Envisioning a Software Institute to Accelerate Environmental Science [1]

Submitted by erinmr on Thu, 2013-06-06 14:25   Wednesday, July 10, 2013 - 09:00 to 10:15
Event: Summer Meeting 2013 [2]
Session Type: Plenary [3]
Abstract/Agenda:
The National Science Foundation created the Software Institutes for Sustained Innovation (S2I2) program to conceptualize a series of new institutes that can accelerate science and engineering through advances in software. Scientific advances ranging from modeling climate change to the sequencing of the human genome have been rendered possible in the last few decades due to the massive improvements in the capabilities of computers to process data through software. This pivotal role of software in science is broadly acknowledged, while simultaneously being systematically undervalued through minimal investments in maintenance and innovation. Scientists rely upon software that is often cobbled together by a string of graduate students with little understanding of software design principles, or upon commercial software that represents an algorithmic black box. As a community, we need to embrace the creation, use, and maintenance of software within science, and address problems such as code complexity, openness, reproducibility, and accessibility. We also need to fully develop new skills and practices in software engineering as a core competency in our earth science disciplines, starting with undergraduate and graduate education and extending into university and agency professional positions. Panelists will present three strategic planning projects that envision the role of a software institute in enabling science. This will be followed by a moderated discussion to elicit opinions and feedback about these visions from the ESIP community, and to assess the roles and functions that are most important for a software institute in the earth and environmental sciences.

Panelists:

·   Peter Fox, ISEES, (http://isees.nceas.ucsb.edu [4])

·   Stan Ahalt, WSSI (http://waters2i2.org/ [5])

·   Bryan Heidorn, ELTR (https://sites.google.com/site/ieltrconcept/home [6])

The panel will be moderated by Matt Jones, NCEAS.

Notes:
ESIP Plenary: Envisioning a Software Institute to Accelerate Environmental Science [7] from ESIPFed [8] on Vimeo [9].

Session Leads:

Name: Karl Benedict [10]
Organization(s): University Libraries [11] ,University of New Mexico [12]

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