

**ENVS-5909-902/CSTP-5909: Improving Environmental Communication and
Adaptation Decision-making in the Humanitarian Sector
Spring 2017**

Instructor:

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Meeting Time:

TBD – The course will meet for two hours every other week (for a total of 8 meetings) in the CSTPR conference room at a time convenient for the instructor and participants.

Course Overview

This course is primarily designed to introduce 2017 RCRCCC interns and other interested students to the mission and goals of the Red Cross Red Crescent Climate Center (RCRCCC) and provide them with background knowledge of themes relevant to climate change, decision-making, and humanitarian work. We will briefly cover the structure and mission of the Red Cross Red Crescent movement, problem-oriented research and policy analysis, the use of weather and climate forecasts for development and humanitarian contexts, and one or two additional subject matters (such as games for humanitarian action, or forecast-based financing) relevant to the intern(s)'s final placement.

The goal of this course is to prepare interns with background on the work of the International Federation of the Red Cross Red Crescent (IFRC) and the RCRCCC so that they can contribute positively during their time in the field. It should also provide the foundation for creative and critical thinking about the relationship between science and humanitarian action and the issues you will encounter in the field.

Required Texts & Materials

All materials are available online through the CU Boulder library. They will also be provided via a practicum Drop Box folder.

Course Format & Grading

The course will consist of small group discussion of each week's readings and two critical write-ups (up to 1000 words) due at the mid-way point and at the end of the semester. Student preparation for the discussions is essential to fruitful discussion. Please come having read all of the mandatory material. The final grade will be based 50% on preparation and discussion and 50% on the critical write-ups. of the and your grade will be based on your preparation for the sessions.

Course Themes and Readings

Week 1: Getting Familiar with the IFRC – Late January Date TBD

Please come to this first meeting having reviewed the following background material on the RCRC and IFRC. This will be a time for you to ask questions about the RC movement, structures, mission etc.

Readings:

IFRC Website: www.ifrc.org

In particular, please take note of the following:

- History: http://www.ifrc.org/who/history.asp?navid=03_09
- Mission: http://www.ifrc.org/who/index.asp?navid=03_01
- Policies (particularly on disaster preparedness and response):
http://www.ifrc.org/who/policy/index.asp?navid=03_11
- Structure: <http://www.ifrc.org/Docs/pubs/who/secretariat/secretariat-structure.pdf>
- http://www.ifrc.org/who/society.asp?navid=03_07
- http://www.ifrc.org/who/movement.asp?navid=03_08
- http://www.ifrc.org/Docs/pubs/who/at_a_glance-en.pdf
- 7 Fundamental Principles: <http://www.ifrc.org/what/values/principles/index.asp>
- Code of Conduct: <http://www.ifrc.org/publicat/conduct/code.asp>

The Geneva Conventions:

<http://www.icrc.org/Web/eng/siteeng0.nsf/htmlall/genevaconventions>

IFRC Publications on Disaster Management (read through according to interest and keep as a reference. Priority items include docs on: Vulnerability and Capacity Assessments (VCA), Early Warning/Early Action, Contingency Planning, and Risk Reduction):

<http://www.ifrc.org/what/disasters/resources/publications.asp>

Week 2: The RC & Climate Change – Early Feb. Date TBD

Web resources:

The Red Cross/Red Crescent Climate Centre Website:

<http://www.climatecentre.org/site/home>

The RC/RC Climate Centre's Climate Guide:

http://www.climatecentre.org/downloads/File/reports/RCRC_climateguide.pdf

(**Note:** You may also look at the individual chapters of the Climate Guide, which you can find in Dropbox.)

The IRI-IFRC Partnership:

<http://www.preventionweb.net/english/professional/news/v.php?id=1204>

World Climate Conference-3 Geneva, Intern Findings:

http://www.climatecentre.org/downloads/File/reports/ifrc_pathforward_aug.pdf

Braman, L. et al. (2010) *Climate change adaptation: integrating climate science into humanitarian work*. International Review of the Red Cross. 92:879 693-712.

IFRC (2009) *World Disaster Report: Focus on Early Warning, Early Action*. IFRC, Geneva Switzerland.

IFRC (2013) *Community Early Systems: Guiding Principles*. IFRC, Geneva Switzerland.

IFRC (2011) *Key Determinants of a Successful CBDRR Programme: Community Based Disaster Risk Reduction Study*. IFRC, Geneva Switzerland.

Week 3: Problem Oriented Research & Policy Analysis - Late Feb. Date TBD

In today's session we will practice thinking about policy issues in terms of the 5 elements of the Problem Orientation Framework of the Policy Sciences.

The Problem Orientation:

The Policy Process Chapters 5 (Problem Orientation: Focusing on Problems to Find Solutions) & 6 (Policy-Oriented Professionalism) (p 85-126).

Science as a means of understanding elements of the policy problems:

Pielke Jr., R.A. (2007) *The Honest Broker: Making Sense of Science in Policy and Politics*, Cambridge University Press: Cambridge, UK, Chapters 3, 4 (22-53) & 7 (97-117).

Sarewitz, Dan and Roger A. Pielke Jr. 2007. The neglected heart of science policy: reconciling supply of and demand for science. *Environmental Science and Policy* 10: 5-16.

Week 4: Forecasts, Science, & Decision-making - Early March Date TBD

The IRI provides climate information resources for the IFRC at the global and regional scales. These are mostly seasonal forecasts, but also include other data and information. Browse through just to be familiar with what they look like, what information is

available, etc.

IRI Website: <http://portal.iri.columbia.edu/portal/server.pt>

IRI's Net Assessment Forecasts:

<http://portal.iri.columbia.edu/portal/server.pt?open=512&objID=944&PageID=7613&cached=true&mode=2&userID=2>

The Federation Map Room: <http://iridl.ldeo.columbia.edu/maproom/.IFRC/>

Braman, L., Aalst, M., Mason, S., Suarez, P., Ait-Chellouche, Y., & Tall, A. (2013). Climate forecasts in disaster management: Red Cross flood operations in West Africa, 2008. *Disasters*, 37(1), 144–164.

Brasseur, G. P. and Gallardo, L. (2016), Climate services: Lessons learned and future prospects. *Earth's Future*, 4: 79–89. doi:10.1002/2015EF000338

Tall, A., Mason, S. J., van Aalst, M. K., Suarez, P., Ait-Chellouche, Y., Diallo, A. A., & Braman, L. (2012). Using Seasonal Climate Forecasts to Guide Disaster Management: The Red Cross Experience during the 2008 West Africa Floods. *International Journal of Geophysics*, 2012(2), 1–12. [http://doi.org/10.1016/S0308-521X\(02\)00044-6](http://doi.org/10.1016/S0308-521X(02)00044-6)

Dilling, L. and M. Lemos (2011). Creating Usable Science: Opportunities and Constraints for Climate Knowledge Use and Their Implications for Science Policy. *Global Environmental Change*. 21(2011): 680-689.

Morss, R.E., O.V. Wilhelmi, M.W. Downton, and E. Gruntfest (2005) Flood Risk, Uncertainty, and Scientific Information for Decision Making: Lessons from an Interdisciplinary Project. *Bulletin of the American Meteorological Society* 86: 1593–1601.

Pulwarty and Sivakumar (2014) Information systems in a changing climate: early warning and drought risk management. *Weather and Climate Extremes*. 3: 14-21.

Lemos, M., & Rood, R. (2010). Climate projections and their impact on policy and practice. *Wiley Interdisciplinary Reviews: Climate Change*, 1(5), 670–682.

De Perez, E., van den Hurk, B., van Aalst, M., Amuron, I., Bamanya, D., Hauser, T., ... Zsoter, E. (2016). Action-based flood forecasting for triggering humanitarian action. *Hydrology and Earth System Sciences Discussions*, 1–22. doi:10.5194/hess-2016-163

Optional:

Suarez and Tall (2010) Toward Forecast Based Humanitarian Decisions: Climate Science

to Get from Early Warning to Early Action. From the proceedings of Humanitarian Futures Program Meeting, King's College London, 30 March 2010.

Braman, L., Suarez, P., & Aalst, M. (2010). Climate change adaptation: integrating climate science into humanitarian work. *International Review of the Red Cross*, 92(879), 693–712. cambridge.

Week 5: Climate Change, Vulnerability, & Disasters - Late March Date TBD

Required:

Brugnach, M., Craps, M., & Dewulf, A. (2014). Including indigenous peoples in climate change mitigation: addressing issues of scale, knowledge and power. *Climatic Change*. <http://doi.org/10.1007/s10584-014-1280-3>

O'Brien et al. (2006) *Climate Change and Disaster Management*. *Disasters* 30(1): 64-80.

Miller et al. (2011) *Resilience and Vulnerability: Complementary or Conflicting Concepts?* *Ecology and Society* 15(3): 11.

van Aalst, Maarten. (2006) *The Impact of Climate Change on Natural Disasters*. *Disasters* 30(1): 5-18.

Smit, B. and J. Wandel (2006). *Adaptation, Adaptive Capacity, and Vulnerability*. *Global Environmental Change* 16 (2006): 282-292.

Ribot, Jesse (2009). *Vulnerability Does Not Fall From the Sky: Toward Multi-scale Pro-poor Climate Policy*. In Robin Mearns and Andrew Norton (eds.), *Social Dimensions of Climate Change: Equity and Vulnerability in a Warming World*. Washington, D.C.: The World Bank.

Preston, et al. (2011) *Putting Vulnerability to Climate Change on the Map: A Review of Approaches, Benefits, and Risks*. *Sustainability Science* 6(2011): 177-202.

Schipper, Lisa (2009) *Meeting at the Crossroads?: Exploring the Linkages Between Climate Change Adaptation and Disaster Risk Reduction*. *Climate and Development* 1(2009): 16-30.

Carr and Osuwu-Daaku (2015) *The shifting epistemologies of vulnerability in climate services for development: The case of Mali's agrometeorological advisory programme*. *Area*. DOI: 10.1111/area.12179

Toole, Klocker, and Head (2015) *Rethinking climate change adaptation and capacities at the household scale*. Climatic Change. DOI 10.1007/s10584-015-1577-x

Optional:

IPCC (2012) *Summary for Policymakers, Chapter 1, and Chapter 2*. In Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, UK, and New York, NY, USA, pp. 3-21.

(It's worth skimming the full Special Report when you have time. There are useful executive summaries at the beginning of each chapter to help you decide which sections might be most relevant to your projects.)

Week 6: Communication and Application of Climate Science - Early April Date TBD

Required:

Goddard, L. et al. (2010). *Providing Seasonal to Interannual Climate Information for Risk Management and Decision-making*. Procedia Environmental Sciences 1(2010): 81-101.

Pfaff et al. (1999) *Who Benefits from Climate Forecasts?* Nature 397:645-6.

Patt, A. et al. (2007) *Learning from 10 Years of Climate Outlook Forums in Africa*. Science. 318:

Cash et al. (2006). *Countering the Loading Dock Approach to Linking Science and Decision Making: Comparative Analysis of El Niño/Southern Oscillation (ENSO) Forecasting Systems*. Science, Technology, and Human Values. 31(4): 465-494.

Patt and Gwata (2002) *Effective seasonal climate forecast applications: examining constraints for subsistence farmers in Zimbabwe*. Global Environmental Change 12(2002): 185-195.

Lemos, M.C., Kirchoff, C, and Ramprasad, V. (2012) *Narrowing the climate information usability gap*. Nature Climate Change. 2(11): 789-794.

Lemos, M. and Lisa Dilling (2007) *Equity in Climate Forecasting: Can Science Save the World's Poor?* Science and Public Policy 34(2): 109-116.

Vogel, C. and K. O'Brien (2006) *Who Can Eat Information? Examining the effectiveness of seasonal climate forecasts and regional climate-risk management strategies*. Climate Research 33:111-122.

Carr, E., Abrahams, D., Tozier de la Poterie, A., Suarez, P., & Koelle, B. (2015).

Vulnerability assessments, identity and spatial scale challenges in disaster-risk reduction. *Jàmbá: Journal of Disaster Risk Studies*, 7(1), 1–17. *Jàmbá: Journal of Disaster Risk Studies*

Optional:

Desai et al. (2009). *Climate Prediction: A Limit to Adaptation?* In *Adapting to Climate Change: Thresholds, Values, Governance*, eds. W. Neil Adger, Irene Lorenzoni and Karen L. O'Brien. Cambridge, Cambridge University Press. P 64–78.

Tarhule, A. and P. Lamb (2003) Climate Research and Seasonal Forecasting for West Africans: Perceptions, Dissemination, and Use? *Bulletin of the American Meteorological Society* (December) pp. 1741-1759.

Hegger, D., Lamers, M., Van Zeijl-Rozema, A., & Dieperink, C. (2012). Conceptualising joint knowledge production in regional climate change adaptation projects: success conditions and levers for action. *Environmental Science and Policy*, 18, 52–65.
<http://doi.org/10.1016/j.envsci.2012.01.002>

Weeks 7 & 8: Optional Themes Relevant to Intern Placement **Late April & Early May**
Dates TBD

These themes and associated readings may be relevant depending on the interns' final placements. The instructor will work with participants to select from these or other topics.

Participatory Methods & Vulnerability and Capacity Assessments:

- [The Art and Science of VCA: https://www.youtube.com/watch?v=Fv5vE2vxYwY](https://www.youtube.com/watch?v=Fv5vE2vxYwY)
- [ABC of VCA: https://www.youtube.com/watch?v=wS719VN-HfU&list=PL8CD23028A59D4074&index=12](https://www.youtube.com/watch?v=wS719VN-HfU&list=PL8CD23028A59D4074&index=12)
- [How to do a VCA \(In Dropbox \(DB\)\)](#)
- [VCA Tool Box \(In DB\)](#)
- [What is a VCA \(in DB\)](#)

van Aalst, Maarten. (2008) *Community Level Adaptation to Climate Change: The Potential Role of Participatory Community Risk Assessment*. *Global Environmental Change* 18: 165–179.

Roncoli, Carla (2006). *Ethnographic and participatory approaches to research on farmers' responses to climate predictions*. *Climate Research* 33: 81-99.

Peterson, N., Broad, K., Orlove, B.S., Roncoli, C., Taddei, R., Velez, M.A. (2009).

Participatory processes and climate forecast use: sociocultural context, discussion, and consensus. *Climate and Development* 2(2010): 14-29.

Pelling, Mark. (2007) *Learning from Others: The Scope and Challenges for Participatory Risk Assessment.* *Disasters* 31(4) 373-385.

Forecast-based Financing:

Coughlan de Perez, E., van den Hurk, B., van Aalst, M. K., Jongman, B., Klose, T., & Suarez, P. (2014). Forecast-based financing: an approach for catalyzing humanitarian action based on extreme weather and climate forecasts. *Natural Hazards and Earth System Sciences Discussions*, 2(5), 3193–3218. doi:10.5194/nhessd-2-3193-2014

de Perez, E. C., Monasso, F., van Aalst, M. K., & Suarez, P. (2014a). Science to prevent disasters. *Nature Publishing Group*, 7(2), 78–79. doi:10.1038/ngeo2081

de Perez, E. C., van Aalst, M. K., van den Hurk, B., & Suarez, P. (2014b). Forecast-based disaster risk management: A financial mechanism for climate-informed humanitarian action. Presentation of Red Cross Red Crescent Climate Center, The Netherlands.

Available at:

<https://www.wmo.int/pages/prog/arep/wwrp/new/wwosc/documents/CoughlanMonday2.pdf>

Red Cross/Red Crescent Climate Centre (2015) 'Humanitarian History' Made as Uganda Red Cross Launches Forecast-based Financing for Real.

<http://www.climatecentre.org/news/657/a-humanitarian-history-a-made-as-uganda-red-cross-launches-forecast-based-financing-for-real>, accessed 3 March 2016.

Climate Services:

Brasseur, G., & Gallardo, L. (2016). Climate Services: Lessons Learned and Future Prospects. *Earth's Future*, n/a–n/a. doi:10.1002/2015ef000338

Hewitt, C., Mason, S., and Walland, D. (2012) *The Global Framework for Climate Services.* *Nature Climate Change*. 2: 831-832.

Dinku et al. (2014) *Bridging Critical Gaps in Climate Services and Applications in Africa.* *Earth Perspectives*. 1:15.

Climate Service Ethics:

Vaughan, C., & Dessai, S. (2014). Climate services for society: Origins, institutional arrangements, and design elements for an evaluation framework. *Wiley Interdisciplinary Reviews: Climate Change*, 5(5), 587-603. doi:10.1002/wcc.290

Adams, P., Eitland, E., Hewitson, B., Vaughan, C., Wilby, R., & Zebiak, S. (2015). Toward an ethical framework for climate services: A white paper of the climate services partnership working group on climate services ethics. Climate Services Partnership

Lourenço, T. C., Swart, R., Goosen, H., & Street, R. (2015). The rise of demand-driven climate services. *Nature Climate Change*, 6(1), 13–14.
<http://doi.org/10.1038/nclimate2836>

Tozier de la Poterie & Daly (2016). Forthcoming Book Chapter.

Webber, S. & Donner, S. (2016) Climate service warnings: Cautions about commercializing climate science for adaptation in the developing world. *WIREs Climate Change*. doi: 10.1002/wcc.424.

Wilby, R. (2016). Climate service sector needs robust standards. *SciDevNet*. Retrieved from <http://www.scidev.net/global/climate-change/opinion/climate-service-sector-standards.html>

Indigenous Climate Knowledge:

Green, D. & Raygorodetsky, G. (2010). Indigenous knowledge of a changing climate. *Climatic Change*, 100(2010), 239-242.

Co-production of Science and Climate Information:

Lemos, M.C. & Morehouse, B. J. (2005) Co-production of science and policy in integrated climate assessments. *Global Environmental Change*, 15: 57-68.

Meadow, A. M., Ferguson, D. B., Guido, Z., Horangic, A., Owen, G., & Wall, T. (2015). Moving toward the Deliberate Coproduction of Climate Science Knowledge. *Weather, Climate, and Society*, 7(2), 179–191. <http://doi.org/10.1175/WCAS-D-14-00050.1>

Steynor, A., Padgham, J., Jack, C., Hewitson, B., & Lennard, C. (2016) Co-exploratory climate risk workshops: Experiences from urban Africa. *Climate Risk Management*, 13(2016), 95-102.

Region/Country Specific Preparation:

Once your placement has been determined you may consider the following to prepare you:

- Review the website of the RC/RC office hosting you.

- Read previous internship reports from interns that were in your country/region (available upon request from Erin).
- Review strategic plans for the region/country.
- Research and ask your advisors for location-specific information on: culture, politics, safety, the weather and climate information providers in the area, how the RC works in your region, what areas of work the Zone/Region/National Society you will work with is responsible for, what other agencies they currently partner with, what types of forecasts they use and the extent to which they use them.