

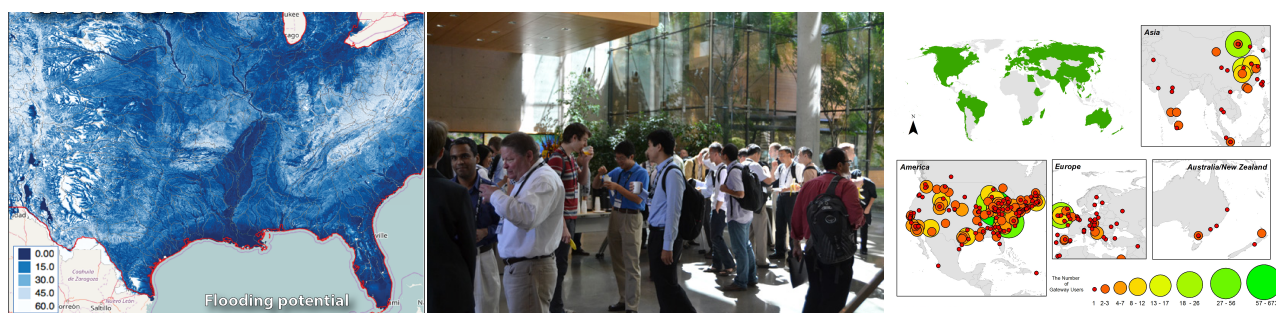
## Call for Position Papers

NSF SI2-S2I2 Conceptualization: Geospatial Software Institute  
<http://www.ncsa.illinois.edu/enabling/software/gsi>

*The First Workshop: Geospatial Software: Connecting Big Data with  
Geospatial Discovery and Innovation*

*Dates: January 28-30, 2018*

*Location: Los Angeles, CA*



Geospatially heterogeneous and interdependent changes across the globe such as emergency management, population growth, and rapid urbanization pose many grand scientific and societal challenges. To tackle these challenges, as a geospatial data deluge permeates broad scientific and societal realms, requires critical thinking about the complex interactions between their driving processes and related geospatial patterns across a number of spatial and temporal scales. Geospatial software plays an increasingly important role in examining such interactions, and has been widely developed and used by numerous communities to transform data with geo and spatial references into valuable insights and significant scientific knowledge. The growing benefits and importance of geospatial software to science and engineering is driven by tremendous needs in numerous fields such as agriculture, ecology, emergency management, environmental engineering and sciences, geography and spatial sciences, geosciences, national security, public health, and social sciences, to name just a few, and is reflected by a massive digital geospatial industry.

NSF has recently funded a project (<http://www.ncsa.illinois.edu/enabling/software/gsi>) to conceptualize a Geospatial Software Institute (GSI) as a long-term hub of excellence in software infrastructure that can serve diverse research and education communities. Specifically, a suite of community workshops will be convened to design the GSI for: 1) transforming geospatial software contributed by communities into open software for geospatial big data; 2) establishing

best practices for computational reproducibility in computation- and/or data-intensive scientific research and education that are dependent on geospatial software; and 3) advancing high-performance geospatial software while making synergistic contributions to the National Strategic Computing Initiative. The first workshop aims to bring together thought leaders from diverse science communities to gain in-depth understanding of geospatial software challenges and opportunities with regard to requirements for the GSI by various science communities.

## **Themes**

Topics of interest for the workshop include, but are not limited to the following themes:

- Scientific underpinnings of geospatial software
- Open access and open source geospatial software
- Frontiers of geospatial software
- Challenges of developing or using geospatial software for scientific research
- Novel sciences and applications of geospatial software
- Fundamentals and principles of geospatial data science
- High-performance geospatial software
- Reproducibility of high-performance geospatial computing
- Data-intensive workflows for geospatial analytics
- Best practices for developing geospatial software
- Sustainability experiences with geospatial software
- Sociologic issues (e.g., teaming, credit, training) for developing, maintaining, and using geospatial software
- Interactions and interfaces between open source and commercial geospatial software

## **Submissions**

To foster active community participation, we invite submissions of position papers each with approximately 500 words addressing one or more of the workshop themes along with a 2-page NSF biographical sketch of the first author. Each position paper may not exceed 2 pages, and should conform to the following formatting requirements: 1) Times New Roman font type at a size of 11 points or larger; and 2) the margins must be at least one inch on all sides. The organizing committee will review your submission and if selected, will extend you an invitation.

Position papers should be submitted via <https://easychair.org/conferences/?conf=gsiworkshop1>. The submission deadline is December 21, 2017. Accepted position papers will be announced by December 29, 2017. Contributors of accepted position papers will be invited to present their work at the workshop. NSF travel awards will be available for selected participants.