Table 27 Water Quality Parameters – Cyano bacterial bloom (other than Lyngbya)

ALGAL BLOOMS	DATA OPTION 1: Landsat ETM	DATA OPTION 2: MODIS/MERIS
Spatial Dimensions		
Area to cover	185 km x 185 km per scene	Swath width 572 km
Mapping unit	15 m panchromatic 30 m multi-spectral	300 m
Positional accuracy	Dependent on geo-referencing process	Dependent on geo-referencing process
Temporal Dimensions		
When	Approx 9.45 am	MODIS: Approx 10:30 am (Terra) and 1:30 pm (Aqua)
How often	every 16 days	Daily
Variable to map	Surface Algal boom presence and thickness.	Algal boom presence and thickness.
Environmental / Sensor Restrictions	Clouds, strong winds, breaking waves	Clouds, strong winds, breaking waves
Processing technique (Output)	Image classification or feature detection	Image classification, empirical or analytical
Resources – Hardware and Software	PC Image processing software GIS with image classification module (e.g. ARCGIS Image Analyst)	PC Image processing software with Hyper-spectral analysis capabilities, including sub-pixel mapping techniques.
Resource – Personnel	Trained in image classification Experience with Landsat data Knowledge of area to be mapped	Trained in hyper-spectral data processing. Knowledge of area to be mapped
References: Note these are some example references	Kutser et al (2006)	Brando et al (2006) Kutser et al (2006)

Kutser, T., L. Metsamaa, N. Strömbeck, and E. Vahtmäe, (2006) "Monitoring cyanobacterial blooms by satellite remote sensing." Estuarine, Coastal and Shelf Science, 67, 303-312.

Brando, V., A. Dekker, A. Marks, Y. Qin and K. Oubelkheir. (2006) "Chlorophyll and suspended sediment assessment in a macrotidal tropical estuary adjacent to the Great Barrier Reef: spatial and temporal assessment using remote sensing" Coastal CRC Technical Report. Brisbane, Cooperative Research Centre for Coastal Zone, Estuary and Waterway Management: 17.
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