

SHAUNA B. BURNSILVER

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EDUCATION

Colorado State University, Fort Collins, CO	Human Ecology	Ph.D.	2007
Colorado State University, Fort Collins, CO	Resource Interpretation	M.S.	1997
Scripps College, Claremont CA	International Relations	B.A.	1987

ACADEMIC APPOINTMENTS

Assistant Professor, 2011- present
School of Human Evolution and Social Change, Arizona State University
Affiliations: Senior Sustainability Scientist, Global Institute of Sustainability

Postdoctoral Research Scientist, 2008-2011
School of Natural Resources and Agricultural Sciences, University of Alaska Fairbanks

ACADEMIC DISTINCTIONS

- 2012 Nominated for Zebulon Teaching Award, ASU.
- 2012 Recipient of Ecological Society of America Sustainability Science Award. Annual Award goes to a scholarly work making the greatest contribution to the emerging science of ecosystem and regional sustainability through the integration of ecological and social sciences. Awarded to team of collaborators on the Reid et. al. (2009) PNAS Paper.
- 2011 “Sharing Project” team receives the 2011 Department of the Interior’s, “Partners in Conservation Award”, awarded annually in Washington DC.
- 2008 Selected competitively as scholar for the Dissertations Initiative for the Advancement of Climate Change Research (DISCCRS IV). A National Science Foundation funded initiative. Saguaro Lake Ranch, AZ. September 2008.
- 2007 Recipient of the Lourdes Arizpe Award (Student Category). For outstanding achievement in the application of anthropology to environmental issues and discourse in international or domestic arenas across all ecological and policy applications. Award presented biennially through the Anthropology and Environment Section of the American Anthropological Association.

ACTIVE RESEARCH GRANTS

- PI. S. BurnSilver University of Alaska Fairbanks. NSF-Arctic Social Sciences: *Modeling harvesting behavior to understand adaptation, mitigation, and transformation in northern subsistence systems.*
- CO-PI. S. BurnSilver *Hydrology, Ecology and Pastoralism* NSF-CNH project., Mali, West Africa.
- PI. S. BurnSilver. *The Study of Sharing Networks in Alaska.* University of Alaska Fairbanks. Dept. of the Interior, Bureau of Ocean, Energy and Management.

PUBLICATIONS

Peer Reviewed Journal Articles:

- Reinette Biggs, Maja Schlüter, Duan Biggs, Erin L. Bohensky, **Shauna BurnSilver**, Georgina Cundill, Vasilis Dakos, Tim M. Daw, Louisa S. Evans, Karen Kotschy, Anne Leitch, Chanda Meek, Allyson Quinlan, Ciara Raudsepp-Hearne, Martin D. Robards, Michael L. Schoon, Lisen Schultz, Paul C. West (2011). *Toward Principles for Enhancing the Resilience of Ecosystem Services.* *Annual Review of Environment and Resources.* 37:421-448.

- Boone, R. B., K. A. Galvin, **S. B. BurnSilver**, P. K. Thornton, D. S. Ojima, and J.R. Jawson (2011). Using coupled simulation models to link pastoral decision making and ecosystem services. *Ecology and Society*, 16(2), 6.
- Kofinas G.P., **S.B. BurnSilver**, F.S. Chapin III, K. Kielland, J. Schmidt and A. Springsteen (2010) Resilience in the face of Climate Change: Forests, Fire, Moose Hunting, and Subsistence in Interior Alaska. *Canadian Journal of Forest Research*.
- Reid, R.S., D. Nkadienye, M. Y. Said, D. Kaelo, M. Neselle, O. Makui, L. Onetu, S. Kiruswa, N. Ole Kamuaro, P. Kristjanson, J. Ogutu, **S.B. BurnSilver**, M. J. Goldman, R. B. Boone, K. A. Galvin, N. M. Dickson, and W. C. Clark (2009). Knowledge Systems for Sustainable Development Special Feature Sackler Colloquium Evolution of models to support communities and policy action with science: Balancing pastoral livelihoods and wildlife conservation in Camsavannas of East Africa. Proceedings of the National Academy of Sciences (PNAS). November 3. www.pnas.org/cgi/doi/10.1073/pnas.0900313106
- Boone, R. B., **S. B. BurnSilver**, J. S. Worden, K. A. Galvin, and N.T. Hobbs (2008). Large-Scale Movements of Large Herbivores Livestock following changes in seasonal forage supply. *Resource Ecology*, 187-206.
- Thornton, P.K., R.B. Boone, K.A. Galvin, **S.B. BurnSilver**, M.M. Waithaka, J. Kuyiah, S. Karanja, E. González-Estrada and M. Herrero (2007). Coping strategies in livestock-dependent households in East and southern Africa: a synthesis of four case studies. *Human Ecology*.
- Christensen L., **S.B. BurnSilver** and M. Coughenour. (2006). Integrated Assessment of the Dynamics, Stability and Resilience of Inner Mongolian Grazing Ecosystems. *Nomadic Peoples*. 9.1: 131-146.
- Thornton, P.K., **S.B. BurnSilver**, R.B. Boone, and K.A. Galvin. (2006). Modeling the impacts of group ranch subdivision on agro-pastoral households in Kajiado, Kenya. *Agricultural Systems*. 87:331-356.
- Boone, R.B., **S.B. BurnSilver**, P.K. Thornton, J.S. Worden, and K.A. Galvin. (2005). Quantifying declines in livestock due to land subdivision. *Rangeland Ecology & Management*. 58:523-532.

Refereed Book Chapters:

- BurnSilver S.B.** (2009). Pathways of Change and Continuity: Maasai Livelihoods in Amboseli, Kajiado District, Kenya. *In: Changing Land use and Livelihoods in Tanzania and Kenya Maasailand*. K. Homewood, P. Kristjanson, P. Trench and M. Radeny, eds. New York: Verlag Publishers. Pp 161-201.
- Serneels, S., M. Herrero, **S.B. BurnSilver**, P.C. Trench, K. Cochrane, K. Homewood, P. Kristjanson, F. Nelson, M. Radeny, M. Thompson, and M.Y. Said (2009). Methods in the Analysis of Maasai Livelihoods. *In: Changing Land use and Livelihoods in Tanzania and Kenya Maasailand*. K. Homewood, P. Kristjanson, P. Trench and M. Radeny, eds. New York: Verlag Publishers. Pp 43-62,
- Galvin, K. A., R. B. Boone, **S.B. BurnSilver**, and P.K. Thornton (2008). Humans and wildlife as ecosystem components in integrated assessments. *In: Wildlife and Society: The Science of Human Dimensions*. Manfredo, M., Vaske, J., Brown, P., Decker, D. and E. Duke, eds. Washington, D.C.: Island Press. Pp 129-142.
- BurnSilver, S.B.** and J.S. Worden (2008). Processes of Fragmentation in the Amboseli Ecosystem. *In: Fragmentation of Semi-Arid and Arid Landscapes: Consequences for Human and Natural Systems*. K. Galvin, R. Reid, R. Behnke and T. Hobbs, eds. New York: Verlag Publishers. Pp 225-244.
- Boone, R.B., **S.B. BurnSilver**, and R. Kruska. (2008). Comparing Landscape and Infrastructural Heterogeneity Within and Between Ecosystems. *In: Fragmentation of Semi-Arid and Arid Landscapes: Consequences for Human and Natural Systems*. K. Galvin, R. Reid, R. Behnke and T. Hobbs, eds. New York: Verlag Publishers. Pp 341-368.

Boone, R.B., **S.B. BurnSilver**, J.S. Worden, K.A. Galvin, and T. Hobbs. (2008). Large Scale Movements of Large Herbivores: Livestock Following Changes in food Supply. *In*: "Spatial Ecology of Large Herbivores and Pastoralists". H.H.T. Prins and F. van Langevelde, eds. New York: Kluwer Academic Publishers. Pp 187-206.

BurnSilver, S.B., R.B. Boone, and K.A. Galvin. (2003). Linking pastoralists to a heterogeneous landscape: The case of four Maasai Group Ranches in Kajiado District, Kenya. Fox, J., V. Mishra, R. Rindfuss, and S. Walsh, eds. *In*: Linking household and remotely sensed data: Methodological and practical problems. New York: Kluwer Academic Publishers. Pp 173-199.

Manuscripts in Review

BurnSilver, S. B., G. Kofinas, R. Stotts, and J. Magdanz (*In Review*). The Mixed Economy of Arctic Alaska Communities: Robust or still transitioning? Current Anthropology.

BurnSilver, S.B. (*In review*). Representing Wealth in a Changing Pastoral Economy: A comparison of traditional and new metrics in Maasailand, Kenya. Nomadic Peoples.

Brinkman, T., W. Hansen, F.S. Chapin III, G. Kofinas, **S. Burnsilver** and T.S. Rupp (*In Review*) Perceptions of Impacts of Climate Trends on Subsistence Resources: Importance of Access. Global Environmental Change

Dakos, V., A. Quinlan, O. Bodin, **S.B. BurnSilver**, J. Baggio, and E. Bennett (*Book accepted, chapter in review*). Connectivity. R. Biggs, M. Schlueter and M. Schoon eds. *In*: Principles for Enhancing the Resilience of Ecosystem Services. Cambridge: Cambridge University Press

Non-Refereed Publications and Research Reports:

BurnSilver, S.B. (2013) Sharing Project Community Reports: Wainwright, Venetie and Kaktovik.

BurnSilver, S.B. (2008) The Role of Pastoral Mobility. Contribution to the Global Handbook on Pastoralism, The Ford Foundation.

BurnSilver, S. B. and E. Mwangi. (2007). Beyond Group Ranch Subdivision: Collective Action for Livestock Mobility, Ecological Viability and Livelihoods. Working Paper. International Food Policy Research Institute (IFPRI). Washington D.C.

Boone, R.B. and **S.B. BurnSilver** (2007). Optimizing Aspects of Land Use Intensification in Southern Kajiado District, Kenya. Final Technical Report: Reto-o-Reto Pastoralist Project: International Livestock Research Institute, Nairobi. Pp. 50.

Boone, R.B., **S.B. BurnSilver**, and P.K. Thornton (2006). Optimizing aspects of land use intensification in southern Kajiado District, Kenya. Report to the International Livestock Research Institute, Nairobi, Kenya.

BurnSilver, S.B. (2005) Results of Focus Groups in the Amboseli Ecosystem: Reto-o-Reto Pastoralist Project. Field Report. International Livestock Research Institute. Pp. 30.

Herrero, M., P. Kristjanson, P., M. Radeny, **S.B. Burnsilver**, D. Nkedyanye, O Kamuaru, R.S. Reid, and P.K. Thornton. (2003). Identifying the information needs of decision-makers in Maasai pastoralist systems in Kenya. A collaborative study between ILRI, Edinburgh University and the communities of Narok and Kajiado. DFID LPP Report Project ZC0196. Pp.57 Nairobi (Kenya): ILRI

Boone, R.B. and **S.B. BurnSilver** (2002). Integrated assessment results to support policy decisions in Ngorongoro Conservation Area, Tanzania. Report from the POLEYC Project to the Global Livestock Collaborative Research Support Program, University of California, Davis, California, USA.

INVITED SYMPOSIA

Invited Speaker. Institute for Social and Economic Research (ISER), University of Alaska Anchorage. *Role of Sharing and Cooperation in Offsetting Household Vulnerability*. June 2013.

BurnSilver, S.B., Baggio, J. and R. Stotts. "Hunting, Sharing and Cooperation under evolving social-ecological conditions in the Far North". Seminar Series: Center for the Study of Institutional Diversity. April 2013.

Invited Speaker: **S. B. BurnSilver**: Ecology and the Environment - Winter Colloquium Series. "Sharing and Cooperation in the Far North: Old social mechanisms under evolving economic and climatic conditions in village Alaska". Stanford University. March 2013.

Invited Speaker: S. B. BurnSilver Resilience and Adaptation Seminar Series. "Thinking about Household Vulnerability in Pastoral and Arctic Social-Ecological Systems." May 2012. University of Alaska Fairbanks.

S. BurnSilver. Discussant. COMPETE - Bioenergy and Sustainability in Sub-Saharan Africa. ICSS 2012: Sustainability Science in Action. The 3rd International Conference on Sustainability Sc., Feb 2012

Invited Speaker: **BurnSilver, S.B.**, and D. Nkadienye (2009). One Challenge Among Many: Projected Climate Change, Livelihoods and Resilience in Pastoral East Africa. "Climate Change and Livelihoods in Sub-Saharan Africa". Conference sponsored by the Center for African Studies, the Mershon Center for International Security Studies, and the John Glenn School of Public Policy. The Ohio State University, May 15, 2009.

Invited Speaker: Reid, R.S., and **S. B. BurnSilver** (2002). Linking Communities and Households to Climate Variability and Land cover/land-use Change at Different Scales in Farming and Pastoral Systems of East Africa." Workshop paper: "Approaches for Linking Household and Community level data to Remote Sensing and GIS," January 2002, East-West Center, Honolulu, Hawaii.

COLLOQUIA LEADERSHIP (Upcoming and Previous)

Co-Organizer (with J. Baggio and O. Bodin), *Networks and Cooperation: Are social network characteristics generalizable in thinking about Resilience?* Upcoming session organized for the Third International Science and policy Conference on the resilience of social & ecological systems, Montpellier, France. May 2014.

Co-Organizer (with J. Ziker and D. Gerkey), *Using Social Network Analysis to Understand Arctic Sustainability*. Upcoming session organized for the 4th International Congress of Arctic Social Sciences (ICASS IV). May 2014.

Organizer, *How do social relationships offset household vulnerability in the context of rapid change?* Session organized for American Anthropological Association 112th Annual Meeting, Philadelphia, PA Chicago, IL. November 2013.

Workshop Organizer, *Agent-based modeling of social and ecological systems*. Organized through the Institute for Society, Landscape and Ecosystem Change, Colorado State University. April 2008

CONFERENCE AND WORKSHOP PRESENTATIONS

S.B. BurnSilver (2013). Household Resilience in the Far North. Resilience Alliance Science Meeting. April 2013, Drakensburg, South Africa.

S. B. BurnSilver, Kofinas, G. and J. Magdanz (2013). Superhunters, Superhouseholds and Superproviders. Society for Applied Anthropology Meeting. March. Denver, CO.

S.B. BurnSilver (2012) Research Roundtable with representatives of North Slope Borough Wildlife Department and University of Alaska Fairbanks. July 2012, Barrow, AK.

S.B. BurnSilver, G. Kofinas, J. Magdanz and P. Fix (2011). The role of social relationships within the mixed economy of Wainwright, AK: How might sharing contribute to resilient livelihoods? Paper presented at the Conference, Resilience 2011: Resilience, Innovation and Sustainability, Arizona State University, Tempe AZ.

Galvin, K and **S.B. BurnSilver** (2009). Linking Pastoral Household Decision-Making to the Environment using Integrated Modeling. Paper presented at the American Anthropological Association 108th Annual Meeting, Philadelphia, PA.

- Nkadienye, D. and **S.B. BurnSilver** (2009). "We are pastoralists": Resilience in Maasailand in the midst of dramatic change. Paper presented at the conference "Indigenous Societies and Social-Ecological Resilience", Sponsored by the Resilience Alliance, Cairns Australia, March 8-14, 2009.
- S.B. BurnSilver** (2008). Using Social Networks to Assess the Vulnerabilities of Communities to Climate Change & Oil and Gas Development in Arctic Alaska. Poster presented at the Dissertations Initiative for the Advancement of Climate Change Research (DISCCRS IV). Saguaro Lake Ranch, Phoenix, AZ. September 2008.
- Kofinas, G. and **S.B. BurnSilver** (2008). The Study of Ecosystem Services & Social Networks to Assess the Vulnerabilities of Communities to Oil and Gas Development & Climate Change in Arctic Alaska. Paper presented at the 6th International Congress of Arctic Social Sciences, the International Arctic Social Sciences Association. Nuuk, Greenland. August 22-26.
- BurnSilver, S. B.** and E. Mwangi. (2006). Beyond Group Ranch Subdivision: Collective Action for Livestock Mobility, Ecological Viability and Livelihoods. Paper presented at: Pastoralism and Poverty Reduction in East Africa: A Policy Research Conference. International Livestock Research Institute. June 27-28. Safari Park Hotel, Nairobi, Kenya.
- BurnSilver, S. B.** and K.A. Galvin (2005). "Walking the Walk" in Interdisciplinary Science: Ecological Anthropologists and Question-driven Collaboration to Address Natural Resource Management and Conservation Problems." Paper presented at: American Anthropological Association 112th Annual Meeting, Washington D.C., November 2005.
- BurnSilver, S. B.** and R.B. Boone (2003). Current Land Use and Potential Effects of Ongoing Fragmentation of a Pastoral Landscape: An Example from Four Group Ranches, Kajiado District, Kenya. Poster Presented at; VII International Rangelands Congress, Durban, South Africa, July 2003.

FILM

"The UAF Sharing Project in Kaktovik, Alaska". S. BurnSilver, A. Butler and B. Burns.

TEACHING

Courses Developed and Taught at ASU:

ASB394: People Environment Connections in Anthropology (1x)

ASM300: Anthropological Sciences Seminar (1x)

ASB530: Ecological Anthropology (Current Course)

Courses Developed and Taught at CSU:

100 level: Cultural Anthropology (2x)

400 level: Human Ecology (1x)

300 level: Cultures and the Global System (2x)

300 level: Cultural Change (1x)

PROFESSIONAL ACTIVITIES

Facilitator/Presenter for research results dissemination meetings in Kaktovik, Venetie and Wainwright. July 2012 and July 2013.

Member of Resilience Alliance Young Researchers (RAYS). Actively engaged in scholarship and publishing with RAYS members.

Team Leader/Facilitator for Community Dissemination meetings presented to 3500+ pastoralists in Ngorongoro Conservation Area, Tanzania and Maasailand, Kajiado District, Kenya; Results of Integrated Assessment for people, livestock and wildlife - on land use change, population dynamics and landscape fragmentation scenarios (GL-CRSP Integrated Assessment IMAS and POLEYC Projects, Reto-o-Reto pastoralist project, International

Livestock Research Institute), September, 2002; July, 2004; June 2005; January and July 2006.

Reviewer for *Ecological Applications*, Journal of the American Ecological Society, *Global Environmental Change, Ecology and Society, Environmental Management*, South African Journal of Wildlife Research, *Journal of Arid Environments* and *Arctic*.

PROFESSIONAL AFFILIATIONS

American Anthropological Association: Anthropology and the Environment Section
Society for Applied Anthropology
RAYS – Resilience Alliance Young Researchers

ADDITIONAL WORK EXPERIENCE

Jan 2008 - June 2008 *Founding Fellow – Institute for Society, Landscape and Ecosystem Change; Department of Anthropology, Colorado State University*

Jan 2008 - June 2008 *Founding Fellow – Center for Collaborative Conservation: Warner College of Natural Resources, Colorado State University*

Jan 2005 - Dec 2006 *Researcher and Consultant - Community Outreach of Research Results, Reto-o-Reto Pastoralist Project; People Livestock and the Environment Program, International Livestock Research Institute, Nairobi, Kenya.*

Jan 2003 - May 2008 *Adjunct Faculty; Department of Anthropology, Colorado State University, Fort Collins, CO.*

Sep 2001 - Nov 2002 *Research Associate and Project Manager; Policy Options for Livestock-based Livelihoods and Ecosystem Conservation (POLEYC) Project. USAID Global Livestock CRSP, Natural Resource Ecology Laboratory, CSU, Fort Collins, CO*

Nov 1999 - Mar 2001 *Graduate Research Fellow; International Livestock Research Institute, Nairobi, Kenya*

Sep 1998 - Oct 1999 *Research Assistant; National Science Foundation Grant – Land Use across the North East China Transect, Natural Resource Ecology Laboratory, CSU, Fort Collins, CO.*

Jun 1993 - Sep 1993 *Training Program Coordinator, Non-formal Education- Benin and Mauritania Volunteers; U.S. Peace Corps and CHP International, Perryville Arkansas, U.S.A.*

July 1990 - May 1991 *Agricultural Training Program Coordinator; U.S. Peace Corps, Mali, West Africa.*

July 1987 - Nov 1989 *Peace Corps Volunteer in Agricultural Extension; U.S. Peace Corps, Mali, West Africa.*

THESIS/DISSERTATION

Ph.D. - “Pathways of Continuity and Change: Diversification, Intensification and Mobility in Maasailand, Kenya”. Defended October 10, 2007

M.S. - “Basic Beliefs about Traditional Agroforestry Strategies: Koula Arrondissement, Mali, West Africa”. Defended May 1997.

RESEARCH EXPERIENCE

Social networks and livelihoods in the communities of Wainwright, Kaktovik and Venetie, Alaska, USA.
Current (and Postdoctoral) fieldwork

Fieldwork with Tuareg and Fulani Pastoralists, N. Mali, West Africa. Changing land use and livelihoods in response to lake hydrology. *Ongoing*

PhD field research project, Kajiado District, Kenya *Nov 1999-Mar 2001, Jan-Feb 2005.*

National Science Foundation project - Land Use Change and Socio-Economic Condition across the Northeast China Transect. Inner Mongolia Autonomous Region, China. Research undertaken in collaboration with the Chinese Academy of Sciences, Institute of Botany. *July-August 1998 and July-Aug 1999.*

Masters Thesis Research Project; in collaboration with US Peace Corps, Mali, Koula Arrondissement. *Jan- May 1996.*