We broadly work on the science, policy, and management of forest-based climate solutions, or the stewardship of forests to mitigate climate change. We are an interdisciplinary and collaborative research group and many of our projects are highly applied in nature. We currently have three major research themes:

**1. Quantifying carbon dynamics in forested social-environmental systems**

The factors that control carbon dynamics within and across forests remains poorly quantified across multiple spatial and temporal scales. We use a combination of empirical field studies, statistical modeling, and spatial data science to quantify carbon cycling processes in forests. We work across a variety of forest types, but focus especially on mangroves, plantation forests, and temperate coniferous forests of the Pacific Northwest.

**2. Managing forest carbon under global change**

The science is clear that keeping climate change below 1.5-2.0 degrees Celsius of warming will not only require rapid decarbonization of our energy systems, but substantial removal of carbon dioxide from the atmosphere in the future. Forests already play a large role in sequestering carbon, and many hope to shift management practices to enhance their ability to sequester forest carbon. However, forest carbon is at risk of loss from natural and anthropogenic disturbances and managing for forest carbon must be balanced with the competing social values that drive global forest stewardship. We work on applied topics that help identify tradeoffs and guide management practices to improve the resilience and sequestration of carbon in forests.

**3. Forest carbon policy, markets, and finance**

Forest carbon policy, markets, and financing schemes seek to catalyze forest management for climate change mitigation. Our work examines these projects and programs to understand how incentives for forest carbon management can be structured to benefit the climate while ensuring equitable outcomes for local communities. We do this through both market-based—both voluntary and compliance-based—and non-market-based schemes. We also explore these applied questions from a variety of scales – ranging from the local to the international. Much of this work is done in concert with international governments (through the SilvaCarbon program), state and federal agencies in the United States, and non-profit and for-profit organizations.