

## GEOG/ANTH 2400 Climate Change and Lost Cities

General Education SF, BF

Fall 2020

**Professors:** **Andrea Brunelle (PHYSICAL GEOGRAPHER!), GC 4748, 585-5729,**  
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Professor Office Hours: Andrea = T/Th 1:45-2:45 by Zoom; Rick = T/Th 11-12:15 via zoom  
*All instructors also available by appointment*

TA: **Ben Marconi**

TA Office Hours:

Discussion Leader: TBD

**Required** Texts:

- The Collapse of Western Civilization: A View from the Future by Erik M. Conway and Naomi Oreskes
- Readings posted on CANVAS

**Course Web Page:** <https://utah.instructure.com>

**Familiarize yourself with Canvas.** The [Canvas Getting Started Guide for Students](#) can be helpful.

**\*Face coverings are required to attend the live lectures** associated with this course. This is consistent with the University of Utah policy on the use of face coverings on campus to reduce the transmission of covid-19. See below for specific U of U guidelines and regulations.

**\*Students must self-report if they test positive for COVID-19** via [coronavirus.utah.edu](https://coronavirus.utah.edu).

Essential Learning Outcomes: ELO's are skills that should be gained in general education coursework that prepare students to be "effective 21<sup>st</sup> century global citizens" (U of U General Education Guidelines). These also include course specific content-related learning goals. Through the discussions over the course of the semester and with assignments described above, we will specifically work on several of these outcomes and they will be incorporated and assessed as follows:

- *Critical Thinking and Reasoning-* Critical thinking and reasoning skills will be developed and employed on a daily basis through the presentation, discussion, and consideration of scientific data on climate change and anthropological data. These skills will be assessed during the in-class and online quizzes and on the exams which will include short answer and essay responses. We specifically will focus on the *understanding* of basics of climate systems, for example, the role of CO<sub>2</sub> in regulating Earth's climate, the current concern about climate change, archaeological investigation, methods of paleoclimatic reconstruction. You will also be expected to be able to *link* and *compare* consequences of human behavior (re: resources, ecology) in ancient contexts to

contemporary conditions and behaviors and how human modification of the environment and climate over thousands of years has negatively impacted multiple civilizations. This includes considering how the impacts and costs of climate change have not and will not affect all populations and cultures evenly.

- *Inquiry and Analysis*- The students will be responsible for conducting several small analytical exercises throughout the semester using climatic and anthropological data which includes assessments of issues related to human actions, equity within and among societies, and societal economic structures. You will be expected to *analyze* and *evaluate* claims regarding contemporary climate change and its human effect. Our assessment of these responses will be the tool for evaluating their ability to inquire and analyze data.
- *Written Communication* – Student written communication skills will be assessed and constructive feedback provided during the writing assignments and on the written portions of the exams.
- *Teamwork* – Students will work on several projects, assignments and quizzes in small, standing groups. This ELO will be assessed based on the student scores on assignments and also peer evaluations of teamwork by the group members.

**Grading:**

- Participation (quizzes and in-class exercises) 20%
  - Syllabus quiz and “pretest”
  - Did you do the reading quizzes
  - Did you listen in class quizzes
  - In-class and on-line discussions
  - Peer review of group participation
- Writing assignments and knowledge assessment 50%
  - Reading guides
  - 6 Reflections
  - 8 Objective acquisition analyses
    - 3 climates specific
    - 3 culture specific
    - 2 synthetic
    - First draft peer review required
- Cultural project 15%
- Climate project 15%

Course Description: Climate change has been occurring throughout Earth’s history. Inherent processes such as the planet’s tectonic activity, the Earth’s relationship to the Sun and other extraterrestrial bodies, as well as atmospheric and hydrological processes have dictated an ever-changing climate pattern over a variety of time scales. However, the relatively recent evolution and expansion of humans around the globe has cast climate change in a new light. Humans are altering the atmosphere in an unprecedented manner, and stand to suffer greatly from even relatively minor alterations in climate. This course will examine several historical and

recent examples of how human modification of an environment and/or climate led to the collapse of cities to civilizations. In addition to the cultural examples, students will be introduced to the methods and review the evidence used to study climate changes of the past, and will examine the data being used to forecast climate change into the future.

Class Policies:

- Participation in is expected and will be reflected in your grade. Note: If you do not ATTEND you CANNOT participate.
- Reading assignments are expected to be completed BEFORE class and quizzes over the reading assignment or the previous lecture will occur each week. The quiz will be posted by Friday and due before class on following Tuesday.
- **There are NO make-up quizzes;** however the two lowest scores will be dropped.
- Email response times from Drs. Brunelle and Paine will be as soon as possible, but plan on 48 hours. Plan ahead, don't wait until the last minute to complete/submit assignments so you have time if you have questions or there are technology issues.

Cultural Project: (Groups of 6) Take a good look at Salt Lake City from an archaeologist's (material) perspective. Assume the city has been abandoned possibly as a result of climate change factors, and you are looking at it as an archaeologist 500 years in the future. Develop a hypothesis of how climate caused/contributed to the abandonment. How would you test it archaeologically? What data are most likely to be available? Present hypothesis tests and predictions that would support or refute your hypothesis. Your hypothesis and tests should be specific to SLC culturally, economically, and ecologically.

Climate Project: This project was originally going to take advantage of the exhibits at the Natural History Museum of Utah. Given its current closure, this project will be redrafted, stay tuned for details.

*In your written reports for the cultural and NHMU projects, be sure to specifically address the idea that all populations have not equally impacted their environments and will not equally suffer the results of the activities that have brought about environmental changes and societal collapses.*

**\*Incompletes will only be given at the professor's discretion and only if the student is passing at the time.**

**\*You are responsible for all information presented in lecture and over the course website (Canvas).**

Detailed Schedule (this is a draft and will be updated as things change!)

<b>WEEK OF:</b>	<b>Topic</b>	<b>Readings &amp; Assignments (check CANVAS for actual due dates)</b>
August 24 <i>Live! See Canvas for schedule</i>	Introduction to The Maya Class Introduction/Syllabus	<i>Complete the syllabus quiz!</i>
August 31 <i>Live! See Canvas for schedule</i>	Climate Change Foundations	Read “Collapse of Western Civilizations” and complete assignment on CANVAS
September 7 <i>Live! See Canvas for schedule</i>	The Archaeological Process	
September 14 <i>This week forward, all Classes Online, watch for info on synchronous vs. asynchronous lectures</i>	More climate basics and climate archives	
September 21	Long-term & recent variations in CO2	
September 28	The Rise and Fall of Tikal and the Classic Maya	
October 5	1.The Environmental context of the Maya 2.Introduction to Chaco Canyon	
October 12	1. More Chaco 2. The Environmental context of Chaco	
October 19	Angkor Wat and the Khmer	
October 26	1. More Angkor Wat 2. The Environmental Context of Angkor Wat	
November 2	Future Climate Change Temperature thresholds and why they are important (IPCC 1.5 and the 2 degree threshold)	Climate change consensus assignment –see CANVAS
November 9	<u>Future Lost Cities</u> Wet ones	
November 16	<u>Future Lost Cities</u> Dry hot ones	
November 23	Climate Change Implications What we can do	Drawdown ( <a href="https://www.drawdown.org/">https://www.drawdown.org/</a> ) “Drawdown” under Assignments.

November 30	Watch Chasing Ice and complete quiz	"Chasing Ice" under Assignments.
December 7	<i>Online assessments and assignment submissions</i>	

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**University of Utah Face Covering Policy.** Based on CDC guidelines, the university requires everyone to wear face coverings in shared public spaces on campus, including our classroom. As a reminder, when I wear a face covering, I am protecting you. When you wear a face covering, you are protecting me and all of your classmates. If you forget your face covering, I will ask you to leave class to retrieve it. If you repeatedly fail to wear a face covering in class, I will refer you to the Dean of Students for a possible violation of the Student Code. Note that some students may qualify for accommodations through the Americans with Disabilities Act (ADA). If you think you meet these criteria and desire an exception to the face covering policy, contact the [Center for Disability and Access \(CDA\)](#). Accommodations should be obtained prior to the first day of class so that I am notified by CDA of any students who are not required to wear a face covering.

**The Americans with Disabilities Act.** The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, (801) 581-5020. CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in an alternative format with prior notification to the Center for Disability Services.

**University Safety Statement.** The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit [safeu.utah.edu](http://safeu.utah.edu).

**Addressing Sexual Misconduct.** Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran's status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS).

**Undocumented Student Support Statement.** Immigration is a complex phenomenon with broad impact—those who are directly affected by it, as well as those who are indirectly affected by their relationships with family members, friends, and loved ones. If your immigration status presents obstacles to engaging in specific activities or fulfilling specific course criteria, confidential arrangements may be requested from the Dream Center. Arrangements with the Dream Center will not jeopardize your student status, your financial aid, or any other part of your residence. The Dream Center offers a wide range of resources to support undocumented students (with and without DACA) as well as students from mixed-status families. To learn more, please contact the Dream Center at 801.213.3697 or visit [dream.utah.edu](http://dream.utah.edu).

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"Some of the writings, lectures, films, or presentations in this course may include material that conflicts with the core beliefs of some students. Please review the syllabus carefully to see if the course is one that you are committed to taking. If you have a concern, please discuss it with me at your earliest convenience." - *Per Accommodations Policy, Office of Academic Affairs*

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### **University of Utah Face Covering Policy**

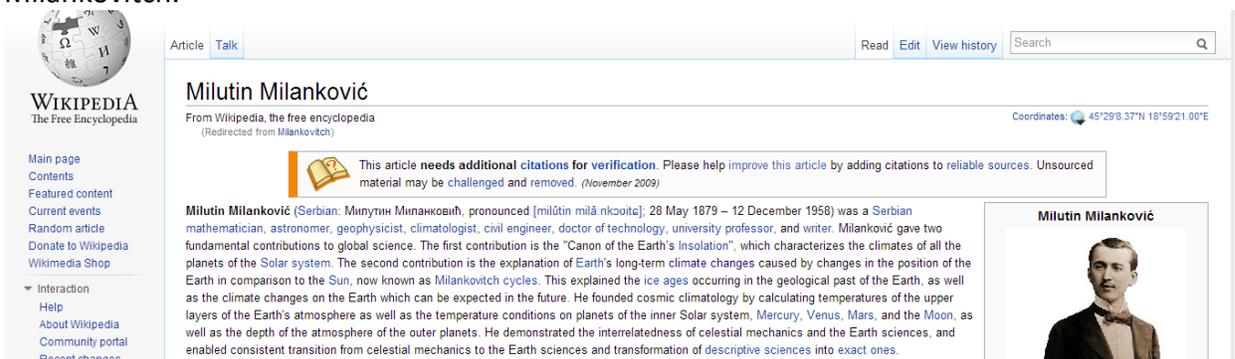
**Face coverings are required in all in-person classes for both students AND faculty.** Based on CDC guidelines, the University requires everyone to wear face coverings in shared public spaces on campus, including our classroom. As a reminder, when I wear a face covering, I am protecting you. When you wear a face covering, you are protecting me and all of your classmates. If you forget your face covering, I will ask you to leave class to retrieve it. If you repeatedly fail to wear a face covering in class, I will refer you to the Dean of Students for a possible violation of the Student Code. Note that some students may qualify for accommodations through the Americans with Disabilities Act (ADA). If you think you meet these criteria and desire an exception to the face covering policy, contact the Center for Disability and Access (CDA). Accommodations should be obtained prior to the first day of class so that I am notified by CDA of any students who are not required to wear a face covering.

- **Please note that face shields alone are not an acceptable form of face covering unless also worn with a covering or mask for the nose and mouth.**
  - Students are encouraged to wash their hands, use hand sanitizer and clean their desks with wipes, which will be available at classroom entrances and at “sanitizing stations” in multi-use buildings, including Marriott Library.
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## Academic Misconduct Policy

Academic misconduct will not be tolerated. Penalties may include failure of an assignment, the entire course, and/or the filing of formal charges with appropriate university authorities. Academic misconduct includes, but is not limited to, cheating, misrepresenting one's work, and plagiarism:

- Cheating involves the unauthorized possession or use of information in an academic exercise, including unauthorized communication with another person during an exercise such as an examination.
- Misrepresenting one's work includes, but is not limited to, representing material prepared by another as one's own work or submitting the same work in more than one course without prior permission of all instructors.
- Plagiarism means the intentional unacknowledged use or incorporation of any other person's work in one's own work offered for academic consideration or public presentation.
- When you gather information from any source (internet, book, newspaper, journal article, etc), you need to paraphrase. This means changing the words from the original source into your own. Even though the words are yours, the content is still from somewhere else, so it still needs a citation.
- The way that I do this is I'll read something and make notes on what I read. Then I put the original source away and explain it using my words and notes.
- You can take text directly from a source if you put the material in quotation marks, cite the source and the page number from the excerpt. However, I don't want to see any direct quotations in any of your work. I want paraphrasing with appropriate citations.
- Here is a good and bad example of paraphrasing from the Wikipedia entry on Milutin Milankovitch.



**BAD:**

Milutin Milankovic was a Serbian mathematician who gave two fundamental contributions to global science. These include the "Canon of the Earth's Insolation" which characterizes the climates of all the planets in the solar system. The other contribution is the explanation of the Earth's long-term climate changes caused by the position of the Earth and Sun.

**GOOD:**

Milutin Milankovitch made many contributions to our understanding of the Earth's climate. He was widely trained in the Earth, Geological and Astronomical sciences but is best known as a

Serbian mathematician and astronomer. His most important contribution was his explanation for the ice ages, which is based on changes in the Earth's relationship with the Sun, known as Milankovitch Cycles (Wikipedia, 2012).

#### References Cited

Wikipedia. Accessed Dec. 30, 2012. Milutin Milanković,  
<http://en.wikipedia.org/wiki/Milankovitch>