

Selected USGS Reports and Articles Discussing Salinity and Nutrients in the Central Valley, California provided to CV-SALTS (May 26, 2009)

Alpers, C.N., Taylor, H.E., Domagalski, J.L., eds., 2000, Metals Transport in the Sacramento River, California, 1996-97: Volume 1: Methods and Data: U.S. Geological Survey Water-Resources Investigations Report 1999-4286, 430p.

Alpers, C.N., Antweiler, R.C., Taylor, H.E., Dileanis, P.D., and Domagalski, J.L., eds., 2000, Metals Transport in the Sacramento River, California, 1996-97: Volume 2: Interpretation of Metal Loads: U.S. Geological Survey Water-Resources Investigations Report 2000-4002, 106p.

Balding, G.O., and Page, R.W., 1971, Data for wells in the Modesto-Merced area San Joaquin Valley, California: U.S. Geological Survey Open-File Report.

Barlow, P.M., Wagner, B.J., and Belitz, K., 1996, Pumping strategies for management of a shallow water table: the value of the simulation-optimization approach: *Ground Water*, v. 34, no. 2, 305-317.

Belitz, K., and Heimes, F.J., 1990, Character and evolution of the ground-water flow system in the Central Part of the Western San Joaquin Valley, California: U.S. Geological Survey Water-Supply Paper 2348, 28 p.

Belitz, K., Phillips, S.P., and Gronberg, J.M., 1993, Numerical simulation of ground-water flow in the Central Part of the Western San Joaquin Valley, California: U.S. Geological Survey Water-Supply Paper 2396, 69 p.

Belitz, K., and Phillips, S.P., 1994, Simulation of water-table response to management alternatives, Central part of the western San Joaquin Valley, California: U.S. Geological Survey Water-Resources Investigations Report 91-4193, 41 p.

Belitz, K., and Phillips, S.P., 1995, Alternative to agricultural drains in California's San Joaquin Valley: results of a regional-scale hydrogeologic approach: *Water Resources Research*, v. 37, no. 8, 1845-1862.

Belitz, K., Dubrovsky, N.M., Burow, K.R., Jurgens, B., and Johnson, T., 2003, Framework for a ground-water quality monitoring and assessment program for California: U.S. Geological Survey Water-Resources Investigations Report 03-4166.

Bennett, G.L., V, Belitz, K., and Milby Dawson, B.J., 2006, California GAMA Program - Groundwater quality data in the northern San Joaquin basin study unit, 2005: U.S. Geological Survey Data Series 196, 122 p.

Benson, S.M., White, A.F., Halfman, S., Flexser, S., and Alavi, M., 1991, Groundwater contamination at the Kesterson Reservoir, California 1. Hydrogeologic setting and conservative solute transport: *Water Resources Research*, v. 27, no. 6, 1071-1084.

- Bertoldi, G.L., 1971, Chemical quality of ground water in the Dos Palos-Kettleman City area, San Joaquin Valley: U.S. Geological Survey Open-File Report, 45 p.
- Bertoldi, G.L., Johnston, R.H., and Evenson, K.D., 1991, Ground-water in the Central Valley, California—a Summary report: U.S. Geological Survey Professional Paper 1401-A.
- Brown, C.J., Jurgens, B.C., Katz, B.G., Landon, M.K., and Eberts, S.M., 2007, Arsenic and uranium in four aquifer settings: occurrence, distribution, and mechanisms for transport to supply wells: 2007 NGWA Naturally Occurring Contaminants Conference: Arsenic, Radium, Radon, Uranium, March 22-23, 2007, Charleston, South Carolina.
- Brown L.R., Kratzer, C.R., and Dubrovsky, N.M., 1999, Integrating chemical, water quality, habitat, and fish assemblage data from the San Joaquin River drainage, California, in, K.M. Scow, G.E. Fogg, D.E. Hinton, and M.L. Johnson (eds.), Integrated assessment of ecosystem health, Lewis Publishers, Boca Raton, FL, p. 25-62.
- Brown, L.R. and Short, T.M., 1999, Biological, Habitat and Water Quality Conditions in the Upper Merced River Drainage, Yosemite National Park, California, 1993-1996: U.S. Geological Survey Water-Resources Investigations Report 99-4088, 56 p.
- Brown, L.R., and May, J.T., 2000, Benthic macroinvertebrate assemblages and their relations with environmental variables in the Sacramento and San Joaquin River drainages, California, 1993-1997: U.S. Geological Survey Water-Resources Investigations Report 2000-4125, 25p.
- Brown, L.R., and May, J.T., 2000, Macroinvertebrate Assemblages on Woody Debris and Their Relations with Environmental Variables in the Lower Sacramento and San Joaquin River Drainages, California: Environmental Monitoring and Assessment, vol. 64, p. 311-329.
- Brush, C.F., Belitz, K., and Phillips, S.P., 2004, Estimation of a water budget for 1972-2000 for the Grasslands Area, central part of the western San Joaquin Valley, California: U.S. Geological Survey Scientific Investigations Report 2004-5180, 49 p.
- Brush, C.F., Belitz, K., Phillips, S.P., Burow, K.R., and Knifong, D.L., 2006, MODGRASS: Update of a ground-water flow model for the central part of the western San Joaquin Valley, California: U.S. Geological Survey Scientific Investigations Report 2005-5290, 81 p.
- Burow, K.R., Shelton, J.L., Dubrovsky, N.M., 1998a, Occurrence of nitrate and pesticides in ground water beneath three agricultural land-use settings in the eastern San Joaquin Valley, California: U.S. Geological Survey Water-Resources Investigations Report 97-4284, 51 p.

- Burow, K.R., Stork, S.V., Dubrovsky, N.M., 1998b, Nitrate and pesticides in ground water in the eastern San Joaquin Valley, California: occurrence and trends: U.S. Geological Survey Water-Resources Investigations Report 98-4040A, 33 p.
- Burow, K.R., Panshin, S.Y., Dubrovsky, N.M., VanBrocklin, D., and Fogg, G.E., 1999, Evaluation of processes affecting 1,2-dibromo-3-chloropropane (DBCP) concentrations in ground water in the eastern San Joaquin Valley, California: analysis of chemical data and groundwater flow and transport simulations: U.S. Geological Survey Water-Resources Investigations Report 99-4059, 57 pp.
- Burow, K.R., Shelton, J.L., Hevesi, J.A., and Weissmann, G.S., 2004, Hydrogeologic Characterization of the Modesto Area, San Joaquin Valley, California: U.S. Geological Survey Scientific Investigations Report 2004-5232, 54 p.
- Burow, K.R., N.M. Dubrovsky, and J.L. Shelton. 2007. Temporal trends in concentrations of DBCP and nitrate in ground water in the eastern San Joaquin Valley, California, USA: *Hydrogeol. J.* <http://dx.doi.org/10.1007/s10040-006-0148-7>.
- Burow, K.R., Jurgens, B.C., Kauffman, L.J. Phillips, S.P., Dalgish, B.A., and Shelton, J.L., 2008, Simulations of groundwater flow and particle pathline analysis in the zone of contribution of a public-supply well in Modesto, eastern San Joaquin Valley, California: U.S. Geological Survey Scientific Investigations Report 2008-5035, 41 p. Available at <http://pubs.usgs.gov/sir/2008/5035>
- Burow, K.R., Shelton, J.L., and Dubrovsky, N.M., 2008, Regional nitrate and pesticide trends in ground water in the eastern San Joaquin Valley, California: *Journal of Environmental Quality*, Vol. 37, No. 5_Supplement, S-249-S-263.
- Burton, C.A., and Belitz, Kenneth, 2008, Ground-water quality data in the southeast San Joaquin Valley, 2005-2006—Results from the California GAMA Program: U.S. Geological Survey Data Series 351, 103 p. Available at <http://pubs.usgs.gov/ds/351/>
- Capel, P.D., McCarthy, K.A., and Barbash, J.E., 2008, National, holistic, watershed-scale approach to understand the sources, transport, and fate of agricultural chemicals: *Journal of Environmental Quality* 37:983-993.
- Chapelle, F.H., McMahon, P.B., Dubrovsky, N.M., Fuji, R.F., Oaksford, E.T., and Vroblesky, D.A., 1995, Deducing the distribution of terminal electron-accepting processes in hydrologically diverse groundwater systems: *Water Resources Research*, v. 31, no. 2, p. 359-371.
- Davis, G.H., and Coplen, T.B., 1989, Late Cenozoic palehydrology of the Western San Joaquin Valley, California, as related to Structural Movements in the Central Coast Ranges: *Geological Society of America Special Paper* 234, 40 p.
- Davis, G.H., Green, J.H., Olmsted, F.H., and Brown, D.W., 1959, Ground-water conditions and storage capacity in the San Joaquin Valley, California: U.S. Geological Survey Water-Supply Paper 1469.

- Dawson, B.J., 2001, Shallow ground-water quality beneath rice areas in the Sacramento Valley, California, 1997: U.S. Geological Survey Water-Resources Investigations Report 2001-4000, 33p.
- Dawson, B.J., 2001, Ground-water quality in the southeastern Sacramento Valley aquifer, California, 1996: U.S. Geological Survey Water-Resources Investigations Report 2001-4125, 24p.
- Dawson, B.J., Bennett, G.L., V, and Belitz, K., 2007, California GAMA Program: Groundwater quality data in the Southern Sacramento Valley study unit, California, 2005: U.S. Geological Survey Data Series.
- Deason, J.P., 1986, U.S. Department of Interior investigations of irrigation-induced contamination problems, *in* Summers, J.B., and Anderson, S.S., eds., Toxic substances in agricultural water supply and drainage--Proceedings from Regional meeting of U.S. Committee on Irrigation and Drainage, Phoenix, Ariz., October 22-24, 1986: p. 201-210.
- Deason, J.P., 1987, Westwide investigations of potential irrigation-induced water quality problems--Preliminary results, *in* Summers, J.B., and Anderson, S.S., eds., Toxic substances in agricultural water supply and drainage--searching for solutions--U.S. Committee on Irrigation and Drainage, Las Vegas, Nev., Proceedings, 1987 National Meeting, December 3-5, 1987: p. 37-48.
- Deverel, S.J., Gilliom, R.J., Fuji, R., Izbicki, J.A., and Fields, J.C., 1984. Distribution of selenium and other inorganic constituents in shallow ground water of the San Luis Drain service area, San Joaquin Valley, California: A preliminary study: U.S. Geological Survey Open-File Report 84-4319.
- Deverel, S.J., and Fuji, R., 1988, Processes affecting the distribution of selenium in shallow groundwater of agricultural areas, western San Joaquin Valley, California: *Water Resources Research*, 24 (4), 516-524.
- Deverel, S.J., and Gallanthine, S.K., 1988. Relation of salinity and selenium in shallow groundwater to hydrologic and geochemical processes, western San Joaquin Valley, California, U.S. Geological Survey Open-File Report 88-336, 23 p.
- Deverel, S.J., and Millard, S.P., 1988. Distribution and mobility of selenium and other trace elements in shallow ground water of the western San Joaquin Valley, California: *Environmental Science and Technology*, 22(6), 697-702.
- Deverel, S.J., and Gallanthine, S.K., 1989. Relation of salinity and selenium in shallow groundwater to hydrologic and geochemical processes, western San Joaquin Valley, California. *J. Hydrol.*, 109: 125-149.
- Deverel, S.J., and Fio, J.L., 1991, Groundwater flow and solute movement to drain laterals, western San Joaquin Valley, California, 1. Geochemical Assessment: *Water Resources Research* 27(9), 2233-2246.

- Deverel, S.J., and Fio, J.L., 1991, Groundwater flow and solute movement to drain laterals, western San Joaquin Valley, California, 2. Quantitative hydrologic assessment: *Water Resources Research* 27(9), 2247-2257.
- Domagalski, J.L., Knifong, D.L., MacCoy, D.E., Dileanis, P.D., Dawson, B.J., and Majewski, M.S., 1998, Water quality assessment of the Sacramento River Basin, California; environmental setting and study design: U.S. Geological Survey Water-Resources Investigations Report 1997-4254.
- Domagalski, J.L., Knifong, D.L., Dileanis, P.D., Brown, L.R., May, J.T., Connor, V., Alpers, C.N., 2000, Water Quality in the Sacramento River Basin, California, 1994-98: U.S. Geological Survey Circular 1215, 36p.
- Domagalski, J.L., and Dileanis, P.D., 2000, Water-Quality Assessment of the Sacramento River Basin, California: Water Quality of Fixed Sites, 1996-1998: U.S. Geological Survey Water-Resources Investigations Report 2000-4247, 60p.
- Domagalski, J.L., Dileanis, P.D., Knifong, D.L., Munday, C.M., May, J.T., Dawson, B.J., Shelton, J.L., Alpers, C.N., 2000, Water-quality Assessment of the Sacramento River Basin, California, Water-Quality, Sediment and Tissue Chemistry, and Biological Data, 1995-1998: U.S. Geological Survey Open-File Report 2000-391.
- Domagalski, J.L., Xinquan, Zhou, Chao, Lin, Deguo, Zhi, Chi, F.L., Kaitai, Xu, Ying, Lu, Yang, Luo, Shide, Liu, Dewen, Liu, Yong, Guo, Qi, Tian, Jing, Liu, Weidong, Yu, Shedlock, Robert, Knifong, Donna, 2001, Comparative water-quality assessment of the Hai He River Basin in the People's Republic of China and three similar areas in the United States: U.S. Geological Survey Professional Paper 1647, 58 p.
- Domagalski, J.L., Phillips, S.P., Bayless, E.R., Zamora, C.M., Kendall, Carol, Wildman, R.A., and Hering, J.G., 2008, Influences of the unsaturated, saturated, and riparian zones on the transport of nitrate near the Merced River, California, USA: *Hydrogeology Journal* 16: 675-690.
- Domagalski, J.L., S.W. Ator, R.H. Coupe, K.A. McCarthy, D.C. Lampe, M.W. Sandstrom, and N.T. Baker. 2008. Comparative study of transport processes of nitrogen, phosphorus, and herbicides to streams in five agricultural basins, USA. *J. Environ. Qual.* 37:1158–1169.
- Dubrovsky, N.M., Neil, J.M., Fuji, R., Oremland, R.S., and Hollibaugh, J.T., 1990, Influence of redox potential on selenium distribution in ground water, Mendota, western San Joaquin Valley, California: U.S. Geological Survey Open-File Report 90-138.
- Dubrovsky, N.M., Neil, J.M., Welker, M.C., and Evenson, K.D., 1991, Geochemical relations and distribution of selected trace elements in ground water of the northern part of the western San Joaquin Valley, California: U.S. Geological Survey Water-Supply Paper 2380, 51 p.

- Dubrovsky, N.M., Deverel, S.J., and Gilliom, R.J., 1993, Multiscale approach to regional ground-water-quality assessment: selenium in the San Joaquin Valley, California: in *Regional ground-water quality*, ed. By W.M. Alley, Van Nostrand Reinhold, New York, p. 537-562.
- Dubrovsky, N.M., Burow, K.R., and Gronberg, J.M., 1995, Effects of two contrasting agricultural land uses on shallow ground water quality in the San Joaquin Valley, California -- Design and preliminary interpretation, in Wagner, B.J., Illangasekare, T.H., and Jensen, K.H., eds., *Models for assessing and monitoring groundwater quality*: Wallingford, Oxfordshire, U.K., International Association of Hydrological Sciences, publication 227, proceedings, p.49-58.
- Dubrovsky, N.M., Kratzer, C.R., Brown, L.R., Gronberg, J.M., and Burow, K.R., 1998, *Water quality in the San Joaquin-Tulare Basins, California, 1992-95*: U.S. Geological Survey Circular 119, 38 p.
- Engberg, R.A., 1991, Concentration and distribution selenium associated with irrigation drainage in the Western United States, in Kirby, W.H., and Tan, W.Y., eds., *Proceedings of the United States--Peoples Republic of China bilateral symposium on droughts and arid region hydrology*, Tucson, Ariz., September 16-20, 1991: U.S. Geological Survey Open-File Report 91-244, p. 113-123.
- Engberg, R.A., and Cappellucci, A.J., 1991, Remediation and mitigation associated with contamination of water by irrigation drainage, in King, C.H., Jr., and Frevert, D.K., eds., *Urban and regional conflict resolution in water related issues--American Society of Civil Engineers, Irrigation and Drainage Division*, Orlando, Fla., October 21-22, 1991: p. 25-36.
- Engberg, R.A., Sylvester, M.A., and Feltz, H.R., 1991, Effects of drainage on water, sediment, and biota, in *National Conference on Irrigation Engineering*, American Society of Civil Engineers, Honolulu, July 22-26, 1991: p. 801-807.
- Faunt, C.C., Hanson, R.T., Belitz, K., and Schmid, W., in press, *Ground-Water Availability of California's Central Valley*: U.S. Geological Survey Professional Paper.
- Feltz, H.R., Engberg, R.A., and Sylvester, M.A., 1990, Investigations of water quality, bottom sediment, and biota associated with irrigation drainage in the Western United States, in *Proceedings of Beijing Symposium, October 1990--The Hydrological Basis for Water Resources Management*: International Association of Hydrological Sciences, no. 197, p. 119-130.
- Feltz, H.R., Sylvester, M.A., and Engberg, R.A., 1991, Reconnaissance investigations of the effects of irrigation drainage on water quality, bottom sediment, and biota in the Western United States, in Mallard, G.E., and Aronson, D.A., eds., *U.S. Geological Survey Toxic Substances Hydrology Program--Proceedings of the technical meeting*, Monterey, California, March 11-15, 1991: U.S. Geological Survey Water-Resources Investigations Report 91-4034, p. 319-323.

- Fisher, L.H., and R.W. Healy. 2008. Water movement within the unsaturated zone in four agricultural areas of the United States. *J. Environ. Qual.* 37:1051–1063.
- Fuji, R., Deverel, S.J., and Hatfield, D.B., 1988, Distribution of selenium in soils in agricultural fields, western San Joaquin Valley, California: *Soil Science Society of America*, 52(5), 1274-83.
- Fuji, R. and Swain, W.C., 1995, Areal distribution of selected trace elements, salinity, and major ions in shallow ground water, Tulare Basin, Southern San Joaquin Valley, California: U.S. Geological Survey Water-Resources Investigations Report 95-4048.
- Gilliom, R.J., and others, 1989, Preliminary assessment of sources, distribution, and mobility of selenium in the San Joaquin Valley, California: U.S. Geological Survey Water-Resources Investigations Report 88-4186.
- Green, C.T., L.H. Fisher, and B.A. Bekins. 2008a. Nitrogen fluxes through unsaturated zones in five agricultural settings across the United States. *J. Environ. Qual.* 37:1073–1085.
- Green, C.T., Puckett, L.J., Böhlke, J.K., Bekins, B.A., Phillips, S.P., Kauffman, L.J., Denver, J.M., and Johnson, H.M., 2008b, Limited Occurrence of Denitrification in Four Shallow Aquifers in Agricultural Areas of the United States: *J. Environ. Qual.* 37:994–1009, doi:10.2134/jeq2006.0419.
- Gronberg, J.M., and Belitz, K., 1992, Estimation of a water budget for the Central part of the western San Joaquin Valley, California: U.S. Geological Survey Water-Resources Investigations Report 91-4192, 22 p.
- Gronberg, J.M., Dubrovsky, N.M., Kratzer, C.R., Domagalski, J.L., Brown, L.R., and Burow, K.R., 1998, Environmental Setting of the San Joaquin-Tulare Basins, California: U.S. Geological Survey Water-Resources Investigations Report 97-4205, 45 p.
- Gronberg, J.M., Kratzer, C.R., Burow, K.R., Domagalski, J.L., Phillips, S.P., 2004, Water-quality assessment of the San Joaquin-Tulare Basins--Entering a new decade: U.S. Geological Survey Fact Sheet 2004-3012, 6 p.
- Gronberg, J.M., and C.R. Kratzer. 2006. Environmental setting of the lower Merced River Basin, California. U.S. Geological Survey Scientific Investigations Rep. 2006-5152.
- Herbel, M.J., Johnson, T.M., Tanji, K.K., Gao, S., and Bullen, T.D., 2002, Selenium stable isotope ratios in California agricultural drainage water management systems: *Journal of Environmental Quality*, v. 31, p. 1,146-1,156.
- Hull, L.C., 1984, Geochemistry of ground water in the Sacramento Valley, California: U.S. Geological Survey Professional Paper 1401-B, 36 p.

- Izbicki, J. A., 1984, Chemical quality of water at 14 sites near Kesterson National Wildlife Refuge, Fresno and Merced Counties, California: U.S. Geological Survey Open-File Report 84-582.
- Izbicki, J. A.; Harms, T. F., 1986, Selenium concentrations in leaf material from *Astragalus Oxyphysus* (diablo locoweed) and *Atriplex Lentiformis* (quail bush) in the interior Coast Ranges and the western San Joaquin Valley, California: U.S. Geological Survey Water-Resources Investigations Report 86-4066.
- Izbicki, J. A., 1989, Chemical quality of agricultural drainage water tributary to Kesterson Reservoir, Fresno and Merced counties, California, January and August 1984: U.S. Geological Survey Open-File Report 87-380.
- Izbicki, J.A., Metzger, L.F., McPherson, K.R., Everett, R.R., Bennett, G.L., 2006, Sources of high-chloride water to wells, eastern San Joaquin ground-water subbasin, California. U.S. Geological Survey Open-File Report 2006-1309, Available online at: <http://pubs.usgs.gov/of/2006/1309/>
- Izbicki, J.A., Stamos, C.L., Metzger, L.F., Halford, K.F., Kulp, T.R., and Bennett, G.L., 2008, Source, distribution, and management of arsenic in water from wells, eastern San Joaquin ground-water subbasin, California. U.S. Geological Survey Open-File Report 2008-1272, Available online at: <http://pubs.usgs.gov/of/2008/1272/>
- Jurgens, B.C., Burow, K.R., Dalgish, B.A., and Shelton, J.L., 2008, Hydrogeology, water chemistry, and factors affecting the transport of contaminants in the zone of contribution to a public-supply well in Modesto, eastern San Joaquin Valley, California: U.S. Geological Survey Scientific Investigations Report SIR 2008-5156, 78 p., Available at: <http://pubs.usgs.gov/sir/2008/5156/>.
- Kharaka, Y.K., Davis, R.A., Ambats, G., and Presser, T.S., 1996, Removal of selenium from contaminated agricultural drainage water by nanofiltration membrane: Applied Geochemistry, v. 11, no. 6, p. 797-802, doi:10.1016/S0883-2927(96)00044-3.
- Kratzer, C.R., and Biagtan, R.N., 1997, Determination of traveltimes in the Lower San Joaquin River Basin, California, from dye-tracer studies during 1994-1995: U.S. Geological Survey Water Resources Investigations Report 97-4018, 20p.
- Kratzer, C.R., and Shelton, J.L., 1998, Water-quality assessment of the San Joaquin-Tulare Basins, California: Analysis of available data on nutrients and suspended sediment in surface water, 1972-1990: U.S. Geological Survey Professional Paper 1587, 92 p.
- Kratzer, C.R., and Dahlgren, R.A., 2006, Investigations of nitrate in the lower San Joaquin River, California: California Plant and Soil Conference Proceedings, CA Chapter of American Society of Agronomy, pp. 159-165.
- Kulongoski, J., and Belitz, K., 2004, Ground-water ambient monitoring and assessment program: U.S. Geological Survey Fact Sheet 2004-3088.

- Landon, M.K., Eberts, S.M., Jurgens, B.C., Katz, B.G., Burow, K.R., Crandall, C.A., Brown, C.J., and Starn J.J., 2006, Knowledge of Where and How Contamination-Susceptible Water Enters Public-Supply Wells Can Be Used To Improve Monitoring Strategies and Protection Plans: Ground Water Protection Council Annual Forum 2006, Sept. 30 – Oct. 4, 2006, Miami Beach, FL, 15 p.
- Landon, M.K., and Belitz, K., 2008, Groundwater quality data in the Central Eastside San Joaquin Basin, 2006: Results from the California GAMA program: U.S. Geological Survey Data Series Report 325, 36 p.
- Laudon, J., and Belitz, K., 1989, Texture and depositional history of near-surface alluvial deposits in the Central Part of the Western San Joaquin Valley, California: U.S. Geological Survey Open-File Report 89-235, 19 p.
- Laudon, J., and Belitz, K., 1991, Texture and depositional history of Late Pleistocene-Holocene Alluvium in the Central Part of the Western San Joaquin Valley, California: Bulletin of the Association of Engineering Geologists, Vol. XXVIII, no. 1, 73-88.
- Leland, H.V., L.R. Brown, and D.K. Mueller, 2001, Distribution of algae in the San Joaquin River, California, in relation to nutrient supply, salinity, and other environmental factors: *Freshwater Biology* 46:1139-1167.
- Luoma, S.N. and Presser, T.S., 2000 Forecasting selenium discharges to the San Francisco Bay-Delta Estuary: Ecological effects of a proposed San Luis Drain Extension, U.S. Geological Survey Open-File Report 00-416, 358 p. (<http://water.usgs.gov/pubs/ofr/ofr00-416/>)
- MacCoy, D.E.; Domagalski, J.L., 1999, Trace elements and organic compounds in streambed sediment and aquatic biota from the Sacramento River Basin, California, October and November 1995: U.S. Geological Survey Water-Resources Investigations Report 1999-4151, 37p.
- McMahon, P.B., and Chapelle, F.H., 2008, Redox processes and water quality of selected principal aquifer systems: *Ground Water*, v. 46, no. 2, p. 29-271.
- McMahon, P., Böhlke, J.K., Kauffman, L.J., Kipp, K.L., Landon, M.K., Crandall, C.A., Burow, K.R., and Brown, C.J., 2008, Source and transport controls on the movement of nitrate to public supply wells in selected principal aquifers of the United States: *Water Resources Research*, 44, W04401, doi:10.1029/2007WR006252.
- McMahon, P.B., Burow, K.R., Kauffman, L.J., Eberts, S.M., Böhlke, J.K., and Gurdak, J.J., 2008, Simulated response of water quality in public supply wells to land use change, *Water Resources Research*, Volume 44, W00A06, doi:10.1029/2007WR006731.
- Meade, R.H., 1967, Petrology of sediments underlying areas of land subsidence in Central California: U.S. Geological Survey Professional Paper 497-C, 83 p.

- Mendenhall, W.C., Dole, R.B., and Stabler, H., 1916, Ground water in the San Joaquin Valley, California: U.S. Geological Survey Water-Supply Paper 398, 310 p.
- Mitten, H.T., LeBlanc, R.A., and Bertoldi, G.L., 1970. Geology, hydrology, and quality of water in the Madera Area, San Joaquin Valley, California, U.S. Geological Survey Open-File Report 49 p.
- Munday, C.M., and Domagalski, J.L., 2003, Quality-control results for ground-water and surface-water data, Sacramento River Basin, California, National Water-Quality Assessment, 1996-1998: U.S. Geological Survey Water-Resources Investigations Report 2002-4201, 54p.
- Oremland, R.S., Hollibaugh, J.T., Maest, A.S., Presser, T.S., Miller, L.G., and Culbertson, C.W., 1989, Selenate reduction to elemental selenium by aerobic bacteria in sediments and culture--Biogeochemical significance of a novel sulfate-independent respiration: *Applied and Environmental Microbiology*, v. 55, no. 9, p. 2333-2343.
- Oremland, R.S., Steinberg, N.A., Maest, A.S., Miller, L.G., and Hollibaugh, J.T., 1990, Measurement of in-situ rates of selenate removal by dissimilatory bacteria reduction in sediments: *Environmental Science and Technology*, v. 24, no. 8, p. 1157-1164, doi:10.1021/es00078a001.
- Page, R.W., and Balding, G.O., 1973, Geology and quality of water in the Modesto-Merced area, San Joaquin Valley, California, with a brief section on hydrology: U.S. Geological Survey Water Resources Investigations Report 73-6, 85 p.
- Page, R.W., 1973, Base of fresh ground water (approximately 3,000 micromhos) in the San Joaquin Valley, California: U.S. Geological Survey Hydrologic Investigations Atlas HA-489, 1 sheet, scale 1:500,000.
- Page, R.W., 1986, Geology of the fresh groundwater basin of the Central Valley, California, with texture maps and sections: U.S. Geological Survey Professional Paper 1401-C, 54 p.
- Phillips, S.P., and Belitz, K., 1991, Calibration of a texture-based model of a ground-water flow system, Western San Joaquin Valley, California: *Ground Water*, v. 39, no. 5, 702-715.
- Phillips, S.P., Burow, K.R., Rewis, D.L., Shelton, J., and Jurgens, B., 2007, Hydrogeologic setting and ground-water flow simulations of the San Joaquin Valley regional study area, California; Section 4 of Paschke, Suzanne S., ed., 2007, Hydrogeologic settings and ground-water flow simulations for regional studies of the transport of anthropogenic and natural contaminants to public-supply wells—studies begun in 2001 : U.S. Geological Survey Professional Paper 1737-A, 244p.
- Phillips, S.P., Green, C.T., Burow, K.R., Shelton, J.L., and Rewis, D.L., 2007, Simulation of multiscale groundwater flow in part of the northeastern San Joaquin Valley, California: U.S. Geological Survey Scientific Investigations Report 2007-5009, 43 p.

- Presser, T.S., and Ohlendorf, H.M., 1987, Biogeochemical cycling of selenium in the San Joaquin Valley, California, USA: *Environmental Management*, v. 11, p. 805-821.
- Presser, T.S., Swain, W.C., Tidball, R.R., and Severson, R.C., 1990, Geologic sources, mobilization, and transport of selenium from the California Coast Ranges to the western San Joaquin Valley: a reconnaissance study: U.S. Geological Survey Water-Resources Investigations Report 90-4070.
- Presser, T.S., 1994, The geologic origin and pathways of mobility of selenium from the California Coast Ranges to the west-central San Joaquin Valley, *in* Frankenberger, W.T., and Benson, S., eds., *Selenium in the Environment*: New York, Marcel Dekker, p. 139-156.
- Presser, T.S., 1994, The Kesterson effect: *Environmental Management*, v. 18, no. 3, p. 437-454.
- Presser, T.S., Sylvester, M.A., and Low, W.H., 1994, Bioaccumulation of selenium from natural geologic sources in the western United States and its potential consequences: *Environmental Management*, v. 18, no. 3, p. 423-436.
- Presser, T.S., and Piper, D.Z., 1998, Mass balance approach to selenium cycling through the San Joaquin Valley, sources to river to bay, *in* Frankenberger, W.T., Jr., and Engberg, R.A., eds., *Environmental Chemistry of Selenium*: New York, Marcel Dekker Inc., p. 153-182.
- Presser, T. S., Schwarzbach, S. E., 2008, Technical Analysis of In-Valley Drainage Management Strategies for the Western San Joaquin Valley, California, U.S. Geological Survey, Open-File Report 2008-1210, 37 p. [<http://pubs.usgs.gov/of/2008/1210/>].
- Puckett, L.J., C.M. Zamora, H.I. Essaid, J.T. Wilson, H.M. Johnson, M.J. Brayton, and J.R. Vogel. 2008. Transport and fate of nitrate at the ground-water/surface-water interface. *J. Environ. Qual.* 37:1034–1050.
- Rosen, M.R., and Lapham, W.W., 2008, Introduction to the U.S. Geological Survey National Water-Quality Assessment (NAWQA) of ground-water trends and comparison to other national programs: *Journal of Environmental Quality* 37:S-190-S-198.
- Rosen, M.R., Voss, F.D., and Arufe, J.A., 2008, Evaluation of intra-annual variation in U.S. Geological Survey national water quality assessment ground water quality data: *Journal of Environmental Quality* 37:S-199-S-208.
- Rupert, M.G., 2008, Decadal-scale changes of nitrate in ground water of the United States, 1988-2004: *Journal of Environmental Quality* 37:S-240-S-248.
- Schmitt, S.J., Fram, M.S., Milby Dawson, B.J., Belitz, K., 2008, Ground-water quality data in the middle Sacramento Valley study unit, 2006—results from the California

GAMA program: U.S. Geological Survey Data Series 385, 100 p. Available at <http://pubs.usgs.gov/ds/385/>

Schroeder, R.A., Palawski, D.U., and Skorupa, J.P., 1988, Reconnaissance investigation of water quality, bottom sediment, and biota associated with irrigation drainage in the Tulare Lake Bed area, southern San Joaquin Valley, Calif.: U.S. Geological Survey Water-Resources Investigations Report 88-4001, 86 p.

Schroeder, R.A., Palawski, D.U., and Skorupa, J.P., 1989, Selected toxic trace-element and pesticide concentrations in water, sediment, and biota, from the southern Tulare Lake area near Kern National Wildlife Refuge, California, *in* Howard, A.Q., ed., Selenium and agricultural drainage--Implications for San Francisco Bay and the California environment--Proceedings of the Fourth Selenium Symposium, Berkeley, Calif., March 21, 1987: Sausalito, Calif., The Bay Institute of San Francisco, p. 142-162.

Seiler, R.L., 1997, Methods to identify areas susceptible to irrigation-induced selenium contamination in the Western United States: U.S. Geological Survey Fact Sheet FS-O38-97, 4 p.

Seiler, R.L., Skorupa, J.P., and Peltz, L.A., 1999, Areas susceptible to irrigation-induced selenium contamination of water and biota in the Western United States: U.S. Geological Survey Circular 1180, 36 p.

Seiler, R.L., and Skorupa, J.P., 2001, National Irrigation Water Quality Program data synthesis data base: U.S. Geological Survey Open-File Report 00-513, 35 p.

Seiler, R.L., Skorupa, J.P., Naftz, D.L., and Nolan, B.T., 2003, Irrigation-induced contamination of water, sediment, and biota in the Western United States--synthesis of data from the National Irrigation Water Quality Program: U.S. Geological Survey Professional Paper 1655, 123 p. (<http://water.usgs.gov/pubs/pp/pp1655/>)

Severson, R.C., Wilson, S.A., and McNeal, J.M., 1987, Analysis of bottom material collected at nine areas in the Western United States for the Department of the Interior irrigation drainage task group: U.S. Geological Survey Open-File Report 87-490, 24 p.

Severson, R.C., Gough, L.P., Crock, J.G., Fey, D.L., Hageman, P.L., Love, A.H., and Peacock, T.R., 1991, Uptake and physiological antagonism of selenium and sulfur in alfalfa and wheat under field conditions, San Joaquin Valley, California: U.S. Geological Survey Open-File Report 91-16, 42 p.

Severson, R.C., Stewart, K.C., and Harms, T.F., 1991, Partitioning of elements between two size sediment fractions in samples from nineteen areas of the Western United States: U.S. Geological Survey Open-File Report 91-381, 18 p.

Shelton, J.L., 2005, Assessment of shallow ground-water quality in recently urbanized areas of Sacramento, California, 1997: U.S. Geological Survey Scientific Investigations Report 2005-5148, 51p.

- Shelton, J.L., Pimentel, Isabel, Fram, M.S., and Belitz, Kenneth, 2008, Ground-water quality data in the Kern County subbasin study unit, 2006—Results from the California GAMA Program: U.S. Geological Survey Data Series 337, 75 p. Available at <http://pubs.usgs.gov/ds/337/>
- Spurlock, F., Burow, K., Dubrovsky, N., 2000, Chlorofluorocarbon dating of herbicide-containing well waters in Fresno and Tulare counties, California: *Journal of Environmental Quality*, v. 29, no. 2, p. 474-483.
- Steinberg, N.A., and Oremland, R.S., 1990, Dissimilatory selenate reduction potentials in a diversity of sediment types: *Applied and Environmental Microbiology*, v. 56, no. 11, p. 3550-3557.
- Steinberg, N.A., Switzer Blum, J., Hochstein, L., and Oremland, R.S., 1992, Nitrate is a preferred electron acceptor for growth of freshwater selenate-respiring bacteria: *Applied and Environmental Microbiology*, v. 58, no. 1, p. 426-428.
- Stewart, K.C., Wilson, S.A., and Severson, R.C., 1989, Total and water extractable boron in sediments from nine sites of the Western United States: U.S. Geological Survey Open-File Report 89-145, 13 p.
- Sylvester, M.A., and Wilbur, W.G., 1986, Irrigation drainage quality in the west, *in* Howard, A.Q., ed., *Selenium and agricultural drainage--Implications for San Francisco Bay and the California environment--Proceedings of the Third Selenium Symposium*, Berkeley, Calif., March 15, 1986: p. 129-134.
- Sylvester, M.A., Deason, J.P., Feltz, H.R., and Engberg, R.A., 1988, Preliminary results of the Department of the Interior's irrigation drainage studies, *in* *Planning Now for Irrigation and Drainage*, IR DIV/ASCE, Lincoln, Neb., July 18-21, 1988: p. 665-677.
- Sylvester, M.A., Deason, J.P., Feltz, H.R., and Engberg, R.A., 1991, Preliminary results of the Department of the Interior's irrigation drainage studies, *in* Severson, R.C., Fisher, S.E., Jr., and Gough, L.P., eds., *Proceedings of the 1990 Billings Land Reclamation Symposium on Selenium in Arid and Semiarid Environments, Western United States*, Billings, Mont., March 25-30, 1990: U.S. Geological Survey Circular 1064, p. 115-122.
- Tidball, R.R., Grundy, W.D., and Sawatzky, D.L., 1986, Kriging techniques applied to element distribution in soils of the San Joaquin Valley, California: *In* *Proceedings, HAZTECH International Conference*, August 11-15, 1986, Denver, Colorado, p. 992-1009.
- United States Department of the Interior, 1998, Constituents of concern: selenium, in *Guidelines for interpretation of the biological effects of selected constituents in biota, water, and sediment*, National Irrigation Water Quality Program Information Report No. 3: U.S. Department of the Interior, Washington, DC, p. 139-184 (<http://www.usbr.gov/niwqp>)

- Welch, A.H., Oremland, R.S., Davis, J.A., and Watkins, S.A., 2006, Arsenic in ground water: a review of current knowledge and relation to the CALFED solution area with recommendations for needed research: San Francisco Estuary and Watershed Science, Vol. 4, No. 2, Article 4, 32 p., accessed May 19, 2008 at <http://repositories.cdlib.org/jmie/sfews/vol4/iss2/art4/>.
- White, A.F., and Dubrovsky, N.M., 1994, Chemical oxidation-reduction controls on selenium mobility in groundwater systems, *in* Frankenberger, W.T., and Benson, S.M., eds., *Selenium in the Environment*: New York, Marcel Dekker, p. 185-223.
- Williamson, A.K., Prudic, D.E., and Swain, LA., 1989, Ground-water flow in the Central Valley, California: U.S. Geological Survey Professional Paper 1401-D, 127 p.
- Wilson, S.A., Kennedy, K.R., Gent, C.A., Briggs, P.H., Tidball, R.R., and McNeal, J.M., 1990, Analysis of soil samples from the San Joaquin Valley of California: U.S. Geological Survey Open-File Report 90-214, 56 p.
- Wright, M.T., Belitz, K., and Johnson, T., 2004, Assessing the susceptibility to contamination of two aquifer systems used for public water supply in the Modesto and Fresno metropolitan areas, California, 2001 and 2002: U.S. Geological Survey Scientific Investigations Report, 35 p.
- Wright, W.G., 1999, Oxidation and mobilization of selenium by nitrate in irrigation drainage: *Journal of Environmental Quality*, v. 28, no. 4, p. 1182-1187.