Fred Spitz - Hydrologist (RGEG)

Fred is a hydrologist with 20 years experience on ground- and surface-water modeling projects. For ground water, he has simulated saltwater intrusion, ground-water/surface – water interaction, optimization, and developed software for resolving inaccuracies associated with particle tracking. For surface water, he has simulated flow routing, transport, mixing, and water quality (current work). He has an M.S. in Civil Engineering from Georgia Tech.

Recent Publications

Spitz, F.J., and dePaul, V.T., 2008, Recovery of Ground-Water Levels from 1988 to 2003 and Analysis of Effects of 2003 and Full-Allocation Withdrawals in Critical Area 2, Southern New Jersey: *USGS Scientific Investigations Report 08-5193*, 28 p. http://pubs.usgs.gov/sir/2008/5142/

Spitz, F.J., Watt, M.K., and dePaul, V.T., 2008, Recovery of Ground-Water Levels From 1988 to 2003 and Analysis of Potential Water-Supply Management Options in Critical Area 1, East-Central New Jersey: *USGS Scientific Investigations Report 07-5193*, 40 p. http://pubs.usgs.gov/sir/2007/5193

Spitz, F.J., 2007, Simulation of surface-water conditions in the non-tidal Passaic River Basin, New Jersey: *USGS Scientific Investigations Report 07-5052*, 67 p. http://pubs.usgs.gov/sir/2007/5052

Spitz, F.J., 2005, Development of hydraulic inputs for a nutrient TMDL water-quality model of the non-tidal Passaic River Basin, New Jersey, In *Proceedings of TMDL 2005:* Philadelphia, Water Environment Federation, p. 1297-1308.

Spitz, F.J., Carleton, G.B., and Nicholson, R.S., 2002, Simulation of ground-water/ surface-water interaction in a valley-fill aquifer using MODFLOW-DAFLOW: Poster Session, National Ground Water Association AGWSE Annual Meeting and Conference, Las Vegas.

Spitz, F.J. and Nicholson, R.S., 2001, Simulated effects of alternative pumping strategies on ground- water-flow patterns and areas contributing rechare to selected wells near Kenvil, Morris County, New Jersey: *USGS Water-Resources Investigations Report 01-4180*, 32 p.

Spitz, F.J., Nicholson, R.S., and Pope, D.A., 2001, A nested rediscretization method to improve pathline resolution by eliminating weak sinks representing wells: *Ground Water*, vol. 39, no. 5, p. 778-785.

Spitz, F.J., 2001, Method and computer programs to improve pathline resolution near weak sinks representing wells in MODFLOW and MODPATH ground-water-flow simulations: *USGS Open- File Report 00-392*, 41 p. http://nj.usgs.gov/publications/OFR/00-392/

Spitz, F.J. and Nicholson, R.S., 1998, Use of a nested rediscretization method to improve pathline resolution by eliminating weak sinks representing wells, In *Proceedings of MODFLOW'98 at Colorado School of Mines:* Golden, CO, vol. 2, p. 905-914.

Spitz, F.J., 1998, Analysis of ground-water flow and saltwater encroachment in the shallow aquifer system in Cape May County, New Jersey: *USGS Water-Supply Paper 2490*, 51 p. http://pubs.er.usgs.gov/usgspubs/wsp/wsp2490