

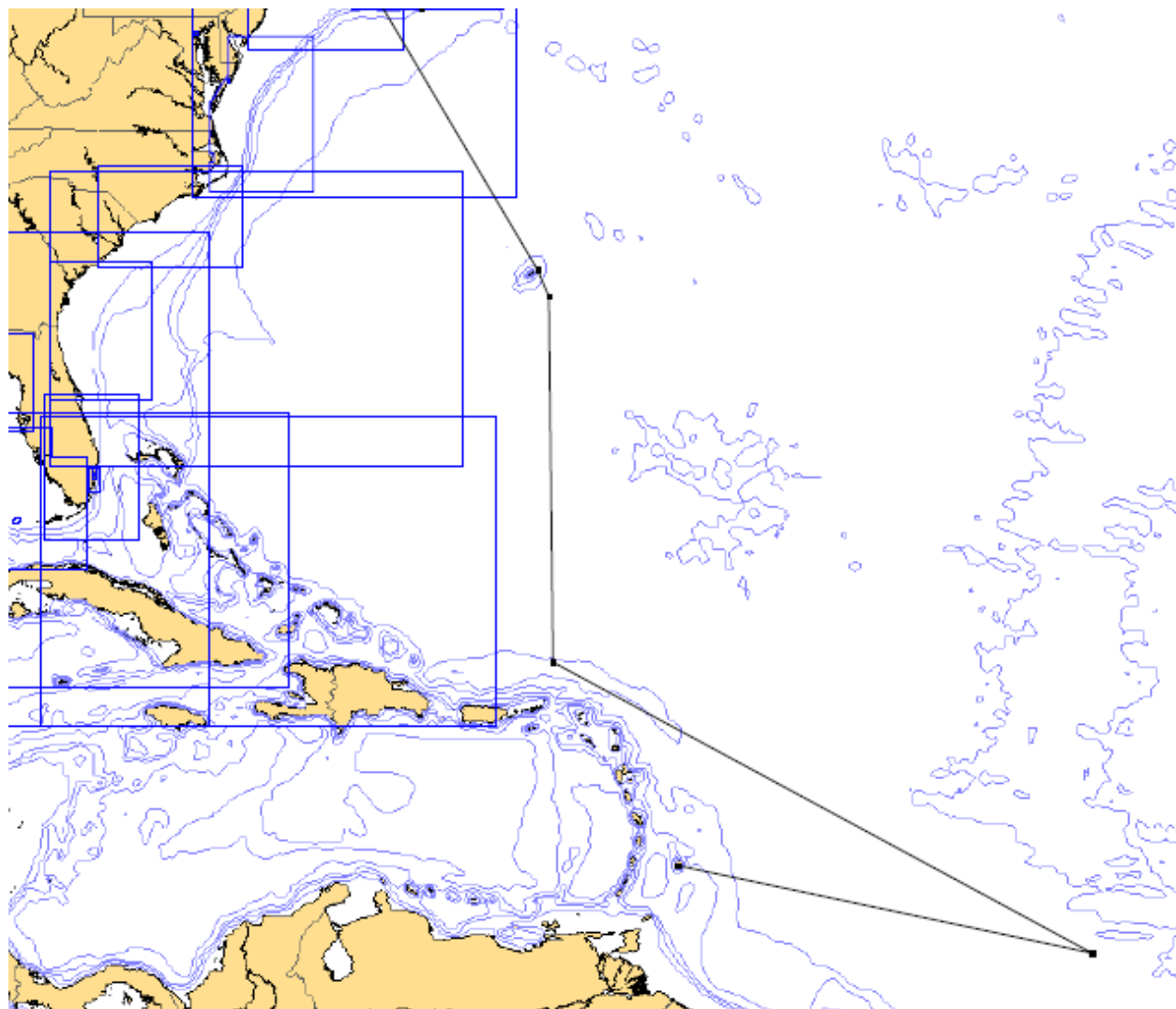
Tricho cruise planning document
Updated 7/5/10

Cruise Synopsis

Departing from Woods Hole, we will set a course for BATS 31 40N, 64 10W. VPR will be deployed upon crossing the shelf break. XBTs will be deployed hourly. VPR will be recovered each day at 0930 so CTD station work can begin promptly at 1000. Upon completion of CTD/pump station work, VPR will be redeployed and underway sampling will recommence.

After sampling at BATS, we will proceed southward along 64W to 20N, then turning southeastward to 10N, 45W. Alongtrack sampling is flexible, and we will adjust our course according to satellite altimetry and SST / ocean color imagery.

Upon completion of sampling activities we will make port in Barbados.



Science Activities

1. Underway VPR/XBT/O₂ survey
Davis Loomis Eaton Kosnyrev/Anderson
[Rachel Stanley]
2. CTD/Pump casts – 10:00 hrs each day
Cast 1 – 100m
 pump deep – organisms for incubation
 pump shallow – organisms for incubation
 pump deep and trip bottles – water for microscopy and PCR
Cast 2 – 100m
 pump shallow and trip bottles – water for microscopy and PCR
Cast 3 – 700m
 Hydrocast; nutrients, chl, alk phosphatase, etc.

All casts include Holocam and Digital Color VPR
3. N₂-fixation incubations
Waterbury, Hightoff
4. nifH gene expression
Dyhrman
5. Tricho diversity and enumeration via QPCR
Webb/Waterbury/Dyhrman

Hardware responsibilities

VPR II – Eaton/Davis
Optode integration on VPR II – Eaton
Color Digital VPR – Davis
Holocam – Loomis
XBT – McGillicuddy
Pumping system - McGillicuddy

Water budget

NO ₃ , PO ₄ , SiO ₂	0.06 l	
Chl	0.50 l	
Tricho counts	10.0 l	
qPCR	10.0 l	
Alk phosphatase	?	
Salt bottles	0.25 l	(bottles 1,2,3 only)

*Note does not include water for rinsing

EDDIES Standard Depths; can be adjusted as needed.

Bottle #	Depth	
22,23,24	sfc	
20,21	20	
18,19	40	
16,17	60	
15	70	
13,14	80	
12	90	
10,11	100	
9	110	
7,8	120	
5,6	140	
4	200	
3	300	
2	500	
1	700	

HAZMATs

Hazardous Material	Amount	Concentration	Neutralizer Buffer Absorbent Antidote	MSDS
H ₂ gas				
Carbide				
Ethanol		100%		
Formalin		10%		
Liquid nitrogen				
di Fluoro methyl umberiferylphosphate		10uM		
HCl		10%		
Gasoline (for pump)				

Schedule

TBD	VPR test cruise
9/28/10	Ship available for loading
10/1/10	Depart WHOI
10/21/10	Arrive Barbados
10/23/10	Depart Barbados
10/30/10	Arrive WHOI

Personnel

1. Dennis McGillicuddy

2. Elise Olson
3. Larry Anderson
4. Valery Kosnyrev
5. Sonya Dhyrman
6. John Waterbury
7. Abby Hightoff
8. Cabell Davis
9. Nick Loomis
10. Josh Eaton
11. Louis Wurch

Prospectives

12. Eric Webb student [JW liason]
13. Rachel Foster [JW liason]
14. WHOI trustee