Theme: Climate change and human health

Overview: Under the auspices of the newly formed University of Colorado Consortium on Climate Change and Health (UC4Health), we will explore connections between climate change and human health by reading and discussing peer-reviewed literature on this transdisciplinary subject. We will read a selection of recent papers from five categories of climate/health connections listed below. This fall, the Colorado School of Public Health (SPH) is also offering a new Masters of Public Health (MPH) course on the same subject; interactions and collaborative activities between the two classes are planned. Over the course of the semester, we will also hear from leading researchers across the Boulder and Anschutz campuses. We will push ourselves to read, listen and think well outside of our disciplinary comfort zones.

1. Heat related problems (heat wave mortality and dehydration/CKD)
2. Bacterial infections (*Vibrio*)
3. Air quality related problems (PM and ozone)
4. Vector–borne diseases (Malaria)
5. Psychologically driven health consequences (violent crime)

Prerequisites: Permission of instructor. Also open to interested postdocs.

Credit: Graduate: one credit; may be repeated. Undergraduate: up to three credits (as ATOC 4900).

Meetings: Mondays, 2:00–3:00 PM, SEEC N232. No class 9/5, 9/19, 9/26, or 11/21.

Instructor: Prof. Kris Karnauskas, PhD ([kristopher.karnauskas@colorado.edu](mailto:kristopher.karnauskas@colorado.edu))
Office location: SEEC N228A | Office phone: 303–735–4395
Web: [www.colorado.edu/oclab](http://www.colorado.edu/oclab) | Twitter: @OceansClimateCU

Textbook: None. See reading list below.

Grading: 100% of the student grade will be based on effort and active participation.

Guest speakers

<table>
<thead>
<tr>
<th>Date</th>
<th>Speaker</th>
<th>Affiliation</th>
<th>Topic</th>
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<tbody>
<tr>
<td>Oct. 17</td>
<td>Dr. Colleen Reed</td>
<td>CU Boulder</td>
<td>Air quality and wildfires</td>
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<tr>
<td>Oct. 24</td>
<td>Dr. Rosemary Rochford</td>
<td>CU SoM/CO SPH</td>
<td>Malaria</td>
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<td>Oct. 31</td>
<td>Dr. Kathy James</td>
<td>CU SoM/CO SPH</td>
<td>Access to clean drinking water</td>
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<td>Nov. 7</td>
<td>Dr. Elizabeth Carlton</td>
<td>CO SPH</td>
<td>Diarrheal diseases</td>
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<td>Nov. 14</td>
<td>Dr. Balaji Rajagopalan</td>
<td>CU Boulder</td>
<td>Meningitis in West Africa</td>
</tr>
<tr>
<td>Nov. 28</td>
<td>Dr. Richard Johnson</td>
<td>CU SoM</td>
<td>Chronic kidney disease</td>
</tr>
</tbody>
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Reading list

[0b] Human Health: Impacts, Adaptation, and Co-Benefits, IPCC AR5 WG2 Ch. 11 (2014)—Executive Summary and sections 11.1.1, 11.2, 11.3, 11.4.1, 11.4.3, 11.5, 11.6.2, 11.8, 11.10

http://environmentalresearchweb.org/cws/article/news/65523

http://cjASN.asnjournals.org/content/early/2016/05/04/CJN.13841215
http://cires.colorado.edu/news/climate-change%E2%80%99s-likely-role-kidney-disease-epidemics

http://www.pnas.org/content/early/2016/08/02/1609157113

http://www.nature.com/nclimate/journal/v4/n8/full/nclimate2272.html
http://www.climatecentral.org/news/stagnation-air-conditions-on-the-rise-20600

[3b] Particulate air pollution from wildfires in the Western US under climate change, Climatic Change (2016)
http://news.yale.edu/2016/08/15/health-risks-wildfires-us-west-increase-under-climate-change

http://science.sciencemag.org/node/496659.full


Additional papers and resources

Global Climate Change and Human Health: From Science to Practice, Wiley (2015)

Heat Stress Nephropathy From Exercise-Induced Uric Acid Crystalluria: A Perspective on Mesoamerican Nephropathy, American Journal of Kidney Diseases (2016)
http://www.ajkd.org/article/S0272-6386(15)01156-7/abstract
https://www.sciencedaily.com/releases/2015/10/151008142416.htm

http://www.ajkd.org/article/S0272-6386(12)00029-7/fulltext
Climate change, workplace heat exposure, and occupational health and productivity in Central America, *International Journal of Occupational and Environmental Health* (2011)  

http://www.nature.com/nclimate/journal/v6/n7/full/nclimate2987.html  
http://cires.colorado.edu/news/islands-face-drier-future

http://www.nature.com/nature/journal/v432/n7017/full/nature03089.html  
https://www.carbonbrief.org/study-links-heatwave-deaths-london-paris-climate-change

http://www.nature.com/nclimate/journal/v5/n1/full/nclimate2468.html  

http://thelancet.com/journals/lancet/article/PIIS0140-6736(16)00256-7/fulltext  

http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0078263

Spatiotemporal clustering, climate periodicity, and social-ecological risk factors for dengue during an outbreak in Machala, Ecuador, in 2010, *BMC Infectious Diseases* (2014)  
http://bmcinfectdis.biomedcentral.com/articles/10.1186/s12879-014-0610-4

Warming increases the risk of civil war in Africa, *Proceedings of the National Academy of Sciences* (2009)  
http://www.pnas.org/content/106/49/20670.abstract  

http://advances.sciencemag.org/content/2/5/e1501588  
https://www.whoi.edu/news-release/sahel-rainfall
Campus–Wide Policies

Provost’s Disability Task Force Statement: If you qualify for accommodations because of a disability, please submit to your professor a letter from Disability Services in a timely manner (for exam accommodations provide your letter at least one week prior to the exam) so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities. Contact Disability Services at 303–492–8671 or by e–mail at dsinfo@colorado.edu. If you have a temporary medical condition or injury, see Temporary Injuries guidelines under the Quick Links at the Disability Services website and discuss your needs with your professor.

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