Community-Centered Adaptive Management:

Qualitative inquiry of climate change narratives on Minnesota’s North Shore of Lake Superior

Jenn Shepard
Bree Duever
Lexie Felix
Mae Davenport

Department of Forest Resources
University of Minnesota
Biophysical Models
Biophysical Models

Quantitative on-site visitor surveys
Biophysical Models

Economic impact assessment

Quantitative on-site visitor surveys
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Economic impact assessment

Quantitative on-site visitor surveys

Qualitative interviews with decision makers
Biophysical Models

Economic impact assessment

Quantitative on-site visitor surveys

Qualitative interviews with decision makers
The goal

To understand decision maker:

Beliefs about climate change & perception of natural resource changes

Community readiness to address climate and natural resource changes
To forge a way forward, the community needs a blueprint of where decision makers align, where they differ, and what beliefs can be leveraged for change.
THE HOW
THE HOW

Rich contextual data
Unexpected responses and ideas
Answers to specific questions
THE HOW

Rich contextual data
Unexpected responses and ideas
Answers to specific questions

Reflection
Ordering thoughts
Voicing hidden opinions
THE WHO

Natural Resource Managers
Local Elected Officials
Business Owners
Tourism Organizations
Non-profit and Community Organizers

Interview Participants: Occupation and Gender

- Natural Resource Manager
- Elected Official
- Business owner
- Tourism Org
- Non-Profit

- Male
- Female
THE ANALYSIS:

QSR NVIVO 11 Software

Grounded Theory & Narrative Analysis
Belief in Climate Change
Belief in Climate Change

Belief @ geographic scale
Belief in Climate Change | Belief @ geographic scale
---|---
Yes | Global
No | Country
Don’t Know | State
Local

Concern @ geographic scale
Belief in Climate Change

Yes

Global

Concern @ geographic scale

Global

No

Country

Belief @ geographic scale

Country

Don't Know

State

Concern @ geographic scale

State

Belief @ time scale

Belief @ time scale

Local

Response need @ geographic scale

Response need @ time scale

Local
Concern @ time scale
<table>
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<tr>
<th>Belief in Climate Change</th>
<th>Belief @ geographic scale</th>
<th>Concern @ geographic scale</th>
<th>Belief @ time scale</th>
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Response need @ geographic scale
Belief in Climate Change | Belief @ geographic scale | Concern @ geographic scale | Belief @ time scale | Concern @ time scale | Response need @ geographic scale
--- | --- | --- | --- | --- | ---
Yes | Global | Global | Current | Current | Global
No | Country | Country | Future | Future | Country
Don’t Know | State | State | Distant Future | Distant Future | State
Local | Local | Local | | | Local

**Response need @ time scale**
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Belief in Climate Change

Concern @ geographic scale

Belief @ time scale

Concern @ geographic scale

Response need @ geographic scale

Response need @ time scale

Yes

No

Don't Know

Forest change

Increase in wildfire

Wildlife change

Extreme weather

Seasonal volatility

Water temps

Invasive and pests

Changes could be benefit

Global

Country

State

Local

Current

Future

Distant

Future Action

Act Now

Act Soon
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**Forest change**
**Increased wildfire**
**Wildlife change**
**Extreme Weather**
**Seasonal volatility**
**Water temps**
**Invasives & pests**
**Could be good for the region**
Belief in Climate Change
- Yes
- No
- Don’t Know

Belief @ geographic scale
- Global
- Country
- State
- Local

Concern @ geographic scale
- Global
- Country
- State
- Local

Belief @ time scale
- Current
- Future
- Distant Future

Concern @ time scale
- Current
- Future
- Distant Future

Response need @ geographic scale
- Global
- Country
- State
- Local

Response need @ time scale
- Act Now
- Act Soon
- Future Action
- Don’t need to act

Forest change
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Wildlife change
Extreme Weather
Seasonal volatility
Water temps
Invasives & pests
Could be good for the region
“I can’t believe anybody who lives in this county thinks that there is any kind of global warming up here. Because we sure have not seen it”
“We don’t have any kind of industry up here that would impact the weather.

Any weather we get up here is from God. We have no control over that.”
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**Code 1**
“I don’t think there are a lot of people that are going ‘oh my gosh, the climate is changing we’ve got to do something.’”
“I know enough to know that I don’t know enough, I believe that there has been no actual warming for 15 years. Frankly this last winter I was all in favor of global warming; It’s our turn to have nice weather.”
“I’m very concerned about climate change. I don’t know whether yet we will be a beneficiary of it or not. Globally, it’s heating.”
“I think that the benefits of countering climate change are all beneficial.

We should just do that anyway because what is the worst case scenario. Oh, we have more solar. Oh, more independence.”
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“The changes of global warming are going to create change faster in this environment than anything before. It’s sobering.”
“Probably the thing that scares me the most is – of course I wonder about my lifetime – but I have a little girl who’s ten years old, and I want to be hopeful for her life”
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NEXT STEPS
Community, Environment and You
A survey of residents on the North Shore

Before you begin:
We are conducting this survey to better understand community members' beliefs and attitudes and to inform environmental management on the North Shore. This survey is voluntary and confidential. It should take about 20 minutes to complete this questionnaire. Please answer the questions as completely as possible.

Once you've completed the survey:
Please fold it in thirds and mail it back in the enclosed self-addressed stamped envelope.

Thank you for your help!
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For additional information please visit northshoreclimate.com

Or email

Jenn Shepard shepa148@umn.edu
Dr. Mae Davenport mdaven@umn.edu