ALASKA NSF EPSCoR
DATA to DECISIONS
VISUALIZATION WORKSHOP

Day One • November 16, 2015
(all events in GI Globe Room unless otherwise noted)

8:00  Registration and poster setup
      Poster session chair: Peter Webley, UAF Geophysical Institute Associate Research Professor

8:15  Shuttle to UAF from Pike’s Waterfront Lodge

9:00  Welcome session • Elvey Auditorium
      Anupma Prakash, EPSCoR Principal Investigator
      Nettie La Belle-Hamer, UAF Associate Vice Chancellor for Research

9:15  Introduction of keynote speaker • Elvey Auditorium
      Pips Veazey, Alaska EPSCoR Associate Project Director

9:20  Keynote presentation: Beyond Modeling and Visualization: Towards Policy Design and Implementation
      Description: At Scientific American, we focus on data visualization as a communication tool, with
      graphics that engage, inform, and inspire science-savvy but non-specialist readers. This presen-
      tation focuses on how graphics are developed at the magazine, emphasizing the importance of
      serving the intended audience.
      Jen Christiansen, Senior Graphics Editor for Scientific American

10:00 Discussions with neighbors

10:10 Q & A with Jen Christiansen

10:30 Networking break and visits to Decision Theater North

11:00 Session One: Visualizing and Integrating Data for Decision Making
      Visualizing Geographic Data in a Planetarium Dome
      Frank Witmer, UAA Assistant Professor of Computer Science and Engineering (session chair)
      Understanding 4,000 articles in 10 Minutes through Interactive Visualization
      Martin Cenek, UAA Assistant Professor of Computer Science and Engineering
      Visualizing Stakeholder Futures
      Jamie Trammell, UAA Assistant Professor of Geography and Environmental Studies
      Immersive Virtual Landscapes
      John Anderson, University of Idaho Associate Professor of Virtual Technology and Design, and Roger Lew, University of Idaho research faculty
      Integrating Data and Uncertainty in North Slope Development Scenarios
      Olivia Lee, UAF Geophysical Institute Research Associate

12:30 Lunch and Poster Session
1:30  Session Two: Visualization Technology

*Interactive and Web-based Visualization using Graphics Hardware*
- Orion Lawlor, UAF Associate Professor of Computer Science (session chair)

*The UAA Planetarium and Visualization Theater: Current and Future Capabilities*
- Presenters: Erin Hicks, UAA Assistant Professor of Astronomy and Physics, and Omega Smith, UAA Planetarium Manager

*Decision Theater North: Virtualizing a Display Wall*
- Dayne Broderson, Geographic Information Network of Alaska Technical Services Manager

*Computational Challenges in Creating Scientific Visualizations for High-resolution Displays*
- Jon Genetti, UAF Associate Professor of Computer Science

*Plug and Play?: Strengths and Limitations of Out-of-the-box Web-based Tools for Text Analysis and Visualization*
- Vanessa Raymond, UAF Graduate Student

3:00  Networking break and visits to Decision Theater North

3:30  Session Three: Small Group Workshops

*Building Infographics: Developing visuals with specific audiences in mind* (GI Globe Room)
- Jen Christiansen, Senior Graphics Editor for Scientific American

*Geographic Information Systems: Strategies for using GIS to build maps and other data visualizations* (Room 004 WRRB)
- Pete Hickman, Geographic Information Network of Alaska GIS Instructor

*Web-based Data Visualization: An introduction to D3, three.js, and other web-based data visualization libraries* (Room 401 IARC)
- Orion Lawlor, UAF Associate Professor of Computer Science, and Will Fisher, Geographic Information Network of Alaska Web Developer

5:00  Adjourn

5:30  Shuttle to Pike’s Waterfront Lodge
Day Two • November 17, 2015
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8:15 Shuttle to UAF from Pike’s Waterfront Lodge

9:00 Welcome session
   Anupma Prakash, EPSCoR Principal Investigator
   Bob McCoy, Director, UAF Geophysical Institute

9:15 Introduction of guest speaker
   Pips Veazey, Alaska EPSCoR Associate Project Director

9:20 Guest presentation: Beyond Modeling and Visualization: Towards Policy Design and Implementation
   Description: Technology enables us to visualize policy options and simulate scenarios, but is no panacea in this field: deliberate decisions must be made on how to structure technology-enabled policy simulations to arrive at evidence-driven design, implementation, and evaluation.
   Kevin Desouza, Associate Dean for Research, Arizona State University College of Public Service and Community Solutions

10:00 Discussions with neighbors

10:10 Q & A with Ken Desouza

10:30 Networking break and visits to Decision Theater North

11:00 Session Four: Artistic Principles for Data Visualization
   Lena Krutikov, Climate Science Analyst, Scenarios Network for Alaska and Arctic Planning (chair)
   Ten Design Considerations for Compelling Visualizations
   Jennifer Moss, Instructional Designer, UAF eLearning
   Tools for Observation: Art and the Scientific Process
   Erin Pettit, UAF Assistant Professor of Geophysics (Glaciology)
   The Process of Integrating Art, Science and Design
   Kristin Timm, Science Communication Lead, Scenarios Network for Alaska and Arctic Planning
   Truth, Beauty, and Technology: An Artist’s Perspective
   Bill Brody, UAF Professor of Art (Emeritus)

12:30 Lunch
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1:30  Guest Speaker: *Data-Driven Decision Making at the National Science Foundation*
Paul Morris, Officer, National Science Foundation Atmospheric and Geospace Sciences Division

2:00  Session Five: Facilitated Discussion on User Needs and Institutional Capacity Building
Pips Veazey, Alaska EPSCoR Associate Project Director (convenor)
Dayne Broderson, Geographic Information Network of Alaska Technical Services Manager (convenor)

2:40  Concluding remarks
Anupma Prakash, Alaska EPSCoR Principal Investigator

3:00  Adjourn

3:15  Working session for Data to Decisions mini-grant recipients (held at Decision Theater North)

5:00  Adjourn working session