

Sustainable Water Use

World class irrigation systems

Efficient use of water is critical for sustainable irrigated agriculture. CSIRO's integrated approach to irrigation research is world renowned.

Drawing on hydrologic, economic and social sciences, our researchers are developing sustainable and economically viable solutions for irrigated agriculture – in climates from tropical to temperate.

Together with Australian and international partners, CSIRO scientists are designing innovative modelling tools and delivery applications that boost irrigation efficiency, optimise water use and reduce salinisation.

Better delivery applications

CSIRO is working with the irrigation industry to reduce water losses through upgraded supply infrastructure, automated sensor systems and improved micro-irrigation technology.

FullStop™

CSIRO has developed sensor technology to supply real-time information for irrigation management. FullStop™ - a deceptively simple wetting front detector device that provides real-time information about water movements in the soil - is being used by farmers to adjust irrigation to plant needs throughout the growing season.



Vineyard with evaporation ponds for drainage water



CSIRO scientist Dr Shahbaz Khan measuring salinity in a flooded rice bay

Modelling tools

Irrigators are using CSIRO-developed modelling tools to make management decisions that produce the best outcomes for farm business as well as the environment.

SWAGMAN®

The SWAGMAN® suite of decision-making aids was developed by CSIRO to maximise productive and profitable cropping while managing salt and water balances. SWAGMAN® is being used extensively in Australia's Murray-Darling Basin region, as well as in Pakistan and Bangladesh.

Forecasting water allocations

A neural network model (ANN) developed by CSIRO for predicting water allocations has the potential to be customised for international application. Australian irrigators are already using information derived from this software package to make more informed cropping and water trading decisions.

Global impact

CSIRO's irrigation research experts are providing ground-breaking knowledge, skills and technology to the world's biggest and most intensive irrigation regions under UNESCO's HELP (Hydrology, Environment, Life and Policy) program. CSIRO is helping to set the research agenda for achieving sustainable irrigation by approximately 100 other basins worldwide.



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