

national carbon accounting system



The lead Commonwealth agency on greenhouse matters

Accounting Framework

OVERVIEW

Through its National Carbon Accounting System (NCAS) project team, the Australian Greenhouse Office (AGO) has developed an integrated composite accounting and modelling system for land-based greenhouse gas sources and sinks. The system provides the framework for all data collection, analysis, modelling and accounting.

Known as FullCAM, the system is capable of operating at a plot, estate or spatial scale. The plot-level operation is the primary research tool, largely being used for model calibration on research sites. The estate capability allows for accounting across a diverse portfolio of forest and agricultural activities and is capable of scenario testing to review the outcome of past or future investment decisions. The spatial operation allows for the integration of the model into a geographic information system format that includes digital map-based information such as soils maps, remotely sensed images, climate surfaces etc. The spatial capacity will be the primary instrument for deriving the national carbon account through high-resolution (1 ha) scale accounting.

FullCAM deals with the biological and management processes that affect carbon pools and the transfers between pools in forest, agricultural, transitional and mixed systems. The exchanges of carbon between the terrestrial system and the atmosphere are also accounted for.

It comprises an integrated suite of models independently developed to predict and account for soil carbon change in agriculture and forest activities, determine rates of decomposition of litter, predict tree growth, and apply management impacts such as fire, harvest, cropping and grazing. The component models are independently calibrated for the NCAS.

FullCAM allows for continuing evolution in the quality of data inputs, be they for future accounting periods or improvements in fundamental input data or model calibration. It provides a capacity to report at both project and continent scales, in response to specific activities, and with sensitivity to the timing of an activity.

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