The Catchment Analysis Tool - what is it?

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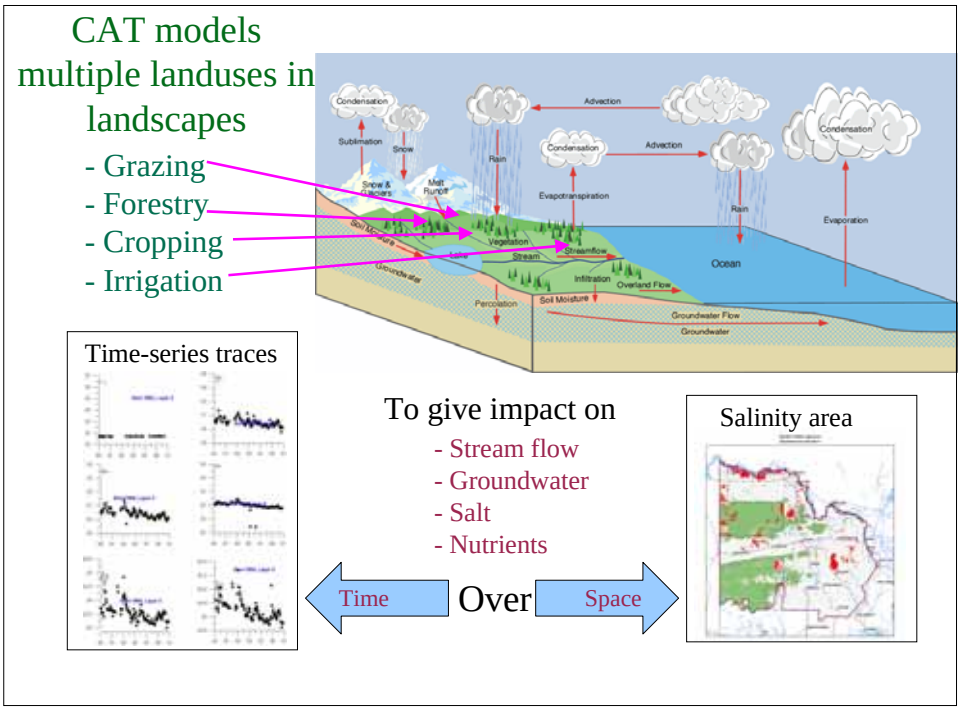
The Catchment Analysis Tool (CAT) is a new farming-systems model that operates at a catchment scale to specifically link point-scale land-use changes to groundwater systems and stream flows. The CAT model helps us understand the movement of water in catchments and to evaluate the impacts of different types of vegetation in different parts of the landscape. We can then compare the impacts of different farming systems and land management strategies on productivity, stream quality, stream flows and groundwater impacts.

It is an advance on other catchment models in that it links surface land management to catchment response. It is able to operate at the scale of the available data and allows the user to apply their own decision rules about land uses. It uses information like topography, weather, land use and hydrology at a range of scales to model catchment behaviour. This enables the user to assess the potential effects of management strategies such as planting perennials on the long-term mitigation of dryland salinity and associated land degradation issues.



In summary, the CAT model can predict the impacts of land-use changes on catchment-scale outputs like groundwater recharge, lateral flow and stream flow, water yield, and salt and nutrient loads, as well as on point-scale outputs like evapotranspiration, carbon sequestration, biomass yield and biodiversity impacts.