

## Research on the Oak Ridge Reservation (ORR)

Department of Energy (DOE) lands are the prime lands for experimental research in the United States. The reasons are several:

- experimental manipulations can occur
- the land use history is well known,
- that history is similar to many of the surrounding lands (up the time the land was acquired by DOE)
- the land is secure from access and thus the experiments are protected
- world class scientists are in close proximity.

Of all of the DOE lands, the Oak Ridge Reservation is clearly under the greatest pressure for transfer to private developers. At the same time, the environmental scientists at Oak Ridge National Laboratory (ORNL) are world leaders in manipulative studies of the environment and have made excellent use of the Reservation in their studies. The recent establishment of the Spallation Neutron Source on available land on the Reservation also points to the importance for all types of science at ORNL of having places to establish new facilities.

Currently world-class research is occurring on several parts of the ORR:

- CO<sub>2</sub> enrichment of Sweetgum is a Free-Air CO<sub>2</sub> Enrichment (FACE) experiment testing critical hypotheses about the responses of a closed-canopy deciduous forest to the atmospheric CO<sub>2</sub> concentrations of future decades.  
<http://www.esd.ornl.gov/facilities/ORNL-FACE/>
- The Throughfall Displacement Experiment (TDE) experimentally examines responses of forest systems to predicted change in precipitation associated with a warming global climate. <http://tde.ornl.gov/>
- Walker Branch Watershed has been the site of long-term, intensive environmental studies since the late-1960's. <http://walkerbranch.ornl.gov/>
- The Three Bends area hosts new research experiments on landscape genetics  
[http://www.sciencemag.org/cgi/content/abstract/313/5789/966?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&fulltext=crutsinger&searchid=1&FIRSTINDEX=0&resource\\_type=HWCIT](http://www.sciencemag.org/cgi/content/abstract/313/5789/966?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&fulltext=crutsinger&searchid=1&FIRSTINDEX=0&resource_type=HWCIT)