



There is more to Thetford than water

Paul G. Jarvis¹, John B Stewart² and Patrick Meir¹

¹School of GeoSciences, University of Edinburgh

²Department of Geography, University of Southampton

In the late 1960s, Jim McCulloch, Director of the Institute of Hydrology, initiated the 'Thetford Project', directed by John Stewart, to resolve differences between Rutter and Penman in the controls on evaporation of water from forest versus crops, by measurement in extensive pine forest in East Anglia,. At the same time, Paul Jarvis initiated 'The Fetteresso Project' near Aberdeen, using analogous methods in an attempt to measure CO₂ exchange of a spruce forest; Jim McCulloch was one of a three man advisory group appointed by NERC. As a result, in 1976 PJ took the Fetteresso team to Thetford to measure CO₂ fluxes over the pine forest through the year in collaboration with the Thetford team. Concurrent with the measurements of evaporation by the interchange systems, six point [CO₂] profiles were measured above the forest, six times an hour for approximately 10 days a month for 10 months of 1976, which incidentally turned out to be a quite serious drought year. Largely because of the vagaries of the funding system, only one day's stand-scale flux data have ever been reported. This paper presents some of the derived net ecosystem exchange CO₂ flux data (NEE) and puts the results in the context of the evaporation data obtained at the same time, and of NEE measurements made by others on pine sites over the past 12 years using eddy covariance.