

# People and Their Environment

Fall 2018

Tuesdays/Thursdays, 5:35 PM to 6:50 PM – HN 1036

GEOG 10100-05

Instructor: Enrique Lanz Oca  
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## **Course Description:**

Since the Greek geographer Eratosthenes measured the Earth's size using simply a pole, a water well, and the Sun's shadow in Alexandria, Egypt around 2,000 years ago, geography has been popularly understood as the description of the Earth. Thus, our society thinks of geographers either as persons making maps or as knowledgeable individuals capable of answering questions such as "what is the largest ocean?" Although this knowledge is crucial, this course will encourage you to go beyond this vision to discover a type of geographical thought called critical environmental geography. You will see what is behind the names that appear on a map, asking such questions as why the largest ocean in the world has a Spanish name (Océano Pacífico or Pacific Ocean) and not a Polynesian name or why the highest peak has an English name (Mount Everest) rather than a Tibetan name (Chomolungma) or Nepali name (Sagarmatha). You will study what geography is, what it means to be a critical environmental geographer, and what space means. You will learn how to think analytically about spatial concepts such as country, state, or nation, and you will discover how geographical/ecological phenomena such as resources, energy, nature, global warming, weather, glaciers or the wind affect your everyday life.

## **Course Objectives:**

The main objectives of this course are (1) to train you to become a critical environmental thinker. This course will enable you to form an intellectual and practical platform to think, teach, plan, and make decisions. This is especially true nowadays when our species is facing perhaps the largest planetary ecological crisis of *its* history, a crisis that is having extraordinary consequences such as the increase of global temperature, the flood of extensive coastal areas, the intensification of meteorological phenomena, changes in the ecosystems, and the massive displacement and extinction of millions of living organisms; and (2) to guide you using a perspective that visualizes geographical/ecological phenomena without any separation between natural and anthropomorphic dimensions. You will see that boundary just like a cultural artifact that has been historically created by our civilization to conquest and exploit Nature, a process that has contributed to the current environmental crisis.

## **Expected Learning Outcomes:**

### **A. Course-Specific Learning Outcomes:**

1. Think critically about the complexities of the planet Earth, especially the intersections between physical and human phenomena.

2. Analyze the planet as a complex structure and be able to comprehend the ways in which your immediate environments are connected to both local and distant ecologies.
3. Examine preconceived notions about boundaries of all sorts, including social, political, and geographical ones. Consider the social construction of divisions between humans and non-humans.

You will be assessed through your participation in class discussion, essays, and Blackboard responses.

#### **B. General Education Learning Outcomes:**

1. **Communication Skills:** You will be able to write, read, listen and speak critically and effectively. Your ability to speak and listen effectively will be assessed through your participation in class discussions. Your ability to read critically will be assessed by your comments on course readings. Writing skills will be assessed through essays as well as regular responses on Blackboard covering lectures, readings, and class discussions.
2. **Scientific Reasoning and Social and Behavioral Sciences:** You will be able to apply the concepts and methods of the natural and social sciences. Your ability to apply concepts and methods of sciences will be measured via class discussions, essays, and responses on Blackboard.
3. **Information and Technological Literacy:** You will be able to collect, evaluate and interpret information and effectively use information technologies.
4. **Values:** You will be able to make informed decisions based on an understanding of personal values, human diversity, multicultural awareness and social responsibility.

#### **Readings:**

Required text (textbook): Carl T. Dahlman and William H. Renwick. "Introduction to Geography: People, Places & Environment" (6<sup>th</sup> edition). Pearson: New Jersey. ISBN: 0-02-322992-6. It is available at the Hunter online bookstore at <http://hunter.textbookx.com/institutional>. Other options (probably cheaper) can be found online for used or new books. The remainder of the necessary materials (e.g. articles, texts, chapters, films, and audios) are available in the section "Course Materials" on Blackboard. Where indicated on the syllabus, materials will be found online.

#### **Assignments:**

This course will be based upon:

1. Short Paper (~2-page paper) (25% of final grade)
2. Mid-Term Exam (35% of final grade)
3. Final Exam (35 % of final grade)
4. Participation (5%)

These assignments are described in detail in "Assignments Description" located in "Course Materials" on Blackboard.

**Final letter grades will be assigned based on the CUNY grading policy that can be found in the online undergraduate catalog available at: <http://catalog.hunter.cuny.edu/>.**

## **Course Policies:**

### **Attendance:**

I will take attendance at every class meeting. You should arrive in class on time and stay for the entire session. If you will miss class for any reason, you should discuss this with me ahead of time. You are responsible for any material you may miss. Poor attendance and tardiness will be factored into the participation component of your grade.

### **Incompletes:**

I do not give incompletes (IN) except under the most extraordinary and documented medical emergencies. No late assignments will be accepted. Without a valid medical excuse, you will receive a grade of zero (0) on any assignment missed. If, for a valid medical emergency, you do miss an assignment, you must contact me within 48 hours of the missed assignment and present acceptable documentary evidence for your absence. At the time of the request, you must also complete a Contract to Resolve an Incomplete Grade in consultation with me. We will agree on what needs to be completed and when it will be due and, if you meet the mutually agreed upon conditions, your course grade will be recomputed and a new grade, if appropriate, will be submitted. I will allow only one semester in which you can resolve the IN/FIN. After that time no request will be considered. The contract form is available in the Department of Geography office, HN 1006, during normal business hours or in OneStop on the 2<sup>nd</sup> floor of the North Building.

To receive a CR/NC you must have completed all course requirements and have requested the CR/NC option no later than the last scheduled lecture. That means all written assignments, quizzes, exams (including the final exam) must have been completed. If you choose this option, then all grades above 70% will be assigned CR and 69.9% and below will be assigned NC unless you choose the assign D option for grades between 60 and 69.9. You can review the college's policy at <http://www.hunter.cuny.edu/advising/how-to/file-credit-no-credit-cr-nc>.

### **Classroom Electronics Use:**

I permit the use of laptops and tablets **ONLY** for the purpose of taking notes during lecture and discussion. All other personal electronics should be turned off or set to silent before entering the classroom. Absolutely no texting is allowed during class. Any use of electronics beyond their permitted use is a disruption to the class and will be treated accordingly.

### **Hunter College Policy on Academic Integrity:**

Hunter College regards acts of academic dishonesty (e.g., plagiarism, cheating on examinations, obtaining unfair advantage, and falsification of records and official documents) as serious offenses against the values of intellectual honesty. The College is committed to enforcing CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures. Plagiarism, dishonesty, or cheating in any portion of the work required for this course will be punished to the full extent allowed according to Hunter College. Being in college requires discipline, collegiality, and overall honesty. Although knowledge is an accumulation of ideas from different people and epochs that you can use, you have to do so under certain conditions. If you are going to use another's ideas you have to identify their names and works. If you don't, it is called 'plagiarism,' and that is illegal. Plagiarism is the presentation of someone else's ideas, words or artistic, scientific, or technical

work as one's own. Using the idea or work of another is permissible only when the original author is identified. Paraphrasing and summarizing, as well as direct quotations, require citations of the original source. Plagiarism may be intentional or unintentional. Lack of dishonest intent does not necessarily absolve a student of responsibility for plagiarism. Students who are unsure how and when to provide documentation are advised to consult with their instructors.

**ADA Policy:**

In compliance with the American Disability Act of 1990 (ADA) and with Section 504 of the Rehabilitation Act of 1973, Hunter College is committed to ensuring educational parity and accommodations for all students with documented disabilities and/or medical conditions. It is recommended that all students with documented disabilities (Emotional, Medical, Physical, and/or Learning) consult the Office of Accessibility, located in Room E1124, to secure necessary academic accommodations. For further information and assistance, please call: (212-772-4857)TTY or (212-650-3230).

Students requiring special consideration during the exams must make arrangements with the Office of Accessibility and tell your instructor of the arrangements.

**Hunter College Policy on Sexual Misconduct:**

“In compliance with the CUNY Policy on Sexual Misconduct, Hunter College reaffirms the prohibition of any sexual misconduct, which includes sexual violence, sexual harassment, and gender-based harassment retaliation against students, employees, or visitors, as well as certain intimate relationships. Students who have experienced any form of sexual violence on or off campus (including CUNY-sponsored trips and events) are entitled to the rights outlined in the Bill of Rights for Hunter College.

- a. Sexual Violence: Students are strongly encouraged to immediately report the incident by calling 911, contacting NYPD Special Victims Division Hotline (646-610-7272) or their local police precinct, or contacting the College's Public Safety Office (212-772-4444).
- b. All Other Forms of Sexual Misconduct: Students are also encouraged to contact the College's Title IX Campus Coordinator, Dean John Rose ([jtrose@hunter.cuny.edu](mailto:jtrose@hunter.cuny.edu) or 212-650-3262) or Colleen Barry ([colleen.barry@hunter.cuny.edu](mailto:colleen.barry@hunter.cuny.edu) or 212-772-4534) and seek complimentary services through the Counseling and Wellness Services Office, Hunter East 1123.

CUNY Policy on Sexual Misconduct Link:

<http://www.cuny.edu/about/administration/offices/la/Policy-on-Sexual-Misconduct-12-1-14-with-links-pdf>

**Schedule of Topics and Assignments\***

\*Except for changes that substantially affect implementation of the evaluation statement, this syllabus is a guide for the course and is subject to revision by the instructor. Any changes will be announced in advance.

**Course Contents and Calendar:**

## **Part I. Introduction to Geography, Its core concepts, and the Map**

### **Week 1:**

#### **August 28<sup>th</sup>: Introduction**

1. Introduction to the course and description of the syllabus
2. Science and the Scientific Method

#### **Required Materials:**

- Bradford, Alina (2015). "Science & the Scientific Method: A Definition." *Livescience* (March 30). Available at <http://www.livescience.com/20896-science-scientific-method.html>
- Chapter 1, "Introduction to Geography," in *Introduction to Geography: Peoples, Places, and Environment* by Carl T. Dahlman and William H. Renwick

#### **August 30<sup>th</sup>:**

1. What is Geography?
2. Brief Historical Development of Geography
3. W. Pattison's "Four Foundations of Geography"
4. Earth's Geometrical Shape and Size

#### **Required Materials:**

##### **a. For Geography and its development, see:**

- Chapter 1, "Introduction to Geography," in *Introduction to Geography: Peoples, Places, and Environment* by Carl T. Dahlman and William H. Renwick

##### **b. For Pattison, read:**

- Chapter 1, "Introduction," (read pages 19 and 20) in *Introduction to Geography* by Arthur and Judith Gettis and Fellmann (posted on Blackboard)

##### **c. For Earth's geometrical shape and size, read:**

- Eratosthenes of Cyrene Khan Academy. Available at <https://www.khanacademy.org/partner-content/big-history-project/solar-system-and-earth/knowning-solar-system-earth/a/eratosthenes-of-cyrene>

### **Week 2:**

#### **September 4<sup>th</sup>: Core concepts of geography:**

1. Place and Space: Yi-Fu Tuan's meditations
2. Gentrification and Globalization
3. Region and its types
4. The concepts of Distance, Distribution, and Diffusion

#### **Required Materials:**

##### **a. For Yi-Fu Tuan's space and place, read:**

- Notes from Yi-Fu Tuan (1977)'s *Space and Place: the perspective of experience* (posted on blackboard)

##### **b. For the concept of Gentrification, see:**

- PBS (2003). "What is Gentrification?" Available at <http://www.pbs.org/pov/flagwars/what-is-gentrification/>

##### **c. For the concepts of Globalization, Region, Distance, Distribution, and Diffusion, see:**

- Chapter 1, "Introduction to Geography," in *Introduction to Geography: Peoples, Places, and Environment* by Carl T. Dahlman and William H. Renwick

## September 6<sup>th</sup>: Core concepts of geography (continued):

1. Location:
  - a. Our Cosmic Location
  - b. Absolute (latitude/longitude) and relative
2. Global Positioning System (GPS)
3. The Standard Time System and Daylight Saving Time
4. Geographical economic concepts:
  - a. Growth Domestic Product (GDP) and GDP per capita
  - b. Pre-industrial, Industrial, and Post-industrial societies

### Required materials:

#### a. For the cosmic location, watch:

“A journey from the Himalayans to the edge of our cosmic horizon in space and time.” [Video]. Available at <https://aeon.co/videos/a-journey-from-the-himalayas-to-the-edge-of-our-cosmic-horizon-in-space-and-time> (watch on your own)

#### b. For Location (latitude/longitude), Standard Time System, and GPS, see:

-Chapter 1, “Introduction to Geography,” in *Introduction to Geography: Peoples, Places, and Environment* by Carl T. Dahlman and William H. Renwick

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#### c. For Daylight Saving Time, see:

–“Daylight Saving Time – DST – Summer Time.” Available at <https://www.timeanddate.com/time/dst/>

#### d. For geographical economic concepts, check:

-Chapter 1, “Introduction to Geography,” in *Introduction to Geography: Peoples, Places, and Environment* by Carl T. Dahlman and William H. Renwick (pages 450-465)

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## Week 3:

**September 11<sup>th</sup>: NO CLASS**

## **September 13<sup>th</sup>: Maps**

1. Definition and Components
2. What is really a map? Maps and Ideologies

### Required materials:

#### a. For Maps in General, see:

-Chapter 1, “Introduction to Geography,” in *Introduction to Geography: Peoples, Places, and Environment* by Carl T. Dahlman and William H. Renwick

#### b. For maps and ideologies, read:

-Wood, Dennis (1992). *The Power of Maps*. Section “Every map has an author, a subject, a theme” (posted on Blackboard)

## Week 4:

**September 18<sup>th</sup>: NO CLASS**

## **Part II. Nation-State, Geographical Identities, and Imaginations**

### **September 20<sup>th</sup>:**

1. Definition of Nation, State (or country), and Nation-State
2. Historical Development

3. International Borders and Claimed Territories
4. Benedict Anderson's *Imagined Communities* and the *Trumpism*

Required Materials:

- Anderson, Benedict (1983). "Imagined Communities: Reflexions on the Origin and Spread of Nationalism" (Introduction) (read just pages 48, 49, and 50) (posted on Blackboard)
- Cavendish, Richard (1998). "The Treaty of Westphalia." *History Today* (November), Vol. 48, issue 10. Available at <https://www.historytoday.com/richard-cavendish/treaty-westphalia>
- Chapter 11, "A World of States" (read pages 410-426, 435-442)

**Week 5:**

**September 25<sup>th</sup>:**

**Part III. Cosmic Origins and the Earth**

1. The Formation of the Universe
2. The Origin of the Solar System, and the Earth
3. The Earth's Internal Structure and Composition

Required Materials:

- Chapter 1: "From The Big Bang to the Blue Marble," in *Earth Science: Advanced Review Copy* by Stephen Marshak and Robert Rauber (2017) (posted on Blackboard)

Further materials:

- National Geographic (n. d.). "The Story of Earth" [Documentary] (watch on your own). Available at <https://www.youtube.com/watch?v=SYOarZKipnU>

**September 27<sup>th</sup>:**

1. Minerals and Rocks
2. Plate Tectonics, Volcanism, and Earthquakes

Required Materials:

- Chapter 3, "Landforms"
- "A Day in Pompeii - Full-length animation." (Video; watch on your own). Available at [https://www.youtube.com/watch?v=dY\\_3ggKg0Bc](https://www.youtube.com/watch?v=dY_3ggKg0Bc)

**Week 6:**

**October 2<sup>nd</sup>:**

1. Gradational Processes: Weathering, Mass Wasting, and Erosion
2. The Anthropocene? or *Our* Anthropogenic Imaginations?

Required Materials:

- Chapter 3, "Landforms"
- Stromberg, Joseph (2013). "What Is the Anthropocene and Are We in It?" *The Smithsonian Magazine* (Jan.). Available at <http://www.smithsonianmag.com/science-nature/what-is-the-anthropocene-and-are-we-in-it-164801414/>

Further materials:

- Carrington, Damian (2017). "Earth's Sixth Mass Extinction Event under Way, Scientists Warn." *The Guardian* (July 10). Available at <https://www.theguardian.com/environment/2017/jul/10/earths-sixth-mass-extinction-event-already-underway-scientists-warn>

### **October 4<sup>th</sup>:**

1. Definition of Weather and Climate
2. Solar Energy and the Earth
3. Precipitation and its Causes

#### Required Materials:

- Chapter 2, “Weather, Climate, and Climate Change”
- “What's the Difference Between Steam and Water Vapor? - Mr. Wizard's Quick Quiz” (video; watch on your own). Available at <https://www.youtube.com/watch?v=oTKmWp7ek2A>

### **Week 7:**

#### **October 9<sup>th</sup>:**

1. Planetary circulation patterns
2. Hurricanes, tornadoes, mid-latitude cyclones, and El Niño

#### Required Materials:

- Chapter 2, “Weather, Climate, and Climate Change”

#### **October 11<sup>th</sup>:**

1. World Climates
2. Biochemical Cycles
3. Ecosystems and Biomes

#### Required Materials:

- Chapters
  - 2, “Weather, Climate, and Climate Change” (read page 50 for the definition of weather and climate and pages 72-90 for World Climates)
  - 4, “Biosphere”

### **2-PAGE PAPER**

### **Week 8:**

#### **October 16<sup>th</sup>:**

1. What is *that* so-called Climate Change, Global Warming, and Greenhouse Effect?
2. Causes of Climate Change
3. *Trumpism* and the “Chinese Hoax”

#### Required Materials:

- a. For Climate and Global Warming its main causes, see:

-Chapter 2, “Weather, Climate, and Climate Change”

- b. For Greenhouse effect, see:

-Chapter 2, page 55

- c. For Trumpism and the “Chinese Hoax”, see:

-Won, Edward (2016). “Trump Has Called Climate Change a Chinese Hoax. Beijing Says It Is Anything But.” *The New York Times* (Nov. 18). Available at

<https://www.nytimes.com/2016/11/19/world/asia/china-trump-climate-change.html>

#### Further materials:

-Suzanne (2015). “Exxon knew of climate change in 1981, email says – but it funded deniers for



27 more years” *The Guardian* (July 8). Available at <https://www.theguardian.com/environment/2015/jul/08/exxon-climate-change-1981-climate-denier-funding>

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**October 18<sup>th</sup>: MID-TERM EXAM**

**October 20<sup>th</sup>, Saturday: Walking Tour** (check the map in the section “Course Materials”)

**Week 9:**

**October 23<sup>rd</sup>: Some Known Consequences of Climate Change**

1. Sea Level Rise
2. Heat, Drought, Floods, and Hunger
3. Climate Change/Environmental Refugees

**Required materials:**

**a. For Sea level rise in general, see:**

-NOAA (2017). “Climate Change: Global Sea Level.” Available at <https://www.climate.gov/news-features/understanding-climate/climate-change-global-sea-level>

**b. For Heat, Drought, and Climate Change Refugees:**

-Vidal, John (2017). “From heatwaves to hurricanes, floods to famine: seven climate change hotspots.” *The Guardian*. Available at <https://www.theguardian.com/environment/2017/jun/23/from-heatwaves-to-hurricanes-floods-to-famine-seven-climate-change-hotspots>

**Further materials:**

-Goodell, Jeff (2017). “Rotterdam has learned to cope with rising seas. Here’s how.” Available at <https://www.vox.com/energy-and-environment/2017/11/15/16651460/rotterdam-climate-change-sea-level-rise>

-Balog, James (2013). “Extreme Ice.” *NOVA* [Documentary] (watch on your own).

**PART VII. Natural/Energy Resources, and Electricity:**

**October 25<sup>th</sup>: What is Nature?**

1. Geographical/Ecological Meditations about Nature
2. The Modern Project: Nature = *Natural Resource*

**Required Materials:**

-Gruen, Lori and Jamieson, Dale (editors) (1994). *Reflecting on Nature: Readings in Environmental Philosophy*. New York: Oxford University Press (attached on Blackboard)

-Lohmann, Larry (2015). “What is Nature? Does Nature have rights?” Available at <http://www.thecornerhouse.org.uk/sites/thecornerhouse.org.uk/files/WHAT%20IS%20NATURE%3F%20DOES%20NATURE%20HAVE%20RIGHTS%3F.pdf>

-Urbina, Ian (2008). “Growing Pains for a Deep-Sea Home Built of Subway Cars.” *New York Times* (April 8<sup>th</sup>). Available at [https://www.nytimes.com/2008/04/08/us/08reef.html?\\_r=0](https://www.nytimes.com/2008/04/08/us/08reef.html?_r=0)

-Williams, Raymond (1980). “Ideas of Nature.” In *Problems in Materialism and Culture*. London: Verso (posted on Blackboard).

**Further materials:**

-Herzog, Werner (director) (1982). “Fitzcarraldo.” [Film] (watch on your own).

## **Week 10:**

### **October 30<sup>th</sup>: Natural Resources**

1. The Concept of Natural Resource
2. The Geography of Garbage

#### Required Materials:

- Chapter 5: “Earth’s Resources and Environmental Protection”
- Freshkills Park. Available at <http://freshkillspark.org/the-park/the-park-plan>

### **November 1<sup>st</sup>: Energy Resources:**

1. What is Energy?
2. Non-Renewable Energies: Fossil Fuels and Nuclear Energy

#### Required materials:

- Chapter 5, “The Geography of Natural Resources”

#### Further materials:

- “Trump Wants to Bail Out Coal and Nuclear Power. Here’s Why That Will Be Hard” *The New York Times* (June 13, 2018). Available at [https://www.nytimes.com/interactive/2018/06/13/climate/coal-nuclear-bailout.html?ref=collection%2Fsectioncollection%2Fscience&action=click&contentCollection=science&region=stream&module=stream\\_unit&version=latest&contentPlacement=7&pgtype=sectionfront](https://www.nytimes.com/interactive/2018/06/13/climate/coal-nuclear-bailout.html?ref=collection%2Fsectioncollection%2Fscience&action=click&contentCollection=science&region=stream&module=stream_unit&version=latest&contentPlacement=7&pgtype=sectionfront)

## **Week 10:**

### **November 6<sup>th</sup>: Energy Resources (continued):**

1. Renewable Energies: Wind, Solar, Hydrokinetics, Geothermal, and Biomass
2. Energy Storage Systems: From Pumped-Storage Hydro to Batteries

#### Required materials:

#### 1. For Energy Storage Systems:

- Chapter 5, “The Geography of Natural Resources”

#### 2. For Energy Storage Systems:

- Lindley, David (2010). “The Energy Storage Problem.” *Nature*, Vol. 463 (January 7). Available at <https://www.nature.com/news/2010/100106/pdf/463018a.pdf>

- “Pumped-storage hydropower” (video). Available at <https://www.youtube.com/watch?v=lsSUPpwtqHQ>

### **November 8<sup>th</sup>: Electricity and the Electric Grid:**

1. Visualizing the Electricity
2. Basic Components: Resistance, Voltage, and Intensity,
3. Direct Current (DC) and Alternating Current (AC)
4. The Electric Grid

#### Required Materials:

#### 1. For Electricity, its Components, and DC/AC, read:

- “Difference between AC and DC Current Explained | AddOhms #5.” (Video). Available at <https://www.youtube.com/watch?v=vN9aR2wKv0U>

- “Voltage, Current and Resistance.” (Video). Available <https://www.youtube.com/watch?v=J4Vq-xHqUo8>

- “What is Electricity?” (video). Available at <https://www.youtube.com/watch?v=oB1v-wh7EGU>

#### 2. For the Electric Grid, see:

- “How a coal power station works.” (Video). Available at [https://www.youtube.com/watch?v=SeXG8K5\\_UvU](https://www.youtube.com/watch?v=SeXG8K5_UvU)
- How Does the Power Grid Work?” (Video). Available at <https://www.youtube.com/watch?v=IZz4sR5vfeo>
- US Energy.gov (2014). “The War of the Currents: AC vs. DC Power.” Available at <https://energy.gov/articles/war-currents-ac-vs-dc-power>

## **PART VIII: The Ecological Construction of New York City:**

### **Week 11:**

#### **November 13<sup>th</sup>: From Mannahatta to the Future**

1. Mannahatta
2. The Erie Canal
3. New York City Infrastructure: Water, Steam, and Electricity
4. NYC facing the Planetary Crisis

#### **Required materials:**

##### **a. For Mannahatta, see:**

- New York-Before the City” in TED Talks (video). Available at [https://www.ted.com/talks/eric\\_sanderson\\_pictures\\_new\\_york\\_before\\_the\\_city#t-945753](https://www.ted.com/talks/eric_sanderson_pictures_new_york_before_the_city#t-945753)

##### **b. For the Erie Canal:**

- History.COM (2017). “Building the Erie Canal.” (Video). Available at <https://www.history.com/topics/us-states/new-york/videos/building-the-erie-canal>

##### **c. For NYC infrastructure: Water, Steam, and Electricity, see:**

- “Living a City” (*The New York Times* video), see (available at <https://www.nytimes.com/video/living-city>):

- a. “A Billion Gallons a Day”
- b. “Miles of Steam Pipes Snake Beneath New York”

- “How New York City Gets Its Electricity” by Emily S. Rueb (*The New York Times*). Available at <https://www.nytimes.com/by/emily-s-rueb>

##### **d. NYC and Uncertain Future:**

- “The Big U.” Available at <http://www.rebuildbydesign.org/our-work/all-proposals/winning-projects/big-u>

#### **November 15: Energy Consumption/Waste/Saving Processes**

#### **POSSIBILITY OF NO-CLASS\***

1. Energy Consumption/Waste and Electronic Devices
2. New York City’s Energy Current and Future Energy Developments

*\*Note: You will be informed during the semester if we will have class this day. Two possible scenarios:*

- (1) if we have class, we will analyze these topics and materials in class
- (2) if we do not have class, I will post on Blackboard some questions that you should answer as part of the homework for this day. These questions will be based upon the required materials for this day

#### **Required materials:**

##### **a. For Energy and Electronic Devices, see:**

- Selyukh, Alina. “How Much Do Your Text Messages Contribute To Global Warming?” *NPR*, 7

Jan. 2016. Available at

<https://www.npr.org/sections/alltechconsidered/2016/01/07/461381813/how-much-do-your-text-messages-contribute-to-global-warming>

b. For NYC's Energy Plans, see:

-“BMCC Rooftop Now Home To Manhattan’s Largest Public Solar Panel Project.” CUNY (2017). Available at <http://www1.cuny.edu/mu/forum/2017/12/07/bmcc-rooftop-now-home-to-manhattans-largest-public-solar-panel-project/>

-“New York commits \$1.4 billion to renewable energy projects.” Arstechnica (2018). Available at <https://arstechnica.com/tech-policy/2018/03/new-york-commits-1-4-billion-to-renewable-energy-projects/>

-“Solar Experiment Lets Neighbors Trade Energy Among Themselves” *The New York Times* (March 13, 2017). Available at <https://www.nytimes.com/2017/03/13/business/energy-environment/brooklyn-solar-grid-energy-trading.html>

## **PART IX: Water and Ecological Stresses**

### **Week 12:**

#### **November 20<sup>th</sup>: Water 1**

1. What is Water?
2. The Origin of Water
3. The Hydrological Cycle
4. Water Distribution and Consumption
5. Virtual Water

#### **Required materials:**

-Chapter 5, “Earth’s Resources and Environmental Protection” (pages 191-192)

-“Most of Earth's water was likely present before the moon-forming giant impact: Oxygen isotopic evidence for accretion of Earth's water before a high-energy moon-forming giant impact.” ScienceDaily. ScienceDaily, 28 March 2018. Available at [www.sciencedaily.com/releases/2018/03/180328143316.htm](http://www.sciencedaily.com/releases/2018/03/180328143316.htm)

-U.S. Geological Survey (USGS) (2017). In “Water Basics,” check the following sections: Read all of “Earth’s Water”’s subtitles excepting: “Rain,” “How wet is your state,” “How does water behave in outer space.” Available at All of them available at <https://water.usgs.gov/edu/mwater.html>

-“Unusual Properties of Water.” Available at <https://www.sciencedaily.com/releases/2017/06/170626190610.htm>

-Water Education Foundation (2018). “Water Use: Virtual Water.” Available at <https://www.watereducation.org/post/water-use-virtual-water>

#### **November 22<sup>nd</sup>: NO CLASS-THANKSGIVING**

### **Week 13:**

#### **November 27<sup>th</sup>: Water 2**

1. The Ogallala Aquifer
2. The Aral Sea Disaster
3. Water Transfers: Gaddafi’s Great Man-Made Project (Libya)
4. Hydropolitics: Water Conflicts
5. Flint, Michigan: Water and Scandal

Required materials:

a. For The Ogallala aquifer, see:

-National Geographic (n. d.). “What Happens to the U.S. Midwest When the Water's Gone?” Available at <https://www.nationalgeographic.com/magazine/2016/08/vanishing-midwest-ogallala-aquifer-drought/>

b. For the Aral Sea, see:

-Columbia University (2008). “Aral Sea Crisis.” Available at <http://www.columbia.edu/~tmt2120/introduction.htm>

c. For Water Transfers:

-“Trouble ahead for Gaddafi's Great Man-Made River.” Available at <http://www.middleeasteye.net/columns/trouble-great-man-made-river-1331047422>

d. For Water Conflicts:

-“Water Conflicts” (pages 75-81) in *The Water Atlas* (posted on Blackboard)

e. For the Flint water case:

-CNN (n. d.). “Flint water crisis in 90 seconds.” (Video). Available at <http://money.cnn.com/video/news/2017/06/14/flint-michigan-water-crisislead.cnnmoney/index.html>

**PART X: Some Ecological Stresses**

**November 29<sup>th</sup>:**

1. Smog: Smoke + Fog
2. Acid Rain
3. The Ozone Layer and Its Depletion

Required materials:

-Chapter 5, “Earth’s Resources and Environmental Protection” (pages 187-191)

-Met Office (2018). “The Great Smog of 1952.” Available at <https://www.metoffice.gov.uk/learning/learn-about-the-weather/weather-phenomena/case-studies/great-smog>

-*The New York Times* (2018). “In a High-Stakes Environmental Whodunit, Many Clues Point to China.” Available at <https://www.nytimes.com/2018/06/24/world/asia/china-ozone-cfc.html>

-Union of Concerned Scientists (n. d.). “Is There a Connection Between the Ozone Hole and Global Warming?” Available at [https://www.ucsusa.org/global-warming/science-and-impacts/science/ozone-hole-and-gw-faq.html#.W0PK\\_K2ZOGQ](https://www.ucsusa.org/global-warming/science-and-impacts/science/ozone-hole-and-gw-faq.html#.W0PK_K2ZOGQ)

Further Materials:

-Kennedy, Merit (2017). “WATCH: Time-Lapse Video Shows Wall of Smog In Beijing.” *NPR* (Jan.3) (watch just the video by your own). Available at <http://www.npr.org/sections/thetwo-way/2017/01/03/508013041/watch-time-lapse-video-shows-wall-of-smog-in-china>

**Week 14:**

**December 4<sup>th</sup>:**

1. Plastics and Plastic Contamination in the Oceans
2. The Arctic Exploitation
3. Bees and their Current Status
4. GMOs: Monsanto versus Percy Schmeiser Case

Required materials:

a. For Plastics:

-Ocean Conservancy (2018). "Plastics in the Ocean." Available at <https://oceanconservancy.org/trash-free-seas/plastics-in-the-ocean/>

b. For the Arctic Exploitation, see:

-National Geographic (2016). "In the Arctic's Cold Rush, There Are No Easy Profits." Available at <https://www.nationalgeographic.com/magazine/2016/03/new-arctic-thawing-rapidly-circle-work-oil/>

c. For Bees:

-The Guardian (2017). "Pesticides damage survival of bee colonies, landmark study shows." Available at <https://www.theguardian.com/environment/2017/jun/29/pesticides-damage-survival-of-bee-colonies-landmark-study-shows>

d. For GMOs:

-*Democracy Now* (2010, Sept. 17). "Percy Schmeiser vs Monsanto: The Story of a Canadian Farmer's Fight to Defend the Rights of Farmers and the Future of Seeds." Available at [https://www.democracynow.org/2010/9/17/percy\\_schmeiser\\_vs\\_monsanto\\_the\\_story](https://www.democracynow.org/2010/9/17/percy_schmeiser_vs_monsanto_the_story)

Further Materials:

-National Geographic (2018). "A Brief History of How Plastic Straws Took Over the World." Available at <https://www.nationalgeographic.com/environment/2018/07/news-plastic-drinking-straw-history-ban/>

-NPR (2018). "An Indian State Bans Plastic Bags, Straws And More. Will It Work?" Available at <https://www.npr.org/sections/goatsandsoda/2018/07/09/626210905/an-indian-state-bans-plastic-bags-straws-and-more-will-it-work>

**December 6<sup>th</sup>:**

1. Salinization
2. Deforestation
3. Desertification
4. Soil Erosion

Required materials:

a. For Salinization, see:

-RE CARE Project (2018). "Salinization." Available at <https://www.recare-project.eu/project-information/soil-threats/salinization>

b. For Deforestation, see:

-National Geographic (2015-2018). "Deforestation." Available at <https://www.nationalgeographic.com/environment/global-warming/deforestation/>

c. For Desertification, see:

-World Health Organization (2018). "What is desertification, and how does it impact health?" Available at <http://www.who.int/features/qa/69/en/>

d. For Soil Erosion, see:

-WWF (2018). "Soil Erosion." Available at <https://www.worldwildlife.org/threats/soil-erosion-and-degradation>

**Part IX. Geographical/Ecological Meditations about "Draining the Swamp"**

**Week 15:**

**December 11<sup>th</sup>:**

Required Materials:

- Krugman, Paul (2017). “Making the Rust Belt Rustier.” The New York Times (Jan. 27). Retrieved Jan. 29, 2017 from <https://www.nytimes.com/2017/01/27/opinion/making-the-rust-belt-rustier.html>
- Mufson, Steven and Sullivan, Sean (2017). “Rick Perry expresses ‘regret’ for pledging to abolish Energy Department.” *The Washington Post* (Jan. 19). Retrieved Jan. 29, 2017 from [https://www.washingtonpost.com/business/economy/rick-perry-seeks-to-lead-the-energy-department-an-agency-he-pledged-to-abolish/2017/01/18/19b14494-dd0a-11e6-acdf-14da832ae861\\_story.html?utm\\_term=.7f784fd4bd71](https://www.washingtonpost.com/business/economy/rick-perry-seeks-to-lead-the-energy-department-an-agency-he-pledged-to-abolish/2017/01/18/19b14494-dd0a-11e6-acdf-14da832ae861_story.html?utm_term=.7f784fd4bd71)
- The New York Times (2016, Nov. 11). “The Wrong People to Drain the Swamp.” Available at from <https://www.nytimes.com/2016/11/11/opinion/the-wrong-people-to-drain-the-swamp.html>
- The Washington Post (2018). “Scott Pruitt’s likely successor has long lobbying history on issues before the EPA.” Available at [https://www.washingtonpost.com/business/economy/epa-acting-administrator-has-long-lobbying-record-on-issues-before-the-agency/2018/07/05/a591cd40-6a6b-11e8-bea7-c8eb28bc52b1\\_story.html?utm\\_term=.3e6bb5ff33eb](https://www.washingtonpost.com/business/economy/epa-acting-administrator-has-long-lobbying-record-on-issues-before-the-agency/2018/07/05/a591cd40-6a6b-11e8-bea7-c8eb28bc52b1_story.html?utm_term=.3e6bb5ff33eb)

## **-Review of the Final Exam**

### **Week 16:**

### **FINAL EXAM**

### **Beginning of the class**

Qigong, Tai-chi, yoga, breathing, and mind-body exercises, and meditation. The First 5 minutes before the class.