



Investigation 3.2 - Policy Debate / Community Meeting on Climate Change

Objectives

Upon completion of this activity, students will:

- Understand that natural hazards can present personal and societal challenges because misidentifying the change or incorrectly estimating the rate and scale of change may result in either too little attention and significant human costs or too much cost for unneeded preventative measures.
- Understand that risk analysis considers the type of hazard and estimates the number of people that might suffer consequences. The results are used to determine options for reducing or eliminating risks.
- Understand some of the projections and risks associated with global warming and their impacts on the ecosystem and human activity.
- Recognize the importance of fulfilling public responsibilities such as participation in the public process.
- Better comprehend how human and the physical environment interact.
- Be able to communicate and defend a position both orally and written.

Method(s)

- In character, as the professionals they researched in the previous lesson, students will communicate and justify their position about what if anything should be done in the local community to abate global warming.

Background

- What are some possible consequences of climate change?

Materials

- Student Journal Pages – “Career Exploration” (for student reference during the debate) and “Policy Debate”
- Provided readings on climate change (for student reference during the debate)
 - The Potential Impacts of Global Warming on Alaska (see Investigation 3.1)
 - What can be done about climate change? (see Investigation 3.1)
 - The Greenhouse Diet – Chart (see Investigation 3.1)
- A transparency of the table found at the end of this lesson, “Policy Options in Response to Global Warming”
- Optional, a video of a borough assembly meeting, city council, or school board meeting to model appropriate methods of running a community meeting.
- Other props for a city council meeting, gavel, etc.

Assessment

- Performance assessment – Students will be assessed on their participation and effort in the mock community meeting.
- Constructed Response Assessment – Students will write a reflection about the experience.

Procedures

- 1) Begin class by reviewing the readings from the previous lesson. Ask the students what they felt were the key points and briefly discuss, review and define terms and ideas. What are some of the key projections/issues for Alaska, in particular, our local area? 1) Melting of permafrost & sea ice, 2) changes to the forest and tundra ecosystems, 3) impacts on marine ecosystems and fisheries and 4) impacts on subsistence. What can be done about climate change? Abatement, Adaptation, and/or Geo-Engineering.
- 2) Next discuss the various governmental bodies that are present in the community, state, nation and/or world that can make change and set policy.
- 3) Optional activity, watch a video clip of an assembly meeting, community or school board meeting. Have students note the various procedures that are being followed in order to conduct the meeting.
- 4) Facilitate a community meeting where each of us will represent an individual from community. Everyone must speak in first person "I am so and so and ..." Students must try to accurately convey the feelings/opinions that their character would have about climate change (even if it is different from how they feel).
- 5) Set the stage. "Welcome to the (your community here) Community Meeting. We are glad that so many people have come to express their views about what, if anything should be done in our community to help slow global warming. Let me review the rules for participating in a community meeting for any new-comers. Now, let me introduce you to our council members..." Introduce yourself as the council president and that you will be facilitating the meeting. Introduce the other students that are policy makers / council members. Explain that their job, as council members, is to do a "risk analysis" of the impact that global warming will have on the community. Risk analysis considers the type of hazards possible and estimates the number of people that might suffer consequences. The results are then used to determine options for reducing or eliminating risks. Therefore, the council may be asking questions of the community members so that they can make a decision that reflects the needs of the community. As a community, they all need to work cooperatively to complete a risk analysis of the situation. The challenge is to too correctly identify and estimate the rate and scale of the changes that will come to the community because of global warming so that neither too little attention nor too much cost for unneeded preventative measures occurs.
- 6) Show the table, "Policy Options in Response to Global Warming". Ask students to comment on alternatives under consideration or feel free to offer new suggestions. Facilitate a discussion, "It is now time for the public comment period." Have each student identify themselves (as their character) and their profession. They should state their concerns about how global warming will affect them and the community. They should communicate what, if anything, they feel the community should do to abate global warming. Students should defend their views using evidence.
- 7) When all students have had a chance to comment tell them that the council members have decided that they would like to see an unofficial vote of those present before they make their final decision. Make sure that students are clear that they must vote as they think their character would not them personally.
- 8) Tally the vote. Explain the council-members will consider everyone's comments in their policy recommendations. Thank everyone for coming.
- 9) Have the students write a self-reflection piece in their journals about the community meeting. Have volunteers share their reflections. Discuss, topics such as, impacts of climate change locally on the ecosystems and people; student roles in relation to the well being of the community and their obligations as a community member; importance of

public process, cooperation and participation; student values and attitudes toward these issues; ways that students can make a difference at school, home and in the community; etc.

Extensions

- “Estimating Local Sea Level” Lesson at <http://www.arm.gov/docs/education/lessons/2act4.4.html>
- Field trip to a community, city, borough, school board, etc. assembly meeting.
- Advanced reading, presenting both sides of the debate, on climate change (and other environmental issues) in the book, *Taking Sides Clashing Views on Controversial Environmental Issues* by Theodore D. Goldfarb.
- Renewables are Ready: A Guide to Teaching Renewable Energy in Junior and Senior High School Classrooms. Union of Concerned Scientists. (617) 547-5552
- Kids as Global Scientists. National Science Foundation, University of Colorado, Boulder. Internet connectivity of school-based laboratories for collection and interpretation of weather phenomenon. (303)492-0111

Resources

Environmental News Network <http://www.enn.com/indepth/warming/index.asp>

Global Change and Environmental Education Resources (Websites)

<http://www.gcrio.org/edu/educ.html>

National Science Teachers Association (1996). *Forecasting the Future – Exploring Evidence for Global Climate Change*. U.S.: Graphic Communications, Inc.

Reports to the Nation Series. OIES/NOAA, UCAR, Boulder, CO

Print materials and videos on varied topics (i.e. climate prediction)

<http://www.ucar.edu/homepage.html>

Policy Options in Response to Global Warming

	Abatement	Adaptation	Geo-engineering	No Action
Individual / Home	<ul style="list-style-type: none"> - All vehicles (cars, snow-machines, 4-wheelers, boats) would be required to be more efficient (i.e. more miles per gallon) and cleaner burning. - Insulate and weatherize homes 	<ul style="list-style-type: none"> - Relocation of homes as a result of rising sea level and/or melting permafrost. - Possible changes in subsistence lifestyle. 	?	No Action
Business and/or Community	<ul style="list-style-type: none"> - Begin or improve the community recycling program. - Plant more trees. - Businesses reduce emissions and improve energy efficiency of buildings and equipment. 	<ul style="list-style-type: none"> - Repair/Replace infrastructure (roads, buildings, etc.) damaged by melting permafrost - Prepare for emergency response – flooding, fire, erosion, storm damage, etc. 	?	No Action

Considerations in the decision-making process .

- What do you think the impacts of climate change are likely to be? That is, how much do you think climate will change, and what impact do you believe that change will have on the things you care about?
- How much do you think abatement will cost? What are costs and benefits of prevention?
- Risk analysis of the impact that global warming will have on the community. Risk analysis considers the type of hazard and estimates the number of people that might suffer consequences
- The challenge is to too correctly identify and estimate the rate and scale of the changes that will come to the community because of global warming so that neither too little attention nor too much cost for unneeded preventative measures occurs.