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Researchers Look At Upper Hunter Soil Moisture Patterns

A three-day field program for a major research project on soil moisture patterns and trends in the Goulburn River catchment in the Upper Hunter will take place this weekend.

Researchers from the University of Newcastle are asking for support from the region's landowners for this major campaign to collect samples from a 50 x 40km area between the Goulburn River and the Great Dividing Range. This includes the entire sub-catchments of the Krui, Bow and Merriwa Rivers, the eastern half of the Munmurra River and the western half of Halls Creek.

Researchers will visit properties some time between 7:30am and 6pm from the Friday 7th – Sunday 9th November 2003 to collect soil moisture and vegetation samples. They will identify themselves and request permission to take a sample from areas within 20m from local roads and tracks on the property. Collecting the samples should only take 5 – 10 mins.

Professor Jetse Kalma, from the Environmental Engineering Group in the School of Engineering , says the research being carried out by scientists from the University of Newcastle, University of Melbourne and the University of Leeds (UK) is supported by funds from the Australian Research Council and NASA.

“Improved soil moisture information is important for a wide range of rural activities, including crop management, salinity control, flood forecasting, groundwater recharge, erosion control and the management of drought relief,” said Professor Kalma.

“Traditional ground-based point measurements of soil moisture show significant variation both in time and in space and it is very difficult to predict soil moisture status across large regions.”

“Our research aims to develop new methods for predicting regional patterns by combining satellite information and ground-based rainfall and streamflow measurements.”

“We have already set up a network of 26 permanent ground-based soil moisture monitoring stations, a number of climate stations and several streamflow gauging stations across the Goulburn River catchment and we are now ready to take another step forward by linking up with observations from the AQUA satellite.”

“AQUA was launched by NASA in May 2002 and is the only satellite dedicated to water resources monitoring. Its images provide information on surface soil moisture distribution. However, accurate use of this information requires validation with ground observations. We are now ready to start these ground observations by collecting moisture data this weekend,” said Professor Kalma.

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