

12 2/6/2020

Looking at old sample

Event 20200205-1000
250 ml filtered on 0.45 µm filter PR1.
all but 400X

Plus IMG-0001.JPG - IMG 0049
Looking at Aerial samples: Slide #2 Surf only 400X
IMG-0003 to IMG-0014

1840 CTD 18.02 20200205.1840

Carbon sample & in
Feetura (Eddy) #2 - Elevated PC

2/6/20

0625 Looking at stn 18.02 - in microscope
Surface (-w) 100 ml filtered, mixed w Potassium
Nitrate

IMG-0065.JPG - 1104 Very little in
sample

FL max (—X) 100 ml filtered w/ K borate
ruse

IMG-105.JPG - IMG 141.JPG

Also little material on slide.

2/6/20

2302 STN 19.01 Event 20200206.2302
CTD S Eddy stn

2/7/20

0235 CTD 020.01 Eddy Interior South

Event 20200207.0235

Procl stn

0736 CTD 021.01 Middle of Eddy
Event 20200207.0736

0850 Drague deployed - 035° 53.0' 037° 37.8'

Looking at FFT samples

STN 20.01 Interior South stn filtered 250 ml
100X mag Bright field, brightfield, epifluorescence, epifluorescence
12m (img 8)

IMG-0001.JPG - IMG-0024.JPG

Boing... some EHV and dms... that's it

57.1m lots more material!

Pres 25 → 70

1201 CTD 022.01 Eddy Interior North
event 20200207.1201

1515 CTD ~~023~~ at Eddy Exterior North
scrubbed due to weather

Two competing Swells giving very unpredictable
rolls - dragline tension on wire

2/17/20

2130 CTD ct Eddy East

Surveyed 30 Knots

Confused 15 knot swell

going to Steer to Eddy interior

East and wait a bit.

Underway Sunde + XBT

The interior east CTD was cancelled due to sea state. Moving to Eddy center to the sampling there. Arrived at 0515 (0315 GMT). So far we've had one productivity cast in interior south, and no CTDs at Eddy north and east. Hope for eddy west CTD before heading for Durlan

CTD 23-01 Event 20200208.0344

Prod cast at Eddy center

CTD 24-01 Event 20200208.0803

Prod CTD cast at Interior East

2/8/20

Mr. Manning Stn 023-01 350m all 4000 Bright field, Surf, epulidus & Epiorgan

Began Ing 0071 - 0101

48m Beam e Ing 0102 - 0136

60m floor may 0137-193

1255 CTD Station 25 750m

-35.8799 X 36.6384 Chl rx X 60m

1400 CTD recovered

Headed for Durlan

10 Feb

0600 GMT Boarded Pilot

0700 GMT Docked Durlan

2/17/20

2130 CTD cast Eddy East

Seawel 30 knots

(Confused) 15 foot swell

Going to Steer to Eddy interior

Fast and wait on bit.

Underway Sample + XBT

2/18/20

0005 The interior east CTD was cancelled due to sea state. Moving to Eddy center to try sampling there. Arrived at 0515 (0315 GMT). So far we've had one productivity cast in interior south, and no CTDs at Eddy north and east. Hope for each west CTD before heading for Durlan

0314 CTD 23-01 Event 20200208.0314

Prod cast at Eddy center

0803 CTD 24-01 Event 20200208.0803

Prod CTD cast at Interior East

2/8/20

Nuc. measuring stn 023-01 250m
all 400x Bright field, Surf, epulidus & Epsilon
12-8m Eddy center

Began Ing 0071 - 0101

48m Beam e Ing 0102 - 0136
away

60m 0137-193
flower away

1255 CTD Station 25 750 m

-35.6799 X 36.6384
Chl max = 60m

1400 CTD recovered

Headed for Durlan

10 Feb

0600 GMT Boarded Pilot

0700 GMT Docked Durlan

2/13/20

6m
 227 Viewed aerosol samples. All ~~at~~ ^{at} 400x magn. Nothing of any note. A few ~~invertebrates~~ ^{parasitoides} about nothing significant.
 Pic 1-3

1247 #7 Pic 4-6 Nothing very convincing
 1313 #8 Pic 7-10 Nothing very convincing
 1315 #9 Pic 11-15
 1325 #10 Pic 16-22 Some of these are convincing ~~corollas~~
 1415 #11 Pic 23-36
 1515 #12 Pic 37-46 Some whole corollas

2/16/20

Viewed VJ sample from 2/15/20
 event 20200215 which had
 bb' = 2.5E-3 VJ sample? 100mL
 All pics 400x bright field, brief, epifluorescence
 event 20200215-2050
 1mg 0001. JPS to 0036

Viewed VJ sample taken during passage through
 brush wind rows (looked like truck, w/ rows
 aligned downwind)

Event 20200216.0509
 Pic 1mg 0037 to 0099

Pic 18 2032 23
 brief and blue green
 on shade drive

1726 STN 26 CTD

2008 CTD 27 - Trip on Fly
 -41.4962 x 30.9487
 -41.5002 x 31.2148

2208 CTD 28.01 Productivity

-41.4999 x 31.4010

20507 CTD 29.01 Trip in fly

-41.4994 031.7499
 Event 202002170507

20128 TM FISH
 Event 202002160128

2/17/2020

0720 Viewing microscope samples. Tough viewing! Ship rocking!
STN 30.01 SURF bottle
250ml #8 Jug all 400X

lots of diatoms w/ fast lanes coccoids (still unident)
image 1.35

STN 28 Carboy control bottle #1 surface
image 36-81 220ml

STN 29.015m
~~Nothing~~ probably look 750m
nothing by accident. Surf water
was green. #82-81

0818 STN 30.01 Water Cnst
Event 20200217.0818
-41.50015 032.3139E

1058 STN 31.01 Tripinphy
Event 20200217.1058
-41.49998 032.6504

1337 STN 32.01
-41.5 x 32.9889
55' x 203

2/17/2020

1641 CTD 33 - TRIP ON FLY
-41.5001 x 33.3276

2004 CTD 39
-41.5013 x 33.6692 45' 90-4

Long discussion about whether or not to deploy
30-35 Knts WSW 15+ feet Swell

Track DAUPR off of Rosette frame - will
not hooky 10th for star to line #2

7/18/2020

Viewing microscope samples

STN 30.01 5m 250ml all at 400X

Brightfield, brief, epifluorescence, epigreen
We are not doing and rolling up here in
zero growth microscope depth beam!
Note, sample was partially dried so 100 wet w/FSW prior to
img #90-141

mostly diatoms w/a few coccoids

000 Event 20200218.0500

#147-217 Lots of diatoms

Fascinating coccoid sp.

Non bioluminescent
A. thalassiosira

12-5m

2/19/20

0938 CTD # 041.01
-40.5021 033.0497
Event 20200219.0938

1105 Viewing microscopy Event 20200219.0339
Stn 39.01 10.2m 250mL
All 400x BF, BRF, Epi Blue, Epi Green
Pics 1-54
mostly dunes then coccas, 1 big Navicula sp.
one filamentous form

Stn 39.01 49m 250mL
Pics 55-116

Same chotoms. the first time the entire trip. *Navicula Navicula* *Fragillaria* sp.
Probably one pet. field, on average
few coccas still dunes, lots of *Frag.*
How much *Silicula* in these samples?

1211 CTD 42.1 The only

-40.5007 x 33.9038
bb' = 2.3 e-3

1409 CTD 43.1
-40.5 x 33.7022
bb' 1.7 e-3

20 2/18/20

1751 CTD 35.01 Trip on Bay
-40.5007 x 31.2899
bb' 9 e-4

2039 CTD 36.01 Trip on Bay
-40.5005 x 31.6831

2245 CTD 37.01
-40.5001 031.9335
Event 20200218.2245

2/19/20 0149 CTD 38.01 Trip in Bay cast
-40.5001 032.2260
Event 20200219.0149

0339 CTD #39 Full water cast
-40.5001 032.6202
Event 20200219.0339

bb' end time of deployment was 197C-3
but that was somewhat short-lived, falls
to 1.3 e-3

0745 CTD #40 Trip in Bay
-40.5009 032.8125
Event 20200219.0745
bb' = 1.5 e-3

02/20/2020

0837 CTD Stn 44.01 Event 20200220-0837
-39.5005 032.0444^{9E}

1128 CTD Stn 43.01 Event 20200220-1128
-39.4996 032.4172

V. Brown

1230 Viewing Microscope slide from 1128
Surface water 20200219.12-11
150 ml filtered
Had rough 65' (2.30-3)
PC 117-213

Note 159-163 all at 100m was of
Acanthosoma (Amazing!)

Another Acanthosoma 176-187 (even more amazing)
and some specimens at 200X 188-192
Rout at 400X

1331 CTD 46 01
-39.5006 x 32.6682
55' ± 1.2e-3

2/20

1546 CTD 47.01
-39.5006 x 32.9017

1810 - CTD 48 - CASES INTERRUPTED
-39.5 x 33.10

Prosecco was over the rail when
Engine Room cancelled the cast - engine strikes
Clogged with Krill - we need to move!

steaming 1 mile to the east to try again

1820 - 1 mile east - now Steamer filling
with Jelly Fish - Salps?
-39.5 x 33.189

1851 Stn 48 - 2 miles East of intended
-39.5003 x 33.2046 - productivity
55' 1.5e3

2000 - Not productivity cast - TM scrubbed
after CTD recovered - Rety @ stn 50

2052 CTD 49
-39.5002 x 33.3995
55' = 1.2e-3

2/21/20

1831 CTD 53 DEEP 5060m

-37.301 x 35.361

2/22 1243 CTD 54 East End of 1st transect

-36.3006 x 37.3003

1759 CTD 55 Trip on fly

-36.13004 136.9
event 20200222, 1759

2300 CTD 56 Prod cont

event 20200222, 2300
-36.13 x 036.7518

2/23/20

0405 Rodum and Rolling 6-8m seas
25-40KTS

1258 CTD 60.1 - 110 GPS

-36.17.99 x 36.8955

1606 CTD 61.1 Trip on fly

-36.2985 x 35.9658

2/20

2255 CTD 50.1 Productivity

-39.5005 x 33.6501

46' - 136 e-3

0238 CTD 51.1 Trip in FA
-39.5002 033.8337

0418 CTD 52.1
-39.5003 033.9997
event 20200221, 0418

0845 Viewing thru 50 sampler under microscope.

6m sample 150ml 400x

time - 0214 - 249

25m 50m 100m 400x

time 250 - 307

bulk of Michael Sarsia - Can see they are
active. Also Acetabularia, greenish brown.
Also epiphytic large diatoms. Used 100x to
see culture CTD like 269-292 (100x of images
265-268) which were at 400x

2/23

2020 CTD 62 cancelled (East end of B-W line)

due to big swell and darkness

~~2/24~~

0030 Done microscopy given ship is on great course down wind and inside yesterday was 6 m seas 35-40 kt winds and was impossible to work in the forward darkroom/zero gravity room/hammock! Note samples in fridge 36 h?

Lodine at stn 56 sampler and early sample (control) Eddy Interior East

14m went 20200222.2300 250ml, All 400x Region coccoids, Saw 2 diatoms only (took pres). Few diatoms. Saw *Leptotheca* diatom, mostly E but mages 1-36

40m glow max all 400x mages 37-79

slides for epi cube broke off. Will try to use leatherhorns to move. Used P. 66 was last before Dredge fell off! Will now use leatherhorns.

Again little in 70m sample. Coccoids, one diatom, one diatom. Amargosa deperipate!

0027 Corby Sample - Saw some coccoids, diatoms, and *Leptotheca* Image 80-141

107-112 at 100X, 113-116 at 200X, 117-137-141 @ 100X

2/24/20

0249 Stn 062.01
-35.3847 036.3815
Full water cast

0611 Stn 063.01 Trip in fly
-35.7343 036.3809

0850 Stn 064.01 Net by interior
-36.0738 036.3818

1044 Stn 065.01 Trip in fly
-36.1698 036.3776

1259 CTD 86 36.2939 X 36.3739 - Productus event 20200224.1259 Eddy center Conditions worsening - no TM cast now

Stations to # 67

1450 Arriving # 67 Wind coming around to SW dropping slightly - but still big swell 5-6 m

Going to wait @ station 67 for a bit - see if/when conditions improve. (Stn cancelled - see next p. 0455) 2/25/20 NAW 67

2045 Moving on to STN 68 - took VPP off of Rosette but still no go for cast - will re-evaluate @ 68 - only 6 miles - 12 miles from drifter after moving further from line so the longer we wait the further it will get.

2/25/20

0154 Dows microscope, ~~the~~ Fixed microscope holder w/ manual machine bolt.

STN 70 Edley Carter

150 ml - Jng 2 120 m. This bottle showed a very small but distinct subsurface peak in fluorescence. Odd given that the fluor may (supposedly) light was at 82 m!

First pre #142 - 208 off 400X

Mainly small coccos

Stn 70 Jng 8 16.6 m

250 ml Images 209-262 @ 400X

small coccos, occasional diatoms

Stn 70 FL max 82 m - 150 ml

Images 263-315

Above more coccos & gammas than anything else downes, few diatoms

Overall fewer coccos and gammas than last visit to edley center on 3/7/20 (Stn 2301, P. 14)

2/26

1801 Deer CTD # 72

-34.4252 x 38.0417

2200 CTD recovered - upw Per Deep Cst 3

28 2/24/20

2230 Arrive STN 68 - re-essays No go

2 miles from drifts per 2030

2/25/20

00001 Heave for drifts. See states droppings

03006 Drifter aboard -36.683 36.1383

0455 CTD #67.01 Event 20200225.0455
Trip in fly -36.6838 036.3793

0650 CTD #68.01 water
Event 20200225.0650

0850 CTD #69.01 Trip in fly
-36.4420 036.3810
Event 20200225.0850

1044 CTD #70.01 Water (full)
-36.3032 036.3831
Event 20200225.1044

1852 CTD 71.01 - Edley South
-37.2171 x 36.379