



Korey Southerland



B.A., Political Science

*B.S., Environmental Geography with Atmospheric
Science Concentration*

(University Of North Dakota)

PhD Student in Engineering Science

Advisor: Tim VanReken

The NSPIRE IGERT Program is a multidisciplinary student doctoral training program designed to create a new generation of scientists with broad and rigorous training in nitrogen cycling who seamlessly integrate nitrogen cycle science for effective communication with public policy makers.

Research title: Emissions of Nitrogen to the Atmosphere

Korey Southerland's research is focused on emissions of reactive nitrogen such as nitrous oxide, nitrogen oxides, and ammonia, into the atmosphere from the biosphere. N₂O is receiving more attention as a green house gas due to the increase of emissions off of agricultural landscapes. It has a warming potential that is 300 times that of carbon dioxide. The emission rates of N₂O have both spatially and temporally varying elements, which can lead to difficulty in taking measurements and modeling future outlooks. Korey seeks to develop a new Relaxed Eddy Accumulation (REA) instrument in order to measure emissions of N₂O and to test this instrument for efficiency. Emissions of N₂O have significant societal consequences regarding global warming potentials as well as the impact of increased fertilizer use have on ecosystems. A major part of Korey's research will be to address the stakeholders of N₂O research and address how her research can further inform political processes as well as stakeholder decision-making.

Contact information:

Department of Civil and Environmental Engineering, Laboratory for Atmospheric Research

Office: 340 Dana Hall/ Washington State University / Pullman, WA 99164

Tel: 612-227-4162 – Email: Korey.southerland@email.wsu.edu – Web link: <http://igert.nspire.wsu.edu/>