Table 9 Coral Reef Composition: Coarse Spatial Scale (e.g. geomorphic zones)

	DATA OPTION 1: Landsat ETM	**DATA OPTION 2: Quickbird**
Spatial Dimensions		
Area to cover	185 km x 185 km per scene	Up to km ^{2}
Example area	Heron Reef	
Mapping unit	15 m panchromatic 30 m multi-spectral	500 – 1000 m
Positional accuracy	Dependent on Geo-referencing process	Dependent on Geo-referencing process
Temporal Dimensions		
When	Approx 9.45 am	Approx 9.45 am
How often	every 16 days	Daily
Variable to map	Reef Province Reef Type Geomorphic Zones	Reef Province Reef Type Geomorphic Zones
Environmental / Sensor Restrictions	For sub-tidal vegetation to depth limited by water clarity. Inter-tidal and supra-tidal vegetation can have water on top. Not possible for turbid water Clouds, strong winds and breaking waves.	For sub-tidal vegetation to depth limited by water clarity. Inter-tidal and supra-tidal vegetation can have water on top. Not possible for turbid water Clouds, strong winds and breaking waves.
Processing technique **(Output)**	Supervised Image classification or feature detection, Object based analysis or manual delineation	Supervised Image classification
Resources – Hardware and Software	PC Image processing software GIS with image classification module (e.g. ARCGIS Image Analyst), Object based analysis software if using this technique.	PC Image processing software with Hyper-spectral analysis capabilities, including sub-pixel mapping techniques.
Resource – Personnel	Trained in image classification	Trained in image classification

	Experience with Landsat data Knowledge of reef geomorphology to be mapped When object based analysis then experience with object based analysis software (e.g. Ecognition)	Experience with Landsat data Knowledge of reef geomorphology to be mapped hyper-spectral
References: Note these are some example references	(Ahmad et al., 1999; Andréfouët et al., 2005; Roelfsema and Phinn 2008; Phinn et al., in press)	(Andréfouët and Claereboudt 2000; Capolsini et al., 2003)

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