

ORAL PRESENTATION

DECADAL LACUSTRINE RECORDS OF CLIMATIC AND ENVIRONMENTAL CHANGE IN A SUBSET OF ECUADORAN LAKES

¹Melina Feitl, ¹Sherilyn Fritz, and ²Miriam Steinitz-Kannan

¹Department of Earth and Atmospheric Sciences, University of Nebraska-Lincoln, Lincoln, Nebraska, 68588, USA

² Department of Biological Sciences, Northern Kentucky University, Highland Heights, Kentucky, 41099, USA

Ecologically sensitive regions, such as the tropics, have experienced a multitude of changes in the last few decades related to increased human activity and climatic shifts. These changes have the potential to alter lake systems impacting local biological communities and drinking water quality. Tropical Ecuadoran lakes were sampled by collaborator Dr. Miriam Steinitz-Kannan approximately 40 years ago; repeat samples of physical, chemical, and biological parameters from a selection of Ecuadoran lakes were taken in February and July 2017 to provide a comparison between modern conditions and those of 40 years ago. This offers a unique opportunity to observe short-term changes of both tropical high-mountain lakes and low-land Amazonian lakes in the context of climatic change and increased human activity. The following research focuses on three main questions: 1) To what degree have Ecuadoran lakes experienced change in the last 40 years? 2) Are alterations in the lake variables uniform, or are they spatially and temporally variable? 3) What is the underlying cause for these shifts; can a distinction between climate and human activity be achieved? The research presented here is part of a larger collaboration to assess limnological changes in tropical South America funded by National Geographic.