

**GSA Federal Supply Schedule  
Professional Engineering Services  
Contract: GS-23F-0197P**



NorthWest Research Associates, Inc. (NWRA) is a small business performing applied and basic research and engineering services for government and industry since 1986. Specific areas of expertise are in the Mechanical and Electrical engineering disciplines providing general engineering.

Areas of Electrical specialties offered include geoscience, remote sensing, design and development of instrumentation & measurement systems, coastal and ocean engineering, and computer/software development.

Areas of Mechanical specialties offered include fluids engineering, heat transfer mechanics, information storage & processing systems, system and process management, coastal and ocean engineering, arctic engineering, sea ice mechanics and engineering, and solar energy, space weather, and wake vortex mechanics.

NWRA has a truly unique skill set of scientists and engineers who remain at the cutting edge of science. Dr. Joan Oltman-Shay is a coastal oceanography/engineer with expertise in nearshore fluid and sediment processes, data acquisition and analysis, and wave and fluid mechanics. Recent activities include design, execution, maintenance, and analysis of a land-based, remote video data acquisition system used for quantitative monitoring of nearshore fluid and sediment processes. Coined the Argus Beach Monitoring Station (ABMS), this hardware and software system combines state-of-the-art digital video image processing and photogrammetric techniques to produce numeric and graphical data products for application in coastal management and engineering.

Dr. Max Coon of NWRA has provided engineering studies of ice loads on structures for most of the major oil companies and structure design firms planning to build structures in ice covered seas. The sea ice basic and applied research activities at NWRA have kept him at the forefront of ice engineering design practices.

Dr. Donald Delisi is an expert on (a) the analysis of wake vortex field data, (b) the design and analysis of wake vortex laboratory experiments, (c) the comparison of field data to laboratory data, and (d) the numerical simulation of wake vortex evolution. He has demonstrated in-depth knowledge of (a) wake vortex physics, including migration in varying environments and the internal physics of vortices due to background interactions, (b) the analysis of wake vortex data, both from field and laboratory experiments, and (c) the interpretation of numerical vortex simulation results. He also has extensive experience in the management and analysis of large data sets.

With the advent of modern microelectronics, the empirical sciences have entered an era characterized by massive data sets. The production of these products is often frustrated by problems associated with the handling (storage and transmission) and processing of very large data sets. The extraction of useful physical information from the data in these circumstances requires special processing and carefully designed visual formats. Dr. Joseph Werne has contended with these problems in several disciplines, and a variety of innovative approaches have emerged.