Climate and Society
Tuesday 1:30-4pm
MPO conference room
RSM 520
Professors Amy Clement and Jessica Bolson

Course Theme:
Climate is one of the most salient public policy issues across local, regional, national, and international scales today. Assessing and managing the risks posed by climate variability and change, now and in the future, is a major driver of national policy and is an issue of lively public debate. The issue of climate change has provided a backdrop against which new social movements, business strategies and public policies are emerging. By way of framing the problem, this course starts with an examination of the changing relationships between climate and societies through history with a focus on the role that climate science has played. This includes an introduction to climate science, climate variability, climate impact scenarios, and uncertainties/ areas of debate. Through the course we examine the direct and indirect consequences of climate variability and change for society, both now and potentially in the future. These consequences – physical effects, policy responses, economics, risk perceptions, discourses, and debates - will be examined from a number of different disciplinary perspectives. By the end of the course, you will understand both the science and how the science has been used in a number of different contexts.

Goals:
Exposure to basics of climate science
Exposure to social science concepts related to climate
Critical evaluation of the role quantitative climate science in societal responses.

Course Design:
In Class: Student participation will be central to this course. Each week, the class will be divided into two parts. In the first half of the class, there will be a lecture and time for questions. In the second part, one student will present on all of the week's readings and lead a discussion on the issues raised in the readings. The presentations should include critical analyses of the readings and students will be graded on their presentations and participation in discussions.

Assignments: Each week **all** students will turn in a 1-2 page issue note analyzing at least two of the readings from the week with a critical eye and reflecting upon the week's theme and the overall themes of the course. Out of 10 total class topics, you will only be graded on 8 issue notes. This means you will have 2 passes where you don't have to turn in papers for the week so you can select to write on what interests you most.

You will be responsible for uploading your issue notes on blackboard by Monday night (before class) so that other students can read and comment on them. We encourage you to read other students' papers and we will check to see that you are commenting on them from time to time.

In both your issue notes and in your presentations, you should focus on analyzing the readings and how they fit into the general themes of the course. You should include analysis of how

issues including scale, equity, risk, uncertainty, politics, and communication are reflected in the readings. These themes should be used to guide the discussion as well through guided questions.

Final Paper:
You will be required to write a final paper on a topic of your choice. The paper will be presented as an Op-ed article (http://view.fdu.edu/default.aspx?id=4807). (More information to come)

Grading:
Issue notes: 30%
Presentations: 20%
Participation: 20%
Final Paper and Presentation: 30%

Weekly Topics:

Week	Date	Topic	Readings
1	**1/17**	**Topic: Introduction to Climate and Society** • Course Introduction: themes, coursework, expectations, readings, introductions, ***changing class dates?*** **Discussion:** • Guiding questions: o What is the value of scie o Does more knowledge necessarily equal positive outcomes for society? **Lecture:** • What is included in studies of climate and society? • Shift in perspectives of science (JB) • Climate science from a historical perspective (AC) o Climate change o ENSO story	• Chapter 1, *Science, Truth, and Democracy*, by Phillip Kitcher • Glantz, M, and Q. Ye, An essay on the interactions between climate and society, Front. Earth Sci. China 2008, 2(3): 356–363 DOI 10.1007/s11707-008-0045-6
2	**1/24 (AC not here)**	**Topic: ENSO** **Guest Lecture:** Kirtman: ENSO Primer (30 minutes) **Lecture:** Applications of ENSO forecasts (1 hour) (JB) • Vulnerability to events • Impacts from event	• Smith et al., What is the current state of scientific knowledge with regard to seasonal and decadal forecasting?, Environ. Res. Lett. 7 (2012) 015602 (11pp) doi:10.1088/1748-9326/7/1/015602

		• Potential of using ENSO forecasts • Reality of using ENSO forecasts **Student presentation & discussion**	• Broad et al., EFFECTIVE AND EQUITABLE DISSEMINATION OF SEASONAL-TO-INTERANNUAL CLIMATE FORECASTS: POLICY IMPLICATIONS FROM THE PERUVIAN FISHERY DURING EL NIÑO 1997–98, *Climatic Change* 54: 415–438, 2002. • Broad, K. and B. Orlove. 2007. Channeling Globality: The 1997-98 El Niño Climate Event in Peru. *American Ethnologist.* Vol 34 (2). pp. 285-302. • Patt and Gwata, Effective seasonal climate forecast applications: examining constraints for subsistence farmers in Zimbabwe, Global Environmental Change 12 (2002) 185–195

3	**1/31 (AC not here) *move to the 30th, 2nd, or 3rd***	**Decadal Climate Variability**
		
		Lecture:
		Decadal Variability (AC)
		• Mega drought
		• Defining drought/ drought impact (JB)
		• Famine
		  ○ Distribution
		  ○ Equity
		
		Student presentation & discussion
			• Seager website on N. American drought: http://www.ldeo.columbia.edu/res/div/ocp/drought/
			• Smith et al., What is the current state of scientific knowledge with regard to seasonal and decadal forecasting?, Environ. Res. Lett. 7 (2012) 015602 (11pp) doi:10.1088/1748-9326/7/1/015602
			• Nelson and Finan, Praying for Drought: Persistent Vulnerability and the Politics of Patronage in Ceara, Northeast Brazil AMERICAN ANTHROPOLOGIST, Vol.

			111, Issue 3, pp. 302–316, ISSN 0002-7294 online ISSN 1548-1433. • Kallis, G. Droughts, Annu. Rev. Environ. Resour. 2008. 33:85–118
4	**2/7**	**The 'discovery' of climate change** **Lecture:** Climate change 101 (AC) • Climate modeling • Why we disagree about climate change **Student presentation & discussion**	• **IPCC summary for policy makers** (http://ipcc.ch/publications_and_data/ar4/wg1/en/spm.html) • CRED The Psychology of Climate Change Communication • (http://cred.columbia.edu/guide/) • Lindzen, R., WSJ op-ed piece (http://online.wsj.com/article/SB10001424052748703939404574567423917025400.html) • Oreskes, Cosmos Magazine, http://www.cosmosmagazine.com/features/print/4376/merchants-doubt?page=0%2C0
5	**2/14**	**Climate Scenarios, Dangerous Climates** **Lecture:** • Scenarios of climate change & CO2 emissions (AC) • Uncertainties • Models • Stabilization Wedges • Dangerous climate change (JB) • Potential Impacts **Student presentation & discussion**	• Pacala and Socolow, Stabilization Wedges: Solving the Climate Problem for the Next 50 Years with Current Technologies, Science 13 August 2004: Vol. 305 no. 5686 pp. 968-972 DOI: 10.1126/science.1100103 • Daniel Sarewitz; Roger Pielke Jr **Breaking the global-warming gridlock** *The Atlantic Monthly;* Jul 2000; 286, 1; ABI/INFORM Global pg. 54 • Moss et al., The next generation of scenarios for climate change research and assessment, Nature, Vol 463j11 February 2010jdoi:10.1038/nature08823 • AOSIS statement (http://www.unohrlls.org/UserFiles/File/SIDS%20documents

			/AOSIS%20Summit%20Declaration%20Sept%2021%20FINAL.pdf) • Fogel, C. The local, the global and the Kyoto, in Earthly Politics, Local and Global in Environmental Policy. 2004, Eds: Jasanoff and Martello
6	**2/21**	**Climate Change as a Governance Problem** **Lecture:** History of Climate Policy (1 hour) (JB) • UNFCCC • IPCC, Kyoto • COPs • Policy options o Geo-engineering, cap and trade, carbon tax, carbon sequestration • GEF, UN, REDD • Complexity o Politics and process (3 Cs) o Major players o Issues of scale: timing, spatial scales, etc. o North-South issues **Student presentation & discussion**	• Betsill, Michele M;Bulkeley, Harriet, Cities and the Multilevel Governance of Global Climate Change *Global Governance;* Apr-Jun 2006; 12, 2; ProQuest pg. 141 • Esty, Rethinking Global Environmental Governance to Deal with Climate Change: The Multiple Logics of Global Collective Action, American Economic Review: Papers & Proceedings 2008, 98:2, 116–121 • Klein et al., Integrating mitigation and adaptation into climate and development policy: three research questions, Environmental Science & Policy 8 (2005) 579–588 • Fogel, C. The local, the global and the Kyoto, in Earthly Politics, Local and Global in Environmental Policy. 2004, Eds: Jasanoff and Martello • Sunstein, BEYOND THE PRECAUTIONARY PRINCIPLE, UNIVERSITY OF PENNSYLVANIA LAW REVIEW [Vol. 151: 1003: 2003]
7	**2/28 (AC not here**	**Climate risks culture and public perception** **Guest Lecture: Kenny Broad**	• Li, Y., Johnson, E.J., Zaval, L. (2011). Local Warming: Daily Temperature Change Influences Belief in Global

	)	• Climate risk, perception, culture, and society • Climate risk communication • Media and climate change • Decision making under uncertainty **Student presentation & discussion**	Warming. *Psychological Science*, 22(4), 454-459. • Weber, E. U. (2006). Experience-based and description-based perceptions of long-term risk: Why global warming does not scare us (yet). Climatic Change, 70, 103-120. doi: 10.1007/s10584-006-9060-3
8	**3/6**	**Communication of climate change** **Guest Lecture: Gina Maranto** • Journalistic norms • Bias by balance • Pointers on op-eds **Student presentation & discussion**	• Moser, Communicating climate change: history, challenges, process and future directions, WIREs Climate change, Published Online: Dec 22 2009 DOI: 10.1002/wcc.11 • Rick et al, Effective media reporting of sea level rise projections: 1989–2009, Environ. Res. Lett. 6 (2011) 014004 (5pp) • Boykoff, Indian media representations of climate change in a threatened journalistic ecosystem, Climatic Change (2010) 99:17–25 DOI 10.1007/s10584-010-9807-8 • Carvahlo, Media(ted) discourses and climate change: a focus on political subjectivity and (dis)engagement, WIREs Climate Change, Published Online: Feb 09 2010 DOI: 10.1002/wcc.13
	3/13 - spring break	CPASW workshop	
9	**3/20**	Review of main concepts, course themes, methods, and a look at our work. PROJECT PLANNING; MIDTERM	

10	**3/27**	**Economics of climate change** **Lecture:** Basic economic principles and climate change (JB) • Integrating Environmental/ Geographic/ Economic Dimensions of Well-Being • Costs, curves and limits to economic analysis • Optimal economics and the social cost of carbon **Student presentation & discussion**	Hardin, G., Tragedy of the Commons, Science 13 December 1968: Vol. 162 no. 3859 pp. 1243-1248 DOI: 10.1126/science.162.3859.1243 Nordhaus (2007), A Review of the Stern Review on the Economics of Climate Change, Journal of Economic Literature Vol. XLV (September 2007), pp. 686–702 Howarth and Monohan (1996) Economics, ethics, and climate policy: framing the debate, Global and Planetary Change 11(1996) 187- 199 Letson et al. 2011, **THE ECONOMIC VALUE OF HURRICANE FORECASTS: AN OVERVIEW AND RESEARCH NEEDS**
11	**4/3**	**CASE STUDY: Development Energy policy/ Decarbonizing societies** • Solutions reviewed • Cost/benefit • Who pays? • Market mechanisms **Student presentation & discussion**	http://www2.lse.ac.uk/GranthamInstitute/publications/Policy/docs/PPStern-china-industrial-revolution-Nov.pdf http://www.sciencemag.org/content/329/5997/1330.full.pdf http://schraglab.unix.fas.harvard.edu/publications/CV98.pdf http://rsta.royalsocietypublishing.org/content/366/1882/4007.short?rss=1&ssource=mfc
12	**4/10**	**Adapting to climate change** **Guest Lecture: Nancy Gassman (if possible)** • Adaptation and vulnerability • Social barriers and opportunities • Adapting to change in Florida, US, other areas • Adaptation limits and politics Readings: • Obey paper • Florida Climate Action Plan	Local climate actions plans: • http://www.flclimatechange.us/Inventory_Forecast_Report.cfm • http://southeastfloridaclimatecompact.org/ • http://www.miamidade.gov/greenprint/ • http://www.broward.org/NaturalResources/ClimateChange/Documents/FinalCCActionPlan_forBCBCCappdxB.pdf

			Florida climate change projections: • http://my.sfwmd.gov/portal/page/portal/xrepository/sfwmd_repository_pdf/ccireport_publicationversion_14jul11.pdf
13 ***optional or final pres.***	**4/17**	**Student presentation & discussion** Presentations/projects	
14	**4/24**	Presentations/projects **<u>WRAP UP OF COURSE (Jess's questions as guide)</u>**	
	5/5- papers due		

Readings:
There will be 4 or 5 readings assigned per week/ you must read and cover at least 2 in your issue notes. Presenters must read all of the week's readings and present on them all.