An Update on Building a Sustained National Climate Assessment: Vision & Reality

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US Global Change Research Program



Global Change Research Act (1990):

"To provide for development and coordination of a comprehensive and integrated United States research program which will assist the Nation and the world to understand, assess, predict, and respond to human-induced and natural processes of global change."



13 Federal Departments & Agencies + Executive Office of the President

More information:

http://www.globalchange.gov



National Climate Assessment: GCRA (1990), Section 106

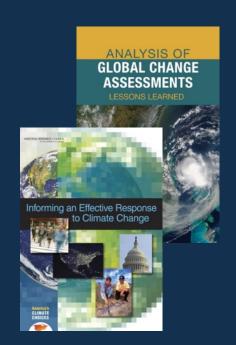
...not less frequently than every 4 years, the Council... shall prepare... an assessment which –

- integrates, evaluates, and interprets the findings of the Program (USGCRP) and discusses the scientific uncertainties associated with such findings;
- analyzes the effects of global change on the natural environment, agriculture, energy production and use, land and water resources, transportation, human health and welfare, human social systems, and biological diversity; and
- analyzes current trends in global change, both human-induced and natural, and projects major trends for the subsequent 25 to 100 years.

THE NATIONAL CLIMATE ASSESSMENT

• The NCA is an *inclusive, broad-based, and sustained process* for assessing and communicating scientific knowledge of the impacts, risks, and vulnerabilities associated with a changing global climate in support of decision-making across the United States.

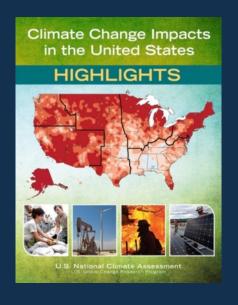


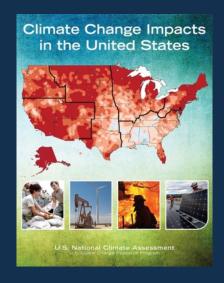




NCA3: CLIMATE CHANGE IMPACTS IN THE U.S.

- Full report (Digital, 850 pages)
 - Interactive, web-based
 - Linked to data and sources
 - Graphics (high-res files, interactive figures)
 - Supporting information
 - Slides and other materials
- Highlights (Printed,148 p)
- NCA2014.globalchange.gov
 - Over 150k web hits in the first 24 hours!
 - Over 1 Million in the first 3 months







NCA SUCCESS

Three aspects of NCA3 were crucial to success:

Stakeholder engagement

Clear communication principles

Transparency of process and information

NCA: STAKEHOLDER ENGAGEMENT

Ongoing stakeholder engagement is crucial to the success of the NCA process and quadrennial reports.

- Workshops: Numerous workshops on Assessment methods & process
- Formal and informal conversations: Listening sessions, town hall meetings, professional society meetings; other events
- Technical inputs and special assessment reports: Regional, sectoral, and response topics
- Public comment periods: on topics, draft reports, and ongoing activities
- NCAnet: network of +150 partner organizations, multiple "affinity groups";

online at http://ncanet.usgcrp.gov

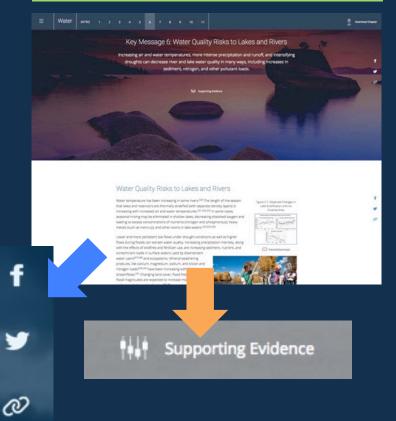


NCA3 COMMUNICATION

- Written in a popular style for non-technical audiences
- Chapters are arranged around key messages
- Lots of photos, case studies and examples
- "Risk-based framing" highlights impacts and opportunities that are important for decision makers
- Strong figures with access to supporting information (metadata) via Global Change Information System
- Access to underlying technical information, including traceable accounts, data sets, and reference material

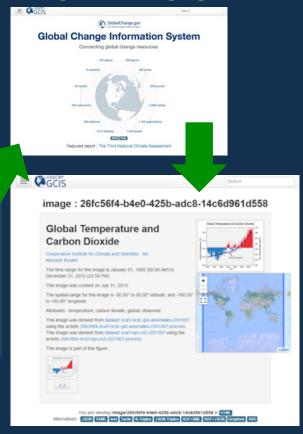
NCA3 TRANSPARENCY: GLOBAL CHANGE INFORMATION SYSTEM (GCIS)

nca2014.globalchange.gov





data.globalchange.gov



SUSTAINED ASSESSMENT: PROGRESS

2012 USGCRP STRATEGIC PLAN

Goal 1. Advance Science: Advance scientific knowledge of the integrated natural and human components of the Earth system.

Goal 2. Inform Decisions: Provide the scientific basis to inform and enable timely decisions on adaptation and mitigation

Goal 3. Conduct Sustained Assessments: Build sustained assessment capacity that improves the Nation's ability to understand, anticipate, and respond to global change impacts and vulnerabilities

Goal 4. Communicate and Educate: Advance communications and education to broaden public understanding of global change and develop the scientific workforce of the future

2015: Updated Strategic Plan

Advance Science

Inform Decisions

Sustained Assessments

Communicate & Educate

Public comment period closed 30 January 2016



SUSTAINED ASSESSMENT

- Build a sustained assessment process that improves our ability to understand, assess, anticipate, and respond to global change impacts and vulnerabilities
- Connect institutions and activities in regions and sectors through networks of information providers and users
- Continuously define climate-related risks & opportunities over time, at national, regional, and local scales
- Incorporate ongoing evaluation of effectiveness
- Embrace an evolving framework that encourages information providers and users to pursue new science and new knowledge to meet their own needs

- Special reports: In-depth reports on topics of emerging need or new science
 - Climate and Health
 - Food Security
 - Carbon Cycle
 - Climate Science
 - Others: Drought, Forests

- User-focused assessment products
 - Indicators system:
 - Climate indicators that help users connect to relevant datasets and information
 - Pilot stage, ongoing development
 - Extremes Assessment:
 - Exploring the idea of producing a series of small, interactive assessment products addressing types of extreme weather events
 - Focus on new science AND user needs

- User Engagement
 - Ongoing NCAnet activities
 - New "affinity groups" on Scenarios, Valuation
 - New Federal Advisory Committee
 - Will advise on user needs, user engagement, user perspective
 - Will connect the NCA with user communities
 - Member nominations are being reviewed

College and Universit Acclimatise | Adaptation International | Ala vstem | Alliance for Climat Commitment | American Geosciences In N Union | American Meteorologica **NCANet** American Planning Association | America rican Society o an Society Statistical Association | American Water 🕇 | Associat Climate of Fish & Wildlife Agencies | Associa onals | Associ ssociatio Laboratories | Association of State th Acres Animal Education Center of Zo Blue Frontier Campaign | BlueGreer ornia ersity Engineering and Public Policy Program | Carolinas Integrated Scie for Climate and Energy Solutions | West Center for Integrated Solutions to C I Cent is, Columbia University | Center for Sustainable Cities, University of mate Lobby | City of Cambridge mmerce Community Development Departmen Climate Change & Society Master's ent for the S Program, North Carolina State Univers ρ, University of Washington | Climate mate Data Solu xus | Climate Resolve | Collaboratory for Literacy and Energy Awareness Network artnership in the South Adaptation to Climate Change Consortium for Ocean ation Bic. hange Workgroup | Leadership | Cooperation and Satellites - North of State and Territori Crop Science Socie of Colorado) Sea r Basin Associat ing Conclusions LLC | Ducks Unli y Partners coAmerica gic Institute | Electric Po e AAAS Energy a Climate Education s Integrated Institute | For ter L ashingt (K-12, Highe Hab ents for Sciences itut€ a Univ Sustainability tute Internews Education ite Change Earth Journ ress for Su **Education** onmental Manz on Netw ociation of Reporting um | Na for Engine County and for Science lience and the Observatory atural Resources Dev Association | Nat. Department of aman Services | North Centil inter | Pacific Islands ted Sciences and Assessments (Pacific RISA) | Playa Regional Climate Assessment Climate Change Network | Pacific Rec Lakes Joint Venture | Portland Water Bureau d Health, Center for Clim on | Public Health Institute | Resource Media Rising Voices | Running Start Institute | inty Regional Airp ra Club - Michigan Chapter | Soil Science Society of America | South Central Clim Hub | Stanford Woods Institute for the nte Consortii **Environment | State Climate Office of** exas Sea Grant | The CLEO Institute | t | Sustair The Keystone Center | The Planet is R | US Climate and Health Alliance | s - TBL USA National Phenology Network | b | US(orking Group | US General Services of Ari Administration | University Corpora and Solutions | University of South (Local, State, t | Will Steger Foundation | World Carolina Environment & Sustainabi e I We Federal) . Climat the Planet Resources



- Data availability
 - Global Change Information System (GCIS)
 - Continuing to build the system in a sensible way
 - Adding info from all special reports
 - Connecting to other Federal efforts
 - Climate Data Initiative
 - Climate Resilience Toolkit
 - Adding content that is useful

Scenarios decisions

- Early selection of climate projections for 2018 NCA
- CMIP5 and RCPs 4.5 and 8.5 as focus for impacts
- Other information i.e., RCP2.6 to be included as appropriate
- Hope this early decision will result in more literature using these scenarios for impacts studies!

Social Sciences

- New interagency group focused on integrating social sciences into USGCRP activities
- Providing actionable suggestions for NCA4
- Providing input to improve human aspects of Indicators

PROGRESS

- Requests for Information
 - Opportunities for formal public input, published in the Federal Register
 - Summer 2015
 - General questions about sustained assessment
 - Major input received:
 - Regional information will be important in future
 - Engagement is very popular & critical to NCA process
 - Winter 2016 coming soon!
 - More details about ideas and outline for NCA4

CHALLENGES

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- Coordination ruled by committee
- Funding mechanisms no control
- Budget OMB
- Federal rules FACA, PWR
- Engagement New and scary
- User needs impacting science
- Status quo

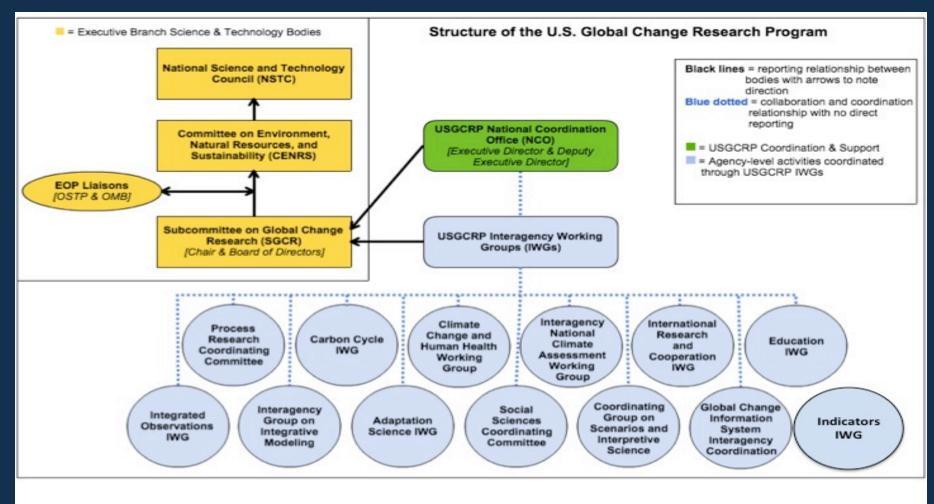
COORDINATION

GCRP is comprised of the global change R&D arms of 13 Federal agencies, including Departments of

- Agriculture (many agencies)
- Commerce (NOAA & NIST)
- Defense (ONR)
- Energy (Office of Science)
- Health & Human Services (NIH/ NIEHS)
- Interior (USGS)

- State
- Transportation (FAA)
- EPA
- NASA
- NSF
- Smithsonian
- USAID
- Some are Mission" and some are "User" agencies
- Lots of global change expertise is not involved

COORDINATION



COORDINATION

- Subcommittee on Global Change Research (SGCR) = Board of Directors
 - Make all decisions about Program and budget
- Interagency Working Groups (IWGs)
 - ~15 groups organized around specific topics
 - − ~5 − 100 members per group
 - Members do not necessarily represent their whole agency
 - Do most of the work of the program
- National Coordination Office (NCO)
 - ~20 staff and federal detailees
 - Coordinate across agencies coordinate all IWG activities
 - Led by Director who reports to OSTP

FUNDING & BUDGET

- USGCRP does not control its own budget
 - WE HAVE NO MONEY!
- Partner agencies pay a small "tax" on their global change work
- The "taxes" fund all the activities of the NCO
 - Office space, Staff, Travel
 - International cooperation (IPCC, Future Earth, etc)
 - National Academies
- SGCR decides the budget annually
- Anything additional must be paid separately by agencies

USGCRP Cycle for Setting Annual Budget Priorities

With Key Budget Cycle Milestones

January-March

- SGCR develops candidate priorities for next FY (2 yr lead)

Feb: President's FY Budget released

October-March:

 Principals Discussions: Identify candidate FY 17 Priorities

Aug: Individual agency budgets submitted to OMB

Nov: OMB budget pass-

back to agencies

Sept: SGCR meets w/

OMB examiners

Aug-Sept:

- IWGs Workshop: Past Accomplishments; Current Plans; Future USGCRP Priorities

March-April:

 SGCR conveys draft FY priority themes to OSTP & OMB to consider for inclusion in OMB/OSTP Memo to the agencies

Spring-Sum:

Agency depts develop budgets

April-July:

IWGs develop work plan & identify future priority activities

May-July: OMB/OSTP Memo provides guidance to agencies



FEDERAL RULES

Two rules (in particular) complicate outreach efforts:

- Federal Advisory Committee Act (FACA)
 - Going back to the same people repeatedly
 - Getting advice or recommendations from 2+ people
- Paperwork Reduction Act
 - Asking the same questions of >9 people

USER ENGAGEMENT

- Program's traditional strengths are in Physical Science
- Uncertainty about what users will ask for
 - Concerns about potential requests to "go beyond the science"
- User fatigue
 - History of asking users what they want and not being able to provide it
- Unlimited potential for expansion

STATUS QUO

- Change is hard
 - Budget uncertainty
 - Committee decisions
 - Justifying budget changes
 - Anticipating political wishes



SOLUTIONS?

- Continue to pursue engagement and transparency
 - Beginning to be better understood and supported

- Boundary organizations
 - Organizations extend the reach of our small NCO
 - Share our information widely, bring stakeholder information back to the agencies

- Involve more Federal departments
 - Many agency programs are starting to use climate info

SOLUTIONS?

- Keep working!
 - Success is a huge motivator

ARIZONA OPPORTUNITIES

- Sign up for the USGCRP newsletter
- Respond to calls for comment, input, etc.
- Come to DC!

Third National Climate Assessment

Climate Change Impacts in the United States

http://nca2014.globalchange.gov





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