

# LUCAS FOGLIA: HUMAN NATURE

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**Columbia**  
COLLEGE CHICAGO

## EDUCATION GUIDE



*Maddie with Invasive Water Lilies, North Carolina, 2008*

This guide serves as an educational supplement to the exhibition *LUCAS FOGLIA: HUMAN NATURE* and contains information about the works on view, questions for looking and discussion, and suggested readings. You may download this guide from the museum's website at [mocp.org/education/resources-for-educators](http://mocp.org/education/resources-for-educators)

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Guest Contributors for this Education Guide are: Joan Giroux, Associate Professor, Art and Art History at Columbia College Chicago, with students from the 2018 Special Topics in Studio Art summer class "eco monopolies in the Commons" at the Museum of Contemporary Art Chicago: Emily Gallagher (BA, Art History); Joey Grisby (BA, Illustration); Alex Rixon (BA, Multimedia Journalism); and Bianca Roper (BFA, Fine Arts).



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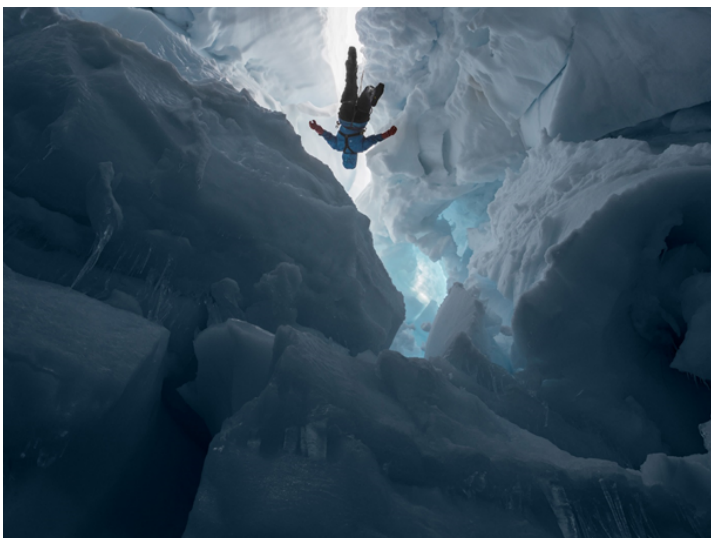
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# INTRODUCTION

“Nature used to mean the Earth besides humans and human creations. But if there is no place on earth unaltered by people, then does nature still exist? I believe that we need wild places, even when those places are human constructions.”

LUCAS FOGLIA



*Kenzie inside a Melting Glacier, Juneau Icefield Research Program, Alaska, 2016*

At a time when Americans, on average, spend 93 percent of their lives indoors, Lucas Foglia photographs organizations and industries that bring people into contact with nature, neuroscientists researching the beneficial effects of spending time outside, and climate scientists measuring the degree to which human activity influences the atmosphere.

According to climate science, there is no place on Earth unaltered by people. Yet, neuroscience suggests that wild places are integral to our health and happiness. From literal urban jungles to so-called untarnished wilderness, *Lucas Foglia: Human Nature* examines our relationship to the natural world and the desire for “wild” places—even when those places are human constructions.



*Matt Swinging between Trees, Lost Coast, California, 2014*

# NATURE'S IMPACT ON HUMAN HEALTH

Many scientific studies of how time in nature affects brain activity are currently being conducted. Research suggests that exposure to nature promotes physiological and emotional wellness, and also enhances cognition.



Madeline in a Study of Stress Reduction in Virtual Reality, Bosch Lab, Swedish University of Agricultural Sciences, Sweden, 2015

A study in Sweden by physician Matilda van den Bosch places subjects in three-dimensional virtual reality rooms filled with scenes and sounds of nature for fifteen-minute intervals. The study finds that exposing subjects to even short bouts of simulated nature instantly decreased heart rates.



Kate in an EEG Study of Cognition in the Wild, Strayer Lab, University of Utah, Utah, 2015

Dr. David Strayer at the University of Utah studies the effects of being outdoors on one's ability to multi-task and hold longer attention spans.

## Stress Reduction Theory (SRT)

- Developed by Roger S. Ulrich in 1991
- Theorizes that people can recover more quickly from stressful events if exposed to nature.
- Many studies show that even minimal access to nature, like being in urban parks or gardens, reduces blood pressure and levels of the stress hormone Cortisol.

## Attention Restoration Theory (ART)

- Developed by Rachel and Stephen Kaplan in their book, *The Experience of Nature: A Psychological Perspective* (1980)
- The Kaplans' studies find improved subjects with longer attention spans and elevated moods after being in—or merely looking at—nature.

## → QUESTIONS FOR LOOKING

- When have you experienced a calming experience while outdoors? Describe that moment.
- What does it mean to have a relationship with nature? What do positive and sustainable relationships with nature look like?

# NATURE'S IMPACT ON HUMAN HEALTH



*Troy Holding a Guinea Fowl Chick, GreenHouse Program, Rikers Island Jail Complex, New York, 2014*



*Troy Holding a Guinea Fowl Chick, GreenHouse Program, Rikers Island Jail Complex, New York, 2014*

Multiple images in this exhibition portray incarcerated individuals in the GreenHouse Program at Rikers Island Jail Complex in New York. The program, a partnership between the Horticultural Society of New York and the NYC Department of Corrections, teaches inmates how to grow food. Gardening is both a potential job and a form of therapy. Many similar programs exist in correctional institutions around the country. The Oregon Snake River Correctional Institution offers the Nature Imagery Project, which implements artificial plants and videos of nature in solitary confinement cells to curb the suicide rate and reduce instances of violence. Within the first year, the number of mental health related incidents at Oregon Snake River Correctional Institute decreased by 26%.

The GreenHouse program reduces recidivism rates by 40% and generates up to 417 pounds of organic fruit and vegetables a year.<sup>1</sup>

<sup>1</sup>"GreenHouse." The Horticultural Society of New York. Accessed June 05, 2018. <https://www.thehort.org/programs/greenhouse/>.

## → QUESTIONS FOR LOOKING

- Have human beings become separate from nature? Has visual culture influenced this supposed separation?
- What distinctions do we draw between "natural" and human-made? Why are humans not considered part of nature?

# CLIMATE CHANGE SCIENCE

Although there are a significant amount of studies linking human activity to global warming, many Americans still do not believe we are contributing to the problem. Many of Foglia's images depict scientists studying causes and predicting outcomes of climate change.



*Kenzie inside a Melting Glacier, Juneau Icefield Research Program, Alaska, 2016*



*Uwe Measuring the Velocity of a Glacier, Juneau Icefield Research Program, Alaska, 2016*

Every summer since 1946, members of the Juneau Icefield Research Program have traversed the Juneau Icefield, contributing to the oldest continual study of a glacier in the Western Hemisphere. If climate-warming trends continue, the Juneau Icefield is expected to completely disappear by 2200. Globally, glaciers cover about 10% of the Earth's surface and store about 75% of the world's freshwater.

## WHAT IMPACT COULD GLACIER MELTING HAVE ON ME?

### Rising sea levels and shrinking coasts:

- Coastal areas around the globe will need to relocate due to soil erosion and flooding. Major coastal cities, including New York City, Miami, Mumbai, and Shanghai are the most at risk.

### Shortage of drinking water:

- Only 2% of the Earth's water is freshwater and the main source for this water comes from glacial ice and snow. Loss of glaciers equals loss of human drinking water.

### Excessive flooding for non-coastal regions:

- Rivers connected to oceans can flood and can cause new lakes to form or burst.

### Loss of animal habitats and animal species:

- Animals and fish reliant on colder temperatures risk extinction. Birds—and humans—reliant on these fish as a source of food are threatened.

# CLIMATE CHANGE SCIENCE



*Air Sampling Site, Niwot Ridge, National Oceanic and Atmospheric Administration, Colorado, 2016*

The National Oceanic and Atmospheric Administration (NOAA) captures air samples in over 90 locations around the world to assess atmospheric buildup of carbon emissions caused by animal husbandry, industries that rely on fossil fuels, and other human activities.

The Space Weather Prediction Center, pictured here, is one branch of the NOAA. They utilize collected data to predict future weather patterns on the sun. If a major eruption happens on the sun, the solar storm can send electromagnetic radiation and charged particle radiation into our atmosphere.



*Charles Looking at the Sun, Space Weather Prediction Center, Colorado, 2016*

## → QUESTIONS FOR LOOKING

- Why are people divided on climate change research? What could potentially be confusing about these studies?
- How can photography and other forms of art be used as a tool in climate change research?

# EFFECTS OF CLIMATE CHANGE



*Palm Trees without Water, California, 2014*

California experienced the worst drought on record from 2011–2017, which caused the death of over 102 million trees. The severity of the drought is linked to climate warming.<sup>1</sup>

<sup>1</sup>Lindsay, Rowena. "What Does a Mountain Lake Reveal about California's Drought?" *The Christian Science Monitor*, September 16, 2016.

Only 42% of Americans currently believe climate change will directly impact their lives. Yet, the California drought threatens the world's food supply. The state is the world's fifth-largest supplier of food, using 41% of its water supply to irrigate crops.<sup>2</sup>

<sup>2</sup>Schiavenza, Matt. "The Economics of California's Drought." *The Atlantic*. March 21, 2015. Accessed June 01, 2018. <https://www.theatlantic.com/business/archive/2015/03/the-economics-of-californias-drought/388375/>.

## → QUESTIONS FOR LOOKING

- Where does your drinking water come from? What could potentially threaten that source of water?
- What is the human role in maintaining natural cycles of the planet?
- Calculate your carbon footprint [here](#). What changes can you make in your personal life to reduce your footprint?



# ADAPTATION TO CLIMATE CHANGE



Wildfire, California, 2015

Controlled burns are performed by the US Forest Service between fire seasons to prevent wildfires. Each year, more than 73,000 wildfires burn approximately seven million acres of land in the United States. Controlled burning also helps renew forests and prairies by accelerating seed germination.



New Crop Varieties for Extreme Weather, Geneva Greenhouses, New York State Agricultural Experiment Station, New York, 2013

Scientists are crossbreeding domestic and wild plants to create new species that are resilient to extreme heat, drought, and freezing caused by climate change.

## WHAT IS THE ANTHROPOCENE?

The Earth's official current geological epoch is the Holocene, yet, some are declaring that we have entered a new epoch called the Anthropocene. Taken from the root "anthro," which means "human," the name defines a time period where humans are permanently altering the Earth and its climate. The start date of the unofficial epoch is debated, with some people declaring that the mid-20th century was its starting point, while others argue that the Anthropocene has not yet started. Global warming, polar glacial melting, the rising of ocean waters, and the thinning and healing of the ozone layer are all examples that support the notion of the Anthropocene.

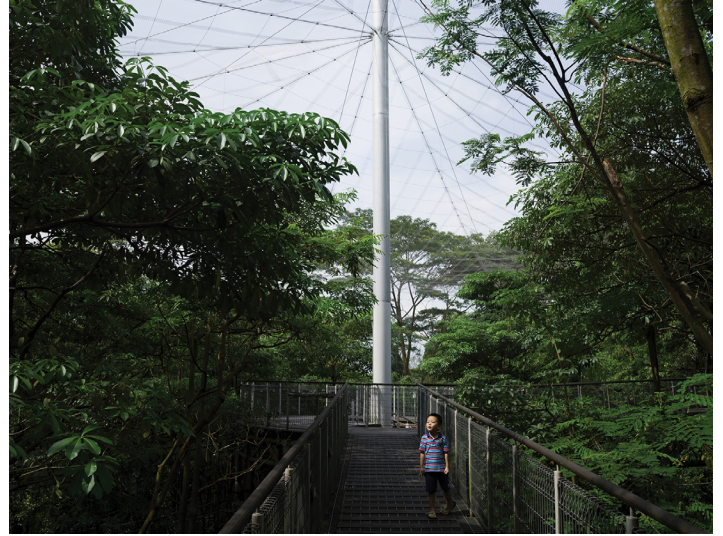
### → QUESTIONS FOR LOOKING

- Is nature just as potent of a force in shaping humans as human technologies have been in shaping nature? What is the power dynamic between nature and human innovation?

# ADAPTATION TO CLIMATE CHANGE



Esme Swimming, Parkroyal on Pickering, Singapore, 2014



Xing in an Aviary, Jurong Bird Park, Singapore, 2014

## THE SINGAPORE GREEN PLAN

This city-state, with over 5.6 million residents, is unique in that 100% of its population is urban. Without undeveloped areas within its borders, the government devised the Singapore Green Plan as a way to integrate green spaces throughout the city and to conserve its natural resources. The plan is segmented into six key target areas: Air and Climate Change, Water, Waste Management, Conserving Nature, Public Health, and International Environment Relations.

### Sample action items include:

- Maintaining the Pollutant Standards Index (PSI) for air within the “good” range for 85% and within the “moderate” range for the remaining 15%.
- Establishing more parks, green spaces, and a National Biodiversity Reference Centre.
- Reducing per capita domestic water consumption to 41 gallons per day.<sup>1</sup>

<sup>1</sup>Valerie. “Singapore Green Plan.” Singapore Separates from Malaysia and Becomes Independent - Singapore History. October 20, 2008. Accessed June 01, 2018. [http://eresources.nlb.gov.sg/infopedia/articles/SIP\\_1370\\_2008-11-22.html](http://eresources.nlb.gov.sg/infopedia/articles/SIP_1370_2008-11-22.html).

## → QUESTIONS FOR LOOKING

- How do you access green spaces near your home?
- What role does your local or national government have in defining these spaces?
- Think of the phrase “urban jungle” and consider whether urban areas can function like natural ecosystems. In what ways could we rework cities to function as healthy ecosystems?

# EXTENDED RESOURCES

Lucas Foglia asked the scientists he photographed what books they would recommend to anyone who wants to learn more about how we change nature or how spending time in wild places changes us. The following is a compilation of their answers:

***Arctic Dreams***

by Barry Lopez

***Biophilia***

by E. O. Wilson

***Birthright:***

***People and Nature in the Modern World***

by Stephen R. Kellert

***A Climate for Change: Global Warming Facts for Faith-Based Decisions***

by Katharine Hayhoe and Andrew Farley

***The Creation:***

***An Appeal to Save Life on Earth***

by E. O. Wilson

***Desert Solitaire:***

***A Season in the Wilderness***

by Edward Abbey

***Eaarth:***

***Making a Life on a Tough New Planet***

by Bill McKibben

***Eating Animals***

by Jonathan Safran Foer

***Four Fish:***

***The Future of the Last Wild Food***

by Paul Greenberg

***The Great Transition: Shifting from Fossil Fuels to Solar and Wind Energy***

by Lester R. Brown with Janet Larsen, J. Matthew Roney, and Emily E. Adams

***Hawai'i's Mauna Loa Observatory: Fifty Years of Monitoring the Atmosphere***

by Forrest M. Mims III

***The Human Age: The World Shaped by Us***

by Diane Ackerman

***Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder***

by Richard Louv

***The Moth Snowstorm: Nature and Joy***

by Michael McCarthy

***The Nature Fix: Why Nature Makes Us Happier, Healthier, and More Creative***

by Florence Williams

***The Nature Principle: Reconnecting with Life in a Virtual Age***

by Richard Louv

***The Sixth Extinction: An Unnatural History***

by Elizabeth Kolbert

***The White Planet: The Evolution and Future of Our Frozen World***

by Jean Jouzel, Claude Lorius, and Dominique Raynaud

***Wild: From Lost to Found on the Pacific Crest Trail***

by Cheryl Strayed

***Wild Ones: A Sometimes Dismaying, Weirdly Reassuring Story About Looking at People Looking at Animals in America***

by Jon Mooallem

We can change our lifestyles.

Spending more time outside, eating less meat, traveling by bicycle or public transportation, and preserving forests are good first steps towards a healthier environment. Supporting scientists is also essential, so we can better understand the world around us.

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**LUCAS FOGLIA**