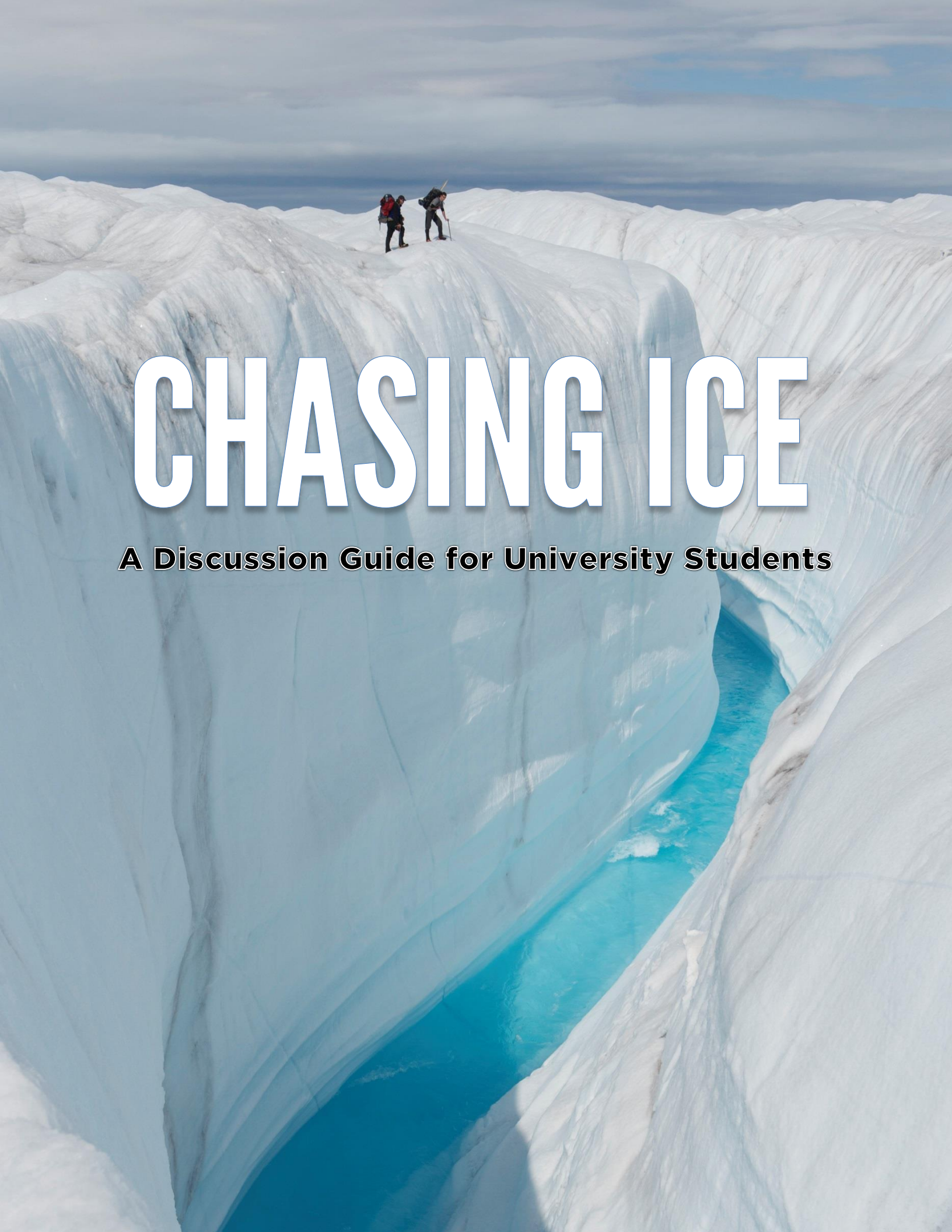


CHASING ICE

A Discussion Guide for University Students

Introduction

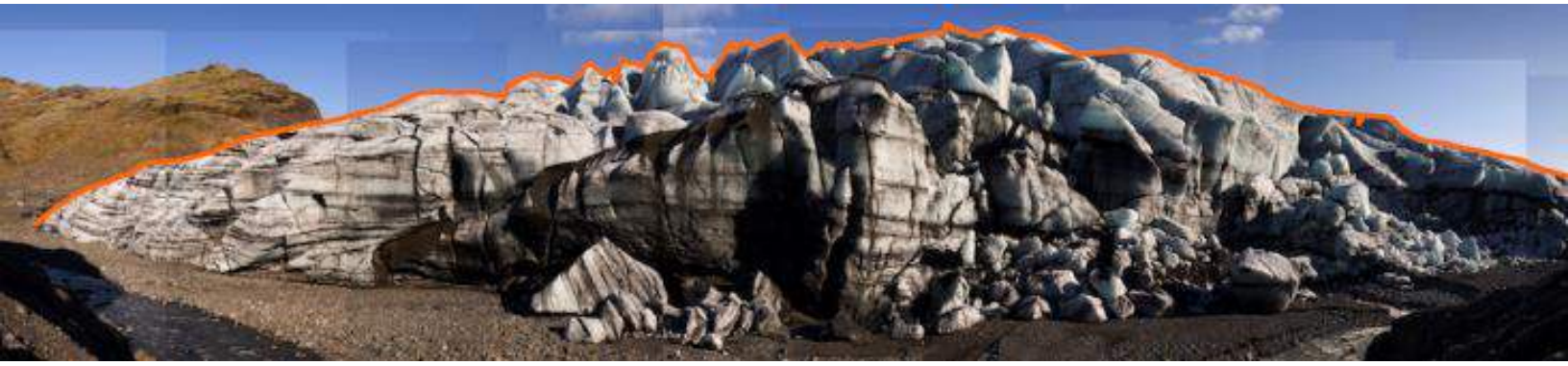
CHASING ICE presents undeniable evidence of how our planet is changing as a result of climate change. But instead of rattling off the same data and statistics we hear in the news, James Balog and his team at Extreme Ice Survey present us with an innovative way to see what often feels like an abstract scientific phenomenon. The captivating images and videos of CHASING ICE are a new kind of climate change data--one that merges science and art, creating a 'visual voice' for the issue of our day, a voice that resonates with people of all ages and backgrounds.

This discussion guide is intended to provide thought-provoking questions around the topic of climate change and the themes of the documentary. These questions are designed to help viewers engage in meaningful conversation about the sometimes complex issues that climate change raises. The CHASING ICE team encourages you to frame the challenges that climate change presents as opportunities to do things differently. Instead of driving our cars less, for example, we can design and use cars that don't run on fossil fuels, or find a different way to travel, say, by public transportation or bike. The solutions to climate change do not require reverting back to the way life was before industry, combustion engines, and cell phones, but instead demand that we harness the power of human ingenuity and innovation to find different, more sustainable ways of living now.

Tips for Leading a Successful Group Discussion

While we encourage university professors to make use of this guide, we recognize that there might be others using this resource, like student campus groups, or university viewing parties. With a diverse audience in mind, we have included some basic tips for leading inclusive, meaningful discussions.

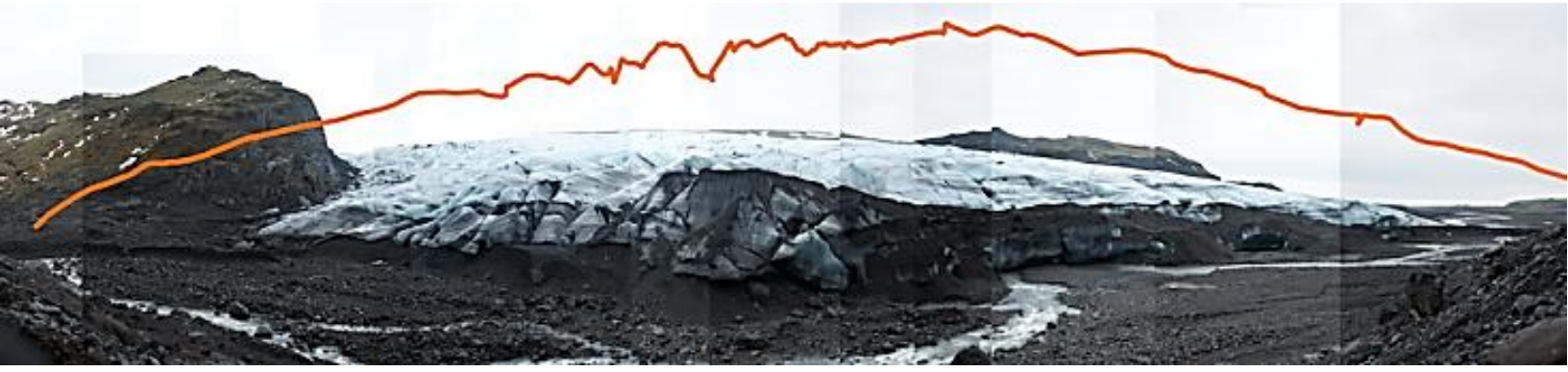
- Start by identifying a group facilitator. This person does not participate in the discussion, but helps to negotiate between speakers, summarizing and rephrasing ideas to help keep discussion flowing. The facilitator also works to ensure that one or several people don't monopolize the conversation.
- Establishing guidelines for any group discussions is essential. Consider beginning the discussion with a short introduction asking participants to respect all opinions, and that even as they disagree, the conversation should remain focused on the issues at hand, not personal attacks.
- The facilitator should ask follow-up questions to clarify a speaker's opinion, guide the discussion, and keep participants on topic. Avoid taking a stance. Remember to ask open-ended questions to stimulate conversation (e.g., Why do you feel that way? How else can we explain this?)
- Encourage alternate perspectives and ideas; there is no 'right answer.'
- Encourage participants to address each other, rather than the facilitator.
- In some groups using a 'talking stone' or other item that can be passed from speaker to speaker can help distribute speaking time among participants, and curb interruptions and cross-talk.
- Deal openly and directly with conflicts if they arise.
- As time concludes, review any conclusions the group might have reached.



Solheim Glacier, Iceland as seen from James Balog's "Waypoint 11." April 2006.
Photo by James Balog

Vocabulary

Atmosphere – The mixture of gases encompassing the Earth that provides the air we breathe and protects the planet from UV radiation from the sun; extends 20 miles up from the surface of the earth.
Calving – The act of an iceberg falling off the face of the glacier into the sea.
Carbon Dioxide (CO2) – One of the primary gases that compose the atmosphere, produced during respiration of plants and animals, organic decomposition, and in the burning of fossil fuels; though naturally occurring in the atmosphere, increases in CO2 are linked to our rising global temperature.
Climate – The general weather that characterizes a place over a long period of time, helping us understand the normal variations of weather in that place.
Climate Change – Changes to the global climate patterns as a result of increased CO2 in the atmosphere.
Cryoconite – Dust in the air, made of rock, microbes, carbon soot that builds up on ice sheets and glaciers, resulting in dark areas in and on the ice. These dark areas absorb solar radiation, melting the ice below causing holes to form in the glacier (cryoconite holes).
Glacier – A large mass of slow moving ice, formed as successive snowfalls are compacted over time.
Glacial Retreat – The process by which glaciers melt at a faster rate than the snow can accumulate, resulting in a loss of glacial ice.
Ice Cores – A cylindrical length of ice, obtained by drilling deep into ice sheets and glaciers. Similar to a tree ring, ice cores show yearly snow accumulation, and hold tiny air bubbles frozen in the ice that scientists use to understand the history of our climate.
Melt zone – Edges of the ice sheet, where ice is melting and the water is running out to sea.
Weather - The changes we see in the atmosphere, usually described by temperature, wind, and precipitation over a period of hours and days.



Solheim Glacier, Iceland as seen from James Balog's "Waypoint 11." October 2006, six months later. Photo by James Balog

Discussion Questions

Seeing Climate Change in the Ice

- Consider what you knew about climate change before watching the film. Have your ideas shifted or changed?

- Balog admits that he was previously skeptical about humans' ability to alter the chemistry of the air we breathe. But he changed his mind after learning new information about the history of our climate. Why is this process of re-evaluating your ideas based on new information so important? Why do you think that some people have a difficult time integrating new information?

- The effects of our changing climate are already being felt in the daily lives of people around the world. In what ways have you experienced climate change? Where have you seen the effects in your community?

- Balog has given what he calls a 'visual voice' to the issue of climate change, commenting at one point that the landscapes captured in his photos are gone, never to be seen again. In what ways do his images differ from what we usually hear about climate change? How does the transitory nature of the glaciers inform this 'visual voice' and your understanding of climate change?

Art as a Way of Knowing

- Can the stills and photos from the movie be both art and scientific data? What challenges and opportunities arise when science and art are brought together around the topic of climate change?

- From the cave paintings at Lascaux, to the landscapes of the Renaissance and the Impressionists, to Cezanne, Ansel Adams, and now James Balog, the relationship between human culture and the natural world has been a focus of art throughout history. As we are presently faced with environmental challenges that are the result human culture and activities, what role does (or should) art play in addressing climate change? Has this role changed throughout history?

- Many people have reflected that Balog's photos and the film have inspired an emotional response. How do you think this emotional quality impacts the climate change conversation? Is this emotional connection or response an inevitable part of representing climate change in this way?

Ethical and Moral Considerations

- After viewing the film, and seeing how our planet is changing, what kind of responsibility do we have as individuals to take action? What kind of responsibility does [insert name of college/university] have to do something?

- Anthropocentrism is the belief that humans are the most important species—that we have the highest value of all living things on the planet. To what degree does has that belief shaped American culture? In what ways might it be linked to climate change?

- Do we have an obligation to future generations to change the way we are impacting the planet? What about an obligation to the other species on Earth?

- While the U. S. is a major contributor to the greenhouse gases that cause climate change, we are just one country of 195. What role should the U.S. have in international climate action, like the Kyoto Protocol which sets binding limits on greenhouse gas emissions?

- President Obama released his Climate Action Plan in 2013. In it he lays out a plan for both cutting carbon pollution, and for adapting to our new changing climate. Do you agree that we should be focused on both curbing our emissions and adapting to the world we have created? What kinds of actions do you think should be part of our national plan?

- What are some other ethical and moral questions that climate change raises? Is it morally just for us to do nothing about climate change?

Make a Difference

- Consider the many choices you make each day (e.g., where to shop, what to eat, how you travel). What could you change in your own life that could lessen your impact on the planet? What would you like to change, but feel that you can't?

- There are many reasons why well-meaning and informed people don't always act in accordance with their intentions and beliefs. What prevents you from taking action on climate change? How might you seek to address these challenges?

- How can you encourage local politicians and school administrators to take action on climate change? What do you think that action should look like?

- What else could your campus community be doing to tackle climate change? What skills do you have that could make a difference on this issue?

Take Action at Your University

Having the space to discuss all aspects of climate change is critical to understanding the many challenges this issue presents. But equally critical is identifying ways to be a part of the solution. Consider some of these options to be involved on your campus:

- Meet with your campus Office of Sustainability to discuss a campus climate action plan.
- Research fossil fuel divestment and organize a campaign for your campus.
- Identify areas for improvement in waste management. Plan campus-wide 'challenges' to save energy or water, recycle, or commute more sustainably.

Resources to Learn More

- Climate Literacy: The Essential Principles of Climate Science - Developed by the U.S. Global Change Research Program/Climate Change Science Program, this document presents the concepts for understanding our climate, the impacts of climate change, and how to address the challenges of climate change.
- Earth Day Network – Access resource guides on a variety of environmental issues, and learn about ways to take action.
- Extreme Ice Survey – Learn more about James Balog and the Extreme Ice Survey Team.
- Intergovernmental Panel on Climate Change (IPPC) – Comprised of thousands of scientists from all over the world, the IPPC reviews the most recent data and research on climate change to provide current and accurate information to inform leaders and decision makers.
- Skeptical Science – A comprehensive resource for exploring the science of climate change and understanding how climate data is analyzed and interpreted. Download the Skeptical Science app.
- The President's Climate Action Plan – President Obama's plan for addressing climate change.

Get Involved

- Chasing Ice – Learn more about the film and future projects, and arrange a viewing of the movie to educate others. Connect with the Chasing Ice Team through social media.
    - twitter @chasingice
    - Instagram chasingice
    - Facebook www.facebook.com/chasingice
- Contact your Congressperson – Tell our elected officials what you think they should be doing about climate change.
- Fossil Free – Learn about divesting from fossil fuels and how to start a campaign on your campus.
- The Association for the Advancement of Sustainability in Higher Education (AASHE) – Access their college and university climate action planning guide for help getting started.
- We Are Power Shift – An online community serving as a hub for the youth climate movement.

CHASING ICE

Developed in Partnership with

EARTH DAY NETWORK