



LTS THE UNIVERSITY OF EDINBURGH Knowledge Transfer Partnerships

A tool for monitoring woody biomass (change) in woodland ecosystems

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Background

- Changes in forest area and biomass stock are affecting the carbon cycle and the global climate.
- Drivers of forest change include land-use change, natural production, selective logging, biomass harvesting and woodfuel extraction, as well as forest change from fires.

RADAR Remote Sensing

- Active microwave sensors (e.g. SAR) offer cloud-free imagery and forest structure information, regardless of day/night conditions.
- Using microwave remote sensing, we can measure biomass, a great indicator of forest carbon stock.
- Active sensors provide an alternative solution over optical sensors (e.g. Landsat or SPOT) under vegetation.

LTS International

LTS research, technology development in the area of forest change, forestry and WOTs, land use and water resource management.

Case Studies

Deforestation & Degradation

To determine the impact of deforestation and forest degradation in the tropical forest region of Ecuador.

Forest Biomass Assessment Tool

Processing Chain

The tool's development through a partnership with the Scottish Forestry Commission (SFC) and the Forestry Commission of Scotland (FCS) is a key element of the project. The tool is designed to be used by forest managers and researchers to assess forest biomass and carbon stocks.

Deforestation & Degradation

Figure 1: Deforestation, degradation and regeneration in the tropical forest region of Ecuador. The figure shows a map of the region with a legend indicating different land-use categories. The map shows a significant loss of forest area over time, with a corresponding increase in degraded and regenerated forest.

Year	Deforestation (km ²)	Degradation (km ²)	Regeneration (km ²)
1990	100	200	50
2000	150	300	100
2010	200	400	150