

## CRUISE PLAN R/V WECOMA

### Changes made in plan from v1 to v2:

- \* sci party: deleted Bandoin and Megler; added Wall
- \* added a third acoustic bottom package deployment
- \* changed the order of moorings near Columbia river: do OGI-01 first, then SATURN-02

<b>FILING DATE:</b>	3/28/2011
<b>CRUISE NUMBER:</b>	W1104A
<b>TITLE:</b>	CMOP mooring cruise
<b>CONTRACT/GRANT NUMBER:</b>	U0440B
<b>PRINCIPAL INVESTIGATOR(S):</b>	Murray Levine / Antonio Baptista

### PURPOSE: (Short, non-technical statement on how cruise relates to overall project)

Deploy mooring at NH-10.  
Recover and deploy moorings on the shelf at sites 3mi and 16 mi from the Columbia River; deploy bottom mounted bouys near both of these moorings.  
CTD stations on the shelf and in the estuary when tide currents not too high.

### ITINERARY: (Include station positions and route waypoints.

Sunrise: 0630; Sunset: 2000 PDT  
Perfect weather scenario...

Sun Apr 10 -- Load ship

Mon Apr 11 –

1000 Transit to NH-10 site (Private Aid, Light #652) (44° 38.00'N, 124° 18.20'W)  
(Chart name: *OSU Yaquina Research Lighted Buoy*, Light #652)  
1300 Deploy Alder (80m water depth)  
(6' diam buoy 1000#, 70 m 3/8" wire rope + 45 m 1/2" chain + 3-wheel anchor 2500#)  
1500 CTD casts: SH, CM line?  
2300 Transit to OGI-01 (a.k.a. "offshore buoy") for mooring recovery (330' water depth)  
(46° 2.11'N, 124° 14.60'W) (Chart name: *Seaside data buoy*, Light #687)

Tue Apr 12 –

0800 On station at OGI-01 for mooring recovery (330' water depth)  
(5' diameter 800#, 300' 3/8" wire + 300' 1/2" chain + 1600# clump anchor)  
1000 Deploy mooring at OGI-01  
(6' diameter 1000#, 300' of 3/8" wire + 300' of 1/2" chain + 1600# clump anchor)  
1200 Deploy OSU/NOAA bottom mounted buoy, 400 m from OGI-01  
(320# sandbag anchor) Use winch wire with acoustic release.  
1300 On station at SATURN-02 (a.k.a. OGI-02) for mooring recovery (300' water depth)  
(46° 10.43'N, 124° 7.63'W) (Chart name: *CMOP Research Lighted Buoy*, Light #693)  
(5' diam buoy 1000#, 100' of 3/8" wire + 300' of 1/2" chain + 1600# clump anchor).  
1500 Deploy mooring at SATURN-02  
(5' diameter 800#, 130' of 3/8" wire with instruments + 200' of 1/2" chain + 1200# clump anchor)  
1600 Deploy OSU/NOAA bottom mounted buoy, due west of SATURN-02 (46° 10.2' N, 124° 9.4' W)  
60m water depth (320# sandbag anchor) Use winch wire with acoustic release.  
1700 On station north and offshore of river plume. Deploy glider Phoebe. Exercise glider for few hours. If fails, recovery with RHIB may be necessary.  
2000 Travel to North Head station (46° 18'N, 124° 14'W) at 60m depth for deployment of OSU/NOAA bottom mounted buoy, 400 m from OGI-01 (320# sandbag anchor) Use winch wire with acoustic release.  
2200 Night ops: CTDs at OGI-01, SATURN-02 and various locations in plume. CTDs on CR line.

Wed Apr 13 –

0900 Cross bar (1016 slack water) Anchor in South Channel near RM17 (46° 13'N, 123° 47'W). CTD time series as permitted by current.

1700 Move to North Channel (1736 slack water). Anchor in North Channel near NC11(46° 13.9'N, 123° 53.4'W). CTDs as permitted by current.

2300 Leave Columbia River (2350 slack water) Transit to NH-35 or NH-45

Thur Apr 14 –

1000 CTDs along NH line toward Newport

Arrive evening of Apr 14 or early morning of Apr 15

Fri Apr 15 –

<b>WILL RADIOACTIVE METHODS BE USED?</b>	<b>NO</b>
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<b>SAMPLING PLAN:</b>
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See itinerary above
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<b>EQUIPMENT REQUIRED:</b> (Should be included on Shared-Use Equipment request form)
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CTD with Chlorophyl fluorometer, transmissometer, DO

-80 deg freezer

Flow-through DAS system

Gifford wide mouth mooring block (in center of A-frame) for mooring work.

Crane (buoy deployment/recovery, moving anchors at sea, loading/unloading).

Trawl winch with 3/8" working wire to be "over-wrapped" with mooring during recovery, and wide mouth level wind.

Capstan and deck turning block, hydraulic tugger winch on A-frame (starboard side), 1/2" long link vertical "stopper" chain on starboard side of A-frame, compressed air for pneumatic tools on deck.

<b>SCIENTIFIC PERSONNEL TO BE ONBOARD:</b> (Provide full legal name & affiliation)
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Scientist in Charge:	Murray Levine (OSU)
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Scientist(s):	Michael Wilkin (OHSU), Katie Rathmell (OHSU), Paul Bentley (NOAA Fisheries)
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Party Chief:	
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Technicians:	David Langner (OSU)
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Grad Students:	Peter Kahn (OHSU), Suzanne de Lorenzo (OHSU), Patricia Welle (OHSU), Morgaine McKibbin (OSU), Mojgan Rostaminia (OHSU), Andrew Claiborne (OSU), Colleen Wall (OSU)
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Undergraduate Students:	Kris French (Clatsop Comm College)
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Observers:	
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<b>OSU Marine Technician(s) Assigned to Cruise:</b>	Daryl Swensen, Erik Arnasen
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<b>USER SUPPLIED EQUIPMENT:</b>
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Estimated Weight:	
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Location:	
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**OTHER BULKY HEAVY ITEMS:**

Surface buoy "Alder" (1000#) and anchor (2500#)

Surface buoy "OGI-01" (1000#) and anchor (1600#)

Surface buoy "SATURN-02" (800#) and anchor (1200#)

3 each short acoustic bottom packages each (250#) with sand bag anchors (320# each)

**BILLING INFORMATION:**

Name:	COAS
Address:	
City, State, Zip	
Phone:	
Account Number (or number to reference):	

**DO YOU WANT CELLULAR/INMARSAT PHONE ACCESS:**  **NO**

(Chief Scientist will be responsible for all charges – dedicated science phone.)

Contact info:

Wilkin 503 348 6828

Wecoma ship land line 541-867-0252

Wecoma ship ops 541-867-0295



SATURN 02 buoy, typical



Buoy Alder as deployed Oct 2010



**Sand Island Tower, 1nm SE of  
(midchannel)**

Predicted **Tidal Current**

April, 2011 (Local)

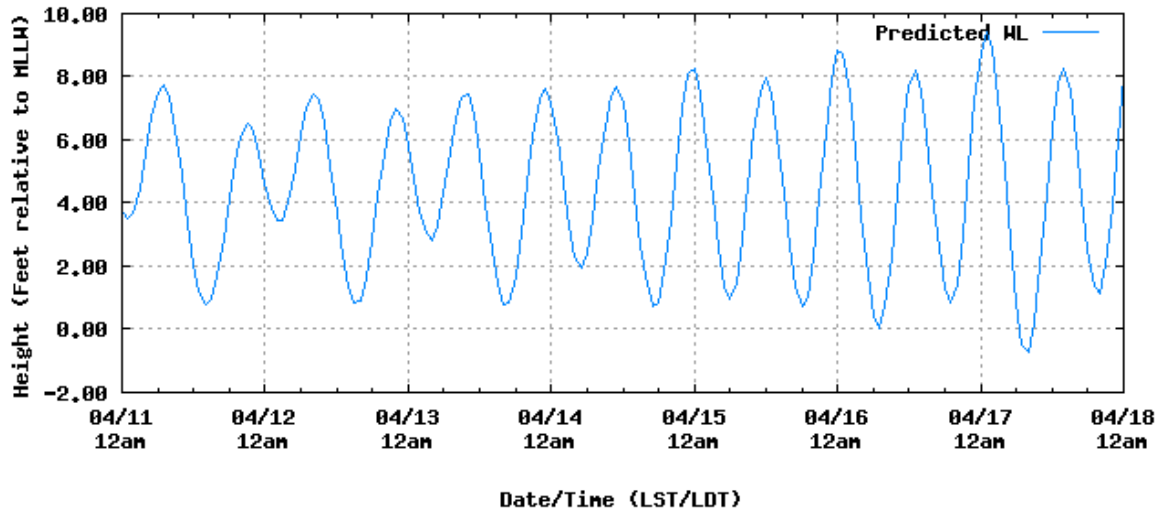
Flood Direction, 107 True.

Ebb (-)Direction, 275 True.

NOAA, National Ocean Service

Day	Slack Water			Maximum Current			Slack Water			Maximum Current			Slack Water		Maximum Current	
	Time h.m.	Time h.m.	Veloc knots	Time h.m.	Time h.m.	Veloc knots	Time h.m.	Time h.m.	Veloc knots	Time h.m.	Time h.m.	Veloc knots	Time h.m.	Time h.m.		
11	0233	0443	+1.9	0723	1046	-4.2	1532	1808	+2.4	2126	2358	-2.6				
12	0350	0603	+1.8	0851	1208	-4.2	1636	1931	+2.7	2226						
13		0110	-3.2	0507	0737	+1.9	1016	1323	-4.3	1736	2045	+3.2	2320			
14		0209	-4.2	0616	0910	+2.7	1129	1425	-4.6	1831	2139	+3.7				
15	0008	0301	-5.1	0715	1016	+3.5	1234	1520	-5.0	1921	2224	+4.2				

ASTORIA, OR StationId: 9439040



NOAA/NOS/CO-OPS from the published tide tables.  
 Weekly Tide Prediction  
 StationName: ASTORIA

Date	Day	Time (local)	Pred (feet)	High/Low
2011/04/11	Mon	01:05 AM	3.5	L
2011/04/11	Mon	06:52 AM	7.75	H
2011/04/11	Mon	02:14 PM	0.79	L
2011/04/11	Mon	09:08 PM	6.53	H
2011/04/12	Tue	02:28 AM	3.37	L
2011/04/12	Tue	08:14 AM	7.48	H
2011/04/12	Tue	03:25 PM	0.8	L
2011/04/12	Tue	10:06 PM	7.01	H
2011/04/13	Wed	03:49 AM	2.83	L
2011/04/13	Wed	09:39 AM	7.49	H
2011/04/13	Wed	04:27 PM	0.72	L
2011/04/13	Wed	10:57 PM	7.64	H
2011/04/14	Thu	04:58 AM	1.96	L
2011/04/14	Thu	10:54 AM	7.72	H
2011/04/14	Thu	05:22 PM	0.66	L
2011/04/14	Thu	11:42 PM	8.31	H
2011/04/15	Fri	05:58 AM	0.96	L
2011/04/15	Fri	11:58 AM	7.99	H
2011/04/15	Fri	06:12 PM	0.69	L