

EDUCATION: **Ph.D. in Computer Science**, 2015
 M.S. in Computer Science, 2010
 Rutgers University, New Brunswick, NJ
 Ph.D. Adviser: Dimitris Metaxas

B.S. in Computer Science and Mathematics, 2008, Summa cum Laude
 Ursinus College, Collegeville, PA

WORK

EXPERIENCE: **Climate Central, Princeton, NJ**
 Senior Computational Scientist and Senior Developer, June 2017-Present
 Computational Scientist and Senior Developer, January 2015-May 2017
 Senior Developer and Researcher Associate, July 2013-December 2014

- Conduct and supervise scientific programming, and co-author peer-reviewed research.
- Supervise and train junior development staff.
- Lead development of coastal analysis systems, used to assess coastal flooding risks and vulnerability across the US and globally.
- Independently conceived of, designed, and implemented CoastalDEM – a digital elevation model based on NASA’s SRTM 3.0. CoastalDEM uses machine learning technology to virtually eliminate elevation bias and reduce error (RMSE/LE90) present in SRTM by nearly half.

Rutgers University, Piscataway, NJ
 Graduate Research Assistant, August 2010-December 2014

- Completed Ph.D. under Dimitris Metaxas, working on a project to simulate blood flow through the heart.
- Used CT scans of both healthy and abnormal hearts to generate very accurate meshes, including detailed trabeculae, then ran high-resolution fluid simulations, using heart models as boundary conditions.
- Built custom software to perform SPH fluid simulations on a GPU using CUDA.

Department of Defense, Fort Meade, MD
 Computer Science Research Intern, Summers 2008-2011

- Spent first two summers in human language technology lab working on a number of projects related to information retrieval, topic clustering, supervised machine learning, and high-dimensional data visualizations.
- Spent Summer 2010 in biometrics lab starting a project to simulate the deformation of iris tissue due to pupil dilation in order to improve iris recognition performance.
- Spent Summer 2011 in multimedia processing lab on a project to implement both regular and convolutional neural networks in NVIDIA CUDA in order to accelerate training times on a massively-parallel graphics processing unit (GPU).

SELECTED PUBLICATIONS:

Scott Kulp and Benjamin Strauss. "New Elevation Data Triple Estimates of Global Vulnerability to Sea-Level Rise and Coastal Flooding." **Nature Communications** 2019.

DJ Rasmussen, Klaus Bittermann, Maya Buchanan, **Scott Kulp**, Benjamin H. Strauss, Robert Kopp, and Michael Oppenheimer. "Extreme sea level implications of 1.5 °C, 2.0 °C, and 2.5 °C temperature stabilization targets in the 21st and 22nd centuries." **Environmental Research Letters** 2018 ; published March 15, 2018, doi: 10.1088/1748-9326/aaac87

Scott Kulp and Benjamin H. Strauss. "CoastalDEM: A Global Coastal Digital Elevation Model Improved from SRTM Using a Neural Network." **Remote Sensing** 2018 ; published March 1, 2018, doi: 10.1016/j.rse.2017.12.026

Robert Kopp, Robert Deconto, Daniel Bader, Carling Hay, Radley Horton, **Scott Kulp**, Michael Oppenheimer, David Pollard, and Benjamin H. Strauss. "Evolving Understanding of Antarctic Ice-Sheet Physics and Ambiguity in Probabilistic Sea-Level Projections." **Earth's Future** 2017 ; published December 14, 2017, doi: 10.1002/2017EF000663

Scott Kulp and Benjamin H. Strauss. "Rapid Escalation of Coastal Flood Exposure in US Municipalities from Sea Level Rise." **Climatic Change** 2017 ; published May 10, 2017, doi: 10.1007/s10584-017-1963-7

Scott Kulp and Benjamin H. Strauss. "Global DEM Errors Underpredict Coastal Vulnerability to Sea Level Rise and Flooding." **Frontiers in Earth Science** 2016 ; published April 19, 2016, doi: 10.3389/feart.2016.00036

Peter Clark, Jeremy Shakun, Shaun Marcott, Alan Mix, Michael Eby, **Scott Kulp**, Anders Levermann, Glenn Milne, Patrik Pfister, Benjamin Santer, Daniel Schrag, Susan Solomon, Thomas Stocker, Benjamin Strauss, Andrew Weaver, Ricarda Winkelmann, David Archer, Edouard Bard, Aaron Goldner, Kurt Lambeck, Raymond T. Pierrehumbert and Gian-Kasper Plattner. "Consequences of twenty-first-century policy for multi-millennial climate and sea-level change." *Nature Climate Change* 2016.

Benjamin H. Strauss, **Scott Kulp**, and Anders Levermann. "Carbon Choices Determine US Cities Committed to Futures below Sea Level." **Proceedings of the National Academy of Sciences of the United States of America** 2015; published ahead of print October 12, 2015, doi:10.1073/pnas.1511186112