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Pacific Institute *for the*
Mathematical Sciences

2015 PIMS-UBC Statistics Constance Van Eeden Lecture

24 March, 2015
3:30 pm

MSL Lecture Theatre 102 (2185 East Mall)
The University of British Columbia

Projecting the Uncertainty of Sea Level Rise Using Climate Models and Statistical Downscaling

SPEAKER: Peter Guttorp (University of Washington)

ABSTRACT: Most global climate models do not estimate sea level directly. A semi-empirical approach is to relate sea level change to temperature and then apply this relationship to climate model projections of temperature for different future scenarios. Another possibility is to estimate the relationship between global mean temperature in historical runs of a model and instead apply this relationship to future temperature projections. We compare these two methods to estimate global annual mean sea level and assess the resulting uncertainty.

Of more practical importance is to estimate local sea level. We exemplify this by developing models for projected sea level rise in Vancouver and Washington State and illustrate different sources of uncertainty in the projections.

BIO: PETER GUTTORP is a Professor of Statistics, Guest Professor at the Norwegian Computing Center, Project Leader for SARMA, the Nordic Network on Statistical Approaches to Regional Climate Models for Adaptation, Co-director of STATMOS, the Research Network on Statistical Methods for Atmospheric and Ocean Sciences, Adjunct Professor of Statistics at Simon Fraser University and member of the interdisciplinary faculties in Quantitative Ecology and Resource Management and Urban Design and Planning. He obtained a degree from the Stockholm School of Journalism in 1969, a B.S. in mathematics, mathematical statistics and musicology from Lund University, Sweden, in 1974, a Ph.D. in statistics from the University of California at Berkeley in 1980 and a Tech.D. h.c. from Lund University in 2009. He joined the University of Washington faculty in September 1980.



Dr. Guttorp's research interests include uses of stochastic models in scientific applications in hydrology, atmospheric science, geophysics, environmental science, and hematology. He is a fellow of the American Statistical Association and an elected member of the International Statistical Institute. During 2004-2005 he was the Environmental Research Professor of the Swedish Institute of Graduate Engineers, and in 2014 he was one of the Chalmers Jubilee Professors.