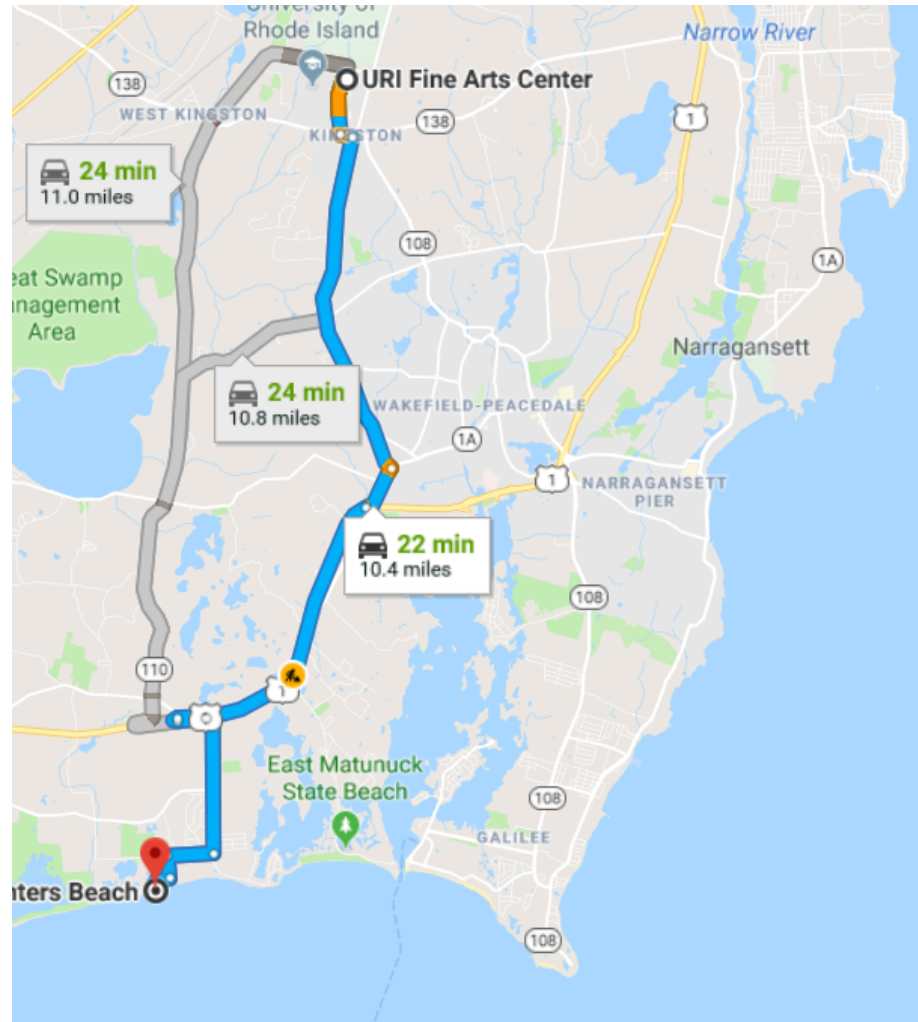
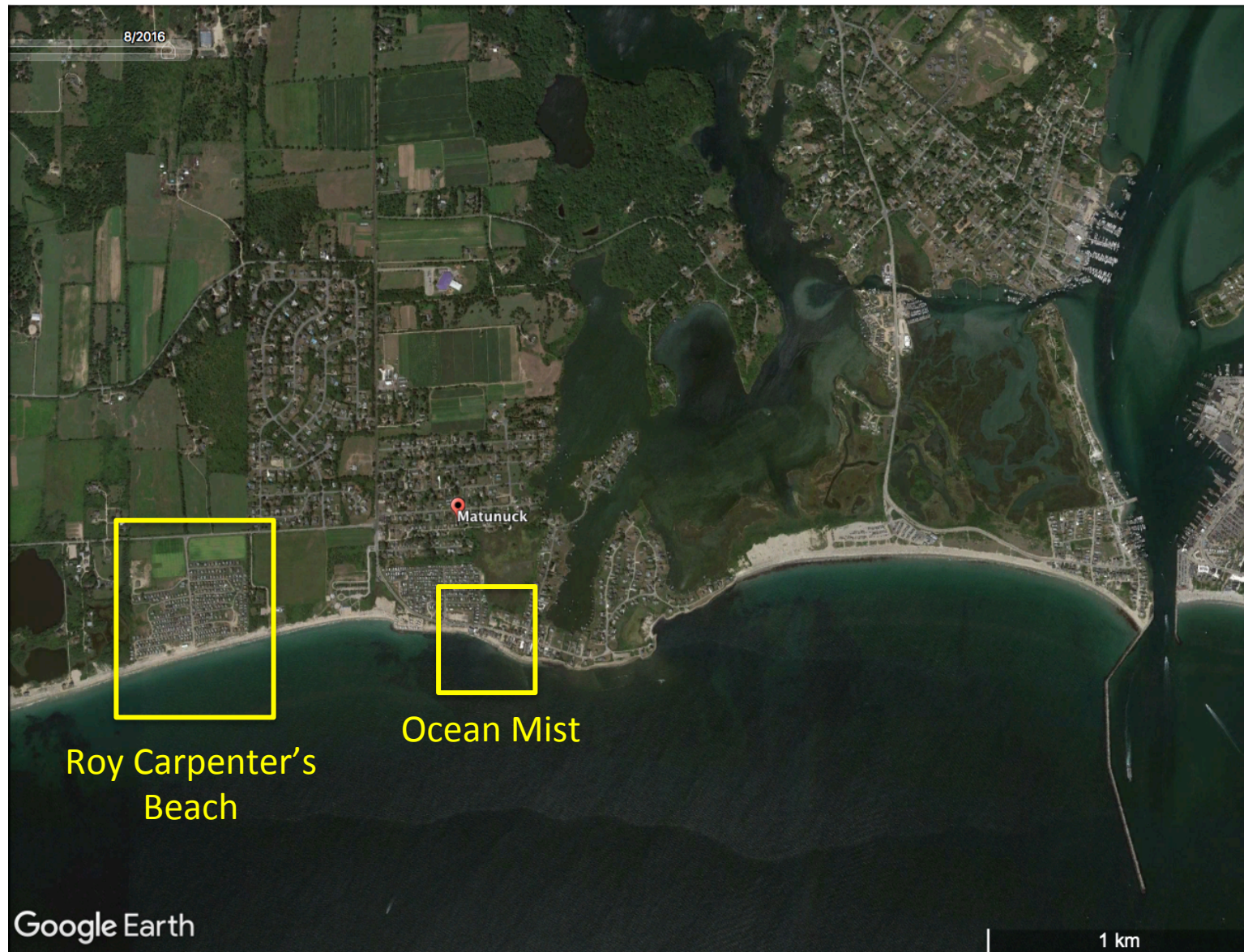


Field Trip Review

Group Projects



Field Trip Review



Field Trip Review



2006



1995

Field Trip Review



2012
post-Sandy



2012
pre-Sandy

Field Trip Review



Field Trip Review



2016



2014

Field Trip Review

2015



Field Trip Review



Field Trip Review



2003



2007

Field Trip Review



2007



2010

Field Trip Review



2010



2012
pre-Sandy

Field Trip Review



2012
pre-Sandy



2014

Field Trip Review



2014



2016

Field Trip Review



2003



2016

Impact of Global Change on New England's Coastal Environment

Global Change Topic

- global warming
- sea level rise
- extreme weather
- corporate globalization
- ecosystem disruption
- expanding disease range



Societal Institutions

- economy
- education
- family
- politics
- religion

Demonstrates Critical Thinking

4-person groups (TBD)

2 minutes each (10 minutes total, 2 minutes for questions)

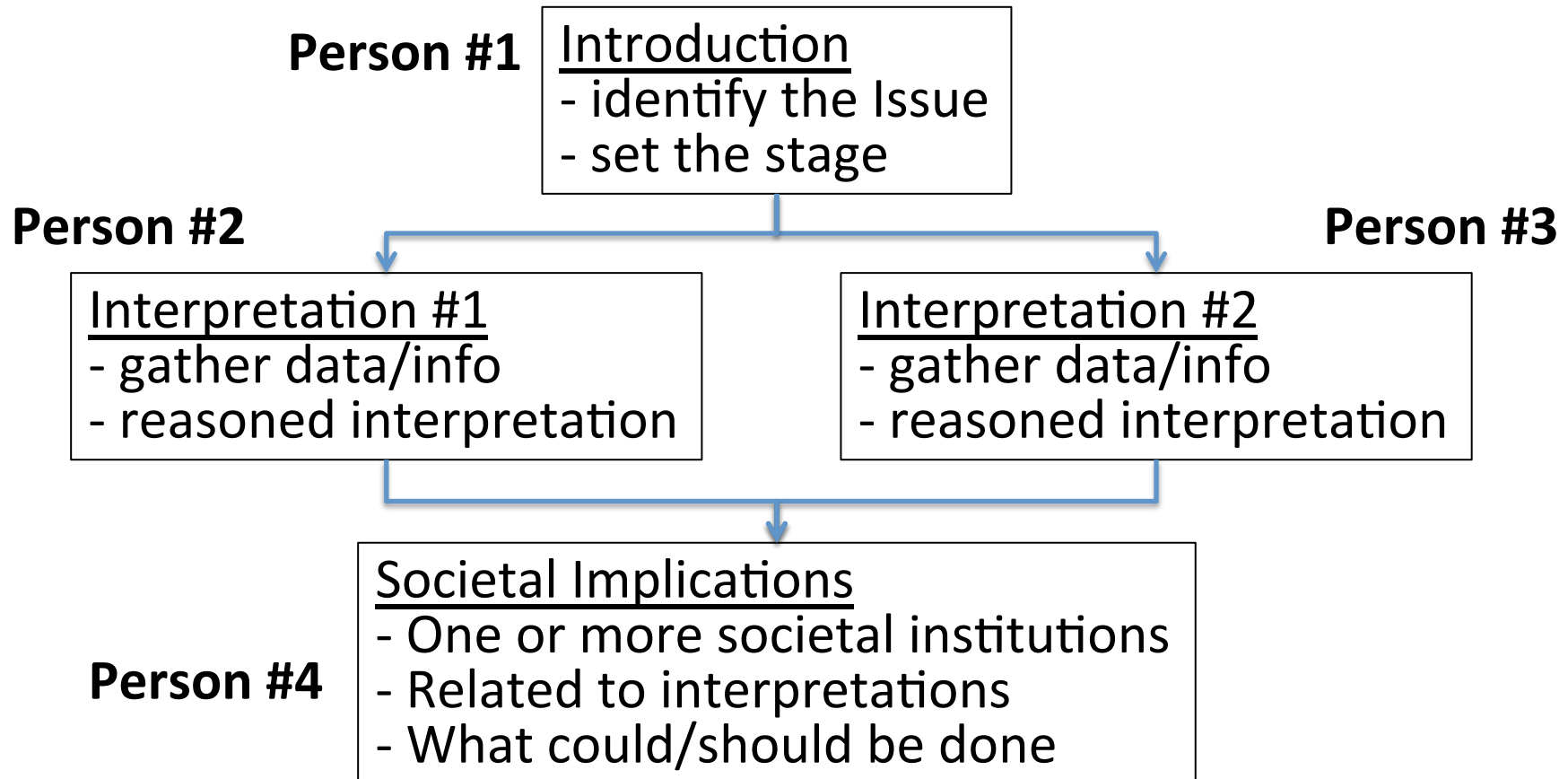
May 10th, 8-11 AM (during scheduled finals)

- 1) **Uninformed**
 - never heard of it before
- 2) **Hear-Say**
 - information from parents, friends, media?
- 3) **Initial Fact Checking**
 - check source of information without regard to quality of reference
- 4) **Advanced Fact Checking**
 - use high-quality references or collect data
- 5) **Discrimination**
 - able to ID good and bad arguments
 - see alternative interpretations
- 6) **Critical Thinker**
 - ID issue,
 - gathers relevant info,
 - reasoned interpretations
 - possible alternatives
 - communicate results

6) Critical Thinker

- ID issue,
- gathers relevant info,
- reasoned interpretations
- possible alternatives
- communicate results

Acceptor vs Deny-er
Acceptor vs So-What-er



Content	Did the presentation provide useful information? Were appropriate graphics/data used and referenced?
3	Presentation had significant useful information and appropriate graphics/references.
2	Presentation had modest useful information and/or appropriate graphics/references.
1	Presentation was lacking in useful information and appropriate graphics/references.

Organization	Was the presentation well organized and easy to follow? Were transitions and proposed format followed?
3	The presentation was well organized and followed proposed format
2	The presentation was sufficiently organized and somewhat followed the proposed format.
1	The presentation was poorly organized and did not follow the proposed format.

Discussion	How well did the group handle the questions and discussion period ?
3	The questions and discussion period were handled very well.
2	The questions and discussion period were handled adequately.
1	The questions and discussion period were handled “not so good.”

Collaboration	Did everyone contribute to the presentation? Did everyone seem well versed in the material?
3	Everyone contributed and were knowledgeable of the material.
2	Only some of the group contributed and were knowledgeable of the material.
1	Group had poor coordination and lacked sufficient knowledge of the material.

Contribution	How much did each partner contribute to the group project	You _____	Name _____	Name _____	Name _____
3	Above Expectations – Did most of the work				
2	Met Expectations – Did their fair share				
1	Below Expectations - Slacker				

Story Board

Introduction

ID Key Issue
Background Info
5 W's
Interpretations

Interpretation #1

Possible Option
Supporting Data
Interpretation
Strength/weakness

Interpretation #2

Possible Option
Supporting Data
Interpretation
Strength/weakness

Summary

Summarize Causes
Societal Implications
Mitigation Options
What to do?

Cause of Global Warming

Temps rising

- where => globally
- when => since XXXX
- how much => X°C
- why – GHG, sunspots

Interpretation

- not rising (faulty data)
- rising (natural)
- rising (GHG & man)

Not Rising

Supporting Data

- errors in data collection
- data fudging

Rising & Natural

Supporting Data

- correlation w/
natural cycles

Rising & Human

Supporting Data

- CO2 & Temp correlation

Summarize Arguments

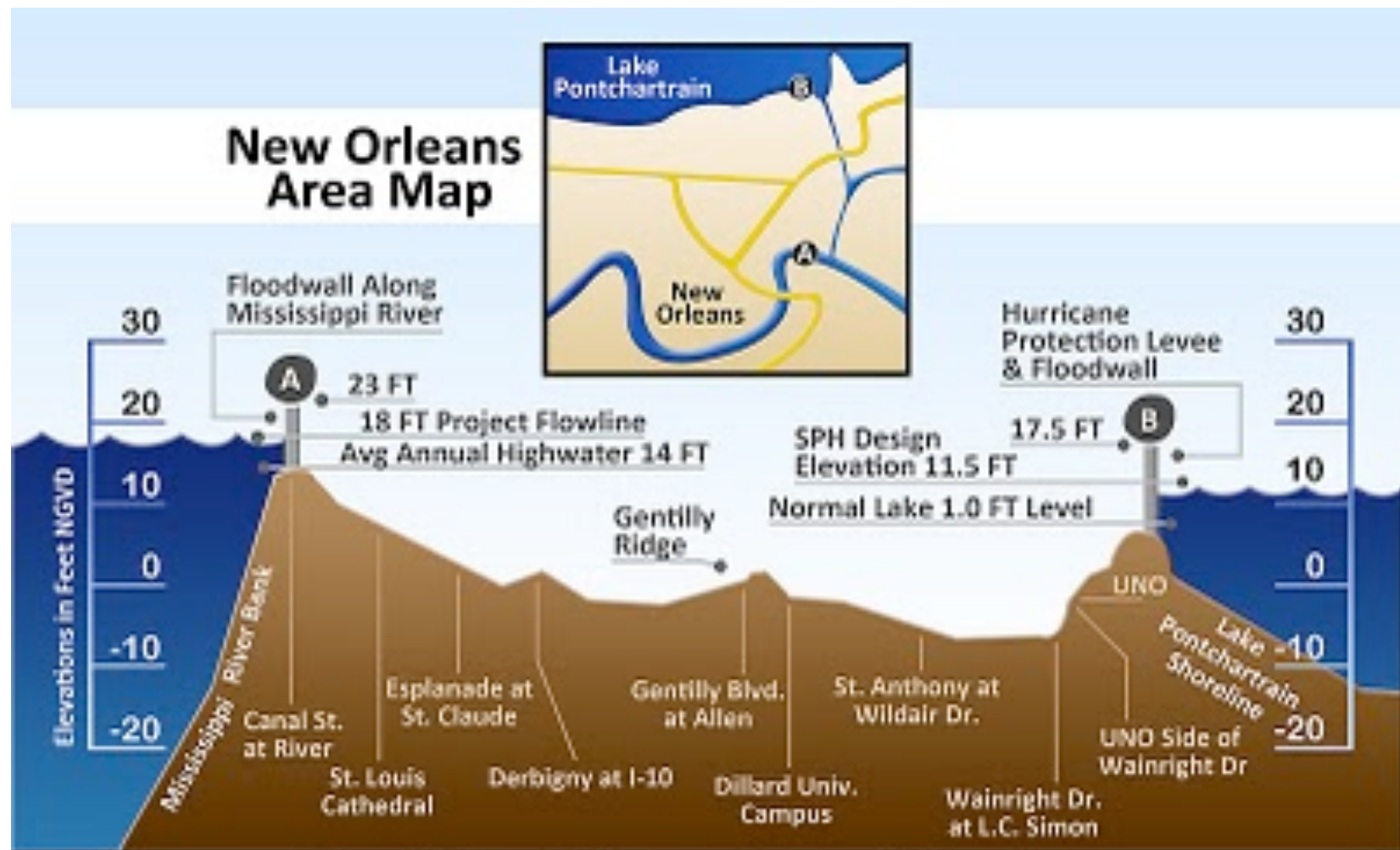
- key parts of arguments
- select an interpretation

Societal Implications

- economic, political
(people avoid him)

Mitigation Options

- curb fossil fuels (\$\$)
- green energies (\$)



City of New Orleans Ground Elevations

From Canal St. at the Mississippi River to the Lakefront at U.N.O.

Story Board – New Orleans

Introduction

ID Key Issue
Background Info
5 W's
Interpretations

Interpretation #1

Possible Option
Supporting Data
Interpretation
Caveats?

Interpretation #2

Possible Option
Supporting Data
Interpretation
Caveats?

Summary

Summarize Causes
Societal Implications
Mitigation Options
What to do?



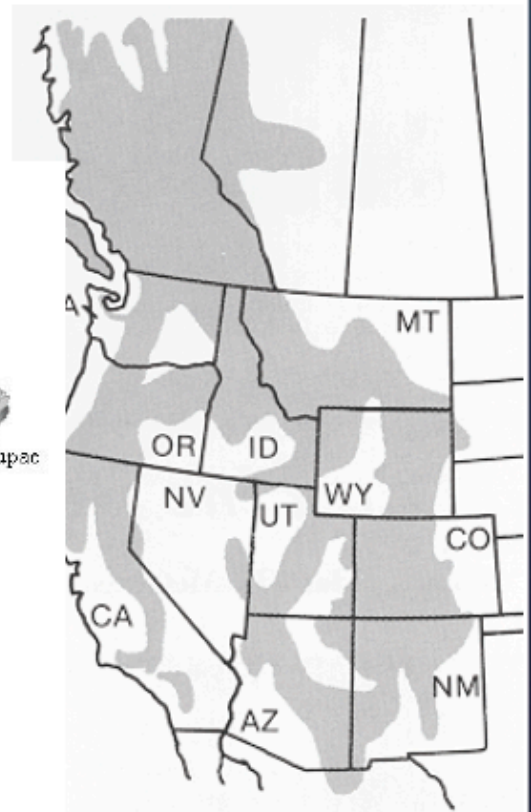
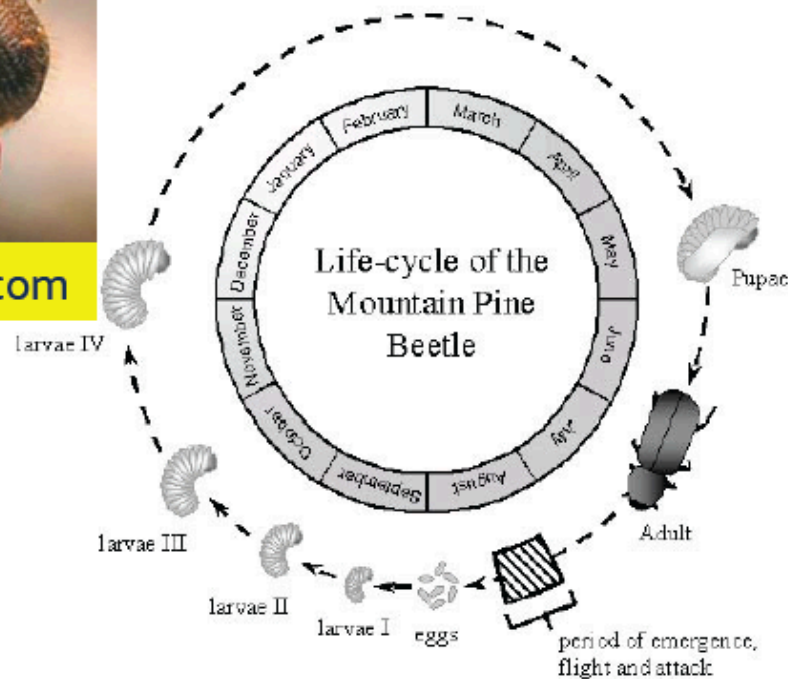
Mountain Pine Beetle Infestations

GCH103 Final Project
Robert A. Pockalny

IDENTIFY THE ISSUE

Mountain Pine Beetle - Overview

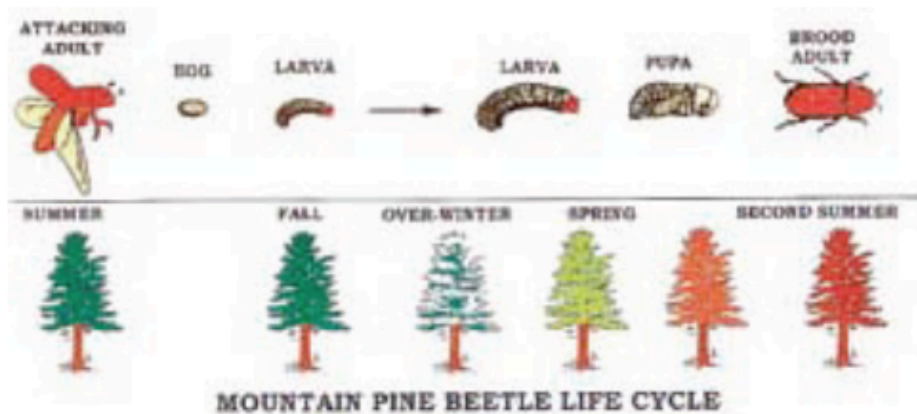
+ What are mountain pine beetles?



Mountain Pine Beetle - Overview

- + What are mountain pine beetles?
- + What damage do they do?

Lodgepole Pine
Ponderosa Pine



americantreecolorado.com

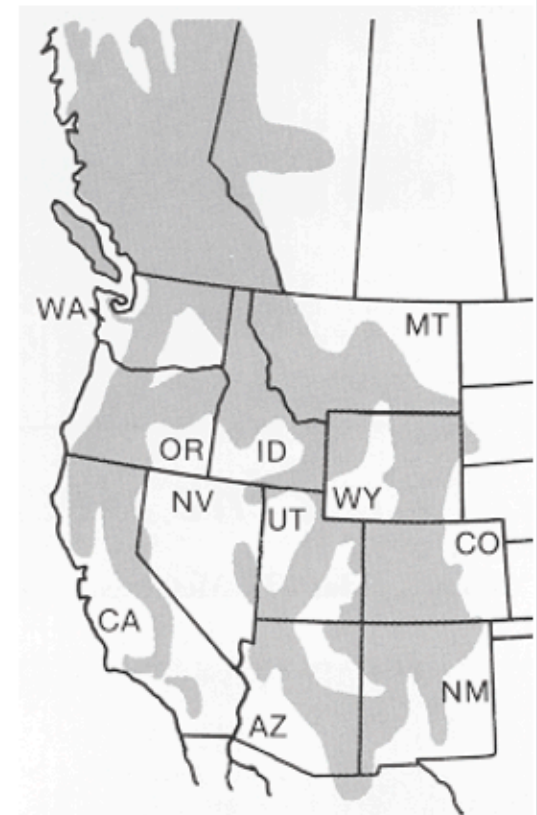
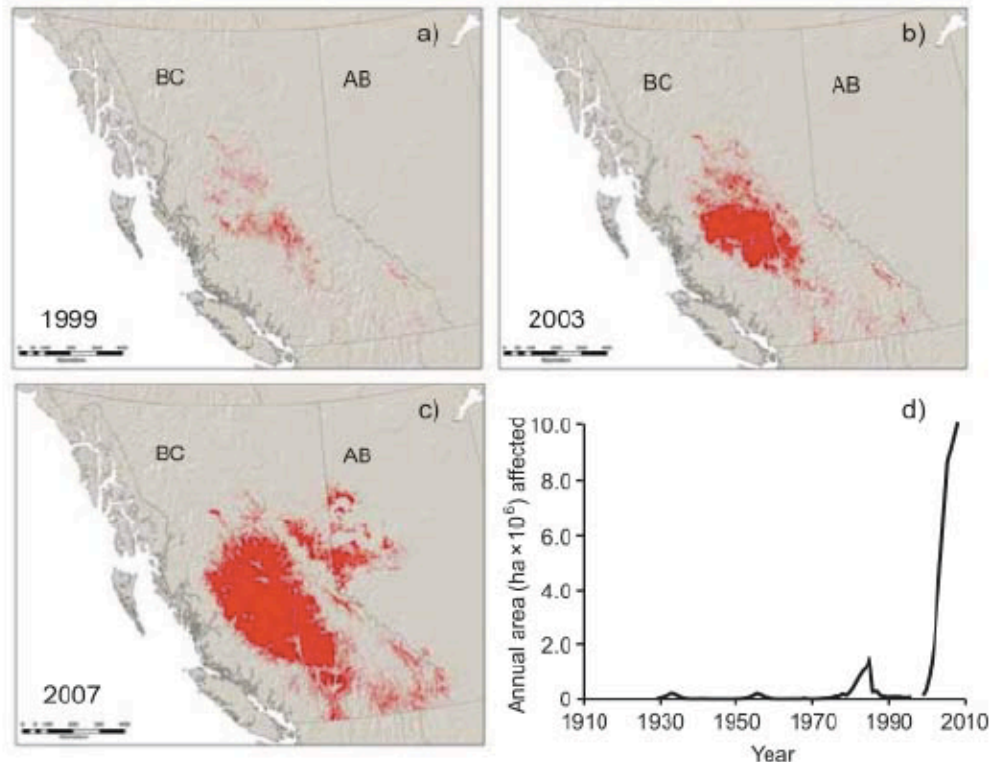


www.co.yellowstone.mt.gov

Mountain Pine Beetle - Overview

- + What are mountain pine beetles?
- + What damage do they do?
- + Extent of infestation.

Safranyik, et al, 2010
The Canadian Entomologist



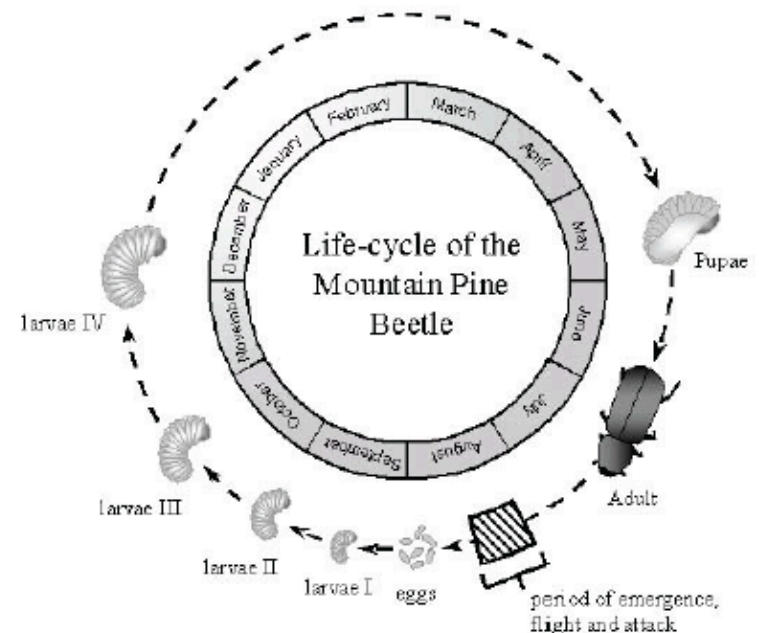
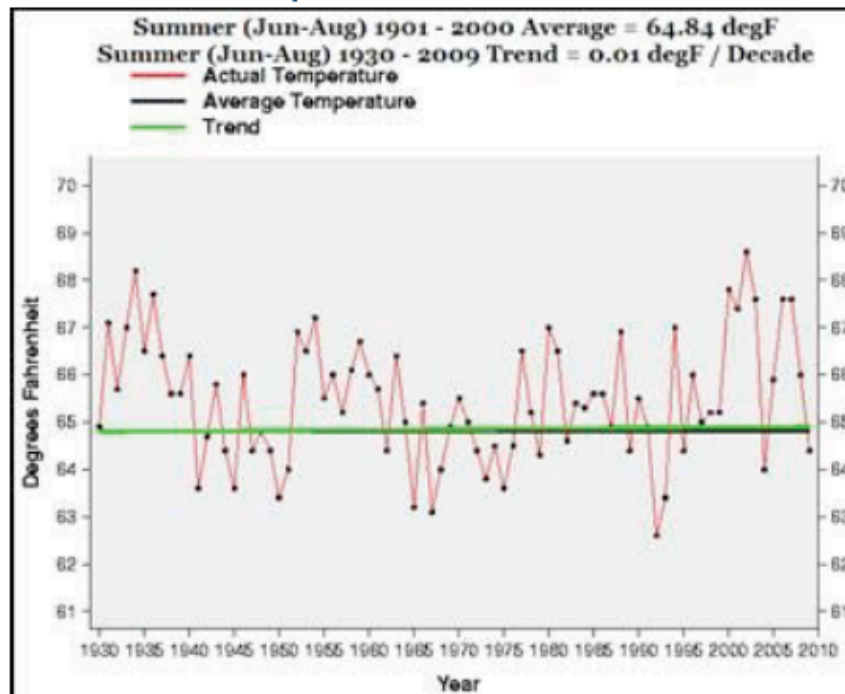
MPB Infestation Expansion - Causes

- + Potential Causes & Supporting Information
 - + Climate Change => multiple life cycles, extended range
 - + Natural variability & cycles (e.g., Cicadas)
 - + Forest Service Protocols (e.g., controlling forest fires)

INTERPRETATION #1

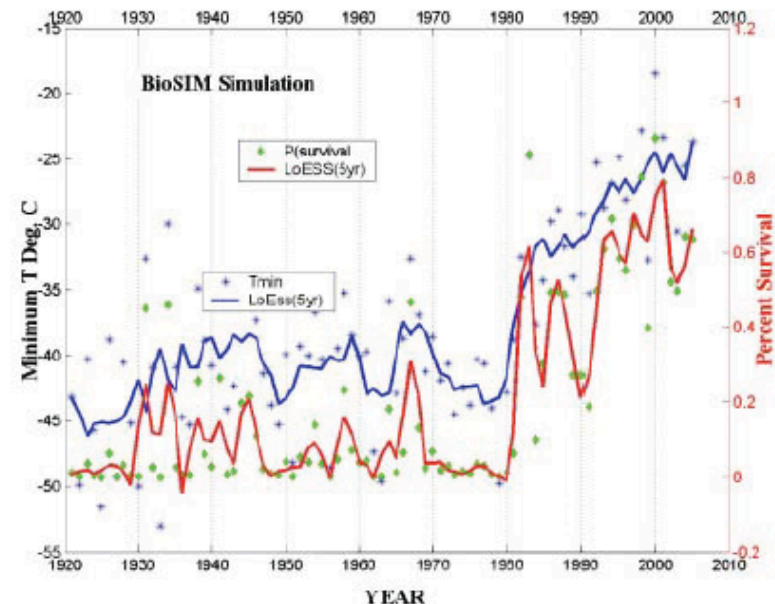
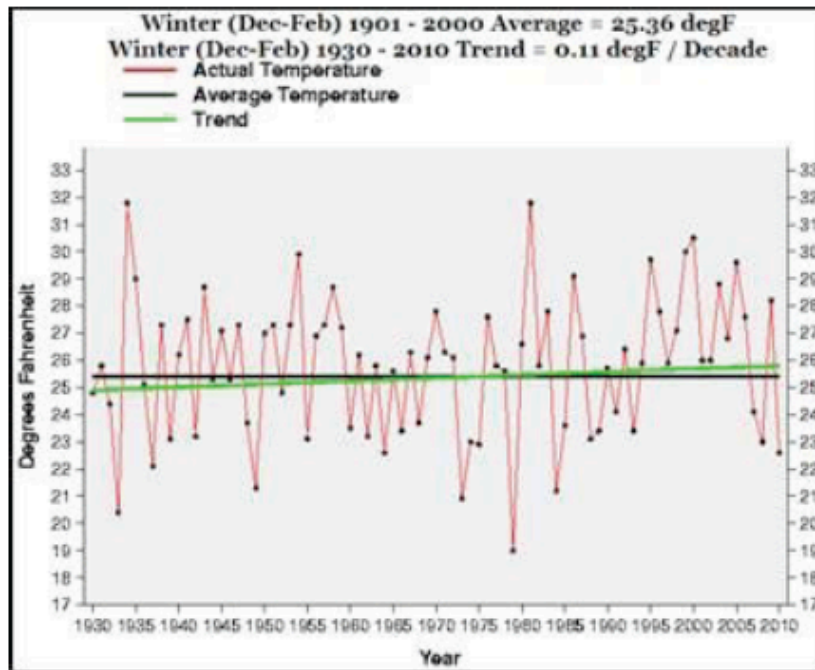
MPB Infestation Expansion - Climate

- + Longer Summers => multiple life cycles, extended emergence
- + Warmer Winters => greater survival, extended range (vert. & North)
- + Low Precipitation => trees more susceptible



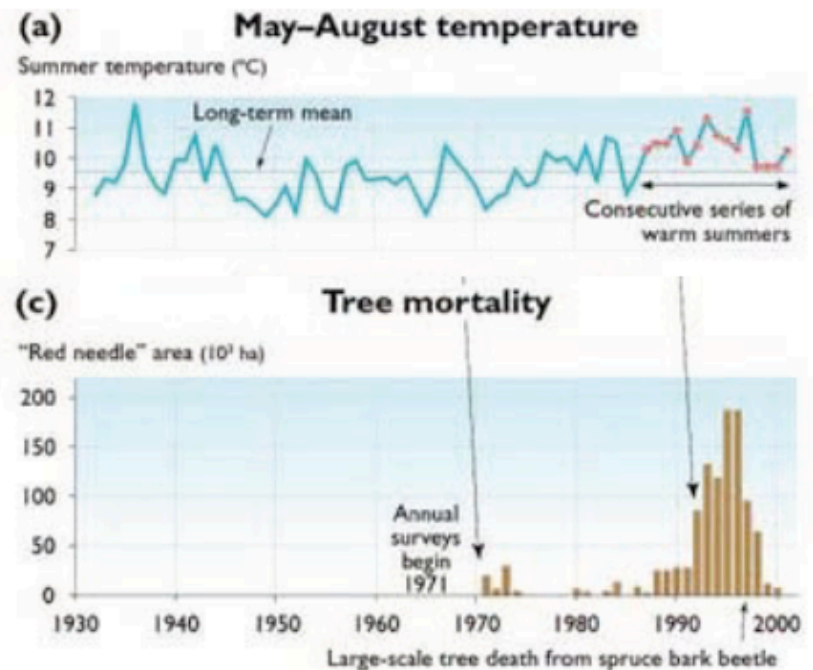
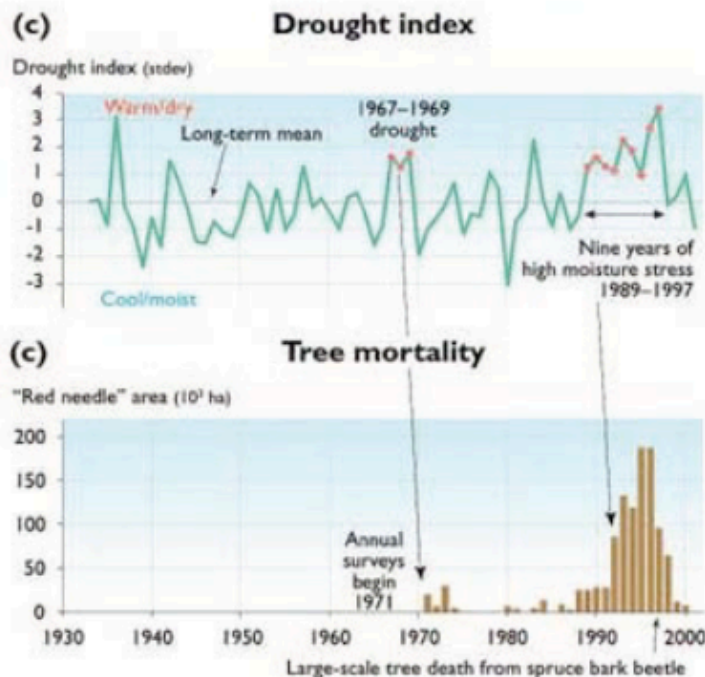
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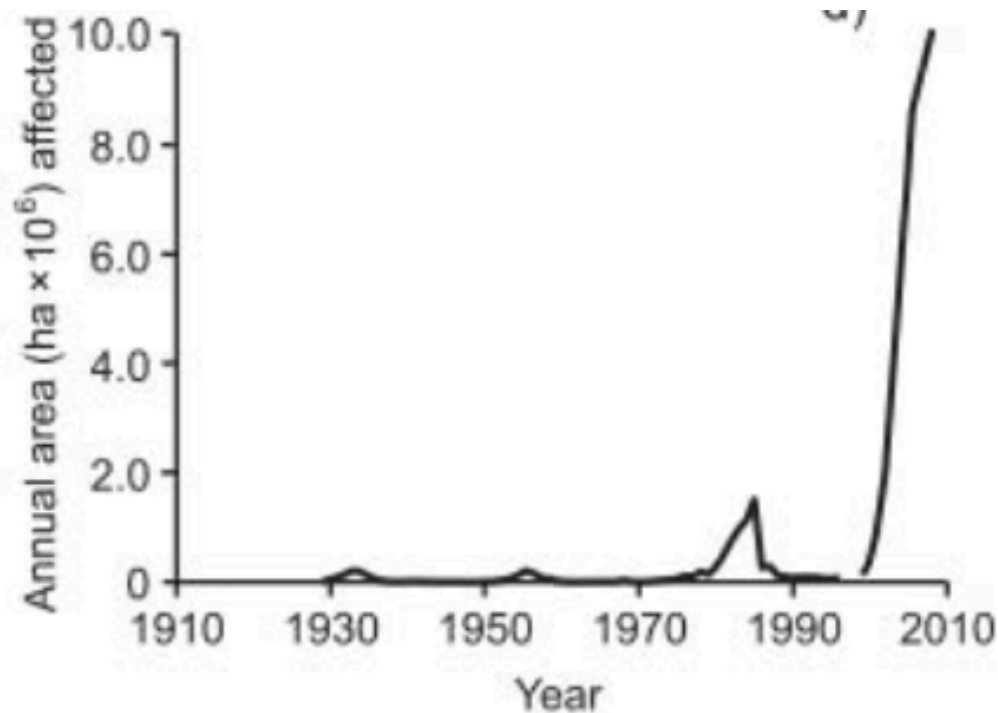


INTERPRETATION #2

MPB Infestation Expansion – Natural Cycles

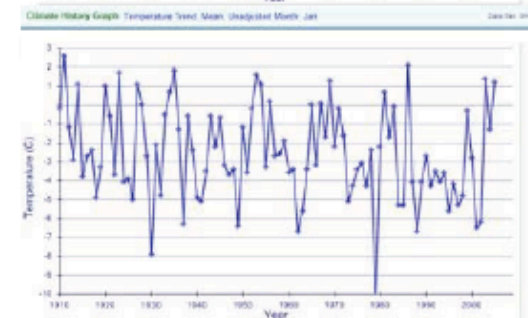
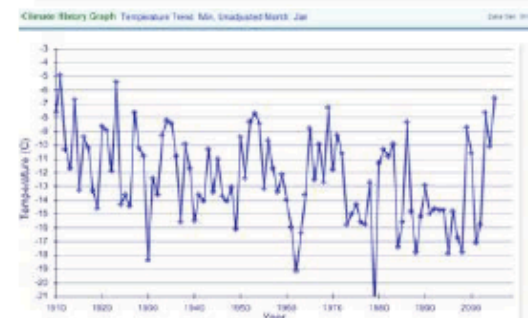
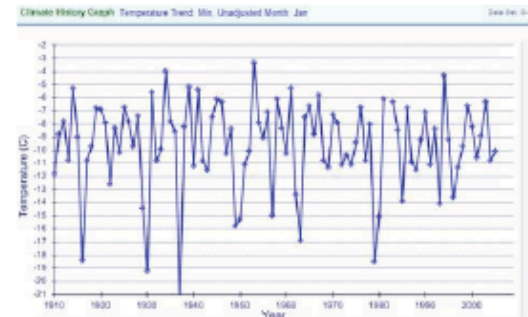
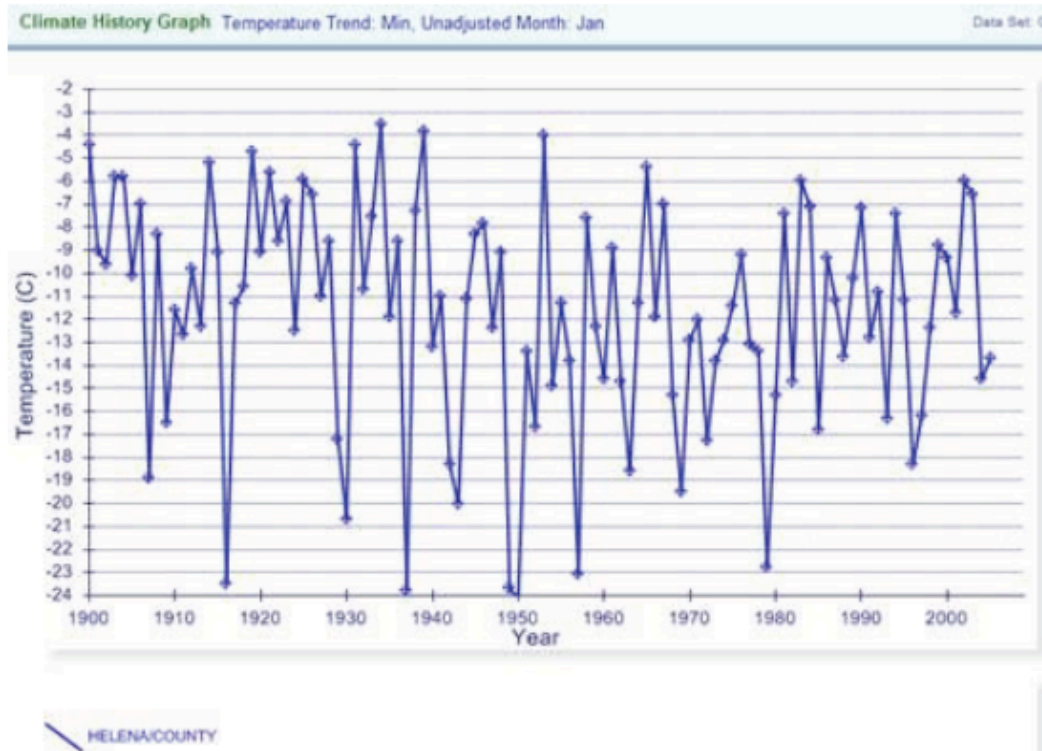
Infestations every 20 years (e.g., Cicadas, 17 years)

Recent increase in affected areas is an artifact of better observation tools



MPB Infestation Expansion – Natural Cycles

Winters are actually getting colder



INTERPRETATION #3

MPB Infestation Expansion – Forest Service

- + Forest Fire Abatement
 - + More trees preserved
 - Closer spacing => easier for beetles to reach new hosts
 - Older trees => older trees more susceptible

SOCIETAL IMPLICATIONS

Mountain Pine Beetle – Implications

Economic Impacts

- Loss of Timber

 - U.S. Forest Service committed \$40 million for cleanup efforts in 2009

 - Cost an estimated 11,000 jobs in Canada over the next 14 years.

- Fire Hazard

- Loss of Tourism

Mountain Pine Beetle – Implications

What Could/Should be Done ?

- If Global Warming

 - Treat Forests – costly, but provides jobs

 - Not sure if reducing atmospheric CO₂ will help

 - Positive Feedback of dying trees

- If Natural Cycle

 - Wait for nature to take its course

 - Not worth spending money to treat forests

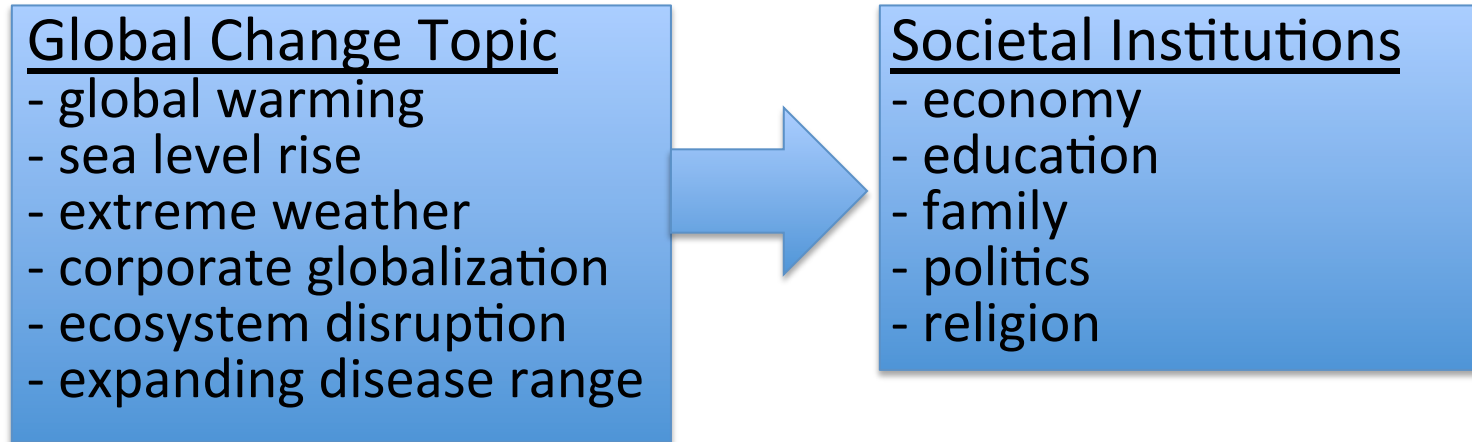
 - No need to change our habits

- If Forest Service Practices

 - Change forestry practices

 - Wait to see if it is a climate issue

Impact of Global Change on New England's Coastal Environment



Demonstrates Critical Thinking

4-person groups (TBD)

2 minutes each (10 minutes total, 2 minutes for questions)

May 10th, 8-11 AM (during scheduled finals)