

CURRICULUM VITAE

Joann Miriam Stock

Seismological Laboratory 252-21
California Institute of Technology
Pasadena, CA 91125

Telephone: (626) 395-6938
Fax: (626) 564-0715

Electronic Mail: jstock@gps.caltech.edu

RESEARCH INTERESTS

Plate tectonics, structural geology, evolution of plate boundaries, physical volcanology, remote sensing, ground-penetrating radar studies of active faults, stress and deformation in the lithosphere.

EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
PhD in geology, 1988. MS in geophysics, May 1981. BS in geophysics, May 1981

PROFESSIONAL POSITIONS

Feb. 1992 to 1998
CALIFORNIA INSTITUTE of TECHNOLOGY
Pasadena, CA Associate Professor of Geology and Geophysics

Oct. 1998 to present
CALIFORNIA INSTITUTE of TECHNOLOGY
Pasadena, CA Professor of Geology and Geophysics

1995 - 2000
CENTRO DE INVESTIGACIÓN CIENTÍFICA Y EDUCACIÓN SUPERIOR DE ENSENADA (CICESE)
Ensenada, Baja California, Mexico, Investigadora Adjunta

1988 to Jan. 1992
HARVARD UNIVERSITY
Cambridge, MA Associate Professor of Geology and Geophysics (July 1990-Jan. 1992)

HARVARD UNIVERSITY

Cambridge, MA Assistant Professor of Geology and Geophysics (July 1988-June 1990)

Sept. 1982 to Aug. 1984

US GEOLOGICAL SURVEY, MENLO PARK, CALIFORNIA

Geophysicist, office of Earthquakes, Volcanoes, and Engineering

COURSES TAUGHT

Harvard University:

EPS 174a (Field Geology)

Science A-24 (Dynamics of the Earth)

EPS 167 (Applied Geophysics)

EPS 161 (Plate Tectonics)

EPS 104 (Stratigraphy & Structural Geology)

California Institute of Technology:

Geology 213 (Plate Tectonics), Spring 1990

Ge 180 (Plate Tectonics), Fall 1992, Spring 1994, Spring 1996, Winter 1997, Fall 2000

Ge 161 (Plate Tectonics), Fall 2001, Winter 2003, Fall 2003, Fall every year 2005-2018, Winter 2020, Fall 2020

Ge 102 (Geophysics), Spring 1993, Winter 1994, Fall 1994

Ge 105 (Geophysics), Fall 1995 and Winter 1996

Ge120 (Field Geology), Summer 2008

Ge 121a (Advanced Field and Structural Geology), Fall 1994, 1996, 1998, 1999; Winter 2001; Fall 2001, Winter 2004, Fall 2005, 2007, 2009, 2011; Winter 2016

Ge122a (Field Geology Seminar), Fall 2015, Fall 2016, Fall 2018

Ge 260 (Physics of Earth Materials), Fall 1997, Fall 2000, Winter 2003

Ge 111a&b (Applied Geophysics Seminar and Field course), Spring & Summer 1999, 2000, 2001, 2002, 2003, 2004, 2006, 2007, 2008, Winter & Spring 2009

Ge 211 (Applied Geophysics II), Spring 2001, Fall 2002, Fall 2006, Winter 2011, Winter 2018

Ge193 (Seminar on the Tectonics of the South Atlantic), Winter 2001

Ge193 (Seminar on the Tectonics of New Zealand), Fall 2017

Ge195 (Special Opportunities in Field Geology), Fall 2002

Ge136 (Field Geology of the SW United States), Fall 2002, Spring 2012, Spring 2013, Fall 2013, Fall 2014

FS/Ge016 (Freshman Seminar) Fall each year 2012-2018, 2020

Nov. 1987 taught 1.5 days of a 4-day intensive workshop on plate reconstructions, with Prof. R. I. Walcott, *Victoria University of Wellington, Wellington, New Zealand.*

Centro de Investigación Científica y Educación Superior de Ensenada (CICESE):

1989, 1993, 1994, 1998, 2000 Taught 2 week intensive course "Tectónica de Placas" to graduate students at the Centro de Investigación Científica y Educación Superior de Ensenada (CICESE), Ensenada, México

Universidad de Sonora:

2005 Taught Topics in Structural Geology to graduate students

2011 Taught Paleomagnetism and Its Use in Tectonics to graduate students

FELLOWSHIPS and HONORS

Fannie and John Hertz Foundation Fellowship for Graduate Study in Applied Physical Sciences

Phi Beta Kappa

NSF Antarctica Service Medal, 1993

Presidential Young Investigator Award, 1990-1995

Fulbright Fellowship, Japan, 2004-2005

Guggenheim Fellowship, 2004-2005

Elected as a Fellow to Geological Society of America, 2009

Elected as a Fellow of the American Geophysical Union, 2010

China Academy of Sciences President's International Fellowship Initiative, Visiting Scientist, 2019

COMMITTEE RESPONSIBILITIES (External to Caltech)

American Geophysical Union Budget and Finance Committee, 1990 – 1992

National Earthquake Prediction Evaluation Council, 1990-1994.

Member of 15-person NSF-sponsored delegation to US-PRC Joint Symposium on Earthquake Prediction along the Xianshuihe Fault Zone, Sept. 1990

Tectonophysics program co-chairman, AGU meeting, Fall 1992

Co-organizer of special sessions on the Tectonics of the Jalisco Block and on the Tectonics of Western

Mexico, Mexican Geophysical Union, annual meeting, Nov. 1992 and Nov. 1993.

Member, Tectonics Panel, Ocean Drilling program, 1993-1996.

Co-convenor of Penrose conference on "Tectonic Evolution of the Gulf of California and its Margins", Loreto, Baja California, Mexico, April 1996.

Co-convenor of Chapman conference on "Plate Motions and Mantle Convection", Marshall, California, June 1997

Co-convenor of Margins workshop on "Rupturing of Continental Lithosphere in the Gulf of California/Salton Trough region", Puerto Vallarta, Mexico, October 2000

GSA Penrose Committee, 1996-1998

Editorial Board, *Geology*, 1995-1997

Antarctic Geology and Geophysics Working Group, 1997-2000

Steering Committee, NSF MARGINS Program, 1999-2003

Office Advisory Committee, NSF Office of Polar Programs, 2001-2003

Geological Society of America, International Section, management board, 2008-2011.

MIT EAPS Visiting Committee, 2010-2017

US Array Advisory Committee, 2007-2010

UNOLS Marine Seismic Research Oversight Committee, 2017-2018

FIELD GEOLOGICAL AND GEOPHYSICAL WORK

- participant in field microseismicity projects in Greece (1979) and Peru (1980, 1981)
- active source seismology project in southeastern California (Salton Seismic Imaging Project), 2009-2011
- field geophysical work in boreholes (hydraulic fracturing, televiewer, standard geophysical logging) as part of USGS employment, 1982-1987. Projects were related to earthquake hazards along the San Andreas Fault system and site stability at Yucca Mountain, Nevada.
- ongoing field mapping (structural geology, volcanic stratigraphy) in northwestern Mexico (Baja California, Baja California Sur, and Sonora), 1985 - present. Paleomagnetic work on some of the same rocks, 1995-present.
- field mapping, South Bristol Mtns, Ash Hill, and Lava Hills, Mojave Desert, California (2009-2016)
- geophysical cruise participation (15 cruises): N. B. Palmer 92-08 West Antarctic margin, Dec. 1992 - Jan.1993; Ewing 9513, South Tasman Sea, Dec. 95-Feb. 1996 (co-chief sci); Palmer 9602, W. Antarctica Margin, Feb.-April 1996 (co- chief scientist), Palmer 97-02, N. Ross Sea, Feb-March 1997 (co-chief sci.), Ulloa 9905-79, N. Gulf of California, May-June 1999 (co-chief sci.), Palmer 0102, South Atlantic, April 2001 (chief sci.), Palmer 0207, trans-Pacific, Nov.-Dec. 2002 (chief sci.), Palmer 0209, Ross Sea, Dec. 2002-Jan. 2003 (co-chief sci.), Palmer 0304B, North Pacific, Aug-Sept. 2003 (chief sci.), Palmer 0602, Southern Ocean, Feb. 2006 (chief sci), Palmer 0607C, Chatham Rise, Oct. 2006 (chief sci), Palmer 0701, Ross Sea, Dec. 2006-Jan. 2007 (co-chief sci); IODP Expedition 367, South China Sea, Feb-April 2017 (co-chief sci); MGL1803, New Zealand, Feb-March 2018; IODP Expedition 385, Gulf of California, Sept-Nov 2019.
- GPS investigations in the Jalisco area, Mexico, 1995 - 2010.
- Field Mapping and LiDAR data analysis, Hector Mine Fault, CA, 2012-2014

STUDENT THESES SUPERVISED OR CO-SUPERVISED

- 1) Comenetz, Joshua, Harvard Univ. Senior thesis, 1992.
Thesis topic: "Use of Landsat-TM data to discriminate among volcanic lithologies, Puertecitos Volcanic Province, Mexico".
- 2) Lewis, Claudia, Harvard Univ. Ph.D., June 1994.
Thesis title: "Miocene Extensional Tectonics and Volcanism in the Sierra San Fermín, Baja California, México".

3) Zajac, Blair, Caltech PhD, 1998.

Thesis title: "The state of stress as inferred from deviated boreholes: Constraints on the tectonics of offshore central California and Cook Inlet, Alaska".

4) Nagy, Elizabeth, Caltech Ph.D., May 1997.

Thesis title: "Extensional deformation and volcanism within the northern Puertecitos Volcanic Province, Sierra Santa Isabel, Baja California, Mexico".

5) Holt, John W., Caltech Ph.D., April 1997 (co-supervisor)

Thesis title: "I. Detailed records of geomagnetic field behavior from Death Valley and Hawaii; II. An age constraint on Gulf of California rifting from Santa Rosalía, Baja California"

6) Melbourne, Timothy I., Caltech Ph.D., 1998 (co-supervisor)

Thesis title: "I. Rupture processes of large subduction earthquakes. II. Broadband upper mantle structure of western North America"

7) Oskin, Michael E., Caltech Ph.D., 2001

Thesis title: "Part I: Tectonic Evolution of the Northern Gulf of California, Mexico, Deduced from Conjugate Rifted Margins of the Upper Delfin Basin and Part II: Active Folding and Seismic Hazard in Central Los Angeles, California"

8) Keller, William, Caltech Ph.D., 2003

Thesis title: "Cenozoic plate tectonic reconstructions and plate boundary processes in the Southwest Pacific"

9) Persaud, Patricia, Caltech Ph.D., 2003

Thesis title: "Images of early continental breakup in and around the Gulf of California and the Role of Basal Shear in producing wide plate boundaries"

10) Dmochowski, Jane, Caltech Ph.D., 2005

Thesis title: "Application of MODIS-ASTER (Master) Simulator Data to Geological Mapping of Young Volcanic Regions in Baja California, Mexico"

11) Downey, Nathan, Caltech Ph.D., 2009

Thesis title: "Tectonic history of the Osbourn spreading center and dynamic subsidence of the Congo Basin"

12) Selvans, Michelle, Caltech Ph.D., 2011 (co-supervisor)

Thesis title: "Geophysical Investigations of the Earth and Mars".

13) Olguín-Villa, Ángel Enrique, Universidad de Sonora, MS thesis, 2013 (co-supervisor)

Thesis title: "Establecimiento de la Estratigrafía Magnética del Evento Volcánico Hipercalino del Mioceno Medio en la Sierra Libre, Sonora, México"

14) Skinner, Steven Michael, Caltech Ph.D., 2013 (co-supervisor)

Thesis title: "Plate Tectonic Constraints on Flat Subduction and Paleomagnetic Constraints on Rifting"

15) Witkosky, Rebecca Amber, Caltech Ph.D., 2018 (co-supervisor)

Thesis title: "Tectonics in Nevada and Southern California: Subsidence of the Ediacaran Johnnie Formation, Cumulative Offset Along the Lavic Lake Fault, and Geomorphic Surface Development Along the Southern San Andreas Fault"

16) Sabbeth, Leah, Caltech Ph.D., 2020 (co-supervisor)

Thesis title: "Provenance, structural geology, and sedimentation of the Miocene and Pliocene Californias"

17) Piña-Páez, Lillian Adriana, Universidad de Sonora, Tesis de Licenciatura, 2020 (co-supervisor)

Thesis title: "Nuevas evidencias petrotectónicas en la Sierra Los Algodones, San Carlos, Sonora, México: Énfasis en los vestigios volcánicos del Mioceno relacionados al Protogolfo de California"

PAPERS IN REFEREED JOURNALS

Stock, J. M., and P. Molnar, Uncertainties in the relative positions of the Australia, Antarctica, Lord Howe, and Pacific plates since the Late Cretaceous, *Journal of Geophysical Research*, 87, 4697-4714, 1982.

King, G. C. P., A. Tselentis, J. Gomberg, P. Molnar, S. W. Roecker, H. Sinvahl, C. Soufleris, and J. M. Stock, Microearthquake seismicity and active tectonics of northwestern Greece, *Earth and Planetary Science Letters*, 66, 279-288, 1983.

Stock, J. M., and P. Molnar, Some geometrical aspects of uncertainties in combined plate reconstructions, *Geology*, 11, 697-701, 1983.

Grange, F., P. Cunningham, J. Gagnepain, D. Hatzfeld, P. Molnar, L. Ocola, A. Rodriguez, S. W. Roecker, J. M. Stock, and G. Suárez, The configuration of the seismic zone and downgoing slab in southern Peru, *Geophysical Research Letters*, 11, 38-41, 1984.

Stock, J. M., J. H. Healy, S. H. Hickman, and M. D. Zoback, Hydraulic fracturing stress measurements at Yucca Mountain, Nevada, and relationship to the regional stress field, *Journal of Geophysical Research*, 90, 8691-8706, 1985.

M.I.T. Field Geophysics Course (S. Park, I. Brome, P. Cunningham, R. Harris, T. Hess, J. Hodges, D. Kirkpatrick, T. Madden M. Mellen, J. Menoher, A. Michael, P. Molnar, M. Murray, D. Olgaard, P. Standley, J. M. Stock, C. Stork, and S. T. Wray), A geophysical study of Mesquite Valley, Nevada-California border, *Journal of Geophysical Research*, 90, 8685-8690, 1985.

Molnar, P., and J. M. Stock, A method for bounding uncertainties in combined plate reconstructions, *Journal of Geophysical Research*, 90, 12537-12544, 1985.

Stock, J. M., and P. Molnar, Revised early Tertiary history of plate motion in the Southwest Pacific, *Nature*, 325, 495-499, 1987.

Molnar, P., and J. M. Stock, Relative motions of hotspots in the Pacific, Atlantic, and Indian Oceans since late Cretaceous time, *Nature*, 327, 587-591, 1987.

Stock, J. M., and J. H. Healy, Stress field at Yucca Mountain, Nevada, in *Short Contributions to the Geology and Hydrology of a Potential Nuclear Waste Disposal Site at Yucca Mountain, Southern Nevada*, edited by M. D. Carr and J. C. Yount, U.S. Geological Survey Bulletin, 1790, pp. 87-93, 1988.

Molnar, P., F. Pardo-Casas, and J. M. Stock, The Cenozoic and late Cretaceous evolution of the Indian Ocean Basin: Uncertainties in the reconstructed positions of the Indian, African, and Antarctic plates, *Basin Research*, 1, 23-40, 1988.

Stock, J. M., and J. H. Healy, Continuation of a deep borehole stress profile near the San Andreas fault II: Hydraulic fracturing stress measurements at Black Butte, Mojave desert, CA, *Journal of Geophysical Research*, 93 (B12), 15196-15206, 1988.

Stock, J. M., and P. Molnar, Uncertainties and implications of the late Cretaceous and Tertiary position of North America relative to the Farallon, Kula, and Pacific plates, *Tectonics*, 7, 1339-1384, 1988.

Stock, J. M., and K. V. Hodges, Pre-Pliocene extension around the Gulf of California and the transfer of Baja California to the Pacific plate, *Tectonics* 8, 99-115, 1989.

Hodges, K. V., L. McKenna, J. M. Stock, J. Knapp, L. Page, K. Sternlof, D. Silverberg, G. Wüst, and J. D. Walker, Evolution of extensional basins and Basin and Range topography west of Death Valley, CA, *Tectonics*, 8 (3), 453-467, 1989.

Stock, J. M., Sequence and geochronology of Miocene rocks adjacent to the Main Gulf Escarpment: southern Valle Chico, Baja California, Mexico, *Geofísica Internacional*, v. 28-5, p. 851-896, 1989.

Stock, J. M., and K. V. Hodges, Miocene to recent structural development of an extensional accommodation zone, northeastern Baja California, Mexico, *Journal of Structural Geology*, v. 12, No. 3, pp. 315-328, 1990.

Chang, T., J. M. Stock, and P. Molnar, The rotation group in plate tectonics and the representation of uncertainties in plate reconstructions, *Geophysical Journal of the Royal Astronomical Society*, v. 101, pp. 649-661, 1990.

Chang, T., J. M. Stock, and P. Molnar, Reply to comment on "The rotation group in plate tectonics and the representation of uncertainties in plate reconstructions," *Geophysical Journal Int.*, 110, p. 215-217, 1992.

Liu, C., and J. M. Stock, Quantitative determination of uncertainties in seismic refraction prospecting, *Geophysics*, 58, 553-563, 1993.

Sieh, Kerry, L. Jones, E. Hauksson, K. Hudnut, D. Eberhart-Phillips, T. Heaton, S. Hough, K. Hutton, H. Kanamori, A. Lilje, S. Lindvall, S. F. McGill, J. Mori, C. Rubin, J. A. Spotila, J. Stock, H. K. Thio, J. Treiman, B. Wernicke and J. Zachariasen, Near-field Investigations of the Landers Earthquake Sequence, April to July 1992, *Science*, 260, 171-176, 1993.

Martín-Barajas, Arturo, and Joann M. Stock, Estratigrafía y Petrología de la Secuencia Volcánica de Puertecitos, Noreste de Baja California. Transición de un Arco Volcánico a Rift, *Contribuciones a la Tectónica del Occidente de México. Monografía No. 1 Unión Geofísica Mexicana (editores L.A. Delgado-Argote y A. Martín-Barajas)*, p. 66-89, 1993.

Marks, K. M., and J. M. Stock, Variations in ridge morphology and depth-age relationships on the Pacific-Antarctic ridge, *Journal of Geophysical Research*, 99, No. B1, 531-541, 1994.

Gerstell, M. and J. M. Stock, Testing the Porcupine Plate hypothesis, *Marine Geophysical Researches*, 16, No. 4, 313-321, August 1994.

Stock, J. M., and J. Lee, Do Microplates in subduction zones leave a Geological Record?, *Tectonics*, 13, No. 6, 1472-1487, December 1994.

Martín-Barajas, A., J. M. Stock, P. Layer, M. Lopez-Martínez, B. Hausback, and P. Renné, Arc-rift transition volcanism in the Puertecitos Volcanic Province, NE Baja California, Mexico, *Bulletin of the Geological Society of America*, 107, No. 4, 407-424, April 1995.

Marks, Karen M., and J. M. Stock, Asymmetric Seafloor spreading and short ridge jumps in the Australian-Antarctic discordance, *Marine Geophysical Researches*, 17 (4), 361-373, 1995.

DeMets, C., I. Carmichael, T. Melbourne, O. Sanchez, J. Stock, G. Suarez, and K. Hudnut, Anticipating the Successor to Mexico's Largest Historical Earthquake, *EOS, Trans. American Geophysical Union*, v. 76, no. 42, 417-419, October 17, 1995.

Cande, Steven C., C. A. Raymond, J. M. Stock, and W. F. Haxby, Geophysics of the Pitman Fracture Zone and Pacific-Antarctic Plate motions during the Cenozoic, *Science*, 270, 947-953, 1995.

Kerkela, Stacy and J. M. Stock, Compression directions north of the San Fernando Valley determined from borehole breakouts, *Geophysical Research Letters*, 23, No. 23, 3365-3368, 1996.

Melbourne, T., I. Carmichael, C. DeMets, K. Hudnut, O. Sanchez, J. Stock, G. Suarez, and F. Webb, The Geodetic Signature of the M8.0 Oct. 9, 1995 Jalisco Subduction Earthquake, *Geophysical Research Letters*, 24, No. 6, 715-718, 1997.

Wilde, Melita, and J. M. Stock, Compression directions in southern California (from Santa Barbara to Los Angeles Basin) obtained from borehole breakouts, *J. Geophys. Res.*, 102, No. B3, 4969-4983, March 1997.

Zajac, B., and J. M. Stock, Using borehole breakouts to constrain the complete stress tensor: Results from the Sijan Deep Drilling Project and offshore Santa Maria Basin, California, *J. Geophys. Res.*, 102, No. B5, 10,083-10,100, 1997.

Martin-Barajas, A., M. Tellez-Duarte, and J. M. Stock, The Puertecitos Formation: Pliocene Sedimentation along an accommodation zone in Northeastern Baja California, in: Markes E. Johnson and Jorge Ledesma-Vazquez, eds., *Pliocene Carbonate and Related Facies Flanking the Gulf of California, Baja California, Mexico: GSA Special Paper 318*, 1-24, 1997.

Marks, K. M., and J. M. Stock, Early Tertiary gravity field reconstructions of the Southwest Pacific, *Earth Planet. Sci. Lett.*, 152, 267-274, 1997.

Cande, Steven C., J. M. Stock, C. Raymond, and R. D. Müller, New Constraints on Plate Tectonic Puzzle of the SW Pacific, *EOS, Trans. American Geophysical Union*, v. 79, no. 7, February 17, 1998.

Lewis, C. J., and J. M. Stock, Paleomagnetic evidence of localized vertical axis rotation during Neogene extension, Sierra San Fermin, northeastern Baja California, Mexico, *J. Geophys. Res.*, 103, No. B2, 2455-2470, 1998.

Gaina, C., R. D. Müller, J.-Y. Royer, J. Stock, J. Hardebeck, and P. Symonds, The tectonic history of the Tasman Sea: A puzzle with thirteen pieces, *J. Geophys. Res.*, in press, 1998.

Lewis, C. J., and J. M. Stock, Late Miocene to Recent transtensional tectonics in the Sierra San Fermin, northeastern Baja California, Mexico, *J. Struct. Geol.*, 20, No. 8, 1043-1063, 1998.

Atwater, Tanya, and J. M. Stock, Pacific-North America Plate Tectonics of the Neogene Southwestern United States: An Update, *International Geol. Review*, 40, 375-402, 1998.

Marks, Karen M., J. M. Stock, and K. J. Quinn, Evolution of the Australian-Antarctic discordance since Miocene time, *J. Geophys. Res.*, 104, No. B3, 4967-4981, 1999.

Heinemann, J., J. M. Stock, R. Clayton, K. Hafner, S. Cande, and C. Raymond, Constraints on the Proposed Marie Byrd Land-Bellingshausen Plate Boundary from Seismic Reflection Data, *J. Geophys. Res.*, 104, No. B11, 25,321-25,330, 1999.

Billen, Magali I., and J. M. Stock, Morphology and origin of the Osborn Trough, *J. Geophys. Res.*, 105, No. B6, 13,481-13,489, 2000.

Cande, Steven C., J. M. Stock, R. D. Müller, and T. Ishihara, Cenozoic Motion between East and West Antarctica, *Nature*, 404, 145-150, 2000.

Nagy, Elizabeth A., and J. M. Stock, Structural Controls on the Continent-Ocean Transition in the northern Gulf of California, *J. Geophys. Res.*, 105, No. B7, 16,251-16,269, 2000.

Stock, Joann M., Relation of the Puertecitos Volcanic Province, Baja California, Mexico, to development of the plate boundary in the Gulf of California, in H. Delgado-Granados, G. Aguirre-Diaz, and J. M. Stock, eds., *Cenozoic Tectonics and Volcanism of Mexico*, GSA Special Paper 334, 143-156, 2000.

Raymond, Carol A., and J. M. Stock, and S. C. Cande, Fast Paleogene Motion of the Pacific Hotspots From Revised Global Plate Circuit Constraints, in M. A. Richards, R. G. Gordon, and R. D. van der Hilst, eds., *History and Dynamics of Plate Motions*, AGU Geophysical Monograph Series, p. 359-375, 2000.

Nagy, E. A., M. Grove, and J. M. Stock, Age and stratigraphic relationships of pre- and syn-rift volcanic deposits in the northern Puertecitos Volcanic Province, Baja California, Mexico, *JVGR Special Issue on Rift-related Volcanism*, v. 93 (1-2), p. 1-30, 1999.

Stock, J. M., C. J. Lewis, and E. A. Nagy, The Tuff of San Felipe: An Extensive Middle Miocene Pyroclastic Flow Deposit in Baja California, Mexico, *JVGR Special Issue on Rift-related Volcanism*, 93, 53-74, 1999.

Holt, John W., Elizabeth W. Holt, and Joann M. Stock, An age constraint on Gulf of California rifting from the Santa Rosalia basin, Baja California Sur, Mexico, *GSA Bulletin*, v. 112, no. 4, p. 540-549, 2000.

Oskin, M., J. Stock, and A. Martín-Barajas, Rapid localization of Pacific-North America plate motion in the Gulf of California, *Geology*, v. 29, no. 5, p. 459-462, 2001.

Marks, K. M., and J. M. Stock, Evolution of the Malvinas Plate south of Africa, *Marine Geophysical Researches*, v. 22, 289-302, 2001.

Masterlark, T., C. DeMets, H. F. Wang, O. Sanchez, and J. Stock, Homogeneous vs. heterogeneous subduction zone models: coseismic and postseismic deformation, *Geophys. Res. Lett.*, v. 28, no. 21, p. 4047-4050, Nov. 1, 2001.

Hutton, W., C. DeMets, O. Sanchez, G. Suarez, and J. Stock, Slip kinematics and dynamics during and after the 1995 October 9 Mw=8.0 Colima-Jalisco earthquake, Mexico, from GPS geodetic constraints, *Geophys. J. Int.*, v. 146, p. 637-658, 2001.

Larson, R. L., R. A. Pockalny, R. F. Viso, E. Erba, L. J. Abrams, B. P. Luyendyk, J. M. Stock, and R. W. Clayton, Mid-Cretaceous tectonic evolution of the Tongareva triple junction in the southwestern Pacific basin, *Geology*, v. 30, no. 1, p. 67-70, 2002.

Stock, J. M., and S. C. Cande, Tectonic History of Antarctic Seafloor in the Australia-New Zealand-South Pacific Sector: Implications for Antarctic Continental Tectonics, "Antarctica at the close of a Millenium", edited by J. A. Gamble, D.N. B. Skinner, and S. Henrys, Royal Society of New Zealand Bulletin 35, p. 251-259, 2002.

Melbourne, T., F. Webb., J. Stock, and C. Reigber, Rapid postseismic transients in subduction zones from continuous GPS, *J. Geophys. Res.*, v. 107, no. B10, 2241, doi:10.1029/2001JB000555, 2002.

Oskin, M., and J. Stock, Marine incursion synchronous with plate boundary localization in the Gulf of California, *Geology*, v. 31, no 1, p. 23-26, 2003.

Courtillot, V., A. Davaille, J. Besse and J. Stock, Three distinct types of hotspots in the Earth's mantle, *Earth and Planetary Science letters* v. 205, p. 295-308, 2003.

Oskin, M., and J. Stock, Miocene to Recent Pacific-North America plate motion and opening of the Upper Delfin basin, northern Gulf of California, Mexico, *Geol. Soc. Am. Bulletin*, v. 115, no. 10, pp. 1173-1190, 2003.

Persaud, P., J. M. Stock, M. S. Steckler, A. Martin-Barajas, J. B. Diebold, A. Gonzalez-Fernandez, G. S. Mountain, Active deformation and shallow structure of the Wagner, Consag, and Delfin Basins, northern Gulf of California, Mexico, *J. Geophys. Res.*, vol. 108, No. B7, 2355, doi: 10.1029/2002JB001937, 31 July 2003.

Stock, J. M., Hotspots come unstuck, *Science*, v 301 (no 5636), 1059-1060, Aug 22, 2003.

McQuarrie, N., J. M. Stock, C. Verdel, and B. P. Wernicke, Cenozoic evolution of Neotethys and implications for the causes of plate motions, *Geophys. Res. Lett.*, v. 30, no. 20, p. 2036, doi:10.1029/2003GL017992, 2003.

Oskin, M., and J. Stock, Cenozoic volcanism and tectonics of the continental margins of the Upper Delfin Basin, northeastern Baja California and western Sonora, in Johnson, S. E., Paterson, S.R., Fletcher, J. M., Girty, G. H., Kimbrough, D. L., and Martin-Barajas, A., eds., *Tectonic evolution of northwestern Mexico and the southwestern USA*, Boulder, Colorado, GSA Special Paper 374, p. 421-438, 2003.

S. C. Cande and J. M. Stock, Pacific-Antarctic-Australia motion and the formation of the Macquarie Plate, *Geophys. J. Int.*, v. 157, p. 399-414, 2004.

Cande, S. C. and J. M. Stock, Cenozoic reconstructions of the Australia-New Zealand-South Pacific Sector of Antarctica, in "The Cenozoic Southern Ocean: Tectonics, Sedimentation and Climate Change Between Australia and Antarctica", edited by Neville Exon, James P. Kennett, and Mitchell Malone, AGU Monograph Series v. 151, p. 5-19, 2004.

Hook, S. J., J. E. Dmochowski, K. A. Howard, L. C. Rowan, K. E. Karlstrom, and J. M. Stock, Mapping variations in weight percent silica from multispectral thermal infrared imagery - Examples from the Hiller Mountains, Nevada, USA and Tres Virgenes-La Reforma, Baja California Sur, Mexico, *Remote Sensing of Environment*, v. 95, issue, 3, 15 April 2005, p. 273-289, 2005.

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