Agenda: First Workshop on Understanding Climate Change from Data
University of Minnesota - Twin Cities, Minneapolis, MN   3-180 Keller Hall

Monday August 15, 2011

7:45	Registration & Breakfast
8:30	Welcome & Opening Remarks Mos Kaveh, Associate Dean (Research), College of Science and Engineering, University of Minnesota Xiaoyang Wang & Vasant Honavar, National Science Foundation
8:45	Vipin Kumar, University of Minnesota Introduction to the NSF Expeditions in Computing Project Understanding Climate Change: A Data Driven Approach

Session 1 Chair: Fred Semazzi

9:15	Slobodan Simonovic, University of Western Ontario *System Dynamic Modelling of Interactions Within the Society-Biosphere-Climate System*
9:35	David Erickson, Oak Ridge National Laboratory *Data Mining, Exa-Scale Work Flow and Financially Germane Carbon/Climate Weather on the Evening News*
9:55	Auroop Ganguly, University of Tennessee - Knoxville / Oak Ridge National Laboratory *Climate Change, Urbanization, and the Indian Monsoon Rainfall:* *Toward Informing Climate Science, Adaptation Decisions, and Mitigation Policies with Data-Guided Methods*
10:10	Habib Najm, Sandia National Laboratory *Uncertainty Quantification in Computational Models*
10:30	Coffee Break

Session 2 Chair: Shashi Shekhar

11:00	Lawrence Buja, National Center for Atmospheric Research *Climate 2.0: Usable Climate Science and Services for Decision Makers*
11:20	Rupa Kumar Kolli, World Meteorological Organization *Global Framework for Climate Services*
11:40	Alok Choudhary, Northwestern University *Developing Scalable and Power-Efficient Data Mining Kernels*
11:55	Ian Foster, Argonne National Laboratory *Robust Decision-Making on Climate and Energy Policy*
12:15	Lunch Break

Session 3 *Chair: Arindam Banerjee*

13:40	Nitesh Chawla, University of Notre Dame *Computational Thinking for Climate Data Sciences:* *From Understanding to Adaptation to Impact*
14:00	Karsten Steinhaeuser, University of Minnesota *Construction and Analysis of Climate Networks*
14:15	Michael Steinbach, University of Minnesota *Finding Climate Indices and Dipoles Using Data Mining*
14:30	Stefan Liess, University of Minnesota *Interactions of Dipoles and Trends in Climate*
14:45	Shyam Boriah, University of Minnesota *Global-scale Land Cover Change Detection*

15:00	Coffee Break

15:45	Panel Discussion: Climate Science & Policy Ana Barros, David Erickson, Leonard Hirsch, Rupa Kumar Kolli, and Fred Semazzi

17:00	Time for Discussions, etc.
18:00	Poster Session & Dinner

Tuesday August 16, 2011

8:00	Registration & Breakfast

8:30	Welcome & Recap Day 1

Session 4 *Chair: Nagiza Samatova*

8:40	Soroosh Sorooshian, University of California - Irvine *The Important Role of Observations in Model Testing, Parameterization, and* *Modification: Presentation of Case Studies in Semi-Arid Regions and Large-Scale* *Irrigation Areas*
9:00	Ana Barros, Duke University *Mapping and Exploring Water Cycle Extremes and Nonlinearities from Data*
9:20	Forrest Hoffman, Oak Ridge National Laboratory *Data Mining for Climate Change Model Intercomparison*
9:40	Peter Brecke, Georgia Institute of Technology *Linking Earth Systems Models to Social Population Agent-Based Models Through* *Geography*
10:00	Shashi Shekhar, University of Minnesota *Spatial Data Mining Issues in Understanding Climate Change*

10:15	Coffee Break

	Session 5 _Chair: Auroop Ganguly_
10:45	James Elsner, Florida State University _Spatial Grids for Hurricane Climate Research_
11:05	Young Kwon, National Oceanic and Atmospheric Administration _Advancement of the Operational Hurricane Modeling Effort in EMC/NOAA and Collaboration Efforts with Research Community_
11:25	Nagiza Samatova, North Carolina State University _Accurate Forecasting of Adverse Spatio-Temporal Extreme Events_
11:40	Fredrick Semazzi, North Carolina State University _Broader Impacts of the Application of the Combined use of Data-driven Methodology and Physics-based Weather and Climate Prediction Models_

11:55	Lunch Break

	Session 6 _Chair: Michael Steinbach_
13:15	Abdollah Homaifar, North Carolina A & T State University _Similarity Quantification of Climatic Images and Tropical Cyclone Tracking and Intensity Estimation_
13:30	Naoki Abe, IBM T.J. Watson Research Center _Graphical Granger Modeling for Climate Data Analysis_
13:50	Arindam Banerjee, University of Minnesota _Graphical Models for Climate Data Analysis:_ _Drought Detection and Land Variable Regression_
14:05	Snigdhansu Chatterjee, University of Minnesota _Simultaneous Quantiles of Several Variables and their Role in Missing Data Imputation_

14:20	Coffee Break
15:00	Panel Discussion: Data Mining Challenges Chid Apte, Charles Elkan, Sara Graves, Jiawei Han, Hillol Kargupta, and Surajit Ray

17:00	Discussions, Downtime, etc.
17:45	Board Bus to Loading Dock
18:30	Dinner Boat Cruise - Closing Remarks