JORGINA A. ROSS

PRESENT POSITION:

Research Assistant Kansas Applied Remote Sensing Program Kansas Biological Survey Takeru Higuchi Bldg. 2101 Constant Avenue Lawrence, Kansas 66049 e-mail: ginaross@ku.edu phone: 785-864-1524

Education: Universidad Nacional Autónoma de Mexico, Mexico D.F., Mexico BS, Business Administration, 1972 MS, Business Law, 1973 Donnelly College, Kansas City, Kansas (1974–1975) English as a second language The University of Kansas, Lawrence, Kansas (1976–1982) Radio and TV, (completed all course work for MA) French, (completed all course work for BA)

PROFESSIONAL EXPERIENCE:

2006-	Research Assistant, Kansas Biological Survey
2004-2012	Treasurer, International Association for Mathematical Geoscience
2001	Convener and General Chair, IAMG 2001, 7 th annual conference of the International Association
	for Mathematical Geology, Cancun, Quintana Roo, Mexico, September 2001
1997	Local Organizing Chair, Digital Mapping Techniques '97 Workshop, American Association of
	State Geologists and the United States Geological Survey, Lawrence, KS, May 1997
1996-2004	Member, Data Capture Working Group of the National Digital Geologic Map Database Project
1992-2004	GIS Advisory Council, Earth Science Department, Emporia State University
1986-2004	Manager, Automated Cartography, Kansas Geological Survey
1984–1986	Supervisor, Automated Cartography, Kansas Geological Survey
1983–1984	Cartographic Tech., Automated Cartography, Kansas Geological Survey
1980–1983	Graduate Research Assistant, Computer Operations, Kansas Geological Survey
1971–1973	Manager, Export Department, Asturiano Textile Co., Mexico D.F., Mexico

PUBLICATIONS

- Mudge, M. R. and Burton, R. H., [1959] 2007, Geologic Map of Wabaunsee County, Kansas; modified by L. L. Brady, D. R. Collins, J. A. Ross, and J. D. Hartman to fit U. S. Geological Survey 1:24,000 topographic base: Kansas Geological Survey, Map M-111, scale 1:50,000; revised from U. S. Geological Survey Bulletin 1068-2, plate 2.
- Winslow, J. D. [1972] 2007, Geologic Map, Jefferson County, Kansas, modified by E. C. Crouse, D. R. Collins, and J. A. Ross to fit U. S. Geological Survey 1:24,000 topographic base: Kansas Geological Survey, Map M-55, scale 1:50,000, revised from KGS Bulletin 202, part 4, plate 1.
- Harbaugh, J. W., Merriam, D. F., and Ross, J. A., 2005, Hillshade mapping of the fine-scale crustal fracture system in Kansas: Zeitschrift der Deutschen Geologischen Gesellschaft, Vol. 155/2-4, p. 247-262, 11 figs., 1 tab., Stuttgart.
- Scott, G. R., Foster, F. W., and Crumpton, C. F., [1959] 2004, Geologic Map of Pottawatomie County, Kansas; modified by D. R. Collins, J. A. Ross, and J. D. Hartman to fit U. S. Geological Survey 1:24,000 topographic base: Kansas Geological Survey, Map M-110, scale 1:50,000, revised from U. S. Geological Survey, Bulletin 1060-C, plate 5. [pdf image available at

<<u>http://www.kgs.ku.edu/General/Geology/County/nop/pt/gifs/M110_PottawatomieGeology_2004.pdf</u>> Note: this large pdf file (26MB) may take one or two minutes to download]

Moore, R. C., Jewett, J. M., and O'Connor, H. G. [1951] 2004, Geologic Map of Chase County, Kansas, (scale 1:63,360) modified by D. R. Collins, J. A. Ross, and E. C. Crouse to fit U. S. Geological Survey 1:24,000

topographic base: Kansas Geological Survey, Map M-56, scale 1:50,000; revised from KGS Volume 11, part 1, plate 1 and other sources. [pdf image available at

<<u>http://www.kgs.ku.edu/General/Geology/County/abc/chase.html</u>>]

- Collins, D. R., Ross, J. A., and Doherr, D., 2001, Interactive geologic maps using ArcIMS, with links to related data and images; in, Digital Mapping Techniques '01—Workshop Proceedings, D. R. Soller, ed.: USGS OFR 01-223, p. 136–152. [Also online at <<u>http://pubs.usgs.gov/of/2001/of01-223/collins.html</u>>]
- Collins, D. R., Doherr, D., and Ross, J. A., 2001, "Geologic Maps and Databases in the Age of Geoinformatics in the Internet"; in, IAMG 2001 Conference Proceedings: International Association for Mathematical Geology, CD-ROM. [Also online at <<u>http://www.kgs.ku.edu/Conferences/IAMG/Sessions/F/Papers/collins.pdf</u>>]
- Collins, D. R., Ross, J. A., and Crouse, E. C., 1999, Progress in development of digital geologic map databases in Kansas: AAPG Mid-Continent Section Meeting, AAPG Bulletin, vol. 83, no. 7, p. 1203.
- Ross J. A., Collins, D. R., and Look, K. K., 1999, Weaving History into the Web: Geologic Maps, Words, and, Images, GSA Annual Meeting, Abstracts with Programs, vol. 31, no. 7, p. 38.
- Hausberger, G., Davis, J. C., Ross, J. A., Siceloff, J., and Bohling, G. C., 1999, Metallogenetische Karte von Österreich software: Österreichische Akademic der Wissenschaften, Vienna, 1 compact disk.
- Winslow, J. D. [1972] 1998, Geologic Map, Jefferson County, Kansas, revised by E. C. Crouse, D. R. Collins, and J. A. Ross: Kansas Geological Survey, Map M-55, scale 1:50,000, revised from Bulletin 202, part 4, plate 1.
- Ross, J. A., and Collins, D. R., 1998, Developing digital geologic map data from accreting out-of-print publications: rescuing geologic terrains from the effects of cartographic generalization and analog subduction zones: Geological Society of America, Abstracts with Programs, Vol. 30, no. 7, p. 89.
- Brady, L. L., and Ross, J. A., 1998, Geologic mapping and the STATEMAP program at the Kansas Geological Survey; an overview: Geological Society of America, Abstracts with Programs, vol. 30, no. 3, p. 2–3.
- Hausberger, G., Ross, J. A., and Davis, J. C., 1998, WIZARD, a groundwater information system for Kansas: 43rd Annual Midwest Groundwater Conference, Program and Abstracts, p. 29.
- Ross, J. A., 1998, Providing Spatial Data and GIS applications via the Internet: [Online]: <<u>http://www.kgs.ku.edu/General/Geology/dmt/spatial.html</u>>
- Ross, J. A., 1998, Providing spatial data and GIS applications via the Internet; in, Digital Mapping Techniques '98— Workshop Proceedings, D. R. Soller, ed.: USGS OFR 98-487, p. 85–90. [Also online at <<u>http://pubs.usgs.gov/of/1998/of98-487/ross1.html</u>>]
- Ross, J. A., 1998, Product development and distribution from the Kansas Digital Geologic Map Database; in, Digital Mapping Techniques '98—Workshop Proceedings, D. R. Soller, ed.: USGS OFR 98-487, p. 107–108. [Also online at <<u>http://pubs.usgs.gov/of/1998/of98-487/ross2.html</u>>]
- Ross, J. A., 1997, Digital geologic map production and publication at the Kansas Geological Survey: Geological Society of America, 1997 annual meeting, Abstracts with Programs, Vol. 29, no. 6, p. A-293.
- Collins, D. R., Berendsen, P., and Ross, J. A., 1997 Digital geologic map development with integration of multiple information sources: a case study in the area of the Elmdale Dome, Chase County, Kansas: Geological Society of America, 1997 annual meeting, Abstracts with Programs, Vol. 29, no. 6, p. A-293.
- Ross, J. A., and Collins, D. R., 1997, Evaluating alternative data simplification techniques for maintenance of map topology and information content: International Association for Mathematical Geology, Proceedings of IAMG'97, Part 1, p. 464–469.
- Ross, J. A., and Collins, D. R., 1997, Information capture from previously published maps for the Kansas and National Digital Geologic Database Projects, Kansas Academy of Science, Abstracts of papers presented, 129th annual meeting, Vol. 16, p. 37.
- Ross, J. A., and Crouse, E. C., 1997, Development of digital geologic map databases from published geologic maps; historic preservation or information collection?: American Association of Petroleum Geologists, Bulletin, Vol. 80, no. 8, p. 1354.
- Ross, J. A., 1997, The Butler County geologic map: a case study of the map production process at the Kansas Geological Survey: Kansas Academy of Science Transactions, Volume 100, no. 1–2, p. 34–46.
- Ross, J. A., and Collins, D. R., 1997, Information capture from previously published maps; in, Proceedings of a workshop on digital mapping techniques—methods for geologic map data capture, management and publication, D. R. Soller, ed.: USGS Open-File Report 97-269, pp. 51–56. [Also online at <<u>http://pubs.usgs.gov/of/1997/of97-269/ross.html></u>]
- Ross, J. A., 1996, Images of digital county geologic maps published by the Kansas Geological Survey on the worldwide-web, URL: http://www.kgs.ku.edu/General/Geology/index.html>.
- Davis J. C., Ross, J. A., and others, 1995, Generalized geologic map of the Istrian Peninsula, Croatia: Institute of Geology, Zagreb, Croatia and Geological Survey of Vienna, Austria.

- Carr, T. R., and Ross, J. A., 1995, Producing horizons of oil and gas fields in the Hugoton Basin, Kansas: Kansas Geological Survey, Map M-42.
- Collins D. R., Brownrigg, R. L., and Ross, J. A., 1995, Management, analysis and display of digital well-log data for presentation of geologic information in the third dimension: GIS World, Symposium Proceedings, Ninth Annual Symposium on Geographic Information Systems in Natural Resources Management, Vancouver, BC, Canada, vol. 1, p.266–268.
- Brownrigg R. L., Collins, D. R., and Ross, J. A., 1995, Changing the face of geologic mapping: technology and data source integration for improved geologic map production: GIS World, Symposium Proceedings, Ninth Annual Symposium on Geographic Information Systems in Natural Resources Management, Vancouver, BC, Canada, vol. 1, p.257.
- Ross J. A., Collins, D. R., and Brownrigg, R. L., 1995, GIS management of petroleum production data for estimation and mapping of regional reserves, future production rates, and discovery potential: GIS World, Symposium Proceedings, Ninth Annual Symposium on Geographic Information Systems in Natural Resources Management, Vancouver, BC, Canada, vol. 1, p. 244–250.
- Carr, T. R., and others, 1994, Producing horizons atlas of oil and gas fields in Kansas: Kansas Geological Survey, Map M-38.
- Carr, T. R., and others, 1994, Producing horizons atlas of oil and gas fields in Kansas in the Kansas City, Lawrence, Manhattan, Hutchinson, Wichita, Beloit, Great Bend, Pratt, Goodland, Scott City, DodgeCity 1X2 degrees quadrangles: Kansas Geological Survey, M35-2 through 12.
- Carr, T. R., and others, 1993, Producing horizons atlas of oil and gas fields in Kansas in the Joplin quadrangle: Kansas Geological Survey, Map M35-1.
- Ross, J. A., and others, 1993, Oil and gas fields in Kansas: Kansas Geological Survey, Map M-34.
- Collins, D. R., Ross, J. A., Brownrigg, R. L., 1993, Watershed districts in Kansas: Kansas Geological Survey, Map M-32.
- Ross, J. A., and others, 1993, Oil and gas fields, (Goodland, Beloit, Manhattan, Kansas City, Lawrence, Hutchinson, Great Bend, Scott City, Dodge City, Pratt Wichita, and Joplin) quadrangle in Kansas; Kansas Geological Survey, a set of 12 maps, M-34 1 through 12.
- Ross, J. A., and others, 1992, Oil and gas fields, (Goodland, Beloit, Manhattan, Kansas City, Lawrence, Hutchinson, Great Bend, Scott City, DodgeCity, Pratt Wichita, and Joplin) quadrangle in Kansas: Kansas Geological Survey, a set of 12 maps, M22-1 through 12 revised.
- Ross, J. A., and others, 1991, Geologic map of Kansas: Kansas Geological Survey, Map M-23, scale 1:500,000.
- Ross, J. A., and others, 1991, Oil and gas fields in Kansas: Kansas Geological Survey, Map M-22, scale 1:500,000.
- Ross, J. A., and others, 1991, Oil and gas fields, (Goodland, Beloit, Manhattan, Kansas City, Lawrence, Hutchinson, Great Bend, Scott City, Dodge City, Pratt, Wichita, and Joplin) quadrangle in Kansas: Kansas Geological Survey, a set of 12 maps, M-22 1 through 12.
- Ross, J. A., and others, 1990, The geologic map of the United Arab Emirates: Kansas Geological Survey.
- Ross, J. A., and others, 1989, Oil and gas fields, (Goodland, Beloit, Manhattan, Kansas City, Lawrence, Hutchinson, Great Bend, Scott City, Dodge City, Pratt, Wichita, and Joplin) quadrangle in Kansas: Kansas Geological Survey, a suite of 12, color, 1x2 degree maps in Kansas, Map M18-1 through 12.
- Ross, J. A., and others, 1989, Oil and gas producing horizons in the Hugoton Gas Area: Kansas Geological Survey. Ross, J. A., and others, 1989, Oil and gas cumulative production in the Hugoton Gas Area: Kansas Geological Survey.

Ross, J. A., and others, 1989, Oil and gas wells in the Hugoton Gas Area: Kansas Geological Survey.

COMMENDATIONS AND ASSOCIATED PUBLICATIONS

- Awarded 2nd Place for "best cartographic design, single map, large format" for *The Geologic Map of Pottawatomie County, Kansas* in ESRI's "Map Gallery" competition at the 2004 ESRI International Users Conference in San Diego.
 <<u>http://www.kgs.ku.edu/General/Geology/County/nop/pt/gifs/M110_PottawatomieGeology_2004.pdf</u>> [Note: this large pdf file (26MB) may take one or two minutes to download]
- Letters and communications of commendation and congratulations from Robert Hemenway, Chancellor of the University of Kansas, from Gramme Bonham-Carter, President of the International Association for Mathematical Geology, from David R. Soller, Chief of the National Geologic Map Database Project, and from many others on my successes as Convenor, General Chair, and Chair of the Organizing Committee for the 2001

conference of the International Association for Mathematical Geology, held September 6–12, 2001, in Cancun, Mexico.

International Association for Mathematical Geology, 2001, IAMG 2001 Conference Proceedings: IAMG, CD-ROM. [online at <<u>http://www.kgs.ku.edu/Conferences/IAMG/index.html</u>>]

Collins, D. R., Doherr, D., and Ross, J. A., 2001, "Geologic Maps and Databases in the Age of Geoinformatics in the Internet"; in, IAMG 2001 Conference Proceedings: IAMG, CD-ROM. [Also online at <<u>http://www.kgs.ku.edu/Conferences/IAMG/Sessions/F/Papers/collins.pdf</u>>]

- Letters of commendation from Lee Gerhard, Director of the Kansas Geological Survey, and from David R. Soller, Chief of the National Geologic Map Database Project, on successful local organizing and hosting of the Digital Mapping Techniques '97 Workshop, held in Lawrence, KS, June 2–5, 1997. This was the first in what has become a series of workshops (with invited participants) that are a joint undertaking of the USGS and the American Association of State Geologists.
 - D. R. Soller, ed., 1997, Proceedings of a workshop on digital mapping techniques—methods for geologic map data capture, management and publication: USGS Open-File Report 97-269, 120 p. [Available online at <<u>http://pubs.usgs.gov/of/1997/of97-269/</u>>]
 - Ross, J. A., and Collins, D. R., 1997, Information capture from previously published maps; in, Proceedings of a workshop on digital mapping techniques—methods for geologic map data capture, management and publication, D. R. Soller, ed.: USGS Open-File Report 97-269, pp. 51–56. [Available online at <<u>http://pubs.usgs.gov/of/1997/of97-269/ross.html</u>>]
- Letters of commendation from Mike Hayden, Governor of Kansas, and from the Director of the Kansas Geological Survey for contributions to the SSC Site proposal, 1987.
 - Ross, J. A., and others, 1987, SSC second proposal: 52 base maps: Kansas Geological Survey.Ross, J. A., and others, 1987, SSC site proposal: 32 base maps for construction of SSC maps: Kansas Geological Survey.
 - Ross, J. A., and others, 1987, Location map: Kansas Geological Survey, SSC Site Proposal, also Open File Report 87-22, (map).

MAJOR DATABASE PRODUCTS

- Ross, J. A., Ross, C. G., and Automated Cartography staff, 1987–2004, Kansas Cartographic Database: Kansas Geological Survey, digital base map data, compilation scale 1:24,000.
- Ross, J. A., and Automated Cartography staff, 1987–2004, Kansas Geologic Map Database: Kansas Geological Survey, digital geologic map data, compilation scale 1:24,000.
- Ross, J. A., and Automated Cartography staff, 1991, Digital geology of Kansas; an Arc/Info implementation of the 1:500,000 scale Geology Map of Kansas, M-23, 1991: Kansas Geological Survey, digital geologic map data, compilation scale 1:500,000.

KGS OPEN FILE REPORTS

- Ohlmacher, G. C., Bartley, J., Ross, J. A., Nelson, K., and Bennett, B., 2003, Preliminary Development of a Digital Field Mapping Technique Including a Creative Field Trip Around the University of Nebraska Campus. Kansas Geological Survey, Open-file Report 2003-45.
- Ross, J. A., 2003, Shaded Relief Image of Kansas, Kansas Geological Survey, Open File Report 2003-44, Plate_a, Plate b, and Plate c
- Ross, J. A., and Ono, M., 2002, Automated Cartography Manual—procedures for production of geologic maps and map databases: Kansas Geological Survey, Open File Report 2002-64.
- Collins, D. R., and Ross, J. A., 1999, Sensitive Groundwater Areas: Kansas Geological Survey, OFR 99-26, scale 1:500,000 [prepared for the Conservation Division, Kansas Corporation Commission, for use in administration of oil and gas drilling regulations].
- Hausberger, G., and others, 1998, WIZARD water information storage and retrieval database: Kansas Geological Survey, Open File Report 98-13.
- Ross, J. A., 1996, Kansas Cartographic Database core metadata: Kansas Geological Survey, Open File Report 96-57, 3 p.
- Ross, J. A., 1996, Compilation of digital geologic map data at the Kansas Geological Survey: Kansas Geological Survey, Open File Report 96-58, 29 p.

- Ross, J. A., 1996, Digital geologic map data capture: A summary of the October 1996 meeting of the Digital Geologic Map Standards Committee and Working Group on Data Capture, AASG and USGS: Kansas Geological Survey, Open File Report 96-45.
- Raje, M., Collins, D. R., and Ross, J. A., 1995, KOGVIEW: Kansas oil and gas data VIEWs, project documentation for a Geographic Information System (GIS) application, Kansas Geological Survey Open File Report 95-78.
- Collins D. R., Ross, J. A., and Raje, M., 1995, KOGVIEW—User friendly interface to Kansas oil and gas production data, charts, and maps through an ArcView application, Kansas Geological Survey Open File Report 95-61.
- Collins, D. R., and Ross, J. A., 1991, Sensitive groundwater areas map: Kansas Geological Survey, Open File Report 91-19.
- Ross, C. G., and Ross, J. A., 1988, Digitizing operations with GIMMAP: Kansas Geological Survey, Open File Report 88-45d, 1988, 97p.

GRANTS and CONTRACTS

- Brady, L. L., and others, STATEMAP (USGS) FY2003, May 2003 through April 2004. Project budget for Automated Cartography—\$46,341. USGS funding—\$9,948; KGS cost share—\$36,393.
- Ross, J. A., 2003, "Database Development of Large Scale (24K) Surface Geology" for the State of Kansas Geographic Information Systems Policy Board for KS FY 2004 – \$26,000.00. (GIS large scale (24k) geologic database development for Bourbon, Labette, Ness, Pottawotomie and Wilson counties).
- Brady, L. L., and others, 2002, STATEMAP (USGS) FY2002, May 2002 through April 2003. Project budget for Automated Cartography—\$70,011. USGS funding—\$33,688; KGS/AC cost share—\$36,323.
- Ross, J. A., and Collins, D. R., 2001, "Database Development of Large Scale (24K) Surface Geology" for the State of Kansas Geographic Information Systems Policy Board for KS FY 2002, Contract No. 2002-2081. Project budget—\$45,000.00, Policy Board funding—\$22,500.
- Brady, L. L., 2001, "Addendum to the FY01 Kansas STATEMAP Proposal". Project budget for Automated Cartography—\$3,181. USGS funding—\$2,400; KGS/AC cost share—\$781.
- Brady, L. L., and others, 2001, STATEMAP (USGS) FY2001, May 2001 through April 2002. Project budget for Automated Cartography—\$59,691. USGS funding—\$26,118; KGS/AC cost share—\$33,573.
- Ross, J. A., and Collins, D. R., 2000, "Database Development of Large Scale (24K) Surface Geology" for the State of Kansas Geographic Information Systems Policy Board, Contract No. 2001-2081. Project budget— \$38,000.00, \$19,000 funding from Policy Board for KS FY 2001.
- Brady, L. L., and others, 2000, STATEMAP (USGS) FY2000, May 2000 through April 2001. Project budget for Automated Cartography—\$52,265. USGS funding—\$18,437; KGS/AC cost share—\$33,828.
- Brady, L. L., and others, 1999, STATEMAP (USGS) FY1999, May 1999 through April 2000. Project budget for Automated Cartography—\$31,100. USGS funding—\$10,094; KGS/AC cost share—\$21,006.
- Ross, J. A., 1998, "Stream Layer Data Conversion for the Riparian Inventory Program" for the State of Kansas Geographic Information Systems Policy Board, \$21,000.
- Ross, J. A., 1997, "Stream Layer Data Conversion for the Riparian Inventory Program" for the State of Kansas Geographic Information Systems Policy Board, \$15,000.
- Collins, D. R., and Ross, J. R., 1997, "Conversion of the USGS Public Land Survey System DLG's to Arc/Info format, Tiled by County" for the State of Kansas GIS Policy Board, \$20,400,

POSTER PRESENTATIONS

- Ross, J. A., 2003, "Development of geologic map databases at the Kansas Geological Survey": GSA Annual Meeting, Seattle, WA (GSA Abstracts with Programs, vol 35, no.6, abstract 66514).
- Ross, J. A., and Collins, D. R., 2002, "The Kansas Geologic Map Data Model": Digital Mapping Techniques Workshop'02, Salt Lake City.
- Olea, R. E., Ross, J. A., Davis, J. C., Collins, D. R., Merriam, D. F., and Watney, W. L., 2001, "Wireline Logs for High-Resolution Subsurface Stratigraphy"; in, International Association for Mathematical Geology, Proceedings: IAMG 2001 Conference, CD-ROM.
- Ross, J. A., Collins, D. R., and Look, K. K., 1999, Weaving history into the web: geologic maps, words, and images: Geological Society of America, 1999 annual meeting, Denver, Colorado.
- Ross, J. A., 1999, Development and Distribution from the Kansas Digital Geologic Map Database, DMT'99 Workshop, Madison, Wisconsin.

- Ross, J. A., Collins, D. R., and Look, K. K., 1999, The Montgomery County, Kansas, geologic map: an example of the Kansas geologic map data model database: Workshop on digital mapping techniques: DMT'99, convened by the AASG and USGS, Madison, Wisconsin.
- Collins, D. R., Ross, J. A., and Crouse, E. C., 1999, Progress in development of digital geologic map databases in Kansas: AAPG Mid-Continent Section Meeting, AAPG Bulletin, vol. 83, no. 7, p. 1203.
- Ross, J. A., and Collins, D. R., 1998, Developing digital geologic map data from accreting out-of-print publications: rescuing geologic terrains from the effects of cartographic generalization and analog subduction zones: Geological Society of America, 1998 annual meeting, Toronto, Canada.
- Hausberger, G., Ross, J. A., and Davis, J. C., 1998, WIZARD, a groundwater information system for Kansas, USA: Angewandte Geographische Informationsverarbeitung X (AGIT 98), Salzburg, Austria.
- Brady, L. L., and Ross, J. A., 1998, Geologic mapping and the STATEMAP program at the Kansas Geological Survey; an overview: Geological Society of America, South-central Section, 32nd annual meeting, Norman Oklahoma.
- Ross, J. A., and E. L. Crouse, 1998, Digital geologic map preparation of Greenwood County, Kansas: Kansas Academy of Science, 130th annual meeting, Wichita, Kansas.
- Ross, J. A., 1998, Product development and distribution from the Kansas Digital Geologic Map Database: Workshop on digital mapping techniques: DMT'98, convened by the AASG and USGS, Champaign, Illinois.
- Ross, J. A., 1997, Digital geologic map production and publication at the Kansas Geological Survey: Geological Society of America, 1997 annual meeting, Salt Lake City, Utah.
- Collins, D. R., P. Berendsen, and Ross, J. A., 1997, Digital geologic map development with integration of multiple information sources: a case study in the area of the Elmdale Dome, Chase County, Kansas: Geological Society of America, 1997 annual meeting, Salt Lake City, Utah.
- Ross, J. A., and Crouse, E. C., 1997, Development of digital geologic map databases from published geologic maps: historic preservation or information collection?: American Association of Petroleum Geologists, 1997 Mid-Continent Section Meeting, Oklahoma City, Oklahoma.
- Ross, J. A., and Crouse, E. C., 1997, Chautauqua County, Kansas, geologic map: Kansas Academy of Science, 129th annual meeting, Fort Hays State University, Hays, Kansas.
- Ross, J. A., 1996, The Butler County geologic map: a case study of the map production process at the Kansas Geological Survey: Kansas Academy of Science, 128th annual meeting, Emporia, Kansas.

WEB MAPPING APPLICATIONS - URL'S

http://kars.ku.edu/maps/kansaslakes, 2014. http://kars.ku.edu/maps/pwa, 2013-2014. http://kars.ku.edu/maps/crucialhabitat, 2012-2013, no longer available. http://kars.ku.edu/maps/sgpchat/, 2011-2014. http://kars.ku.edu/maps/greenreport/, 2009-2014 http://kars.ku.edu/maps/naturalresourceplanner/, 2011-2014. http://kars.ku.edu/maps/biofuelsclimatechange/, 2011. http://kars.ku.edu/maps/wrp/ 2010-2011. http://kars.ku.edu/maps/cpcbsamplingsites/, 2010. http://kars.ku.edu/maps/weldapbg/, 2010. http://kars.ku.edu/maps/kufs/, 2011-2014. http://kars.ku.edu/maps/aquaticresourceplanner/, 2010-2013, (incorporated into the natural resourceplanner http://kars.ku.edu/maps/texasflood1938/, 2009. http://kars.ku.edu/maps/klcp2005/, 2009. http://kars.ku.edu/maps/depthtoflood/, 2009. http://kars.ku.edu/maps/perrylakeextents/, 2009. http://kars.ku.edu/maps/clintonlakeextents/, 2009.

http://kars.ku.edu/maps/kansasresourceplanner, 2009, no longer available

http://kars.ku.edu/maps/ksr, 2009-2010, no longer available.

CARTOGRAPHIC PRODUCTS

Maps digitized, compiled and completed by Automated Cartography, Kansas Geological Survey

- Mudge, M. R. and Burton, R. H., [1959] 2007, Geologic Map of Wabaunsee County, Kansas; modified by L. L. Brady, D. R. Collins, J. A. Ross, and J. D. Hartman to fit U. S. Geological Survey 1:24,000 topographic base: Kansas Geological Survey, Map M-111, scale 1:50,000; revised from U. S. Geological Survey Bulletin 1068-2, plate 2.
- O'Connor, H. G., [1955] 2007, Geologic Map of Osage County, Kansas; modified by D. R. Collins to fit U. S. Geological Survey 1:24,000 topographic base: Kansas Geological Survey, Map M-54, scale 1:50,000; revised from KGS Volume 13, part 1, plate 1.
- Winslow, J. D. [1972] 2007, Geologic Map, Jefferson County, Kansas, modified by E. C. Crouse, D. R. Collins, and J. A. Ross to fit U. S. Geological Survey 1:24,000 topographic base: Kansas Geological Survey, Map M-55, scale 1:50,000, revised from KGS Bulletin 202, part 4, plate 1.
- Scott, G. R., Foster, F. W., and Crumpton, C. F., [1959] 2004, Geologic Map of Pottawatomie County, Kansas; modified by D. R. Collins, J. A. Ross, and J. D. Hartman to fit U. S. Geological Survey 1:24,000 topographic base: Kansas Geological Survey, Map M-110, scale 1:50,000, revised from U. S. Geological Survey, Bulletin 1060-C, plate 5. [pdf image available at

<<u>http://www.kgs.ku.edu/General/Geology/County/nop/pt/gifs/M110_PottawatomieGeology_2004.pdf</u>> Note: this large pdf file (26MB) may take one or two minutes to download]

- Moore, R. C., Jewett, J. M., and O'Connor, H. G. [1951] 2004, Geologic Map of Chase County, Kansas, (scale 1:63,360) modified by D. R. Collins, J. A. Ross, and E. C. Crouse to fit U. S. Geological Survey 1:24,000 topographic base: Kansas Geological Survey, Map M-56, scale 1:50,000; revised from KGS Volume 11, part 1, plate 1 and other sources. [pdf image available at http://www.kgs.ku.edu/General/Geology/County/abc/chase.html]
- Neuhauser, K. R., 2003, Geologic Map, Osborne County, Kansas: Kansas Geological Survey, Map M-102, scale 1:50,000. [pdf image available at

<http://www.kgs.ku.edu/General/Geology/County/nop/ob/gifs/M102_OsborneGeology_2003.pdf>]

- West, R. R. and Sawin, R. S., 2003, The Geologic Map of Bourbon County, Kansas: Kansas Geological Survey, M-97, scale 1:50,000.
- Bennison, A., 2003, The Geologic Map of Cherokee County, Kansas: Kansas Geological Survey, M-104, scale 1:50,000.
- Gerhard, L. C., 2003, Precambrian Lineaments in Kansas: Kansas Geological Survey, Open File Report 2003-7
- Johnson, W. C. and others, 2003, The Geologic Map of Hamilton County, Kansas: Kansas Geological Survey, M-61, scale 1:50,000.
- Johnson, W. C. and others, 2003, The Geologic Map of Kearny County, Kansas: Kansas Geological Survey, M-62, scale 1:50,000.
- Ohlmacher, G. C., 2003, Landslide Inventory Map of Leavenworth and Atchison Counties, Kansas: Kansas Geological Survey, M-109A.
- Ohlmacher, G. C., 2003, Landslide-Hazard Map of Leavenworth and Atchison Counties, Kansas: Kansas Geological Survey, M-109B.
- Johnson, W. D. Jr., Wagner H. C., and Adkison, W. L., [1954–59] 2002, Geologic Map of Shawnee County, Kansas: KGS, Map M-95, scale 1:50,000. [gif image available at

<http://www.kgs.ku.edu/General/Geology/County/rs/shawneeLarge.html>]

- Merriam, D. F., 2002, Geology of the Tallgrass Prairie National Preserve, Chase County, Kansas: Kansas Geological Survey, M-99, Scale 1:36,000.
- Ohlmacher, G. C. and Davis, J. C., 2002, Landslide-Hazard Map of the Atchison West and East 7.5 Minute Quadrangles, Atchison County, Kansas: Kansas Geological Survey, M-89B, scale 1:36,000.
- McCauley, J. R., Geologic Map of Comanche County, Kansas: KGS, Map M-94, scale 1:50,000. [gif image available at http://www.kgs.ku.edu/General/Geology/County/abc/comancheLarge.html]
- Johnson, W. D. Jr., Wagner, H. C., and Adkison, W. L. [1954–59] 2001, Geologic Map of Anderson County, Kansas: Kansas Geological Survey, Map M-100, scale 1:50,000. [gif image available at http://www.kgs.ku.edu/General/Geology/County/abc/andersonLarge.html]
- Grisafe, D. A., and others, 2000, The non-fuel industrial mineral map of Kansas: Kansas Geological Survey, Map M-93, scale 1:1,000,000.
- O'Connor H.G., [1972]., 2000, The Geologic Map of Johnson County, Kansas: Kansas Geological Survey, Map Series M-92, scale 1:50,000. [pdf image available at <<u>http://www.kgs.ku.edu/General/Geology/County/ghj/jo/gifs/johnson_half.pdf</u>]

Merriam, D. F., 2000, The Geologic Map of Coffey County, Kansas: Kansas Geological Survey, Map Series M-59, scale 1:50,000.

Wagner, H., 2000, The Geologic Map of Wilson County, Kansas: Kansas Geological Survey, Map Series M-51, scale 1:100,000.

Merriam, D. F., 2000, The Geologic Map of Woodson County, Kansas: Kansas Geological Survey, Map Series M-52, scale 1:100,000.

- Kansas Geological Survey, 1999, lake maps with lake bottom topography (Tuttle Creek, Wilson, John Redmond, Glen Elder, Kirwin, Cedar Bluff, Marion County, Clinton, Perry, Melvern, Norton, Pomona, Cheney, Toronto, Fall River, Elk City, Milford, Kanopolis, Webster, Cheyenne Bottoms State Waterfowl Refuge, El Dorado, La Cygne, Marais des Cygnes, Quivira National Wildlife Refuge, Lake Shawnee, and Lovewell): Kansas Geological Survey, Map Series M-60 and M-64 through 88, scale 1:36,000.
- McCauley, J. R., 1999, Geologic map of Leavenworth County, Kansas: Kansas Geological Survey, Map Series M-53, scale 1:50,000 and 1:100,000. [gif image available at

<http://www.kgs.ku.edu/General/Geology/County/klm/leavenworthLarge.html>]

McCauley, J. R., 1999, Geologic map of Wyandotte County, Kansas: Kansas Geological Survey, Map Series M-58, scale 1:50,000. [gif image available at

<http://www.kgs.ku.edu/General/Geology/County/tw/wyandotteLarge.html>]

- Wagner, H., 1999, The Geologic Map of Wilson County, Kansas: Kansas Geological Survey, Map Series M-51, scale 1:50,000. [gif image available at <<u>http://www.kgs.ku.edu/General/Geology/County/tw/wilsonLarge.html</u>>]
- Merriam, D. F., 1999, Geologic map of Greenwood County, Kansas: Kansas Geological Survey, Map M-50, scale 1:50,000 and 1:100,000. [gif image available at http://www.kgs.ku.edu/General/Geology/County/ghi/greenwoodLarge.html]
- Aber, S. J., 1999, The Geologic Map of Butler County, Kansas: Kansas Geological Survey, Map Series M-30, scale 1:50,000, (single sheet). [gif image available at

<<u>http://www.kgs.ku.edu/General/Geology/County/abc/butlerLarge.html</u>>]

- Grisafe, D., 1999, The Non-Fuel Industrial Minerals of Kansas Map: Kansas Geological Survey, Map Series M-63, scale 1:1,000,000.
- Bennison, P. A., 1999, The Geologic Map of Labette County, Kansas: Kansas Geological Survey, Map Series M-48, scale 1:100,000.
- Merriam, D. F., 1999, The Geologic Map of Elk County, Kansas: Kansas Geological Survey, Map Series M-49, scale 1:100,000.
- Merriam, D. F., 1999, The Geologic Map of Woodson County, Kansas: Kansas Geological Survey, Map Series M-52, scale 1:50,000. [gif image available at

<<u>http://www.kgs.ku.edu/General/Geology/County/tw/woodsonLarge.html</u>>]

- Johnson, W. C., and others, 1999, The Geologic Map of Finney County, Kansas: Kansas Geological Survey Geological Survey, Map Series M-28, scale 1:100,000.
- Johnson, W. C., and others, 1999, The Geologic Map of Phillips County, Kansas: Kansas Geological Survey Geological Survey, Map Series M-29, scale 1:100,000.
- Johnson, W. C., and others, 1999, The Geologic Map of Stafford County, Kansas: Kansas Geological Survey Geological Survey, Map Series M-46, scale 1:100,000.
- Newhauser, K. R., and others, 1999, The Geologic Map of Ness County, Kansas: Kansas Geological Survey, Map Series M-47, scale 1:100,000.
- O'Connor, H., 1999, The Geologic Map of Douglas County, Kansas: Kansas Geological Survey, Map Series M-26, scale 1:100,000.
- Lane, W. C., and others, 1999, The Geologic Map of Sedgwick County, Kansas: Kansas Geological Survey, Map Series M-25, scale 1:100,000.
- Ohlmacher, G. C., 1999, Landslide Inventory Map of the Atchison West and East 7.5 Minute Quadrangles, Atchison County, Kansas: Kansas Geological Survey, Map Series M-89A, scale 1:36,000.
- Ohlmacher, G. C., 1999, Geologic Map of the Atchison West and East 7.5 Minute Quadrangles, Atchison County, Kansas: Kansas Geological Survey, OFR 99-38, scale 1:36,000.
- Grisafe, D., 1999, Active and Abandoned Non-Fuel Industrial Mineral Pits and Quarries, 1X2 Manhattan Quadrangle, Kansas: Kansas Geological Survey, OFR 99-54, scale 1:250,000.

Bennison, A. P., 1998, Geologic map of Labette County, Kansas: Kansas Geological Survey, Map Series M-48, scale 1:50,000 and 1:100,000. [gif image available at

<http://www.kgs.ku.edu/General/Geology/County/klm/labetteLarge.html>]

Newhauser, K. R., and Pool, J. C., 1998, Geologic map of Ellis County, Kansas: Kansas Geological Survey, Map Series M-19, scale 1:100,000.

- Smith, B. D., and Archer, A. W., 1998, Geologic map of Riley County, Kansas: Kansas Geological Survey, Map Series M-36, scale 1:100,000.
- Aber, J. S., 1998, Geologic map of Butler County, Kansas: Kansas Geological Survey, Map Series M-30, scale 1:100,000.
- Johnson, W. C., and Arbogast, A. F., 1998, Geologic map of Russell County, Kansas: Kansas Geological Survey, Map Series M-37, scale 1:100,000.
- Merriam, D. F., 1998, Geologic map of Chautauqua County, Kansas: Kansas Geological Survey, Map Series M-43, scale 1:100,000.
- Bennison, A. P., and Collins, D. R., 1998, Geologic map of Montgomery County, Kansas: Kansas Geological Survey, Map Series M-44, scale 1:100,000.
- Newell, K. D. Survey, 1997, Sub-Simpson paleogeologic map, Salina Basin, Kansas: Kansas Geological.
- Newell, K. D., 1997, Distribution of Upper Devonian–Lower Mississippian Misener Sandstone, Salina Basin, Kansas: Kansas Geological Survey, map.
- Deene, J. E., 1997, Geologic map containing geology from 12 different counties in the north east part of the state: Kansas Geological Survey, Bulletin 229.
- Merriam, D. F., 1997, Geologic map of Elk County, Kansas: Kansas Geological Survey, Map M-49, scale 1:50,000. [gif image available at <<u>http://www.kgs.ku.edu/General/Geology/County/def/elkLarge.html</u>>]
- Johnson, W. C., 1996, and others, Geologic map of Stafford County, Kansas: Kansas Geological Survey, Map M-46, scale 1:50,000. [gif image available at <<u>http://www.kgs.ku.edu/General/Geology/County/rs/staffordLarge.html</u>>]
- Newhauser, K. R., and others, 1996, Geologic map of Ness County, Kansas: Kansas Geological Survey, Map M-47, scale 1:50,000. [gif image available at <<u>http://www.kgs.ku.edu/General/Geology/County/nop/nessLarge.html</u>>]
- Bennison, A. P., and Collins, D. R., 1996, Geologic map of Montgomery County, Kansas: Kansas Geological Survey, Map M-44, scale 1:50,000. [gif image available at

<http://www.kgs.ku.edu/General/Geology/County/klm/montgomLarge.html>]

- Berendsen, P., and others, 1996, Precambrian subcrop: Kansas Geological Survey, Map M-45_2.
- Berendsen, P., and others, 1996, Structural configuration of the Precambrian basement: Kansas Geological Survey, Map M-45_1.
- Johnson, W. C., and others, 1996, Geologic map of Russell County, Kansas: Kansas Geological Survey, Map M-37, scale 1:50,000. [gif image available at <<u>http://www.kgs.ku.edu/General/Geology/County/rs/russellLarge.html</u>>]
- Merriam, D. F., 1995, Geologic map of Chautauqua County, Kansas: Kansas Geological Survey, Map M-43, scale 1:50,000. [gif image available at <<u>http://www.kgs.ku.edu/General/Geology/County/abc/chautLarge.html</u>>]
- Grisafe, D. A., and others, 1995, Abandoned non-fuel pits and quarries in Kansas: Kansas Geological Survey, Map M-40.
- Grisafe, D. A., and others, 1995, The non-fuel industrial mineral map of Kansas: Kansas Geological Survey, Map M-39.
- Smith, B. D., and Archer, A. W., 1995, Geologic map of Riley County, Kansas: Kansas Geological Survey, Map M-36, scale 1:50,000. [gif image available at <<u>http://www.kgs.ku.edu/General/Geology/County/rs/rileyLarge.html</u>>]
- Aber, J. S., and others, 1993, Geologic map of Butler County, Kansas (northern half): Kansas Geological Survey, Map M-30, scale 1:50,000.
- Johnson, W. C., and others, 1993, Geologic map of Finney County, Kansas (southern half): Kansas Geological Survey, Map M-28, scale 1:50,000.
- Johnson, W. C., and others, 1993, Geologic map of Phillips County, Kansas: Kansas Geological Survey, Map M-29, scale 1:50,000. [gif image available at

<http://www.kgs.ku.edu/General/Geology/County/nop/phillipsLarge.html>]

- Johnson, W. C., and others, 1992, Geologic map of Finney County, Kansas (northern half): Kansas Geological Survey, Map M-28, scale 1:50,000.
- Skelton, L. H., and others, 1992, Oil pipelines and industries in Kansas: Kansas Geological Survey, Map M-27, scale 1:50,000.
- Strickland, O. M., and others, 1992, Map of pre-Pennsylvanian paleogeology: Kansas Geological Survey, Open File Report 87-36.
- Strickland, O. M., and others, 1992, Lithofacies map of the Upper Mclouth: Kansas Geological Survey, Open File Report 87-36.
- Strickland, O. M., and others, 1992, Lithofacies map of the Middle Mclouth: Kansas Geological Survey, Open File Report 87-36.
- O'Connor, H., and others, 1992 (revised), Geologic map of Douglas County: Kansas Geological Survey, Map M-26, scale 1:50,000. [gif image available at

<http://www.kgs.ku.edu/General/Geology/County/def/douglasLarge.html>]

Baars, D. L., 1992, Basement structure of the United States: USGS/KGS.

- Berendsen, P., and Blair, K. P., 1991, Interpretative subcrop map of the Precambrian basement in the Joplin 1X2 degree Quadrangle: Kansas Geological Survey, Subsurface Geology Series 14, Plate 1.
- Lane, C. W., and Miller, D. E., 1991 (revised), Geologic map, Sedgwick County, Kansas: Kansas Geological Survey, Map M-25, scale 1:50,000. [gif image available at

<http://www.kgs.ku.edu/General/Geology/County/rs/sedgwickLarge.html>]

- Wassall, H., and others, 1991, Regional geologic map of Cuba: Kansas Geological Survey.
- Grisafe, D. A., and others, 1990, Abandoned pits and quarries in Kansas: Kansas Geological Survey, Map M-24.
- Macfarlane, P. A., and others, 1990, Predevelopment potentiometric surface of the Dakota Aquifer, Plate 1: Kansas Geological Survey, Open File Report 90-27.
- Macfarlane, P. A., and others, 1990, Top configuration of the Dakota Aquifer, Plate 3: Kansas Geological Survey, Open File Report 90-9.
- Macfarlane, P. A., and others, 1990, Thickness of the Dakota Formation, Plate 4: Kansas Geological Survey, Open File Report 90-27.
- Macfarlane, P. A., and others, 1990, Top configuration of the Kiowa Formation, Plate 5: Kansas Geological Survey, Open File Report 90-27.
- Macfarlane, P. A., and others, 1990, Total thickness of the Dakota Formation, Kiowa Formation, and Cheyenne Sandstone, Plate 6: Kansas Geological Survey, Open File Report 90-27.
- Macfarlane, P. A., and others, 1990, Top configuration of the Morrison Formation, Plate 7: Kansas Geological Survey, Open File Report 90-27.
- Macfarlane, P. A., and others, 1990, Thickness of the Morrison Formation, Plate 8: Kansas Geological Survey, Open File Report 90-27.
- Macfarlane, P. A., and others, 1990, Top configuration of the Morrison Formation, Plate 9: Kansas Geological Survey, Open File Report 90-27.
- Macfarlane, P. A., and others, 1990, Top configuration of the Cedar Hills Sandstone, Plate 10: Kansas Geological Survey, Open File Report 90-27.
- Macfarlane, P. A., and others, 1990, Thickness of the Cedar Hills Sandstone, Plate 11: Kansas Geological Survey, Open File Report 90-27.
- McClain, T. J., and Buddemeier, R. W., 1990, Major Kansas aquifers with principle streams: Kansas Geological Survey, Open File Report 90-9.
- McClain, T. J., and Buddemeier, R. W., 1990, Major Kansas aquifers: Kansas Geological Survey, Open File Report 90-7.
- Grisafe, D. A., and others, 1990, The non-fuel industrial minerals of Kansas: Kansas Geological Survey, Map M-21.
- Steeples, D. W., and others, 1990, Historical microearthquakes from 1978 to 1990: Kansas Geological Survey, in the Nuclear Regulatory Commission Report.
- Steeples, D. W., and others, 1990, The microearthquakes for the third quarter in 1990: Kansas Geological Survey, in the Nuclear Regulatory Commission Report.
- Steeples, D. W., and others, 1990, The microearthquakes for the second quarter in 1990: Kansas Geological Survey, in the Nuclear Regulatory Commission Report.
- Steeples, D. W., and others, 1990, The microearthquakes for the first quarter in 1990: Kansas Geological Survey, in the Nuclear Regulatory Commission Report.
- Geological Survey of Austria, and others, 1990, Generalized geologic map, southwestern part of the Bohemian Massif, Austria: Kansas Geological Survey, March.
- Steeples, D. W., and others, 1989, Historical microearthquakes from 1977 to 1989: Kansas Geological Survey, in the Nuclear Regulatory Commission Report.
- Steeples, D. W., and other, 1989, The microearthquakes for the fourth quarter of 1989: Kansas Geological Survey, Nuclear Regulatory Commission Report.
- Steeples, D. W., and other, 1989, The microearthquakes for the third quarter of 1989: Kansas Geological Survey, in the Nuclear Regulatory Commission Report.
- Steeples, D. W., and others, 1989, The microearthquakes for the second quarter of 1989: Kansas Geological Survey, in the Nuclear Regulatory Commission Report.
- Steeples, D. W., and other, 1989, The microearthquakes for the first quarter of 1989: Kansas Geological Survey, in the Nuclear Regulatory Commission Report.
- Steeples, D. W., and others, 1989, Nebraska earthquakes map: Kansas Geological Survey, in the Nuclear Regulatory Commission Report.
- Welch, J. E., Hale, M. J., and others, 1989, Generalized Pleistocene loess distribution of Kansas: Kansas Geological Survey, Map M-20.

Neuhauser, R. K., Pool, J. C., and others, 1989, Geologic map of Ellis County: Kansas Geological Survey, Map M19, scale 1:50,000. [gif image available at

<http://www.kgs.ku.edu/General/Geology/County/def/ellisLarge.html>]

- Paul, S. E., and others, 1989, Oil and gas fields in Kansas: Kansas Geological Survey, Map M-18, Map revised May 1989, September 1989, and December 1989.
- Newell, K. D., and others, 1989, The distribution of Upper Devonian–Lower Mississippian Misener Sandstone, superimposed on sub-Chattanooga subcrop map: Kansas Geological Survey, Open File Report 89-18.
- Steeples, D. W., and others, 1989, Microearthquake map 1986: Kansas Geological Survey, included in the section on Network Operation in the U.S. Earthquake 1986 bulletin published by the USGS.
- Daily, M. E., and others, 1989, Geochemical map for CUSMAP study of the Joplin quadrangle: Kansas Geological Survey.
- Steeples, D. W., and Buchanan, R. C., 1989, Kansas geomaps: Kansas Geological Survey, Educational Series No.4 (Oil and gas fields in Kansas Map M-18, Historical microearthquakes map, and Gravity map, at 1:3,000,000, three color maps used for the 1989 reprint).
- Steeples, D. W., and others, 1989, Historical microearthquakes from 1977 to 1988: Kansas Geological Survey, Nuclear Regulatory Commission Report.
- Grisafe, D. A., and others, 1989, Construction sand and gravel resources: Kansas Geological Survey, for a meeting with the Missouri Geological Survey and USGS, Joplin Quadrangle CUSMAP Project.
- Grisafe, D. A., and others, 1989, Clay and shale resources: Kansas Geological Survey, for a meeting with the Missouri Geological Survey and USGS, Joplin Quadrangle CUSMAP Project.
- Grisafe, D. A., and others, 1989, Crushed stone resources: Kansas Geological Survey, for a meeting with the Missouri Geological Survey and USGS, Joplin Quadrangle CUSMAP Project.
- Paul, S. E., and others, 1988, Oil and gas fields in Kansas: Kansas Geological Survey, Map M-17, scale 1:500,000.
- Lambert, M. W., and others, 1988, Sub-Pennsylvanian subcrop map of Mississippian units in the Salina Basin: Kansas Geological Survey, Open File Report 88-37.
- Park, C., and others, 1988, The microearthquakes for the third quarter of 1988: Kansas Geological Survey, in the Nuclear Regulatory Commission Report.
- Park, C., and others, 1988, Historical microearthquakes from 1977 to 1988: Kansas Geological Survey, in the Nuclear Regulatory Commission Report.
- Welch, J. E., and Hale, J. M., 1988, Generalized Pleistocene loess-distribution map of Kansas: Kansas Geological Survey. Open File Report 88-17.
- Collins, D. R., and others, 1988, Drilling trends in Kansas—1987: Kansas Geological Survey, Open File Report 88-24.
- Collins, D. R., and others, 1988, Drilling trends in Kansas—1986: Kansas Geological Survey, Open File Report 88-23.
- Pool, J. C., and Newhauser, K. R., 1988, Geology of Ellis County: Kansas Geological Survey and Fort Hays State University. Open File Report 88-16.
- Hildebrand, G. M., and others, 1988, The microearthquakes for the second quarter of 1988: Kansas Geological Survey, To be in the Nuclear Regulatory Commission Report.
- Hildebrand, G. M., and others, 1988, Historical microearthquakes from 1977 to 1988: Kansas Geological Survey, in the Nuclear Regulatory Commission Report.
- Doveton, J. H., and others, 1988, Density values, Kansas contour map: Kansas Geological Survey, GSA Bulletin.
- Collins, D. R., and others, 1988, Background material relating to the ad valorem taxes on oil and gas production: Kansas Geological Survey, Open File Report 88-11, 5 maps.
- Howick, G. L., and others, 1988, Visual variety classes: Kansas Geological Survey, Second SSC Proposal.
- Watney, W. L., and others, 1988, The Cahoj Project: Kansas Geological Survey.
- Newell, K. D., and others, 1988, Oil and gas show map of the Salina Basin area: Kansas Geological Survey.
- Howick, G. L., and others, 1987, Potentially impacted streams: Kansas Geological Survey, SSC Site Proposal.
- Stallard, A. H., and Schenelle, R., 1987, Tract identification numbers: Kansas Geological Survey, SSC Site Proposal, Open File Report 87-22, (map).
- Stallard, A. H., and Schenelle, R., 1987, SSC fee simple estates, stratified fee estates, surface easements mobilization and storage area: Kansas Geological Survey, Open File Report 87-22, (map).
- Howick, G. L., and others, 1987, Potential vegetation and archeological sites: Kansas Geological Survey, SSC Site Proposal, Open File Report 87-22, (map).
- Howick, G. L., and others, 1987, Floodplain map: Kansas Geological Survey, SSC Site Proposal, Open File Report 87-22, (map).

- Howick, G. L., and others, 1987, Watershed map: Kansas Geological Survey, SSC Site Proposal, Open File Report 87-22, (map).
- Devine, J., and others, 1987, Structural contour map on top of the Lawrence Formation: Kansas Geological Survey, SSC Site Proposal, Open File Report 87-22, (map).
- McCauley, J. R., and others, 1987, SSC detailed geology—south: Kansas Geological Survey, Open File Report 87-22, (map).
- McCauley, J. R., and others, 1987, SSC detailed geology—north: Kansas Geological Survey, Open File Report 87-22, (map).
- McCauley, J. R., and others, 1987, SSC generalized geology: Kansas Geological Survey, Open File Report 87-22, (map).
- Wilson, F. W., and others, 1987, SSC site proposal: Kansas Geological Survey, Kansas Department of Commerce, Open File 87-22, (11 maps).
- Steeples, D. W., and others, 1987, Historic earthquakes, microearthquakes, and faults in the Kansas–Nebraska– Iowa–Missouri region: in Nuclear Regulatory Commission Reports for April, July, and December, (6 maps).
- McClain, T. J., and others, 1987, Configuration of the bedrock surface, Groundwater Management District #1: Kansas Geological Survey, Open File Report 87-23, (map).
- Shaukat, N., and others, 1987, Saturated thickness in 1987, Groundwater District #4: Kansas Geological Survey, Open File Report 87-19, (map).
- Shaukat, N., and others, 1987, Percentage decline in saturated thickness 1950–1986, Groundwater District #4: Kansas Geological Survey, Open File Report 87-19, (map).
- Newell, K. D., and others, 1987, Sub-Chattanooga subcrop map of the Salina Basin: Kansas Geological Survey, Open File Report 87-4, (map).
- Newell, K. D., and others, 1987, Pre-Pennsylvanian subcrop map of the Salina Basin: Kansas Geological Survey, Open File Report 87-3, (map).
- Skelton, L. H., and others, 1987, Gas pipelines in Kansas: Kansas Geological Survey, Open File Report 87-20, (map).
- McClain, T. J., and others, 1987, Cheyenne Bottoms drainage basin: Kansas Geological Survey, Open File Report 87-5.
- McClain, T. J., and others, 1987, Cheyenne Bottoms: Kansas Geological Survey, Open File Report 87-5.
- Heidari, M., and others, 1986, Groundwater Management District #2 Equus Beds water levels: Kansas Geological Survey, Open File Report 86-9, (7 maps).
- Ross, J. A., and others, 1986–1999, The Kansas Cartographic Database (KCD), with several layers of statewide data: Kansas Geological Survey, digital data, in progress.
- Steeples, D. W., and others, 1986, Historic earthquakes, microearthquakes, and faults in the Kansas–Nebraska– Iowa–Missouri region: Published by the Nuclear Regulatory Commission, Reports for April, July, and December, (6 maps).
- Sophocleous, M. A., and others, 1986, Characterization of spatial distribution of hydrologic parameters on a watershed scale with emphasis on a regional ground recharge, 1986: For outside publication, (3 maps).
- Sophocleous, M. A., and others, 1986, Rattlesnake Creek: Kansas Geological Survey, Open File Report 86-11, (map).
- Steeples, D. W., and others, 1985, Historic earthquakes, microearthquakes, and faults in the Kansas–Nebraska– Iowa– Missouri region: Nuclear Regulatory Commission, Reports for April, July, Dec., (6 maps).
- Olea, R. A., Sampson, R. J., and others, 1985, Well log correlations: Project for Texaco Co., Unpublished Report, (digital data and maps).
- Hathaway, L. R., and Magnuson, L. M., 1985, Atlas of chemical quality data for irrigation waters of western Kansas: Kansas Geological Survey, Chemical Series 11.
- Ross, C. G., Ross, J. A., and others, 1984–1986, The Kansas Cartographic Database (KCD), with several layers of statewide data: Kansas Geological Survey, digital data, in progress.
- Skelton, L. H., and others, 1984, Gas pipeline map: Kansas Geological Survey, (4 base maps).
- Paul, S. E., and others, 1983, Oil and gas fields in Kansas: Kansas Geological Survey, Map M-17.

Olea, A. R., and others, 1982, Optimization of the High Plains Aquifer observation network, Kansas: Kansas Geological Survey.

TECHNICAL SEMINARS PRESENTED

USGS, Denver office, "Map Production and Print on Demand", October 1999.

- Data Capture Working Group of the National Digital Geologic Map Standards Committee, Digital Mapping Techniques 1998, "Providing spatial data and GIS applications via the Internet," Champaign, IL, 1998.
- Petrophysics Seminar Series # 103, "Data available in Oracle: what is available, how you can access it, the difference between WWC5 and WIZARD, and various disclaimers", 1998.
- I.O.G.C.C., "Demo on how to do interactive mapping using ArcView in the Internet", 1998.
- Instituto Tecnológico GeoMinero de España, "Mapping techniques and map production at the Kansas Geological Survey", Madrid Spain, 1997.
- Emporia State University, Earth Science Department, "Demo on ArcView applications on geologic databases," annual seminar, April 1996–April 1999.
- Emporia State University, Earth Science Department, "GIS functions and applications on desktop computers", annual seminar, April 1993–April 1999.
- Emporia State University, Earth Science Department, "GIMMAP operations and applications to geologic maps", annual seminar, April 1993–April 1999.
- Digital Geologic Map Standards Committee and Working Group on Data Capture, AASG and USGS, DMT'97, "Information capture from previously published maps", Lawrence Kansas, 1997.
- Digital Geologic Map Standards Committee and Working Group on Data Capture, AASG and USGS, DMT'97, "Digital geologic map production at the Kansas Geological Survey", Lawrence, Kansas, 1997.
- Digital Geologic Map Standards Committee and Working Group on Data Capture, AASG and USGS, Denver, CO, "Compilation of digital geologic map data at the Kansas Geological Survey," 1996
- Emporia State University, Earth Science Department, "Demo on ArcView applications on oil and gas databases", April 1995.
- Energy Research Center in cooperation with The Wichita State University, Computer Application Workshop: PC Software for the Petroleum Industry, "Introduction to geographic information systems (GIS)", April 1993.
- Akademie der Wissenschaften der DDR Zentralinstituit fur Physik der Erde, "GIMMAP operations and applications to geologic maps", 1989.
- Kansas Water Office "Computer assisted cartography at the Kansas Geological Survey", Lawrence KS, 1988.
- USGS, National Mapping Division at the Mid-Continent Mapping Center in Rolla, MO., "Operations and applications of GIMMAP", Lawrence KS, 1988.
- Fort Hays State University, Geology Department, "GIMMAP operations and applications to geologic maps", Lawrence KS, 1988.
- Kansas Biological Survey, "GIMMAP operations and applications to any kind of map", seminar and demonstration, Lawrence KS, 1987.
- University of Missouri, Geography Department "Computer assisted cartography", seminar and demonstration, Lawrence KS, 1987.
- Geological Survey of Austria, "GIMMAP operations and applications to geologic maps", Lawrence KS, 1987.
- Kansas Division of Water Resources, "GIMMAP operations and applications to hydrologic maps", seminar and demonstration, Lawrence KS, 1986.
- Kansas Advanced Technology Commission, "Computer assisted cartography at the Kansas Geological Survey", Lawrence KS, 1986.
- Voest Alpine Inc., "GIMMAP operations and applications to geologic maps", Lawrence KS, 1986.
- Leadership Kansas, "Demonstration of interactive techniques in computer assisted cartography", Lawrence KS, 1985.
- University of Kansas, Architecture Class, "Computer assisted cartography at the Kansas Geological Survey", seminar and demonstration, Lawrence KS, 1984.
- Geological Mapping Services Inc., "Operations in the application of GIMMAP", Lawrence KS, 1984.

PROFESSIONAL DEVELOPMENT

IAMG2013; Annual conference of the International Association for Mathematical Geosciences, Madrid, Spain August 2013

ESRI Virtual Course, 2013, Extending Access to GIS Maps and Apps with Portal for ArcGIS

ESRI Virtual Course, 2013, Gain Geographic Insight with ArcGIS Online Analysis Tools

ESRI Virtual Course, 2013, Workflows to Manage and Share Imagery in ArcGIS

ESRI Virtual Course, 2013, Streamline Operations with ArcGIS Workflow

ESRI Virtual Course, 2013, Introduction to the ArcGIS Runtime SDK for IOS

ESRI Virtual Course, 2013, Security Basics for ArcGIS 10.1 for Server

ESRI Virtual Course, 2013, Beyond Where: Using Regression Analusis To Explore Why

Workshop, 2013, Content Management Systems (Drupal - CMS) for Editor/Contributor

- IAMG2012; Annual conference of the International Association for Mathematical Geosciences, Brisbane, Australia August 2012
- Workshop, 2012, GIS-Based Tools for Renewable Energy Development, Denver, Colorado
- ESRI Virtual Course, 2012, Working with Imagery with ArcGIS Desktop 10.1
- ESRI Virtual Course, 2012, Sharing a GIS content Using an ArcGIS Online Subscription
- ESRI Vitural Course, 2012, Creating a Web Editing Application Using ArcGIS Server 10.1
- ESRI Vitural Course, 2012, Creating Python Toolboxes Using ArcGIS Desktop 10.1
- ESRI Vitural Course, 2012, Sharing Analysis Workflows Using Geoprocessing Services
- ESRI Vitural Course, 2012, Sharing Analysis Workflows Using Geoprocessing Packages
- ESRI Vitural Course, 2012, Using Python in ArcGIS Desktop 10
- ESRI Vitural Course, 2012, ESRI Maps for Microsoft Office, Share Point, and IBM Cognos
- ESRI Vitural Course, 2012, Using Python in ArcGIS Desktop 10
- ESRI Vitural Course, 2012, Using HTML5 with ArcGIS
- IAMG2011; Annual conference of the International Association for Mathematical Geosciences, Salzburg, Austria August 2011
- ESRI Virtual Course, 2011, Introducing ENVI for ArcGIS Server and ENVI 4.8
- ESRI Virtual Course, 2011, Embedding ArcGIS into Share Point
- ESRI Virtual Course, 2011, Making and Sharing Maps with ArcGIS OnLine
- ESRI Virtual Course, 2011, Using ArcGIS Data Reviewer to Assess Data Quality
- IAMG2010; Annual conference of the International Association for Mathematical Geology, Budapest, Hungary August 2010
- 2010-GIS Day; GIS day conference at KU, Lawrence, Kansas, November 2010
- ESRI Virtual Course, 2010, What is new in ArcGIS version 10
- ESRI Virtual Course, 2010, Best Practices for Working with Map Templates
- ESRI Virtual Course, 2010, Visualizing and Analizing Imagery with ArcGIS 10
- ESRI Virtual Course, 2010, Running ArcGIS Server on Amazon EC2
- ESRI Virtual Course, 2010, Introduction to the ArcGIS Viewer for Flex
- ESRI Virtual Course, 2010, Developing Add-Ins for ArcGIS Desktop
- ESRI Virtual Course, 2010, Building and Updating Map Caches with ArcGIS Server 10
- IAMG2009; Annual conference of the International Association for Mathematical Geology, Stanford, California August 2009
- 2009-GIS Day; GIS day conference at KU, Lawrence, Kansas, November 2009
- ESRI Virtual Course, 2009, Building Rich Internet Applications with ArcGIS API for Flex
- ESRI Virtual Course, 2009, Serving and Managing Imagery with ArcGIS Server
- ESRI Virtual Course, 2009, Authoring and Deploying Fast Web Maps
- ESRI Virtual Course, 2009, Getting Started with Map Templates
- 2009-HIS Workshop, Hydrologic Information Systems, Kansas State University, Manhattan, Kansas
- IAMG2008; Annual conference of the International Association for Mathematical Geology, Oslo, Norway, August 2008
- 2008-GIS Day; GIS day conference at KU, Lawrence, Kansas, November 2008
- Workshop at KU, 2008, Map Server open source software
- ESRI Virtual Course, 2008, Using ArcGIS Server Geoprocessing Services
- ESRI Virtual Course, 2008, Using ArcGIS Server Setup and Administration
- ESRI Virtual Course, 2008, Imagery in an Enterprise GIS
- ESRI Virtual Course, 2008, Building Mashups Using the ArcGIS JavaScript API
- ESRI Virtual Course, 2008, Implementation Security for ArcGIS Servet .NST Solutions
- ESRI Virtual Course, 2008, Leveraging OGC Capabilities in ArcGIS Server 9.3
- IAMG2007; Annual conference of the International Association for Mathematical Geology, Beijing, China, August 2007.
- ESRI Workshop, 2007, Developing Applications with ArcGIS Server Using the Microsoft .NET Framework.
- ESRI Workshop, 2007, Introduction to ArcGIS Server.
- Geography 980-Topics in Remote Sensing, 2007, LIDAR Data.
- USGS Workshop, 2007, LIDAR Data.
- ESRI Virtual Course, 2006, Customizing ArcIMS.
- ESRI Virtual Course, 2006, Learning Arc IMS.
- ESRI Virtual Course, 2006, Introduction to IMS.

- IAMG2006; Annual conference of the International Association for Mathematical Geology, Liege, Belgium, September 2006.
- Query Skills, Database Connections, and SQL workshop, Magic conference, Kansas, City, April 2006.

Database Design workshop, Magic conference, Kansas, City, April 2006.

- IAMG2005; Annual conference of the International Association for Mathematical Geology, Toronto, Canada, August 2005.
- Thirty-second International Geologic Conference, Florence, Italy, August 2004.
- ESRI Training Course, 2003, Introduction to ArcSDE™ using ArcInfo 8; 16 hours of classroom instruction.
- ESRI Training Course, 2003, Introduction to ArcGIS[™] I (for ArcView® 8, ArcEditor[™] 8, and ArcInfo[™] 8); 16 hours of classroom instruction.
- ESRI Training Course, 2003, Presenting Information (for ArcView ® 8, ArcEditor™ 8, and ArcInfo™ 8); 5 modules, virtual class.
- ESRI Training Course, 2003, Learning ArcGIS I (for ArcView® 8, ArcEditor™ 8, and ArcInfo™ 8); 6 modules, virtual class.
- ESRI Training Course, 2003, Creating, Editing, and Managing Geodatabases (for ArcGIS™ 8.2); 5 modules, virtual class.
- ESRI Training Course, 2003, Building Geodatabases I; 24 hours of classroom instruction.
- IAMG2003; Annual conference of the International Association for Mathematical Geology, Portsmouth, England, September 2003.
- Digital Mapping Techniques '03 Workshop, sponsored by the USGS, AASG, and Pennsylvania Geological Survey Millersville, PA, May 2003.
- IAMG'02; Annual conference of the International Association for Mathematical Geology, Berlin, Germany, October 2002.
- Digital Mapping Techniques '02 Workshop, sponsored by the USGS, AASG, and Utah Geological Survey Salt Lake City, UT, May 2002.
- ESRI Training Course, 2002, Introduction to ArcGIS (ArcMap, ArcTools, ArcCatalog), hosted by KGS, Lawrence, KS.
- IAMG'01; Annual conference of the International Association for Mathematical Geology, Cancun, Mexico, September 2001.
- Digital Mapping Techniques '01 Workshop, sponsored by the USGS, AASG, and Alabama Geological Survey Tuscaloosa, AL, May 2001.
- IAMG'00, annual international conference of the International Association for Mathematical Geology, Rio de Janeiro, Brazil, August 2000.
- Thirty-first International Geological Congress, Rio de Janeiro, Brazil, August 2000.
- DMT'00, conference of the Digital Geologic Map Standards Committee and Working Group on Data Capture, AASG and USGS, Lexington, Kentucky, May 2000.
- Third Joint Mexican Association of Petroleum Geologist and the American Association of Petroleum Geologist International Conference AMGP/AAPG'99, in Veracruz, Mexico, October, 1999.
- IAMG'99, fifth annual international conference of the International Association for Mathematical Geology, Trondheim, Norway, August 1999.
- DMT'99, conference of the Digital Geologic Map Standards Committee and Working Group on Data Capture, AASG and USGS, Madison WI, May 1999.
- GSA'98, annual meeting of the Geologic Society of America, Toronto, Canada, 1998.
- DMT'98, conference of the Digital Geologic Map Standards Committee and Working Group on Data Capture: AASG and USGS, Champaign, IL, May 1998.
- DMT'97, first conference of the Digital Geologic Map Standards Committee and Working Group on Data Capture: AASG and USGS (conference site proposed by Ross, J. A., conference host/coordinator, KGS), Lawrence, KS, May 1997.
- IAMG'97, third annual international conference of the International Association for Mathematical Geology, Barcelona Spain, September 1997.
- Digital Geologic Map standards Committee and Working Group on Data Capture, AASG and USGS, Denver, CO, October 1996.
- Geological Society of America Annual Meeting, Denver, CO, October 1996.
- Tenth Annual Symposium on Geographic Information Systems in Natural Resources Management, Vancouver, BC, Canada, March 1996.

- Ninth Annual Symposium on Geographic Information Systems in Natural Resources Management, Vancouver, BC, Canada, March 1995.
- Training in applications of ArcView software. Kansas City, KS, 1995.

American Association of Petroleum Geologist, annual meeting, Denver Colorado, June 1994.

- "GIS for Managers", seminar sponsored by the Geographic Research Applications and Information Laboratory (GRAIL), and Geography Department at the University of Kansas, June 1991.
- "ABC's of GIS", seminar co-sponsored by the Geographic Research Applications and Information Laboratory (GRAIL), Geography Department, and Kansas Applied Remote Sensing Program (KARS) at the University of Kansas, May 1991.
- GIS/LIS '89, Geographic and Land Information Systems: American Congress on Surveying and Mapping and others, Orlando, Florida, November 1989.
- "Valuing Diversity, Part III: Communicating Across Cultures", seminar sponsored by the Office of Affirmative Action in the Kansas University, Lawrence, KS, April 1989.
- "Valuing Diversity, Part II: Diversity at Work", seminar sponsored by the Office of Affirmative Action in the Kansas University, Lawrence, KS, April 1989.
- "Valuing Diversity, Part I: Managing Differences", seminar sponsored by the Office of Affirmative Action in the Kansas University, Lawrence, KS, April 1989.

AUTO-CARTO IX (9th International Symposium on Computer-Assisted Cartography), Baltimore, MD, April 1989.

- The ARC/INFO Geographic Information System Training Course: Environmental Systems Research Institute, at Lawrence, KS, June 1989.
- Symposium on Kansas Mapping Technology and Application, Kansas Academy of Science and the University of Kansas, Lawrence KS, April 1988.
- Geographic Information Systems Conference, sponsored by the Division of Continuing Education, The University of Kansas, Lawrence, KS, December 1987.
- Seminar on Automated Cartography and Computer Graphics in the Geosciences, by Michael McCullagh, at the University of Nottingham, England, September 1986.
- AUTO-CARTO LONDON (1st International Conference on the Acquisition, Management, and Presentation of Spatial Data), London, England, September 1986.

Introduction to Supervision Seminar, The University of Kansas, Lawrence KS, August 1986.

- Association of Earth Science Editors (National Convention), Lawrence, KS, October 1985.
- AUTO-CARTO VII (7th International Symposium on Computer-Assisted Cartography), Washington, D.C., March 1985.

REFERENCES

- Dr. Frederik Agterberg, President, International Association for Mathematical Geology, Geological Survey of Canada, Ottawa, Ontario, Canada. Phone: 613-996-2374, e-mail: agterber@NRCan.gc.ca
- Dr. John C. Davis, Montanuniversitat-Leoben, Austria, 918 Jersey, Baldwin City, KS 66006. Phone: 785-594-6624, e-mail: john.davis5@mchsi.com
- Guenther Hausberger, Geo-und Umewelinformatik, Roseggerstrasse 17, A 8700, Leoben, Austria. Phone: +43-3842-47060-2214, e-mail: hausberger@goanneum.ac.at
- David R. Soller, Chief, National Geologic Map Database Project, United States Geological Survey (USGS), Reston, VA 22092. Phone: 703-648-6907, e-mail: drsoller@usgs.gov
- Stephen Egbert, Director and Senior Scientist, Kansas Applied Remote Sensing Program, Kansas Biological Survey, Lawrence, KS. Phone: 785-864-1507, e-mail: segbert@ku.edu
- Edward A. Martinko, Director, Kansas Biological Survey, Lawrence, KS, Phone: 785-864-1505, e-mail: martinko@ku.edu