CALL FOR PAPERS

International Journal of Geographical Information Science
Special Issue on Big Data and Complexity Science
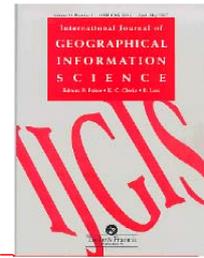
The emerging social media, as well as advanced geospatial technologies, provide unprecedented big data, which are location-based and time-stamped, for better understanding underlying geographic forms and processes, or urban structure and dynamics in particular, related to human activities in both physical and virtual spaces. Different fundamentally from conventional small data that are usually estimated, sampled, and aggregated by census and statistical authorities, big data, emerging from the bottom up or harvested from geospatial technologies, are accurately measured for all individual people or locations. These distinguished features (measured, all, and individual) make big data unique and powerful for understanding the underlying mechanisms of geographic forms and processes. In this regard, complexity science has developed a range of tools such as discrete models (cellular automata and agent-based modeling), complex networks (small-world and scale-free properties), scaling hierarchy (Zipf's law, Pareto distributions, power laws, and allometry), fractal geometry (monofractal and multifractal analysis), self-organized criticality, and chaos theory. All these modeling tools attempt to reveal the underlying mechanisms, linking surface complex forms (or complexity) to the underlying mechanisms (or deep simplicity) through simulations from the bottom up, rather than simple descriptions of forms or of geographic forms in particular. We call for original papers that explore complexity science dimensions of big data using any complexity modeling tools in various settings such as urban informatics, urban computing, smart city, and sustainable environment and society.

Submission:
All manuscripts including any support material should be submitted using the journal's online Manuscript Central facility (http://mc.manuscriptcentral.com/ijgis). Note that the key spirit of big data is not just about the data size, but openness and transparency of doing science. We therefore encourage authors to consider this option of support materials archiving of data (including both raw and derived) and source codes, which is a distinguished feature of this special issue. Authors must select "Special Issue" while they reach the "Article Type" step in the submission process, and identify the "Big data and complexity science" special issue in their cover letter. First-time users must register themselves as Author.

Important dates:
Paper submission due: 30 November 2014
(Note: first come first reviewed up to the deadline)
Acceptance notification: 31 March 2015
Publication (estimated): 30 June 2015

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