

The relationship between greenhouse gas emissions and climate change and the dangers of global warming are widely documented. The 2030 Agenda for Sustainable Development was signed by all United Nations Member States in 2015 and calls for the “widest possible international cooperation aimed at accelerating the reduction of global greenhouse gas emissions” with the aim of “holding the increase in global average temperature below 2 °C”. What role do counties have in reducing greenhouse gas emissions? This project aims to develop a granular model of carbon storage and flux in Multnomah County to inform policy interventions that will bring the county closer to meeting the goals outlined in the 2050 Climate Action Plan goals adopted by the City of Portland and Multnomah County in 2009. The Climate Action Plan’s objective is to with a goal of reducing community-wide greenhouse gas emissions 80% by 2050, with a more ambitious goal of being a net-zero emitter of greenhouse gas. One of the first steps in developing a jurisdictional level greenhouse gas accounting is an inventory and projection of carbon stock change. Our study assesses the feasibility of various GIS and remote sensing based methods for predicting carbon storage and flux in Multnomah County in a diversity of land use categories to gain a better understanding of carbon storage and flux as it relates to land ownership and management across a variety of land use categories.