Theodore G. Cleveland, Ph.D., P.E.

Dr. Cleveland blends skill in water resources investigation using laboratory and field methods with equal skill in information management, experimental design, and modeling. His background includes environmental and civil engineering, and his research has focused on water resources problems encompassed by both of these areas. He has developed computational and experimental tools to support hydrologic research and development as well as having conducted research in solid-liquid separations. He has supervised studies of groundwater, surface water, storm water, and wastewater systems; personally conducted sewer infiltration studies, field dye-tracer studies, and rapid biological assessments of a coastal stream; he has constructed cluster computers to support large-scale data processing and has built image collection systems to measure flows by image interpretation.

Project Activity: Projects include: culvert designs to facilitate solids transport; empirical velocity diagrams to provide QA/QC check for hydraulics models; modeling approaches for low-slope watersheds; applicability of the rational method for transportation infrastructure; estimating the effect of urbanization on storm water runoff; quantifying performance of temporary sediment controls in highway construction, including use of rapid-biological assessment to quantify impact to receiving streams; identification pollutant sources in an urban underground storm drainage system; use of filter-aids to produce burnable filter-cake. Dr. Cleveland also developed techniques to identify rainfall induced inflow and infiltration by ammonia dilution in the collection system.

Dr. Cleveland also conducts professional contract training in hydrology, urban storm drains, and watershed modeling with HEC-HMS, and engineering ethics.