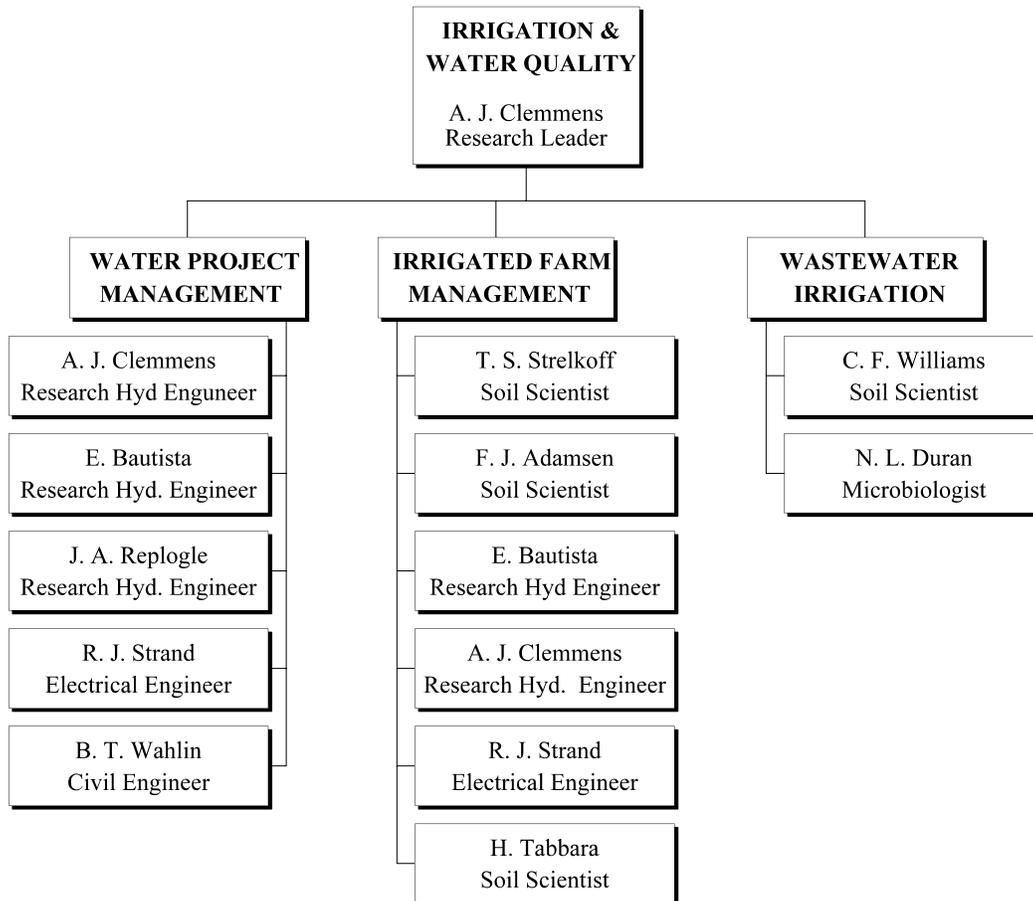


IRRIGATION
&
WATER QUALITY
MANAGEMENT UNIT

I&WQ Organization



Mission

The mission of the Irrigation and Water Quality (I&WQ) Research Unit is to develop management strategies for the efficient use of water and the protection of groundwater quality in irrigated agriculture. The unit addresses high priority research needs for ARS's National Programs in the area of Natural Resources & Sustainable Agricultural Systems. The unit primarily addresses the Water Quality and Management National Program. It also addresses the application of advanced technology to irrigated agriculture.

I&WQ RESEARCH STAFF

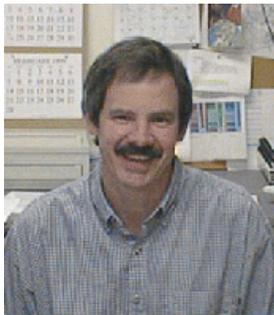


FLOYD J. ADAMSEN, B.S., M.S., Ph.D., Soil Scientist

Management practices that reduce nitrate contamination of groundwater while maintaining crop productivity; application of 100% irrigation efficiency; winter crops for the irrigated Southwest that can be double-cropped with cotton; contributions of natural and urban systems to nitrate in groundwater.

EDUARDO BAUTISTA, B.S., M.S., Ph.D., Research Hydraulic Engineer

On-farm irrigation system hydraulic modeling; hydraulic modeling of irrigation delivery and distribution systems; control systems for delivery and distribution systems; effect of the performance of water delivery and distribution systems on-farm water management practices and water-use efficiency; integrated resource management and organizational development for irrigated agricultural systems.



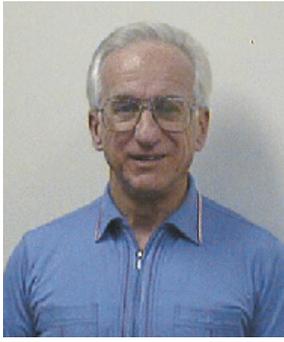
ALBERT J. CLEMMENS, B.S., M.S., Ph.D., P.E., Laboratory Director, Research Leader for Irrigation and Water Quality, and Supervisory Research Hydraulic Engineer

Surface irrigation system modeling, design, evaluation, and operations; flow measurement in irrigation canals; irrigation water delivery system structures, operations management, and automation.

NORMA L. DURAN, B.S., Ph.D., Microbiologist

Wastewater irrigation; molecular detection of waterborne pathogens; pathogen regrowth and disinfectant by-product formation in distribution systems; fate and transport of pathogens in the subsurface environment.





JOHN A. REPLOGLE, B.S., M.S., Ph.D., P.E., Chief Scientist and Research Hydraulic Engineer

Flow measurement in open channels and pipelines for irrigation; irrigation water delivery system structures, operations, and management.

ROBERT J. STRAND, B.S., Electrical Engineer

Automatic control of irrigation delivery systems; development and integration of field sensors, intelligent field hardware, USWCL feedback and feedforward control software, and commercial supervisory control software to create a plug-and-play control system.



THEODOR S. STRELKOFF, B.C.E., M.S., Ph.D., Research Hydraulic Engineer

Surface-irrigation modeling: borders, furrows, two-dimensional basins; erosion and deposition; design and management of surface-irrigation systems; canal-control hydraulics; flood-routing methodologies; dam-break floodwaves; flow in hydraulic structures.

BRIAN T. WAHLIN, B.S., M.S., Civil Engineer

Flow measurement in open channels and pipelines for irrigation; irrigation water delivery system structures, operations, and management.



CLINTON WILLIAMS, B.S., M.S., Ph.D., Soil Scientist

Wastewater irrigation and water reuse; fate and transport of organic and inorganic contaminants found in treated sewage effluent and biosolids in soil systems; development of irrigation practices that protect ground and surface water quality; develop safe and effective irrigation practices using treated sewage effluent.