TIES North American Regional Meeting
University of Washington, Seattle
June 19 – June 21, 2007

TUESDAY JUNE 19

1:00–1:15 **Welcome**
(HUB 200)
David Brillinger, TIES President
Peter Guttorp, Organizing Committee Chair

1:15–3:15 **Inference for mechanistic models**
(HUB 200)
Chair: Joel Reynolds, US Fish and Wildlife Service, Anchorage

Tilmann Gneiting, University of Washington
Probabilistic weather forecasting

Mark Berliner, Ohio State University
Physical statistical environmental modeling

Derek Bingham, Simon Fraser University
Experiment design for models with field and computer trials

3:15–3:45 **Coffee break**

3:45–4:45 **Keynote lecture I**
(HUB 200)
Chair: Jim Zidek, University of British Columbia

Paul Switzer, Stanford University
Regional time trends in climate model simulations

5:30–7:30 **Posters & Opening mixer**
(Walker–Ames Room)

Celeste Yang, Kansas State University
A study of the calibration–inverse prediction problem for a mixed model

Laurie Ainsworth, Simon Fraser University
Zero-inflated spatial models

Søren E. Larsen, Aarhus University
Regional trends in precipitation and stream runoff in Denmark

Erika Kramer, University of Waterloo
Local hierarchical extension of Geostatistical Output Perturbation (GOP) method for probabilistic weather forecasting of surface temperature

Laura Knudsen, University of Washington
An international comparison of air quality standards

WEDNESDAY JUNE 20

8:00–10:00 **Monitoring the environment and biota on landscape to continental scales I**
(HUB 200)

Chair: Joel Reynolds, US Fish and Wildlife Service Anchorage

Robin O'Malley, The H. John Heinz III Center for Science, Economics and the Environment
The state of the nation's ecosystems: Environmental signals at the macro scale

Jason Legg, Iowa State University
Imputation procedure to extrapolate data for unobserved panels in longitudinal surveys

Gretchen Moisen, USFS Rocky Mountain Research Station
Improving efficiency in broad-scale vegetation inventories: Examples from the Nevada photo-based inventory pilot

8:00–10:00 **Contributed I: Inference for mechanistic and stochastic models**
(HUB 209)

Chair: Tilmann Gneiting, University of Washington

McLean Sloughter, University of Washington
Probabilistic quantitative precipitation forecasting using Bayesian model averaging

Johan Lindström, University of Lund
Interpolating precipitation data over the African Sahel using a non-stationary GMRF

Larissa Stanberry, University of Washington
Assessing probabilistic forecasts of multivariate quantities

Eva Furrer, National Center for Atmospheric Research
Improved treatment of covariates and extremes in climate scenario generation

Veronica Berrocal, University of Washington
Probabilistic weather forecasting for winter road maintenance

10:00–10:15 **Coffee break**

10:15–12:15 **Monitoring the environment and biota on landscape to continental scales II**
(HUB 200)

Chair: Loveday Conquest, University of Washington

Don Stevens, Oregon State University
Spatially balanced survey designs for large scale monitoring programs

Mevin Hooten, Utah State University
Optimal spatio-temporal sampling designs for monitoring dynamic systems

Jay Breidt, Colorado State University
Uncertainty analysis for a US inventory of soil organic carbon stock changes

10:15–12:15 **Contributed II: Spatial Methods**
(HUB 209)

Chair: Paul Sampson, University of Washington

Kathryn Irvine, Oregon State University
Connections between graphical models and models for multivariate spatial data

Finn Lindgren, University of Lund
Approximation of generalised Matérn covariances using Markov random fields

Petrutza Caragea, Iowa State University
A practical approach to analyzing large scale nonstationary spatial data

Adam Szpiro, University of Washington
Challenges in predicting intra-urban variation in air pollution levels using data from a complex spatio-temporal monitoring design

Hakmook Kang, Brown University
Predicting water quality in the Maryland coastal bays using spatio-temporal models

12:15–1:30 **Lunch**

1:30–3:30 **Paleoclimatic Temperature Reconstruction**
(HUB 200)
Chair: Peter Guttorp, University of Washington

Edward Cook, Lamont-Doherty Earth Observatory
Tree rings as natural recorders of climatic variability and change: their properties, strengths, and limitations

David Schneider, University of Colorado
Water isotopes and ice cores as indicators of climate change: Integrating data, modeling and theory

Bo Li, National Center for Atmospheric Research
The uncertain hockey stick: a statistical perspective on the reconstruction of past temperatures

1:30–3:30 **Contributed III: Methods in Ecology**
(HUB 209)
Chair: Ashley Steel, NOAA Fisheries Seattle

Joshua J. Lawler, Oregon State University
Biodiversity in a changing climate: projected climate-induced shifts in species distributions

Heather Coiner, University of Toronto
Minimum winter temperatures can predict the northern range limit of kudzu (Pueraria lobata) in North America

Alice Shelly, TerraStat
Sample design and power analysis for detecting long term changes in landbird populations in the North Cascades Coastal Network

Zuzana Hrdlickova, University of British Columbia Okanagan
One-way ANOVA type model with negative binomial distribution

Cynthia Cooper, Environmental Protection Agency Columbus
Adapting Melly's quantile-regression Oaxaca/Blinder decomposition for continuous factors, to estimate stream stressor impacts on benthic tail-populations in confounded conditions

Megan Daily Higgs, Colorado State University
Spatial models for ordered categorical data

3:30-3:45 **Coffee break**

3:45-5:45 **Assessing Trends in Extreme Climate Events**
(HUB 200)
Chair: Peter Guttorp, University of Washington

Elizabeth Shamseldin, University of North Carolina
Extreme precipitation: an application modeling n-year return levels at the station level in extremes of North American rainfall

Georg Lindgren, University of Lund
On marine weather conditions

Slava Kharin, Environment Canada, Victoria
Changes in temperature and precipitation annual extremes in the IPCC AR4 multi-model ensemble

3:45-5:45 **Climate impacts on ocean and freshwater ecosystems**
(HUB 209)
Chair: Lisa Crozier, NOAA Seattle

Bill Peterson, NOAA Newport
The Northern California Current Ecosystem: climate variability and indices of ocean conditions for fishery management

Peter Lawson, NOAA Newport
Climate impacts on Oregon coastal coho salmon, Oncorhynchus kisutch: integrating freshwater and marine ecosystems at daily to centennial time scales

Kerym Aydin, NOAA Seattle
Predicting our predictions: Reporting uncertainty in forecasting tools under development for ecosystem-based fisheries management

Lisa Crozier, NOAA Seattle
Effects of climate change on Snake River Chinook Salmon

6:00–9:00 **Conference dinner**
(Haggett North Main Dining Room)

THURSDAY JUNE 21

8:00–10:00 **Agroclimate risk assessment**
(HUB 200)
Chair: Jim Zidek, University of British Columbia

Nathaniel Newlands, Agriculture Canada
Canadian agriculture, climate change and extreme weather: Developing a credible database of gridded long-term nationwide daily agroclimatic data

Jim Ramsay, McGill University
Estimating the variation in the quantile function for precipitation over space and time

Nhu Le, BC Cancer Agency, Vancouver
Modelling precipitations fields for agroclimate risk management

8:00–10:00 **Contributed IV: Forest fires, remote sensing, and stochastic modeling**
(HUB 209)
Chair: Haiganoush Preisler, US Forest Service Albany

Sorina Eftim, Johns Hopkins University
Canada forest fires, transboundary air pollution and hospitalizations among the elderly in the Northeastern and Mid-Atlantic regions of the USA in July 2002

Don McKenzie, US Forest Service, Seattle
Geospatial modeling of historical low-severity fire regimes

Trevor Moffiet, University of Newcastle
Relationship modelling on bounded spaces with example application to the estimation of forest foliage cover by remote sensing

Johannes Breidenbach, Forest Research Institute Baden-Württemberg
Comparing methods to estimate above ground biomass by means of airborne lidar data

Owen Hamel, NOAA Seattle
A mathematical model of the bomb radiocarbon chronometer for use in fish age validation

10:00–10:30 **Coffee break**

10:30–12:30 **The role of statistics in environmental policy**
(HUB 200)
Chair: Ashley Steel, NOAA Fisheries Seattle

Paul Mcelhany, NOAA Fisheries Seattle
Sensitivity analysis of a model used in the management of ESA-listed salmonids: making sense of 10,000 parameters

Tanja Srebotnjak, Yale University
Among the blind the one-eyed is king: a decision-tree model for dealing with incomplete information in environmental policy

Marianne Turley, Bureau of Land Management, Oregon
Statistics impact federal environmental policy!! Where? How? Why?

10:30–12:30 **Measuring biodiversity and species interactions**
(HUB 209)
Chair: Laurie Ainsworth, Simon Fraser University

Andy Royle, US Geological Survey
Hierarchical models for inference in (Meta)community systems

Emily Silverman, US Fish and Wildlife Service Maryland
Statistical approaches to measuring species' associations in mixed-species bird flocks

Rampal Etienne, University of Groningen
The utility of the useless: lessons from ecological nihilism

12:30–2:00 **Lunch**

2:00–3:00 **Keynote Lecture II**
(HUB 200)
Chair: Peter Guttorp, University of Washington

David Brillinger, University of California Berkeley
Probabilistic risk modeling at the wildland–urban interface: the 2003 Cedar Fire

3:00–3:30 **Coffee break**

3:30–5:30 **Forests, fires and stochastic modeling**
(HUB 200)
Chair: Charmaine Dean, Simon Fraser University

Mike Flannigan, Canadian Forest Service, Sault Ste. Marie
Climate change and forest fires in Canada

Haiganoush Preisler, US Forest Service, Albany
Effects of climate on wildland fires

Steve Taylor, Canadian Forest Service, Victoria
Use of stochastic simulation in downscaling climate change projections for modeling daily forest insect and host development: examples from B.C

3:30–5:30 **Contributed V: Climate**
(HUB 209)
Chair: Veronica Berrocal, University of Washington

Mark Greenwood, Montana State University
Functional linear models for daily or yearly streamflow measures

Michael Keim, University of Washington
Characteristic scale analysis of arctic sea ice types using wavelets

Peter Craigmile, Ohio State University
Spatial variation in the influence of the North Atlantic oscillation on precipitation across Greenland

Donald Percival, University of Washington

Arctic sea-ice thickness: Evidence of decline from a multiple regression analysis incorporating long-range dependence

Donald Noakes, Thompson Rivers University
Decadal scale response of North Pacific ocean marine fisheries to regime shifts

Lelys Guenni, Simon Bólivar University
Synthesizing climate change projections for Venezuela using a probabilistic Bayesian approach