

**August 15, 2014 Assessing the Socio-economic Impacts and Value of “Open”
Geospatial Information - Workshop Details**

Assessing the Socio-economic Impacts and Value of “Open” Geospatial Information

A Workshop at George Washington University, Washington DC on October 28 and 29 2014

The production and accessibility of geospatial information is changing dramatically, both technologically and in terms of public participation. The increasing volume of collected and accessible geospatial data presents both opportunities and challenges for scientific and policy communities, and for society as a whole. New data-driven research and decision-making paradigms are emerging for each of these sectors with the potential for profound impacts.

Technology advances and open policy initiatives are already impacting the way geospatial data, including Earth observations and environmental data, are collected and how data and information products are accessed and used, particularly as prices for government-produced data have fallen and barriers to reuse have been reduced. Data creation has also expanded through crowd sourcing and use of mobile and other technologies.

The broader use of data, defined as data democracy, may lead to greater transparency and accountability. At the same time, the integration of vast volumes of data from multiple sources may erode established practices protecting privacy and confidentiality. These factors may also contribute to undermining the public’s trust in government, science, and the commercial sector.

Meeting Objective:

The objectives of this workshop are to examine the consequences of the changing technology, data, and policy landscape, evaluate the emerging new data-driven paradigms, and advance the state -of-the-art methodologies to measure the resulting socioeconomic impacts.

Examples of key issues to be discussed include:

- Valuing information, including infonomics (valuing information as an asset);
- Assessing an increasingly diverse set of information sources;
- Understanding the relationships between societal, environmental, and economic impacts;
- Building, measuring, retaining, and communicating trust in data and their sources;
- Addressing emerging constraints to open access, including intellectual property rights and privacy issues;
- Learning from experience of other data-rich domains such as environmental management, internet businesses, health, and transportation; and
- Developing new means of co-creating and communicating science.

Expected outcomes of the workshop include policy suggestions, published papers, as well as encouraging and developing a sustained, multi-disciplinary community to address impacts and identification of specific topics for further research.

Modality:

Participation will include policy makers and analysts, economists, sociologists, geospatial practitioners and other experts from government, academia and the private sector. This is a working meeting with strong participant engagement leading to recommendations for action. The meeting will include four topic-driven panels plus keynote presentations.

The panels include:

Session 1: Data Democracy – impacts of increased access to data and new modes of consumption

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- Session 2: Data Democracy - increased supply of geospatial information and expanded participatory processes in the production of data (such as crowd sourcing)
Session 3: Impacts and Benefits - Emerging Approaches for Economic impact assessments
Session 4: Impacts and Benefits - Emerging Approaches for Societal impact assessments

Pre-circulated position papers for each panel session will facilitate preparation and discussion.

Session Details:

Session 1: *Data Democracy* – impacts of increased access to data and new modes of consumption

There is a proliferation of sources and changes to policies in many countries regarding charging and access to public information. Geospatial information has moved in the past 5 years from a position of scarcity to one of abundance and from limited availability to open data.

Some of the issues to be covered in this session will include:

- Evolving policies in relation to open data in different regions
- Changes in the geospatial data value chain by making public information open including the value of open data measured in use and ability to use
- The increasing use of temporal analysis as it impacts outcomes of decision making
- What is the knowledge necessary to make use of data – skills and capacity building

Session 2: *Data Democracy* - increased supply of geospatial information and expanded participatory processes in the production of data (such as crowd sourcing)

Harnessing the wisdom of the crowd to improve both the quality and quantity of data sets on a global scale are powerful concepts. Can “mission critical” systems be based upon such increasingly attractive sources? What are the risks and benefits and how can they be assessed in economic terms? Is there a limitation on crowd sourcing?

Some of the issues to be addressed include:

- Types of crowd sourcing:
 - Data mining of social network data
 - Citizen Science and evolving methods of capture and use
- The financing perspective and sustainability of crowd sourcing
- Issues with the demographics (representativeness) of those who contribute
- Quality considerations: Authoritative data versus Official data versus Community sourced

Session 3: Emerging Approaches for Economic impact assessments

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The session will focus on new and emerging economic methods for estimating the value in use of remote sensing and other geospatial data. The technology of earth observations and other contemporary geospatial data provide new ways to assess many issues with Big Data. Armed with more spatiotemporal data at more scales than ever before, decisions can be made with greater certainty. The context is to determine the impacts of additional data on decision making and understanding the potential benefits of investments in data collection and technology. Two examples will be discussed: (1) Monitor and enforce environmental offsets and pollution, which requires frequent and trustworthy updates, and (2) Update or upgrade of water delivery infrastructure, which requires periodic updates. Building upon these two examples, a more general approach to economic impact assessments will be examined addressing issues such as:

1. What is the state of the art in assessing economic impacts of geospatial data and what are the key opportunities?
2. What are the possibilities for using these emerging methods to help prioritize critical needs for information with scarce resources?
3. How can research in assessing economic impacts of geospatial data be most effectively focused to inform science policy and decision-making?

Session 4: Emerging Approaches for Societal impact assessments

Many of the societal uses of large data sets incorporated with or alongside geospatial data have value and impacts that are difficult to measure due to either their qualitative aspects or extended times for observing impacts. Some of these societal impacts are important to individuals and decision-makers but they cannot all be readily monetized.

Furthermore, many raise ethical and legal issues that are yet to be solved such as a loss of privacy, the ability to identify individual activity and the risks of data misuse. Both the aggregate net effects on a global scale and the potential specific ethical issues must be balanced themselves, as well as balanced with the measurable economic impacts.

Issues to be addressed:

What ethical, social and political concerns need to be addressed?

- Use of Big Data analyses can characterize and monitor individuals – Does the computing infrastructure and know-how necessary for Big Data concentrated among very few large organizations provide a disproportionate ability to influence public policy and consumer behavior?
- Do the computational needs of big data (requiring large resources) limit the potential for innovation and create a barrier to entry for smaller businesses?
- Does the dual and evolving role of social media support growth of democracy but also distort public debate and representative democracy?
- Are individuals willing to trade privacy for economic gain, as is already occurring in vehicle insurance?
- How do we decide what data for addressing societal needs should be collected and what biases can result based on these decisions?

Session 5: Discussion, recommendations and summary

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- The recommendations for socioeconomic benefit assessments will be relevant to policies makers and senior executives in both government and to the private sector to address issues of information innovation and its impacts. The results will be documented through economic and policy journals and through a consolidated publication.