Marc Kjerland, PhD

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Skills

- Predictive modeling
- Nonlinear and multiscale processes
- Numerical simulation
- High-performance computing
- Machine learning
- Algorithm development
- Geophysical modeling
- Data visualization

Experience

2018 – Present **Verisk Analytics**, *Data Scientist*, Insurance Services Office.
- Served as Project Lead on insurance analytics team of six data scientists
- Built models for personal auto liability losses using generalized linear models
- Improved existing model by 43% – 80% based on lift analysis

2017, 2014–2015 **Postdoctoral Fellow**, *Univ of Illinois at Chicago*, Institute for Environmental Science and Policy.
- Developed non-parametric performance metrics for urban sustainability
- Generated insights using optimization, predictive modeling, and visualization

2015 – 2017 **Postdoctoral Researcher**, *Kyoto University*, Disaster Prevention Research Inst.
- Developed storm surge simulations using meteorological and topographical data
- Quantified hazard impacts of changing typhoon distributions in Pacific Ocean

Education

2015 **PhD, Applied Mathematics**, *University of Illinois at Chicago.*
Thesis: Linear response closure approximations for multiscale systems

2005 **B.S., Mathematics**, *University of Minnesota, Twin Cities.*

Technical skills

Programming languages: Python, SAS, C/C++, Fortran, Matlab/Octave

Natural languages: English, French, German, Japanese

Other: Excel, SQL, LaTeX, Bash, GitHub, QGIS

Research Papers

2019 **Journal of Cleaner Production**, *Sustainability Assessment of Universities as Small-Scale Urban Systems: A Comparative Analysis Using Fisher Information and Data Envelopment Analysis. Vol 212.*

2017 **Proceedings of Coastal Dynamics 2017**, *Estimating climate change impacts on storm surge using adaptive mesh refinement.*

2016 **Hydrological Research Letters**, *Impact assessment of climate change on coastal hazards in Japan. Vol 10.*

2016 **Communications in Mathematical Sciences**, *The response of reduced models of multiscale dynamics to small external perturbations. Vol 14, No 3.*