

CURRICULUM VITAE
CHARLES MARSH WOODRUFF, JR.
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AFFILIATION/ADDRESS:

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ACADEMIC BACKGROUND:

B.A., *cum laude*, Geology, Vanderbilt University

M.S. Geology, Vanderbilt University; THESIS--Limits of deformation of the Howell Structure, Lincoln County, Tennessee (66 p.)

Ph.D. Geology, The University of Texas at Austin; DISSERTATION--Land-use limitations related to geology of the Lake Travis vicinity, Travis and Burnet Counties, Texas (161 p.)

EXPERTISE:

Engineering/Environmental Geology--surface and subsurface geologic mapping; use of remote sensing in regional geologic and hydrologic assessments; geologic support of geotechnical investigations; preparation and review of Environmental Impact Statements; expert testimony. Broad state-wide experience in Texas; special expertise on the geology and hydrology along the Balcones Escarpment as well as the Hill Country/Edwards Plateau of Central Texas.

PROFESSIONAL WORK EXPERIENCE:

2012-present--Geologist, Bureau of Economic Geology, John A. and Katherine G. Jackson School of Geosciences, The University of Texas at Austin: Geologic mapping in Central Texas; investigation of geologic hazards; public outreach (part-time); e-mail: chock.woodruff@beg.utexas.edu

2001-present--Senior Lecturer, Department of Civil, Architectural and Environmental Engineering, The University of Texas at Austin; Course assignment: "Engineering Geology" (graduate level); e-mail: chockw@mail.utexas.edu

1983-present--Independent Consulting Geologist: Projects include engineering geologic, geomorphic, environmental geologic, and hydrologic assessments; evaluations of rock/mineral resources; expert testimony (operated as sole proprietorship--1983-1999; established Woodruff Geologic Consulting, Inc. 1999)

2008-2011--GeoFORCE Academy Instructor: John A. and Katherine G. Jackson School of Geosciences, The University of Texas at Austin: STEM outreach in week-long summer classes for 9th-12th grade high-school students

1987--Lecturer, School of Architecture, The University of Texas at Austin; Course assignment: "Techniques of Environmental Assessment" (Fall Semester)

1985--Staff Hydrogeologist, Edwards Aquifer Research and Data Center, Southwest Texas State University: Research on airphoto lineaments and their effects on hydrologic properties of the Edwards Aquifer (part-time)

1976-1983--Research Scientist, Bureau of Economic Geology, The University of Texas at Austin; and Lecturer/Member of the Graduate Faculty, Department of Geological Sciences, The University of Texas at Austin: Assessment of geothermal resources; regional hydrogeology; evaluation of satellite imagery. Course assignments: "Physical Geology" and "Geologic Hazards"

1974-1976--Head, Resource Capability Section, Texas Coastal Management Program, General Land Office of Texas: Evaluation of coastal resources; application of natural resource data for public policy decisions; interagency/ interdisciplinary coordination (on leave from Bureau of Economic Geology)

1972-1974--Research Scientist Associate, Bureau of Economic Geology, The University of Texas at Austin: Environmental geologic mapping/evaluation of land capability; review of environmental impact statements

1968-1970--Geologist, Tennessee Division of Geology: Areal geologic mapping; interagency coordination on environmental issues

PROFESSIONAL and HONOR SOCIETIES:

American Association for the Advancement of Science (life member)

Austin Geological Society (President, 1980-1981)

Geological Society of America--Senior Fellow

Geological Society of America Division Affiliations:

- Engineering Geology
- Hydrogeology
- Quaternary Geology and Geomorphology
- Geology and Society

Sigma Xi--The Scientific Research Society

Sigma Gamma Epsilon--Honorary Geological Society

HONORS and AWARDS:

Austin Geological Society

Distinguished Service Award, 1997

Elected to Honorary Membership, 2001

City of Austin Community Collaboration Awards

Distinguished Service Award, 2000

Gulf Coast Association of Geological Societies

Distinguished Service Award, 2006

Outstanding Educator, 2016

REGISTRATION/CERTIFICATION:

State of Texas--Registered Professional Geologist No. 502

State of Tennessee--Registered Professional Geologist No. 1208

CONTINUING PROFESSIONAL EDUCATION:

--Courses Taught--

"Hydrogeology of the Edwards Aquifer" Texas Commission on Environmental Quality: 18 March 2004

"Introduction to Groundwater Hydrology" Texas Natural Resources Conservation Commission Training Academy: 19-20 May and 13-14 August 1997 (with Dr. Glenn Longley)

"Vadose-Zone Hydrology" Texas Natural Resources Conservation Commission Training Academy: 25-26 August 1997

--Courses Taken--

"Water-Balance Covers: Design, Modeling, Construction, and Monitoring," University of Wisconsin and Desert Research Institute; 30 March-1 April 2010 (Drs. Craig H. Benson and William H. Albright)

"Geoscience in the Courtroom" Gulf Coast Association of Geological Societies; 8 October 1994 (Dr. Peter R. Rose and Susan Zachos)

"Surface Exploration for Oil and Gas--Advances of the Eighties, Applications for the Nineties" Society of Independent Professional Earth Scientists, San Antonio, Texas, 20 June 1991 (Dr. Dietmar Schumacher)

"River Channels" Teton Science School, Kelly, Wyoming; 26-28 July 1989 (Dr. Luna B. Leopold)

"Calderas and Hydrothermal Systems" Yellowstone Institute, Wyoming; 24-29 August 1982 (Drs. Duncan Foley and Dennis Nielson)

SELECTED COMMITTEE RESPONSIBILITIES:

--National--

Coordinator for Texas--Hydrothermal/Geothermal Research; State-Coupled Programs Resource-Assessment Teams, U.S. Department of Energy, 1979-1982

--State--

Texas Governor's Task Force on Hazardous Wastes, 1984
Geothermal Review Panel, Texas Energy and Natural Resources Advisory Council, 1981
Geothermal Task Force Member, Texas Energy Advisory Council, 1978-1979

--Local--

Hill Country Alliance, Environmental Advisory Committee, 2009-present
Lower Colorado River Authority/Travis County Water Council, 1987-1990
Austin Chamber of Commerce, City Regulatory and Planning Committee, 1987-1988
City of Austin, AUSTINPLAN Environmental Task Group, 1986-1988
City of Austin Environmental Board, 1982-1984 (Vice-Chairman, 1983; Chairman, 1983-1984)
City of Austin, Parks and Recreation Department, ad hoc Advisory Committee on Greenbelts, 1979-1980
Austin Geological Society: Chairman, Publications Committee, 1983-1984; 2016-2017;
Chairman, Nominating Committee, 1978, 1982, 1985; Member, Field-Trip Committee, 1973-1974;
Chairman, Field-Trip Committee, 1984-1985, 1987-1988, 1995-2015
Capital Area Planning Council: Natural Areas Advisory Committee Co-Chairman, Austin, Texas, 1977

--Academic--

Thesis/Dissertation Committees, The University of Texas at Austin

Department of Civil, Architectural and Environmental Engineering:

Azadeh Mostofi, Ph.D. Dissertation: Development of a new decision-based framework for risk assessment and management of landslides (2018)

Katherine Elaine Zadrozny, M.S. Thesis: Documenting, demonstrating and enhancing an offshore geotechnical database for reliability-based design (2013)

Heejung Youn, Ph.D. Dissertation: Effect of verification core hole on the point bearing capacity of drilled shafts (2008)

Chun Ho Lee, M.S. Thesis: Constructing test beds of clay with a specified profile of undrained shear strength versus depth (2008)

Ian Vernon T. Johnson, M.S. Thesis: Effects of cementation on the linear and nonlinear shear modulus and material damping of intact sand specimens (2008)

Department of Geological Sciences:

Mary Jennifer Cooke, Ph.D. Dissertation: Soil formation and erosion in Central Texas: Insights from relict soils and cave deposits (2005)

S. Christopher Caran, M.S. Thesis: Environmental geology of abandoned lignite and bituminous coal mines of Texas (1984)

G. L. Macpherson, M.S. Thesis: Low-temperature geothermal ground water in the Hosston/Cotton Valley hydrogeological unit, Falls County area, Texas (1982)

Department of Geography:

C.D. Frederick, Ph.D. Dissertation: Late Quaternary alluvial history and Post-Spanish modification of the Rio Laja Valley, Mexico (1995)

PUBLICATIONS:

--Guidebooks, Monographs, Bulletins, Reports--

Woodruff, C.M., Jr., Paine, J.G., and Rose, P.R., 2018, In the footsteps of R.T. Hill, Geologic forays around Austin, Texas: A field trip in honor of Edward W. Collins: Austin Geological Society Field-trip Guidebook 38, 55 p.

Woodruff, C.M., Jr., Collins, E. W., Potter, E.C., and Loucks, R.G. 2017, Canyon Dam Spillway Gorge and Natural Bridge Caverns--Geologic, excursions in the Balcones Fault Zone, Central Texas: The University of Texas at Austin, Bureau of Economic Geology, Guidebook 29, 56 p.

McBride, E.F., and Woodruff, C.M., Jr., 2013, Aspects of Tertiary sedimentary rocks (Paleocene-Miocene), Central Texas Gulf Coastal Plain: Geological Society of America, South-Central Section, Field-Trip Guidebook, 32 p.

Woodruff, C.M., Jr., Slade, R.M., Jr., and Collins, E.W., 2013, Water in the urban environment—selected examples in Austin, Texas: Geological Society of America, South-Central Section, Field-Trip Guidebook, 67 p.

Woodruff, C.M., Jr., Reed, R.M., Potter, E.C., and Collins, E.W., 2012, Enchanted Rock and the LBJ National Historical Park: Guidebook for the Association of American State Geologists 104th Annual Meeting, Lakeway, Texas: The University of Texas at Austin, Bureau of Economic Geology, 19 p.

Woodruff, C.M., Jr., Collins, E.W., Potter, E.C., and Loucks, R.G., 2012, Canyon Dam Gorge and Natural Bridge Caverns: Guidebook for the Association of American State Geologists 104th Annual Meeting, Lakeway, Texas: The University of Texas at Austin, Bureau of Economic Geology, 29 p.

Rose, P.R., and Woodruff, C.M., Jr., 2012, The Hill Country Appellation—A geologic excursion to selected wineries of Central Texas: Gulf Coast Association of Geological Societies 65th Annual Convention, Austin, Texas, Field-Trip Guidebook, 51 p.

Hunt, B.B., Wierman, D.A., Broun, A.S., Woodruff, C.M., Jr., and Fieseler, R.G., Coordinators, 2011, Surface to subsurface Trinity lithostratigraphy: Implications for groundwater availability in the Hill Country, eastern Blanco and northern Hays Counties, Texas: Austin Geological Society Guidebook 33, 33 p, plus 17 plates.

Woodruff, C.M., Jr., and Slade, R.M., Jr., 2009, Urban hydrology of Austin, Texas—some Halloween tricks and treats: Austin Geological Society Guidebook 31, 87 p.

Ward, William C., Molineux, Ann, Valentine, Shane, and Woodruff, C.M., Jr., 2008, Canyon Dam spillway gorge, Comal County, Texas—Geologic and hydrologic issues: Austin Geological Society Guidebook 30, 61 p.

Hunt, Brian B., Woodruff, C.M., Jr., and Collins, Edward W., Coordinators, 2007, Reimers Ranch and Westcave Preserve—Landscapes, water, and Lower Cretaceous stratigraphy of the Pedernales watershed, western Travis County, Texas: Austin Geological Society Guidebook 28, 128 p.

Woodruff, C.M., Jr., and Collins, Edward W., Coordinators, 2003, Time, land, and Barton Creek--An excursion to Shield Ranch, Travis and Hays Counties, Texas: Austin Geological Society Guidebook 22, 71 p.

Woodruff, C.M., Jr., and Collins, Edward W., Coordinators, 2001, Austin, Texas, and beyond--geology and environment: Austin Geological Society Guidebook 21, 120 p.

Woodruff, C.M., Jr., and Kirkland, Brenda L., Coordinators, 1999, Rocks, Resources, and Recollections, A geologic tour of the "Forty Acres"--The University of Texas at Austin Campus: Austin Geological Society Guidebook 19, 62 p.

Woodruff, C.M., Jr., Rose, P.R., and Sansom, J.W., Jr., 1998, The Hill Country Appellation--A geologic tour of selected vineyards and wineries of Central Texas: Austin Geological Society Guidebook 18, 56 p.

Woodruff, C.M., Jr., Coordinator, 1997, Environment and land restoration in the Central Texas Hill Country—A geologic excursion to Selah, Bamberger Ranch, Blanco County, Texas: Austin Geological Society Guidebook 17, 114 p.

Woodruff, C.M., Jr., and Sherrod, C.L., Coordinators, 1996, Urban Karst: Austin Geological Society Guidebook 16, 73 p.

Johns, D.A., and Woodruff, C.M., Jr., 1994, Edwards aquifer--water quality and land development in the Austin area, Texas: Gulf Coast Association of Geological Societies, Field Trip Guidebook, 66 p.

Woodruff, C.M., Jr., Marsh, W.M., and Wilding, L.P., 1993, Soils, landforms, hydrologic processes, and land-use issues --Glen Rose Limestone terrains, Barton Creek watershed, Travis County, Texas: Society of Independent Professional Earth Scientists, Field Report and Guidebook, 5 December 1992 (revised January 1993).

Rose, P.R. and Woodruff, C.M., Jr., 1992, Wineries, geology, and frontier history of the Llano Uplift, Central Texas: Society of Independent Professional Earth Scientists, Austin, Texas, Chapter, Field Trip Guidebook, 40 p.

Woodruff, C.M., Jr., De La Garza, L., and Snyder, F.R., 1989, Lineaments and the Edwards aquifer--Barton Springs Segment, Travis and Hays Counties, Texas: Edwards Aquifer Research and Data Center, Southwest Texas State University, Report, 45 p.

Woodruff, C.M., Jr., 1988, Congress Avenue, Austin, Texas--Lessons in economic geology, architecture, and history: Austin Geological Society Guidebook 12, 56 p. (modified from Field Trip Guidebook for American Planning Association, 1987 Texas Chapter Conference, 15 October 1987).

Woodruff, C.M., Jr., Young, K., and Ratcliff, D.C., 1988, Road Log--Austin to Hamilton Pool, Hammetts Crossing, and the Spicewood vicinity, Texas: Austin Geological Society Fall Field Trip, November 12, 1988, 12 p.

Yelderman, J.C., Jr., Slade, R.M., Jr., Sharp, J.M. Jr., and Woodruff, C.M., Jr., 1987, Hydrogeology of the Edwards Aquifer in the Northern Balcones and Washita Prairie Segments: Field-Trip Guidebook South-Central Section, Geological Society of America, Waco, Texas, 127 p.

Abbott, P.L., and Woodruff, C.M., Jr., 1986, The Balcones Escarpment: Published for Geological Society of America National Meeting, San Antonio, Texas, 200 p. (available on-line via Walter Geology Library, The University of Texas At Austin): www.lib.utexas.edu/geo/BalconesEscarpment/BalconesEscarpment.html

Snyder, F., De La Garza, L., and Woodruff, C.M., 1986, The Cityscape--Construction Materials and the Environment in Austin, Texas: Austin Geological Society Guidebook 9, 78 p.

Woodruff, C.M., Jr., Snyder, F., De La Garza, L., and Slade, R.M., Jr., 1985, Edwards aquifer--northern segment, Travis, Williamson, and Bell Counties, Texas: Austin Geological Society Guidebook 8, 104 p.

Woodruff, C.M., Jr., 1985, Llano Uplift and Hill Country--a geologic excursion into Central Texas: Guidebook, Lakeway Sesquicentennial Geologic Field Trip, 22 p.

Young, K., and Woodruff, C.M., Jr., 1985, Austin Chalk in its type area--stratigraphy and structure: Austin Geological Society Guidebook 7, 88 p.

Woodruff, C.M., Jr., and Slade, R.M., Jr., 1984, Hydrogeology of the Edwards aquifer--Barton Springs segment, Travis and Hays Counties, Texas: Austin Geological Society Guidebook 6, 96 p.

Woodruff, C.M., Jr., 1983, Geologic road log--Austin to the southeastern Llano Uplift: Association of Engineering Geologists (Texas Section) Field Trip Guidebook, 12 p.

Woodruff, C.M., Jr., and Deux, T.W., 1980, Central Mineral Region of Texas: 31st Annual Highway Geology Symposium Field Trip Guidebook, 31 p.

Garner, L.E., and Woodruff, C.M., Jr., 1979, Urban hydrology and other environmental aspects of the Austin area: Austin Geological Society Guidebook 4, 39 p.

Woodruff, C.M., Jr., 1979, Land resource overview of the Capital Area Planning Council region, Texas--a nontechnical guide: The University of Texas at Austin, Bureau of Economic Geology, 29 p.

Woodruff, C.M., Jr., 1975, Land capability in the Lake Travis vicinity, Texas--a practical guide for the use of geologic and engineering data: The University of Texas at Austin, Bureau of Economic Geology Report of Investigations 84, 37 p.

Woodruff, C.M., Jr., Project Director, 1975, Resources of the Texas Coastal Region, The Coastal Management Program: General Land Office of Texas, 45 p. 23 maps.

Baker, V.R., Perdue, J., Sansom, J., and Woodruff, C.M., Jr., 1974, Geomorphic and hydrologic features of the Central Texas Hill Country: Austin Geological Society Guidebook 2, 21 p.

--Articles--

Woodruff, C.M., Jr., 2018, Bluff breakdown along the Barton Creek Greenbelt, Austin, Texas: *in* Woodruff, C.M., Jr., Paine, J.G., and Rose, P.R., 2018, In the footsteps of R.T. Hill, Geologic forays around Austin, Texas: A field trip in honor of Edward W. Collins: Austin Geological Society Field-trip Guidebook 38, 55 p.

Wilding, L., M. Nobles, B. Wilcox, C. Woodruff, Jr., and H.S. Lin. 2012. Hydropedology, Chapter 9, Caliche Soils Weathered from Glen Rose Limestone of Lower Cretaceous Age in Texas. p. 285-328. In H. Lin (Editor) Hydropedology: Synergistic Integration of Soil Science and Hydrology. Elsevier.

Woodruff, C.M., Jr., 2012, Common ground between geology and wine in Central Texas: *in* Rose, P.R., and Woodruff, C.M., Jr. 2012. The Hill Country appellation—A geologic excursion to selected wineries of Central Texas: Gulf Coast Association of Geologic Societies 65th Annual Convention, Austin, Texas, Field-Trip Guidebook, p. 1-2.

Woodruff, C.M., Jr., and Wilding, L.P., 2011, "Stair-step hills" of the Glen Rose Limestone—Is there a "marl" in this story? *in* Hunt, B.B., Wierman, D.A., Broun, A.S., Woodruff, C.M., Jr., and Fieseler, R.G., Coordinators, 2011, Surface to subsurface Trinity lithostratigraphy: Implications for groundwater availability in the Hill Country, eastern Blanco and northern Hays Counties, Texas: Austin Geological Society Guidebook 33, p. 33.

Woodruff, C.M., Jr., 2009, Sculpted Texas landforms *in* Laubach, S.E. and Tinker, S.W., *Earth's Art, Celebrating the centennial of the Bureau of Economic Geology 1909-2009: The University of Texas at Austin, Bureau of Economic Geology*, p. 32-33.

Woodruff, C.M., Jr., and Wilding, L.P., 2008, Bedrock, soils, and hillslope hydrology in the Central Texas Hill Country, USA: implications on environmental management in a carbonate-rock terrain: *Environmental Geology*, v. 55, no. 3, p. 605-618 (published on-line, September 2007).

Wilcox, Bradford P., Wilding, L.P., and Woodruff, C.M., Jr., 2007, Soil and topographic controls on runoff generation from stepped landforms in the Edwards Plateau of Central Texas: *Geophysical Research Letters*, v. 34 (on-line).

Woodruff, C.M., Jr., 2007, Beyond outcrops and cores--bridging the gulf between geologists and civil engineers in Austin, Texas: *Austin Geological Society Bulletin*, v. 3, p. 48-53.

Wilding, L.P. and Woodruff, C.M., Jr. 2005. Hydrological attributes of caliche soils pertinent to on-site wastewater treatment in Central Texas. *Proceedings, 13th Annual Texas On-Site Wastewater Treatment Research Council Conference*. Waco, Texas. March 8-9, 2005.

Woodruff, C.M., Jr., and Abbott, P.L., 2004, Coevolution of the Edwards aquifer and landscapes of the Edwards Plateau region: *in* Hovorka, S.D., ed., *Edwards water resources in Central Texas: retrospective and prospective: Symposium Proceedings*, co-hosted by South Texas Geological Society and Austin Geological Society, 23 papers and abstracts on CD, 16 p.

Woodruff, C.M., Jr., 2003, Lost landscapes of the Edwards Plateau, p. 25-30 *in* Woodruff, C.M., Jr., and Collins, Edward W., Coordinators, 2003, *Time, land, and Barton Creek--An excursion to Shield Ranch, Travis and Hays Counties, Texas: Austin Geological Society Guidebook 22*, 71 p.

Woodruff, C.M., Jr., and Wilding, L.P., 2003, "Caliche soils" of Shield Ranch and Beyond, p. 37-40 *in* Woodruff, C.M., Jr., and Collins, Edward W., Coordinators, 2003, *Time, land, and Barton Creek--An excursion to Shield Ranch, Travis and Hays Counties, Texas: Austin Geological Society Guidebook 22*, 71 p.

Collins, Edward W., Woodruff, C.M., Jr., and Tremblay, Thomas A., 2002, Geologic framework of the northern Edwards aquifer, central Texas: *Gulf Coast Association of Geological Societies Transactions*, v. 52, p. 135-137.

Wilding, L.P., and Woodruff, C.M., Jr., 2002, Caliche soils as a filter medium for treatment and disposal of wastewater *in* 10th Annual Texas On-site Wastewater Treatment Research Council: *Texas Natural Resources Conservation Commission*, p. 161-172.

Woodruff, C.M., Jr., 1999, East and west of the Forty Acres--A lesson in geography and geology, p. 1-7 *in* Woodruff, C.M., Jr., and Kirkland, Brenda L., Coordinators, 1999, *Rocks, Resources, and Recollections, A geologic tour of the "Forty Acres"--The University of Texas at Austin Campus: Austin Geological Society Guidebook 19*, 62 p.

Wilding, L.P., Woodruff, C.M., Jr., and Gabriel, W., 1999, Caliche soil--what is it? p. 181-187 *in* 7th Annual Texas On-Site Wastewater Treatment Research Council Conference: *Texas Natural Resource Conservation Commission*, February 15-17, 1999, 189 p.

Woodruff, C.M., Jr., 1998, The Hill Country appellation, common ground between geology and wine in Central Texas, p. 1-2 *in* Woodruff, C.M., Jr., Rose, P.R., and Sansom, J.W., Jr., 1998, *The Hill Country Appellation--A geologic tour of selected vineyards and wineries of Central Texas, Austin Geological Society Guidebook 18*, 56 p.

Wilding, L.P., Drees, L.R., and Woodruff, C.M., Jr., 1997, Mineralogy and microfabrics of limestone soils on stepped landscapes in Central Texas *in* Shoba, S., Gerasimova, M., and Miedema, R., eds., *Soil Micromorphology: Studies on Soil Diversity Diagnostics Dynamics; Proceedings, 10th International Working Meeting on Soil Micromorphology*,

Moscow, Russia, July 8-13, 1996; Sub-Commission of Soil Micromorphology, International Society of Soil Science, Moscow-Wageningen, p. 204-218.

Woodruff, C.M., Jr., 1997, Selah--a pause in time and space *in* Woodruff, C.M., Jr., Coordinator, Environment and land restoration in the Central Texas Hill Country: Austin Geological Society Guidebook 17, p. 1-5.

Woodruff, C.M., Jr., 1997, Edwards Plateau and Hill Country--What's in a name? What's on the map? *in* Woodruff, C.M., Jr., Coordinator, Environment and land restoration in the Central Texas Hill Country: Austin Geological Society Guidebook 17, p. 33-39.

Woodruff, C.M., Jr., 1996, West Enfield/Tarrytown is a karst recharge area--Does anybody care? *in* Woodruff, C.M., Jr., and Sherrod, C.L., Coordinators: Urban Karst: Austin Geological Society Guidebook 16, 73 p. 1-3.

Woodruff, C.M., Jr., 1994, The Balcones Escarpment--bedrock, water, and human destiny: South Texas Geological Society Bulletin, v. 35, no. 4, p. 25-34.

Woodruff, C.M., Jr., 1994, Balcones Fault Zone and Colorado River--dual controls on the Edwards aquifer near Austin, Texas *in* Johns, D.A., and Woodruff, C.M., Jr., Edwards aquifer--water quality and land development in the Austin area, Texas: Gulf Coast Association of Geological Societies, Field Trip Guidebook, p 1-9.

Woodruff, C.M., Jr., 1994, Atop Mount Bonnell, a view from the borderland *in* Johns, D.A., and Woodruff, C.M., Jr., Edwards aquifer--water quality and land development in the Austin area, Texas: Gulf Coast Association of Geological Societies, Field Trip Guidebook, p 10-17.

Woodruff, C.M., Jr., Wilding, L.P., and Marsh, W.M., 1994, Bedrock, soils, and microtopography of a test area within the Barton Creek watershed, western Travis County, Texas, in Edwards Aquifer: The Barton and San Marcos Springs Area--A Field Trip Guide Book, AIH 1994 Annual Conference, unpaginated [121 p.] (reprinted *in* Johns, D.A., and Woodruff, C.M., Jr., Edwards aquifer--water quality and land development in the Austin area, Texas: Gulf Coast Association of Geological Societies, Field Trip Guidebook, p 37-41).

Woodruff, C.M., Jr., 1993, Balcones fault zone and the southern corridor geohydrologic system, p. 214-226 *in* Anatomy of a Growth Corridor: Geology, Environment, and Engineering along I-35 between Dallas and San Antonio: Association of Engineering Geologists, 36th Annual Meeting, 311 p.

Wilding, L.P., and Woodruff, C.M., Jr., 1993, Soils and landforms of the Central Texas Hill Country--implications for waste-water application *in* Proceedings, 1993 On-Site Wastewater Treatment and Research Council Conference: Austin, Texas, On-Site Wastewater Treatment and Research Council, Session X, unpaginated [220 p.]; modified/reprint *in* On-Site insights, v 3, no.1, Spring 1994, p. 4-5; and *in* Texas Environmental News, v. 4, no.7, July 1994.

Woodruff, C.M., Jr., Marsh, W.M., and Wilding, L.P., 1993, Research overview--multidisciplinary approach to terrain analysis with implications for environmental management *in* Woodruff, C.M., Jr., Marsh, W.M., and Wilding, L.P., Coordinators, 1993, Soils, landforms, hydrologic processes, and land-use issues--Glen Rose Limestone terrains, Barton Creek watershed, Travis County, Texas: Society of Independent Professional Earth Scientists, Field Report and Guidebook, 5 December 1992 (revised January 1993), p. 1-1 - 1-6.

Woodruff, C.M., Jr., 1993, Geology and physiography of Glen Rose Limestone terrains, Barton Creek watershed, Central Texas *in* Woodruff, C.M., Jr., Marsh, W.M., and Wilding, L.P., Coordinators, 1993, Soils, landforms, hydrologic processes, and land-use issues--Glen Rose Limestone terrains, Barton Creek watershed, Travis County, Texas: Society of Independent Professional Earth Scientists, Field Report and Guidebook, 5 December 1992 (revised January 1993), p. 2-1 - 2-12.

Woodruff, C.M., Jr., and Marsh, W.M., 1993, Junipers, grassland, and historical land use change in the Hill Country uplands, Central Texas *in* Woodruff, C.M., Jr., Marsh, W.M., and Wilding, L.P., Coordinators, 1993, Soils, landforms,

hydrologic processes, and land-use issues--Glen Rose Limestone terrains, Barton Creek watershed, Travis County, Texas: Society of Independent Professional Earth Scientists, Field Report and Guidebook, 5 December 1992 (revised January 1993), p. 5-1 - 5-12.

Kleeman, T., and Woodruff, C.M., Jr., 1989, Lineament identification and the Edwards aquifer of Central Texas: Proceedings, IGARSS '89, 12th Canadian Symposium on Remote Sensing, Vancouver, v. 1, p. 105-107.

Woodruff, C.M., Jr., 1988, Geology, History, and the "look" of the city--an introduction to a walking tour of Congress Avenue *in* Woodruff, C.M., Jr., coordinator, Congress Avenue, Austin, Texas: Austin Geological Society Guidebook 12, p. 1-4.

Woodruff, C.M., Jr., 1987, Edwards Plateau versus Grand Prairie--a reassessment of the boundary between two natural provinces of Texas *in* Yelderman, J.C., Jr., Slade, R.M., Jr., Sharp, J.M., Jr., and Woodruff, C.M., Jr., co-leaders: Field Trip Guidebook, South-Central Section, Geological Society of America, Waco, Texas, p.53-60 (reprinted in Austin Geological Society Guidebook 11, p. 19-25).

Woodruff, C.M., Jr., and Abbott, P.L., 1986, Stream piracy and evolution of the Edwards aquifer along the Balcones Escarpment, Central Texas *in* Abbott, P.L., and Woodruff, C.M., Jr., editors, The Balcones Escarpment: published for Geological Society of America Annual Meeting, San Antonio, Texas, p. 77-89.

Foley, D., and Woodruff, C.M., Jr., 1986, Geothermal resources of Bexar County, Texas *in* Abbott, P.L., and Woodruff, C.M., Jr., editors, The Balcones Escarpment: published for Geological Society of America Annual Meeting, San Antonio, Texas, p. 145-152.

Grimshaw, T.W., and Woodruff, C.M., Jr., 1986, Structural style in an en-echelon fault system, Balcones fault zone, Central Texas--geomorphologic and hydrologic implications *in* Abbott, P.L., and Woodruff, C.M., Jr., editors, The Balcones Escarpment: published for Geological Society of America Annual Meeting, San Antonio, Texas, p. 71-75.

Woodruff, C.M., Jr., and Longley, W.L., 1986, Maps and ecological systems diagrams--complementary tools for constructing a natural environmental baseline: Austin Geological Society Guidebook 9, p. 10-29.

Woodruff, C.M., Jr., 1986, Geology of Wild Basin--present and past: Wild Basin News, v. 8, no. 3, p. 1-2.

Woodruff, C.M., Jr., 1985, Jollyville Plateau--Geologic controls on aquifer development: Austin Geological Society Guidebook 8, p. 4-9.

Woodruff, C.M., Jr., and Foley, D., 1985, Thermal regimes of the Balcones/ Ouachita Trend, Central Texas: Gulf Coast Association of Geological Societies Transactions, v. 35, p. 287-292 (also abs. in American Association of Petroleum Geologists Bulletin v. 69, no. 9, p. 1431).

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Woodruff, C.M., Jr., and Gustavson, T.C., 1976, Land resources of Fayette County, Texas: The University of Texas at Austin, Bureau of Economic Geology Open File Map, scale 1:125,000.

SELECTED PUBLIC LECTURES AND ADDRESSES:

--2012--

Geologic perspectives on human affairs in Central Texas 1850-2050: UT Sage, Osher Lifelong Learning Institute, The University of Texas at Austin, Austin, Texas

--2010--

The Balcones Escarpment—A geological borderland in Central Texas: Redbud Teacher Institute, Austin, Texas

The Balcones Escarpment—Geologic controls on human endeavors in Central Texas: U.T. Quest, Osher Lifelong Learning Institute, The University of Texas at Austin, Austin, Texas

--2009--

The Glen Rose Limestone of Central Texas—Soil-bedrock relations: Capital Area Erosion Control Network

--2008--

Giving geologic testimony—ethics, sound practice, and the common good: Austin Geological Society, Austin, Texas
(also to: SIPES Central Texas Chapter, Austin, Texas)

Substrate, soils, and stair-step hills—Unexpected attributes of the Central Texas Hill Country: Austin Gem and Mineral Society, Austin, Texas

--2007--

Balcones Escarpment of Central Texas—A geological/ecological borderland: National Society of Consulting Soil Scientists, 20th Annual Conference, San Antonio, Texas

--2006—

What I Wish Someone Had Told Me: The University of Texas at Austin, Department of Geological Sciences Undergraduate Club, Austin, Texas

--2005—

Engaging the Earth--Geology and the Soul of Place: Seton Cove, Austin, Texas

--2004—

Geologic Borderlands in Central Texas—A Virtual Overview: 2004 Decision-Makers Field Conference, The University of Texas at Austin, Bureau of Economic Geology, Austin, Texas

Engineering Geology in the Austin Area—Some Selected Examples: Austin Geological Society also The University of Texas at Austin Department of Geological Sciences Hydrogeology Brown-Bag Seminar, Austin, Texas

Exploration of Deep Time in Central Texas: Austin Founder Lions Club, Austin, Texas

--2003—

The Balcones Escarpment--A Geocultural Borderland: The University of Texas at Austin, Bureau of Economic Geology Seminar, Austin, Texas

Geologic Controls on Groundwater, Northern Edwards Aquifer, Central Texas: Georgetown Salamander Workshop, Round Rock, Texas

--2002--

The Balcones Escarpment--A View from the Field: Austin Area Master Naturalists, Austin, Texas

--2001--

The Balcones Escarpment--Life along a Geologic Borderland: Austin Paleontological Society, Austin, Texas; also Wimberley Lions Club, Wimberley, Texas

Geologic Evolution of the Edwards/Trinity Aquifer System: Edwards/Trinity System Workshop, sponsored by U.S. Geological Survey and The University of Texas at Austin Department of Geological Sciences, Austin, Texas

--2000--

Geology--Meditations on Deep Time: Seton Cove, Spirituality and Nature Luncheon Series, Austin, Texas

Edwards Limestone--Up Close and Personal: The University of Texas at Austin, Bureau of Economic Geology Seminar, Austin, Texas

--1999--

Sculpting the Edwards Plateau Edge--A Test Study of the Blanco River Watershed, Central Texas: 1999 Soil Survey and Land Resource Workshop, College Station, Texas

Glen Rose Limestone Revisited: The University of Texas at Austin, Department of Geological Sciences, Soft Rock Seminar, Austin, Texas

Hillslope hydrology on limestone terrains, Central Texas Hill Country: Vanderbilt University, Willard B. Jewell Memorial Seminar Series, Nashville, Tennessee

--1998--

Evolution of Stepped Landforms in the Central Texas Hill Country: 1998 Soil Survey and Land Resource Workshop, College Station, Texas

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Soil Maps as Tools for Determining Landscape Evolution: 1997 Soil Survey and Land Resource Workshop, College Station, Texas

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Hillslope Hydrology of Glen Rose Limestone Terranes, Western Travis County, Texas: U.S. Geological Survey, South-Central Texas Study Unit, National Water-Quality Assessment Program, Austin, Texas

--1995--

Hillslope Hydrology of Stepped Landforms, Glen Rose Limestone, Western Travis County, Texas: The University of Texas at Austin, Department of Geological Sciences, Technical Sessions, Austin, Texas

The Balcones Escarpment--Borderland of the American West: The University of Texas at Austin, Scholia, Austin, Texas

--1994--

The Balcones Escarpment: Southwest Texas State University, Gamma Theta Upsilon (Geography Honor Society), San Marcos, Texas

--1993--

Integrating Natural Resource Information for Urban Planning--Overview and Geology/Geomorphology: 1993 Soil Survey and Land Resource Workshop, College Station, Texas

--1987--

Geology, the Edwards aquifer, and Landscape Evolution of the Texas Hill Country: Texas Outdoor Education Workshop, Leaky, Texas

Remote Sensing Applied to Surface Water and Groundwater Hydrology: Geographic Information Systems and Remote Sensing Workshop, Texas Natural Resources Information System, Austin, Texas

A Consultant's Use of Soils and Geomorphology in Central Texas: 1987 Soil Survey and Land Resource Workshop, sponsored by Texas Agricultural Extension Service, Texas Agricultural Experiment Station, and U.S. Soil Conservation Service, College Station, Texas

--1986--

Edwards Aquifer, Northern Segment--Geologic Controls: Symposium--Edwards Aquifer North of the Colorado River sponsored by The City of Austin and The University of Texas at Austin, Austin, Texas

Geology of the Jollyville Plateau Region of the Edwards Aquifer: City of Austin Lecture Series--the Edwards Aquifer North of the Colorado River, Austin, Texas

--1985--

Geologic Development of the Edwards Aquifer: presented to Edwards Aquifer Symposium, sponsored by the City of Austin, and the University of Texas at Austin, Austin, Texas

--1984--

Geologic Controls on the Edwards Aquifer, Austin Area: presented to City of Austin, Office of Environmental Resources Management Symposium on the Edwards Aquifer, Austin, Texas

--1983--

Geologic Constraints on Septic Tank Systems: presented to On-site Wastewater Treatment Seminar, sponsored by City of Austin Office of Environmental Resources Management and Travis County Engineering Department, Austin, Texas

Stream Erosion Control: presented to American Public Works Association Workshop on Urban Erosion and Sediment Control, Austin, Texas

Lineaments--Some Guidelines for Interpretations, with Examples from Central Texas: presented to Austin Geological Society, Austin, Texas and Geology Department, Lamar University, Beaumont, Texas

--1982--

Geothermal Gradient Anomalies and Remotely Sensed Lineaments along the Balcones/Ouachita Trend, Central Texas: presented to Corpus Christi Geological Society, Corpus Christi, Texas

Lineaments on Landsat--Applications to Resource Exploration: presented to Space and Society Symposium, The University of Texas at Austin, Department of Government, Austin, Texas

--1981--

Regional Hydrodynamics of the Edwards Aquifer--Geothermal Implications: presented to U.S. Department of Energy, Resource Assessment/Commercialization Planning Meeting, Seattle, Washington

--1980--

Protection of Austin Watersheds--Geologic Factors: presented to First Annual Austin Neighborhood Issues Conference, Austin, Texas

Beyond Barton Springs--Geologic Controls on the Edwards Aquifer (and some unsolved problems): presented to Edwards Aquifer Symposium, sponsored by City of Austin and The Lyndon Baines Johnson School of Public Affairs, The University of Texas at Austin, Austin, Texas

Low-temperature Geothermal Resources in Central Texas: presented to Austin Geological Society, Austin, Texas, and at Randolph Air Force Base, San Antonio, Texas

Geothermal Resource Potential along the Margins of the Gulf Coastal Plain and the Mississippi Embayment: presented to Institute for Energy Analysis, Oak Ridge Associated Universities, Oak Ridge, Tennessee

Hydrothermal/geothermal Research in Texas: presented to U.S. Department of Energy, Resource Assessment/Commercialization Planning Meeting, Salt Lake City, Utah

--1979--

Geology Applied to Environmental Planning: presented to University of Illinois, Department of Landscape Architecture, Urbana, Illinois

Geothermal Energy from Ground Water--A Potential Low-temperature Resource along the Margins of the Gulf Coastal Plain and the Mississippi Embayment: presented to "Rural America: Energy Needs and Alternatives," American Association for the Advancement of Science Regional Energy Seminar, Arkadelphia, Arkansas

Drainage-basin Evolution near the Balcones Fault Zone: presented to Baylor University, Department of Geology, Waco, Texas

--1978--

Stream Piracy and the Edwards Aquifer: presented to Austin Geological Society and to The University of Texas at Austin, Department of Geological Sciences, Austin, Texas, and to Vanderbilt University Department of Geology, Nashville, Tennessee

Geomorphic Mapping on the Llano Estacado: presented to Annual Soil Work/Planning Conference, Texas A&M University, College Station, Texas

--1977--

Geomorphic Factors affecting Archaeological Surveys: presented to Archaeology Field Camp, The University of Texas at San Antonio, San Antonio, Texas

--1976--

Resource Assessment and coastal management: presented to Texas Mid-Continent Oil and Gas Association, Subcommittee on Coastal Zone Management, Houston, Texas

--1973--

Planning for the future--environmental mapping: presented to Capitol Area Planning Council General Assembly, Austin, Texas

LEGAL TESTIMONY AND APPEARANCE BEFORE GOVERNMENTAL BODIES:

Expert Witness--250th Judicial District Court of Travis County, Texas (No. 490,473; Onion Creek Homeowners' Association, Inc., et al v. City of Austin, Texas and Texas Disposal Systems Landfill, Inc.), 1991

Expert Witness--Federal District Court (Cause No. A 89 CA 719; Save Barton Creek, et al. v. Federal Highway Administration), 1990

Expert Witness--201st Judicial District Court of Travis County, Texas (Cause No. 479,540; State of Texas v. Travis Country Utility District, Inc. and Glenn Neans), 1990

Testimony before Texas State Boards and Commissions, and routine appearance before City of Austin Governing Boards and Commissions 1982-present

Resource Witness, 65th Texas Legislature, 1977:

Texas Senate: Natural Resources Committee

Texas House of Representatives: State Affairs Committee

MISCELLANEOUS PROFESSIONAL ACTIVITY:

Co-Leader, Virtual Field Trip: [Water Resources and Innovative Water Strategies – A Virtual Field Trip for GeoGulf, Austin, Texas \(2021\)](#)

Field-Trip Leader: "Geologic and Engineering Wonders of Austin:" Environmental and Engineering Geophysical Society (SAGEEP), March 2015

Field-Trip Co-Leader: American Association of Petroleum Geologists Annual Meeting, San Antonio, Texas, April 2008

Field-Trip Co-Leader: American Association of Petroleum Geologists Trustee Associates Meeting, San Antonio, Texas, October 2006

Crisis Committee Chairman, Field-Trip Co-Leader: Gulf Coast Association of Geological Societies, 52nd Annual Convention, Austin, Texas, October 2002

Geologic Advisor: St. Stephens School, Land Stewardship Committee, Austin, Texas, 2000-2001

Associate Editor: Gulf Coast Association of Geological Societies Transactions, vol. 44, 1994

Chairman of Plenary Session "Limitations of the Earth, Revisited:" Gulf Coast Association of Geological Societies, 44th Annual Convention, Austin, Texas, October 1994

Workshop/Field-Trip Leader: The Central Texas Hill Country, Heartland Institute, Blanco, Texas, June 1994

Field-Trip Leader: Texas Earth Science Teachers Association Conference, Austin, Texas, November 1993

Field-Trip Co-Leader: Professional Soil Science Association of Texas, Austin, Texas, January 1993

Field-Trip Leader: Texas Earth Science Teachers Association Conference, Austin, Texas, February 1990

Field-Trip Leader: Geology of the Texas Hill Country--Texas Nature Conservancy Annual Meeting--25th Anniversary Meeting Lago Vista, Texas, October 1989

Panelist: Challenge--Livable Cities, sponsored by The Austin Chapter of the American Institute of Architects in cooperation with The LBJ School of Public Affairs, The University of Texas at Austin School of Architecture, and The Austin 150 Commission, 15 June 1989

Field-trip Co-Leader: American Association of Petroleum Geologists, Annual Meeting, San Antonio, Texas, 1989

Participant: Geographic Features of the Jollyville Plateau Margin; Field Trip sponsored by the City of Austin, Department of Environmental Protection, 18 July 1987

Field-Trip Leader: American Planning Association, 1987 Texas Chapter Conference, 15 October 1987

Field-trip Leader: Gulf Coast Association of Geological Societies and Gulf Coast Section of Society of Economic Paleontologists and Mineralogists 37th Annual Convention, San Antonio, Texas, 1987

Field-trip Co-Leader: Geological Society of America South-Central Sectional Meeting, Waco, Texas, 1987

Panelist: Town Meeting on the Proposed Edwards Aquifer Groundwater Protection District in Southwest Travis and Northern Hays Counties, Texas: South Austin Political Action Coalition, Austin, Texas, 1987

Field-trip Co-Leader: Geological Society of America National Meeting, San Antonio, Texas, 1986

Participant: Study Mission--delegation of hydrologists and geologists from Ministry of Geology and Mineral Resources, People's Republic of China, (tour of Edwards Aquifer in vicinity of San Marcos, Texas) 1985

Panelist: "Locational Factors" (at) Affordable Housing Conference sponsored by The Austin Chamber of Commerce, The Austin American-Statesman, and The City of Austin, Austin, Texas, 1985

Field-Trip Leader: Geology and Hydrology of the Edwards Aquifer in the San Marcos area: Thirty-second Annual Conference for the Advancement of Science Teaching, San Marcos, Texas, 1985

Field-Trip Co-Leader: Gulf Coast Association of Geological Societies, 35th Annual Meeting, Austin, Texas, 1985

Session Chairman: "Geothermal Energy," American Association of Petroleum Geologists National Meeting, San Antonio, Texas, 1984

Participant: "Alliance for the Future," meeting sponsored by Phoenix Institute, San Diego, California, at Excelsior Springs, Missouri, 1984

Field-trip Leader: Geology of the Llano Uplift, Texas: for American Petroleum Institute, Committee on Outer Continental Shelf/Coastal Zone Management, 1981; and for Cities Service Company, Continuing Education Program, 1981

Field-trip Leader: Surface geology related to potential uranium mineralization--Austin and Seguin AMS sheets: for Hydrogeochemical and stream sediment field collection teams, Union Carbide Corporation, Nuclear Division, National Uranium Resource Evaluation Program, 1978

Panel Moderator: Offshore Oil/Dialogues Toward Understanding--A National Conference on the Effects of OCS Oil and Gas Development on Coastal States, sponsored by: General Land Office of Texas; Environment Policy Center, Inc.; American Petroleum Institute; and League of Women Voters of Texas, Galveston, Texas, 1977

Panelist: "Natural Areas of Caldwell County," "Natural Areas of Fayette County," and "Natural Areas of Blanco County," county forums sponsored by Capital Area Planning Council and respective County Judges, Lockhart, Texas, LaGrange, Texas, and Johnson City, Texas, 1977

Penrose Conference Panelist: "Implementation of Geological Information in Land-Use Planning," sponsored by the Geological Society of America, Austin, Texas, 1976

Participant: "Natural Areas of Texas," Workshop sponsored by the Division of Natural Resources and Environment, The University of Texas at Austin, Winedale, Texas, 1976

Participant: Environmental Education Workshops, sponsored by Texas Education Agency, at Abilene Christian College, Abilene, Texas, 1974, and at East Texas State University, Commerce, Texas, 1973

CONTRACT AND GRANT SUPPORT--PRINCIPAL INVESTIGATOR:

Geothermal Resource Assessment for the State of Texas, (Part 3); funded by: U.S. Department of Energy; amount: FY 1981-83, \$249,756

Geothermal Resource Assessment for the State of Texas, (Part 2); funded by: U.S. Department of Energy; amount: FY 1980-81, \$257,901

Geothermal Resource Assessment for the State of Texas, (Part 1); funded by: U.S. Department of Energy; amount: FY 1979-80, \$363,939

Study of Late Quaternary Environments and Early Man along the Tombigbee River, Alabama and Mississippi, funded by: Benham-Blair and Affiliates, Inc. (under contract to U.S. Army Corps of Engineers) amount: FY 1979-80, \$12,000

PRIVATE CONSULTING PRACTICE:

Practice (since September 1983) has included more than 700 projects for various clients, including State, County, and Local governmental entities, private corporations, and individuals; projects have involved site work with geotechnical firms; assessments of impacts owing to land development; evaluations of site-specific water and mineral resources; use of remote sensing; expert witness in several Civil Court cases and in hearings before public entities; and preparation and review of environmental impact statements.