Catchment Water Quality
Modelling Workshop 2014

UNIVERSITY OF WAIKATO - 4 September 9 am – 5 pm

This workshop will give an overview of available catchment models to quantify the impact of land management practices on flow and water quality. The main focus of the workshops will be on the application of two widely used models, INCA and SWAT. Formal presentations involving students will be given. These presentations will be followed by discussions on the key issues faced in catchment management and how catchment models could be utilized.

The Catchment Water Quality Modelling workshop is preceded by an Invasive fish Management Workshop on September 3. Please register for either or both of these workshops on the registration form.

CATCHMENT WATER QUALITY MODELLING WORKSHOP

Session 1:
This session will give an overview of how catchment models may be used to quantify the impact of land management practices on stream flow and water quality.

Session 2:
This session will give an overview of the INCA-Integrated Catchment Model. The INCA model has been used to assess a wide range of environmental change issues in catchments including land use change, climate change and changing pollution environments including point and diffuse pollution. INCA is a process-based dynamic model representation of plant/soil system dynamics and in-stream biogeochemical and hydrological dynamics. It has evolved over the past 15 years and has been applied to a wide range of key European ecosystems and around the world. We will present some applications of the model in New Zealand and discuss methods used to measure or calculate values for input parameters in New Zealand.

Session 3:
This session will give an overview of the SWAT model. SWAT is the acronym for Soil and Water Assessment Tool, a river basin, or catchment scale model developed for the USDA Agricultural Research Service. SWAT was developed to predict the impact of land management practices on water, sediment and agricultural chemical yields in large complex catchment with varying soils, land use and management conditions. SWAT is a physically-based, continuous time model, i.e. a long-
term yield model. SWAT is a comprehensive model that requires a diversity of information in order to run. SWAT is a continuation of over 30 years of non-point source modelling in the United States. We will present some applications of the model in New Zealand and discuss methods used to measure or calculate values for input parameters in New Zealand. The session will be followed by a final discussion and workshop wrap-up.