

Resumé:

HONESTO (ERNIE) ROAZA, PG

Mr. Roaza has over 20 years of experience in ground water and surface water hydrology, water quality, numerical modeling, and Geographic Information Systems (GIS) applications. He has served as principal investigator for a variety of projects ranging from designing investigations, field data collection, analyses and interpretation of data to development of GIS analytical methods for solving complex environmental challenges.

Mr. Roaza is a recognized expert in the environmental community and has managed and facilitated hundreds of numerical modeling projects for clients in the United States and abroad. His expertise and logical mindset has saved clients millions of dollars in unnecessary or over designed remediation efforts.

Education

- M.S., Geological Sciences, Ohio University, 1989
- B.S., Geology/Computer Sciences (minor), Muskingum College, 1984
- Work-Study Internship, Fisher Body Division - General Motors Engineering Program, General Motors Institute, 1981

Registrations and Certifications

- Professional Geologist, Florida, #1518

Continuing Education

- OSHA 40-hour HAZWOPER 29-CFR 1910.120 Certified

Fields of Competence

- Environmental Impact Investigations
- Water Resource Management and Development
- Hydrology and Hydrogeology
- Contaminant Hydrology
- Numerical Ground Water Modeling
- GIS Applications in Water Resources

Key Projects

Hydrologic data analysis, site conceptualization, and groundwater numerical modeling for a large petroleum company at a former Refinery Superfund Site in Wellsville, NY.

Hydrologic data analysis, site conceptualization and groundwater numerical modeling (fate and transport included in most project sites) for a

large chemical company in the following geographic areas:

Doraville, GA; Park Penta, MN; Catlettsburg, KY; Orlando, FL; Tampa, FL; Miami, FL; Carteret, NJ; Lansing, MI; Martha, KY; Dayton, OH; Akron, OH; Losantiville, OH; Southbend, IN; Willowspring, IL; Charlotte, NC; Sao Paulo, Brazil

Fate and transport modeling primarily involved solute migration characteristics of chlorinated solvents and fuel hydrocarbons. Models applied included the USGS Modflow and Modpath; Battelle's RT3D; USEPA's MT3D, Biochlor/Bioscreen codes; USGS Seawat and Sharp saline intrusion codes and the IGW interactive finite-element model.

Web Development – Concept development and initial implementation of web site and applications for environmental use.

Large Chemical Company. Task leader in the development of numerical models for PCE fate and transport. Project resulted in the first state Superfund site approved for monitored natural attenuation based on model projections. First 5-year field results validated model predictions.

Confidential water utility client. Principal investigator in the development of Site conceptualization and salt water intrusion models for potential well field impacts.

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Confidential land developer client. Principal investigator in the development of Site conceptualization and numerical models for potential water impacts from major water resource development, including potential for saline water impacts.

Confidential industrial client. Project support and peer for radium impacts to a sole-source groundwater aquifer.

South Florida Water Management District. Lead developer of model interface for the WASH integrated pollutant load model – a software product developed specifically for the region. The pollutant load model is a decision support tool for the area's TMDL program. It incorporated elements of HSPF, GLEAMS, MODFLOW, and customized water quality transport equations.

FAA. Project support and peer for groundwater remediation of the FAA Atlantic City Airport Superfund Site. Hydrologic analysis included optimization of jet fuel removal from pump and treat systems, discharge of treated water to sprinkler-based spreading grounds and risks imposed by nearby but independent investigative areas impacted by mercury and like metals.

Escambia County Utilities Authority – Technical liaison and lead developer of numerical models to investigate chlorinated VOC impacts to utility wellfields in addition to potential salt water intrusion from water resource development near coastal areas.

U.S. Navy – Lead model developer in the investigation of chlorinated pesticides in groundwater. Project resulted in one of the first documented studies that evaluated colloidal transport in groundwater and risks imposed by like transport vectors.

US Air Force – Support and peer of numerical models developed for investigating chlorinated

VOC impacts to groundwater.

Confidential industrial client (Brazil) – Development of fate and transport models from VOC impacts. The modeling effort led to the development of practical groundwater remediation targets as compliance goals in the remedial strategy.

Confidential industrial client (Italy) – Technical support and peer of site conceptualization and numerical model for investigating chlorinated VOC impacts to groundwater.

Confidential energy client (Mexico) – Technical support and numerical model development for managing power plant coolant/process water.

Publications

"Modeling Watersheds With High Groundwater Tables and Dense Drainage Canals: Model Development" Proceedings American Water Resources Association International Congress: Watershed Management for Water Supply Systems, Yonghsan Wan, Chris Reed, Ernie Roaza, 2003

"Geographic Information Systems Application to Ground Water Investigations." American Water Resources Association GIS and Water Resources Symposium Proceedings, Ft. Lauderdale, Florida. Pratt, T., Roaza, H.P., Richards, C. 1996.

"Analysis of Ground Water Availability in the Cordova Park Area, Escambia County, Florida." Northwest Florida Water Management District Technical File Report 96-2. Roaza, H.P., Pratt, T., Richards, C. 1996.

"Diieldrin in Ground Water: Results of Remedial Investigation." RI Document for Southern Division, Naval Facilities Engineering Command. Northwest Florida Water Management District Special Project. Pratt, T., Richards, C., Roaza, H.P. 1995.

"Geographic Information System-Based Approach to Numerical Ground Water Flow

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Modeling." American Geophysical Union: Spring Meeting, Baltimore, Maryland (Abstract/Poster Session). Roaza, H.P., Pratt, T., Richards, C., Roaza, R.M. 1994.

"Integrating Geographic Information Systems in Ground Water Applications Using Numerical Modeling Techniques." *Water Resources Bulletin*. Vol. 29, No. 6. Roaza, H.P., Roaza, R.M., Wagner, J.R. 1993.

"Integrating Geographic Information Systems and MODFLOW for Ground Water Resource Assessment." *Water Resources Bulletin*, Vol. 29, No. 5. Richards, C., Roaza, H.P., Roaza, R.M. 1993.

"Integrating GIS in the Analysis of Ground Water Flow, Contaminant Transport and Salt Water Intrusion Using SWICHA Finite Element Modeling Technique." Proceedings of Symposium on Geographic Information Systems and Water Resources, American Water Resources Association. Roaza, H.P., Roaza, R.M., Wagner, J.R. 1993.

"Integrating GIS in Well Field Design and Aquifer Impact Analysis Using the MODFLOW Finite Difference Modeling Technique." Proceedings of Symposium on Geographic Information Systems and Water Resources, American Water Resources Association. Richards, C., Roaza, H.P., Roaza, R.M. 1993.

"Numerical Modeling of Ground Water Flow and Contaminant Transport in the Sand and Gravel Aquifer, Escambia County, Florida." *Northwest Florida Water Management District Water Resources Special Report*, 93-4. Roaza, H.P., Pratt, T., Richards, C. 1993.

"Analysis of the Suitability of Existing STORET Data for Loading Rate Calculations in the Pensacola Bay System."

Northwest Florida Water Management District Technical File Report, 91-1. Roaza, H.P., Pratt, T. 1992.

"Conceptual Model of the Sand and Gravel Aquifer, Escambia County." Florida. *Northwest Florida Water Management District Water Resources Special Report*, 91-6. Roaza, H.P., Wagner, J.R., Richards, C., Johnson, J., Pratt, T. 1991.

"Assessment of the Surface Water Quality in the Apalachicola River Basin: Phase I." *Northwest Florida Water Management District Water Resources Special Report*, 91-5. Roaza, H.P. 1991.

"Hydrogeology and Nonpoint Source Contamination of Ground Water by Ethylene Dibromide in Northeast Jackson County, Florida." *Northwest Florida Water Management District Water Resources Special Report*, 89-5. Roaza, H.P., Pratt, T., Moore, W.B. 1990.