

Draft, subject to change

**GEOG/ANTH 2400 Climate Change and Lost Cities**

General Education SF, BF

Fall 2020

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Andrea's student hours: Tues 2:00-3:00 (live, GC 4847), Friday 8:30-9:30 (zoom  
<https://utah.zoom.us/j/99397374774>, Meeting ID: 993 9737

4774, Passcode: 861781), and by appointment

Rick's student hours: Tues 2:00-3:30 (live, GC 4442), and by appointment

Graduate TA: Josh Krahulec

TA student hours: Tues & Thurs 2:00-3:30 PM. Meeting location = GC 4650 (TA suite in the Geo/Anth office area), and by appointment

Undergraduate Discussion Leaders:

Emily student hours: Mondays from 1:30 to 2:30 pm. Meeting location = GC 4650 (TA suite in the Geo/Anth office area), and by appointment

**Josh G. student hours:**

Wyatt student hours: Mondays from 11-12 pm. GC 4650 (TA suite in the Geo/Anth office area), and by appointment

**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.

**\*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) 30%
  - Syllabus quiz
  - Weekly lecture quizzes
  - In-class and on-line discussions
  - Peer review of group participation
- Writing assignments and knowledge assessment 50%
  - Reading guides and quizzes
  - Viewing guides and quizzes
  - 4 integrated Reflections
- Research Project 20%

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:

Quizzes - **There are NO make-up quizzes;** however, you will be given the points equivalent to two quizzes, which means you can miss two with no penalty. If you don't miss any quizzes you still get the points and they will extra credit on your grade. Freebie quizzes are meant to cover all manner of life issues. Use them wisely. The quiz will be posted by Friday after we finish that topic and due Monday night before midnight.

Attendance/Class recordings – this class is designed to be an in-person, active learning environment with lots of discussion and interaction. We encourage you to attend if possible. To accommodate some inevitable absences all the lectures will be recorded and posted under “Lecture Videos” after class.

Late work - All assignments will be due as scheduled, but to allow for issues that come up, quizzes and assignments will be accepted with a 10% penalty PER DAY. No work will be accepted after a week, no exceptions. Don't ask us and make us tell you no.

Technical issues – details on how to address technical issues are available on the on-line syllabus. Please note if you are attempting to complete the assignment after 4 pm on the due date, technical problems will not be accepted as a valid reason for late work. We will accept work up until 11:59 pm on the assignment due date as a courtesy (instead of 5 pm, close of business), however anything that occurs after 4 pm on the due date is the responsibility of the student.

Grading – The university grading scale is below. We reserve the right to round your grade up if you show exceptional engagement in the class and/or you show improvement in your work over the course of the semester.

A	100%–94%	A-	93.9%–90%		
B+	89.9%–87%	B	86.9%–84%	B-	83.9%–80%
C+	79.9%–77%	C	76.9–74%	C-	73.9%–70%
D+	69.9%–67%	D	66.9%–64%	D-	63.9%–60%
E	59.9%–0%				

Office (Student) Hours - These are windows of time where the instructor and TA are available to help you! We will be sitting in our office or on the zoom link waiting for you to ask questions. These hours are often underused- come see us!

Research Project: (Groups of 5) TBD, we're waiting to see what resources will be available this fall (e.g. access to the NHMU?). Stay tuned.

*Because the project will be synthetic (human and environmental dimensions) in your written reports for the project you will need 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).

Schedule (allow for ebb and flow of topics, we may finish some early and others might go long)

<b>MODULE(S)</b>	<b>WEEK OF:</b>	<b>Topic</b>
1	August 24	Class Introduction/Syllabus Introduction to The Maya
2	August 31	Climate Change Foundations
3	September 7	The Archaeological Process
4	September 14	More climate basics and climate archives
5	September 21	Long-term & recent variations in CO2
6	September 28	The Rise and Fall of Tikal and the Classic Maya
6 7	October 5	1.The Environmental context of the Maya 2.Introduction to Chaco Canyon
---	October 12	<i>FALL BREAK – no class, no office hours</i>
7	October 19	1. More Chaco 2. The Environmental context of Chaco
8	October 26	Angkor Wat and the Khmer
8	November 2	The Environmental Context of Angkor Wat
9	November 9	Future Climate Change
10	November 16	Future Lost Cities-Wet ones
---	November 23	<i>THANKSGIVING – no class, no office hours- ONLINE MOVIE ASSIGNMENTS</i>
11	November 30	Future Lost Cities-Dry ones

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## COVID

University leadership has urged all faculty, students, and staff to model the vaccination, testing, and masking behaviors we want to see in our campus community. ***Our ability to hold this class live depends on everyone doing their part to limit the transmission of COVID.***

Recommendations:

### Vaccination

- Get a COVID-19 vaccination if you have not already done so. Vaccination is proving highly effective in preventing severe COVID-19 symptoms, hospitalization and death from coronavirus. Vaccination is the single best way to stop this COVID resurgence in its tracks.
- Many in the campus community already have gotten vaccinated:
  - More than 80% of U. employees
  - Over 70% of U. students
- Visit <http://mychart.med.utah.edu/>, <http://alert.utah.edu/covid/vaccine>, or <http://vaccines.gov/> to schedule your vaccination.

### Masking

- While masks are no longer required outside of Health Sciences facilities, UTA buses and campus shuttles, CDC guidelines now call for everyone to wear face masks indoors.
  - Check the CDC website periodically for masking updates—  
<https://www.cdc.gov/coronavirus/2019-ncov/vaccines/fully-vaccinatedguidance.html>
  - Treat masks like seasonal clothing (i.e. during community surges in COVID transmission, masks are strongly encouraged indoors and in close groups outside). Testing
- If you are not yet vaccinated, get weekly asymptomatic coronavirus tests. This is a helpful way to protect yourself and those around you because asymptomatic individuals can unknowingly spread the coronavirus to others.
  - Asymptomatic testing centers are open and convenient: Online scheduling Saliva test (no nasal swabs) Free to all students returning to campus (required for students in University housing) Results often within 24 hours Visit [alert.utah.edu/covid/testing](http://alert.utah.edu/covid/testing)
- Remember: Students must self-report if they test positive for COVID-19 via this website: <https://coronavirus.utah.edu/>. Also consider including: Student Mental Health Resources
- Rates of burnout, anxiety, depression, isolation, and loneliness have noticeably increased during the pandemic. If you need help, reach out for campus mental health resources, including counseling, trainings and other support.
- Consider participating in a Mental Health First Aid or other wellness-themed training provided by our Center for Student Wellness and sharing these opportunities with your peers, teaching assistants and department colleagues.

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***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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**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.

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This article **needs additional citations for verification**. Please help improve this article by adding citations to reliable sources. Unsourced material may be challenged and removed. *(November 2009)*

**Milutin Milanković** (Serbian: Милутин Миланковић, pronounced [miluːtin mi̯lâ nkoʋitɕ]; 28 May 1879 – 12 December 1958) was a Serbian mathematician, astronomer, geophysicist, climatologist, civil engineer, doctor of technology, university professor, and writer. Milanković gave two fundamental contributions to global science. The first contribution is the "Canon of the Earth's Insolation", which characterizes the climates of all the planets of the Solar system. The second contribution is the explanation of Earth's long-term climate changes caused by changes in the position of the Earth in comparison to the Sun, now known as Milankovitch cycles. This explained the ice ages occurring in the geological past of the Earth, as well as the climate changes on the Earth which can be expected in the future. He founded cosmic climatology by calculating temperatures of the upper layers of the Earth's atmosphere as well as the temperature conditions on planets of the inner Solar system, Mercury, Venus, Mars, and the Moon, as well as the depth of the atmosphere of the outer planets. He demonstrated the interrelatedness of celestial mechanics and the Earth sciences, and enabled consistent transition from celestial mechanics to the Earth sciences and transformation of descriptive sciences into exact ones.

Milutin Milanković

**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>