

Curriculum Vitae

Rex H Pilger Jr

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Education

Southern California - PhD Geological Sciences: marine geophysics & tectonics 1976

Nebraska, Lincoln - MS Geology: structural geology 1972

Nebraska, Lincoln - BS with Distinction, Geology 1970, BS, Phi Beta Kappa, Sigma Xi, Sigma Gamma Epsilon

Regents 4-yr (1966-70) Texaco (1968-1970) scholarships, graduate fellowships

Professional

Independent Research - 1992-Present - Plate tectonics: Eastern Pacific, American Cordillera, hotspots
Catholic Church ministry: Business, Operations Director - 2012-Present

GeoGraphix – Landmark Graphics (Halliburton, LMKR) 1997-2011

ARCO Oil & Gas Research 1989-1991

Principal research geologist, Research fellow - Hydrocarbon reservoirs: salt tectonics Louisiana State University, Geology & Geophysics, Basin Research Institute 1976-1990

Professor 1983-1989, Associate Professor, 1979-1982, Assistant Professor, 1976-1979 – Teaching: intro geology, geophysics, tectonics, seismic stratigraphy. Research: plate reconstructions, subduction, hotspots, hydrocarbon systems, intraplate stresses, basin analysis, fluid migration, mountain range tectonics

Associate chairman, 1986-1988 – Academic supervision, research grants, industry relations

Institute associate director, 1985-1986 - Basin analysis research

Naval Ocean Research Development Activity – Bay St. Louis, Mississippi 1980-1982

Geophysical consulting: Plate tectonics of the Arctic and East-Central Pacific Oceans

Esso (Exxon) Production Research Company – Houston 1973

Summer Research Geologist – tectonic analysis

Shell Oil Company – Denver, Los Angeles 1970, 1972

Summer Research Geologist – Powder River basin, Wyoming; Alaska Brooks Range – North Slope

Publications

Monograph

Pilger, R. H, *Geokinematics: Prelude to Geodynamics*, Springer-Verlag, Berlin, 2003.

Proceedings

Pilger, R. H. (convener, editor), *Proceedings of a symposium on the Origin of the Gulf of Mexico and early opening of the central North Atlantic Ocean, March 3-5, 1980*, Louisiana State University (editor), 1980.

Journal/Memoir Articles

Pilger, R. H., Jr., A method for finite plate reconstructions with applications to Pacific-Nazca plate evolution, *Geophysical Research Letters*, 5, 469-472, 1978.

Cross, T. A., and Pilger, R. H., Jr., Constraints on absolute motion and plate interactions inferred from Cenozoic igneous activity in the western United States, *American Journal of Science*, 278, 865-902, 1978.

Pilger, R. H., Jr., A closed Gulf of Mexico, pre-Atlantic Ocean plate reconstruction and the early rift history of the Gulf and North Atlantic, *Gulf Coast Association of Geological Societies Transactions*, 28, 385-393, 1978.

Cross, T. A., and Pilger, R. H., Jr., Tectonic controls of Late Cretaceous sedimentation, western interior, U.S.A., *Nature*, 274, 653-657, 1978.

Pilger, R. H., Jr., and Henyey, T. L., Neogene volcanism in coastal California and the Continental Borderland, Pacific-North American plate interaction, and the San Andreas Fault system, *Tectonophysics*, 57, 189-208, 1979.

Pilger, R. H., Jr., and Handschumacher, D. W., The fixed-hotspot hypothesis and origin of the Easter-Sala y Gomez trace, *Geological Society of America Bulletin*, 92, 437-446, 1981.

Pilger, R. H., Jr., Plate reconstructions, aseismic ridges, and low-angle subduction beneath the Andes, *Geological Society of America Bulletin*, 92, 448-456, 1981.

Handschumacher, D. W., Pilger, R. H., Jr., Foreman, J., and Campbell, J. F., The Easter plate, *Geological Society of America Memoir (The Nazca Plate Volume)*, p. 63-76, 1981.

Pilger, R. H., Jr., The opening of the Gulf of Mexico: Implication for the tectonic evolution of the northern Gulf Coast, *Gulf Coast Association of Geological Societies Transactions*, 31, 377-381, 1981.

Snyder, F. C., and Pilger, R. H., Jr., Structural-stratigraphic setting of LaFourche Crossing Prospect, Louisiana, Fifth Conference, Geopressured-Geothermal Energy, Bebout, D. G., and Bachman, A. I., editors, 233-236, 1981.

Cavanagh, T., and Pilger, R. H., Jr., Structural-stratigraphic setting of South Freshwater Bayou Prospect, Louisiana, Fifth Conference, Geopressured-Geothermal Energy, Bebout, D. G., and Bachman, A. I., editors, 241-246, 1981.

Cross, T. A., and Pilger, R. H., Jr., Controls of subduction geometry, location of magmatic arcs, and tectonics of arc and back-arc regions: *Geological Society America Bulletin*, 93, 545-562, 1982.

Pilger, R. H., Jr., The origin of hotspot traces: evidence from eastern Australia: *Journal Geophysical Research*, 87, 1825-1834, 1982.

Pilger, R. H., Jr., Kinematics of the South American subduction zone from global plate reconstructions, *American Geophysical Union Geodynamics Series*, 9, 113-126, 1983.

Kovacs, L.C., Bernero, C., Johnson, G. L., Pilger, R. H., Jr., Taylor, P. T., and Vogt, P. R., Residual magnetic anomaly chart of the Arctic Ocean Region, Geological Society of America Map and Chart Series, 1983.

Pilger, R. H., Jr., Cenozoic plate kinematics, subduction and magmatism, South American Andes, Journal Geological Society of London, 141, 793-802, 1984.

Pilger, R. H., Jr., and Angelich, M. T., Gravity map of the western Gulf of Mexico, Ocean Margin Drilling Synthesis, JOI, Inc., Atlas 6, Sheet 2, 1984.

Pilger, R. H., Jr., Rubin, D. S., and Kauth, L. R., Magnetic map of the western Gulf of Mexico, Ocean Margin Drilling Synthesis, JOI, Inc., Atlas 6, Sheet 3, 1984.

Nunn, J. A., Scardina, A. D., and Pilger, R. H., Jr., Thermal evolution of the North-Central Gulf Coast, Tectonics, 3, 723-740, 1984.

Lobao, J. J., and Pilger, R. H., Jr., Early evolution of salt structures in the North Louisiana Salt Basin, Gulf Coast Association Geological Societies Transactions, 35, 189-198, 1985.

Pilger, R. H., Jr., Geothermal maps of North Louisiana, Louisiana Department of Natural Resources, 1985.

Alam, A. H. M. S. and Pilger, R. H., Jr., Residual temperature analysis from seismic and well data: implications for subsurface fluid migration, Gulf Coast Association Geological Societies Transactions, 36, 1-7, 1986.

Nunn, J. A., Czerniak, M., and Pilger, R. H., Jr., Structure of the Brooks Range/Colville Basin, Northern Alaska: Constraints from flexure and gravity analysis, Tectonics, v. 6, p. 603-617, 1987.

Alam, A. H. M. S., and Pilger, R. H., Jr., Evolution of salt structures and Cretaceous uplift in westernmost central Mississippi Salt Basin, Madison Parish, Louisiana, Gulf Coast Association Geological Societies Transactions, 38, 225-230, 1988.

Driskill, B. W., Nunn, J. A., Sassen, R., and Pilger, R. H., Jr., Tectonic subsidence, crustal thinning and petroleum generation in the Jurassic trend of Mississippi, Alabama and Florida, Gulf Coast Association Geological Societies Transactions, 38, 257-265, 1988.

Alam, A. H. M. S., and Pilger, R. H., Jr., An integrated geological and geophysical study of the structure and stratigraphy of the Cenozoic extensional Hamlin Valley, Nevada-Utah, Proceedings, Geology and Ore Deposits of the Great Basin, Geological Society of Nevada and U. S. Geological Survey, Sparks, Nevada, April 1-5, 1990, p. 100-110, 1991.

Buffler, R. T., and co-authors (including RHP), Transect of central Gulf of Mexico, Geodynamics Transects Project, Geological Society of America.

Sawyer, D., Buffler, R. T., and Pilger, R. H., Jr., 1990, Crust beneath the Gulf of Mexico, Geological Society of America, Decade of North American Geology, Gulf of Mexico volume.

Angelich, M. T., Pilger, R. H., Jr., and Keller, G. R., Gravity map of Louisiana, Louisiana Geological Survey, 1992.

Angelich, M. T., and Pilger, R. H., Jr., Aeromagnetic map of Louisiana, Louisiana Geological Survey, 1993.

Pilger, R.H., Mesoplates: resolving a decades-old controversy, EOS, Transactions, AGU, 84, 51, 573-576, 2003.

Pilger, R.H., Plumes and hotspots, Letter, Geology News, Geological Society of London, <http://www.geolsoc.org.uk/template.cfm?name=NakedEmperor>, 2003.

Pilger, R.H., Time to test plume alternatives, Letter, Geology News, Geological Society of London, <http://www.geolsoc.org.uk/template.cfm?name=Wot2>, 2003.

Pilger, R.H., Reply to Comment of Liu et al., Mesoplates: Resolving a decades-old controversy, EOS, Transactions, AGU, 85, 260-261, 2004.

Little, Todd, Greene, Forrest, Pilger, Rex, Phillips, Tessy, Poldervaart, Robert, 2004, Adaptive Agility, Agile Development Conference

Pilger, R.H., The Bend: Origin and significance, Geological Society of America Bulletin, 13, 302-313, 2007.

Pilger, R.H., Discussion of "The 'Plate' model for the genesis of melting anomalies" by Gillian R. Foulger, in Plates, Plumes, and Planetary Processes, editors: Foulger, G. R., and Jurdy, D. M., Geological Society of America Memoir, 430, p. 28, 2007.

Pilger, R.H., Discussion of "A plate model for Jurassic to Recent intraplate volcanism in the Pacific Ocean Basin", by Alan Smith, in Plates, Plumes, and Planetary Processes, editors: Foulger, G. R., and Jurdy, D. M., Geological Society of America Memoir, 430, p. 495, 2007.

Pilger, R. H., Discussion of "Break-up spots: Could the Pacific open as a consequence of plate kinematics", by Clouard and Gerbault, Earth Planet. Sci. Lett., 2008, <https://doi.org/10.1016/j.epsl.2008.08.005>

Pilger, R. H., 2012, Fractal plate reconstructions with spreading asymmetry, Marine Geophysical Research 33, 149-168, <https://doi.org/10.1007/s11001-012-9152-6>

Guzmán, Silvina; Grosse, Pablo; Montero-López, Carolina; Hongn, Fernando; Pilger, Rex; Petrinovic, Ivan; Seggiaro, Raúl; Aramayo, Alejandro, Spatial-temporal distribution of explosive volcanism in the 25–28°S segment of the Andean Central Volcanic Zone, Tectonophysics. 636: 170–189. doi:10.1016/j.tecto.2014.08.013., 2014

Current Research

Global plate reconstructions

Eastern Pacific: Nazca, South American plates and Andean volcanism (reconstructions using modified cubic splines) and extensive compilation of isotopic dates (in excess of 30,000 as of 2020), Pacific hotspot reconstruction modifications, hotspot reference frames, Pacific and Farallon plates versus western North America tectonics, fractal plate reconstruction methodology and applications.