Table 31 Hydro-optical Properties - Attenuation Coefficients

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	DATA OPTION 1: MERIS	**DATA OPTION 2: Landsat ETM**
Spatial Dimensions		
Area to cover	Swath width 572 km	185 km x 185 km per scene
Mapping unit	300 m	15 m panchromatic 30 m multi-spectral
Positional accuracy	Dependent on Geo-referencing process	Depends on level of Geo-referencing
Temporal Dimensions		
When	1030 hrs	Approx 09:45 am
How often	Every 3 days	Every 16 days
Variable to map	Attenuation includes: direct, diffuse and total.	Attenuation includes: direct, diffuse and total.
Environmental / Sensor Restrictions	Optically shallow areas Clouds, strong winds and breaking waves.	Optically shallow areas Clouds, strong winds and breaking waves.
Processing technique **(Output)**	Image based deterministic (inversion of radiative transfer model).	Image based deterministic (inversion of radiative transfer model).
Resources – Hardware and Software	PC Image processing software with Hyper-spectral analysis capabilities, including sub-pixel mapping techniques.	PC Image processing software GIS with image classification module (e.g. ARCGIS Image Analyst)
Resource – Personnel	Trained in hyper-spectral data processing. Knowledge of area to be mapped	Trained in image modellling Experience with Landsat data Knowledge of area to be mapped
References: Note these are some example references	Kratzer et al (2008)	Palandro et al (2004)

Kratzer, S., Brockmann, C., and Moore, G., (2008). “Using MERIS full resolution data to monitor coastal waters—A case study from Himmerfjärden, a fjord-like bay in the northwestern Baltic Sea.” Remote Sensing of Environment 112: 2284-2300.

Palandro, D., Hu, C., Andrefouet, S., and Muller-Karger, F. (2004). “Synoptic water clarity assessment in the Florida Keys using diffuse attenuation coefficient estimated from Landsat imagery.” Hydrobiologia 530: 489-493.