



Irrigation Futures Training Series

ET Masterclass

More efficient water use through better knowledge and management of water applications to irrigated crops

This two day masterclass conducted by
Dr Jim Wallace, Professor Wayne Meyer and Dr Evan Christen
will give participants

- » Better understanding of the concepts, theories and latest research on evapotranspiration (ET)
- » Insights into the most up to date methods for estimating crop water requirements

About Crop Water Requirements

Accurate calculation of the amount of water required by crops in Australia is essential to ensuring optimal crop growth and yield as well as making the most efficient use of irrigation water drawn from surface and groundwater sources. Current crop water requirement estimation methods are based on the Food and Agriculture (FAO) Guidelines that were revised in 1998. Recent improvements to this method have been demonstrated for Australian crops and this new method will be made available.

Participants will take home

- » Documented descriptions of the principles and concepts behind crop evaporation
- » Information and details about the latest crop water requirement estimation methods

Content areas to be covered

- » ET in an agricultural and science context
- » Background theory on the Penman-Monteith equation and crop factors (FAO56)
- » Latest research and practice on evapotranspiration
- » Progress on a new 'one-step' crop water requirement calculation method

Details

Date: 9-10 February, 2010

Venue: Sydney

Cost: Early bird (by 25 January) \$770 (incl. GST); thereafter \$990 (incl. GST)
CRCIF Members and students \$550 (incl. GST)

Cost includes folder, lunches, morning and afternoon teas and dinner 9 February

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Why this course is important

- » The increased pressure on irrigated agriculture to reduce its water use makes irrigation efficiency even more important
- » Irrigation professionals need to know the latest thinking and information on the calculation of crop water requirements
- » The moves toward micro irrigation, precision irrigation and deficit irrigation requires more accurate estimation of crop water needs
- » New crop growth and water use calculation tools are becoming available that can optimise yield and water use

Who should attend this course?

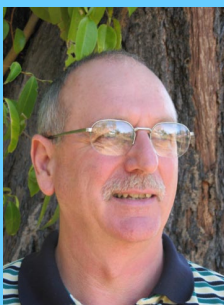
- » Researchers, educators, irrigation advisors, consultants, advanced practitioners, policy staff and postgraduate students

Assumed knowledge:

- » Basic agronomy/crop physiology and how these influence crop factors
- » Understanding how ET_o and K_c are used to estimate ET_c
- » Familiarity with Penman-Monteith ET equation



Professor Wayne Meyer is an Irrigation, Crop and Resource Management Scientist with University of Adelaide. He has extensive experience in irrigated crop water use, soil water balance measurement, crop system modelling and research management. He has lead research in irrigation scheduling systems and developed a range of experimental facilities for studying crop response at both the 'wet' and 'dry' end of the irrigation cycle. In recent times he has worked with researchers from a range of organisations on sustainable farming systems, the application of precision agriculture techniques and modelling natural resource management systems.



Dr Jim Wallace is a hydrologist with CSIRO in Townsville working on flood water quality and rainforest hydrology. Jim's research has mainly been in the field of evaporation from sparse arid zone crops and complex vegetation mixtures. He developed new dual and multi-source descriptions of the land surface energy balance that are needed for most of the Earth's vegetation, because of its sparse ground cover and/or mixed species composition. Experimental applications of this approach have been made in sugarcane intercropping systems in Mauritius, sparse millet crops in Niger and agroforestry systems in Kenya. Theoretical aspects of this work have been extended to include more up to date within canopy transfer mechanisms and coupled energy and carbon dioxide fluxes



Dr Evan Christen's current research activities are centred on measuring and managing irrigation water use to increase irrigation efficiency and control waterlogging and salinity. His main research areas include water use analysis of irrigated crops including direct ET measurement, satellite derived measures and grower tools. Development of water management strategies for the integrated management of irrigation and drainage systems, advancing the understanding of managing salt loads in drainage waters from irrigated areas and use of agricultural wastewaters, sewage waters and irrigation drainage waters for irrigation.