

# TA-16-02-BLFN Trip Report

Date: October 16, 2016

To: Charles Stewart

File No.:

From: James Rauch

Subject: Field Operations for TAO and DART

Cruise Instructions: TA-16-02-BLFN

Team Members: James Rauch, Adam Herrin, Lee Tretbar, Rodney Watkins, Daniel Pounder

Itinerary: Apia, Samoa to Honolulu, Hawaii

Cruise Dates: September 26 – October 12, 2016

Reason for Trip: To service TAO buoys along the 155W and DART station 51407.

## **Accomplishments:**

Days at Sea: 16

Meridian: 155W

Recoveries: 9 Buoy

Deployments: 8 Buoy

Total number of CTD's: 0

ARGO Float Deployments: 5

AOML Float Deployments: 15

## **Problems Encountered; Safety, Technical and Quality:**

NDBC:

The Buoy Connector software has been fixed and works correctly.

The wireless communications box failed at the start of the cruise. We were able to use a small USB device to communicate with each system but had very limited range.

We discovered a problem with the IMM communications box. A wireless radio (walkie-talkie) will interfere and create noise in the line preventing the subsurface sensors from communicating properly. The fix is to simply turn off the radio.

At 8n155w, the subsurface sensors on the mooring failed upon deployment. We recovered the buoy, secured it on deck, and replaced the 'top section'.

## Cruise Summary

<b>Buoy Site:</b> 8S 155W	
<b>Mooring Operation:</b> Recovery	<b>Mooring ID#:</b> DM156A
<b>Deployed Location:</b> 08 16.735S / 155 02.697W	<b>Deployed Date:</b> 12/10/15
<b>Recovered Location:</b> 08 16.5S / 155 03.7W	<b>Recovered Date:</b> 9/30/16
<b>Sensors/Equipment Lost at Sea:</b> None	
<b>Sensors Damaged/Fouled:</b> SSC, T25 fouled.	
<b>Fishing/Vandalism:</b> None	
<b>General Comments:</b> 50m and 75m sensors swapped from deployment.	

<b>Buoy Site:</b> 8S 155W	<b>Mooring Depth:</b> 5336m
<b>Mooring Operation:</b> Deployment	<b>Mooring ID#:</b> DM211A
<b>Deployed Location:</b> 08 16.788S / 155 02.831W	<b>Deployed Date:</b> 10/1/16
<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> 5S 155W	
<b>Mooring Operation:</b> Recovery	<b>Mooring ID#:</b> DM157A
<b>Deployed Location:</b> 04 58.697S / 154 57.023W	<b>Deployed Date:</b> 12/11/15
<b>Recovered Location:</b> 04 58.6S / 154 58.8W	<b>Recovered Date:</b> 10/2/16
<b>Sensors/Equipment Lost at Sea:</b> None	
<b>Sensors Damaged/Fouled:</b> SSC, T50 fouled.	
<b>Fishing/Vandalism:</b> Long line gear wrapped around sensor at 250m.	
<b>General Comments:</b> None	

<b>Buoy Site:</b> 5S 155W	<b>Mooring Depth:</b> 5036m
<b>Mooring Operation:</b> Deployment	<b>Mooring ID#:</b> DM212A
<b>Deployed Location:</b> 04 58.3S / 154 59.6W	<b>Deployed Date:</b> 10/2/16
<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> 2S 155W	
<b>Mooring Operation:</b> Recovery	<b>Mooring ID#:</b> DM158A
<b>Deployed Location:</b> 01 58.02S / 154 59.43W	<b>Deployed Date:</b> 12/12/15
<b>Recovered Location:</b> 01 58.4S / 155 01.2W	<b>Recovered Date:</b> 10/3/16
<b>Sensors/Equipment Lost at Sea:</b> None	

<b>Sensors Damaged/Fouled:</b> SSC, T25 fouled.
<b>Fishing/Vandalism:</b> Cut to wire.
<b>General Comments:</b> None

<b>Buoy Site:</b> 2S 155W	<b>Mooring Depth:</b> 4985m
<b>Mooring Operation:</b> Deployment	<b>Mooring ID#:</b> DM213A
<b>Deployed Location:</b> 01 58.4S / 154 59.5W	<b>Deployed Date:</b> 10/3/16
<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> 0 155W	
<b>Mooring Operation:</b> Recovery	<b>Mooring ID#:</b> DM159A
<b>Deployed Location:</b> 00 00.004S / 155 55.431W	<b>Deployed Date:</b> 12/13/15
<b>Recovered Location:</b> 0 00.3S / 154 55.2W	<b>Recovered Date:</b> 10/4/16
<b>Sensors/Equipment Lost at Sea:</b> None	
<b>Sensors Damaged/Fouled:</b> None	
<b>Fishing/Vandalism:</b> Long line gear wrapped around sensor at 125m mark.	
<b>General Comments:</b> None	

<b>Buoy Site:</b> 0 155W	<b>Mooring Depth:</b> 4635m
<b>Mooring Operation:</b> Deployment	<b>Mooring ID#:</b> DM214A
<b>Deployed Location:</b> 00 00.1S / 155 56.2W	<b>Deployed Date:</b> 10/4/16
<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> CO2 System #128, Battery #132, Antenna #019.	

<b>Buoy Site:</b> 2N 155W	
<b>Mooring Operation:</b> Recovery	<b>Mooring ID#:</b> DM160A
<b>Deployed Location:</b> 01 59.533N / 154 58.133W	<b>Deployed Date:</b> 12/14/15
<b>Recovered Location:</b> 02 00.0N / 154 58.1W	<b>Recovered Date:</b> 10/5/16
<b>Sensors/Equipment Lost at Sea:</b> Anemometer	
<b>Sensors Damaged/Fouled:</b> SSC-T50 fouled.	
<b>Fishing/Vandalism:</b> None	
<b>General Comments:</b> Upper stanchion broken off at first hose clamp.	

<b>Buoy Site:</b> 2N 155W	<b>Mooring Depth:</b> 4661m
<b>Mooring Operation:</b> Deployment	<b>Mooring ID#:</b> DM215A
<b>Deployed Location:</b> 01 59.5N / 154 59.3W	<b>Deployed Date:</b> 10/5/16

<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> 5.2N 155W (PMEL PICO)	
<b>Mooring Operation:</b> Recovery	<b>Mooring ID#:</b> ???
<b>Recovered Location:</b> 5 16.534N / 154 56.683W	<b>Recovered Date:</b> 10/6/16
<b>Sensors/Equipment Lost at Sea:</b> None	
<b>Sensors Damaged/Fouled:</b> Sonic anemometer damaged on deck.	
<b>Fishing/Vandalism:</b> Cuts to wire on nilspin from long line fishing.	
<b>General Comments:</b> None	

<b>Buoy Site:</b> 5N 155W	
<b>Mooring Operation:</b> Recovery	<b>Mooring ID#:</b> DM161B
<b>Deployed Location:</b> 04 59.839N / 154 56.969W	<b>Deployed Date:</b> 12/15/15
<b>Recovered Location:</b> 5 01.1N / 154 57.5W	<b>Recovered Date:</b> 10/7/16
<b>Sensors/Equipment Lost at Sea:</b> None	
<b>Sensors Damaged/Fouled:</b> SSC- Complete blockage of conductivity cell.	
<b>Fishing/Vandalism:</b> None	
<b>General Comments:</b> None	

<b>Buoy Site:</b> 5N 155W	<b>Mooring Depth:</b> 4585m
<b>Mooring Operation:</b> Deployment	<b>Mooring ID#:</b> DM216A
<b>Deployed Location:</b> 05 00.108N / 155 56.989W	<b>Deployed Date:</b> 10/7/16
<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> Acoustic Release info needs updating, it has been rebuilt with new frequencies command codes.	

<b>Buoy Site:</b> 8N 155W	
<b>Mooring Operation:</b> Recovery	<b>Mooring ID#:</b> DM113A
<b>Deployed Location:</b> 07 57.038N / 154 59.37W	<b>Deployed Date:</b> 11/21/14
<b>Recovered Location:</b> 07 57.9N / 154 58.6W	<b>Recovered Date:</b> 10/8/16
<b>Sensors/Equipment Lost at Sea:</b> None	
<b>Sensors Damaged/Fouled:</b> SSC fouled.	
<b>Fishing/Vandalism:</b> None	
<b>General Comments:</b> Top section severed just above boss fitting.	

<b>Buoy Site:</b> 8N 155W	<b>Mooring Depth:</b> 5225m
<b>Mooring Operation:</b> Deployment	<b>Mooring ID#:</b> DM217A
<b>Deployed Location:</b> 07 57.2N / 154 58.9W	<b>Deployed Date:</b> 10/8/16
<b>Pre-Deployment On Deck Instrument Failures:</b> RH Failed- Too high	
<b>Sensors/Equipment Lost at Sea:</b> None	
<b>Sensors Damaged During Deployment:</b> None	
<b>General Comments:</b> The subsurface sensors on the mooring failed upon deployment. We recovered the buoy, secured it on deck, and replaced the 'top section'. Recovered at 18:45 and Deployed at 19:10.	

<b>Buoy Site:</b> 51407 DART	<b>Mooring Depth:</b> 4738m
<b>Mooring Operation:</b> Buoy Exchange	<b>Mooring ID#:</b> 51407
<b>Deployed Location:</b> 19 33.20N / 156 32.73W	<b>Deployed Date:</b> 10/12/16
<b>Pre-Deployment On Deck Instrument Failures:</b> Payload/Ducer	
<b>Sensors/Equipment Lost at Sea:</b> None	
<b>Sensors Damaged During Deployment:</b> None	
<b>General Comments:</b> Recovered and re-deployed surface buoy on existing mooring.	

<b>AOML Floats</b>			
<b>Coordinates</b>	<b>Date</b>	<b>SN#</b>	<b>Comments</b>
07 59.9S 155 02.9W	10/1/16	62415570	
07 59.9S 155 02.9W	10/1/16	63344380	
04 59.0S 154 58.3W	10/2/16	63345720	
04 59.0S 154 58.3W	10/2/16	63344270	
01 58.4S 154 59.8W	10/3/16	139725	
01 58.4S 154 59.8W	10/3/16	139733	
00 00.2S 154 56.7W	10/4/16	63345730	
00 00.2S 154 56.7W	10/4/16	63122200	
01 59.8N 154 59.3W	10/5/16	63739860	
01 59.8N 154 59.3W	10/5/16	63123200	
05 00.8N 154 56.9W	10/7/16	63347720	
07 57.0N 154 58.8W	10/8/16	63347710	
10 00.0N 155 15.7W	10/9/16	63347460	
12 00.0N 155 31.9W	10/10/16	63347380	
14 00.0N 155 49.6N	10/10/16	63347470	

<b>ARGO Floats</b>			
<b>Coordinates</b>	<b>Date</b>	<b>SN#</b>	<b>Comments</b>
04 59.2S 154 57.9W	10/2/16	F0610	
01 58.4S 154 59.7W	10/3/16	F0611	
00 00.2S 154 56.6W	10/4/16	F0612	
01 59.7N 154 59.2W	10/5/16	F0613	
05 00.7N 154 56.9W	10/7/16	F0614	

<b>NDBC Equipment Lost at Sea</b>		
Property No.	Description	Reason for Lost at Sea
39167	Anemometer	Stanchion Failure (DM160)

### Mission Objectives Summary

<b>Buoy Operations</b>			
Station	Operation	Completed	Not Completed
<b>8S 155W</b>	R/D	X	
<b>5S 155W</b>	R/D	X	
<b>2S 155W</b>	R/D	X	
<b>0 155W</b>	R/D	X	
<b>2S 155W</b>	R/D	X	
<b>5N 155W</b>	R/D	X	
<b>8N 155W</b>	R/D	X	
<b>DART 51407</b>	R/D	X	
Total Objectives		8	
Objectives Completed		8	
Objectives Not Completed		0	
Percent of Objectives Met		100%	