

# Introduction

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The Digital Mapping Techniques '04 (DMT'04) workshop was attended by about 100 technical experts from 40 agencies, universities, and private companies, including representatives from 22 state geological surveys (see Appendix A). This workshop was similar in nature to the previous seven meetings, held in Lawrence, Kansas (Soller, 1997), in Champaign, Illinois (Soller, 1998), in Madison, Wisconsin (Soller, 1999), in Lexington, Kentucky (Soller, 2000), in Tuscaloosa, Alabama (Soller, 2001), in Salt Lake City, Utah (Soller, 2002), and in Millersville, Pennsylvania (Soller, 2003). This year's meeting was hosted by the Oregon Department of Geology and Mineral Industries, from May 16-19, 2004, on the Portland State University campus in Portland, Oregon. As in the previous meetings, the objective was to foster informal discussion and exchange of technical information. This objective was well met, as attendees continued to share and exchange knowledge and information, and to renew friendships and collegial work begun at past DMT workshops.

All the DMT workshops have been coordinated by the Association of American State Geologists (AASG) and U.S. Geological Survey (USGS) Data Capture Working Group, which was formed in August 1996, to support the AASG and the USGS in their effort to build a National Geologic Map Database (see Soller, Berg, and Stamm, this volume, and <http://ngmdb.usgs.gov/info/standards/datacapt/>). The Working Group was formed because increased production efficiencies, standardization, and quality of digital map products were needed for the National database—and for the State and Federal geological surveys—to provide more high-quality digital maps to the public.

At the 2004 meeting, oral and poster presentations and special discussion sessions emphasized: 1) methods for creating and publishing map products (here, “publishing” includes Web-based release); 2) field data capture software and techniques; 3) digital cartographic techniques; 4) migration of digital maps into ArcGIS Geodatabase format; 5) analytical GIS techniques; 6) continued development of the National Geologic Map Database; and 7) progress toward building and implementing a standard

geologic map data model and standard science language for the U.S. and for North America.

## ACKNOWLEDGMENTS

I thank the Oregon Department of Geology and Mineral Industries (DOGAMI) and their Director and State Geologist, Vicki McConnell, for hosting this meeting. In the tradition of past DMT meetings, the attendees were given a very informative, productive, and enjoyable experience. I especially thank Paul Staub (DOGAMI), who coordinated the events; Paul provided excellent support for the attendees (including large amounts of good, strong coffee) and offered a fine range of technical and social activities (for example, an evening at one of Portland's brewpubs). Thanks also to Kate Halstead for managing the registration and logistics, James Roddey for managing the meeting's website, and Lu Clark, Mark Neuhaus, and Clark Niewendorp for providing support for the meeting logistics. I also enthusiastically thank Portland State University for providing an excellent venue and support for our meeting, and in particular, Dr. David Percy (Department of Geology). In addition to providing for our many audio-visual and related needs, David was an active participant in the meeting, and I hope he enjoyed our company as much as we enjoyed his.

I also, with gratitude, acknowledge Tom Berg (Chair, AASG Digital Geologic Mapping Committee) for his friendship and his help in conducting the meeting, and for his continued support of AASG/USGS efforts to collaborate on the National Geologic Map Database. Thanks of course also are extended to the members of the Data Capture Working Group (Warren Anderson, Kentucky Geological Survey; Rick Berquist and Elizabeth Campbell, Virginia Division of Mines and Geology; Rob Krumm and Barb Stiff, Illinois State Geological Survey; Scott McColloch, West Virginia Geological and Economic Survey; Gina Ross, Kansas Geological Survey; George Saucedo, California Geological Survey; and Tom Whitfield, Pennsylvania Geological Survey) for help in planning the workshop's content.

I warmly thank Lisa Van Doren (Ohio Geological Survey) for typesetting the Proceedings. Numerous software and hardware vendors attended the meeting and made significant contributions, and they are acknowledged below. I also thank Sheena Beaverson (Illinois State Geological Survey) and Jane Freed (Idaho Geological Survey) for moderating the discussion sessions; they kept us focused and greatly improved the productivity of these sessions. Finally, I thank all attendees for their participation; their enthusiasm and expertise were the primary reasons for the meeting's success.

## PRESENTATIONS

The workshop included 22 oral presentations. Nearly all are supported by a short paper contained in these Proceedings. The papers describe technical and procedural approaches that currently meet some or all needs for digital mapping at the respective agency. There is not, of course, a single "solution" or approach to digital mapping that will work for each agency or for each program or group within an agency; personnel and funding levels, and the schedule, data format, and manner in which we must deliver our information to the public require that each agency design their own approach. However, the value of this workshop and other forums like it is through their roles in helping to design or refine these agency-specific approaches to digital mapping, and to find applicable approaches used by other agencies. In other words, communication helps us to avoid "reinventing the wheel."

Several vendors participated in the workshop, by giving presentations and answering many questions from attendees. Their presence was greatly appreciated by all. Presentations included:

1. "Rapid implementation of the Geodatabase and the Geology Data Model" by Alon Yaari, ESRI,
2. "3-D zone modeling from uncorrelated well/boring data" by Skip Pack, Dynamic Graphics, Inc. (see paper in these Proceedings),
3. "VIEWLOG: a tool for borehole data analysis and constrained geologic modeling" by Dirk Kasenaar, Viewlog Systems, and
4. "Current trends and future developments in HP Large Format printing technology" by Randy Heilbrunn, Hewlett-Packard.

## POSTERS AND COMPUTER DEMOS

Nearly 20 posters were exhibited and several computer demonstrations were provided throughout the workshop. These provided an excellent focus for technical discussions and support for oral presentations. Many are documented with a paper in these Proceedings, following those for the oral presentations; the other posters gener-

ally provided material in support of oral presentations, and so are not documented here.

## ESRI GEODATABASE SESSION

Most geological surveys use ESRI GIS products, and are in the process of migrating files and techniques from the ArcInfo Coverage and/or the ArcView Shapefile format to the ArcGIS Geodatabase format. Attendees therefore requested a special session to discuss how to do this. ESRI graciously agreed to lead this session; I thank Alon Yaari, who led this session, and Joe Breman, who contributed to its content. This session provided hands-on instruction in the process of converting Coverages and Shapefiles to Geodatabase format, using selected geologic maps. Instruction also included Geodatabase design concepts. This topic will receive further emphasis at DMT'05.

## DISCUSSION SESSIONS

To provide the opportunity to consider a topic in some detail, informal discussion sessions are held at the DMT workshops. This year there were two: 1) large-format plotters, and 2) digital cartographic techniques and how we can share information on this subject. Session 1 began with a presentation by Randy Heilbrunn (Hewlett-Packard) followed by extensive discussion that was moderated by Sheena Beaverson (Illinois State Geological Survey). The discussion session's outline is available at <http://ngmdb.usgs.gov/Info/dmt/docs.html>.

Session 2 was held on the final day of the meeting, and produced many good ideas and recommendations that will be discussed by the Data Capture Working Group and DMT'04 attendees via the DMTListserves. Jane Freed (Idaho Geological Survey) and Dave Soller (USGS) moderated this session. The most significant outcome was the recommendation that the NGMDB build a web Clearinghouse to provide links to cartographic standards, geologic map layout templates in various formats (e.g., Adobe Illustrator), and general information about the design of geologic maps. This website is intended to support digital cartographers and GISers in State and Federal agencies, as well as students who are making their first map (e.g., in the EDMAP program). This website is available in prototype form, at <http://ngmdb.usgs.gov/info/cartores/>; all interested persons are encouraged to comment on the site, provide guidance, and contribute links to cartographic resources.

## THE NEXT DMT WORKSHOP

The ninth annual DMT meeting will be held in late April 2005, in Baton Rouge, Louisiana. Please consult the Web site (<http://ngmdb.usgs.gov/info/standards/datacapt/>)

for updated information. While planning for that event, the Data Capture Working Group will carefully consider the recommendations offered by DMT'04 attendees.

## REFERENCES

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