

JORDAN CLARK

Department of Geological Sciences
Program of Environmental Studies
University of California
Santa Barbara, CA

Projects: *Simulation of a Subsurface Oil Spill by a Hydrocarbon Seep (SSOS-HYS).*
Oil Slicks in the Ocean: Predicting their Release Points Using the Natural Laboratory of the Santa Barbara Channel.

Education: B.S. Yale University, New Haven, Connecticut 1988
M.A. Columbia University, New York City, New York 1991
Ph.D. Columbia University, New York City, New York 1995

Positions: 2002-present Associate Professor, Dept. of Geological Sciences and Program of Environmental Studies, University of California, Santa Barbara
1996-2002 Assistant Professor, Dept. of Geological Sciences and Program of Environmental Studies, University of California, Santa Barbara
1995 -1996 Post-doctoral Fellowship, Isotope Hydrology Group, Lawrence Livermore National Laboratory
1989-1995 Graduate Research Assistant, Columbia University

Selected Publications:

- Avisar, D. and J.F. Clark. Evaluating ground water flow beneath an artificial recharge pond using sulfur hexafluoride. *Environmental and Engineering Geoscience*. (submitted).
- Cook, P.G., T. Stieglitz and J.F. Clark. Quantifying groundwater discharge to the Burdekin River, northeastern Australia, using dissolved gas tracers ^{222}Rn and SF_6 . *Water Resources Research*. (submitted).
- Clark, J.F. and T. Stieglitz. 2.2.2 Isotope and Tracer Techniques. In: *Submarine Groundwater*, ed. Zektser, I., Lewis Press (submitted).
- Rademacher, L.K., J.F. Clark, D.W. Clow, and G.B. Hudson. 2005. Old groundwater influence on stream hydrochemistry and catchment response in a small Sierra Nevada catchment: Sagehen Creek, California. *Water Resources Research* **41**:W02004, doi:10.1029/2003WR002805.
- Clark, J.F., G.B. Hudson, and D. Avisar. 2005. Gas transport below artificial recharge ponds: Insights from dissolved noble gases and a dual gas (SF_6 and ^3He) tracer experiment. *Environmental Science and Technology* **39**:3939-3945.
- Washburn, L., J.F. Clark, and P. Kyriakidis. 2005. The spatial scales, distribution, and intensity of natural marine hydrocarbon seeps near Coal Oil Point, California. *Marine and Petroleum Geology* **22**:569-578.
- Luyendyk, B.P., J.P. Kennett, and J.F. Clark. 2005. Hypothesis for increased atmospheric methane input from hydrocarbon seeps on exposed continental shelves during glacial low sea level. *Marine and Petroleum Geology* **22**:591-596.
- Clark, J. F., G.B. Hudson, M.L. Davison, G. Woodside, and R. Herndon. 2004. Geochemical imaging of flow near an artificial recharge facility, Orange County, CA. *Ground Water* **42**:167-174.
- Cook, P.G., T. Stieglitz, and J.F. Clark. 2004. Groundwater discharge from the Burdekin Floodplain aquifer, North Queensland. CSIRO Land and Water Technical Report N. **26**(04), 118 p.
- Leifer, I., J.R. Boles, B.P. Luyendyk, and J.F. Clark. 2004. Transient discharges from marine hydrocarbon seeps: Spatial and temporal variability. *Environmental Geology* **46**:1038-1052.

- Rademacher, L.K., J.F. Clark, and J.R. Boles. 2003. Groundwater residence times and flow paths in fractured rock determined using environmental tracers in the Mission Tunnel; Santa Barbara County, California, USA. *Environmental Geology* **43**:557-567.
- Thomas, J.M., M. Stute, J.F. Clark, and G. B. Hudson. 2003. Noble gas loss may indicate groundwater flow across flow barriers in southern Nevada. *Environmental Geology* **43**:568-579.
- Clark, J.F. 2003. Application of geochemical tracers for flow characterization near artificial recharge operations. Proceedings of the 11th Biennial Symposium on Groundwater Recharge.
- Avisar, D. and J.F. Clark. 2003. A gas tracer study in the El-Rio spreading ponds, Ventura County, California. Proceedings of the 11th Biennial Symposium on Groundwater Recharge.
- Fram, M.S., B.A. Bergamaschi, K.D. Goodwin, R. Fujii, and J. F. Clark. 2003. Processes affecting the trihalomethane concentrations associated with the third injection, storage, and recovery test at Lancaster, Antelope Valley, California, March 1998 through April 1999. Water-Resources Investigations Report 03-4062, 72 p.
- Clark, J.F., I. Leifer, L. Washburn, and B.P. Luyendyk. 2003. Compositional changes in natural gas bubble plumes: Observations from the Coal Oil Point Seep Field. *Geo Marine Letters* **23**:187-193.
- Leifer, I., J.F. Clark, B. Luyendyk, and D. Valentine. 2003. Identifying future directions for subsurface hydrocarbon migration research. *EOS* **84**:364-371.
- Aeschbach-Hertig, W., M. Stute, J.F. Clark, R. Reuter, and P. Schlosser. 2002. A paleotemperature record derived from dissolved noble gases in groundwater of the Aquia Aquifer (Maryland, USA). *Geochimica et Cosmochimica Acta* **66**:797-817.
- Boles, J.R., J.F. Clark, I. Leifer, and L. Washburn. 2002. Temporal variation in natural methane seep rate due to tides, Coal Oil Point area, California. *Journal of Geophysical Research* **106**: 27,077-27,086.
- Rademacher, L.K., J.F. Clark, and G.B. Hudson. 2002. Temporal changes in stable isotope composition of spring waters: Implications for recent changes in climate and atmospheric circulation. *Geology* **20**:139-142.
- Clark, J.F. and G.B. Hudson. 2001. Tracing hydrothermal fluids in hypersaline Mono Lake using helium isotopes. *Limnology and Oceanography* **46**:189-196.
- Gamlin, J.D., J.F. Clark, G. Woodside, and R. Herndon. 2001. Tracing groundwater flow patterns in an area of artificial recharge using sulfur hexafluoride. *Journal of Environmental Engineering ASCE* **127**:171-174.
- Rademacher, L.K., J.F. Clark, G.B. Hudson, D.C. Erman, and N.A. Erman. 2001. Chemical evolution of shallow groundwater as recorded by springs, Sagehen basin, Nevada County California. *Chemical Geology* **179**:37-51.
- Clark, J.F., L. Washburn, J.S. Hornafius, and B.P. Luyendyk. 2000. Dissolved hydrocarbon flux from natural marine seeps to the southern California Bight. *Journal of Geophysical Research* **105**(11):509-11,522.
- Leifer, I., J.F. Clark, and R.F. Chen. 2000. Modifications of the local environment by natural marine hydrocarbon seeps. *Geophysical Research Letters* **27**:3711-3714.
- Macfarlane, P.A., J.F. Clark, M.L. Davisson, G.B. Hudson, and D.O. Whittemore. 2000. Late Quaternary ground water recharge in the central Great Plains from geochemical tracers in shallow ground water. *Quaternary Research* **53**:167-174.
- Quigley, D.C., J.S. Hornafius, B.P. Luyendyk, R.D. Francis, J.F. Clark, and L. Washburn. 1999. Decrease in natural marine hydrocarbon seepage near Coal Oil Point, California associated with offshore oil production. *Geology* **27**:1047-1050.