



ANG5937/ANT4930: Climate change and Development

Department of Anthropology

College of Arts & Sciences, University of South Florida

COURSE SYLLABUS

Instructor:	Md. Ashiqur Rahman, Ph.D.	Term:	Spring 2016
Office:	SOC 032	Class Meeting Day:	Monday, 2-4.45 pm
E-Mail:	ashique@usf.edu	Class Location:	SOC 037
Office Hours:	Monday, 10 am-12 noon, or by appointment	Course Credits:	3 hours

I. Course Overview

Most of the scientists consider Climate change as the gravest threat to humanity in the 21st century. This class recognizes that climate change is not only what we do or how we behave to the environment, but also how we treat our fellow human beings. As a “wicked problem” climate change contributes to many other problems that we are facing today. Hence, this course identifies climate change as “mother of all development challenges” and analyzes the contemporary human problems from social science perspective. Over the semester, we will study science of climate change, controversy over climate change evidence, planetary boundaries, our common future under climate change, vulnerability, adaptation, and resilience to climate change, loss and damage, climate change and poverty eradication, livelihoods, urban heat island, sea level rise and coastal communities, climate refugee, UN sustainable development goals etc. In short, we will explore the development challenges in the face of climate change and responses from the development community.

This is a learner-centered class and you have the opportunity to explore your topic of interest by contributing to shape the syllabus. Furthermore, this class recognizes you as an active learner and provides you opportunity to raise your voice and share your thinking with your colleagues on this pressing issue, climate change and development.

II. Course Objectives

By the end of this course, you will be able to:

- Summarize, critique, and discuss recent scholarship on human dimensions of climate change
- Explain how place-based and marginalized communities around the world are affected by global climate change and how anthropologists and other social scientists can contribute to address this problem
- Discuss the nexus between climate change and development
- Understand the extent to which communities in your region are affected by global climate change;
- Describe, analyze, and use at least 20 recent peer-reviewed articles, reports, or book chapters relevant to your research interests
- Formulate research questions and communicate expected intellectual contributions and broader impacts of your research
- Prepare a proposal, report or manuscript of an academic journal article

III. Course Prerequisites

There are no prerequisites for this course. However, the course is challenging in that we will learn about human dimensions of climate change and the relationship between climate change and development from social science perspectives. Students with no background in the social sciences may be pushed beyond their comfort zones. One of the strengths of this course is that you will be exposed to a broad range of academic and scientific concepts. That being said, students may find it necessary to read supplemental material if they wish to more fully comprehend some concepts covered in the course. If you have additional questions, please contact me.

IV. Required Texts and Materials

There is no specific text book for this class. All required texts, materials, and websites will be provided through the Canvas website. See section XIII for more details about how to access Canvas.

V. Basis for Final Grade

1) For each class there will be 3-5 required readings. The required readings will be used as jumping off points for class discussion. Prior to class, each of you will prepare and post a half page summary of this reading, and set out three questions you would like to discuss in the class. These summaries are due by mid-night of Sunday, the day before the readings are discussed. This exercise weighs 45 percent of your grade.

2) This is a learner-centered seminar and active participation in class discussions on the assigned readings are required. Discussions of readings and themes, and mini lectures, make up most of the sessions. You will be graded on your informed participation, and that requires careful, timely preparation and regular attendance. 'Participation' is two-fold:

- 1) Attendance is required. Because this is a *seminar*, you and your classmates' success depends on regular attendance, thorough preparation for and active participation in each class. Since you have registered for this class, I assume you will be able to attend every class. You forfeit 1 point for every unexcused absence. If you have an emergency beyond your control that prevent your attendance, please contact me immediately to discuss your situation and work needed to proceed in the course.
- 2) Preparation is required. This course requires a substantial amount of reading. Before coming to class, complete and think critically about that class's readings. Please come to class prepared to discuss the week's readings according to the important conceptual questions. Sessions will include mini-lectures, general discussions, films and other audio-visually. This aspect of the class will count for 15 percent of your grade.
- 3) A final research paper, 10-15 pages in length (12 fonts, 1.5 space), on a topic of your choice. As I want this paper to be meaningful and useful to you, this paper may take a number of forms:
 - 1) It may be written as an article (intended for publication and/or presentation at a professional meeting)
 - 2) It may take the form of a NSF style research proposal,
 - 3) If you have a dataset related to the central theme of this class to analyze or would like to do a pilot study locally, it may take the form of a report.

You should discuss the topic for this final paper with me before you go ahead with it. As part of this process, on April 11, 2016 you submit a one-page statement on your paper topic with an initial bibliography of at least 20. On April 18 you will present your research findings (power point) and get feedback from your colleagues in the class. Your presentation will be graded by your fellow students. The final draft is due on 3 May 2016. The paper counts 35 percent of your grade. Details are as follows-

Assignments	Percent of Final Grade	Due Date
#1: Weekly: Reading's summary with questions	45% (3% per week)	Sundays
#2: Attendance and participation	15%	
#3 Leading a class discussion	5%	
#4: Research statement and question with Bibliography	5%	11 April, 2016
#5: Presentation of Research findings	10%	18 April, 2016
#6: Final Research Proposal, report or Journal Article manuscript	20%	3 May, 2016
Total	100%	

Grading Scale

97-100=A+	87-89=B+	77-79=C+	67-69=D+	F <60
94-96=A	84-86=B	74-76=C	64-66=D	
90-93=A-	80-83=B-	70-73=C-	60-63=D-	

Grades of "Incomplete"

The current university policy concerning incomplete grades will be followed in this course. Incomplete grades are given only in situations where unexpected emergencies prevent a student from completing the course and the remaining work can be completed the next semester. Your instructor is the final authority on whether you qualify for an incomplete. Incomplete work must be finished by the end of the subsequent semester or the "I" will automatically be recorded as an "F" on your transcript.

Grade Dissemination

You can access your scores at any time using the Grade function in Canvas. I will post grades within about one week of the due date of each assignment, and will also provide constructive feedback after the assignments, where appropriate.

VI. Plagiarism

Throughout the course, **plagiarism** of any type will not be tolerated. Any assignment turned in with plagiarized materials will be given a zero and reported to the appropriate University authorities. **IMPORTANT:** USF has an account with an automated plagiarism detection service, which allows instructors to submit student assignments to be checked for plagiarism. I, the instructor, reserve the right to submit assignments to this detection system. Assignments are compared automatically with a huge database of journal articles, web articles, and previously submitted papers. The instructor receives a report showing exactly how a student's paper/projects was plagiarized. I will open this report for you so that you can see and rewrite if needed. **Plagiarism will earn you "F" no matter what!!**

Turinitin.com: In this course I will utilize turnitin.com, an automated system used to quickly and easily compare each student's assignment with billions of web sites, as well as an enormous database of student papers that grows with each submission. Accordingly, students will be expected to submit all assignments in electronic format. For a more detailed look at this process visit <http://www.turnitin.com>.

Cheating

Cheating is absolutely not tolerated. It is your responsibility to read and understand the university's policy on academic integrity: <http://www.ugs.usf.edu/catalogs/1112/pdf/AcademicIntegrityOfStudents.pdf> By enrolling in this course, you agree to follow university policy on this matter. To prevent any misunderstandings in this regard, during the exams: i) do not talk, ii) do not wear a hat of any kind, iii) keep your cell phone off and in your bag or out of view, and iv) don't let your eyes wander. Different versions of the exams might be given, but to be on the safe side, follow the above rules. Keep in mind, we do not have any in-class exam.

VII. End of Semester Student Evaluations: All classes at USF make use of an online system for students to provide feedback to the University regarding the course. These surveys will be made available at the end of the semester, and the University will notify students by email when the response window opens. Participation is highly encouraged and valued. The results of student feedback are sent to departments and faculty members only after semester grades are already submitted, and student responses are reported only anonymously and in the aggregate to faculty.

VIII. Accommodations

Students in need of academic accommodations for a disability may consult with the office of Students with Disabilities Services to arrange appropriate accommodations. Students are required to give reasonable notice prior to requesting an accommodation. Students with Disabilities Service is located in SVC 1133. Their phone is (813) 974-4309 -- TTY: (813) 974-5651. The office's website address is <www.sds.usf.edu>. I, the instructor, will provide whatever accommodations requested by Students with Disabilities Services on your behalf – no questions asked.

IX. Religious Observance

As per university policy, missing class due to a religious holiday or observance is permitted as long as you provide the instructor with notice ahead of time.

XI. The University Writing Center

The University Writing Center is a free resource for USF undergraduates and graduates. At the UWC, a trained writing consultant will work individually with you on anything you're writing (in or out of class), at any point in the writing process from brainstorming to editing. Appointments are recommended, but not required. For more information or to make an appointment, visit the UWC website at <http://www.lib.usf.edu/writing>, stop by their office in the library, or call 813.974.8293.

XII. Professionalism Policy

Per university policy and classroom etiquette; mobile phones, iPods, *etc.* **must be silenced** during all classroom activities and lectures. Those not heeding this rule will be asked to leave the classroom immediately so as to not disrupt the learning environment. Please arrive on time for all class meetings. Students who habitually disturb the class by talking, arriving late, *etc.*, and have been warned may suffer a reduction in their final class grade. In addition to this, I expect the following common courtesies from you.

Common courtesies

You can use your laptops or iPads or whatever to take notes in class, and I suggest you do so; **please refrain from checking your Facebook latest updates, playing games, doing email etc.** It is not only distracting for YOU, but also for those around you. Unless you are an Emergency Room doctor or specialist who is 'on call,' turn off your cell phone and stop checking for messages every minute. Trust me: the world can manage without you during the time when you are in class.

XIII. Canvas and USF Email

This course will be offered via USF's learning management system (LMS), Canvas. If you need help learning how to perform various tasks related to this course or other courses being offered in Canvas, please view the following [videos](#) or consult the Canvas [help guides](#). You may also contact USF's IT department at (813) 974-1222 or help@usf.edu. You will also be required to regularly check your USF email for important course announcements. You will not be excused for missing an assignment or announcement because you did not check your USF email.

XIV. Important Dates to Remember: The due dates below are tentative and can be changed at the discretion of the instructor.

Drop/add deadline:	15 January 2016
Contribution to syllabus, your topic of interest with reading suggestions	17 January 2016
Martin Luther King, Jr. Day, no classes	18 January 2016
Spring Break	14-18 March 2016
Withdrawal deadline	26 March 2016
Research question with bibliography	11 April 2016
Students presentation	18 April 2016
Research Proposal, report or Journal Article Due Date	3 May 2016

XV. Weekly Topic Schedule and Assignment Due Dates

Date	Weekly Topic	Assignment Due Dates
Week 1: Jan 11	Course introduction: syllabus, assignments, and introductory materials	
Week 2: Jan 18	Martin Luther King, Jr. Day, No Classes Assignment due on Sunday, the 17 th Jan.	Post your topic of interest in Canvas with five reading suggestion to add in the syllabus, replaces reading summary points
Week 3: Jan 25	Planetary boundary, climate change, and Anthropocene	
Week 4: Feb 1	Controversy over climate change evidence	
Week 5: Feb 8	Climate-Development nexus	
Week 6: Feb 15	Vulnerability and resilience to climate change	
Week 7: Feb 22	Adaptation and adaptive capacity to climate change	
Week 8: Feb 29	Climate change and the livestock industry	
Week 9: Mar 7	Climate change, Loss and damage, and poverty eradication	
Week 10 Mar 14-18	SPRING BREAK	
Week 11: Mar 21	Case study 1: Sea level rise and Bangladesh	
Week 12: Mar 28	Case study 2: Visualizing climate change in Tampa Bay	
Week 13: Apr 4	Case study 3: California drought and climate change	
Week 14: Apr 11	Global Climate Change and Natural Resources	Research statement with Bibliography
Week 15: Apr 18	The impacts of climate change on archaeological sites	15 minute presentation, Send your presentation to me by 10 am
Week 16: Apr 25	Anthropology, Climate change, and Sustainable development goals	
Exam week Apr 30-May 6	No additional readings; finish and submit final assignment	Research Proposal, report or Journal Article due May 3

XVI. Detail schedule and readings

Note: This syllabus is a product of collaborative effort between the students and the instructor of this class. Particularly, content of this syllabus is substantially shaped by students' topic of interest under the broad theme, Climate Change and Development. This syllabus is neither final nor a legal contract between students and me. I reserve the right to make changes to the course schedule and content. It is your responsibility to be in class for announcements and to check the course Canvas site and your USF email regularly.

Week 1	1/11	Introduction on syllabus, course material, and learner-centered teaching
Week 2	1/18	Martin Luther king Junior day, no class. Topic of interest and readings due
Week 3	1/25	Planetary boundaries, climate change, and Anthropocene
		<p><u>Readings</u></p> <ul style="list-style-type: none"> • Rockstrom et al. 2009. A safe operating space for humanity, <i>Nature</i>, Vol. 461, pp. 472-475 • IPCC, 2013: Summary for Policymakers. In: <i>Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change</i> [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. • IPCC, 2014: Summary for policymakers. In: <i>Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change</i> [Field, C.B., V.R. Barros, D.J. Dokken, K.J. Mach, M.D. Mastrandrea, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L. White (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 1-32. • Ruddiman, W. F. 2013. The Anthropocene. <i>Annual Review of Earth and Planetary Sciences</i>, 41, 45-68.
Week 4	2/1	Debates over climate change
		<p><u>Readings</u> (Please read in given order)</p> <ul style="list-style-type: none"> • Film: The great global warming Swindle • Boykoff, Maxwell T. 2009. We Speak for the Trees: Media Reporting on the Environment, <i>Annu. Rev. Environ. Resour.</i> 2009. 34:431–57 • Riley E. Dunlap & Araon M. McCright (2008) A Widening Gap: Republican and Democratic Views on Climate Change, <i>Environment: Science and Policy for Sustainable Development</i>, 50:5, 26-35, DOI: 10.3200/ENVT.50.5.26-35 • G.T. Farmer and J. Cook, 2013, <i>Climate Change Science: A Modern Synthesis: 445</i> Volume 1 - The Physical Climate, Chapter 23, Understanding climate Change Denial DOI 10.1007/978-94-007-5757-8_23 • Andrew J. Hoffman. 2011, The growing climate divide, <i>Nature Climate Change</i>, Vol. 1, pp. 195-196
Week 5	2/8	Climate-development nexus
		<p><u>Readings</u> (Please read in given order)</p> <ul style="list-style-type: none"> • World Bank, 2010, <i>World Development Report 2010: Development and Climate change</i>, Chapter 1: Understanding the Links between Climate Change and Development, The World Bank, Washington, DC. • Gasper <i>et al.</i> 2013, The framing of climate change and development: A comparative analysis of the Human Development Report 2007/8 and the World Development Report 2010, <i>Global Environmental Change</i>, Volume 23, Issue 1, February, Pages 28–39 • Tanner and Horn-Phathanothai, 2014, <i>Climate Change and Development</i>, Chapter 2: The Climate-Development Nexus, Routledge, London and New York

		<ul style="list-style-type: none"> Winkler <i>et al.</i> 2015, Reconsidering development by reflecting on climate change, <i>Int Environ Agreements</i>, 15:369–385 DOI 10.1007/s10784-015-9304-7
Week 6	2/15	<p>Vulnerability, and resilience</p> <p><i>Readings (Please read in given order)</i></p> <ul style="list-style-type: none"> Adger, Neil. 2006. Vulnerability, <i>Global Environmental Change</i>, 16, 268–281 Ribot, Jesse, 2010, Vulnerability Does Not Fall from the Sky: Toward Multiscale, Pro-poor Climate Policy IN <i>Social Dimensions of Climate Change: Equity and Vulnerability in a Warming World</i> edited by Marns and Norton, The World Bank. Fussel, Hans-Martin. 2007, Vulnerability: A generally applicable conceptual framework for climate change research, <i>Global Environmental Change</i>, 17, 155–167 Folke, Carl. 2006, Resilience: The emergence of a perspective for social–ecological systems analyses, <i>Global Environmental Change</i>, 16, 253–267 Tanner <i>et al.</i> 2015, Livelihood Resilience in the face of climate change, <i>Nature Climate Change</i>, 5, 23–26, doi:10.1038/nclimate2431 <p>Optional Readings</p> <ul style="list-style-type: none"> Adger, Neil, 1999, Social Vulnerability to Climate Change and Extremes in Coastal Vietnam, <i>World Development</i> Vol. 27, No. 2, pp. 249-269 Preston, B. L., E. J. Yuen, & R. M. Westaway. 2011. Putting vulnerability to climate change on the map: a review of approaches, benefits, and risks. <i>Sustainability Science</i>, 6, 177-202. Birkmann, J., et al. 2013. Framing vulnerability, risk and societal responses: the MOVE framework. <i>Natural Hazards</i>, 67, 193-211.
Week 7	2/22	<p>Adaptation and adaptive capacity to climate change</p> <p><i>Readings (Please read in given order)</i></p> <ul style="list-style-type: none"> Adger <i>et al.</i> (edited) 2009, Adapting to Climate Change: Thresholds, Values, Governance, Chapter 1, 2, 9 and 10. Cambridge University Press, Smit and Wandel, 2006, Adaptation, adaptive capacity and vulnerability, <i>Global Environmental Change</i>, 16, 282–292 Gallopín, Gilberto C. 2006, Linkages between vulnerability, resilience, and adaptive capacity, <i>Global Environmental Change</i>, 16, 293–303 Thulstrup, Andreas Waaben, 2015, Livelihood Resilience and Adaptive Capacity: Tracing Changes in Household Access to Capital in Central Vietnam, <i>World Development</i>, Vol. 74, pp. 352–362 Williams <i>et al.</i> 2015, Knowledge and Adaptive Capacity, <i>Nature Climate Change</i>, Vol. 5
Week 8	2/29	<p>Climate change and the Livestock Industry</p> <ul style="list-style-type: none"> <i>Dietary Greenhouse Gas Emissions of Meat-Eaters, Fish-eaters, Vegetarians, and Vegans in the UK</i> by Peter Scarborough, Paul N. Applebee, Anja Mizdrak, Adam D. M. Briggs, Ruth C. Travis, Kathryn E. Bradbury, Timothy J Key http://link.springer.com/article/10.1007/s10584-014-1169-1/fulltext.html <i>Potential Contributions of Food Consumption Patterns to Climate Change</i> by Annika Carlsson-Kanyama and Alejandro D Gonzalez http://ajcn.nutrition.org/content/89/5/1704S.full Herrero, Mario, and Philip K. Thornton. "Livestock and global change: Emerging issues for sustainable food systems." <i>Proceedings of the National Academy of Sciences</i> 110.52 (2013): 20878-20881. Lemaire, Gilles, et al. Integrated crop–livestock systems: Strategies to achieve synergy between agricultural production and environmental quality. <i>Agriculture, Ecosystems & Environment</i> 190 (2014): 4-8. Thornton PK, Boone RB, J Ramirez-Villegas 2015. Climate change impacts on livestock. CCAFS Working Paper no. 120. CGIAR Research Program on Climate Change, Agriculture

		and Food Security (CCAFS). Copenhagen, Denmark. Available online at: www.ccafs.cgiar.org
Week 9	3/7	Climate change, Loss and damage, and poverty eradication
		<p><i>Readings (Please read in given order)</i></p> <ul style="list-style-type: none"> • World Bank 2016, <i>Shockwaves: Managing the Impacts of Climate Change on Poverty (Overview, page 1-26)</i>, Climate Change and Development series, World Bank group • Gall, M., K. A. Borden, & S. L. Cutter. 2009. When do Losses Count? Six Fallacies of Natural Hazards Loss Data. <i>Bulletin of the American Meteorological Society</i>, 90, 799-809. • Neumann, J. E., et al. 2015. Climate change risks to US infrastructure: impacts on roads, bridges, coastal development, and urban drainage. <i>Climatic Change</i>, 131, 97-109. • McNamara, Karen (2014) Exploring Loss and Damage at the International Climate Change Talks, <i>Int J Disaster Risk Sci</i> (2014) 5:242–246 • Burns, William C. G., Loss and Damage and the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change (January 2, 2016). Available at SSRN: http://ssrn.com/abstract=2710086 or http://dx.doi.org/10.2139/ssrn.2710086 <p>Optional reading</p> <ul style="list-style-type: none"> • The Global Risks Report 2016 (introduction and summary). World Economic Forum.
Week 10	3/14	Global climate change and our moral obligations
		<ul style="list-style-type: none"> • Gardiner, S. M. & Hartzell-Nichols, L. (2012) Ethics and Global Climate Change. <i>Nature Education Knowledge</i>, 3(10):5 • Adger, W. Neil, Quinn, Tara, Lorenzoni, Irene, Murphy, Conor & Sweeney, John. Changing social contracts in climate-change adaptation, <i>Nature Climate Change</i>, 3, 330–333 (2013) doi:10.1038/nclimate1751 • Dale Jamieson (2007). When Utilitarians Should Be Virtue Theorists. <i>Utilitas</i>, 19, pp 160-183. doi:10.1017/S0953820807002452. • Latour, Bruno. (2014) Anthropology at the Time of the Anthropocene – a personal view of what is to be studied. American Association of Anthropologists. Distinguished Lecture.
Week 11	3/21	Case study 1: Sea level rise and Bangladesh
		<p><i>Readings (Please read in given order)</i></p> <ul style="list-style-type: none"> • Inman, Mason (2009) Where warming hits hard, <i>nature reports climate change</i>, Vol. 3, February • Rahman, Md. Ashiqur. “Salt is bitter: Salinity and Livelihood in a Bangladesh village” <i>The International Journal of Interdisciplinary Social Sciences</i>, Champaign, Illinois, USA, Volume 5, number 7, Page 317-330 • Finan & Rahman (2016) Storm Warnings: An Anthropological Focus on Community Resilience in the Face of Sea-Level Rise in Southwestern Bangladesh IN Crate and Nuttall (eds) <i>Anthropology and Climate Change: From Actions to Transformations</i>, Left Coast Press. • Jordan, J. C. (2014) Swimming alone? The role of social capital in enhancing local resilience to climate stress: a case study from Bangladesh. <i>Climate and Development</i>, DOI: 10.1080/17565529.2014.934771. • Cristina Coirolo & Atiq Rahman (2014) Power and differential climate change vulnerability among extremely poor people in Northwest Bangladesh: lessons for mainstreaming, <i>Climate and Development</i>, 6:4, 336-344, DOI: 10.1080/17565529.2014.934774 <p>Optional readings</p> <p>Orrin H. Pilkey and J. Andrew G. Cooper (2004) Society and Sea level rise, <i>Science</i>, vol. 303, March 19</p>

Week 12	3/28	Case study 2: Visualizing climate change in Tampa Bay Area
		Guest lecture, Readings TBA
Week 13	4/4	Case study 3: California drought and climate change
		<p><i>Readings (Please read in given order)</i></p> <ul style="list-style-type: none"> • Diffenbaugh et al. (2015) Anthropogenic warming has increased drought risk in California, <i>PNAS</i>, March 31, vol. 112, no. 13, 3931–3936. • Mann & Gleick (2015) Climate change and California drought in the 21st century, <i>PNAS</i>, March 31, vol. 112, no. 13, 3858–3859 • Eriksen et al., (2011) When not every response to climate change is a good one: Identifying principles for sustainable adaptation, <i>Climate and Development</i>, 3:1, 7-20, DOI: 10.3763/cdev.2010.0060 • Van Loon et al. (2016) Drought in the Anthropocene, <i>Nature Geoscience</i>, Vol. 9, February, 89-91 • Kelley et al. (2015) Climate change in the Fertile Crescent and implications of the recent Syrian drought, <i>PNAS</i>, March 17, vol. 112, no. 11, 3241–3246 <p>Optional reading</p> <ul style="list-style-type: none"> • Barretta & Constasa, Toward a theory of resilience for international development applications, <i>PNAS</i>, October 7, 2014, vol. 111, no. 40, 14625–14630
Week 14	4/11	Global Climate Change and Natural Resources
		<ul style="list-style-type: none"> • T. G. Measham <i>et al.</i> A Conceptual Model of the Socioeconomic Impacts of Unconventional Fossil Fuel Extraction, <i>Global Environmental Change</i>. 36 (2016): 101-110. • M. van den Berg <i>et al.</i> Exploring Resource Efficiency for Energy, Land and Phosphorus Use: Implication for resource scarcity and the global environment, <i>Global Environmental Change</i>. 36 (2016): 21-34. • Alkaya <i>et al.</i> Adaptation to Climate Change in Industry: Improving Resource Efficiency through Sustainable Production Applications, <i>Water Environment Research</i>. 87(1) 2015:14-25. • Buonocore <i>et al.</i> Health and Climate Benefits of Different Energy-Efficiency and Renewable Energy Choices, <i>Nature Climate Change</i>. 6 (2016): 100-107. • D.J, Davidson <i>et al.</i> The Effort Factor: Evaluating the Increasing Marginal Impact of Resource Extraction Over Time, <i>Global Environmental Change</i>. 25 (2014): 63-68. <p>Optional reading</p> <ul style="list-style-type: none"> • Christopher James Lemieux, Jessica Thompson, D. Scott Slocombe & Rudy Schuster (2015) Climate change collaboration among natural resource management agencies: lessons learned from two US regions, <i>Journal of Environmental Planning and Management</i>, 58:4, 654-677, DOI: 10.1080/09640568.2013.876392
Week 15	4/18	The impacts of climate change on archaeological sites
		<ul style="list-style-type: none"> • Curry, Andrew (2009) Climate Change: Sites in Peril (Archaeology) http://archive.archaeology.org/0903/etc/climate_change.html • Daly, C (2011) Climate Change and the Conservation of Archaeological Sites: a Review of Impacts theory, <i>Conservation and Management of Archaeological Sites</i>, vol. 13, no. 4, 2011, p.293-310 • Cathy Daly (2014) A Framework for Assessing the Vulnerability of Archaeological Sites to Climate Change: Theory, Development, and Application, <i>Conservation and Management of Archaeological Sites</i>, 16:3, 268-282

		<ul style="list-style-type: none"> • Erlandson (2009) As the World Warms: Rising Seas, Coastal Archaeology, and the Erosion of Maritime History, <i>Arctic Anthropology</i>, Vol. 46, No. 1/2, The Tops of the World, pp. 17-24 • Blankholm (2009) Long-Term Research and Cultural Resource Management Strategies in Light of Climate Change and Human Impact, <i>Arctic Anthropology</i>, Vol. 46, No. 1/2, The Tops of the World, pp. 17-24
Week 16	4/25	Anthropology, climate change, and sustainable development goals
		<p><i>Readings (Please read in given order)</i></p> <ul style="list-style-type: none"> • Fiske, S.J., Crate, S.A., Crumley, C.L., Galvin, K., Lazrus, H., Lucero, L. Oliver-Smith, A., Orlove, B., Strauss, S., Wilk, R. 2014. INTRODUCTION, <i>Changing the Atmosphere. Anthropology and Climate Change</i>. Final report of the AAA Global Climate Change Task Force, 137 pp. December 2014. Arlington, VA: American Anthropological Association. • Crate, Susan A. (2011) Climate and Culture: Anthropology in the Era of Contemporary Climate Change, <i>Annu. Rev. Anthropol.</i> 40:175–94 • Barnes <i>et al.</i> (2013) Contribution of anthropology to the study of climate change, <i>Nature Climate Change</i> 3, 541–544, doi:10.1038/nclimate1775 • Crate and Nuttall (2016) Introduction IN <i>Anthropology and Climate Change: From Actions to Transformations</i>, Left Coast Press. • Krauss, W. (2015) Anthropology in the Anthropocene: Sustainable Development, Climate Change and Interdisciplinary Research, IN H. Greschke, J. Tischler (eds.), <i>Grounding Global Climate Change</i>, DOI 10.1007/978-94-017-9322-3_4 <p>Optional readings</p> <ul style="list-style-type: none"> • Oldekop <i>et al.</i> (2016) 100 key research questions for the post-2015 development agenda, <i>Development Policy Review</i>, 34 ((1): 55—82 • Rudiak-Gould, Peter, 2011, Climate Change and Anthropology: The Importance of Reception studies, <i>Anthropology Today</i>, Vol. 27, No 2, Page 9-12