

Supplemental Material

## Perceptions of Obvious and Disruptive Climate Change: Community-Based Risk Assessment for Two Native Villages in Alaska. *Climate* 2015, 3, 812–832

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**Table S1.** Elements included in each of the broader categories of change.

Category	Elements of change
Coast	<p>The coastline is not as flat as it used to be</p> <p>Beaches are not as wide as they used to be</p> <p>The size of the grains on the beaches has changed</p> <p>The tundra is breaking off more into the ocean</p> <p>The tundra is breaking off more in to the rivers</p> <p>You can now see melting permafrost along the coast</p>
Ice	<p>The sea ice goes out earlier in the spring</p> <p>When it goes out, it goes out faster</p> <p>The sea ice is not as thick as it used to be</p> <p>There is now less shorefast ice</p> <p>There is now less older ice left over from the previous year or years</p> <p>Icebergs don't come here anymore</p>
Storms	<p>Storms are stronger now</p> <p>Storms are more dangerous now</p> <p>People are now scared of the storms</p>
Tundra	<p>Lakes on the tundra are disappearing now</p> <p>There is less snow on the tundra now</p>

**Table S1. Cont.**

<b>Category</b>	<b>Elements of change</b>
Weather	Winters do not last as long as they used to Summers are now longer Fall weather now lasts later into the year It is harder now to know what the weather is going to be like from day to day The weather changes quickly now, it is not consistent The prevailing wind direction has changed The wind now changes more often It is harder now to know what the wind will do from day to day, it is less predictable It rains more now It now rains in the winter It now rains more days in a row

**Questionnaire**

**Alaskans Sharing Indigenous Knowledge (AKSIK)**  
**Obvious and Disruptive Climate Change Questionnaire**  
**Summer 2012**



**ID:** \_\_\_\_\_

**PERSONAL INFORMATION**

**Gender:**    M    F

**Year born:** \_\_\_\_\_

**Ethnicity:**    Alaska Native/  
Native American                      Hispanic                      Multi-racial (specify)  
\_\_\_\_\_

African American                      White                      Asian

<b>Outside activities:</b>	hunting	gathering	joy-riding
	fishing	walking	Boating
	watching the weather	going to camp	other _____

**Top two activities:** \_\_\_\_\_

**How often do you go out of the village to do those activities?**  
\_\_\_\_\_ /week                      /month

**How far do you go out to do these activities?**    \_\_\_ miles

**How many people do you provide for?**

**How many people do you share food with?**



<b>Freshwater runoff</b>									
<b>Sediment</b>									
<b>Plants</b>									
<b>Animals</b>									
<b>Unusual species</b>									
<b>Fishing</b>									
<b>Hunting</b>									
<b>Gathering</b>									

What kind of new or unusual plants, insects, and animals? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## II. DISRUPTIVE CLIMATE CHANGE

**TURN ON RECORDER and STATE SURVEY NUMBER**

**Question: How disruptive to you are these changes?**

### Physical changes

**Please put the chips in three categories: High, Medium, Low  
Please rank the highest three topics.**

Physical change	HML	Top 3
<b>Weather</b> less predicable	<input type="checkbox"/>	<input type="checkbox"/>
<b>Seasons</b> have changed in the length	<input type="checkbox"/>	<input type="checkbox"/>
<b>Storms</b> more severe	<input type="checkbox"/>	<input type="checkbox"/>
<b>Sea ice</b> melting faster	<input type="checkbox"/>	<input type="checkbox"/>
<b>Sea ice types</b> changing	<input type="checkbox"/>	<input type="checkbox"/>
<b>Rain</b> more often	<input type="checkbox"/>	<input type="checkbox"/>
<b>Winds</b> have changed	<input type="checkbox"/>	<input type="checkbox"/>
<b>Ocean currents</b> have changed	<input type="checkbox"/>	<input type="checkbox"/>
<b>Tides</b> have changed	<input type="checkbox"/>	<input type="checkbox"/>
<b>Coastline</b> beaches have changed	<input type="checkbox"/>	<input type="checkbox"/>
<b>Erosion</b> more visible	<input type="checkbox"/>	<input type="checkbox"/>
<b>Tundra</b> less snow and fewer lakes	<input type="checkbox"/>	<input type="checkbox"/>
<b>Permafrost</b> melting more	<input type="checkbox"/>	<input type="checkbox"/>
<b>Freshwater runoff</b> more	<input type="checkbox"/>	<input type="checkbox"/>
<b>Sediment</b> in new places	<input type="checkbox"/>	<input type="checkbox"/>

- **How do the top three affect you in being able to provide for your family?**
- **How do the top three affect sharing of resources?**
- **How do the top three affect the roles of the elders in the village?**
- **How do the top three affect the decision for young people to leave the village?**
- **Are any of these changes beneficial?**

**Biological and social changes**

1. Please rank the biological changes from highest to lowest and answer the questions below.
2. Please rank the social changes from highest to lowest and then answer the questions below.

Biological change	Rank
Plants new types	
Plants getting bigger	
Animals migration routes changed	
Animals migration times have changed	
Unusual animals appearing	
Unusual insects appearing	

Social change	Rank
Fishing less predictable	
Fishing fewer opportunities	
Hunting less predicable	
Hunting fewer opportunities	
Hunting less safe	
Gathering less predictable	
Gathering shorter seasons	
Gathering fewer opportunities	

- How do the top three affect you in being able to provide for your family?
- How do the top three affect sharing of resources?
- How do the top three affect the roles of the elders in the village?
- How do the top three affect the decision for young people to leave the village?
- Are any of these changes beneficial?

**Overall ranking**

Please rank the top five most disruptive changes from all the categories.

Rank	Change
1	
2	
3	
4	
5	

**AKSIK  
Questionnaire Script  
Summer 2012**

Instructions

Please use the ruler to rank the following statements from 0 (Not Obvious) to 10 (Very Obvious).  
Question example. How obvious is it that it will rain today?

**Question: Over the last 20 years or so, how obvious are the following changes?  
These statements refer to changes we have read about**

<b>Topic</b>	<b>Script</b>
<b>Weather</b>	It is harder now to know what the weather is going to be like from day to day The weather changes so quickly, it is not consistent
<b>Seasons</b>	Summers are longer Fall weather lasts later into the year Winters do not last as long as they used to
<b>Storms</b>	Storms are stronger Storms are more dangerous People are now scared of the storms
<b>Sea ice melt</b>	The sea ice goes out earlier in the spring  When it does go out, it goes out faster The sea ice is not as thick as it used to be
<b>Sea ice type</b>	There is less shorefast ice There is less older ice left over from the previous year or years Icebergs don't come here anymore
<b>Rain</b>	It rains more now It now rains in the winter It rains more days in a row
<b>Wind</b>	The prevailing wind direction has changed The wind changes often It is harder to know what the wind will do from day to day; it is less predictable
<b>Ocean</b>	Ocean currents are moving faster The ocean is getting less salty
<b>Tides</b>	The high tides rise higher on land The low tides don't go down as far
<b>Coastline</b>	The coastline is not as flat Beaches are not as wide The size of the grains on the beaches have changed
<b>Erosion</b>	The tundra is breaking off in to the ocean The tundra is breaking off in to the rivers
<b>Tundra</b>	Lakes on the tundra are disappearing Depressions, or holes, are left where lakes once were There is less snow on the tundra
<b>Permafrost</b>	You can see melting permafrost along the coast You can see melting permafrost along the rivers You can see melting permafrost out on the tundra
<b>Freshwater runoff</b>	There is more freshwater going in to the rivers and ocean

<b>Sediment</b>	There is more sediment going in to the rivers
<b>Plants</b>	Some plants are getting bigger Plants are not blooming when they used to New plant types are appearing
<b>Animals</b>	Animal migration routes have changed; they don't come the same way Animal migration times have changed, coming at different times of the year Animal migrations are shorter; they appear for shorter periods of time
<b>Unusual species</b>	New animals are appearing New insects are appearing
<b>Fishing</b>	It is harder to know when fishing will be good It is harder to get out to fish as often
<b>Hunting</b>	It is harder to know when hunting will be good It is harder to get out and hunt Hunting conditions are not as safe as before
<b>Gathering</b>	It is harder to know when to gather plants It is harder to find the plants we gather Gathering times are shorter

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