

TROPICAL ATMOSPHERE-OCEAN (TAO) PROGRAM  
FINAL CRUISE REPORT  
TT-15-01

Area: Equatorial Pacific: 8°N 95°W to 8°S 95°W and 8°S 110°W to 8°N 110°W

Itinerary:

TT-15-01            DEP   *April 6, 2015, San Diego, CA*  
                          ARR   *May 11, 2015, San Diego, CA*

**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 Ships and other contract vessels.

**NDBC Points of Contact**

NDBC Operations Branch Chief	NDBC Operations Manager
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TAO Cruise Objective and Plan:

The objective of this cruise was the maintenance of the TAO Array along the 95°W and 110°W meridians. DART station 32413 surface buoy was also deployed on this cruise.

The scientific complement for the cruise embarked at San Diego, CA on April 5, 2015. The ship departed on April 6, 2015 and conducted operations as listed in Section 2.1. The ship arrived at San Diego on May 11, 2015.

**1.0 PERSONNEL**

1.1 CRUISE LEAD AND PARTICIPATING SCIENTISTS:

Cruise Lead: Brian Lake

Participating Scientists:

Name	Gender	Nationality	Affiliation
Brian Lake	M	US	NOAA/NDBC
James Rauch	M	US	NOAA/NDBC
John Blackmon	M	US	NOAA/NDBC
David Bell	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):

**TAO Cruise Summary**

<b>Buoy Site:</b> 8N 95W			
<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> DM068A	
<b>Deployed Location:</b> 08-01.131N/094-56.76W		<b>Deployed Date:</b> 6/14/14	
<b>Recovered Location:</b> 08-00.6N/094-57.8W		<b>Recovered Date:</b> 4/13/15	
<b>Sensors/Equipment Lost at Sea:</b> NA			
<b>Sensors Damaged/Fouled:</b> SSC, T20-T40 fouled. Several sensors out of their mounts.			
<b>Fishing/Vandalism:</b> longline in bridle and topsection.			
<b>General Comments:</b>			
<b>Site Sensor Failures</b>	<b>Date Data Flagged</b>	<b>Why Data Flagged</b>	<b>Field Service Observations</b>
Relative Humidity	1/26/15	Erratic	None
T40	1/17/15	Data Missing	Sensor Fouled
T20	12/6/14	Data Missing	Sensor Fouled

<b>Buoy Site:</b> 8N 95W	<b>Mooring Depth:</b> 3684 m
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<b>Mooring Operation:</b> Deployment	<b>Mooring ID#:</b> DM127A
<b>Deployed Location:</b> 08-01.87N/094-57.9W	<b>Deployed Date:</b> 4/13/15
<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 95W			
<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> DM069A	
<b>Deployed Location:</b> 04-57.735N/094-59.635W		<b>Deployed Date:</b> 6/15/14	
<b>Recovered Location:</b> 04-57.6N/094-59.5W		<b>Recovered Date:</b> 4/14/15	
<b>Sensors/Equipment Lost at Sea:</b> NA			
<b>Sensors Damaged/Fouled:</b> SSC, T20-T60 fouled. Several sensors out of their mount.			
<b>Fishing/Vandalism:</b> Bent upper anemometer mast, longline gear in nylon			
<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>
None			

<b>Buoy Site:</b> 5N 95W		<b>Mooring Depth:</b> 3510 m	
<b>Mooring Operation:</b> Deployment		<b>Mooring ID#:</b> DM128A	
<b>Deployed Location:</b> 04-58.1N/095-01.1W		<b>Deployed Date:</b> 4/15/15	
<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> 2N 95W			
<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> DM070A	
<b>Deployed Location:</b> 01-54.947N/095-20.947W		<b>Deployed Date:</b> 6/17/14	
<b>Recovered Location:</b> 01-55.10N/095-20.5W		<b>Recovered Date:</b> 4/16/15	
<b>Sensors/Equipment Lost at Sea:</b> NA			
<b>Sensors Damaged/Fouled:</b> SSC, T20 fouled			
<b>Fishing/Vandalism:</b> Topsection parted, longline on termination.			
<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>
T20-TP500	1/18/15	Data missing	Long line at termination

<b>Buoy Site:</b> 2N 95W	<b>Mooring Depth:</b> 2844 m
<b>Mooring Operation:</b> Deployment	<b>Mooring ID#:</b> DM129A
<b>Deployed Location:</b> 01-55.8N/095-19.2W	<b>Deployed Date:</b> 4/16/15
<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 95W			
<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> DM071A	
<b>Deployed Location:</b> 00-05.412S/095-27.599W		<b>Deployed Date:</b> 6/17/14	
<b>Recovered Location:</b> NA		<b>Recovered Date:</b> NA	
<b>Sensors/Equipment Lost at Sea:</b> All equipment lost at sea			
<b>Sensors Damaged/Fouled:</b> NA			
<b>Fishing/Vandalism:</b> Entire mooring lost at sea.			
<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>
All sensors	12/3/14	Data missing	Lost at sea
Relative Humidity	7/26/14	Data too high	Lost at sea

<b>Buoy Site:</b> 0 95W	<b>Mooring Depth:</b> 3251 m
<b>Mooring Operation:</b> Deployment	<b>Mooring ID#:</b> DM130A
<b>Deployed Location:</b> 00-05.36N/095-26.6W	<b>Deployed Date:</b> 4/17/15
<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> Chipod at 9, 29, 49m. Fishing vessel on horizon during deployment.	

<b>Buoy Site:</b> 2S 95W	
<b>Mooring Operation:</b> Recovery	<b>Mooring ID#:</b> DM065A
<b>Deployed Location:</b> 01-59.164S/095-10.43W	<b>Deployed Date:</b> 3/29/14
<b>Recovered Location:</b> 01-59.1S/095-12.3W	<b>Recovered Date:</b> 4/18/15
<b>Sensors/Equipment Lost at Sea:</b> None	
<b>Sensors Damaged/Fouled:</b> camera broken, anemometer missing, SSC-T120 fouled.	
<b>Fishing/Vandalism:</b> Camera broken and covered with plastic bag. Anemometer missing, mast broken. Lead weights removed.	
<b>General Comments:</b> None	

Site Sensor Failures	Date Data Flagged	Why Data Flagged	Field Service Observations
WSPD	4/6/15	Data missing	Anemometer missing
1m Salinity	12/14/14	Data low	Fouled sensor
Relative Humidity	6/28/14	Data too high	None

<b>Buoy Site:</b> 2S 95W	<b>Mooring Depth:</b> 3485 m
<b>Mooring Operation:</b> Deployment	<b>Mooring ID#:</b> DM131A
<b>Deployed Location:</b> 01-59.39S/095-11.5W	<b>Deployed Date:</b> 4/18/15
<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> 5S 95W			
<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> DM064A	
<b>Deployed Location:</b> 05-00.0625S/094-59.99W		<b>Deployed Date:</b> 3/28/14	
<b>Recovered Location:</b> 04-59.3S/095-01.3W		<b>Recovered Date:</b> 4/19/15	
<b>Sensors/Equipment Lost at Sea:</b> None			
<b>Sensors Damaged/Fouled:</b> SSC-T100 fouled.			
<b>Fishing/Vandalism:</b> Lead weights missing			
<b>General Comments:</b> Release would not communicate. Used line cutter to break mooring.			
Site Sensor Failures	Date Data Flagged	Why Data Flagged	Field Service Observations
None			

<b>Buoy Site:</b> 5S 95W		<b>Mooring Depth:</b> 3840 m	
<b>Mooring Operation:</b> Deployment		<b>Mooring ID#:</b> DM132A	
<b>Deployed Location:</b> 04-59.7S/094-59.37W		<b>Deployed Date:</b> 4/19/15	
<b>Pre-Deployment On Deck Instrument Failures:</b> None			
<b>Sensors/Equipment Lost at Sea:</b> Original tower, tube and MET sensors lost at sea (vandalism). New tower, tube and MET sensors re-deployed on original mooring.			
<b>Sensors Damaged During Deployment:</b> None			
<b>General Comments:</b> Original tower, tube and MET sensors lost at sea (vandalism). New tower, tube and MET sensors re-deployed on original mooring.			

<b>Buoy Site:</b> 32413 DART		<b>Mooring Depth:</b> 3937 m	
<b>Mooring Operation:</b> Deployment		<b>Mooring ID#:</b> 324B3	
<b>Deployed Location:</b> 07-24.4S/093-29.5W		<b>Deployed Date:</b> 4/20/15	

<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> Deployed surface buoy only. Routine deployment.

<b>Buoy Site:</b> 8S 95W			
<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> DM063A	
<b>Deployed Location:</b> 08-00.74S/095-16.47W		<b>Deployed Date:</b> 3/27/14	
<b>Recovered Location:</b> 08-00.7S/095-16.1W		<b>Recovered Date:</b> 4/21/15	
<b>Sensors/Equipment Lost at Sea:</b> Anemometer missing.			
<b>Sensors Damaged/Fouled:</b> SSC-T80 fouled.			
<b>Fishing/Vandalism:</b> Longline gear in bridle, tower ring bent and cracked.			
<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>
T20-TP500, Winds	3/7/15	Data missing	Longline gear in bridle
Winds	4/2/14	Data at zero	Tower ring bent, anemometer missing

<b>Buoy Site:</b> 8S 95W		<b>Mooring Depth:</b> 3971 m	
<b>Mooring Operation:</b> Deployment		<b>Mooring ID#:</b> DM133A	
<b>Deployed Location:</b> 07-59.2S/095-14.9W		<b>Deployed Date:</b> 4/21/14	
<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 110W ATLAS			
<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> PM982A	
<b>Deployed Location:</b> 07-59.77S/110-03.828W		<b>Deployed Date:</b> 8/6/11	
<b>Recovered Location:</b> NA		<b>Recovered Date:</b> NA	
<b>Sensors/Equipment Lost at Sea:</b> All sensors and equipment lost at sea			
<b>Sensors Damaged/Fouled:</b> NA			
<b>Fishing/Vandalism:</b> All sensors and equipment lost at sea			
<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>
AT/RH	5/24/14	Data high	Buoy lost at sea
Winds	5/25/14	Reads Zero	Buoy lost at sea

<b>Buoy Site:</b> 8S 110W	<b>Mooring Depth:</b> 3390 m
<b>Mooring Operation:</b> Deployment	<b>Mooring ID#:</b> DM134A
<b>Deployed Location:</b> 07-58.5S/110-03.76W	<b>Deployed Date:</b> 4/25/15
<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> 5S 110W			
<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> DM067A	
<b>Deployed Location:</b> 04-59.405S/109-59.6W		<b>Deployed Date:</b> 4/3/14	
<b>Recovered Location:</b> 04-59.5S/109-59.8W		<b>Recovered Date:</b> 4/26/15	
<b>Sensors/Equipment Lost at Sea:</b> None			
<b>Sensors Damaged/Fouled:</b> SSC-T60 fouled, T60-TP500 (sensor) off/ loose mount			
<b>Fishing/Vandalism:</b> None			
<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	1/23/15	Missing	Fouled

<b>Buoy Site:</b> 5S 110W	<b>Mooring Depth:</b> 3622 m
<b>Mooring Operation:</b> Deployment	<b>Mooring ID#:</b> DM135A
<b>Deployed Location:</b> 04-58.3S/109-59.0W	<b>Deployed Date:</b> 4/27/15
<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> 2S 110W			
<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> DM066A	
<b>Deployed Location:</b> 02-01.377S/109-58.72W		<b>Deployed Date:</b> 4/2/14	
<b>Recovered Location:</b> 02-01.4S/110-00.2W		<b>Recovered Date:</b> 4/27/15	
<b>Sensors/Equipment Lost at Sea:</b> None			
<b>Sensors Damaged/Fouled:</b> SSC-T80 fouled. Several sensors out of mount.			
<b>Fishing/Vandalism:</b> Longline tangled in bridle.			
<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>

Winds, AT/RH	4/19/15	Blocked then Missing	BuoyCAM visual
SST,SSC	4/2/15	Missing	Fouled
T100	10/24/14	Missing	Out of mount

<b>Buoy Site:</b> 2S 110W	<b>Mooring Depth:</b> 3941 m
<b>Mooring Operation:</b> Deployment	<b>Mooring ID#:</b> DM136A
<b>Deployed Location:</b> 02-01.22S/110-02.18W	<b>Deployed Date:</b> 4/28/15
<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 FLUX/CO2			
<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> DM072A	
<b>Deployed Location:</b> 00-02.67N/109-54.222W		<b>Deployed Date:</b> 6/21/14	
<b>Recovered Location:</b> NA		<b>Recovered Date:</b> NA	
<b>Sensors/Equipment Lost at Sea:</b> All sensors and equipment lost at sea			
<b>Sensors Damaged/Fouled:</b> NA			
<b>Fishing/Vandalism:</b> All sensors and equipment lost at sea			
<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>
Tube, CAM, CO2	4/26/15	Ceased	Lost at sea
Rain,SWR,LWR,BARO	4/24/15	Missing/vandalism	BuoyCAM-visual
SST,SSC	2/13/15	Missing	Lost at sea
V10,V25,V45,V80	11/1/14	Missing	Lost at sea
T140	1/3/15	Missing	Lost at sea
RH/AT	7/26/14	Erratic	Lost at sea

<b>Buoy Site:</b> 0 110W FLUX/CO2	<b>Mooring Depth:</b> 3806 m
<b>Mooring Operation:</b> Deployment	<b>Mooring ID#:</b> DM137A
<b>Deployed Location:</b> 00-01.956S/109-54.93W	<b>Deployed Date:</b> 4/28/15
<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> Buoy seemed to be riding low in 2 kt current.	

<b>Buoy Site:</b> 0 110W ADCP	
<b>Mooring Operation:</b> Recovery	<b>Mooring ID#:</b> EA021

<b>Deployed Location:</b> 00-00.918N/109-55.825W	<b>Deployed Date:</b> 6/21/14
<b>Recovered Location:</b> 00-00.918N/109-55.825W	<b>Recovered Date:</b> 4/28/15
<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>Buoy Site:</b> 0 110W ADCP	<b>Mooring Depth:</b> 3805 m
<b>Mooring Operation:</b> Deployment	<b>Mooring ID#:</b> EA022
<b>Deployed Location:</b> 00-00.869N/109-55.761W	<b>Deployed Date:</b> 9/29/15
<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> 2N 110W			
<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> DM073A	
<b>Deployed Location:</b> 02-02.273N/110-01.889W		<b>Deployed Date:</b> 6/22/14	
<b>Recovered Location:</b> 02-03.8N/110-03.7W		<b>Recovered Date:</b> 4/29/15	
<b>Sensors/Equipment Lost at Sea:</b> None			
<b>Sensors Damaged/Fouled:</b> SSC fouled, connector bent. Several sensors with loose mounts			
<b>Fishing/Vandalism:</b> None			
<b>General Comments:</b> None			
<b>Site Sensor Failures</b>	<b>Date Data Flagged</b>	<b>Why data failed</b>	<b>Field Service Observations</b>
RH/AT	10/3/14	Too low	N/A

<b>Buoy Site:</b> 2N 110W	<b>Mooring Depth:</b> 3721 m
<b>Mooring Operation:</b> Deployment	<b>Mooring ID#:</b> DM138A
<b>Deployed Location:</b> 02-00.64N/110-01.75W	<b>Deployed Date:</b> 4/30/15
<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
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<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> DM074A	
<b>Deployed Location:</b> 05-00.029N/110-03.878W		<b>Deployed Date:</b> 6/24/14	
<b>Recovered Location:</b> 05-01.0N/110-03.9W		<b>Recovered Date:</b> 4/30/15	
<b>Sensors/Equipment Lost at Sea:</b> Acoustic release			
<b>Sensors Damaged/Fouled:</b> None			
<b>Fishing/Vandalism:</b> None			
<b>General Comments:</b> No communications with acoustic release. Line cutter was used to break the mooring.			
<b>Site Sensor Failures</b>	<b>Date Data Flagged</b>	<b>Why Data Flagged</b>	<b>Field Service Observations</b>
T20-TP500	10/25/14	Missing	4 levels w/ loose mounts
RH	4/23/15	Data low/ Zero	N/A

<b>Buoy Site:</b> 5N 110W		<b>Mooring Depth:</b> 4251 m	
<b>Mooring Operation:</b> Deployment		<b>Mooring ID#:</b> DM139A	
<b>Deployed Location:</b> 04-59.91N/110-03.62W		<b>Deployed Date:</b> 5/1/15	
<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			
<b>Mooring Operation:</b> Recovery		<b>Mooring ID#:</b> DM075A	
<b>Deployed Location:</b> 08-02.17N/110-08.62W		<b>Deployed Date:</b> 6/25/14	
<b>Recovered Location:</b> 08-02.30N/110-09.9W		<b>Recovered Date:</b> 5/2/15	
<b>Sensors/Equipment Lost at Sea:</b> None			
<b>Sensors Damaged/Fouled:</b> None			
<b>Fishing/Vandalism:</b> None			
<b>General Comments:</b> 3 levels with loose/ out of mounts			
<b>Site Sensor Failures</b>	<b>Date Data Flagged</b>	<b>Why Data Flagged</b>	<b>Field Service Observations</b>
None			

<b>Buoy Site:</b> 8N 110W		<b>Mooring Depth:</b> 4090 m	
<b>Mooring Operation:</b> Deployment		<b>Mooring ID#:</b> DM140A	
<b>Deployed Location:</b> 08-04.4N/110-04.725W		<b>Deployed Date:</b> 5/2/15	
<b>Pre-Deployment On Deck Instrument Failures:</b> None			
<b>Sensors/Equipment Lost at Sea:</b> None			
<b>Sensors Damaged During Deployment:</b> None			

**General Comments:** Routine deployment.

## 2.2 CTD Casts Completed

A Sea-Bird 911plus CTD with dual temperature and conductivity sensors was provided by the OMAO. Temperature and conductivity sensors are calibrated yearly at Sea-Bird and sent in for diagnostics as necessary.

The following outlines the CTD casts completed during the cruise:

<b>CTD Operations</b>				
<b>Lat</b>	<b>Lon</b>	<b>Date</b>	<b>Cast #</b>	<b>Comments</b>
08-00.811N	94-59.7870W	4/15/15	TN320_001	3000 m
07-00.08 N	94-58.26W	4/15/15	TN320_002	1000 m
06-00.12N	94-58.95W	4/15/15	TN320_003	1000 m
04-59.33N	95-00.84W	4/15/15	TN320_004	1000 m
04-00.6N	95-06.18W	4/16/15	TN320_005	1000 m
03-00.05N	95-13.0W	4/16/15	TN320_006	1000 m
01-54.47N	95-20.72W	4/17/15	TN320_007	1000 m
00-59.97N	95-32.75W	4/17/15	TN320_008	1000 m
00-05.42N	95-27.55W	4/17/15	TN320_009	3000 m
00-59.97S	95-28.59W	4/18/15	TN320_010	1000 m
01-59.24S	95-12.63W	4/18/15	TN320_011	1000 m
02-59.97S	95-08.21W	4/19/15	TN320_012	1000 m
03-59.99S	95-04.96W	4/19/15	TN320_013	1000 m
04-59.82S	94-54.09W	4/19/15	TN320_014	1000 m
06-00.00S	94-23.22W	4/20/15	TN320_015	1000 m
06-59.97S	93-45.42W	4/20/15	TN320_016	1000 m
08-00.16S	95-14.35W	4/21/15	TN320_017	3000 m
08-00.17S	110-03.58W	4/26/15	TN320_018	1000 m
07-00.06S	110-03.04W	4/26/15	TN320_019	1000 m
06-00.02S	110-01.51W	4/26/15	TN320_020	1000 m
04-59.74S	109-58.53W	4/27/15	TN320_021	1000 m
04-00.16S	110-01.81W	4/27/15	TN320_022	1000 m
03-00.06S	110-00.83W	4/27/15	TN320_023	1000 m
02-03.00S	110-02.68W	4/28/15	TN320_024	1000 m
01-00.00S	109-56.87W	4/28/15	TN320_025	1000 m
00-03.92N	109-55.11W	4/29/15	TN320_026	3000 m
00-59.90N	109-58.75W	4/29/15	TN320_027	1000 m
01-59.73N	110-02.12W	4/30/15	TN320_028	1000 m
02-59.93N	110-03.79W	4/30/15	TN320_029	1000 m
04-00.06N	110-03.78W	4/30/15	TN320_030	1000 m
05-02.59N	110-03.29W	5/1/15	TN320_031	1000 m

06-00.01N	110-05.70W	5/1/15	TN320_032	1000 m
06-59.95N	110-07.81W	5/2/15	TN320_033	1000 m
07-59.99N	110-08.66W	5/2/15	TN320_034	3000 m

### 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

Fifteen (15) Argo floats were scheduled for deployment on this 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>
04-59.96S/094-58.35W	4/20/15	UW9315	
08-00.25S/095-14.08W	4/21/15	UW9304	
05-18.42S/096-28.40W	4/22/15	F0429	
05-36.22S/097-59.98W	4/23/15	F0432	
05-54.00S/099-29.80W	4/23/15	F0425	
06-12.00S/100.59.50W	4/23/15	F0430	
06-29.69S/102-29.89W	4/24/15	F0426	
06-47.60S/103-59.9W	4/24/15	F0428	
07-05.355S/105-29.92W	4/24/15	F0424	
07-23.16S/106-59.8W	4/25/15	F0427	
07-40.90S/108-29.90W	4/25/15	F0269	
07-58.70S/109-59.9W	4/25/15	F0431	
04-58.30S/109-57.9W	4/26/15	UW9301	
02-01.40S/110-03.10W	4/28/15	UW11051	
00-59.9N/109-58.7W	4/29/15	UW11062	

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

Twenty six (26) 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>
04-57.4N	95-57.4W	4/15/15	132608, 132606	
03-00.0N	95-13.0W	4/16/15	132609, 132547	
00-5.3N	95-27.9W	4/17/15	132605, 132610	
02-50.23S	95-09.58W	4/18/15	132599, 132548	
04-59.82S	94-57.5W	4/19/15	132600, 13245	
04-43.7S	109-59.1W	4/27/15	132604, 132546	
02-03.00S	110-03.77W	4/28/15	139485, 132611	
00-01.3N	109-55.7W	4/28/15	132607, 139484	
04-00.00N	110-03.77W	4/30/15	132603, 127262	
05-35.04N	110-04.9W	5/1/15	139488	
06-27.6N	110-06.1W	5/2/15	139481	
06-29.9N	110-07.8W	5/2/15	139482	
08-05.3N	110-04.2W	5/2/15	139478	
08-47.5N	110-17.2W	5/3/15	139479	
09-36.7N	110-31.7W	5/3/15	139486	
10-24.36N	110-45.12W	5/3/15	139490	
11-11.16N	110-58.04W	5/3/15	139489	