



LOGAN BERNER

Oregon State University, Department of Forest Ecosystems and Society

Degrees:

B.S. in Environmental Science, University of Alaska Southeast
M.S. in Environmental Science, Western Washington University

Advisor:

Beverly Law, PhD

Scholar Award Donors:

Jean and Rich Josephson

About the Scholar:

Logan's research focuses on the impact of recent droughts on forest growth, mortality, and wildfires across the western United States and on trying to understand why tree species vary in their vulnerability to drought. One aspect involves mapping the regional extent and magnitude of drought-induced forest die-back. It combines detailed measurements of plant physiology, long-term field surveys, regional satellite observations, and advanced computer simulations to understand the consequences of regional climate change on forests in the western United States and other parts of the world.

Benefits to Society:

Logan's research demonstrates the consequences of climate change for forests in the western United States.

Awards and Honors:

Fellowships

NASA Earth and Space Science Fellowship (2014-2017)

Richardson Family Fellowship (2013)

Dick Waring Forest Ecology Fellowship (2013)

National Science Foundation POLARIS Project Fellowship (2008 & 2013)

Best Map by a Volunteer, ESRI & Society for Conservation GIS International Mapping Contest (2011)

Publications and Posters:

Berner, L.T., H.D. Alexander, M.M. Loranty, P. Ganzlin, M.C. Mack, S.P. Davydov, and S.J. Goetz (2014), Biomass allometry for alder, dwarf birch and willow in boreal forest

and tundra ecosystems of far northeastern Siberia and north-central Alaska, *Forest Ecology and Management*, doi: 10.1016/j.foreco.2014.10.027.

Berner, L.T., P.S.A. Beck, A.G. Bunn, and S.J. Goetz (2013), Plant response to climate change along the forest-tundra ecotone in northeastern Siberia, *Global Change Biology*, 19, 3449-3462, doi: 10.1111/gcb.12304.

Berner, L.T., P. S. A. Beck, M.M. Loranty, H.D. Alexander, M.C. Mack and S.J. Goetz (2012), Cajander larch (*Larix cajanderi*) biomass distribution, fire regime and post-fire recovery in northeastern Siberia, *Biogeosciences*, 9, 3943-3950, doi:10.5194/bg-9-3943-2012.

Berner, L.T., P. Beck, A. Bunn, A. Lloyd and S. Goetz (2011), High-latitude tree growth and satellite vegetation indices: Correlations and trends in Russia and Canada (1982-2008), *Journal of Geophysical Research Biogeosciences*, 116, G01015, doi:10.1029/2010JG001475.

Loranty, M.M., S.M. Natali, **L.T. Berner**, S.J. Goetz, R.M. Holmes, S.P. Davydov, N.S. Zimov, and S.A. Zimov (2014), Siberian tundra ecosystem vegetation and carbon stocks four decades after wildfire, *Journal of Geophysical Research Biogeosciences*, 119, doi: 10.1002/2014JG002730.

Guay, K., P.S.A. Beck, **L.T. Berner**, S.J. Goetz, W. Beurmann, and A. Baccini (2014), Vegetation productivity patterns at high northern latitudes: a multi-sensor satellite data assessment, *Global Change Biology*, 20, 3147-3158, doi: 10.1111/gcb.12647.

Loranty, M.M., **L.T. Berner**, S.J. Goetz, Y. Jin, and J.T. Randerson (2014), Vegetation controls on northern high latitude snow-albedo feedback, *Global Change Biology*, 20, 594-606.

Bunn, A.G., M.K. Hughes, A.V. Kirilyanov, M. Losleben, V.V. Shishov, **L.T. Berner**, A. Oltchev, and E.A. Vaganov (2013), Comparing forest measurements from tree rings and a space-based index of vegetation activity in Siberia, *Environmental Research Letters*, 8, doi:10.1088/1748-9326/8/3/035034.

Lloyd, A.H., A.G. Bunn and **L.T. Berner** (2010), A latitudinal gradient in tree growth response to climate warming in the Siberian taiga, *Global Change Biology*, doi: 10.1111/j.1365-2486.2010.02360.x

Hood, E. and **L. Berner** (2009), Effects of changing glacial coverage on the physical and biogeochemical properties of coastal streams in southeastern Alaska, *Journal of Geophysical Research Biogeosciences*, 114, G03001, doi:10.1029/2009JG000971.

Oral Presentations

2013 **Berner, L.**, P.S. Beck, A. Bunn, and S. Goetz, Impacts of climate change on plant productivity in the Cajander larch woodlands of northeastern Eurasia. *American Geophysical Union Fall Meeting*, San Francisco, CA.

2011 **Berner, L.**, P.S. Beck, M.M. Loranty, H.D. Alexander, M.C. Mack, and S.J. Goetz, Quantifying Post-Fire Forest Biomass Recovery in Northeastern Siberia using Hierarchical Multi-Sensor Satellite Imagery and Field Measurements. *American Geophysical Union Fall Meeting*, San Francisco, CA.

Poster presentations at professional conferences include:

- 9 posters as lead presenter
- 15 as co-presenter