

Study Guide for *The Great Immensity*

Written and Directed by Steve Cosson

Songs by Michael Friedman

ART + ACTION + SCIENCE = BIG IDEAS FOR A BIG WORLD

THE GREAT IMMENSITY

A new theatrical play and media project about our creative responses to climate change

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Civilians.

The Civilians and How We Work

The Civilians is an investigative theater company based in New York whose works are performed nationally and internationally. The company develops and produces new work from creative inquiries into the most vital questions facing our world today. Developing new work often involves community residencies, travel, face-to-face conversations, and extensive research.

Check out a song from *The Great Immensity*! “Martha” <http://vimeo.com/34801325>



Martha the passenger pigeon.

“For me the thing that is the central question of the play is, what would it take for us to appreciate the immediacy and importance and urgency of all these questions about the environment?” - Steve Cosson

How Did We Get Here? Let's do a little preshow investigation...

What Is Global Warming?

Global warming, or climate change, is the gradual increase of the earth's temperature, generally attributed to increased levels of carbon dioxide and other pollutants in the earth's atmosphere. More than 90% of global warming in recent years has been attributed to human activity.

- Research Global Warming and its effects online. The National Geographic Global Warming website is a good place to start. Click [HERE](#)
- Take the National Geographic Global Warming quiz, [HERE](#)

What is the IPCC?

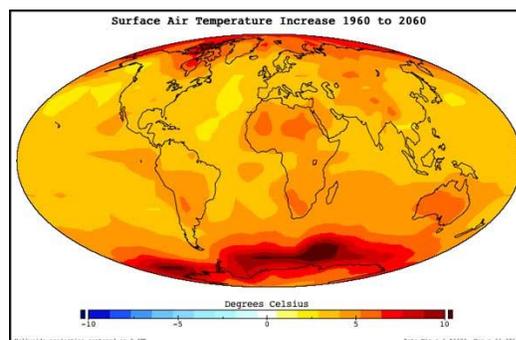
The IPCC, or the Intergovernmental Panel on Climate Change, is a scientific organization comprised of more than 120 world governments. The IPCC gathers and publishes reports on climate change from around the world and is considered an international authority on climate change, providing crucial information to decision makers.

- Learn more about the IPCC by going [HERE](#).

What is a Climate Model?

A Climate Model is a mathematical model that quantitatively describes, simulates, and analyzes the interactions between the atmosphere and underlying surface (e.g., ocean, land, and ice). They are used to study the climate and to make predictions, or educated guesses, about future climate.

- Research Climate Models [HERE](#).



What is a Climate Summit?

A Climate Summit is a meeting between various countries to discuss and make agreements about how to reduce greenhouse gas emissions and deal with climate change issues. Each meeting is created with targeted goals to reduce or limit greenhouse gas emissions in various countries.

- Research past Climate Summits/Conferences: 1972, Stockholm, Sweden; 1992, Rio DeJaneiro, Brazil; 1997, Kyoto, Japan; 2009, Copenhagen, Denmark; 2013, Warsaw, Poland; 2015, Paris, France. A good place to start is the United Nations Framework Convention on Climate Action website which can be found [HERE](#).

The Making of *The Great Immensity*

From an interview with Civilians Artistic Director, director and playwright Steve Cosson:

“This particular project started with a desire to take on the subject of the environment and climate change and I had all sorts of questions in mind – mostly to figure out the many questions surrounding our relationship with the environment and climate change and to decide what role theatre can play in that story.”

“The idea started with a trip to Panama and then developed over time. I knew about this place, Barro Colorado Island, from time I spent in Panama as a teenager, working as a volunteer. It’s an extraordinary place, a virgin rain forest in the middle of the Panama Canal. It’s been preserved since the creation of the canal and the only people who have access to it are scientists from all over the world who are doing research about the tropical rain forests. So, I decided to go there, spend a week interviewing everybody who was there, following them around, learning about their research and trekking around in the jungle.”



Steve Cosson

Michael Friedman

Research lead Steve Cosson and composer Michael Friedman to Churchill, Canada where they went out to the tundra as guests of Polar Bear International to see polar bears.

“The first research trip to Panama and the second trip to Churchill, Canada were pieces of the puzzle, as it were.”

“The third piece was the time we spent at Princeton University where Michael and I were both fellows at the Princeton Environmental Institute. By the time we were at Princeton, I started to have an idea of how this might take shape as a play. We really started developing it back and forth with students and faculty we were working with there and the story started to come together.”



The Great Immensity: **The Story**

Karl, a filmmaker for television, is on Barro Colorado Island, or BCI, in order to make a tv segment about the island. Throughout his stay he has formed relationships and connections with other researchers on the island and others online. As the play opens, Karl records a video for his wife Phyllis and disappears.

Phyllis arrives on the Barro Colorado Island after she hears of the mysterious disappearance of her husband. Phyllis meets Allie, a plant ecologist who knew Karl, and Boni, a Panamanian man who works on the island. Phyllis tries to draw more details about Karl's life on the island out of Allie. Phyllis tells Allie that Karl used to work on Shark Week for the Nature Channel and, after that went badly, Karl came to BCI to shoot footage for a segment about the island. Allie and Phyllis attempt to figure out what led to Karl's disappearance.

The two women talk about the people who were on the island during Karl's stay and Allie reveals that there was a group of teenagers who were there for a few days, the Earth Ambassadors. She relates that the Earth Ambassadors are a group of students, one from every country in the United Nations, who are on their way to a climate summit in Paris. The Earth Ambassador from the United States is Julie. In an effort to inspire and mobilize public opinion in advance of the summit, the Earth Ambassadors record video blogs.

Scientists on the island recount what they talked about with Karl before his disappearance, climate change being the main topic. Throughout the show we see Karl's various interviews with people on the island. Marcos, the Colombian paleontologist, talks about the contingency of Panama and the importance of the gulf stream to the world's climate. Karl had also interviewed the Earth Ambassador, Julie, about her work. Julie reveals her frustrations with the Earth Ambassadors program. She enlists Karl to help her with her work as an Earth Ambassador.

A series of clues leads Phyllis to Churchill, Canada in search of her husband. What happens there could change the future of the world as we know it.

The Great Immensity: Major Characters



Phyllis: the wife of television documentary filmmaker, Karl. When Karl disappears, Phyllis puts together a series of clues and sets off to find him.

“Climate change is one of those subjects that lives in me and Karl’s lives like mental DMZ. Demilitarized Zone, you know between North and South Korea. Which is apparently full of all these amazing birds now.”



Karl: a documentary filmmaker. When Karl disappears in Panama his wife, Phyllis, puts together a series of clues and sets off to find him.

“We are actually breaking the world...We break the world and it’s done. Game over.”



Allie: A plant ecologist on Barro Colorado Island.

Rob: Allie’s husband; also a plant ecologist.

“We have probably the next fifty years. Really just fifty years before a lot of these conservation issues will be resolved one way or the other.”



Julie: An Earth Ambassador from Detroit, Michigan. She and other teenage environmental activists from around the world are on a journey to witness environmental change before their last stop at the Paris Climate Summit.

“People watch us and they think that’s doing something. Great done, check, of the hook. It’s not. It’s not actually doing something. It’s just watching.”

The Great Immensity: **Key Concepts and Vocabulary**

Acupuncturist - A health practitioner who attempts to heal an individual of various ailments by penetrating the skin with needles to stimulate certain points on the body.

Barro Colorado Island (BCI) - An island located in the man-made Gatún Lake in the middle of the Panama Canal. Visitors to the island must make arrangements and a reservation with the island staff for a tour.

Carbon Footprint - The total set of greenhouse gas (GHG), or carbon, emissions caused by an organization, event, product or person.



The concentration of carbon dioxide (CO₂) in the atmosphere has increased by over 20% since 1958. This increase is the result of human activity and is mainly due to the combustion of fossil fuels and deforestation.

Churchill - A subarctic town in the province of Manitoba, Canada. Churchill attracts people from around the world interested in sub-Arctic and Arctic research. The Port of Churchill is Canada's principal seaport in the Arctic Ocean and is a tourist destination. Churchill is considered the polar bear capitol of the world.

Climate Model - Mathematical model for quantitatively describing, simulating, and analyzing the interactions between the atmosphere and underlying surface (e.g., ocean, land, and ice).

Dene Village - The Dene Village was a housing project built by the Canadian government for the Sayisi Dene Tribe, an aboriginal group living in western Canada. In 1956 the Sayisi Dene Tribe were relocated by the Churchill government and the sudden switch from a nomadic caribou-hunting and gathering existence to an existence with no viable means to sustain themselves, and little government support, caused many problems. As a result, they chose to return to their traditional lands. Their current population stands at less than 700.

“Disappearance of sharks since 1500s” - Overfishing along with slow growth and reproduction rates has led to the decline of the shark population.



Shark

Ecosystem - An integrated system of living species, their habitat and the process that affects them.

Five major extinctions - As a result of climate change nearly 440 million years ago in the late Ordovician period, more than half of all marine and land species were extinguished. Around the end of the Devonian period nearly 365 million years ago, 70% of all species disappeared due to climate change. At the end of the Permian period, nearly 245 million years ago, the third and largest extinction occurred that killed 96% of marine species and 75% of land vertebrate species as a result of climate change. An increase in rainfall nearly 208 million years ago during the late Triassic period caused the extinction of half of all species. The most well-known extinction occurred 65 million years ago between the Cretaceous period and the Tertiary period. A giant meteorite crashing into earth caused the extinction of half of all the species, including the dinosaurs, and severely disrupted the Earth's ecosystem.

Gamboa Dike - The last obstruction of the Panama Canal that was blown apart in order to make way for the canal.

Gatún Lake - An artificial lake in Panama that forms a major part of the Panama Canal.

Gulf Stream - The gulf stream is a powerful, warm, and swift Atlantic ocean current that originates at the tip of Florida, and follows the eastern coastlines of the United States and Newfoundland before crossing the Atlantic Ocean. The gulf stream influences the climate of the east coast of North America from Florida to Newfoundland, and the west coast of Europe. Although there has been a recent debate, there is consensus that the climate of Western Europe and Northern Europe is warmer than it would otherwise be due to the North Atlantic drift, one of the branches from the tail of the gulf stream.

“Gyre of plastic debris” in the Pacific - Commonly referred to as the “Great Pacific Garbage Patch” or “Pacific Trash Vortex”, it covers an area of ten million square miles. Sea birds and marine animals ingest these plastic particles and are killed. This area has a high concentration of plastic materials, chemical sludge, and other debris and waste which are trapped by ocean currents. Estimates on size say that it could be up to twice the size of the continental US but the National Science Foundation says that it is only twice the size of Texas. Total mass is estimated at 100 million tons.

Howler Monkeys - These monkeys are native to South and Central American forests. Threats to Howler monkeys include human predation, habitat destruction and being captured for captivity as pets or zoo animals.



Howler monkey

Lemur

Hurricane Katrina - Occurring in 2005, it was the costliest natural disaster, and one of the five deadliest hurricanes, in the history of the United States. Nearly 2,000 people died due to the hurricane and subsequent floods.

Lemur - Primate that lives primarily in Madagascar. Considered one of the world’s most endangered species because of habitat loss due to deforestation and hunting, 90% of all lemur species face extinction within the next 20-25 years.

“Less ice is more shipping” - With the sea ice melting due to climate change, the Northwest Passage opens up and allows for ships to cross over North America (shorter route) instead of using the Panama Canal to cross below it.

Martha the Passenger Pigeon - Known as the last Passenger Pigeon in existence, she resided at the Cincinnati Zoo until her death in 1914.

Megafauna - Large animals, or animals of 44 kg (100 lbs) mature body weight or more. Most of the world’s megafauna went extinct within the last 60,000 years, with the arrival of modern humans.



Megafauna. The hippo-sized Diprotodon of Australia, the largest marsupial of all time, went extinct 40,000 years ago.

Paleontologist - A person who studies fossils in order to reconstruct the history of the Earth and the life on it.

Panama Canal - The history of the Panama Canal, a man-made water passage that connect the Atlantic Ocean to the Pacific Ocean, goes back almost to the earliest explorers of the Americas and provides an opportunity for international trading. It reduces the amount of time taken for ships to travel. The United States completed the present Panama Canal in 1914. Along the way, the state of Panama was created through its separation from Columbia in 1903.

President Woodrow Wilson - 28th president of the United States. The Panama Canal was completed during his presidency; he ceremoniously pushed the button that detonated that dike at Gamboa and opened the Canal for ships to pass through.

Pygmy - A member of an ethnic group with a typically height of less than five feet. Most associated with a communities of people in Central Africa.

Rainforest - A tall, dense jungle that gets a high degree of rainfall each year. Rainforests cover 6% of the earth's surface but contain more than 50% of the world's plant and animal species. They tend to be very hot and humid.

“The skinny polar bear, or drowned polar bear, or shot by a bullet polar bear” - Arctic ice, the polar bear's primary habitat, is melting much faster than scientists had believed and many accounts of polar bear deaths are attributed to drowning.



Polar bear

Sloth

Sloth - A medium-sized mammal related to anteaters. They live in the jungles of Central and South America and are known for being slow-moving.

Tundra - A vast, flat, treeless Arctic region of Europe, Asia, and North America in which the subsoil is permanently frozen.

Typhoon Haiyan - A very powerful 2013 tropical cyclone known as Typhoon Yolanda in the Philippines that devastated portions of Southeast Asia, particularly the Philippines. It killed over 6,000 people in the Philippines. While no particular weather event can be directly linked to climate change, many climate researchers believe that global warming leads to an increase in the frequency and intensity of tropical storms.

The Great Immensity Themes

Global effects of climate change

Preservation of the natural world

Grassroots political action

Relationship between science and art

The sacrifice of personal desires for a larger community

Hope

Post Show Activity: An Investigation in Song

OBJECTIVES:

Gain a deeper understanding of some of the main themes in the show.

Gain insight into yourself through self-exploratory writing activities.

Use critical thinking, writing, and technology to produce a piece of original work.

**Check out another song from *The Great Immensity* and perhaps sing along!
“The Next Forever” <http://vimeo.com/39213500>**

SONG LYRICS (*music and lyrics by Michael Friedman*)

SINCE YOU LEFT ME ALONE
I FEEL LIKE I'M THE LAST HUMAN BEING THAT IS KNOWN
AND YOU TOLD ME I HAVE NO PERSPECTIVE
SHORT SIGHTED MYOPIC MY VISION'S SELECTIVE
AND I GUESS I'M JUST NOT OPTIMISTIC
I GUESS WHEN LIKE ME YOU JUST LOOK AT STATISTICS
BUT EVER SINCE YOU WENT AWAY
I THINK IF I CAN TRY TO SEE FURTHER THAN JUST TO TODAY
FOR THE NEXT 50 YEARS
FOR THE NEXT 100 YEARS
FOR THE NEXT FOREVER
THE NEXT FOREVER...
WITHOUT US THE WORLD WILL STILL GO
THE BACTERIA WILL THRIVE AND THE GRASS WILL STILL GROW
AND THE TRASH WILL FLOAT BY AND THE SEAS WILL STILL RISE
AND NEW PLANTS WILL LEARN HOW TO PHOTOSYNTHESIZE
BUT I DON'T WANT TO BE THE LAST ONE
WITH MY LITTLE BLUE RECYCLING BOX WHEN IT'S DONE
AND STATISTICS CAN JUST LEAVE YOU NUMB
AND STATISTICS ARE DEAF AND STATISTICS ARE DUMB
BUT LIKE WIDOWS WE WAIT FOR THE SHIPS THAT WON'T COME
YOU CALLED ME YOUR CONTINGENCY
THE STRAY CHANCE THAT CHANGED JUST WHO YOU THOUGHT YOU COULD BE
FOR THE NEXT 50 YEARS
FOR THE NEXT 100 YEARS
FOR THE NEXT FOREVER
THE NEXT FOREVER...
I'M A LITTLE BOAT FLOATING
ALONE IN THE SEA
AS A GREAT SHIP GOES BY
NEVER NOTICING ME
BUT I'LL JUST KEEP LOOKING FOR WHAT I CAN SEE
TRYING TO LOOK FOR EACH CONTINGENCY
FOR THE NEXT 50 YEARS
FOR THE NEXT MILLION YEARS...

Now that you've listened to and perhaps sung along with "The Next Forever", why not create your own song about The Great Pacific Garbage Patch?

- Write down all the words or phrases that you think of when looking at the images of The Great Pacific Garbage Patch. Write down at least 10.
- How does it related to climate change? For more information, you can research the Great Pacific Garbage Patch online. Click [HERE](#) to get started.
- Once you have done this, write song lyrics. You can refer to "The Next Forever" song lyrics for inspiration.
- By yourself, or with a group of friends, sing your song about the Great Pacific Garbage Patch.
- Use multimedia tools (video or audio) to greatly enrich this activity. Record your songs as audio files. Using digital storytelling software, you can overlay photographs and images to your song. Refer to "The Next Forever" video for inspiration.
- The Civilians would love to see your finished product. If you'd like, email your audio or video files to The Civilians' Communication Manager at admin@civilians.org



Great Pacific Garbage Patch.



Great Pacific Garbage Patch.

Continuing the Conversation

Become an Earth Ambassador: What You Can Do

- Recycle.
- Turn off lights and appliances when not in use.
- Use less water. Take a shower instead of a bath. Turn off the water when you brush your teeth.
- Use a reusable water bottle instead of a plastic one.
- Make your home energy efficient. Replace light bulbs with energy efficient ones.
- Take public transportation, walk or ride a bike.
- Buy school supplies and other items made from recyclable materials.
- Reduce your amount of unnecessary packaging.
- Educate yourself on issues around climate change. One source is *The Great Immensity* website (www.thegreatimmensity.org) where you can explore, watch original videos, participate in conversations and be inspired by stories about artists, scientists, activists, and more who are thinking creatively to tackle the big issues of climate change and other environmental crises.
- Educate others. Be creative and come up with new ways to communicate environmental issues.



Recycle bins

For Further Exploration

BOOKS:

Archer, David. *The Climate Crisis: An Introductory Guide to Climate Change*. Boston: Cambridge University Press, 2010.

Dessler, Andrew. *The Science and Politics of Global Climate Change: A Guide to the Debate*. Boston: Cambridge University Press, 2010.

Hulme, Mike. *Why We Disagree About Climate Change: Understanding Controversy, Inaction and Opportunity*. Boston: Cambridge University Press, 2009.

Schmidt, Gavin. *Climate Change: Picturing the Science*. New York: W.W. Norton & Company, 2009.

FILM:

An Inconvenient Truth (2006). Directed by David Guggenheim. Starring Al Gore. A documentary about the dangers of global warming.

WEBSITES:

www.350.org

<http://www.earth.columbia.edu/articles/view/2124>

www.kidsforsavingearth.org

<http://environment.nationalgeographic.com/environment/global-warming/gw-overview.html>

<http://cuspmap.pairserver.com/>



Melting glaciers

The Great Immensity Study Guide was created by The Civilians' staff members and the Kansas City Repertory Theatre education department, 2014.

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