

Vegetation fuel type classification for lower rainfall savanna burning abatement projects

Dominique Lynch, Nicholas Cuff and Jeremy Russell-Smith

Summary

A key requirement for registered fire abatement projects under Australia's Carbon Farming Initiative (CFI) is a map of the vegetation fuel types. Designated vegetation fuel types are functional groups describing a relatively homogenous broad-scale area of flammable (fire-dependent or fire-sensitive) vegetation characterised by a common suite of fuel components and which exhibit characteristic emission responses to fire. Each type is fundamentally a structural vegetation group with a distinctive ground cover. The chapter first describes broad fuel types unique to the regional envelope encompassing the proposed savanna burning lower rainfall (1000–600 mm) zone. At least five vegetation fuel types (woodlands over tussock grasses; woodlands over mixed tussock and hummock grasses; woodlands over hummock grasses; open woodlands over hummock and tussock grasses; shrublands over hummock grasses) meet requisite criteria for inclusion in the CFI. The latter part of the chapter addresses issues relating to appropriate mapping and validation requirements.

Introduction

Savanna burning fire abatement projects are designed to reduce the extent of wildfire and thereby reduce emissions of accountable greenhouse gases through improved fire management. A core requirement for fire management and carbon accounting in CFI projects is suitable vegetation fuel type mapping. For northern Australia, various state and territory vegetation mapping datasets are available, but generally these are regional products (with the exception of Queensland) and variable in scale and classification.

The current CFI methodology for estimating emissions in higher rainfall savannas (above the 1000 mm isohyet) describes four vegetation fuel types: eucalypt open forest, eucalypt woodland, sandstone woodland, sandstone heath (DCCEE 2013). Description of these fuel types was based on research undertaken in the western Arnhem Land region (Edwards and Russell-Smith 2009) and, for the purposes of that abatement methodology, was applied generally across the higher rainfall savannas.