Timothy Fisher (Geosciences, IUN) has been awarded a $235,000, four-year research grant from the National Science Foundation (NSF). The grant will go toward the study of the northwest and south outlets of glacial Lake Agassiz in Saskatchewan, Canada.

The lake at one time occupied one and a half times the area of Texas, and drained approximately 8,000 years ago. Present-day Lake Winnipeg represents its remnants.

"The objectives of this research are to constrain the spatial extent and chronology of the northwest outlet of glacial Lake Agassiz, and to determine its temporal relationships with the southern outlet and climate change," says Fisher. Lake Agassiz served a pivotal role in controlling the release of cold glacial meltwater from 12,000 to 8,000 years ago.

During the last ice age, the Laurentide Ice Sheet advanced south from Canada, and as it retreated, Lake Agassiz was formed in front of it. It drained first into the Gulf of Mexico, then east through the Great Lakes to the North Atlantic, and then northwest through the MacKenzie River to the Arctic Ocean. As the lake sent water in these different directions, water entered the oceans, which likely affected climate change by altering oceanic and atmospheric circulation.

Fisher would like to determine the exact timing of when the southern and northwest outlets were opened. Global temperatures rose by approximately seven degrees Celsius during this period, a huge jump by today's standards. According to Fisher, the research is significant because scientists in earth, atmospheric, and oceanic sciences rely on the history of the lake as baseline information for their research—including the prediction of future climate change.

Fisher is a resident of Valparaiso, Indiana, and associate professor at IU Northwest. Formerly an art major in college, Fisher realized his love for the Earth as a mountain climber and after taking a course in physical geology while at school. After changing his major to physical geology, Fisher received a B.S. in physical geography from the University of Alberta, a M.S. in glacial sedimentology from Queens University, and a Ph.D. in Geomorphology, Glaciology, and Quaternary Reconstruction from the University of Calgary.

Fisher will hire seven undergraduate IU Northwest students to work on the grant with him, conducting both fieldwork in Canada and labwork on the IUN campus.