



MICHIGAN STATE
UNIVERSITY

Of Mathematicians, Actuaries, Sea-Level Rise, and Extreme Risk Quantifications

presented by

Stephen Kolk

Steve Kolk, actuary and president of a risk analysis consulting firm, is considered one of the nation's foremost actuarial experts in climate change. He gained this expertise as an active member of the CAS Climate Change Committee, which constructed the first-of-its-kind Actuaries Climate Index.

More recently, with the American Academy of Actuaries' he co-authored the Flood Issue Brief for the U.S. Congress this year. Previously he co-authored the U.S. Department of Transportation award-winning report, Hampton Roads Climate Impact Quantification.

He is a geospatial mapping and actuarial modeling expert. He has used these skills to develop scientific catastrophe models, predictive rating methods, and pricing tools. He is a Michigan native who graduated with honors from Calvin College in Grand Rapids with a B.A. in mathematics.

ABSTRACT: This talk will review the past, present and future of sea-level rise. Actuary Steve Kolk, MAAA and ACAS, will present a mathematical, geospatial history and forecast of the most uncertain lines on the globe, the many ocean coast-lines. Climate change is making ocean coastlines fuzzier and fuzzier. It is an extremely challenging problem which we tackle with Extreme-Risk tools.

The talk will illustrate how sea-level rise is accelerating. Kolk will show how maps are changing. He will also explain how modern mapping tools (a.k.a. Geospatial Information Systems) working together with mathematics can keep the coastlines in focus. How? His talk will include stories about and illustrations of his favorite actuaries, scientists and mathematicians. Come hear how their work needs to come together to help solve one of the biggest challenges facing society: the risks associated with sea-level rise.

followed by

Actuarial Science Student Presentations

THURSDAY, OCTOBER 25

1:00 P.M. - 3:00 P.M.

S105 SOUTH KEDZIE HALL

This event is part of the
Ronald H. and Mary E. Simon Actuarial Science Lecture and the
Michigan State Insurance and Risk-Analytics Undergraduate Colloquium