CHARLES T. KINCAID

Staff Scientist
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EDUCATION

B.S.	Civil Engineering, Humboldt State College	1970
Ph.D.	Engineering (Hydraulics), Utah State University	1979

EXPERIENCE

Since joining Pacific Northwest National Laboratory (PNNL) in 1979, Dr. Kincaid has devoted his attention to soil physics and ground-water studies including technical contributions, project and task management, and line management roles. He has specialized in the area of computational fluid mechanics of environmental systems. He has experience in both finite difference and finite element numerical methods and their application to surface and subsurface flows. He has collaborated in studies involving 1) mathematical models of physical processes and chemical reactions, 2) analytical and numerical code developments, and 3) site-specific applications of models/codes. Dr. Kincaid has played a leadership role in the production of the performance assessments for low-level radioactive waste defense wastes (LLW) in grout and glass waste forms at Hanford, an environmental impact statement for a weapons testing facility at Los Alamos National Laboratory, and a composite analysis of radioactive wastes to remain in the central plateau at the Hanford Site after site closure. Dr. Kincaid is a former member of the DOE headquarters Peer Review Panel (PRP) that reviewed all LLW performance assessments from the DOE complex. Dr. Kincaid was the technical leader for development and application of a stochastic System Assessment Capability designed to assess the risk and impact associated with radioactive and chemical wastes to remain at the Department of Energy's Hanford Site in Washington. He currently contributes to reviews conducted by the Laboratory on behalf of the U.S. Nuclear Regulatory Commission.

Early in his tenure at PNNL, Dr. Kincaid collaborated in the development of codes and their subsequent application to the problem of thermal energy storage in the ground-water environment. He has collaborated in the development and improvement of a multi-dimensional ground-water flow and transport code. Dr. Kincaid has managed work for government and industrial clients including a major two-part project involving (1) an evaluation of codes available for the modeling of solute leaching from electric utility solid waste disposal facilities, and (2) the subsequent design, development and testing of a code that coupled subsurface transport and mechanistic geochemistry. Transport processes considered are advection, longitudinal dispersion, and diffusion. Chemical speciation, precipitation/dissolution, and adsorption/desorption reactions are included in the geochemical component.

To compliment his code development work, Dr. Kincaid has been a contributor to site-specific applications of models for the purpose of assessing the long-term performance of a variety of wastes at the Hanford Site. He was a key contributor in preparation of the Hanford Defense Waste Environmental Impact Statement published in December 1987. He directed completion of the performance assessment for grouted low-level radioactive wastes proposed for disposal in the shallow-land deposits on the 200 Area plateau of the Hanford Site. He directed completion of the geology, soils and water resources sections of the environmental consequences chapter of the EIS for the Dual Axis Radiographic Hydrodynamic Test Facility at Los Alamos. Dr. Kincaid provided technical leadership for the design and completion of the 1998 composite analysis for radioactive waste disposed on Hanford's central plateau.

On three occasions Dr. Kincaid has been a Visiting Lecturer at Whitman College in Walla Walla, Washington. He has taught an undergraduate groundwater hydrology course within the geology curriculum at the college.

PROFESSIONAL AFFILIATION

American Geophysical Union
Registered Hydrogeologist, State of Washington

CONTRIBUTIONS TO BOOKS

Kincaid, C. T. and G. W. Gee. 1993. "Estimating Infiltration at Waste Sites: Methodology Development." Chapter 14 in Water Flow and Solute Transport in Soils: Developments and Applications, eds. D. Russo and G. Dagan, pp. 246-261. Springer-Verlag, Berlin.

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PANELS AND COMMITTEES

With E.L. Wilhite (chairman), W.R. Hansen, D.W. Layton, G.J. Shott, D.W. Lee, R.L. Nitschke and S.M. Neuder. Department of Energy Performance Assessment Peer Review Panel. 1995 to 1997.

With D. P. Lettenmaier (chairman), D. H. Rinds, R. E. Dickinson, R. J. Gurney, S. Manabe, P. C. Milly, J. C. Schaake, Jr. D. Wollock and E. F. Wood. Organizing and program committees for the Chapman Conference on "Hydrologic Aspects of Global Change," June 12-14, 1990, Campbell's Resort in Lake Chelan, Washington.

With F. W. Schwartz (chairman), C. B. Andrews, D. L. Freyberg, L. F. Konikow, C. R. McKee, D. B. McLaughlin, J. W. Mercer, E. J. Quinn, P. S. C. Rao, B. E. Rittmann, D. D. Runnells, P. K. M. van der Heijde, and W. J. Walsh. National Research Council, Water Science and Technology Board, Committee on Ground Water Modeling Assessment 1987-1989.

With P. Columbo, M. Fuhrmann, G. W. Gee, D. Halford, E. A. Jenne, D. Kocher, F. Kornegay, D. A. Myers, and C-F. Tsang. March 24-25 and June 30-July 1, 1986. Technical Review Committee for the National Low-Level Waste Program's Pathway and Dose-to-Man Performance Assessment.

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