

TROPICAL ATMOSPHERE-OCEAN (TAO) PROGRAM  
FINAL CRUISE REPORT  
KA-10-05

Area: Equatorial Pacific between 8°N and 8°S latitude along 155°W Longitude and 8°S to 8°N Latitude along 170°W Longitude.

Itinerary:

KA-10-05 DEP *September 1, 2010, Honolulu, HI*  
ARR *October 1, 2010, Kwajalein, RMI*

**CRUISE DESCRIPTION**

The Tropical Atmosphere Ocean (TAO) array consists of 70 buoys utilizing a taut line mooring configuration used to mount data collection sensors for climate research purposes. Fifteen buoys are serviced by JAMSTEC and the remaining 55 buoys from 95°W longitude to 165°E longitude are serviced by National Data Buoy Center (NDBC). Repair and maintenance of the buoys is performed by NDBC contracted personnel on an annual basis utilizing the NOAA Ship *Ka'imimoana* and other ships. The buoys' deployment lifecycles are up to 18 months to ensure at least one year of data collection can be completed.

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## TAO Cruise Objective and Plan:

The objective of this cruise was the maintenance of the TAO Array along the 155°W and 170°W meridians.

The scientific complement for the cruise embarked at *Honolulu, HI* on *August 30, 2010*. The ship departed on *September 1, 2010* and conducted operations as listed in Section 2.1. The ship arrived in *Kwajalein, RMI* on *October 1, 2010*.

## 1.0 PERSONNEL

### 1.1 CRUISE LEAD AND PARTICIPATING SCIENTISTS:

Cruise Lead: Dawn Petraitis

Participating Scientists:

Name	Gender	Nationality	Affiliation
Dawn Petraitis	F	US	NOAA/NDBC
James Rauch	M	US	NOAA/NDBC
Alan Lossett	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 155W	<b>Mooring Depth:</b> 5243m
<b>Mooring Operation:</b> Recovery	<b>Mooring ID#:</b> PM810A
<b>Deployed Location:</b> 07 58.7N , 154 59.5W	<b>Deployed Date:</b> 5/9/2009
<b>Recovered Location:</b> 07 58.4N, 155 00.0W	<b>Recovered Date:</b> 9/5/2010
<b>Previous Repair Date:</b> None	
<b>Sensors/Equipment Lost at Sea:</b> None	
<b>Sensors Damaged/Fouled:</b> SSC fouled. Broken mount at 25m.	
<b>Fishing/Vandalism:</b> Fishing line on 4 <sup>th</sup> spool of nylon.	

<b>Sensors/Tubes Downloaded:</b> All sensors downloaded successfully.			
<b>General Comments:</b> No nut or cotter pin on second shackle below bridle.			
<b>Site Sensor Failures</b>	<b>Date Sensors Failed</b>	<b>Why Sensors Failed</b>	<b>Field Service Observations</b>

<b>Buoy Site:</b> 8N 155W	<b>Mooring Depth:</b> 5237m
<b>Mooring Operation:</b> Deployment	<b>Mooring ID#:</b> PM928A
<b>Deployed Location:</b> 07 58.054N, 154 59.578W	<b>Deployed Date:</b> 9/6/2010
<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 155W Refresh	<b>Mooring Depth:</b> 5237m		
<b>Mooring Operation:</b> Repair	<b>Mooring ID#:</b> DM006B		
<b>Deployed Location:</b> 07 54.9N, 154 57.9W	<b>Deployed Date:</b> 1/9/2010		
<b>Repair Location:</b> 07 55.027N, 154 58.132W	<b>Repaired Date:</b> 9/5/2010		
<b>Sensors/Equipment Lost at Sea:</b> None			
<b>Sensors Damaged/Fouled:</b> None			
<b>Fishing Vandalism:</b> None			
<b>Sensors/Tubes Not Downloaded:</b> None			
<b>General Comments:</b> Replaced AT/RH.			
<b>Site Sensor Failures</b>	<b>Date Sensors Failed</b>	<b>Why Sensors Failed</b>	<b>Field Service Observations</b>

<b>Buoy Site:</b> 5N 155W	<b>Mooring Depth:</b> 4603m		
<b>Mooring Operation:</b> Repair	<b>Mooring ID#:</b> PM866B		
<b>Deployed Location:</b> 05 00.3N, 154 54.5W	<b>Deployed Date:</b> 1/11/2010		
<b>Repair Location:</b> 04 59.4N, 154 54.9W	<b>Repaired Date:</b> 9/7/2010		
<b>Sensors/Equipment Lost at Sea:</b> None			
<b>Sensors Damaged/Fouled:</b> None			
<b>Fishing Vandalism:</b> None			
<b>Sensors/Tubes Not Downloaded:</b> Tube successfully downloaded, T1 SN# 12079 not downloaded.			
<b>General Comments:</b> Dive op to replace T1 (25m), downloaded tube.			
<b>Site Sensor Failures</b>	<b>Date Sensors Failed</b>	<b>Why Sensors Failed</b>	<b>Field Service Observations</b>

<b>Buoy Site:</b> 2N 155W		<b>Mooring Depth:</b> 4663m	
<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> PM812A	
<b>Deployed Location:</b> 01 59.166N, 154 57.785W		<b>Deployed Date:</b> 5/12/2009	
<b>Recovered Location:</b> 01 59.15N, 154 58.248W		<b>Recovered Date:</b> 9/7/2010	
<b>Previous Repair Date:</b> None			
<b>Sensors/Equipment Lost at Sea:</b> Anemometer SN# 88404			
<b>Sensors Damaged/Fouled:</b> SSC, T1, and T2 fouled. Broken mounts on T3, T8, TP9, TP10. Module case cracked on TP9.			
<b>Fishing/Vandalism:</b> Bird cage bent, AT/RH bent, mast bent, and cuts in Nilspin.			
<b>Sensors/Tubes Not Downloaded:</b> All sensors were successfully downloaded with the exception of TP9 SN#14762.			
<b>General Comments:</b> Large amount of broken fairings on this mooring.			
<b>Site Sensor Failures</b>	<b>Date Sensors Failed</b>	<b>Why Sensors Failed</b>	<b>Field Service Observations</b>

<b>Buoy Site:</b> 2N 155W		<b>Mooring Depth:</b> 4653m	
<b>Mooring Operation:</b> Deployment		<b>Mooring ID#:</b> PM929A	
<b>Deployed Location:</b> 01 59.102N, 154 56.567W		<b>Deployed Date:</b> 9/8/2010	
<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 155W		<b>Mooring Depth:</b> 4635m	
<b>Mooring Operation:</b> Repair		<b>Mooring ID#:</b> PM867B	
<b>Deployed Location:</b> 00 00.28N, 154 57.3W		<b>Deployed Date:</b> 1/13/2010	
<b>Repair Location:</b> 00 00.167N, 154 57.172W		<b>Repaired Date:</b> 9/9/2010	
<b>Sensors/Equipment Lost at Sea:</b> None			
<b>Sensors Damaged/Fouled:</b> None			
<b>Fishing Vandalism:</b> None			
<b>Sensors/Tubes Not Downloaded:</b> Tube downloaded successfully.			
<b>General Comments:</b> Replaced anemometer, downloaded tube.			
<b>Site Sensor Failures</b>	<b>Date Sensors Failed</b>	<b>Why Sensors Failed</b>	<b>Field Service Observations</b>

<b>Buoy Site:</b> 2S 155W		<b>Mooring Depth:</b> 4987m	
<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> PM813A	
<b>Deployed Location:</b> 01 58.34S, 154 59.57W		<b>Deployed Date:</b> 5/14/2009	
<b>Recovered Location:</b> 01 58.05S, 155 00.668W		<b>Recovered Date:</b> 9/10/2010	
<b>Previous Repair Date:</b> None			
<b>Sensors/Equipment Lost at Sea:</b> T6 SN# 13508, T7 SN# 13609, T8 SN# 13610, TP10 SN# 12204			
<b>Sensors Damaged/Fouled:</b> Broken mounts at 25m, 50m, 200m, and 300m.			
<b>Fishing/Vandalism:</b> Fishing line between 125m and 150m cuts in Nilspin.			
<b>Sensors/Tubes Not Downloaded:</b> All sensors downloaded successfully except T2 SN# 13504 which had no comms.			
<b>General Comments:</b> None			
<b>Site Sensor Failures</b>	<b>Date Sensors Failed</b>	<b>Why Sensors Failed</b>	<b>Field Service Observations</b>

<b>Buoy Site:</b> 2S 155W		<b>Mooring Depth:</b> 4991m	
<b>Mooring Operation:</b> Deployment		<b>Mooring ID#:</b> PM930A	
<b>Deployed Location:</b> 01 58.505S, 154 59.671W		<b>Deployed Date:</b> 9/11/2010	
<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> Two 75m marks, 150m marked as 250m, and no tape mark at 200m on Nilspin.			

<b>Buoy Site:</b> 5S 155W		<b>Mooring Depth:</b> 4939m	
<b>Mooring Operation:</b> Repair		<b>Mooring ID#:</b> PM868B	
<b>Deployed Location:</b> 04 58.8S, 154 58.0W		<b>Deployed Date:</b> 1/16/2010	
<b>Repair Location:</b> 04 59.511S, 154 59.161W		<b>Repaired Date:</b> 9/11/2010	
<b>Sensors/Equipment Lost at Sea:</b> None			
<b>Sensors Damaged/Fouled:</b> None			
<b>Fishing Vandalism:</b> None			
<b>Sensors/Tubes Not Downloaded:</b> Tube downloaded successfully, T1 SN# 12361 was not downloaded.			
<b>General Comments:</b> Dive op to replace T1 (25m), pickle fork SSC. Downloaded tube.			
<b>Site Sensor Failures</b>	<b>Date Sensors Failed</b>	<b>Why Sensors Failed</b>	<b>Field Service Observations</b>

<b>Buoy Site:</b> 8S 155W	<b>Mooring Depth:</b> 5338m
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<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> PM814B	
<b>Deployed Location:</b> 08 15.426S, 154 59.537W		<b>Deployed Date:</b> 11/29/2009	
<b>Recovered Location:</b> 08 15.37S, 154 59.904W		<b>Recovered Date:</b> 9/12/2010	
<b>Previous Repair Date:</b> None			
<b>Sensors/Equipment Lost at Sea:</b> None			
<b>Sensors Damaged/Fouled:</b> None			
<b>Fishing/Vandalism:</b> Fishing float attached to buoy, fishing line on mooring.			
<b>Sensors/Tubes Not Downloaded:</b> All sensors downloaded successfully.			
<b>General Comments:</b> Routine recovery			
<b>Site Sensor Failures</b>	<b>Date Sensors Failed</b>	<b>Why Sensors Failed</b>	<b>Field Service Observations</b>

<b>Buoy Site:</b> 8S 155W		<b>Mooring Depth:</b> 5335m	
<b>Mooring Operation:</b> Deployment		<b>Mooring ID#:</b> PM931A	
<b>Deployed Location:</b> 08 15.762S, 155 00.262W		<b>Deployed Date:</b> 3/16/2010	
<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> 8S 170W		<b>Mooring Depth:</b> 5371m	
<b>Mooring Operation:</b> Visit		<b>Mooring ID#:</b> PM869A	
<b>Deployed Location:</b> 07 59.247S, 170 01.118W		<b>Deployed Date:</b> 1/28/2010	
<b>Visit Location:</b> 07 58.5S, 170 00.791W		<b>Visit Date:</b> 9/16/2010	
<b>Sensors/Equipment Lost at Sea:</b> None			
<b>Sensors Damaged/Fouled:</b> None			
<b>Fishing Vandalism:</b> None			
<b>General Comments:</b> Buoy riding well in the water.			
<b>Site Sensor Failures</b>	<b>Date Sensors Failed</b>	<b>Why Sensors Failed</b>	<b>Field Service Observations</b>

<b>Buoy Site:</b> 5S 170W		<b>Mooring Depth:</b> 5417m	
<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> PM816A	
<b>Deployed Location:</b> 05 00.0S, 169 59.5W		<b>Deployed Date:</b> 5/30/2009	
<b>Recovered Location:</b> 04 59.04S, 170 01.683W		<b>Recovered Date:</b> 9/17/2010	
<b>Previous Repair Date:</b> None			
<b>Sensors/Equipment Lost at Sea:</b> T5 SN#13605, TP10 SN# 12270			

<b>Sensors Damaged/Fouled:</b> Anemometer SN# 22521, mast damaged. SSC SN# 11930.			
<b>Fishing/Vandalism:</b> Lots of fishing line through out entire mooring length.			
<b>Sensors/Tubes Not Downloaded:</b> All sensors downloaded successfully except Tube SN# 700-no comms, T1 SN# 13601-no comms.			
<b>General Comments:</b> Anemometer tail fin broken off and not fully seated on mast. Blue paint on anemometer suggests that it was struck by a vessel, causing the damage.			
<b>Site Sensor Failures</b>	<b>Date Sensors Failed</b>	<b>Why Sensors Failed</b>	<b>Field Service Observations</b>

<b>Buoy Site:</b> 5S 170W	<b>Mooring Depth:</b> 5417m
<b>Mooring Operation:</b> Deployment	<b>Mooring ID#:</b> PM932A
<b>Deployed Location:</b> 04 59.620S, 170 00.579W	<b>Deployed Date:</b> 9/18/2010
<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> Long line gear was spotted across our track line and had to circle around to an adjusted track line and then continued deployment. Fishing vessels were in the area but did not respond when hailed over the radio.	

<b>Buoy Site:</b> 5S 170W Refresh	<b>Mooring Depth:</b> 5417m		
<b>Mooring Operation:</b> Recovery	<b>Mooring ID#:</b> DM001B		
<b>Deployed Location:</b> 04 58.3S, 169 57.1W	<b>Deployed Date:</b> 5/29/2009		
<b>Recovered Location:</b> 04 58.1S, 169 59.4W	<b>Recovered Date:</b> 9/18/2010		
<b>Previous Repair Date:</b> None			
<b>Sensors/Equipment Lost at Sea:</b> None			
<b>Sensors Damaged/Fouled:</b> SSC PN# 26452 fouled. T1 PN#27196 and T2 PN# 25345 sensor mounts loose. T5 PN# 25333 sensor mount twisted.			
<b>Fishing/Vandalism:</b> Cuts in Nilspin.			
<b>Sensors/Tubes Not Downloaded:</b> All sensors downloaded successfully except SSC PN# 26452, T2 PN# 25345, T4 PN# 25414, T5 PN# 25333, T7 PN#25423			
<b>General Comments:</b> Release would not respond properly. Cuts to SSC and inductive modem cables at bottom of tower leg, pictures taken. Anemometer alignment pin corroded 50%.			
<b>Site Sensor Failures</b>	<b>Date Sensors Failed</b>	<b>Why Sensors Failed</b>	<b>Field Service Observations</b>

<b>Buoy Site:</b> 2S 170W	<b>Mooring Depth:</b> 4962m
<b>Mooring Operation:</b> Recovery	<b>Mooring ID#:</b> PM870A
<b>Deployed Location:</b> 02 09.2S, 170 00.9W	<b>Deployed Date:</b> 2/2/2010

<b>Recovered Location:</b> 02 09.66S, 170 00.965W		<b>Recovered Date:</b> 9/19/2010	
<b>Previous Repair Date:</b> None			
<b>Sensors/Equipment Lost at Sea:</b> None			
<b>Sensors Damaged/Fouled:</b> None			
<b>Fishing/Vandalism:</b> Fishing line around shackles between 3 <sup>rd</sup> and 4 <sup>th</sup> spools of nylon and continued down 100m.			
<b>Sensors/Tubes Not Downloaded:</b> All sensors downloaded successfully.			
<b>General Comments:</b> None			
<b>Site Sensor Failures</b>	<b>Date Sensors Failed</b>	<b>Why Sensors Failed</b>	<b>Field Service Observations</b>

<b>Buoy Site:</b> 2S 170W		<b>Mooring Depth:</b> 4962m	
<b>Mooring Operation:</b> Deployment		<b>Mooring ID#:</b> PM933A	
<b>Deployed Location:</b> 02 10.123S, 170 00.317W		<b>Deployed Date:</b> 9/20/2010	
<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 170W Refresh		<b>Mooring Depth:</b> 4953m	
<b>Mooring Operation:</b> Visit		<b>Mooring ID#:</b> DM007A	
<b>Deployed Location:</b> 02 09.6S, 170 02.7W		<b>Deployed Date:</b> 2/2/2010	
<b>Visit Location:</b> 02 10.02S, 170 02.18W		<b>Visit Date:</b> 9/19/2010	
<b>Sensors/Equipment Lost at Sea:</b> None			
<b>Sensors Damaged/Fouled:</b> None			
<b>Fishing Vandalism:</b> None			
<b>General Comments:</b> None			
<b>Site Sensor Failures</b>	<b>Date Sensors Failed</b>	<b>Why Sensors Failed</b>	<b>Field Service Observations</b>

<b>Buoy Site:</b> 0 170W		<b>Mooring Depth:</b> 5609m	
<b>Mooring Operation:</b> Repair		<b>Mooring ID#:</b> PM871B	
<b>Deployed Location:</b> 00 01.298S, 170 02.785W		<b>Deployed Date:</b> 2/3/2010	
<b>Repair Location:</b> 00 02.9S, 170 02.4W		<b>Repaired Date:</b> 9/20/2010	
<b>Sensors/Equipment Lost at Sea:</b> None			
<b>Sensors Damaged/Fouled:</b> None			
<b>Fishing Vandalism:</b> None			
<b>Sensors/Tubes Not Downloaded:</b> All sensors downloaded successfully.			
<b>General Comments:</b> Replaced Anemometer, Shortwave Radiation. Dive op to replace TC11 (10m). Downloaded tube.			



Site Sensor Failures	Date Sensors Failed	Why Sensors Failed	Field Service Observations

<b>Buoy Site:</b> 0 170W ADCP		<b>Mooring Depth:</b> 5439m	
<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> KA014	
<b>Deployed Location:</b> 00 00.349S, 169 44.003W		<b>Deployed Date:</b> 6/2/2010	
<b>Recovered Location:</b> 00 00.35S, 169 44.003W		<b>Recovered Date:</b> 9/21/2010	
<b>Previous Repair Date:</b> None			
<b>Sensors/Equipment Lost at Sea:</b> None			
<b>Sensors Damaged/Fouled:</b> None			
<b>Fishing/Vandalism:</b> Long liner gear on 1 <sup>st</sup> spool of Vectran.			
<b>Sensors/Tubes Not Downloaded:</b> All sensors downloaded successfully.			
<b>General Comments:</b> None			
Site Sensor Failures	Date Sensors Failed	Why Sensors Failed	Field Service Observations

<b>Buoy Site:</b> 0 170W ADCP		<b>Mooring Depth:</b> 5443m	
<b>Mooring Operation:</b> Deployment		<b>Mooring ID#:</b> KA015	
<b>Deployed Location:</b> 00 00.251S, 169 44.093W		<b>Deployed Date:</b> 9/21/2010	
<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 170W		<b>Mooring Depth:</b> 5387m	
<b>Mooring Operation:</b> Repair		<b>Mooring ID#:</b> PM872B	
<b>Deployed Location:</b> 02 00.9N, 170 00.1W		<b>Deployed Date:</b> 2/4/2010	
<b>Repair Location:</b> 02 00.6N, 170 02.1W		<b>Repaired Date:</b> 9/22/2010	
<b>Sensors/Equipment Lost at Sea:</b> None			
<b>Sensors Damaged/Fouled:</b> None			
<b>Fishing Vandalism:</b> None			
<b>Sensors/Tubes Not Downloaded:</b> Tube downloaded successfully.			
<b>General Comments:</b> Replaced Anemometer. Downloaded tube.			
Site Sensor Failures	Date Sensors Failed	Why Sensors Failed	Field Service Observations

<b>Buoy Site:</b> 2N 170W Refresh	<b>Mooring Depth:</b> 5396m
<b>Mooring Operation:</b> Deployment	<b>Mooring ID#:</b> DM012A
<b>Deployed Location:</b> 01 58.227N, 170 01.536W	<b>Deployed Date:</b> 9/22/2010
<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> Fairings not installed on the mooring.	

<b>Buoy Site:</b> 5N 170W	<b>Mooring Depth:</b> 5790m		
<b>Mooring Operation:</b> Recovery	<b>Mooring ID#:</b> PM818A		
<b>Deployed Location:</b> 04 59.5N, 159 58.4W	<b>Deployed Date:</b> 6/4/2009		
<b>Recovered Location:</b> 05 01.44N, 169 58.790W	<b>Recovered Date:</b> 9/23/2010		
<b>Previous Repair Date:</b> None			
<b>Sensors/Equipment Lost at Sea:</b> T1 SN# 14682, T2 SN# 14683, T3 SN# 14684, T4 SN# 14685 T5 SN# 14686, T6 SN# 14687, T7 SN# 14688, T8 SN# 14689, TP9 SN# 13830, TP10 SN# 13831			
<b>Sensors Damaged/Fouled:</b> SSC SN# 13570			
<b>Fishing/Vandalism:</b> None			
<b>Sensors/Tubes Not Downloaded:</b> All inductive sensors lost.			
<b>General Comments:</b> Release did not respond properly and apparently never released. Yale grip slipped off Nilspin under extreme tension just as it was about to go through the block. Lost mooring.			
<b>Site Sensor Failures</b>	<b>Date Sensors Failed</b>	<b>Why Sensors Failed</b>	<b>Field Service Observations</b>

<b>Buoy Site:</b> 5N 170W	<b>Mooring Depth:</b> 5767m
<b>Mooring Operation:</b> Deployment	<b>Mooring ID#:</b> PM934A
<b>Deployed Location:</b> 04 59.9N, 170 00.340W	<b>Deployed Date:</b> 9/24/2010
<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> Wind direction off 30 degrees on initial flyby, hopped buoy to exchange anemometer. No fathometer reading on flyby, used anchor depth survey for final depth.	

<b>Buoy Site:</b> 8N 170W	<b>Mooring Depth:</b> 5547m
<b>Mooring Operation:</b> Visit	<b>Mooring ID#:</b> PM883A
<b>Deployed Location:</b> 08 00.305N, 170 02.320W	<b>Deployed Date:</b> 3/14/2010
<b>Visit Location:</b> 08 00.2N, 170 01.908W	<b>Visit Date:</b> 9/25/2010

<b>Sensors/Equipment Lost at Sea:</b> None			
<b>Sensors Damaged/Fouled:</b> None			
<b>Fishing Vandalism:</b> None			
<b>General Comments:</b> SSC data missing on flyby.			
<b>Site Sensor Failures</b>	<b>Date Sensors Failed</b>	<b>Why Sensors Failed</b>	<b>Field Service Observations</b>

## 2.2 *CTD Casts Completed*

A Sea-Bird 911plus CTD with dual temperature and conductivity sensors was provided by the NMAO. Temperature and conductivity sensors are calibrated yearly at Sea-Bird and sent in for diagnostics as necessary. A Sea-Bird 12-position carousel and twelve 5-liter Niskin bottles were used to collect water samples for the analysis of salinity.

The following outlines the CTD casts completed during the cruise:

<b>CTD Operations</b>			
<b>Coordinates</b>	<b>Date</b>	<b>Cast #</b>	<b>Comments</b>
07 58.083N 154 56.106W	9/5/2010	KA50011	3000m
07 00.212N 154 57.522W	9/6/2010	KA50021	1000m
05 59.971N 154 55.889W	9/6/2010	KA50031	1000m
05 00.476N 154 55.271W	9/7/2010	KA50041	1000m
04 00.210N 154 56.459W	9/7/2010	KA50051	1000m
02 59.956N 154 57.479W	9/7/2010	KA50061	1000m
01 58.387N 154 58.006W	9/8/2010	KA50071	1000m
01 00.298N 154 57.896W	9/9/2010	KA50081	1000m
00 01.444N 154 58.878W	9/9/2010	KA50091	3000m
00 59.986S 154 58.595W	9/10/2010	KA50101	1000m
01 56.932S 155 03.747W	9/10/2010	KA50111	1000m
03 00.247S 155 00.145W	9/11/2010	KA50121	1000m
03 59.954S 155 00.431W	9/11/2010	KA50131	1000m
04 58.564S 154 59.730W	9/12/2010	KA50141	1000m
05 59.460S 154 58.568W	9/12/2010	KA50151	1000m
06 59.768S 154 59.098W	9/12/2010	KA50161	1000m
08 14.463S 155 02.086W	9/13/2010	KA50171	3000m
07 55.204S 170 00.158W	9/16/2010	KA50181	3000m
06 59.760S 170 01.543W	9/17/2010	KA50191	1000m
06 00.129S 170 01.563W	9/17/2010	KA50201	1000m
04 59.251S 170 04.050W	9/17/2010	KA50211	1000m
03 59.945S 170 01.735W	9/19/2010	KA50221	1000m

02 59.416S 170 02.147W	9/19/2010	KA50231	1000m
02 08.568S 169 59.712W	9/20/2010	KA50241	1000m
01 00.225S 170 01.356W	9/20/2010	KA50251	1000m
00 04.325S 170 03.050W	9/20/2010	KA50261	3000m
01 00.015N 169 52.870W	9/21/2010	KA50271	1000m
01 57.951N 170 03.707W	9/22/2010	KA50281	1000m
03 00.056N 170 01.419W	9/22/2010	KA50291	1000m
03 59.895N 170 00.419W	9/22/2010	KA50301	1000m
05 00.665N 170 01.303W	9/23/2010	KA50311	1000m
05 59.738N 169 59.878W	9/24/2010	KA50321	1000m
06 59.623N 170 00.817W	9/24/2010	KA50331	1000m
07 58.469N 170 00.013W	9/25/2010	KA50341	3000m

### 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

One (1) Argo float was 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>
00 02.813S 170 03.010W	9/20/2010	4675	

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

Five 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>
05 00.386N 154 54.435W	9/7/2010	90537	
03 00.389N 154 57.651W	9/7/2010	90558	
00 00.072S 154 57.356W	9/9/2010	90555	
03 00.453S 155 00.669W	9/11/2010	90536	
04 58.588S 154 59.550W	9/12/2010	90563	
04 55.924S 170 07.148W	9/18/2010	90560	
02 59.032S 170 02.403W	9/19/2010	90557	
00 02.765S 170 02.981W	9/20/2010	90562	
03 01.464N 170 02.445W	9/22/2010	90564	
05 00.671N 169 59.757W	9/24/2010	90539	