U.S. House of Representatives Committee on Oversight and Government Reform, this report assesses whether HHS is "ideally organized" to meet the enduring and emerging health challenges facing our nation.

http://www.nap.edu/catalog.php?record_id=12513

Advice on the Department of Energy's Cleanup Technology Roadmap: Gaps and Bridges

The Department of Energy (DOE) is responsible for removing or remediating radioactive waste and other contamination from its former nuclear weapons production sites. The job is expected to cost between about \$265 billion and \$305 billion over the next approximately 30 years. DOE has stated that the work, which is being conducted by its Office of

Environmental Management (EM), is one of the most technically challenging and complex cleanup efforts in the world. EM asked the National Academies to convene a committee to assist in preparing a congressionally requested engineering and technology roadmap to support the cleanup effort. The committee's report identifies 13 technology gaps in areas of tank waste retrieval and processing, groundwater and soil remediation, and facility deactivation and decommissioning.

http://www.nap.edu/catalog.php?record_id=12603

Public Transportation's Role in Addressing Global Climate Change

Transportation Research Board (TRB)'s Transit Cooperative Research Program (TCRP) Research Results Digest 89: Public Transportation's Role in Addressing Global Climate Change provides an overview of an International Transit Studies Program mission that investigated public transportation's role in addressing global climate change in several cities in Ireland, Germany, Italy, and Spain.

<http://www.trb.org/news/blurbs/detail.asp?id=10157>

Making Certain Progress in Uncertain Times: The Transportation Research Board's 2008 Field Visit Program

Each year, TRB's Technical Activities Division staff visit state departments of transportation, as well as selected universities, transit and other modal agencies, and industry organizations, to determine the issues they are facing and how TRB can help in addressing those issues. The 2008 field visits by TRB Technical Activities staff found that transportation agencies are addressing uncertainties about the economy, energy, climate change, funding, and national policies with new ideas, programs, and techniques to improve customer services.

<http://www.trb.org/news/blurbs/detail.asp?id=10156>

NEW PROJECTS

Preparing for the Third Decade (Cycle 3) of the National Water-Quality Assessment (NAWQA) Program

The project will provide guidance to the U.S. Geological Survey on the design and scope of the National Water-Quality Assessment (NAWQA) program as it enters its third decade of water-quality assessments. The committee will assess accomplishments of the NAWQA program since its inception in 1991 by engaging in discussions with the Cycle 3 Planning Team, program scientists and managers, and external stakeholders and users of NAWQA data and scientific information. The committee will also review USGS internal reports on the program's current design for monitoring, assessments, research, and relevance to key water topics.

<http://www8.nationalacademies.org/cp/projectview.aspx?key=49056>

Review of Sea Turtle Population Assessment Methods

This study will review recent assessments on the status and trends of sea turtle populations which occur in U.S. waters during all or a portion of their life cycle. The study will evaluate the state of the science and research in terms of population assessment capabilities and data required to improve assessments. The study will review the utility of existing research programs that provide information for assessing and managing sea turtle populations in the context of current recovery plans. The report will include a discussion of current methods

used to assess the status of sea turtle populations and to estimate known mortality.

<http://www8.nationalacademies.org/cp/projectview.aspx?key=49052>

Assessment of Intraseasonal to Interannual Climate Prediction and Predictability

This study will review the current state of knowledge about estimates of predictability of the climate system on intraseasonal to interannual timescales, assess in what ways current estimates are deficient, and recommend ways to improve upon the current predictability estimates. The study will also recommend research and model development foci and efforts that will be most beneficial in narrowing the gap between the current skill of predictions and estimated predictability limits.

<http://www8.nationalacademies.org/cp/projectview.aspx?key=49033>

Alaska's Oil and Gas Pipeline Infrastructure: Risk Assessment Peer Review

This project will provide a peer review of a proposed design for a comprehensive risk assessment of Alaska's oil and gas pipeline infrastructure. The risk assessment will be a one-time engineering-oriented appraisal of the condition of the pipeline infrastructure that will identify, quantify, and evaluate risk, and recommend measures to mitigate or manage those risks. The first phase of the project, which will require about 1 year, will propose a design for the assessment.

<http://www8.nationalacademies.org/cp/projectview.aspx?key=49061>

UPCOMING MEETINGS

March

Health, Environmental, and Other External Costs and Benefits of Energy Production and Consumption, March 26-27, 2009, Irvine, CA

<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=3352>

Network for Emerging Leaders in Sustainability, March 30, 2009, Washington, DC

<http://sustainability.nationalacademies.org/NELS.shtml>

Management and Effects of Coalbed Methane Development and Produced Water in the Western United States, March 30-31, 2009, Denver, CO

<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=3327>

Summit on America's Climate Choices, March 30-31, 2009, Washington, DC

<http://americasclimatechoices.org/summit.shtml>

Review of Near-Earth Object Surveys and Hazard Mitigation Strategies, Mitigation Panel, March 30-April 1, 2009, Washington, DC

<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=3339>

April

America's Climate Choices: Panel on Adapting to the Impacts of Climate Change, April 1, 2009, Washington, DC

<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=3336>

America's Climate Choices: Panel on Informing Effective Decisions and Actions Related to Climate Change, April 1, 2009, Washington, DC

<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=3337>

America's Climate Choices: Panel on Limiting the Magnitude of Future Climate Change, April 1, 2009, Washington, DC

<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=3338>

The Roundtable of Science and Technology for Sustainability, April 1-2, 2009, Washington, DC

<http://sustainability.nationalacademies.org/roundtable.shtml>

Evolution in Health and Medicine (9th Annual Sackler Lecture), April 2-3, 2009, Washington, DC

http://www.nasonline.org/site/PageServer?pagename=Sackler_Evolution_Health_Medicine

Research Capacity Building, Knowledge Sharing, and Innovation in Global Health, April 3, 2009, Washington, DC

<http://www.iom.edu/CMS/3783/51303/61593.aspx>

A New Biology for the 21st Century: Ensuring that the United States Leads the Coming Biology Revolution, April 6-7, 2009, Washington DC

<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=3123>

Best Practices for Shellfish Mariculture and the Effects of Commercial Activities in Drake's Estero, Pt. Reyes National Seashore, California, April 6-7 2009, Washington, DC

<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=3334>

Ranking FDA Product Categories Based on Health Consequences, Phase II, April 6-7 2009, Washington, DC

<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=3340>

Picturing the Science of Climate Change, April 7, 2009, Washington, DC

<http://www.koshland-science-museum.org/events/upcomingevent.jsp?id=331>

Assessment of Fuel Economy Technologies for Medium and Heavy Duty Vehicles, April 7-8, 2009, Detroit, MI

<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=3342>

Development of an Integrated Science Strategy for Ocean Acidification Monitoring, Research, and Impacts Assessment, April 10-11, 2009, Washington, DC

<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=3333>

Preventing the Global Epidemic of Cardiovascular Disease (CVD): Meeting the Challenges in Developing Countries, April 13-15, 2009, Washington, DC

<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingID=3330&MeetingNo=2>

Review of Louisiana Coastal Protection and Restoration (LACPR) Program, April 14-15, 2009, New Orleans, LA

<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=3320>

21st Century Systems Agriculture: An Update of the 1989 NRC Report "Alternative Agriculture", April 16-17, 2009, Irvine, CA

<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=3199>

Preparing for the Third Decade (Cycle 3) of the National Water-Quality Assessment (NAWQA) Program, April 20-21, 2009, Washington, DC

<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=3345>

Review of Near-Earth Object Surveys and Hazard Mitigation Strategies, Survey/Detection Panel, April 20-22, 2009, Tucson, Arizona

<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=3220>

2009 German-American Frontiers of Engineering, April 22-25, 2009, Potsdam, Germany

<http://www.nae.edu/nae/naefoe.nsf/weblinks/GBAN-7FAHYH?OpenDocument>

Global Climate Change Science Café: Problems and Solutions, April 23, 2009, Washington, DC

<http://www.koshland-science-museum.org/events/upcomingevent.jsp?id=333>

Review of the FreedomCAR and Fuel Research and Development Partnership, Phase 3, April 27-28, 2009, Washington, DC

<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=3343>

Cornell Center for a Sustainable Future Symposium, April 28, 2009, Washington, DC

<http://www.cornellclubdc.org/events/2009/04/28/sustainability-symposium>

May

Assessment of Technologies for Improving Light-Duty Vehicle Fuel Economy, May 7-8, 2009, Woods Hole, MA

<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=3344>

Assessment of the Department of Energy's Methane Hydrate Research and Development Program: Evaluating Methane Hydrates as a Future Energy Resource, May 7-8, 2009, Golden, CO

<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=3312>

Climate Change: Birds, Bees, Flowers and Trees, May 14, 2009, Washington, DC

<http://www.koshland-science-museum.org/events/upcomingevent.jsp?id=337>

Review of the St. Johns River Alternative Water Supply Cumulative Impact

Assessment, May 20-22, 2009, Orlando, FL

<http://www8.nationalacademies.org/cp/meetingview.aspx?MeetingId=3227>

PROJECTS IN DEVELOPMENT

Expanding Biofuel Production – Lessons from the Upper Midwest for Sustainability

An ad hoc committee will organize a workshop in Summer 2009 that will assess the sustainability impacts of expanding biofuel production at a regional level. Workshop participants will assess lessons learned from dramatic increases in corn based fuels and identify implications of expanded biofuel production, examining feedstock production, refining, distribution and use. The objective of the workshop is to inform local, state and federal decision-makers and to suggest policies that can be developed to encourage more sustainable practices and to mitigate potentially adverse impacts on specific regions of the country as the U.S. transitions to the next generation of biofuels. This workshop is being supported by the Energy Foundation and the National Academies' George and Cynthia Mitchell Endowment for Sustainability Science.

Research and Development on Urban Sustainability

An ad hoc planning committee will organize a two-day public workshop to discuss research gaps, needed analytical tools, and opportunities for collaboration among federal research and development programs and other relevant programs focused on challenges to urban sustainability. Participants will include representatives from federal agencies, state/local agencies, academic non-governmental organizations, and key stakeholder groups such as the Conference of Mayors and the League of Cities, as well as international experts. Funding is currently being sought for this project.

ONGOING ACTIVITIES

PNAS Sustainability Science, Special Features

PNAS offers a series of special feature issues that highlight emerging fields in the physical, social, and biological sciences and are edited by leaders in the field. Special Features include a cluster of Perspectives and peer-reviewed research articles. As a service to readers, Special Features are freely available online from the date of publication.

<http://www.pnas.org/misc/sustainability.shtml>

From the March 2009 Issue:

Large-scale Impacts of Herbivores on the Structural Diversity of African Savannas

<http://www.pnas.org/content/106/12/4947.full>

Decentralization for cost-effective conservation

<http://www.pnas.org/content/106/11/4143.full>

To learn more about sustainability activities, both in the STS program and throughout the other boards and committees of the National Academies, please visit our webpage at:

<http://sustainability.nationalacademies.org/ongoing.shtml>

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