1128-92-231 **Eric S. Walsh*** (wals0292@vandals.uidaho.edu) and **Tara Hudiburg** (thudiburg@uidaho.edu). *Future Carbon Dynamics of the Northern Rockies Ecoregion due to Climate Impacts and Fire Effects.* Preliminary report.

The balance between disturbance and production affects the sink potential of forested ecosystems. However, regional forest C dynamics, structure, and composition are expected to shift with climate-induced changes, affecting the sink potential that can mitigate climate change. Forest management is one of the primary mitigation tools available to increase C uptake and can benefit from fire-vegetation-climate interaction models of this century. Using a forest landscape model (LANDIS-II), we modeled the response of the Northern Rockies Ecoregion in ID to two climate change scenarios (RCP 4.5 and 8.5 emissions trajectories) and fire regime shifts within this century. The climate change scenario with the greatest mean temperature increase (RCP 8.5) resulted in a 63% increase in Douglas fir (Pseudotsuga menziesii) and 64% decrease in sub-alpine fir (Abies lasiocarpa) biomass per unit area. Among all climate scenarios, the relative sink potential weakened by the end of the century. However, compared to current conditions, the higher emissions trajectory model (RCP 8.5) resulted in a similar sink potential in 2100. Aging Idaho forests in this century underlies the trend towards a weaker sink, thus highlighting the potential importance of forest harvest management in this century. (Received February 27, 2017)