



Introduction

We have learned a lot in recent years about the storage of carbon **by Irish Forests**. Much of this research has been funded by CoFoRD under the CARBIFOR programme. This knowledge is important for meeting our international obligations under the UNFCCC (United Nations Framework Convention on Climate Change). Previous studies focussed on carbon stored in the **tree** - above ground and below ground. We need to have a better understanding of the

carbon stored in the **soil** and what happens to stored carbon when a forest is **disturbed**. Does soil carbon change when trees are planted on farmland? When a forest is disturbed - either intentionally using sustainable forest management practices eg. thinning, or unplanned as a result of forest fire - how does the carbon balance change? In this new research project, we want to improve the estimates that we have about carbon in our forests.

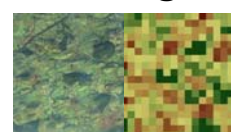
WP1 -C-pool changes in forest soils

Researchers at UCD and UL are estimating changes in forest soil carbon pools, in the main sites afforested in Ireland. Part of this work will identify gaps in our current soil carbon knowledge and fill these gaps with more sampling and analysis. All of the existing data and new data collected will be integrated with the spatial data and contribute to improved soil maps for Ireland.

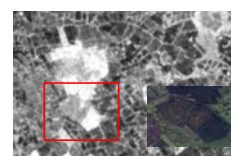


WP2 -Advances in remote sensing

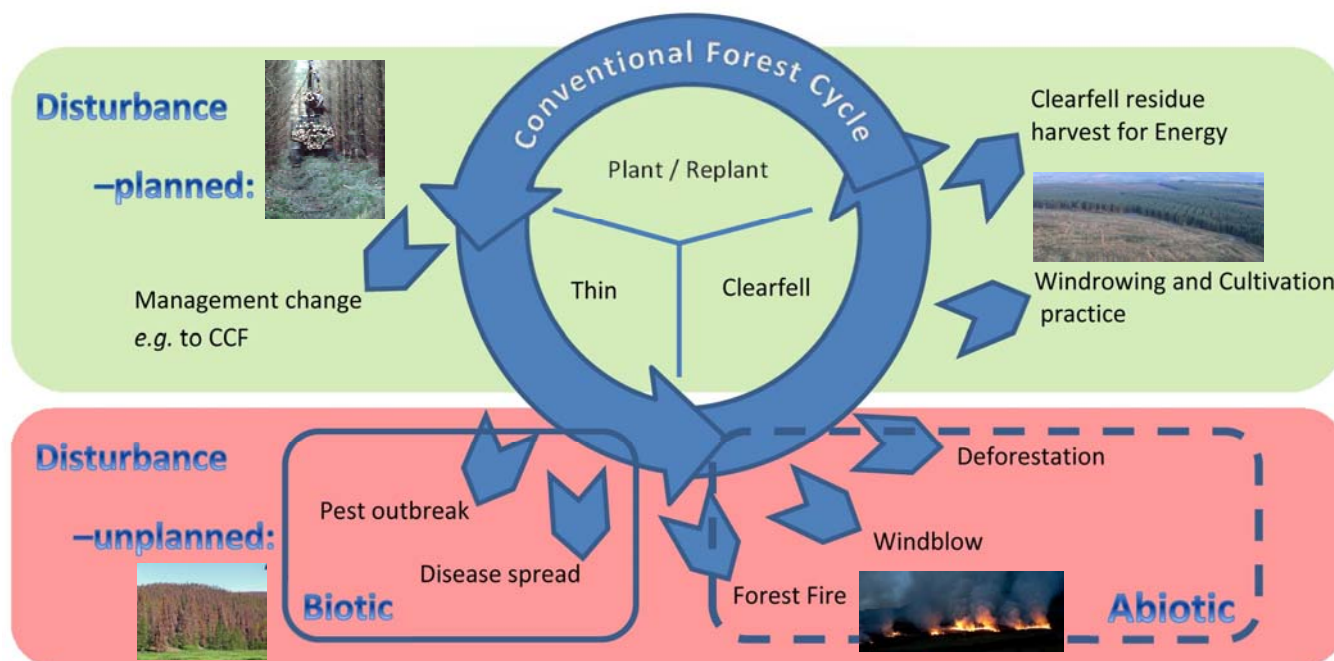
Teagasc aims to improve forest cover estimates. Satellite imagery shows forest cover as dark green pixels. The plan is to merge these data with UCC's RADAR data



UCC are using RADAR to identify forest change (affor & deforestation). Here dense forest is bright white. This study explores ways of automatically deriving information on forest changes using RADAR.



WP3 -Learning more about deadwood after disturbance



The impacts of planned disturbances on timber and carbon stocks are understood, however knowledge of deadwood, its quantity and spatial distribution is less known. The effects of non-catastrophic biotic disturbance, which mainly affects forest stand productivity, is measured by National Forest Inventory

sampling and recorded in National carbon reporting. Abiotic disturbances produce large amounts of deadwood, whose salvage recovery is often haphazard. Greater knowledge of such disturbances and the specific subsequent management is required to realistically account for their impact on carbon stocks.