

ANDREW KEMP/YALE UNIVERSITY

FRAMING CLIMATE CHANGE RESPONSE IN THE CAROLINAS

OUTSIDE THE “CLIMATE CHANGE” BOX



Rodanthe, NC



Carolinas Integrated Sciences & Assessments

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ALL SCALES, ALL SECTORS, DIFFERENT IMPACTS



- Climate variability and human-induced global climate change have complex reach into social, environmental, and economic systems in U.S. (Karl et al. 2009)
- Climate impacts will be experienced, and most effectively responded to, at the local and regional level
- Diverse social, environmental, and economic sectors may experience different degrees of climate change impacts
- Climate change impact assessments and response must be developed with context-specific resources, strategies, and challenges in mind

CLIMATE CHANGE IN THE CAROLINAS



■ Overview of the Region

- North and South Carolina share similar climates, resources, economies and social culture.
- General climate concerns (Konrad et al. 2012)
 - Temperature change (summer temperatures increasing)
 - Inter-annual variability in precipitation (drought, flooding, salt-water intrusion)
 - Sea level rise
- Key challenges and vulnerabilities
 - Land-use and development
 - Coastal development
 - Water and wildlife management

RESEARCH QUESTIONS



- How are study sector mitigation or adaptation activities framed and communicated to constituent groups?
 - What are the key climate change concerns (i.e. direct and indirect impacts) of the study sectors?
 - What activities to address those concerns have been implemented or are being planned?

- What can this tell us about the dynamics that drive responses to climate change in the Carolinas and the adaptive capacity of the region?

STUDY SECTORS



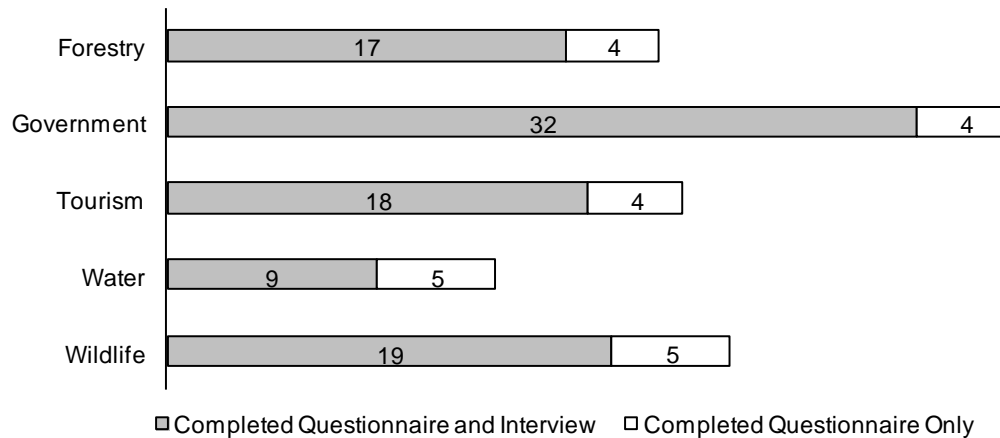
- **Forestry (n=20)**
 - Public & private land managers
 - Biofuel alternative energy groups
- **Government Administration (n=36)**
 - Local & state government officials (i.e. energy, transportation, commerce)
 - Local & regional planners/planning organizations
 - Policy-makers and public policy researchers
- **Tourism (n=22)**
 - Outdoor recreation, general hospitality, research and academia Sub-sectors
 - NGO/NPO leaders
- **Water Management (n=14)**
 - Water utility managers
 - Engineers/consulting organizations
- **Wildlife Management (n=25)**
 - Public agency officials
 - Conservation organization leaders

DATA SOURCES & ANALYSIS



- **Web-based search**
 - To identify climate change-related documents, key decision-makers, and organizations
- **Questionnaires/interviews with key leaders**
 - Identification of “opinion leaders” in each section within the region
 - Online questionnaire and follow-up one-on-one interview with snowball sampling
- **Nvivo coding, matrix analysis, frequency counts weighted**

Figure 1: Study Participants By Sector



In total, 117 individuals participated in the questionnaire for an overall 46% response rate. 96 participants completed both the questionnaire and interview, 21 participants completed only the questionnaire.



CLIMATE CHANGE CONCERNS



- Few participants discussed the central causes driving climate change
 - Focused on specific impacts that result from changing variables
- Reasons for climate concerns differ by sector
 - Precipitation change (drought and flooding) were the most prevalent concerns across all sectors except for Tourism
 - Government, Water Management – Human demand/use, safety
 - Forestry, Wildlife Management – Impacts on ecosystems, species
 - Information needs, questions asked, responses, conflict



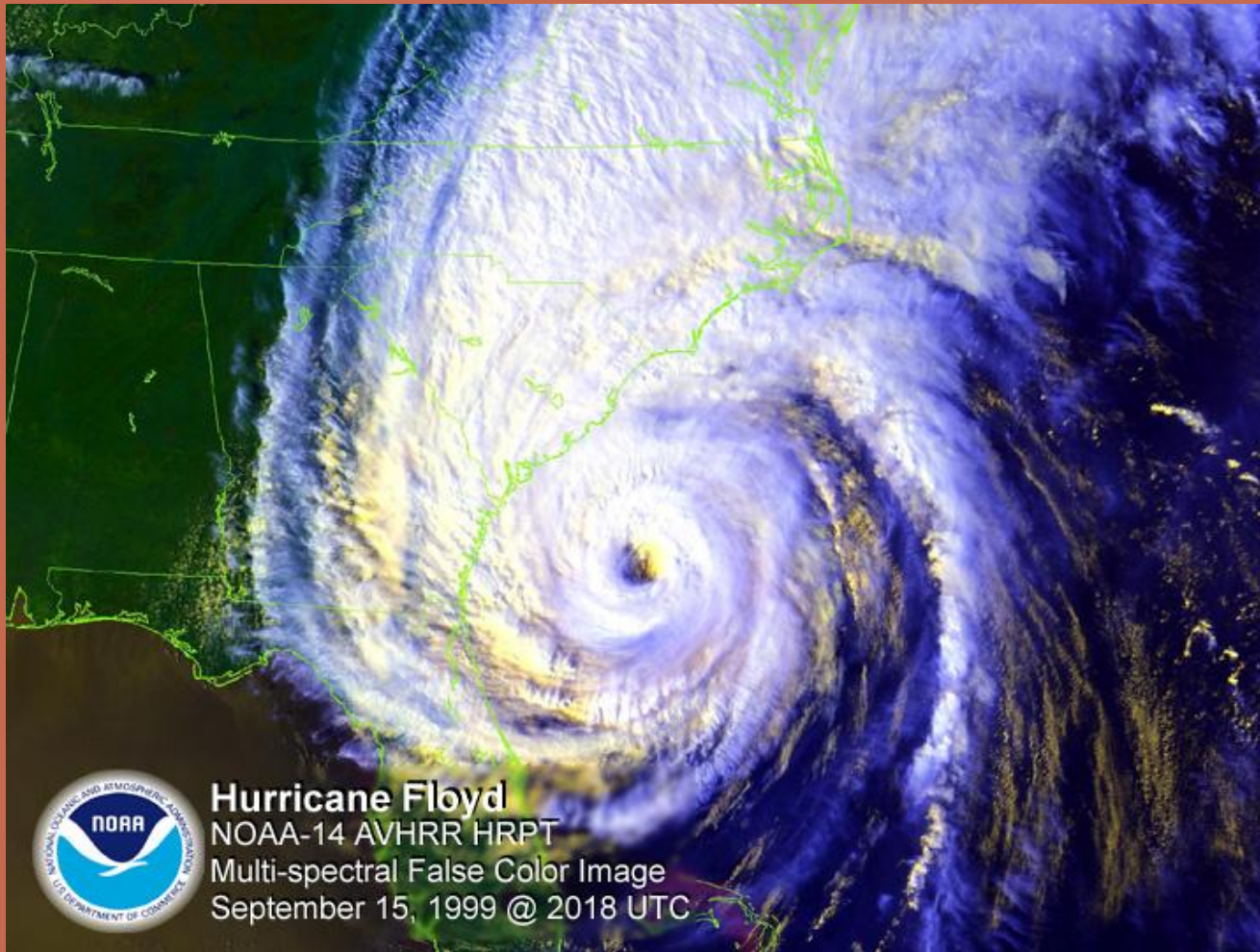
Town Creek Flooding, Pickens, SC –
June 2006

MOST COMMON CLIMATE CHANGE ACTIVITIES



Climate Change Activity	Forestry	Government	Tourism	Water	Wildlife
Data Collection & Monitoring of Impacts	23%	39%	13%	25%	45%
Ecological Protection and Conservation	37%	17%	21%	4%	66%
Education & Outreach	28%	38%	37%	11%	26%
Greenhouse Gas Emissions Reductions	30%	48%	30%	11%	19%
Policy and Law Revisions	7%	22%	12%	0%	11%
Sustainability Projects & Programs	5%	73%	59%	4%	14%
Hazard Mitigation/Emergency Manag.	10%	48%	10%	6%	0%
Infrastructure & Ecological Alterations	0%	35%	5%	12%	35%
Internal Policies, Practices & Management	27%	0%	13%	0%	18%
Resource Management	11%	12%	0%	69%	0%

At or above 20%



Hurricane Floyd
NOAA-14 AVHRR HRPT
Multi-spectral False Color Image
September 15, 1999 @ 2018 UTC

FRAMING CLIMATE CHANGE IN THE CAROLINAS

FRAMING CLIMATE CHANGE ACTIVITIES



- Participants asked how they communicate information about climate change and related organizational activities to constituent groups
 - Political climate of skepticism and hostility – across the board
 - Careful attention to framing public communication
 - Rarely focus on climate change externally, but acknowledge internally
 - Incorporate action into other salient areas of public concern
- What are frames?
 - Tools used to convey complex issues **succinctly and efficiently** in a manner that **resonates** with the values, beliefs, and interests of those audiences (Scheufele & Tewksbury 2007)

MOST COMMON CLIMATE CHANGE ACTIVITY FRAMING STRATEGIES

Climate Change Activity Framing Categories	Forestry	Government	Tourism	Water	Wildlife
Green Economy/Developing Jobs	18%	20%	6%	7%	16%
Ecosystem Conservation	25%	15%	18%	21%	52%
Emergency Management/Hazard Mitigation	0%	28%	17%	7%	10%
Public Health/Prevention	0%	5%	0%	0%	14%
Energy/Energy Security & Efficiency/National Security	32%	15%	10%	13%	14%
Planning & Preparedness	9%	34%	18%	11%	17%
Sustainability for Future Generations	40%	34%	45%	26%	21%

At or above 20%

*“I think that the politics and dynamics have shifted dramatically in North Carolina and I think climate change is a dirty word right now in the political environment of the state”
(Forestry Sector)*



FRAMING CLIMATE CHANGE IN THE CAROLINAS



- “If I say that we're doing everything we can to mitigate impacts from global warming or climate change, they would look at me and say you need to spend your time doing something else. But rather if I said we understand climate variability in weather patterns is affecting our ability to provide our intended service, that we need to prepare for those changes, they say you know, wow, that's great, we're glad you're thinking ahead” (**Water Sector**)
- “We pretty much decided a year ago that we will stop talking about climate in order to focus entirely on economics, green jobs, that whole thrust. I cannot imagine that I will go back to climate as the first point in the conversation. I think that the economic imperative is still the opener and the winner; the winning argument” (**Forestry Sector**)

CONCLUSIONS



- Climate change impacts, concerns, and response highly specific – unique to region, sector, and scale
 - No one-size-fits-all approach to climate change adaptation (vs. mitigation)
- Public/political interests sometimes drive climate adaptation response
 - Not always linear, consistent process: Concern -> Response Activity -> Framing
 - Attention to social/political factors important

BUILDING REGIONAL CAPACITY



- Framing outside the “climate change” box major aspect of efforts to address climate change in the Carolinas
 - Sector leaders not talking about climate change given political hostility
 - “At this point in time we are not actively working on climate change. We are not using the term climate change. We are not actively involved in any policy that relates to climate change, you with us there?” (Government Sector)
- Contextually specific public communication critical component of developing adaptive capacity
 - Opportunity for adaptation research community

Acknowledgements

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For the full
report
referenced in
this
presentation
please visit
www.cisa.sc.edu



■ Questions?

■ References:

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