

# Dr. Crystal Lynn Raymond

## **EDUCATION**

**Ph.D., Forest Ecosystem Analysis**, University of Washington, Seattle, Washington, 2010

**M.S., Forest Ecosystem Analysis**, University of Washington, Seattle, Washington, 2004

**B.S., Natural Resource Management**, University of California, Berkeley, California, 1999

## **PROFESSIONAL EXPERIENCE**

### **Climate Adaptation Specialist**

**Current**

#### **Climate Impacts Group, University of Washington**

Collaborate with local and regional organizations to assess and plan for the impacts of climate change on infrastructure, people, and natural resources. Engage in the coproduction of research on climate change and adaptation opportunities. Present climate change information verbally and in writing to diverse audiences including policy makers, resource managers, scientists, and the public.

### **Climate Adaptation Strategic Advisor**

**2013 – 2018**

#### **City of Seattle, Seattle City Light, Seattle, Washington**

Led the development and implementation of a climate change vulnerability assessment and adaptation plan for a municipal hydropower electric utility. Collaborated with staff to identify impacts and actions to increase resilience of hydropower generation, the electric grid, facilities, and environmental protection programs. Managed projects for climate impacts research including scoping, selecting contractors, managing budgets, and ensuring timely and complete delivery of products. Advised executives, directors, and legislative affairs staff on climate change and adaptation options as requested.

### **Research Ecologist**

**2012 – 2013**

#### **USDA Forest Service, Rocky Mountain Research Station, Ogden, Utah**

Conducted research and modeling to support forest carbon assessments for the US National Forest System. Presented complex research results verbally and in writing to diverse audiences including scientists, natural resource managers, and the public.

### **Research Ecologist**

**2010 – 2012**

#### **USDA Forest Service, Pacific Northwest Research Station, Seattle, Washington**

Led the *North Cascadia Adaptation Partnership*, a National Park Service – Forest Service collaboration to assess climate vulnerability and develop an adaptation plan for natural resources and infrastructure on 6 million acres of public land in the North Cascades. Developed partnerships with stakeholders, including other federal agencies, tribal governments, state agencies, and non-governmental organizations. Organized and facilitated climate change education and adaptation workshops for scientists and natural resource managers. Authored technical reports, website content, proposals, and applications for grant funding.

**Research Assistant****2007 – 2010****Climate Impacts Group, University of Washington, Seattle, WA**

Conducted research in collaboration with the Climate Impacts Group, an interdisciplinary applied research group focused on assessing and planning for the impacts of climate variability and change. Modeled the effects of climate change and wildfires on carbon storage in forest ecosystems. Presented complex climate information and research findings at national and international conferences, meetings for resource managers, and in public meetings.

**Research Scientist****2005 – 2006****School of Forestry, University of Washington, Seattle, WA**

Mapped wildfire hazard on national forests in Eastern Washington in collaboration with forest ecologists and fire specialists employed by the National Forests.

**Research Assistant****2002 – 2005****School of Environmental and Forest Sciences, University of Washington, Seattle, WA**

Designed and implemented a field study on the effects of fuel treatments on wildfire severity. Supervised a five-person field crew including recruitment and training.

**TECHNICAL EXPERTISE**

Climate Change Science, Adaptation, Ecology, Fire Science, Hydrology

Effective public speaker on technical topics (10+ years)

Excellent scientific and technical writing skills (10+ years)

Process modeling in Ecology

Statistical Analysis: R software

Geographic Information Systems: ArcGIS software

**AWARDS**

Climate Adaptation Leadership Award for Natural Resources, US Fish and Wildlife (**2016**)

4 under Forty, Leaders for Clean and Affordable Energy, NW Energy Coalition (**2015**)

**SELECT PUBLICATIONS**

**Raymond, C.L.** Seattle City Light Climate Change Vulnerability Assessment and Adaptation Plan.

**2016.** Available at <http://www.seattle.gov/light/enviro/climatechg.htm>

Healey, S.P.; **Raymond, C.L.**; Lockman, I. B.; Hernandez, A.J.; Garrard, C.; Huang, C.; **2016.** Root Disease Can Rival Fire And Harvest In Reducing Forest Carbon Storage. *Ecosphere*. 7(11): Article e01569.

Strauch, R.; **Raymond, C.L.**; Rochefort, R.M.; Hamlet, A.F.; Lauver, C.; **2016.** Adapting transportation to climate change on federal lands in Washington State. *Climatic Change*. 130: 185-199. DOI 10.1007/s10584-015-1357-7

**Raymond, C.L.**; Healey, S.P.; Peduzzi, A.; Patterson, P. L.; **2015.** Representative Regional Models of Post Disturbance Forest Carbon Accumulation: Integrating Inventory Data and a Growth And Yield Model. *Forest Ecology and Management*. 336: 21-34.  
<https://doi.org/10.1016/j.foreco.2014.09.038>

- Raymond, C.L.;** Peterson, D.L.; Rochefort, R.M., eds. **2014**. Climate change vulnerability and adaptation in the North Cascades region, Washington. Gen. Tech. Rep. 892. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 279 p.
- Raymond, C.L.;** Peterson, D.L.; Rochefort, R.M. **2013**. The North Cascadia Adaptation Partnership: a science-management collaboration for responding to climate change. Sustainability, 5: 136-159, doi:10.3390/su5010136.
- Raymond, C.L.;** McKenzie, D.; **2013**. Temporal carbon dynamics of forests in Washington, U.S.: Implications for ecological theory and carbon management. Forest Ecology and Management 310: 796-811, <http://dx.doi.org/10.1016/j.foreco.2013.09.026>.
- Raymond, C.L.;** McKenzie, D.; **2012**. Carbon dynamics of forests in Washington, USA: 21st century projections based on climate-driven changes in fire regimes. Ecological Applications 22: 1589-1611, doi:10.1890/11-1851.1.
- McKenzie, D., **Raymond, C.L.**, Kellogg, J.P., Norheim, R.A., Andreu, A.G., Bayard, A.C., Kopper, K.E., Elman, E.; **2007**. Mapping fuels at multiple scales: Landscape application of the Fuel Characteristic Classification System. Canadian Journal of Forest Research 37: 2421-2437, doi:10.1139/X07-056.
- Johnson, M.C.; Peterson, D.L.; **Raymond, C.L.;** **2007**. Guide To Fuel Treatments In Dry Forests Of The Western United States: Assessing Forest Structure And Fire Hazard. Gen. Tech. Rep. PNW-GTR-686. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 322 p
- Raymond, C. L.;** Peterson, D. L.; **2005**. Fuel Treatments Alter The Effects Of Wildfire In A Mixed-Evergreen Forest, Oregon, USA. Canadian Journal of Forest Research. 35: 2981-2995