

CRC Spatial Information (Project 2.07)

Australian Woody Vegetation Landscape Feature Generation from Multi-Source Airborne and Space-Borne Imaging and Ranging Data

Session 4. Summary

Canberra, 21st February 2013



Strategic discussion Project CRC-SI 2.07

- New opportunities and challenges. Feedback from project partners
- Mid-Term review in March 15th 2013 (Melbourne)
- Agreement on new project plan
 - Deliverables + Milestones re-phased/modified

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PART B: PROJECT PLAN

Project Milestones

Description of Milestones & Deliverables	-: Unchanged M/N: Modified/New R: Rephased	Quarter											
		1	2	3	4	5	6	7	8	9	10	11	12
New mathematical models, algorithms, software systems, calibration and validation procedures and computational processes for auto-generating landscape woody vegetation features from multi-source airborne and space-borne imaging, ranging and field data. Various fusion models will be tested, including geometric-fusion and statistical association (parametric and non-parametric). A comprehensive literature review will be undertaken to determine the best approaches for each unique Australian woody system-sensor combination.	U	X	X	X	X	X	X	X	X	X	X	X	X
Literature review for determining optimal data primitives (including field procedures, sampling strategies and analyses), for characterising Australian woody vegetation (i.e. metrics, including structural indices) and scalable for landscape-level woody vegetation feature generation.	U	X	X	●									
Design and establish network of field-testing and validation sites (including super-sites and sampling sites) in ecologically significant Australian native woody vegetation. Design and test data primitive field procedures.	U		X	X	X	●							
Literature review for multi-sensor (airborne and space-borne multi-resolution optical and ranging data) and ground data registration models to realise up-scaling of data-primitive woody vegetation characterisation to landscape woody vegetation attribution.	M			X	X	●	DP						
Literature review for multi-sensor and to realise up-scaling of data-primitive woody vegetation characterisation to landscape woody vegetation attribution.	N				X	X	X	X	X	●			
Test field and multiple-sensor (passive and active) data fusion techniques across network of native Australian forest field sites.	R				X	X	X	X	X	●			
Literature review for landscape woody vegetation feature generation.	R					X	X	X	X	●			

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		Test and validate scaling-up of field-to-sensor fused data to generate spatially-based descriptors of woody vegetation landscapes (i.e. metrics or features, including vegetation structural indices) at multiple landscape scales.							X	X	●		
Develop Standard Operating Procedures for <u>standardised field data techniques for collecting data primitives in a range of ecologically significant Australia forest types.</u>	M								X	X	●		
Develop <u>guidelines for standardised field data techniques for collecting data primitives in a range of ecologically significant Australia forest types.</u>	N								X	X	●		
Develop – on open-source platforms – algorithms, software systems and processes for automatically generating landscape level woody vegetation features (including structural indices) from sampled field and multi-sensor data.							X	X	X	X	X	●	
Publish Australian woody vegetation landscape feature generation manual – comprising standard operating procedures for field sampling and data processing, and analysis algorithms for adoption by end-users in various off-the-shelf and open-source software systems.										X	X	X	●
Preparation of journal publications, conference papers, technical reports and provision of progress reports and feedback to participants (throughout project life)		X	X	X	X	X	X	X	X	X	X	X	X