Fourth National Climate Assessment (NCA4)

Lesley-Ann Dupigny-Giroux – Northeast Region Chapter Lead
Ellen Mecray – CLA Northeast Chapter

27 April, 2017
U.S. Global Change Research Program

• USGCRP began as a Presidential Initiative in 1989
• Mandated by Congress in the Global Change Research Act of 1990 (P.L. 101-606), “to assist the Nation and the world to understand, assess, predict and respond to human-induced and natural process of global change”
Regional Chapters

• The “main course” of NCA4 (~20 pages each)
• Region-specific concerns
• Highlight options, challenges, opportunities, and success stories for minimizing risk
• Chapter Structure:
  • Background
  • 4-6 Key Messages:
    • Linkage between Climate Change and Regional Risks
    • Future Climate Change relevant to Regional Risks
    • Challenges, Opportunities, Success Stories
    • Emerging Issues
• Traceable accounts and references (not part of page limit)
NCA4 Chapters

• I: Overview
• II: Our Changing Climate
• III: National Overviews
  • Water
  • Energy
  • Land Cover and Land Use Change
  • Forests
  • Ecosystems, Ecosystem Services, and Biodiversity
  • Coastal Effects
  • Oceans and Marine Resources
  • Agriculture and Rural Communities
  • Built Environment, Urban Systems, and Cities
  • Transportation
  • Air Quality NEW!
• IV: Regional Chapters
  • Northeast
  • Southeast
  • US Caribbean NEW!
  • Midwest
  • Northern Great Plains
  • Southern Great Plains EXPANDED!
  • Northwest
  • Southwest
  • Alaska
  • Hawai`i and Pacific Islands
• V: Response
  • Near-term Adaptation Needs and Increased Resiliency
  • Mitigation: Avoiding and Reducing Long-term Risks

• Sectoral Interdependencies & Compounding Stressors: The Science of Complex Systems NEW!
NCA4 Northeast region authors

• Chapter Lead: Lesley-Ann Dupigny-Giroux (University of Vermont/ VT SC)
• Coordinating Lead Author: Ellen Mecray (NOAA/Regional Climate Services)
• Chapter Authors:
  • Water: Glenn Hodgkins (USGS) and Mary Stampone (UNH/ NH SC)
  • Oceans: Kathy Mills (Gulf of Maine Research Institute)
  • Health: Perry Sheffield (Mt Sinai Medical) and Greg Wellenius (Brown University)
  • Ag/rural/forests/land-use: David Hollinger and Erin Lane (USFS)
  • Coastal: Erica Lentz (USGS) and Tony MacDonald (Monmouth U)
  • Built environment/transportation: Bill Solecki (Hunter College) and Rawlings Miller (USDOT/Volpe)
  • Tribal: Chris Caldwell (College of Menominee Nation/DOI-NE CSC)
Building on the Success of NCA3

Five aspects of NCA3 (2014) were crucial to its success:

- Assessment based on broad scientific and technical inputs
- Stakeholder engagement
- Clear communication principles
- Transparency of process and information
- An extensive review process
NCA4...building upon NCA3

- shift from impacts to a risk-based framing
  - sources of uncertainty
  - bounded probabilities – “tail risks”

- climate variability & climate change
  - observed (impacts) and projected (scenarios – RCPs 4.5 & 8.5)
  - adaptation success stories – case studies

- advancements since NCA3

- climate change science in the Climate Science Special Report
| How is or has climate change affected _____ (i.e., observed change)? Case studies? | How is climate change projected to affect _____ in the next 20-30 years and at the end of the century (i.e., projected change)? Case studies? |
| What challenges, opportunities and success stories for addressing risk can be highlighted? Case studies? | What are the emerging issues and/or research gaps in _____? Case studies? |

Other issues?
Setting the Northeast context

• geographic & demographic diversity

• coastal and inland heterogeneity

• length of settlement

• socioeconomic and political importance to the Nation

• cultural and historical fabric

• physical geography
Northeast chapter format

• 20 page limit
• 4-6 key messages
  • communities (urban, rural, other)
  • human health (air quality, disease, heat)
  • cities
  • economy
  • recreation and natural resources
• case studies, call-out boxes, figures
Supporting frameworks

• public input - listening sessions, Regional Engagement Wksp
• Climate Resilience Toolkit
• Climate Explorer (county level)
• LOCA dataset
• EPA Indicators
• NOAA NCEI State Climate Summaries
• Technical Support Unit
  • Traceable accounts
  • Figure creation
  • Regionalized data/visualizations (SLR, population estimates)
  • GIS-based visualizations
Anticipated timeline
<table>
<thead>
<tr>
<th>Year</th>
<th>Processes and guidance developed by the Steering Committee</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>Chapter leadership recruited</td>
</tr>
<tr>
<td>2017</td>
<td>Many author teams are complete; some are still recruiting</td>
</tr>
<tr>
<td></td>
<td>authors</td>
</tr>
<tr>
<td></td>
<td>Author teams are scoping out their chapters and</td>
</tr>
<tr>
<td></td>
<td>developing chapter outlines</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>Jan 15: Technical Inputs are due</td>
</tr>
<tr>
<td></td>
<td>Jan-Mar: Regional Engagement Workshops and Author Team Meetings</td>
</tr>
<tr>
<td></td>
<td>Apr: Author Meeting</td>
</tr>
<tr>
<td></td>
<td>Jan-Jun: Drafting and Internal Reviews</td>
</tr>
<tr>
<td></td>
<td>Jul-Sep: Report Aggregation and Reviews and Author Responses</td>
</tr>
<tr>
<td></td>
<td>Sep-Jan 2018: Public and National Academies Reviews</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>Jan: Responses to Public Review</td>
</tr>
<tr>
<td></td>
<td>Jan-Feb: Revisions in response to National Academies comments</td>
</tr>
<tr>
<td></td>
<td>Mar-Aug: Reviews and Responses</td>
</tr>
<tr>
<td></td>
<td>Sep-Dec: Layout and Final Production</td>
</tr>
<tr>
<td></td>
<td>Dec+: Release and Engagement</td>
</tr>
</tbody>
</table>

Dates are subject to change
Contact Us

Lesley-Ann Dupigny-Giroux
Ldupigny@uvm.edu

Ellen Mecray
ellen.l.mecray@noaa.gov

www.globalchange.gov/nca4