



## 1.0 PERSONNEL

### 1.1 CRUISE LEAD AND PARTICIPATING SCIENTISTS:

Cruise Lead: William Thompson.

Participating Scientists:

Name	Gender	Nationality	Affiliation
William Thompson	M	US	NOAA/NDBC
Lee Tretbar	M	US	NOAA/NDBC
Rodney Watkins	M	US	NOAA/NDBC

## 2.0 OPERATIONS

### 2.1 TAO Data Recovery Summary

Mooring Operations conducted are shown in the tables below. The following provides details on the data recovery efforts for the buoys serviced. All noted times in this summary report are Coordinated Universal Time (UTC):

### Cruise Summary

<b>Buoy Site:</b> 8N 95W ATLAS			
<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> QM018A	
<b>Deployed Location:</b> 08 00.942N/ 94 57.416W		<b>Deployed Date:</b> 4/7/2013	
<b>Recovered Location:</b> 08 00.9N/94 56.4W		<b>Recovered Date:</b> 6/13/2014	
<b>Sensors/Equipment Lost at Sea:</b> All Met, Tube, T180, Release			
<b>Sensors Damaged/Fouled:</b> SSC, T20, T40			
<b>Fishing/Vandalism:</b> Tower missing, long line cuts in nilspin, and long line found on second spool of nylon.			
<b>Sensors/Tubes Downloaded:</b> All recovered sensors downloaded successfully.			
<b>General Comments:</b> The acoustic release malfunctioned and the mooring was severed using a line cutter.			
<b>Site Sensor Failures</b>	<b>Date Data Flagged</b>	<b>Why Data Flagged</b>	<b>Field Service Observations</b>
Buoy	10/31/13	Data missing, transmit failure	Tower lost at sea
ATMP/RH	10/27/13	Data too low	Lost at sea
SSC	09/20/13	Data missing	Fouled

<b>Buoy Site:</b> 8N 95W REFRESH	<b>Mooring Depth:</b> 3683m
<b>Mooring Operation:</b> Deployment	<b>Mooring ID#:</b> DM068A
<b>Deployed Location:</b> 08 01.13N /94 56.76W	<b>Deployed Date:</b> 6/13/2014
<b>Pre-Deployment On Deck Instrument Failures:</b> None	
<b>Sensors/Equipment Lost at Sea:</b> None	
<b>Sensors Damaged During Deployment:</b> None	
<b>General Comments:</b> Routine deployment	

<b>Buoy Site:</b> 0 110W ATLAS FLUX			
<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> QM015A	
<b>Deployed Location:</b> 00 02.113N/109 54.521W		<b>Deployed Date:</b> 3/29/2013	
<b>Recovered Location:</b> 05 20.9N/93 04.7W		<b>Recovered Date:</b> 6/14/2014	
<b>Sensors/Equipment Lost at Sea:</b> ADRIFT, Lost all below 10m.			
<b>Sensors Damaged/Fouled:</b> SWR & LWR were covered with cloth and plastic by vandals; SSC, T05, T10 fouled.			
<b>Fishing/Vandalism:</b> BUOY ADRIFT, heavy steel cable attached to buoy pad eye, camera & Rad sensors covered with plastic and cloth, mooring caught in small amount of long line, Nilspin ripped in half at about 11m.			
<b>Sensors/Tubes Downloaded:</b> All Recovered sensors were downloaded successfully.			
<b>General Comments:</b> None			
<b>Site Sensor Failures</b>	<b>Date Data Flagged</b>	<b>Why Data Flagged</b>	<b>Field Service Observations</b>
Buoy	04/14/14	Adrift outside data grid	Nilspin ripped at 11m
SSC	07/29/13	Data missing	Fouled
T13, T25, T28, T45, T48, T83, TC120, T123	03/29/13	Data missing	Lost at sea
TC20	04/05/14	Data missing	Lost at sea
TC40	05/20/13	Data missing	Lost at sea
TC60	05/23/13	Data missing	Lost at sea
TC80	01/21/14	Data missing	Lost at sea
T100	06/19/13	Data missing	Lost at sea
T140	06/16/13	Data missing	Lost at sea
T180	03/12/14	Data missing	Lost at sea
TP300	04/26/13	Data missing	Lost at sea
TP500	06/04/13	Data missing	Lost at sea
SRAD	10/30/13	Data too low	Covered in plastic
LRAD	10/30/13	Jumped high	Covered in plastic
TC05, TC10	03/29/13	Data missing	Fouled
V10	05/19/13	Data missing	Lost at sea

V25, V45	04/06/14	Data missing	Lost at sea
V80	02/28/14	Data missing	Lost at sea
V120	06/08/13	Data missing	Lost at sea

<b>Buoy Site:</b> 5N 95W ATLAS			
<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> QM017A	
<b>Deployed Location:</b> 04 57.46N/95 00.00W		<b>Deployed Date:</b> 4/5/2013	
<b>Recovered Location:</b> 04 57.1N/94 59.9W		<b>Recovered Date:</b> 6/15/2014	
<b>Sensors/Equipment Lost at Sea:</b> All met, Camera, Tower missing			
<b>Sensors Damaged/Fouled:</b> SSC, T20, T40, T60			
<b>Fishing/Vandalism:</b> Tower gone, long line on nilspin and nylon.			
<b>Sensors/Tubes Downloaded:</b> All sensors downloaded successfully except T140 and missing tube.			
<b>General Comments:</b> None			
<b>Site Sensor Failures</b>	<b>Date Data Flagged</b>	<b>Why Data Flagged</b>	<b>Field Service Observations</b>
Buoy	05/29/13	Data missing, transmit failure	Tower missing, LAS
T100	05/05/13	Data missing	None

<b>Buoy Site:</b> 5N 95W REFRESH		<b>Mooring Depth:</b> 3515m	
<b>Mooring Operation:</b> Deployment		<b>Mooring ID#:</b> DM069A	
<b>Deployed Location:</b> 04 57.73N/94 59.635W		<b>Deployed Date:</b> 6/15/2014	
<b>Pre-Deployment On Deck Instrument Failures:</b> 40m, 500m			
<b>Sensors/Equipment Lost at Sea:</b> None			
<b>Sensors Damaged During Deployment:</b> None			
<b>General Comments:</b> The 40m and 500m sensors failed on deck and were replaced.			

<b>Buoy Site:</b> 2N 95W REFRESH			
<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> DM051A	
<b>Deployed Location:</b> 01 54.983N/95 20.205W		<b>Deployed Date:</b> 4/4/2013	
<b>Recovered Location:</b> N/A		<b>Recovered Date:</b> N/A	
<b>Previous Repair Date:</b> NONE			
<b>Sensors/Equipment Lost at Sea:</b> All sensors lost at sea, Buoy Adrift			
<b>Sensors Damaged/Fouled:</b> N/A			
<b>Fishing/Vandalism:</b> Unknown, Buoy Adrift			
<b>Sensors/Tubes Downloaded:</b> None			
<b>General Comments:</b> Lost at sea			
<b>Site Sensor Failures</b>	<b>Date Data Flagged</b>	<b>Why Data Flagged</b>	<b>Field Service</b>

			<b>Observations</b>
Buoy	07/10/13	Transmit failure	Lost at sea
ATMP/RH	04/26/13	Data too high	Lost at sea
Winds	04/07/13	WDIR erratic	Lost at sea

<b>Buoy Site:</b> 2N 95W REFRESH	<b>Mooring Depth:</b> 2822m
<b>Mooring Operation:</b> Deployment	<b>Mooring ID#:</b> DM070A
<b>Deployed Location:</b> 01 54.947N/95 20.947W	<b>Deployed Date:</b> 6/17/2014
<b>Pre-Deployment On Deck Instrument Failures:</b> None	
<b>Sensors/Equipment Lost at Sea:</b> None	
<b>Sensors Damaged During Deployment:</b> SSC	
<b>General Comments:</b> SSC Failed on deployment and was not replaced.	

<b>Buoy Site:</b> 0 95W REFRESH			
<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> DM050A	
<b>Deployed Location:</b> 00 05.725S/95 27.748W		<b>Deployed Date:</b> 4/3/2013	
<b>Recovered Location:</b> NA		<b>Recovered Date:</b> N/A	
<b>Sensors/Equipment Lost at Sea:</b> All sensors lost at sea			
<b>Sensors Damaged/Fouled:</b> N/A			
<b>Fishing/Vandalism:</b> Buoy adrift			
<b>Sensors/Tubes Downloaded:</b> None			
<b>General Comments:</b> Lost at sea			
<b>Site Sensor Failures</b>	<b>Date Data Flagged</b>	<b>Why Data Flagged</b>	<b>Field Service Observations</b>
Buoy	09/22/13	Transmit failure	Lost at sea
Winds	04/16/13	WDIR erratic	Lost at sea

<b>Buoy Site:</b> 0 95W REFRESH	<b>Mooring Depth:</b> 3251m
<b>Mooring Operation:</b> Deployment	<b>Mooring ID#:</b> DM071A
<b>Deployed Location:</b> 00 05.412S/95 27.599W	<b>Deployed Date:</b> 6/17/2014
<b>Pre-Deployment On Deck Instrument Failures:</b> None	
<b>Sensors/Equipment Lost at Sea:</b> None	
<b>Sensors Damaged During Deployment:</b> None	
<b>General Comments:</b> T40 failed on deployment.	

<b>Buoy Site:</b> 0 110W REFRESH FLUX	<b>Mooring Depth:</b> 3804m
<b>Mooring Operation:</b> Deployment	<b>Mooring ID#:</b> DM072A

<b>Deployed Location:</b> 00 02.67N/109 54.22W	<b>Deployed Date:</b> 6/21/2014
<b>Pre-Deployment On Deck Instrument Failures:</b> None	
<b>Sensors/Equipment Lost at Sea:</b> None	
<b>Sensors Damaged During Deployment:</b> None	
<b>General Comments:</b> Routine deployment.	

<b>Buoy Site:</b> 0 110W ADCP			
<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> EA020	
<b>Deployed Location:</b> 00 01.156N/109 56.203W		<b>Deployed Date:</b> 3/29/2013	
<b>Recovered Location:</b> 00 01.15N/109 56.20W		<b>Recovered Date:</b> 6/21/2014	
<b>Sensors/Equipment Lost at Sea:</b> None			
<b>Sensors Damaged/Fouled:</b> None			
<b>Fishing/Vandalism:</b> First Vectran spool had abrasions from lone line.			
<b>Sensors/Tubes Downloaded:</b> Sent to lab for download.			
<b>General Comments:</b> NONE			
<b>Site Sensor Failures</b>	<b>Date Data Flagged</b>	<b>Why Data Flagged</b>	<b>Field Service Observations</b>
N/A	N/A	N/A	N/A

<b>Buoy Site:</b> 0 110W ADCP		<b>Mooring Depth:</b> 3805m	
<b>Mooring Operation:</b> Deployment		<b>Mooring ID#:</b> EA021	
<b>Deployed Location:</b> 00 00.91N/109 55.82W		<b>Deployed Date:</b> 6/22/2014	
<b>Pre-Deployment On Deck Instrument Failures:</b> None			
<b>Sensors/Equipment Lost at Sea:</b> None			
<b>Sensors Damaged During Deployment:</b> None			
<b>General Comments:</b> None			

<b>Buoy Site:</b> 2N 110W REFRESH			
<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> DM049A	
<b>Deployed Location:</b> 02 02.205N/110 03.187W		<b>Deployed Date:</b> 3/28/2013	
<b>Recovered Location:</b> 02 02.1N/110 03.3W		<b>Recovered Date:</b> 6/22/2014	
<b>Sensors/Equipment Lost at Sea:</b> Anemometer			
<b>Sensors Damaged/Fouled:</b> SSC, T20, T40. T2-Clamp broke and slid to 40m.			
<b>Fishing/Vandalism:</b> Marks in the nilspin indicating long line, no line found.			
<b>Sensors/Tubes Downloaded:</b> T60 – TP500 downloaded successfully, No Comms with other subsurface sensors.			
<b>General Comments:</b> None			
<b>Site Sensor Failures</b>	<b>Date Data Flagged</b>	<b>Why Data Flagged</b>	<b>Field Service Observations</b>

SSC	06/13/14	Data missing	Fouled, no comms
RH	04/09/13	Data too high	None
Winds	04/14/13	WDIR erratic	Upper stanchion missing, Lost at sea
T20	02/01/14	Data missing	Slid down nilspin to 40m, fouled, no comms
T40	09/15/13	Data missing	Fouled, no comms
T60-T500	06/07/14	Excessive spiking	None

<b>Buoy Site:</b> 2N 110W REFRESH		<b>Mooring Depth:</b> 3758m	
<b>Mooring Operation:</b> Deployment		<b>Mooring ID#:</b> DM073A	
<b>Deployed Location:</b> 02 02.273N/110 01.889W		<b>Deployed Date:</b> 6/22/2014	
<b>Pre-Deployment On Deck Instrument Failures:</b> None			
<b>Sensors/Equipment Lost at Sea:</b> None			
<b>Sensors Damaged During Deployment:</b> None			
<b>General Comments:</b> Routine deployment.			

<b>Buoy Site:</b> 5N 110W REFRESH			
<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> DM048A	
<b>Deployed Location:</b> 04 59.66N/110 04.64W		<b>Deployed Date:</b> 3/26/2013	
<b>Recovered Location:</b> 04 59.706N/110 05.669W		<b>Recovered Date:</b> 6/23/2014	
<b>Sensors/Equipment Lost at Sea:</b> All Met sensors lost at sea.			
<b>Sensors Damaged/Fouled:</b> SSC, T20, T40 fouled. T20's clamp broke and slid to 40m.			
<b>Fishing/Vandalism:</b> Tower missing, subsurface cables ripped in half.			
<b>Sensors/Tubes Downloaded:</b> All recovered sensors were downloaded successfully.			
<b>General Comments:</b> Had to triangulate the buoy to find it.			
<b>Site Sensor Failures</b>	<b>Date Data Flagged</b>	<b>Why Data Flagged</b>	<b>Field Service Observations</b>
Buoy	08/07/13	Data missing, transmit failure	Tower missing, tube lost at sea
Winds	03/29/13	Stanchion collapsed	Tower missing, lost at sea

<b>Buoy Site:</b> 5N 110W REFRESH		<b>Mooring Depth:</b> 4240m	
<b>Mooring Operation:</b> Deployment		<b>Mooring ID#:</b> DM074A	
<b>Deployed Location:</b> 05 00.029N/110 03.878W		<b>Deployed Date:</b> 6/24/2014	
<b>Pre-Deployment On Deck Instrument Failures:</b> None			

<b>Sensors/Equipment Lost at Sea:</b> None
<b>Sensors Damaged During Deployment:</b> None
<b>General Comments:</b> Routine deployment.

<b>Buoy Site:</b> 8N 110W ATLAS			
<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> QM014A	
<b>Deployed Location:</b> 08 02.139N/110 09.825W		<b>Deployed Date:</b> 3/25/2013	
<b>Recovered Location:</b> 08 02.2N/110 10.0W		<b>Recovered Date:</b> 6/24/2014	
<b>Sensors/Equipment Lost at Sea:</b> T180			
<b>Sensors Damaged/Fouled:</b> TP300 Slid to 500m.			
<b>Fishing/Vandalism:</b> None.			
<b>Sensors/Tubes Downloaded:</b> No Comms with T20, T100. All other sensors downloaded successfully.			
<b>General Comments:</b> None			
<b>Site Sensor Failures</b>	<b>Date Data Flagged</b>	<b>Why Data Flagged</b>	<b>Field Service Observations</b>
ATMP/RH	05/12/14	Data too high	None
Winds	10/01/13	WDIR off 30°	None
SSC	02/26/14	Data missing	None
T20	11/08/13	Data missing	No comms
T180	08/27/13	Data missing	Lost at sea
TP300	04/17/14	Slid to 500m depth	Sensor slid down nilspin to 500m

<b>Buoy Site:</b> 8N 110W REFRESH		<b>Mooring Depth:</b> 4214m	
<b>Mooring Operation:</b> Deployment		<b>Mooring ID#:</b> DM075A	
<b>Deployed Location:</b> 08 02.17N/110 08.62W		<b>Deployed Date:</b> 6/25/2014	
<b>Pre-Deployment On Deck Instrument Failures:</b> None			
<b>Sensors/Equipment Lost at Sea:</b> None			
<b>Sensors Damaged During Deployment:</b> None			
<b>General Comments:</b> Routine deployment.			

## 2.2 *CTD Casts Completed*

No CTD casts were accomplished during this cruise.

## 2.3 *Ancillary Science Projects Completed on the Cruise*

The following outlines the ancillary science work performed in conjunction with the TAO operations on the cruise:



### Pacific Marine Environmental Laboratory (PMEL) Argo Profiling CTD Floats

Eight (8) Argo floats were scheduled for deployment on this cruise. The chief scientist verified and briefed the Operations Officer on the deployment positions prior to the start of the cruise. All Argo Float deployments were completed as scheduled.

Questions concerning ARGO Floats should be directed to:

Gregory Johnson, NOAA/PMEL  
Tel: (206) 526-6806  
E-mail: [pmel\\_floats@noaa.gov](mailto:pmel_floats@noaa.gov)

or

Elizabeth Steffen, NOAA/PMEL  
Tel: (206) 526-6747  
E-mail: [pmel\\_floats@noaa.gov](mailto:pmel_floats@noaa.gov)

The following outlines the Argo floats deployed during the cruise:

<b>ARGO Floats</b>			
<b>Coordinates</b>	<b>Date</b>	<b>SN#</b>	<b>Comments</b>
03 00.003N 95 00.046W	6/16/2014	0223#2	
00 59.747N 95 16.707W	6/17/2014	F0314	
00 00.042S 95 27.205W	6/17/2014	F0315	
00 00.002N 104 00.000W	6/20/2014	F0316	
00 00.004S 106 59.985W	6/20/2014	F0318	
00 00.104N 110 00.16W	6/21/2014	F0317	
00 59.9N 110 00.1W	6/22/2014	F0319	
03 00.0N 110 00.0W	6/22/2014	F0325	

### Atlantic Oceanographic and Meteorological Laboratory (AMOL) Surface Drifting Floats

Twenty (20) AOML Surface Drifters were scheduled for deployment on this cruise. The chief scientist verified and briefed the Operations Officer on the deployment positions prior to the start of the cruise. All AOML Surface Drifter deployments were completed as scheduled.

Questions concerning AOML Surface Drifters should be directed to:

Shaun Dolk, NOAA/AOML  
Global Drifter Center,  
Tel: (305) 361-4546  
Fax: (305) 361-4436  
E-mail: [shaun.dolk@noaa.gov](mailto:shaun.dolk@noaa.gov)

The following outlines the AOML Drifting floats deployed during this cruise:

<b>AOML Floats</b>			
<b>Coordinates</b>	<b>Date</b>	<b>SN#</b>	<b>Comments</b>
04 00.000N 95 00.0W	6/16/2014	133234	
03 59.964N 95 00.0W	6/16/2014	133232	
03 00.003N 95 00.0W	6/16/2014	133223	
03 00.003N 95 00.0W	6/16/2014	133227	
02 00.00N 95 18.7W	6/16/2014	133224	
02 00.00N 95 18.7W	6/16/2014	133226	
01 00.00N 95 16.7W	6/17/2014	133216	
00 59.842N 95 16.7W	6/17/2014	133214	
00 00.042S 95 27.205W	6/17/2014	133212	
00 00.042S 95 27.205W	6/17/2014	133219	
00 00.001S 110 00.5W	6/21/2014	133208	
00 00.005S 110 00.5W	6/21/2014	133233	
00 59.9N 110 00.1W	6/22/2014	133215	
00 59.9N 110 00.1W	6/22/2014	133230	
02 01.3N 110 00.2W	6/22/2014	133231	
02 01.3N 110 00.2W	6/22/2014	133217	
03 00.0N 110 00.0W	6/23/2014	133213	
03 00.0N 110 00.0W	6/23/2014	133218	
04 00.0N 110 00.0W	6/23/2014	133228	
04 00.0N 110 00.0W	6/23/2014	133229	