



SEMINAR OVERVIEW

**GIS Retrospective Applied Research Seminar
Esri Federal GIS Conference
February 24-25, 2016, Washington, DC**

Mining U.S. Federal Agency Materials for GIS Nuggets

Dr. Barry Wellar

Program Director, GIS Retrospective Project
Principal, Wellar Consulting Inc.
Professor Emeritus, University of Ottawa



1. Background

The GIS Retrospective Program began in 2013 with [AutoCarto Six Retrospective](#), and is further defined by several papers in the International Journal of Applied Geospatial Research (Wellar, 2014, 2015, 2016 -- see the Reading List for details), as well as by slide presentations, papers, and discussions from the colloquium, “Using the Retrospective Approach to Mine for GIS Nuggets”, which was held February 13-14, 2015, at the Esri campus in Redlands, CA. A summary report, thirteen slide presentations, and six papers from the colloquium can be viewed at <http://www.wellar.ca/wellarconsulting/>.

Upon review of the colloquium activity, Esri decided that it wished to support further investigations into the idea of using the retrospective approach to mine “the literature” for GIS nuggets. Discussions among principals led to the decision that the next step in the GIS Retrospective Program would be to hold an Applied Research Seminar, **Mining U.S. Federal Agency Materials for GIS Nuggets**, during the 2016 Esri Federal GIS Conference.

2. Seminar Objectives

A number of objectives define the GIS Retrospective Program. The following objectives are among those raised in discussions which are pertinent to the federal agency seminar project.

1. Share information about publications which describe retrospective research methodology.
2. Share information about publications in which retrospective research methodology is applied in reviews, evaluations, benchmarkings, updates, state-of-the-art surveys, state-of-the-science scans, state-of-the-technology assessments, content analyses, and other examinations of the literature on GIS technology, GIScience methodology, and the uses of GIS technology and GIScience methodology.
3. Demonstrate why an agency’s productions (analog and digital -- including text and numeric documents, as well as images, maps, photographs, videos, films, scans, graphics, and other representations of geospatial phenomena) should be mined for GIS nuggets.
4. Share information about publications that describe using the retrospective approach to mine agency materials for GIS nuggets.
5. Share information on how to mine an agency’s analog and digital productions -- including text and numeric documents, as well as images, maps, photographs, videos, films, scans, graphics, and other representations of geospatial phenomena – for GIS nuggets.
6. Share information about productions which have been the source of GIS nuggets. In addition to the agencies themselves, contributions to this

objective include inputs from seminar attendees and other interested parties reporting on their mining experiences.

7. Provide a framework and ideas for other federal agencies that may wish to host a similar seminar, and/or implement a practice of contributing to the literature on mining agency materials for GIS nuggets.

It is currently planned to produce a preliminary body of documentation for each of the objectives. Then, to the extent that available resources and in-kind or other contributions allow, additional documentation will be created for a selection of objectives.

3. Rationale for Retrospectively Mining Agency Materials

A detailed discussion of the rationale for retrospectively mining federal agency materials is the subject of a report in progress. The following brief comments provide an appropriate level of detail for a seminar overview. But first, there is a general point to be made for context purposes.

That is, beginning with discussions associated with [AutoCarto Six Retrospective](#), and continuing through the colloquium, numerous concerns were raised about the seeming widespread lack of knowledge about the existing literature on GIS technology, GIScience methodology, and their uses.

The general point of concern from a professional or scientific standpoint is that statements and publications are “put out there” without any awareness or regard that pertinent, precedent literature appeared in the public domain 1, 2, 5, 10, 20, 30, and even more years previously. And, beyond the general concern about casualness, superficiality, lack of grounding, weak research practices, etc., many specific concerns were expressed about the political, institutional, organizational, financial, and other consequences of published materials which misrepresent the actual foundations and evolution of thinking and doing in GIS and GIScience.

The message of those discussions for the seminar, therefore, is that it is prudent for agencies to assume that presentations about their holdings are breaking new ground for some and perhaps many seminar attendees, as well as for some and perhaps many other interested parties who access their presentations via a website posting.

In addition to that general reason for agency presentations, reasons related to such matters as return on investment, performance measurement, good governance, better decision-making, origins of policies, roots of programs, monitoring processes, identifying state-of-art changes, measuring state-of-science impacts, and evaluating state-of-technology shifts provide further grounds for agencies to make presentations which encourage the retrospective mining of their materials for GIS nuggets.

Finally, at a more detailed, day-to-day operational level, federal agencies directly and indirectly engage in and/or promote a variety of GIS-related and GIScience-related activities that involve significant expenditures of funds by the agencies themselves, as

well as by other federal agencies, state and local governments, businesses, and other parties affected by agency operations.

It therefore follows that agencies which have an operational history of undertaking, supporting, promoting, or mandating activities such as the following will by definition have created bodies of material which could be an abundant source of GIS nuggets:

1. Examining and testing GIS technology to acquire geospatial data.
2. Using GIS technology to organize and catalogue geospatial data.
3. Using GIS technology to analyze and synthesize geospatial data.
4. Applying GIS technology to disseminate geospatial data.
5. Compiling geospatial data and generating geospatial information through analysis and synthesis activities.
6. Using GIS technology to disseminate geospatial information.
7. Using GIS technology to support policy formation, implementation, and evaluation.
8. Using GIS technology to support program development, implementation, and impact assessment.
9. Using GIS technology to support project design and implementation.

Clearly, the activities listed are less than even “the tip of the tip of the iceberg” when it comes to indicating why there is an abundance of agency materials which warrant being mined for GIS nuggets. An illustration of a more extensive list of terms which could be used to guide retrospectively mining U.S. federal agency materials is provided by Table 3, Examples of research and GIS verb forms which are sources of ideas for doing research and/or doing GIS. The table of verb terms can be found on page 23 of the colloquium report, [*Developing a compendium of ideas on using the retrospective approach to mine for GIS nuggets: Initial considerations.*](#)

4. Seminar Design Specifications

Three recommendations arising from a number of post-colloquium discussions provide the parameters for seminar design:

1. Build explicit continuity with the colloquium into the seminar objectives, content, and processes so that there is a cumulative aspect to the GIS retrospective program.
2. Provide a body of reading materials in advance of the seminar so that attendees can properly prepare for the presentations and discussions. And, conversely, presenters can reasonably assume that interested parties have internalized the reading materials, and they can therefore design their presentations accordingly.

3. For logistical and for effective communications reasons, the applied research seminar will be limited to presentations by a maximum of three or four federal agencies which have long and significant histories in the origins and evolution of GIS technology, GIScience methodology, and the uses of GIS technology and GIScience methodology.

5. Seminar Reading List

The initial version of the reading list will be posted no later than July 31, 2015 at <http://www.wellar.ca/wellarconsulting/>.

6. Update Notices

During the lead-up to the Esri Federal GIS Conference, February 24-25, 2016, occasional reports on seminar developments including information about participants, topics of presentations, background reading materials, links to resources, etc., will be posted at <http://www.wellar.ca/wellarconsulting/>.

Comments or questions about the Applied Research Seminar, **Mining U.S. Federal Agency Materials for GIS Nuggets**, may be sent to: wellarb@uottawa.ca.