

# Product List for VELMA–Penumbra Ecohydrology Modeling Studies, 2008 - 2021

EPA-ORD Research Conducted Under: <sup>1</sup>SHC, <sup>2</sup>SSWR, <sup>3</sup>RARE, <sup>4</sup>AE

## PEER-REVIEWED JOURNAL ARTICLES:

<sup>1</sup>Abdelnour, A., M. Stieglitz, F. Pan, R.B. McKane (2011). Catchment hydrological responses to forest harvest amount and spatial pattern. *Water Resources Research*, 47(9), W09521.

<sup>1</sup>Abdelnour, A., R.B. McKane, M. Stieglitz, F. Pan, Y. Cheng (2013). Effects of harvest on carbon and nitrogen dynamics in a Pacific Northwest forest catchment. *Water Resources Research*, 49(3), 1292-1313.

<sup>1,2</sup>Barnhart, B., H. Golden, J. Kasprzyk, J. Pauer, C. Jones, K. Sawicz, N. Hoghooghi, M. Simon, R. McKane, P. Mayer, A. Piscopo, D. Ficklin, J. Halama, P. Pettus, B. Rashleigh. (2018). Embedding co-production and addressing uncertainty in watershed modeling decision-support tools: Successes and challenges. *Environmental Modelling & Software*. Elsevier Science, New York, NY, 109:368-379.  
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<sup>1,2</sup>Barnhart, B., Pettus, P., Halama, J., McKane, R., Mayer, P., Djang, K., Brookes, A. and Moskal, L.M., 2020. Modeling the hydrologic effects of watershed-scale green roof implementation in the Pacific Northwest, United States. *Journal of Environmental Management*, 277, p.111418.

<sup>1</sup>Bolte, J., McKane R., D. Phillips, N. Schumaker, D. White, A. Brookes, D. Olszyk (2012). In Oregon, the EPA calculates nature's worth now and in the future. *Solutions Journal* (6) 2:35-41.

<sup>1</sup>Busing, R.T., Solomon, A.M., McKane, R.B. and Burdick, C.A., 2007. Forest dynamics in Oregon landscapes: evaluation and application of an individual-based model. *Ecological Applications*, 17(7), pp.1967-1981.  
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<sup>1</sup>Canfield, T, T. DeWitt, M. Harwell, J. Hoffman, R. McKane, L. Sharpe, K. Williams, and S. Yee. Transferability and Utility of Practical Strategies for Community Decision Making: Results from a Coordinated Case Study Assessment. *In review*.

<sup>1</sup>Daly, C., Smith, J.W., Smith, J.I. and McKane, R.B., 2007. High-resolution spatial modeling of daily weather elements for a catchment in the Oregon Cascade Mountains, United States. *Journal of Applied Meteorology and Climatology*, 46(10), pp.1565-1586.  
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<sup>2</sup>Golden, H., C. Knightes, P. Conrads, G. Davis, T. Feaster, C.A. Journey, S. Benedict, M. Brigham, P. Bradley (2012). Characterizing mercury concentrations and fluxes in a Coastal Plain watershed: insights from dynamic modeling and data. *J. Geophys. Res. Biogeosci.* 117, 17.

<sup>2</sup>Golden, H., Knightes, C., Conrads, P., Feaster, T., Davis, G., Benedict, S., Bradley, P., 2013. Climate change and watershed mercury export: variable responses to diverse projections and models. *Environ. Toxicol. Chem.* 32, 2165e2174.  
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<sup>2</sup>Golden, H. E., C.R. Lane, D.M. Amatya, K.W. Bandilla, H. Raanan Kiperwas, C.D. Knightes, and H. Segane (2014). Hydrologic connectivity between geographically isolated wetlands and surface water systems: A review of select modeling methods. *Environmental Modelling & Software*, 53, 190-206.

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<sup>1,2</sup>Halama, J.J., Kennedy, R.E., Graham, J.J., McKane, R.B., Barnhart, B.L., Djang, K.S., Pettus, P.B., Brookes, A.F. and Wingo, P.C., 2018. Penumbra: A spatially distributed, mechanistic model for simulating ground-level incident solar energy across heterogeneous landscapes. *PloS one*, 13(12), p.e0206439.

<sup>1,2</sup>Halama, J.J., Barnhart, B.L., Kennedy, R.E., McKane, R.B., Graham, J.J., Pettus, P.P., Brookes, A.F., Djang, K.S. and Waschmann, R.S., 2018. Improved soil temperature modeling using spatially explicit solar energy drivers. *Water*, 10(10), p.1398.

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<sup>2</sup>Knightes, C. D., H.E. Golden, C.A. Journey, G.M. Davis, P.A. Conrads, M. Marvin-DiPasquale, and P.M. Bradley (2014). Mercury and methylmercury stream concentrations in a Coastal Plain watershed: A multi-scale simulation analysis. *Environmental Pollution*, 187, 182-192.

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<sup>1,2,3</sup>McKane et al. Modeling Floodplain and Watershed Restoration for Salmon Recovery in the Tolt River Watershed, WA - A Snoqualmie Indian Tribe and US EPA Collaborative Effort. U.S. Environmental Protection Agency report *in review*.

<sup>1,2</sup>McKane, R.B., Brookes, A.F., Djang, K.S., Halama, J.J., Pettus, P.B., Barnhart, B.L., Russell, M.J., Vache, K.B. and Bolte, J.B., 2020. An integrated multi-model decision support framework for evaluating ecosystem-based management options for coupled human-natural systems. *Ecosystem-based Management, Ecosystem Services and Aquatic Biodiversity: Theory, tools and Applications*, pp.255-274. [https://cfpub.epa.gov/si/si\\_public\\_record\\_report.cfm?dirEntryId=349664&Lab=CPHEASpringer download:](https://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=349664&Lab=CPHEASpringer download:) [https://doi.org/10.1007/978-3-030-45843-0\\_13](https://doi.org/10.1007/978-3-030-45843-0_13)

<sup>1</sup>McRae, B.H., Schumaker, N.H., McKane, R.B., Busing, R.T., Solomon, A.M. and Burdick, C.A., 2008. A multi-model framework for simulating wildlife population response to land-use and climate change. *Ecological modelling*, 219(1-2), pp.77-91.

<sup>1,2</sup>Pan, F., M. Stieglitz, R.B. McKane (2012). An algorithm for treating flat areas and depressions in digital elevation models using linear interpolation. *Water Resources Research*, 48(6). [https://cfpub.epa.gov/si/si\\_public\\_record\\_report.cfm?Lab=NHEERL&dirEntryId=241340](https://cfpub.epa.gov/si/si_public_record_report.cfm?Lab=NHEERL&dirEntryId=241340)

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