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VESSEL Aquila			CRUISE ID AQ1801			PROJECT & LEG FOCI Fall Mooring Cruise			CTD FileName:			STATION NO. 7															
CONSC CAST #		LATITUDE		LONGITUDE				TIME (GMT)		DRY BULB		RH		Pressure		WIND DIRN.		WIN D SPD		BOTTOM DEPTH		STA. NAME/ID M24					
		DEG MIN		DEG MIN		DAY MO YR		HR MIN		(°C)		(%)		(mb)		(deg)		(kts)		(m)							
08		57.0		.89 N		164 12.84 W		06 OCT 18		08 02										70							
SBE 9+			FLUOR S/N			WEATHER OBS:																SFC/Bottom Temp.			MAX. DEPTH = 63		
PRESS SN			SBE43-Oxy (prim			REMARKS:																					
PRI TEMP SN			SBE43-Oxy (sec)																								
SEC TEMP SN			Transmissometer																								
PRI COND SN			PAR S/N																								
SEC COND SI			O2 Tmp Sensor																								
																						Recorder Initials:					
Nis	DEPTH	Rosette Notes	Hydro Team-PMEL				Chloro				POC				Comments				Nis								
No.	DESIRED	SALT	Nut.Btl	O2-Btl.N	DIC/Aik	GFF Vol	>10 dup vol	GFF Dup Vc >10 dup vol	500 ml									No.									
1	Bot	147	58	107		281	01											1									
2	50		59	107		281												2									
3	40		60			282												3									
4	30		61			285												4									
5	20		62			281												5									
6	10		63			283												6									
7	0		64			283												7									
8	0													Lead				8									
9																		9									
10																		10									
11																		11									
12																		12									
I	Inline																										

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VESSEL Aquila				CRUISE ID AQ1801				PROJECT & LEG FOCI Fall Mooring Cruise				CTD FileName:				STATION NO. 16											
CONSC CAST #		LATITUDE			LONGITUDE						TIME (GMT)		DRY BULB		RH		Pressure		WIND DIRN.		WIN D SPD		BOTTOM DEPTH		STA. NAME/ID M4W		
		DEG	MIN		DEG	MIN		DAY	MO	YR	HR	MIN	(°C)		(%)		(mb)		(deg)		(kts)		(m)				
01157		55.67	N		169	19.32		W	07	OCT	18	12	03											67			
<input type="checkbox"/> SBE 9+				<input type="checkbox"/> FLUOR S/N				<div>WEATHER OBS: SFC/Bottom Temp. MAX. DEPTH = 62</div> <div>REMARKS:</div>																			
<input type="checkbox"/> PRESS SN				<input type="checkbox"/> SBE43-Oxy (prim																							
<input type="checkbox"/> PRI TEMP SN				<input type="checkbox"/> SBE43-Oxy (sec)																							
<input type="checkbox"/> SEC TEMP SN				<input type="checkbox"/> Transmissometer																							
<input type="checkbox"/> PRI COND SN				<input type="checkbox"/> PAR S/N																							
<input type="checkbox"/> SEC COND SI				<input type="checkbox"/> O2 Tmp Sensor																							
Recorder Initials:																											
Nis	DEPTH	Rosette Notes	Hydro Team-PMEL				Chloro				POC								Comments				Nis				
No.	DESIRED	SALT	Nut.Btl	O2-Btl N	DIC/Alk	GFF Vol	>10 Large Vol	GFF Dup Vc	>10 dup vol	500 ml									No.								
1	Bot		79																1								
2	50		80			281													2								
3	40		81			282													3								
4	30		82			285													4								
5	20		83			281													5								
6	10		84			283													6								
7	0		85	241		283													7								
8																			8								
9																			9								
10																			10								
11																			11								
12																			12								
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VESSEL Aquila		CRUISE ID AQ1801		PROJECT & LEG FOCI Fall Mooring Cruise			CTD FileName:			STATION NO. 12						
CONSC CAST #	LATITUDE		LONGITUDE		TIME (GMT)		DRY BULB	RH	Pressure	WIND DIRN	WIN D SPD	BOTTOM DEPTH	STA. NAME/ID			
	DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	(°C)	(%)	(mb)	(deg)	(kts)	(m)	
	13	57.51	9.1	N	16	07	00	18	18						70	M4C
SBE 9+		FLUOR S/N		WEATHER OBS:		SFC/Bottom Temp.		MAX. DEPTH = 65								
PRESS SN		SBE43-Oxy (prim)		REMARKS: M4		Re-recovery Calibration Cast										
PRI TEMP SN		SBE43-Oxy (sec)														
SEC TEMP SN		Transmissometer														
PRI COND SN		PAR S/N														
SEC COND SI		O2 Tmp Sensor														
														Recorder Initials:		
Nis	DEPTH	Rosette Notes	Hydro Team-PMEL			Chloro			POC	Comments			Nis			
No.	DESIRED	SALT	Nut.BU	O2-BU	N/DIC/Alk	GFF Vol	>10 Large Vol	GFF Dup Vc	>10 dup vol	500 ml				No.		
1	30		93										1			
2	50		94			287							2			
3	40		95			288							3			
4	30		96			281							4			
5	20		97			282							5			
6	13c					285							6			
7	13b		98			281							7			
8	13a					283							8			
9	0		99	181		283							9			
10													10			
11													11			
12													12			
1		Inline											1			

it may have warmed up

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VESSEL			CRUISE ID			PROJECT & LEG			CTD FileName:			STATION NO.															
Aquila			AQ1801			FOCI Fall Mooring Cruise						18															
CONSC CAST #		LATITUDE		LONGITUDE				TIME (GMT)		DRY BULB		RH		Pressure		WIND DIRN.		WIN D SPD		BOTTOM DEPTH		STA. NAME/ID					
		DEG MIN		DEG MIN		DAY MO YR		HR MIN		(°C)		(%)		(mb)		(deg)		(kts)		(m)							
01960		04.31 N		17159.80 W		10 OCT 18		0803												66		M5N					
SBE 9+			FLUOR S/N			WEATHER OBS:																SFC/Bottom Temp.			MAX. DEPTH = 58		
PRESS SN			SBE43-Oxy (prim			REMARKS:																					
PRI TEMP SN			SBE43-Oxy (sec)			Agood profile for O ₂ lag calculation																					
SEC TEMP SN			Transmissometer																								
PRI COND SN			PAR S/N																								
SEC COND SI			O2 Tmp Sensor																								
Recorder Initials:																											
Nis	DEPTH	Rosette Notes	Hydro Team-PMEL				Chloro				POC				Comments				Nis								
No.	DESIRED	SALT	Nut.Btl	O2-Btl.N	DIC/Aik	GFF Vol	>10 Large-Vol	GFF Dup Vc	>10 dup vol	500 ml									No.								
1	Bof	152	137	312		005													1								
2	50		138			281													2								
3	40		139			282													3								
4	30		140			285													4								
5	20		141			281													5								
6	10		142			283													6								
7	0		143			283													7								
8																			8								
9																			9								
10																			10								
11																			11								
12																			12								
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VESSEL Aquila				CRUISE ID AQ1801				PROJECT & LEG FOCI Fall Mooring Cruise				CTD FileName:				STATION NO.			
CONSC CAST #		LATITUDE		LONGITUDE					TIME (GMT)		DRY BULB	RH	Pressure	WIND DIRN	WIN D SPD	BOTTOM DEPTH		STA. NAME/ID	
		DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	(°C)	(%)	(mb)	(deg)	(kts)	(m)			

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VESSEL Oscar Dyson				CRUISE ID DY1504				PROJECT & LEG FOCI Spring Mooring Cruise				CTD FileName:				STATION NO.			
CONSC CAST #		LATITUDE		LONGITUDE					TIME (GMT)		DRY BULB	RH	Pressure	WIND DIRN.	WIN D SPD	BOTTOM DEPTH		STA. NAME/ID	
		DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	(^C)	(%)	(mb)	(deg)	(kts)	(m)			

VESSEL Oscar Dyson				CRUISE ID DY1504				PROJECT & LEG FOCI Spring Mooring Cruise				CTD FileName:				STATION NO.			
CONSC CAST #		LATITUDE		LONGITUDE					TIME (GMT)		DRY BULB	RH	Pressure	WIND DIRN.	WIN D SPD	BOTTOM DEPTH		STA. NAME/ID	
		DEG	MIN	DEG	MIN	DAY	MO	YR	HR	MIN	(^C)	(%)	(mb)	(deg)	(kts)	(m)			

Bering Sea sampling wish list 2018:

Desired sample types: I assume most locations will be non-bloom so it would be great to get at least 5-7 non-bloom samples from the surface and as many bloom or transition (bloom edges) samples as possible also from the surface.

This list describes my wish list for samples to take, with them listed in order of most important to least important. After priority 1 and 2 samples, if one of the listed samples is difficult or impossible to take with available effort and time, I will be happy with any of the other samples (order gets less important after 1 and 2).

Priority 1: Flow Cytometry

Supplies needed:

- Sampling bottle
- Frozen glutaraldehyde/formaldehyde fixative (10x)
- 50-100mL graduated cylinder

Protocol:

- Thaw fixative aliquot (5 mL/sample in 50 mL falcon tube) ~.5 hr before sampling
- Label 50mL falcon tube containing thawed fixative with sample ID (make sure it can correlate with CTD cast and that bloom/non-bloom is recorded for each sample)
- Sample surface seawater from CTD rosette
- Measure 45 mL of surface seawater in graduated cylinder
- Pour seawater into 50mL falcon tube containing thawed fixative
- Invert gently until well mixed
- Let sit in the dark at ~ room temperature (or slightly colder) for ~20 min then put into -20C freezer for long term storage

Priority 2: DNA

Supplies needed:

- Sampling bottle
- Filter rig
- 47mm filter set up
- 500-1000mL graduated cylinder
- 1.2um polycarbonate filters (RTTP)
- 2 ml cryovials
- 200 um mesh (black pvc holder w/mesh)
- forceps

Protocol:

- Label empty 2 mL cryovial with sample ID and bloom state
- Prepare 47mm filter set up w/ 1.2 um filter installed (**wear gloves**)
- Sample surface seawater from CTD rosette
- Pre-filter seawater with 200 um mesh into graduated cylinder and measure 1L for non-bloom samples and 500 mL for bloom samples (if really dense and slowly filtering) – record volume filtered

ECOFUG Salinity Analysis Data Sheet

Salinometer ID

Cruise:		Salt Case ID:		Analyst:		Analysis Date/Time(GMT):				
Standard Batch #		K15 std:		2Rt std(a):		2Rt std(b):		Bath Temp:		
General Comments:								Sample Temp:		
	Cast	Niskin	Sample Btl. ID	2Rt (a)	2Rt (b)	2Rt (c)	2Rt (d)	2Rt (Aver.)	Salinity	Comment
1	01	1	145							
2	05	1	146							
3	08	1	147							
4	09	1	148							
5	12	1	149							
6	15	1	150							
7	17	1	151							
8	19	1	152							
9	21	1	153							
10	22	1	154							
11	24	1	155							
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										

Notes

ECOFUCI Salinity Analysis Data Sheet

Salinometer ID

Cruise:		Salt Case ID:		Analyst:		Analysis Date/Time(GMT):				
Standard Batch #		K15 std:		2Rt std(a):		2Rt std(b):		Bath Temp:		
General Comments:								Sample Temp:		
	Cast	Niskin	Sample Btl. ID	2Rt (a)	2Rt (b)	2Rt (c)	2Rt (d)	2Rt (Aver.)	Salinity	Comment
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
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22										
23										
24										
25										

Notes

Protocol:

- Label two petri dishes with sample ID and "20um filt" or "unfilt"
- Prepare 25mm filter set up w/ combusted GF/F filter installed (**wear gloves**)
- Sample surface seawater from CTD rosette
- For **20um filt** sample, prefilter seawater with 20um mesh into a graduated cylinder and measure out 500 mL or for **unfilt** sample, do not prefilter and measure 500 mL of whole seawater in graduated cylinder (in a bloom 300 mL will likely be enough)
- Filter water at between **10 – 15 inHg** until all water has gone through
- Use forceps to remove filter and place upright in the petri dish
- Tape the edges of the petri dish so the top and bottom stay together
- Store at -20C for long term storage

Priority 5: Fixed phytoplankton samples

Supplies needed:

- Sampling bottle
- Formalin (20 mL/sample) (on board, used for zooplankton fixation)
- 250mL PP bottle (Nalgene)
- 500 mL graduated cylinder
- Serological pipettes (25 mL)

Protocol:

- Label bottle with sample ID (using tape may be the easiest way to label the bottle?)
- Collect surface seawater from CTD rosette
- Measure out 230 mL of seawater in graduated cylinder, pour into 250mL PP bottle
- Use syringe to dispense 20 mL of formalin directly into sample (if confident of 20 mL measurement) or dispense formalin into an empty 50 mL falcon tube and use a serological pipette to measure out exactly 20 mL and add to sample (can re-use falcon tube for all samples)
- Invert sample gently
- Wrap parafilm around the lid to add extra protection from spillage and evaporation
- Store in a cool, dark place (inside a box should be fine)

Other notes:

- Rinsing all filtering equipment and graduated cylinders with milli-Q between stations is ideal
- Samples do not need to be filtered/sampled immediately after sampling from niskin, they are all OK to sit while other samples are taken
- Sampling for all samples into the 1L sampling bottles from the niskin and then measuring out exact volumes in the lab works well but be sure to mix sample bottle gently before measuring out volumes especially if sample has been sitting
- The 25mm and 47mm filter holders do not hold the total amount of water that is required to be filtered for most of these samples, so water will need to be added multiple times while filtering (plastic beakers can also be used for short term storage before/during filtering)
- For all samples, total water budget is ~2.4L but in a bloom less will be needed.

- Filter water at ~10-15 inHg
- Once sample has been completely filtered, fold sample/roll sample carefully with forceps and place in 2 mL cryovial
- Freeze at -80C (or as cold as possible) for long term storage (in freezer box or ziplock bag is fine)
- Rinse filter set up and forceps with Milli-Q between samples

Priority 3: SEM (not necessary for every station but for just a couple of bloom stations)

Supplies needed:

- Sampling bottle
- Filter rig
- 13mm filter set up
- 50-100mL graduated cylinder
- 0.4um polycarbonate filters (HTTP)
- Petri slides
- Razor blade
- Forceps

Protocol:

- Label petri slide with sample ID and bloom state
- Prepare filter set up (these filters are a bit finicky and can easily get offset on the filter holder, before adding water make sure the filter is centered on the holder so water does not leak around the filter)
- Sample surface seawater from CTD rosette
- Measure 50 (bloom) or 100 mL (non-bloom) into graduated cylinder
- Filter seawater gently (keep pressure around ~5 inHg on pump)
- Once sample has filtered completely, carefully remove filter with forceps and razor blade and place face up in petri slide
- Place lid on top without closing petri slide completely, let filter air dry overnight then close lid completely and store at room temperature for long term storage
- Stacking and taping all petri slides together at the end of the cruise is a good way to transport these samples

Priority 4: size fractionated POC

Supplies needed:

- Sampling bottle
- Filter rig
- 25mm filter set up
- 500 mL graduated cylinder
- 25mm combusted GF/F filters
- Forceps
- 20 um mesh (black pvc holder w/ mesh)
- Petri dishes
- Tape