QARTOD VARIABLE MATRIX

Core Variable	Date Completed	Initial Update Completed	Second Update Completed	Core Variables Addressed	Other Variables Addressed
Dissolved Oxygen	Dec_2012	Apr_2015	Aug_2018	Dissolved Oxygen	
In-Situ Currents	Jun_2013	Sep_2015	Projected: Aug_2019	Current Speed and Direction	
In-Situ Waves	Jun_2013	Jul_2015	Feb_2019	Surface Waves	
Temperature and Salinity	Dec_2013	Dec_2015		Temperature Salinity	
Water Level	May_2014	Apr_2016		Sea Level	
Wind Speed and Direction	Oct_2014	May_2017		Wind Speed and Direction	
Ocean Optics	Jun_2015	August_2017		CDOM Ocean Color Optical Properties	In-water radiance/irradiance Above-water radiance/irradiance Beam attenuation Turbidity PAR Cholorophyll FDOM Backscattering/volume scattering
Dissolved Nutrients	Sep_2015	Feb_2018		Dissolved Nutrients	Nitrogen (NO3, NO2, and NH4) Phosphate Silicate
Phytoplankton Species and Abundance	May_2017			Phytoplankton Species and Abundance	
Stream Flow	Sep_2018			Stream Flow	
pH	Projected: Aug_2019			Acidity	

Other Manuals (not core variables)	Date Completed	Updated	Projected Completion	Core Variables Covered	Other Variables Covered
Data Flags Manual	Jan_2014	May_2017			
HFR Surface Currents	Apr_2016			Currents	
Glider DAC	May_2016				
Passive Acoustics	Jun_2017			Sound	
Quality Assurance*	In progress		Not yet determined		

Remaining Core Variables		Notes			
Bathymetry					
Biological vital rates					
Bottom character					
Contaminants					
Coral species and abundance					
Fish species and abundance					
Heat flux					
Ice distribution					
Invertebrate species and abundance					
Marine mammal species and abundance					
Microbial species and abundance					
Nekton diet					
pCO2		Partial Pressure of CO2			
Pathogens					
Sea birds species and abundance					
Sea turtles species and abundance					
Submerged aquatic vegetation species and abundance					
Total suspended matter					
Zooplankton species and abundance					

*Will be submitted to Frontiers Journal of Marine Science.