Years	BPR ID	Deploy date	Deploy time (GMT)	Deploy ship	Recover date	Recover time (GMT)	Recover ship	Depth (m)	Position	Height of mooring (m)	BPR ID	Paros S/N	OSC #	Dynamic range (psi)	Calculated drift rate cm/yr	Associated NSF Award	Notes
1987-1988	WC09	23-Sep-1987	3:00	ATLANTIS II	10-Jul-88	18:35	NOAA SHIP DISCOVERER	1527	N 129-59.42'W			24061	n/a				
1988-1989	WC15	5-Sep-1988	16:49	NOAA SHIP DISCOVERER	04-Aug-89	14:15	NOAA SHIP DISCOVERER	1558	130-00.51'W			24061	n/a				Failed deployment. Release pin found sheared
1989-1990	WC20	6-Sep-1989	22:40	NOAA SHIP DISCOVERER	30-Jul-90	16:51	NOAA SHIP DISCOVERER	1550	130-01.41'W			24061	n/a				
1990-1991	WC25	18-Aug-1990	8:16	NOAA SHIP DISCOVERER	22-May-91	20:12	NOAA SHIP DISCOVERER	1536	045-57.04 N 130-			24061	n/a				
1991-1992	WC32	23-Jun-1991	19:59	UNKNOWN	04-Jun-92	1:30	NOAA SHIP DISCOVERER	1540	130-00.14'W			24061	n/a				
1992-1993	WC40R	6-Jul-1992	4:15	NOAA SHIP DISCOVERER	12-Jun-93	2:11	NOAA SHIP DISCOVERER	1542	129-59.08'W			40992	18				
	WC41	6-Jul-1992	17:40	NOAA SHIP DISCOVERER	11-Jun-93	23:29	NOAA SHIP DISCOVERER	1559	129-59.26'W			24061	?				
1993-1994	WC51	20-Jul-1993	21:25	NOAA SHIP DISCOVERER	17-Sep-94	19:17	NOAA SHIP DISCOVERER	1540	129-59.14'W			40992	97				100% RETURN NO SPIKES
	WC53	20-Jul-1993	23:23	NOAA SHIP DISCOVERER	17-Sep-94	20:44	NOAA SHIP DISCOVERER	1540	129-59.98'W			24061	?				AN ORANGE WIRE HAD A SHORT. LAST "A" GAUGE.
1994-1995	WC61R	5-Aug-1994	20:15	NOAA SHIP DISCOVERER	15-Jun-95	?	NOAA SHIP DISCOVERER	1550	129-57.86'W			40175	3236				100% DATA RETURN
	WC62R	17-Sep-1994	20:45	NOAA SHIP DISCOVERER	15-Jun-95	?	NOAA SHIP DISCOVERER	1550	129-59.97'W			3234	20				100% DATA RETURN
1995-1996	WC67R	20-Jul-1995	23:30	NOAA SHIP DISCOVERER	26-Jun-96	21:31	NOAA SHIP DISCOVERER	1543	045-57.72'N 129-58.02'W			40175	16				100% DATA RECOVERY, OSC WAS 16 SEC AHEAD OF UT. Record contained tsunamis. Located outside caldera to the NE.
	WC68R	20-Jul-1995	16:00	NOAA SHIP DISCOVERER	01-Jul-96	20:23	NOAA SHIP DISCOVERER	1550	045-57.4' N 130-00.0' W			39746	20				100% DATA RECOVERY, OSC WAS 11 SEC AHEAD OF UT. Record contained tsunamis. Located near the caldera center.
	WC69R	16-Jun-1995	1:00	NOAA SHIP DISCOVERER	22-Jun-96	20:30	NOAA SHIP DISCOVERER	1535	045-56.0' N 129-58.83' W			40992	97				100% DATA RECOVERY, OSC WAS 22 SEC AHEAD OF UT. Record contained tsunamis. Located near future Marker 33 site (SE caldera).
1996-1997	WC74R	27-Jul-1996	10:43	NOAA SHIP DISCOVERER	03-Oct-97	1:00	NOAA SHIP RON BROWN	1525	045-57.38'N 129-59.95'W			39746	20				**NO DATA RECOVERED** DUE TO BATTERY PROBLEMS. REMOVED JUMPER ACROSS CR3 POSITION FROM CENTER BOARD
1997-1998	WC81 / VSM1	2-Oct-1997	23:47	NOAA SHIP RON BROWN	07-Aug-98	9:12	NOAA SHIP RON BROWN	1535	045-57.4 N 130-00.0 W	1 m	C-7	40992	97	10.000			Was at center of Axial caldera during 1998 eruption. Acoustic problems on recovery (no confirmations).
	WC82 / VSM2	3-Oct-1997	2:56	NOAA SHIP RON BROWN	06-Jul-99	17:30	R/V Thompson	1524	045-55.814N 129-59.038W	1 m	C-21	57429	5	10.000			**Stuck in 1998 lava.** Recovered in Jul-99. Data only to 05-May-99. Note data may be in two 1-year long parts (a and b).
1998-1999	WC87	11-Aug-1998	?	NOAA SHIP RON BROWN	02-Sep-06	18:30	R/V Thompson	1541	045-56.187N 129-59.001W	1 m	C-9	40175	16	10.000			This is one of Chris Fox's rumbleometers. It was forgotten about and never recovered! Found with ROPOS in 2004. Recovered by ROPOS in 2006.
1999-2000	(none)																No BPR deployed at Axial this year
2000-2002	**NeMO2000 BPR-Center**	6-Jul-2000	20:00	NOAA SHIP RON BROWN	19-Jul-02	16:00	R/V Thompson	1530	045-57.313N 130-00.610W		D-8	73461		10.000	-15.278		Connected to NeMO Net.
2002-2004	**NeMO2002 BPR-Center**	20-Jul-2002	4:00	R/V Thompson	18-Jul-04	16:00	R/V Thompson	1535	045-57.151N 130-00.607W		D-20	87619		3.000	0.000		Connected to NeMO Net. Deployed about 300 m south of caldera center. There are spikes in the p-data that are periodic and decrease in amplitude with time.
2003-2005	**NeMO2003 BPR-Center**	4-Sep-2003	8:00	R/V Thompson	11-May-05	4:00	Wecoma	1510	045-57.313N 130-00.610W	15 m	D-4 e3	40992	4	10.000			AKA "NeMO2003-center (e3)". Caldera center. Not connected to NeMO Net.
2003-2005	**NeMO2003 BPR-South**	4-Sep-2003	8:00	R/V Thompson	11-May-05	2:00	Wecoma	1510	045-56.00N 130-00.00W	50 m	D-4 e4	51185	4	10.000			AKA "NeMO2003-south (e4)". Caldera - south - between ASHES and M33. Not connected to NeMO Net. Not turned-around at sea because data looked suspect. Brought back to SEA, then deployed later in 2005.
2004-2007	**NeMO2004 BPR-Center**	31-Oct-2004	4:00	NOAA SHIP HI'IALAKAI (during transit)	09-Aug-07	20:00	R/V Atlantis	1530	045-57.10N 130-00.50W	50 m	E-1	56914	13	10.000	-7.914		AKA "NeMO2004-center (e1)". 3-year deployment. Connected to NeMO Net (with acoustic modem). Deployed ~500 m south of caldera center. Three noise spikes every hour from modem. Weird data on 8/31/06 and weird offsets & data gaps 01/31/07 to 02/09/07, all due to modem cable issues.
2005-2007	**NeMO2005 BPR-South-1**	11-May-2005	23:00	Wecoma	08-Aug-07	19:00	R/V Atlantis	1535	045-56.559N 130-00.00W	30 m	E-4	40992	15	10.000			AKA "NeMO2005-middle (e3)". Mooring #E-3. 2-year release. Raw data file displays incorrectly in BPR Plotter software v3.12. Got corrected file at sea. Says E3 in file name but E4 in file specs. Occasional small spikes in data due to bad component.
2005-2009	**NeMO2005 BPR-South-2**	9-Aug-2005	5:00	Western Flyer	recovered 6/18/2009 (but end of data file is 3/20/2009	0:00	R/V Atlantis	1530	045-55.999N 130-00.001W	30 m	E-004	51185	13	10.000			AKA "NeMO2005-south". 4-year deployment. On recovery didn't reply because battery voltage was only 2V. The release reported it was horizontal when the first release command was sent (was the BPR on an unstable or tilted surface?). Data good (except for gaps Dec 31, 2006 to Jan 08, 2007), but batteries died in BPR March 20, 2009, so file ended before it was recovered on June 18, 2009.
2007-2009	**NeMO2007 BPR-South-1**	15-Aug-2007	1:00	R/V Atlantis	19-Jun-09	1:00	R/V Atlantis	1553	045-56.511N 130-00.020W	15 m	E-4	40992	15	10.000			AKA "NeMO2007-middle". Position surveyed with Workboat. This is the same BPR that was NeMO2005-middle, so it still had the bad component and had a few spikes in the data. On recovery had a checksumm error. Raw data can't be read with BPR Plotter software v.3.12. After recovery the BPR board was replaced, but the paros sensor was kept.
2007-2010	**NeMO2007 BPR-Center**	15-Aug-2007	1:00	R/V Atlantis	03-Sep-10	16:30	R/V Thompson	1534	045-57.316N 130-00.604W	15 m	E-046	103402	13		-17.693	**OCE-0725605, 0726093**	Position surveyed with Workboat. This instrument was deployed for 5 days (08/08/07 to 08/12/07) and was released to get BPR data during our ROV MPR survey. It then was redeployed on 08/15/07 for a 3-year deployement. Note the data file needed to be edited by Scott Stalin before it could be read, because the BPR firmware needed to be updated. Four small gaps in the data between Jan 7-17, 2008
2009-	**NeMO2009 BPR-South-1**	20-Jun-2009		R/V Atlantis	LOST (apparently overrun by 2011 lava)			1543	45 56.559N 129 59.984W	15 m	E-4	40992	13			**OCE-0725605, 0726093**	AKA "NeMO2009-middle". Position surveyed with Workboat. BPR board was replaced from NeMO2007-middle BPR. This Paros gauge has an apparent drift of 20-23 cm/yr. BPR was searched for and not found in 2011 and 2013. LOST - overun by 2011 lava.
2009-2011	**NeMO2009 BPR-South-2**	21-Jun-2009	4:50	R/V Atlantis	26-Jul-11	16:46	R/V Atlantis	1541	45 56.047N 129 59.993W	15 m	E-004	51185	13	10.000		**OCE-0725605, 0726093**	Position surveyed with Workboat. Same BPR as NeMO2005-south BPR. Data gaps in file. RECORDED April 2011 ERUPTION!
2010-2011	**NeMO2010 BPR-Center**	4-Sep-2010	20:15	R/V Thompson	27-Jul-11	13:48	R/V Atlantis	1550	045-57.328N 130-00.574W	15 m	E-046	103402	13	10.000	-17.693	**OCE-0725605, 0726093**	Position surveyed with Workboat. Updated the BPR firmware when we turned it around in 2010, so it should be OK now. Release wouldn't enable on first attempt. On recovery, it did not respond to any commands or ranging, but it DID release. Two 24-hour data gaps in file. RECORDED April 2011 ERUPTION!
2011-2013	**NeMO2011 BPR-South**	30-Jul-2011	20:41	R/V Atlantis	9-Aug-13	21:30	R/V Thompson	1541	45 56.047N 129 59.993W	15 m	E-004	51185	13	10.000		**OCE-1155849, 1155381**	Position is drop target (not surveyed). Recovered by Delaney so the BPR could be serviced at PMEL between cruises. Gaps in data file. Oscillator failed in the lab during servicing.
2011-2013	**NeMO2011 BPR-Center**	30-Jul-2011	21:10	R/V Atlantis	14-Aug-13	0:46	R/V Thompson	1550	045-57.328N 130-00.574W	15 m	E-046	103402	13	10.000	-8.576	**OCE-1155849, 1155381**	Delaney so the BPR could be serviced at PMEL between cruises. First part of data file corrupted and had to be trimmed with a hex file editor, rest OK. Gaps in data file.
2013-2015	**NeMO2013 BPR-Center**	5-Sep-2013	16:05	R/V Thompson	26-Aug-15	0:46	R/V Thompson	1542	045-57.407N 130-00.636W	15 m	E-046	103402	13	10.000	-20.101	**OCE-1356839, 1356216**	Serviced in Seattle in August 2013. Position surveyed with Workboat. Recorded April 2015 eruption!
2013-2015	**NeMO2013 BPR-South-1**	5-Sep-2013	17:05	R/V Thompson	18-Aug-15	16:35	R/V Thompson	1541	045-55.909N 129-59.926W	15 m	E-004	51185	13	10.000	-8.169	**OCE-1356839, 1356216**	Serviced in Seattle in August 2013. Position surveyed with Workboat. New oscillator on counting board, compared to earlier deployments, so drift may be different. This one recorded successfully, but then died when it was being prepared for re-deployment. Recorded April 2015 eruption! Serviced in Seattle in 2015-2017. This one had to have the CPU board replaced and was redesigned so the Paros sensor was inside the CPU case instead of outside the case in a dog house. So now all the BPRs have the same single CPU case design.
2013-2015	**NeMO2013 BPR-South-2**	5-Sep-2013	17:56	R/V Thompson	18-Aug-15	17:36	R/V Thompson	1540	045-54.959N 129-59.609W	15 m	E-013	125320	13	3.000	-5.048	**OCE-1356839, 1356216**	New instrument (to replace one lost during 2011 eruption). Position surveyed with Workboat. But still had old problem with one data gap. Recorded April 2015 eruption!
2015-2017	**NeMO2015 BPR-Center**	27-Aug-2015	12:40	R/V Thompson	15-Jul-17	2:20	R/V Revelle	1541	57.407N 130-00.636W	15 m	E-046	103402	13	10.000	-15.365	**OCE-1356839, 1356216**	Position is drop location (unsurveyed). Good data.
2015-2017	**NeMO2015 BPR-South-2**	19-Aug-2015	21:55	R/V Thompson	14-Jul-17	23:30	R/V Revelle	1538	54.959N 129-59.609W (unsurveyed	15 m	E-013	125320	13	3.000	-3.514	**OCE-1356839, 1356216**	Position is drop location (unsurveyed). Good data.
2015-2017	**mini-BPR-06**	23-Aug-2015	5:00	Jason dive J2-823	17-Jul-17	12:00	Jason dive J2-966	1503	56.785N 129-59.027W	n/a		125331		2000	3.146	**OCE-1356839, 1356216**	Deployed on MPR benchmark AX-302 (Trevi vent)
2015-2017	**mini-BPR-07**	23-Aug-2015	9:00	Jason dive J2-823	19-Jul-17	11:00	Jason dive J2-966	1527	56.721N 130-00.544W	n/a		125573		2000	19.876	**OCE-1356839, 1356216**	Deployed on MPR benchmark AX-307 (Magnesia-west)
2015-2017	**mini-BPR-08**	23-Aug-2015	14:00	Jason dive J2-823	19-Jul-17	15:20	Jason dive J2-966	1516	55.896N 129-59.928W	n/a		127329		3000	-10.279	**OCE-1356839, 1356216**	Deployed on MPR benchmark AX-308 (BPR-South1). Data only recorded until 04/23/2017 23:03:20 due to premature battery exhaustion.
2015-2017	**mini-BPR-09**	23-Aug-2015	11:00	Jason dive J2-823	19-Jul-17	13:00	Jason dive J2-966	1525	56.067N 130-00.696W	n/a		127331		3000	30.154	**OCE-1356839, 1356216**	Deployed on MPR benchmark AX-106 (ASHES)
2015-2017	**mini-BPR-12**	24-Aug-2015	6:00	Jason dive J2-823	19-Jul-17	1:30	Jason dive J2-966	1499	56.008N 129-58.935W	n/a		132673		6000	-8.601	**OCE-1356839, 1356216**	Deployed on MPR benchmark AX-303 (Marker 33 vent)
2015-2017	**mini-BPR-13**	22-Aug-2015	18:00	Jason dive J2-823	21-Jul-17	9:00	Jason dive J2-967	1699	51.790N 130-00.225W	n/a		132674		6000	-14.159	**OCE-1356839, 1356216**	Deployed on MPR benchmark AX-105 (South pillow mound, MPR reference site)
2017-2018	**NeMO2017 BPR-Center**	17-Jul-2017	5:52	R/V Revelle	19-Aug-18	20:00	R/V Kilo Moana	1530	045-57.447N 130-00.658W (unsurveyed)	15 m	E-046	103402	13	10.000	-18.060	**OCE-1736926, 1736882**	Deployment location was shifted slightly, but not far from previous. Data show abrupt offset downward in middle of the time-series, apparently due to instrument site instability since nearby OOI BPR did not show this. This instability apparently continued during 2nd half of deployment. Drift rate is calculated from 1st half of record only.
2017-2018	**NeMO2017 BPR-South-2**	16-Jul-2017	7:13	R/V Revelle	19-Aug-18	23:53	R/V Kilo Moana	1530	54.958N 129-59.619W (unsurveyed	15 m	E-013	125320	13	3.000	-1.278	**OCE-1736926, 1736882**	Same location as previous deployments. Good data recorded.
2017-2018	**NeMO2017 BPR-North**	15-Jul-2017	4:38	R/V Revelle	19-Aug-18	17:08	R/V Kilo Moana	1578	045-58.350N 130-01.128W (unsurveyed	15 m	E-004	51185	13	10.000	n/a	**OCE-1736926, 1736882**	New location. This BPR was repaired in Seattle after failing on deck after recovery in 2015. Good data recordded, but can't constrain the drift because there are no nearby MPR benchmarks.
2017-2018	**NeMO2017 BPR-West**	15-Jul-2017	5:50	R/V Revelle	19-Aug-18	22:34	R/V Kilo Moana	1418	045-57.011N 130-02.141W (unsurveyed)	15 m	E-016	107673	13		n/a	**OCE-1736926, 1736882**	New location and new 4th BPR for use at Axial. Data recorded are unusual because they show steady apparent deflation the whole year, amounting to ~40 cm! This is the first record from up on the western rim of the caldera, which probably has heavy sediment. The apparent deflation could be due to site instability - perhaps the instrument was slowly settling into the sediment all year? Or else the drift rate could be relatively high and positive, but unfortunately we have no way to constrain it.
2017-2018	**mini-BPR-02**	19-Jul-2017	2:00	R/V Revelle	22-Aug-18	10:00	R/V Kilo Moana	1516	56.008N 129-58.935W	n/a		137987		3.000	see notes	**OCE-1736926, 1736882**	Deployed on MPR benchmark AX-303 (Marker 33 vent)
2017-2018	**mini-BPR-04**	21-Jul-2017	10:00	R/V Revelle	25-Aug-18	4:30	R/V Kilo Moana	1718	045-51.790N 130-00.225W (AX-105)	n/a		137988		3.000	see notes	**OCE-1736926, 1736882**	Deployed on MPR benchmark AX-105 (South pillow mound, MPR reference site). There is an offset of about 45 cm (up) mid-way in the record for MiniBPR #04 from about 11/25/2017 to 12/11/2017. It is not just one single offset, but a series of offsets and time periods with unrealistically high changes. It is not clear what the source of these offsets was.
2017-2018	**mini-BPR-05**	17-Jul-2017	22:00	R/V Revelle	23-Aug-18	10:00	R/V Kilo Moana	1522	56.785N 129-59.027W	n/a		137989		3.000	see notes	**OCE-1736926, 1736882**	Deployed on MPR benchmark AX-302 (Trevi vent)
2017-2018	**mini-BPR-10**	19-Jul-2017	11:00	R/V Revelle	22-Aug-18	1:00	R/V Kilo Moana	1544	56.721N 130-00.544W	n/a		137990		3.000	see notes	**OCE-1736926, 1736882**	Deployed on MPR benchmark AX-307 (Magnesia-west)
2018-	**NeMO2018 BPR-Center**	21-Aug-2018	17:12	R/V Kilo Moana	still deployed			1532	57.460N 130-00.679W	15 m	E-046	103402	13	10.000		**OCE-1736926, 1736882**	
2018-	**NeMO2018 BPR-South-2**	21-Aug-2018	1:11	R/V Kilo Moana	still deployed			1537	045-54.910N 129-59.600W	15 m	E-013	125320	13	3.000		**OCE-1736926, 1736882**	
2018-	**NeMO2018 BPR-North**	21-Aug-2018	16:13	R/V Kilo Moana	still deployed			1581	58.388N 130-01.177W	15 m	E-004	51185	13	10.000		**OCE-1736926, 1736882**	
2018-	**NeMO2018 BPR-West**	25-Aug-2018	21:47	R/V Kilo Moana	still deployed			1448	57.016N 130-02.174W	15 m	E-016	107673	13			**OCE-1736926, 1736882**	
2018-	**mini-BPR-08**	21-Aug-2018	21:10	R/V Kilo Moana	still deployed			1516	045-55.896N 129-59.928W (AX-308)	n/a		127329		3000		**OCE-1736926, 1736882**	Deployed on MPR benchmark AX-308.
2018-	**mini-BPR-09**	22-Aug-2018	2:02	R/V Kilo Moana	still deployed			1544	045-56.721N 130-00.544W (AX-307)	n/a		127331		3000		**OCE-1736926, 1736882**	Deployed on MPR benchmark AX-307 (Magnesia-west)
2018-	**mini-BPR-10**	24-Aug-2018	12:16	R/V Kilo Moana	still deployed			1516	045-56.008N 129-58.935W (AX-303)	n/a		137990		3000		**OCE-1736926, 1736882**	Deployed on MPR benchmark AX-303 (Marker 33 vent)
2018-	**mini-BPR-12**	23-Aug-2018	10:15	R/V Kilo Moana	still deployed			1522	045-56.785N 129-59.027W (AX-302)	n/a		132673		6000		**OCE-1736926, 1736882**	Deployed on MPR benchmark AX-302 (Trevi vent)
2018-	**mini-BPR-13**	25-Aug-2018	4:50	R/V Kilo Moana	still deployed			1718	045-51.790N 130-00.225W (AX-105)	n/a		132674		6000		**OCE-1736926, 1736882**	Deployed on MPR benchmark AX-105 (South pillow mound, MPR reference site).