

University of Maine

Environmental Observation	Buoy A01	Buoy B01	Buoy E01	Buoy F01	Buoy I01	Buoy M01	Buoy N01	CSTM	GMNB	GRNI	Equipment Manufacturer & Type	Operating Procedures (hyperlinked to asset manuals):
Wind Speed/Direction	•	•	•	•	•	•	•				Gill Instruments UltraSonic Wind Sensor Marine Wind Monitor Model 05106	http://gillinstruments.com/data/manuals/wind-sonic-manual.pdf?iss=21.20150501 http://www.youngusa.com/Manuals/05106-90(I).pdf
Barometric Pressure	•	•	•	•	•	•	•				Setra 270 Barometric Pressure Transducer	http://cdn2.hubspot.net/hubfs/211498/Product_Operating_Instructions/270_OI.pdf?t=1432221570557
Air Temperature	•	•	•	•	•	•	•				Campbell 107 Temperature Probe	https://s.campbellsci.com/documents/us/manuals/107.pdf
Visibility	•	•	•	•	•	•	•				Aanderaa Mira Visibility Sensor 3544	http://www.aanderaa.com/media/pdfs/Mira-Visibility-3544_3544-EX.pdf
Wave Height	•	•	•	•	•	•	•				Summit 34203A 3-axis	http://gyre.umeoce.maine.edu/data/gomoos/doc/microsoft/SWHandDWP.doc
Wave Period	•	•	•	•	•	•	•				Summit 34203A 3-axis	http://gyre.umeoce.maine.edu/data/gomoos/doc/microsoft/SWHandDWP.doc
Wave Direction	•	•	•	•	•	•	•				In-house (UMaine) developed directional wave sensor	http://gyre.umeoce.maine.edu/phog/DDWM_Manual_Preliminary.htm
Surface Water Temperature	•	•	•	•	•	•	•				Seabird SBE37SM	http://www.seabird.com/sites/default/files/documents/37SM_rs232_039.pdf
Surface Salinity	•	•	•	•	•	•	•				Seabird Microcat 37-SM Seabird 16plus-IM	http://www.seabird.com/sites/default/files/documents/37SM_rs232_039.pdf http://www.seabird.com/document/sbe-16plus-im-v2-manual
Near-surface ocean currents	•	•	•	•	•	•	•				Aanderaa RCM9	http://www.aanderaa.com/media/products/Sea-Guard-RCM.pdf
Ocean Currents/Direction Profile	•	•	•	•	•	•	•				Teledyne-RDI Acoustic Doppler Current Profiler (ADCP)	http://rdinstruments.com/product/adcp/seninel-adcp http://rdinstruments.com/product/adcp/quartermaster-adcp http://rdinstruments.com/product/adcp/workhorse-long-ranger-adcp
Sub-surface Water Temperature Depth in meters	2, 20, 50	18314	20, 50, 87	20, 50	20, 50, 87	2, 20, 50, 100, 150, 200, 250	20, 50, 100, 150, 180				Seabird Microcat 37-IM Seabird 16plus-IM	http://www.seabird.com/document/sbe-37-im-manual http://www.seabird.com/document/sbe-16plus-im-v2-manual
Sub-surface Salinity	2,20, 50	20, 50	20, 50, 87	20, 50	20, 50, 87						Seabird Microcat 37-IM	http://www.seabird.com/document/sbe-37-im-manual
Sub-surface Dissolved Oxygen	50										Seabird Microcat 37-IM	http://www.seabird.com/document/sbe-37-im-manual
Sub-surface Nitrate			50		50	2, 20, 50, 100, 150, 200, 250	50, 100, 180				Satlantic ISUS SUNA nitrate sensors	http://satlantic.com/sites/all/modules/pubdlnct/pubdlnct.php?file=http://satlantic.com/sites/default/files/documents/ISUS-V3-Manual_0.pdf&nid=406 http://satlantic.com/sites/default/files/documents/Satlantic-SUNA-V2-Manual-Rev-E.pdf
Dissolved Oxygen	50										Aanderaa Optode (model 4385) Seabird SBE43 Dissolved Oxygen Sensor	http://www.aanderaa.com/media/pdfs/oxygen-optode-4835.pdf http://www.seabird.com/document/FSB24

University of New Hampshire					
Environmental Observation	Great Bay Buoy	CO2 Buoy	Coastal Marine Lab	Equipment Manufacturer & Type	Operating Procedures (hyperlinked to asset manuals):
Wind Speed/Direction	•	•	•	Coastal Environmental Systems Weatherpak WindSonic	http://www.coastalenvironmental.com/downloads/WP-2000.manual.NW.pdf http://gillinstruments.com/data/manuals/windsonic-manual.pdf?iss=21.20150501
Relative Humidity	•	•	•	Coastal Environmental Systems Weatherpak Rotronics MP101A-T7	http://www.coastalenvironmental.com/downloads/WP-2000.manual.NW.pdf http://www.rotronic-usa.com/en-us/mp10xa-mp40xa.html
Near-Surface Winds	•			Coastal Environmental Systems Weatherpak	http://www.coastalenvironmental.com/downloads/WP-2000.manual.NW.pdf
Air Temperature	•	•	•	Coastal Environmental Systems Weatherpak Rotronics MP101A-T7	http://www.coastalenvironmental.com/downloads/WP-2000.manual.NW.pdf http://www.rotronic-usa.com/en-us/mp10xa-mp40xa.html
Barometric Pressure	•			Coastal Environmental Systems Weatherpak	http://www.coastalenvironmental.com/downloads/WP-2000.manual.NW.pdf
Visibility	•	•	•	Coastal Environmental Systems Weatherpak	http://www.coastalenvironmental.com/downloads/WP-2000.manual.NW.pdf
Surface Water Temperature	•	•	•	Seabird SBE37 or Aanderaa	http://www.seabird.com/sites/default/files/documents/37SM_rs232_039.pdf http://ccg.sr.unh.edu/doc/conductivity-sensor-4319.pdf
Surface Salinity	•	•	•	Seabird SBE37 or Aanderaa	http://www.seabird.com/sites/default/files/documents/37SM_rs232_039.pdf http://ccg.sr.unh.edu/doc/conductivity-sensor-4319.pdf
UV Spectra	•			Satlantic ISUS or SUNA	http://satlantic.com/sites/default/files/documents/ISUS-V3-Manual_0.pdf http://satlantic.com/sites/all/modules/pubdlcnt/pubdlcnt.php?file=http://satlantic.com/sites/default/files/documents/Satlantic-SUNA-V2-Manual-Rev-E.pdf&nid=474
Nitrate	•			Satlantic ISUS or SUNA	http://satlantic.com/sites/default/files/documents/ISUS-V3-Manual_0.pdf http://satlantic.com/sites/all/modules/pubdlcnt/pubdlcnt.php?file=http://satlantic.com/sites/default/files/documents/Satlantic-SUNA-V2-Manual-Rev-E.pdf&nid=474
Phosphate	•			WET Labs Cycle PO4	http://sea-birdcoastal.com/sites/all/modules/pubdlcnt/pubdlcnt.php?file=http://sea-birdcoastal.com/sites/default/files/documents/HydroCyclePO4Reva.pdf&nid=968
Ammonium	•			WET Labs Cycle NH4	http://sea-birdcoastal.com/sites/all/modules/pubdlcnt/pubdlcnt.php?file=http://sea-birdcoastal.com/sites/default/files/documents/HydroCyclePO4Reva.pdf&nid=968
CDOM Fluorescence	•	•	•	WET Labs ECO-FLCDS	http://wetlabs.com/sites/all/modules/pubdlcnt/pubdlcnt.php?file=http://wetlabs.com/sites/default/files/documents/WLECOMARben.pdf&nid=976
Conductivity	•	•	•	Seabird SBE37 or Aanderaa	http://www.seabird.com/sites/default/files/documents/37SM_rs232_039.pdf http://ccg.sr.unh.edu/doc/conductivity-sensor-4319.pdf
Chlorophyll- a	•	•		WET Labs ECO-FLNTUS	http://wetlabs.com/sites/default/files/documents/WLECOMasterben.pdf
Turbidity	•	•	•	WET Labs ECO-FLCDS	http://wetlabs.com/sites/default/files/documents/WLECOMasterben.pdf
Surface Dissolved Oxygen	•	•	•	Aanderaa Optode	http://ccg.sr.unh.edu/doc/oxygen-optode-4835.pdf

Sub-surface Water Temperature	•	•	•	Seabird SBE37 or Aanderaa	http://www.seabird.com/sites/default/files/documents/37SM_rs232_039.pdf http://ccg.sr.unh.edu/doc/conductivity-sensor-4319.pdf
Sub-surface Salinity	•	•	•	Seabird SBE37 or Aanderaa	http://www.seabird.com/sites/default/files/documents/37SM_rs232_039.pdf http://ccg.sr.unh.edu/doc/conductivity-sensor-4319.pdf
Hyperspectral Surface Irradiance	•			Satlantic HyperOCR	http://satlantic.com/sites/default/files/documents/HyperOCR+Operation+Manual+SAT-DN-00249.pdf
Downwelling Irradiance	•			Satlantic HyperOCR	http://satlantic.com/sites/default/files/documents/HyperOCR+Operation+Manual+SAT-DN-00249.pdf
Upwelling Radiance	•			Satlantic HyperOCR	http://satlantic.com/sites/default/files/documents/HyperOCR+Operation+Manual+SAT-DN-00249.pdf
pCO2	•	•		Sunburst SAMI	http://www.sunburstensors.com/products/oceanographic-carbon-dioxide-sensor.html

University of Connecticut					
Environmental Observation	Execution Rocks (EXRX)	Western Sound (WLIS)	Central Sound (CLIS)	Equipment Manufacturer & Type	Operating Procedures (hyperlinked to asset manuals):
Wind Speed/Direction	●	●	●	R.M. Young Anemometer 05106 MA	http://www.youngusa.com/Manuals/05106-90(K).pdf
				R.M. Young Anemometer 05108 HD	http://www.youngusa.com/Manuals/05108-90(A).pdf
Barometric Pressure	●	●	●	R.M. Young Pressure 61302V	http://www.youngusa.com/Manuals/61302V-90(h).pdf
Air Temperature	●	●	●	R.M. Young RH/Temp 41382VC	http://www.youngusa.com/Manuals/41382VC-90(E).pdf
Relative Humidity	●	●	●	R.M. Young RH/Temp 41382VC	http://www.youngusa.com/Manuals/41382VC-90(E).pdf
Photosynthetically Active Radiation		●	●	Li-COR Quantum PAR 190SB	https://s.campbellsci.com/documents/us/manuals/li190sb.pdf
Wave Height		●	●	Neptune Sciences Wave Module TriAxis Directional Wave Sensor	http://neracoos.org/sites/neracoos.org/files/documents/Appendix%20A%20-%20NDWM%20Manual%20rev007.pdf
					http://neracoos.org/sites/neracoos.org/files/documents/Appendix%20B%20-TRIAXYS%20Directional%20Wave%20Sensor%20Manual.pdf
Wave Period		●	●	Neptune Sciences Wave Module TriAxis Directional Wave Sensor	http://neracoos.org/sites/neracoos.org/files/documents/Appendix%20A%20-%20NDWM%20Manual%20rev007.pdf
					http://neracoos.org/sites/neracoos.org/files/documents/Appendix%20B%20-TRIAXYS%20Directional%20Wave%20Sensor%20Manual.pdf
Wave Direction			●	Neptune Sciences Wave Module TriAxis Directional Wave Sensor	http://neracoos.org/sites/neracoos.org/files/documents/Appendix%20A%20-%20NDWM%20Manual%20rev007.pdf
					http://neracoos.org/sites/neracoos.org/files/documents/Appendix%20B%20-TRIAXYS%20Directional%20Wave%20Sensor%20Manual.pdf
Surface Water Temperature	●	●	●	Sea-Bird Electronics MicroCat 37SMP	http://www.seabird.com/sbe37impodo-microcat-ctd-do
Surface Salinity	●	●	●	YSI MultiParameter Sonde 6600	https://www.ysi.com/File%20Library/Documents/Manuals/069300-YSI-6-Series-Manual-RevJ.pdf
Surface Dissolved Oxygen	●	●	●	YSI MultiParameter Sonde 6600	https://www.ysi.com/File%20Library/Documents/Manuals/069300-YSI-6-Series-Manual-RevJ.pdf
Mid-Depth Water Temperature	●	●		Sea-Bird Electronics MicroCat 37SMP	http://www.seabird.com/sbe37impodo-microcat-ctd-do
Mid-Depth Salinity	●	●		YSI MultiParameter Sonde 6600	https://www.ysi.com/File%20Library/Documents/Manuals/069300-YSI-6-Series-Manual-RevJ.pdf
Mid-Depth Dissolved Oxygen	●	●		YSI MultiParameter Sonde 6600	https://www.ysi.com/File%20Library/Documents/Manuals/069300-YSI-6-Series-Manual-RevJ.pdf

Bottom Water Temperature	•	•		Sea-Bird Electronics MicroCat 375MP	http://www.seabird.com/sbe37impodo-microcat-ctd-do
Bottom Salinity	•	•		YSI MultiParameter Sonde 6600	https://www.ysi.com/File%20Library/Documents/Manuals/069300-YSI-6-Series-Manual-RevJ.pdf
Bottom Dissolved Oxygen	•	•		YSI MultiParameter Sonde 6600	https://www.ysi.com/File%20Library/Documents/Manuals/069300-YSI-6-Series-Manual-RevJ.pdf
Surface Ammonium		•		WET Labs Cycle NH4	http://sea-birdcoastal.com/sites/all/modules/pubdlnet/pubdlnet.php?file=http://sea-birdcoastal.com/sites/default/files/documents/HydroCyclePO4Reva.pdf&nid=968
Surface Phosphate		•		Sea-Bird Coastal Cycle PO4	http://sea-birdcoastal.com/sites/all/modules/pubdlnet/pubdlnet.php?file=http://sea-birdcoastal.com/sites/default/files/documents/HydroCyclePO4Reva.pdf&nid=968
Surface Nitrate		•		Sea-Bird Satlantic Nitrate	http://sea-birdcoastal.com/sites/all/modules/pubdlnet/pubdlnet.php?file=http://sea-birdcoastal.com/sites/default/files/documents/SUNAA160321.pdf&nid=818
Bottom pCO2		•		Sunburst SAMI	http://www.sunburstensors.com/products/oceanographic-carbon-dioxide-sensor.html
Bottom pH		•		Sea-Bird Scientific Ocean pH	http://satlantic.com/sites/default/files/documents/SeaFET-1.2.4-Manual_0_0.pdf
Current Speed/Direction Profile	•	•	•	RDI Workhorse ADCP	http://www.moist.it/doc/RDI%20WorkHorse%20-%20Manual.pdf

Charybdis					
Environmental Observation Types	Gloucester	Scituate	Hampton	Equipment Manufacturer & Type	Operating Procedures (hyperlinked to asset manuals):
Water Level		•		WaterLog H-3611 Microwave Radar	http://www.waterlog.com/media/pdfs/radar-series-user-manual-(d36-02-0615).pdf
			•	Micropilot M FMR240 Level Radar	https://portal.endress.com/wa001/dla/5000194/8313/000/06/BA227FEN_0508.PDF
	•			VEGAPLUS 62 Microwave Radar	https://www.vega.com/DocumentDownloadHandler.ashx?documentContainerId=5552&languageId=2&fileExtension=pdf&documentGroupId=41719

Woods Hole Oceanographic Institution			
Environmental Observation Types	Race Point	Equipment Manufacturer & Type	Operating Procedures (hyperlinked to asset manuals):
13 MHz HF radar surface currents	•	CODAR SeaSonde	http://support.codar.com/

Narragansett Bay			
Environmental Observation	GSO Dock	Equipment Manufacturer & Type	Operating Procedures (hyperlinked to asset manuals):
Nitrate	•	SUNA V1 Optical Nitrate Sensor	http://satlantic.com/sites/default/files/documents/SUNA-V1-Manual.pdf