

Curriculum Vitae

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EDUCATION	Ph.D. Geology , University of California, Los Angeles	1978
	B.S. Geology , Binghamton University, New York	1973

CURRENT PROFESSIONAL ACTIVITIES

Neotectonics of the Northern Mojave Desert, Project Chief. Through surficial geologic mapping and surface process studies, improve understanding of earthquake risks by evaluating recently active faults, folds, and warps of tectonic origin. Mapping is focused on several active faults identified by recent regional mapping of the Mojave Desert. Long-term goal is to arrive at a new tectonic synthesis of this part of the eastern California shear zone.

Mojave Desert Ecosystem project. Through surficial geologic mapping and surface process studies, develop data for regional study of biotic and abiotic systems of the Mojave Desert. I conduct and coordinate the team's mapping and physical process studies. Ground-based studies of surficial geology, material properties, eolian transport, overland flow, and Holocene climate history are partially published.

Paleoclimatic records of the southwest. Examine spring and marsh records, lake shoreline records, and lake-bottom deposits to detail glacial and post-glacial sediment histories to extract paleo climatic information. Study of shoreline deposits, shallow cores, and spring and marsh range from Mojave Desert wetland deposits and ancient lake deposits, to Great Salt Lake and its precursor lake, Lake Bonneville.

PROFESSIONAL MEMBERSHIPS

Geological Society of America, American Geophysical Union, International Quaternary Association, American Geological Institute.

HONORS, AWARDS, ELECTED MEMBERSHIPS

- B.S. with "Distinguished Independent Study", 1973, Binghamton University.
- Chancellor's Fellow, University of California, Los Angeles: 1974-1978.
- Dept. of Interior Sustained Achievement Award, 1993.
- Fellow, Geological Society of America, 1996
- Dept. of Interior Meritorious Service Award, 2012.

SELECTED PUBLICATIONS

Editorial Roles

- Lead editor and initiator of 19-paper volume to honor Max D. Crittenden: [Miller, D. M., Todd, V. R., and Howard, K. A., 1983, Tectonic and stratigraphic studies in the eastern Great Basin: Geological Society of America Memoir 157, 327 p.]
- Editor and lead author, review chapter on Cretaceous to Eocene evolution of the Cordillera, *in* Decade of North American Geology volume on U.S. Cordillera.

- Lead editor and initiator of 19-paper volume to honor Richard L. Armstrong: [Miller, D.M., and Busby, C., eds., 1995, Jurassic magmatism and tectonics of the North American Cordillera: Geological Society of America Special Paper 299, 425 p.]
- Editor of 19-paper volume following from an interdisciplinary conference on aquatic systems in the southwest [M. C. Reheis, R. Hershler, and D. M. Miller, 2008, Eds., Late Cenozoic Drainage History of the Southwestern Great Basin and Lower Colorado River Region: Geologic and Biotic Perspectives: Geological Society of America Special Paper 439.]
- Editor of book on Mojave Desert ecology that resulted from a conference. [R.H. Webb, L.F. Fenstermaker, J.S. Heaton, D.L. Hughson, E.V. McDonald, D.M. Miller, eds. The Mojave Desert: Ecosystem Processes and Sustainability: University of Nevada Press]
- Editor and major author of book on Great Basin Aquatic systems [Miller, D.M., Finn, S.P., Woodward, A., Torregrosa, A., Miller, M.E., Bedford, D.R., and Brasher, A.M., eds., Conceptual Ecological Models to Guide Integrated Landscape Monitoring of the Great Basin: Scientific Investigations Report 2010-5133, 134 p.]

Selected Peer-reviewed Reports

- Miller, D. M., 1980, Structural geology of the northern Albion Mountains, south-central Idaho, *in* Cordilleran Metamorphic Core Complexes, edited by Crittenden, M.D., Jr., Coney, P.J., and Davis, G.H.: Geological Society of America Memoir 153, p. 399-423.
- Miller, D. M., and Christie, J. M., 1981, Comparison of quartz microfabric and strain in recrystallized quartzite: *Journal of Structural Geology*, v. 3, p. 129-141.
- Miller, D. M., 1983, Allochthonous quartzite sequence in the Albion Mountains, Idaho, and proposed Proterozoic Z and Cambrian correlatives in the Pilot Range, Utah and Nevada, *in* Tectonic and Stratigraphic Studies in the Eastern Great Basin, edited by Miller, D. M., Todd, V. R., and Howard, K. A.: Geological Society of America Memoir 157, p. 191-213.
- Miller, D. M., 1983, Strain on a gneiss dome in the Albion Mountains metamorphic core complex, Idaho: *American Journal of Science*, v. 283, p. 605-632.
- Allmendinger, R. W., Miller, D. M., and Jordan, T. E., 1984, Known and inferred Mesozoic deformation in the hinterland of the Sevier belt, northwest Utah: *Utah Geological Association, Publication 13*, p. 21-34.
- Glazner, A.F., Nielson, J.E., Howard, K.A. and Miller, D.M., 1986, Correlation of the Peach Springs Tuff, a large-volume Miocene ignimbrite sheet in California and Arizona: *Geology*, v. 14, p. 840-843.
- Miller, D.M., Hillhouse, W.C., Zartman, R.E., and Lanphere, M.A., 1987, Geochronology of intrusive and metamorphic rocks in the Pilot Range, Utah and Nevada, and comparison with regional patterns: *Geological Society of American Bulletin*, v. 99, p. 866-879.
- Fox, L.K., and Miller, D.M., 1990, Jurassic granitoids and related rocks of the southern Bristol Mountains, southern Providence Mountains, and Colton Hills, Mojave Desert, California, *in* Anderson, J.L., ed., *The nature and origin of Cordilleran magmatism: Geological Society of America Memoir 174* p. 111-132.
- Oviatt, C.G., Currey, D.R., and Miller, D.M., 1990, Age and paleoclimatic significance of the Stansbury Shoreline of Lake Bonneville, northeastern Great Basin: *Quaternary Research*, v. 33, p. 291-305.
- Miller, D.M., Nakata, J.K., and Glick, L.L., 1990, K-Ar ages for Jurassic to Tertiary plutonic and metamorphic rocks, northwestern Utah and northeastern Nevada: *U.S. Geological Survey Bulletin* 1906, 18 p.
- Wooden, J.L., and Miller, D.M., 1990, Chronologic and isotopic framework for Early Proterozoic crustal evolution in the eastern Mojave Desert region, SE California: *Journal of Geophysical Research*, v. 95, p. 20133-20146.
- Miller, D.M., and Allmendinger, R.W., 1991, Jurassic normal and strike-slip faults at Crater Island, northwestern Utah: *Geological Society of America Bulletin*, v. 103, p. 1239-1251.

- Miller, D.M., Repetski, J.E., and Harris, A.G., 1991, East-trending Paleozoic continental margin near Wendover, Utah, *in* Cooper, J.D., and Stevens, C.H., eds., Paleozoic paleogeography of the western United States-II: Pacific Section, Society of Economic Paleontologists and Mineralogists, v. 67, p. 439-461.
- Miller, D.M., Nilsen, T.H., and Bilodeau, W. L., 1992, Late Cretaceous to Early Eocene geologic evolution of the U.S. Cordillera, *in* Burchfiel, B.C., Lipman, P.W., and Zoback, M.L., eds., The Cordilleran Orogen; conterminous United States: Boulder, CO, Geological Society of America, The Geology of North America, v. G3, p. 205-260.
- Miller, D.M., and Hoisch, T.D., 1995, Jurassic tectonics of northeastern Nevada and northwestern Utah from the perspective of barometric studies, *in* Miller, D.M., and Busby, C., eds., Jurassic magmatism and tectonics of the North American Cordillera: Geological Society of America Special Paper 299, p. 267-294.
- Miller, D.M., Nakata, J.K., Oviatt, C.G., Nash, W.P., and Fiesinger, D.W., 1995, Pliocene and Quaternary volcanism in the northern Great Salt Lake area and inferred volcanic hazards, *in* Lund, W.R., ed., Environmental and Engineering geology of the Wasatch Front Region: Utah Geological Association Publication 24, p. 469-482.
- Miller, D.M., 1995, Characteristics, age, and tectonic implications of the Mid Hills pediment: San Bernardino County Museum Association Quarterly, v. 42, no. 3, p. 69-74.
- Oviatt, C.G., and Miller, D.M., 1997, New explorations along the northern shores of Lake Bonneville, *in* Link, P.K., and Kowallis, B.J., eds., Mesozoic to Recent geology of Utah: Brigham Young University Geology Studies, Vol. 42, Part II, p. 345-371.
- Miller, D.M., and Bedford, D.R., 1999, Pluton intrusion styles, roof subsidence and stoping, and timing of extensional shear zones in the City of Rocks National Reserve, Albion Mountains, southern Idaho, *in*, Spangler, L.E., and Allen, C.J., eds., Geology of northern Utah and vicinity: Utah Geological Association Publication 27, p. 11-25.
- Miller, D.M., and Yount, J.L., 2002, Late Cenozoic tectonic evolution of the north-central Mojave Desert inferred from fault history and physiographic evolution of the Fort Irwin area, California: Geological Society of America Memoir 195, p. 173-197.
- Forester, R.M., Miller, D.M., and Pedone, V.A., 2003, Ground water and ground-water discharge carbonate deposits in warm deserts: *in* Reynolds, R.E., ed., Land of Lost Lakes, 2003 Desert Symposium Field Trip: California State University Desert Studies Consortium, p. 27-36.
- Oviatt, C.G., Miller, D.M., McGeehin, J.P., Zachary, C., and Mahan, S., 2005, The Younger Dryas phase of Great Salt Lake, Utah, USA: Palaeogeography, Palaeoclimatology, Palaeoecology, v. 219, p.263-284.
- Mahan, S.A., Miller, D.M., Menges, C.M., and Yount, J.C., 2007, Late Quaternary stratigraphy and luminescence geochronology of the northeastern Mojave Desert: Quaternary International, v. 166, p. 61-78.
- Miller, D.M., Bedford, D.R., Hughson, D.L., McDonald, E.V., Robinson, S.E., Schmidt, K.M., 2008, Mapping Mojave Desert Ecosystem Properties with Surficial Geology, *in* The Mojave Desert: Ecosystem Processes and Sustainability, ed. by R.H. Webb, L.F. Fenstermaker, J.S. Heaton, D.L. Hughson, E.V. McDonald, D.M. Miller: University of Nevada Press.
- Stock, J.D., Schmidt, K.M., and Miller, D.M., 2007, Controls on alluvial fan long-profiles: Geological Society of America Bulletin, v. 120, p. 619-640, doi: 10.1130/B26208.1
- Miller, D.M., Dudash, S.L., Green, H.L., Lidke, D.J., Amoroso, L., Phelps, G.A. and Schmidt, K.M., 2007, A new Quaternary view of northern Mojave Desert tectonics suggests changing fault patterns during the late Pleistocene, *in* Miller, D.M. and Valin, Z.C., eds., Geomorphology and tectonics at the intersection of Silurian and Death Valleys, southern California: U.S. Geological Survey Open-File Report 2007-1424, p. 157-171.
- Miller, D.M., Schmidt, K.M., Mahan, S.A., McGeehin, J.P., Owen, L.A., Barron, J.A., Lehmkuhl, F., Lohrer, R., 2010, Holocene landscape response to seasonality of storms in the Mojave Desert: Quaternary International, v. 215, p. 45-61.
- Pigati, J.S., Miller, D.M., Bright, J.E., Mahan, S.A., Nekola, J.C., and Paces, J.B., 2011, Chronology,

- sedimentology, and microfauna of groundwater discharge deposits in the central Mojave Desert, Valley Wells, California: Geological Society of America Bulletin, v. 123, p. 2224–2239.
- Miller, David M., 2012, Surficial geologic map of the Ivanpah 30' x 60' Quadrangle, San Bernardino County, California, and Clark County, Nevada: U.S. Geological Survey Scientific Investigations Map 3206, scale 1:100,000, 14 p.
- Reheis, M.C., Bright, J., Lund, S.P., Miller, D.M., Skipp, G., and Fleck, R.J., 2012, A half-million year record of paleoclimate from the Lake Manix core, Mojave Desert, California: Palaeogeography, Palaeoclimatology, Palaeoecology, v. 365-366, p. 11-37.
- Miller, D.M., Oviatt, C.G. and McGeehin, J.P., 2013, Stratigraphy and chronology of Provo shoreline deposits and lake-level implications, Late Pleistocene Lake Bonneville, eastern Great Basin, USA: Boreas, v. 42, p. 342-361.
- Mack, J.S., Berry, K.H., Miller, D.M., Carlson, A.S., 2015, Factors affecting the thermal environment of Agassiz's desert tortoise (*Gopherus agassizii*) cover sites in the central Mojave Desert during periods of temperature extremes: Journal of Herpetology, v. 49, p. 405-414.
- Reheis, M. C., Miller, D.M., McGeehin, J.P., Redwine, J.R., Oviatt, C.G., Bright, J., 2015, Directly dated MIS 3 lake-level record from Lake Manix, Mojave Desert, California, USA: Quaternary Research, v. 83, p. 187-203.
- Cyr, A.J., Miller, D.M., and Mahan, S.A., 2015, Paleodischarge of the Mojave River, southwestern United States, investigated with single-pebble measurements of ¹⁰Be: Geosphere, v. 11, n. 4, p. 1158-1171.
- Miller, D.M., Dudash, S.L., and McGeehin, J.P., 2018, Paleoclimate record for Lake Coyote, California, and the Last Glacial Maximum and deglacial paleohydrology (25 to 14 cal ka) of the Mojave River, in Starratt, S.W., and Rosen, M.R., eds., From Saline to Freshwater: The Diversity of Western Lakes in Space and Time: Geological Society of America Special Paper 536, [https://doi.org/10.1130/2018.2536\(12\)](https://doi.org/10.1130/2018.2536(12)).
- Nuriel, Perach, Miller, D.M., Schmidt, K.M., Coble, M.A., Maher, Kate, 2019, Ten-million years of activity within the Eastern California Shear Zone from U–Pb dating of fault-zone opal: Earth and Planetary Science Letters, v. 521, p. 37-45; <https://doi.org/10.1016/j.epsl.2019.05.047>.