Justin Staller Mankin

Contact information

Ocean & Climate Physics
Lamont-Doherty Earth Observatory
61 Route 9W, P.O. Box 1000
Palisades, NY 10964

Email: jsmankin@ldeo.columbia.edu
Website: jsmankin.github.io
Phone: (845) 365-8373

Center for Climate Systems Research
NASA Goddard Institute for Space Studies
2880 Broadway
New York, NY 10025 USA

Email: justin.mankin@nasa.gov
Phone: (212) 678-5549

Research

Climate change, variability, impacts and uncertainty; hydroclimate; human and natural systems vulnerability and response to climate variability and change

Current position

Postdoctoral Research Fellow, The Earth Institute of Columbia University, jointly appointed between Lamont-Doherty Earth Observatory & NASA Goddard Institute for Space Studies

Education

Ph.D., Environment & Resources (E-IPER), 2015
Stanford University, School of Earth, Energy, & Environmental Sciences, Stanford, California USA

M.P.A., Environmental Science & Policy, 2010
Columbia University, The Earth Institute & SIPA, New York, New York USA

M.Sc., Global Politics & Development Studies, 2008
The London School of Economics (LSE), London, England UK

B.A., Political Science, 2004
Columbia University, New York, New York USA

Academic certifications

National Centre of Competence in Research, Climate (NCCR), Grindewald, Switzerland
NCCR Swiss Climate Research Summer School **Summer 2013**

National Center for Atmospheric Research (NCAR), Boulder, CO, USA
Community Earth System Model (CESM) Workshop **Summer 2012**

Academic appointments

Columbia University, New York, New York USA
Postdoctoral Research Scientist, The Earth Institute: Lamont-Doherty Earth Observatory & Center for Climate Systems Research, NASA GISS **Fall 2015-2017**

Stanford University, Stanford, California USA
Teaching Assistant, EARTHSYS 41N, The Global Warming Paradox **Fall 2013**
Teaching Consultant, BIO/EARTHSYS 147/247, Controlling Climate Change **Spring 2012**

Columbia University, New York, New York, USA
Research Assistant, The Earth Institute Water Center **Winter 2010**

Grants and fellowships

Earth Institute Cross-Cutting Initiative, Assessing farmer vulnerability in India to increasing risks from climate extremes, with D. Singh, R. DeFries, M. Ting, 2016 ($23,000).

Earth Institute Postdoctoral Fellowship, Lamont-Doherty Earth Observatory & The Center for Climate Systems Research, 2015-2017.

Northeast Climate Science Center Fellowship, The Center for Climate Systems Research & University of Massachusetts, Amherst, 2015-2017.

Geography Postdoctoral Fellowship, Dartmouth College, 2015-2017. (*declined*)

Predoctoral Science Fellowship, Center for International Security and Cooperation (CISAC), Stanford University, tuition and stipend, 2014-2015.

Stanford Center on International Conflict and Negotiation (SCICN) Fellowship, Stanford Law School, 2012-2013.

Rising Environmental Leadership Program (RELP), Woods Institute for the Environment, Stanford University, 2012-2013.

E-IPER Graduate Summer Research Grant, 2012.

McGee Grant, Stanford University, School of Earth Sciences, 2011.

Margaret Jonsson Family Foundation Fellowship, School of Earth Sciences, Stanford University, tuition and stipend, 2010-2014.

Environmental Science Academic Fellowship, Columbia University, 2010.

Academic honors and awards

IOP Select Article, "The potential for snow to supply human water demand in the present and future", ERL, 2015.

Andrew Wellington Cordier Essay Winner, Columbia University, 2009.

Distinction, M.S. Thesis, LSE, 2008.

Publications

Peer-reviewed articles

Mankin, J. S., D. Viviroli, D. Singh, A. Y. Hoekstra, and N. S. Diffenbaugh, The potential for snow to supply human water demand in the present and future, *Environmental Research Letters*, 2015, DOI 10.1088/1748-9326/10/11/114016.

Mankin, J. S., N. S. Diffenbaugh, Influence of temperature and precipitation variability on near-term snow trends, *Climate Dynamics*, **45** 1099-1116, (2015), DOI 10.1007/s00382-014-2357-4.

Siegfried, T., T. Bernauer, R. Guiennet, S. Sellars, A. W. Robertson, **J. S. Mankin**, P. Bauer-Gottwein, Will Climate Change Exacerbate or Mitigate Water Stress in Central Asia?, *Climatic Change*, **112** (3-4), 881 (2011), DOI 10.1007/s10584-011-0253-z.

Mankin, J. S., Gaming the system: how Afghan opium underpins local power, *Journal of International Affairs*, **63** (1), 195 (2009).

Peer-reviewed book chapters

Moore, F., **J. S. Mankin**, A. H. Becker, Disciplines: Integrating Climate and Social Sciences, Chapter 4 in *Climate Cultures: Anthropological Perspectives on Climate Change*. Jessica Barnes and Michael Dove (eds). New Haven: Yale University Press, 2015.

Manuscripts submitted or in revision

Mankin, J. S., D. Viviroli, M. M. Mekonnen, A. Y. Hoekstra, and N. S. Diffenbaugh, Irreducible

hydroclimatic variability and population exposure to future water deficits, *in revision*.

Schultz, K., **J. S. Mankin**, Sources of uncertainty in forecasting the climate-conflict relationship, *under review*.

Singh, D, D. L. Swain, **J. S. Mankin**, D. E. Horton, L. Thomas, N. S. Diffenbaugh, Historical trends in the North American winter temperature dipole: Atmospheric mechanisms and response to anthropogenic forcing, *submitted*.

Manuscripts in preparation

Mankin, J. S., J. Smerdon, B. Cook, P. Williams, R. Seager, Soil moisture versus Palmer Drought Severity Index: the implications of drought measures for drought occurrence *in prep*.

Coats, S., **J. S. Mankin**, Variability in drought occurrence in the American Southwest *in prep*.

Diffenbaugh, N. S., S. Singh, B. Rajaratnam, A. Charland, M. Haugen, D. E. Horton, **J. S. Mankin**, D. L. Swain, D. E. Touma, M. Tsiang, Quantifying the influence of observed global warming on the probability of unprecedented extreme climate events, *in prep*.

Horton, D. E., **Mankin, J.S.**, Singh, D., Swain, D. L., Johnson, N. C., Diffenbaugh, N. S., Probability of Atmospheric Circulation Pattern Occurrence in Pre-Industrial, Historical, and Future Climates, *in prep*.

Swain, D. L., D. Singh, **J.S. Mankin**, D. E. Horton, L. Thomas, N. S. Diffenbaugh, Physical mechanisms of the North American winter dipole, *in prep*.

Mankin, J. S., M. Tsiang, B. Rajaratnam, and N. S. Diffenbaugh, A model of Afghan poppy farmer decision-making, *in prep*.

Other publications

Mankin, J. S., Rotten to the core, *Foreign Policy*, (2011).

Mankin, J. S., Preventive semantics, *Foreign Policy*, 146 (2005).

Presentations

22. Horton, D. E., **Mankin, J.S.**, Singh, D., Swain, D. L., Johnson, N. C., Diffenbaugh, N. S., Probability of Atmospheric Circulation Pattern Occurrence in Pre-Industrial, Historical, and Future Climates, American Geophysical Union Annual Meeting, San Francisco, CA, USA, 18 December, 2015 (*poster*).

21. Diffenbaugh, N. S., Horton, D. E., Singh, D., Swain, D. L., Touma, D. E., **Mankin, J. S.**, Using Atmospheric Circulation Patterns to Detect and Attribute Changes in the Risk of Extreme Climate Events, American Geophysical Union Annual Meeting, San Francisco, CA, USA, 15 December, 2015 (*talk*).

20. **Mankin, J. S.**, Climate certainty, uncertainty and human water availability in a warming world, Stanford University, Stanford, CA, USA, 12 June 2015.

19. Diffenbaugh, N. S., **J. S. Mankin**, D. Singh, D. Swain, Earth Matters Panel Series, "A Matter of Degrees", School of Continuing Education, Stanford University, Stanford, CA, USA, 24 February 2015 (*Invited talk*).

18. **Mankin, J. S.**, Near-term hydroclimatic change, climate uncertainty, and adaptation decision-making, Ocean & Climate Physics Seminar, Lamont-Doherty Earth Observatory, Palisades, NY

(*Invited talk*).

17. **Mankin, J. S.**, Crossing the isotherm: climate uncertainty, snow, and water security in a warming world. Center for International Security and Cooperation (CISAC), Freeman Spogli Institute (FSI), Stanford, CA, USA, 15 January 2015 (*Invited talk*).

16. **Mankin, J. S.**, D. Viviroli, M. M. Mekonnen, A. Y. Hoekstra, and N. S. Diffenbaugh, Quantifying the crucial role of snow in supplying human water demand. American Geophysical Union Annual Meeting, San Francisco, CA, USA, 15 December 2014 (*talk*).

15. **Mankin, J. S.** and N. S. Diffenbaugh, Internal variability's influence on future Northern Hemisphere snow accumulation. American Geophysical Union Annual Meeting, San Francisco, CA, USA, 10 December 2013 (*Poster*).

14. **Mankin, J. S.** and N. S. Diffenbaugh, Climate controls on future Northern Hemisphere snow-dependent water availability. National Centre of Competence in Research Climate (NCCR), Grindewald, Switzerland, 5 September 2013 (*Poster*).

13. **Mankin, J. S.**, Does climate cause conflict? Stanford Center on International Conflict and Negotiation (SCICN), Stanford, CA, 28 May 2013 (*Invited talk*).

12. **Mankin, J. S.**, M. Scherer, and N. S. Diffenbaugh, Diagnosing the inter-model spread in snow water equivalent over Central and Southwest Asia. Stanford School of Earth Sciences Review, CA, USA, 12 April 2013 (*Talk, Poster*).

11. **Mankin, J. S.**, M. Scherer, and N. S. Diffenbaugh, Diagnosing the inter-model spread in snow water equivalent over Central and Southwest Asia. Berkeley Atmospheric Science Symposium, Berkeley, CA, USA, 8 February 2013 (*Poster*).

10. **Mankin, J. S.**, M. Scherer, and N. S. Diffenbaugh, Diagnosing the inter-model spread in snow water equivalent over Central and Southwest Asia. American Geophysical Union Annual Meeting, San Francisco, CA, USA 3-7 December 2012 (*Poster*).

9. **Mankin, J. S.** and N. S Diffenbaugh, From climate to violence: A potential mechanism in climate-conflict interactions in Afghanistan, Knowledge transfer program (KTP), University of Reading, Reading, UK, May 4, 2012 (*Invited talk*).

8. **Mankin, J. S.** and N. S Diffenbaugh, From planting to violence: socioclimatic exposure of an Afghan poppy farm, Policy & Economic Research Roundtable (PERR), Stanford University, January 27, 2012, Stanford, CA, USA (*Invited talk*).

7. **Mankin, J. S.**, Climate change and security: making the connections, National Conference on Science, Policy and the Environment (NCSE): Environment and Security, January 18-20, Washington, DC, 2012 (*Invited talk*).

6. **Mankin, J. S.**, Security and the Environment: the case of Afghanistan, Center for International Security and Cooperation (CISAC), Hewlett Foundation, CA, USA, January 17, 2012 (*Invited panelist*).

5. **Mankin, J. S.** and N. S. Diffenbaugh, Socioclimatic exposure of an Afghan poppy farm, American Geophysical Union Annual Meeting, San Francisco, CA, USA, 3-7 December 2011 (*Poster*).

4. **Mankin, J. S.** and N.S. Diffenbaugh, Climate signals in Afghan agricultural decision-making MIT Graduate Climate Conference, Woods Hole, MA, USA, 28-30 October 2011 (*Abstract selected,*

poster)

3. **Mankin, J. S.**, Soundly addressing corruption under the aegis of the NATO mission in Afghanistan, NATO ISAF HQ CJIATF-Shafafiyat, Kabul, Afghanistan, 30 January 2011 (*Invited talk*).

2. T. Siegfried, T. Bernauer, R. Guiennet, S. Sellars, A. W. Robertson, **J. S. Mankin**, P. Bauer-Gottwein, Will Climate Change Exacerbate or Mitigate Water Stress in Central Asia? American Geophysical Union Annual Meeting, 13-17 December, 2010, San Francisco, CA, USA (*Poster*).

1. T. Siegfried, T. Bernauer, R. Guiennet, S. Sellars, A. W. Robertson, **J. S. Mankin**, P. Bauer-Gottwein, Coping With International Water Conflict in Central Asia: Implications of Climate Change and Melting Ice in the Syr Darya Catchment, Climate Change and Security, The Royal Norwegian Society of Sciences and Letters. June 21, 2010, Trondheim, Norway (*Talk*).

Other professional experience

NATO, International Security Assistance Force (ISAF), Kabul, Afghanistan
Senior Anti-Corruption Advisor **Winter 2011**

United States Government, Washington, District of Columbia, USA
Intelligence Officer **2004-2008**

Skills, certifications, & miscellany

Technical: Unix/Linux shell, NCL, R, Python, Matlab, ArcGIS, ENVI, LaTeX
Professional societies: Member, American Geophysical Union (AGU), 2010-present, American Meteorological Society (AMS), 2012-present
Journal referee: Geophysical Research Letters, Journal of Geophysical Research, Earth-Science Reviews, Sustainability, Asian Perspective, African Journal of Environmental Science and Technology
Clearance: Top Secret/Sensitive Compartmented Information (TS/SCI) clearance, granted 2004. NATO Secret as of 2011

Scientific communication & outreach

Media interviews and coverage of research (truncated): NY Times, Nature, BBC World News, National Geographic, The Weather Channel, FSRN, WAMC NPR, LA Times, The Christian Science Monitor, Phys.org, CarbonBrief, environmentalresearchnews, Hurriyet, Radio Ecoshock, Salon, China Radio International, SciDev

Last updated: *January 2016*