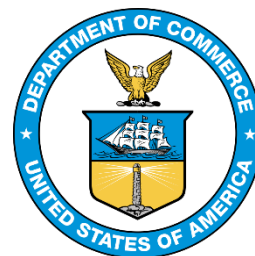


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Atlantic Oceanographic and Meteorological Laboratory

Miami, Florida

December 2025

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Data analysis for shipboard atmospheric CO₂ measurements from research cruises on NOAA ship Ronald H. Brown and comparison to two global boundary layer datasets

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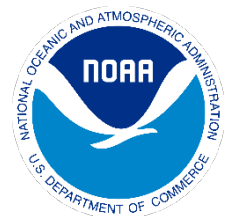
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Abstract

We analyze shipboard atmospheric mole fraction of CO₂ (xCO₂) measurements from research cruises taken on the NOAA ship Ronald H. Brown and compare them with two marine boundary layer xCO₂ datasets, CarbonTracker-CO₂ and GlobalView-CO₂ from the NOAA/OAR Global Monitoring Laboratory. Analysis of shipboard xCO₂ measurements includes removing data which has been flagged as questionable through a previously applied quality-control process, environmental analysis, grouping the measurements, and statistical analysis. The resultant cleaned dataset is then compared to each of the two boundary layer xCO₂ datasets and the comparisons are catalogued in this data report.

1. Introduction

NOAA vessels and other ships regularly measure fugacity of CO₂ in seawater (fCO_{2w}) and atmospheric mole fraction of CO₂ in dry air (xCO_{2a}) on research cruises throughout the global oceans. Information for these cruises, including cruise maps and a subset of measured data including date and time, location, sea surface salinity and temperature, atmospheric pressure, seawater and atmospheric fugacity of CO₂, and quality control (QC) flags, can be found at https://www.aoml.noaa.gov/ocd/ocdweb/occ_soop.html and in the Surface Ocean Carbon Atlas (SOCAT) at SOCAT.info. This report documents the procedures developed to analyze these datasets, after an initial QC evaluation based on the quality of samples and instrumentation. Forty-seven cruises of NOAA ship Ronald H. Brown are investigated between 2015 and 2023. The subsequent steps in analysis include the use of environmental measurements and statistical benchmarks in order to accurately remove questionable measurements while retaining as many dependable measurements as possible. After cleaning the datasets following the procedures described in the Methods section below, the cleaned dataset is further analyzed in two ways.

First, the cleaned dataset is compared with two atmospheric boundary layer CO₂ data products by matching quality-controlled measurements to the nearest available time and location from the respective data products. The two atmospheric boundary layer CO₂ data products we compare are GlobalView, a marine boundary layer (MBL) dataset that uses samples from the NOAA Cooperative Global Air Sampling Network (referred to as “GV-MBL” in this report and accessible at: <https://gml.noaa.gov/ccgg/mbl/data.php>), and CarbonTracker, a planetary boundary layer (PBL) dataset based on observations and simulated atmospheric transport (referred to as “CT-PBL” in this report and accessible at: <https://gml.noaa.gov/modeling.html>).

2. Methods

2.1 Environmental and statistical cleaning of shipboard atmospheric xCO₂ measurements

All data, as well as code used for analysis, can be found within the NOAA-AOML internal network at https://www.aoml.noaa.gov/ocd/ocdweb/occ_data_reports.html. The processed files for each cruise are named by the convention #_Working.csv, where # contains information about the ship, year, and cruise number (e.g. # = RB1702 indicates ship Ronald H. Brown, year 2017, and 2nd cruise of the year). From each file, we iteratively extract:

1. all the data,
2. all atmospheric xCO₂ data,
3. all atmospheric xCO₂ data with an acceptable quality control (QC) flag following World Ocean Circulation Experiment (WOCE) flagging convention (Joyce and Corry, 1994), that is, those with QC =2 (good) during previous data reduction of the fCO_{2w} data. Atmospheric xCO₂ data flagged QC =3 (questionable) and QC= 4 (bad) are excluded.
4. all QC'ed atmospheric xCO₂ data with favorable environmental conditions (favorable meaning conditions representing clean marine boundary layer air).

Operationally, favorable environmental conditions are defined as measurements associated with a favorable relative wind direction (with the stack downwind of measurements, i.e. wind blowing from the bow of the ship, between -90° and +90° relative to the ship's bow) and favorable relative wind speed (greater than 6 knots).

By default, atmospheric xCO₂ measurements are made in groups of five, although some measurements are removed by the steps described above. We use statistical analysis of these groups to filter, or clean variable measurements, assumed to be caused by local contamination,

through statistical analysis. We first calculate the standard deviation and mean $x\text{CO}_2$ of the groups of five (or less) measurements. If the standard deviation is higher than a threshold, designated here as 0.14 ppm, we check for individual outliers, designated as greater than 0.2 ppm from the group mean, and remove them. If the group contains two or more outliers and/or has less than three retained values, the entire group is removed. The mean and standard deviations of the retained groups are then recalculated and saved. Through this procedure the precision based on the standard deviation of cleaned marine boundary layer measurements are better than 0.2 ppm and meet the extended network compatibility goal for $x\text{CO}_{2a}$ of the World Meteorological Organization Global Atmosphere Water (WMO/GAW) (Crotwell and Steinbacher, 2018).

2.2 Comparison of cleaned shipboard atmospheric $x\text{CO}_2$ measurements with boundary layer products

After the shipboard atmospheric $x\text{CO}_2$ measurements have been grouped and cleaned as described in section 2.1, we compare them to the two atmospheric boundary layer CO_2 data products described in section 1. The GV-MBL dataset is meridionally resolved (more specifically, zonally invariant) for each time step, and contains weekly $x\text{CO}_2$ values at every 0.5 sine of latitude from 1 to -1 (which correspond to 90° N to 90° S). The CT-PBL dataset is zonally and meridionally resolved, and contains monthly values on a 1° X 1° lat/lon grid.

Details of the $x\text{CO}_2$ products used in the comparison to shipboard measurements are as follows. The GV-MBL reference product is based on measurements from a subset of 60 sites from the NOAA Cooperative Global Air Sampling Network (Lan et al., 2025). Sites are located where well-mixed marine boundary layer (GV-MBL) air representative of a large volume of the marine atmosphere can be sampled. The weekly-sampled MBL sites are at remote marine island and coastal sites around the world with prevailing onshore winds. To reduce noise in the

determination of the GV-MBL reference due to synoptic-scale atmospheric variability, a smooth harmonic curve is fitted to the measurements (Lan et al., 2025).

The other product used in the comparisons is Carbon Tracker (Jacobson et al., 2025). This is a spatially resolved product, and provides meaningful resolution lacking from the zonally invariant GV-MBL product, particularly near the coast. CarbonTracker produces model predictions of $x\text{CO}_2$ that are compared with the observed atmospheric CO_2 mole fractions using a more comprehensive $x\text{CO}_2$ dataset from NOAA Cooperative Global Air Sampling Network, including vertical $x\text{CO}_2$ profiles from tall towers and aircraft. The difference between the model and observation is attributed to differences in the sources and sinks used to make a first-guess prediction and the sources and sinks affecting the true $x\text{CO}_2$. These differences are used to solve for a set of sources and sinks that most closely matches the observed $x\text{CO}_2$. CarbonTracker has a representation of atmospheric transport, and modules representing air-sea exchange of CO_2 , photosynthesis and respiration by the terrestrial biosphere, and release of CO_2 to the atmosphere by fires and combustion of fossil fuels. For comparison with the ship-based $x\text{CO}_2$ the MBL height and the corresponding $x\text{CO}_2$ is determined from ERA5 meteorology and a bulk Richardson number formulation (Jacobson and Munro, pers. comm.) where ERA5 is the fifth generation atmospheric reanalysis from the European Center for Medium-Range Weather Forecasts (ECMWF). The CarbonTracker PBL (CT-PBL) product provides $x\text{CO}_2$ globally at 3-hourly intervals on a grid of 3° longitude by 2° latitude, interpolated (in time and space) onto a monthly $1^\circ \times 1^\circ$ grid for this study.

The script used for comparison between shipboard measurements and these two datasets matches the nearest GV-MBL or CT-PBL $x\text{CO}_2$ value to the shipboard measurements' closest respective time and location. The differences between the datasets are calculated, and the comparisons are then recorded and plotted as part of a cruise summary.

3. Results

3.1 Summary of all cruises

General summary information for all cruises is presented in two tables. The first table provides ExpoCodes (cruise identifiers: 33RO indicates the ship as the NOAA ship Ronald H.

Brown and the following date in the format YYYYMMDD indicates the date the cruise left port), cruise names, beginning and end dates, maximum and minimum latitude and longitude that the ship reaches during a given cruise, number of measured xCO₂ groups before and after cleaning, standard deviation and mean of all cleaned groups, minimum and maximum measured xCO₂ groups, the average difference between MBL associated with a set of groups with closest longitude and time as well as the standard deviation of the difference and the number of measurement group sets, and the values for standard references.

The second table provides the total number of individual measurements (all), atmospheric measurements (atm), after QC = 3 or 4 measurements are removed (flag_qc), after measurements during unfavorable relative wind direction are removed (flag_dir), after measurements during unfavorable wind speed are removed (flag_spd), cleaned measurements after statistical analysis (# of indiv vals retained), the percent of individual values retained (%of indiv retained (cleaned/atm), the number of groups before statistical analysis (# of co2_mean groups), the number of groups with high standard deviation (# w high std), the number of individual measurements removed (# of indiv outliers removed), the number of groups after statistical analysis (# of groups after cleaning), the number of groups removed through statistical analysis (# of groups removed), the mean standard deviation of groups before cleaning (mean StDev for grouped dataset) and after cleaning (stand dev for cleaned dataset).

Table 1: General summary of all cruise information for NOAA ship Ronald H. Brown (2015-2023)

expo_code	cruise name	start date	end date	N Lat	S Lat	W Lon	E Lon	no. XCO2a groups	no. of XCO2a groups used (cleaned)	Av XCO2a std dev of cleaned	Av XCO2a mean groups	Min XCO2a	Max XCO2a	Av diff XCO2 (cleaned - MU)	Av std dev XCO2 (cleaned - MU)	count XCO2 (cleaned - MU)	Av diff PBL (cleaned - PBL)	Av std dev PBL (cleaned - PBL)	count PBL (cleaned - PBL)	Std1 values	Std2 values	Std3 values	Std4 values
33R020150114	RR1501_1leg1	1/15/15	1/29/15	38.02	21.21	-157.97	-122.62	59	58	0.0666	400.33	399.18	404.57	-1.96	0.644	7	-1.73	0.797	43	282.55	380.22	453.04	539.38
33R020150130	RR1501_1leg2	1/30/15	2/12/15	37.68	32.58	-127.39	-117.24	76	69	0.0764	402.03	400.09	424.6	0.0571	2.57	4	-1.2	3.72	32	282.55	380.22	453.04	539.38
33R020150227	RR1502	3/1/15	3/30/15	24.74	-17.52	-149.61	-120.16	133	131	0.0585	399	397.16	401.69	-1.33	0.679	22	-1.55	0.665	70	282.55	380.22	453.04	539.38
33R020150410	RR1503_1leg1	4/10/15	5/12/15	22.50	-17.48	-157.43	-149.62	195	193	0.0676	400.28	396.38	404.67	-0.603	0.696	19	-0.575	0.666	86	282.55	380.22	453.04	539.38
33R020150525	RR1503_1leg2	5/25/15	6/24/15	56.79	21.20	-157.97	-134.80	161	160	0.0559	402.49	395.51	405.65	-0.426	1.33	17	-0.426	1.33	86	282.55	380.22	453.04	539.38
33R020150714	RR1504	07/14/15	07/31/15	60.41	48.10	-156.60	-122.64	77	69	0.0508	390.75	383.73	401.33	-0.995	3.18	5	-0.995	3.18	53	282.55	380.22	453.04	539.38
33R020150806	RR1505	08/06/15	09/04/15	72.05	53.93	-168.92	-152.05	167	166	0.0447	389.44	386.36	396.98	-1.51	0.492	10	-1.51	0.492	104	282.55	380.22	453.04	539.38
33R02015110	RR1507	11/9/03	12/18/15	21.00	-14.34	-170.68	-154.88	139	135	0.058	400.03	397.99	402.66	-0.659	0.366	26	-0.659	0.366	85	282.55	380.22	453.04	539.38
33R020160105	RR1601_1leg1	1/5/16	1/8/16	21.44	21.02	-159.22	-157.81	13	13	0.0471	403.76	402.44	405.79	-0.885	0	1	-0.885	0	2	282.55	380.22	453.04	539.38
33R020160112	RR1601_1leg2	1/12/16	2/9/16	21.28	2.63	-165.95	-157.20	83	73	0.0415	402.9	400.61	405.73	-1.32	0.356	23	-1.32	0.356	52	282.55	380.22	453.04	539.38
33R02016016	RR1602	2/16/16	3/20/16	25.78	-8.00	-157.95	-119.82	157	154	0.0485	403.4	400.4	406.22	-1.19	0.807	21	-1.19	0.807	80	282.55	380.22	453.04	539.38
33R020160330	RR1603	3/20/16	4/25/16	32.64	14.96	-117.42	-98.95	95	93	0.0302	406.35	405.3	410.38	-1.42	0.219	10	-1.42	0.219	40	282.55	380.22	453.04	539.38
33R020160505	RR1604_1leg1	5/6/16	5/21/16	37.97	25.09	-123.60	-112.63	95	95	0.0442	407.02	404.11	408.65	-0.851	0.468	10	-0.851	0.468	41	282.55	380.22	453.04	539.38
33R020160524	RR1604_1leg2	5/24/16	6/7/16	52.40	37.77	-130.88	-122.51	80	79	0.0502	406.65	405.53	407.78	-0.489	0.337	6	-0.489	0.337	30	282.55	380.22	453.04	539.38
33R020161119	RR1606	11/13/16	12/1/17	32.72	-60.82	-117.51	-75.28	141	132	0.0571	403.62	400.84	424.49	0.365	3.35	25	0.365	3.35	87	282.55	380.22	453.04	539.38
33R020170220	RR1701	2/20/17	3/23/17	29.16	-35.00	-67.70	-21.98	118	112	0.0747	405.2	399.87	411.67	-0.758	1.48	24	-0.758	1.48	87	282.55	380.22	453.04	539.38
33R020170508	RR1702	5/13/17	5/19/17	-18.90	-19.77	-85.32	-75.63	12	12	0.07	401.61	401.25	402.73	-0.668	0	1	-0.668	0	9	282.55	380.22	453.04	539.38
33R020170528	RR1703	5/28/17	6/25/17	8.10	-18.83	-111.08	-78.09	91	90	0.0605	404.52	401.63	406.23	-1.52	0.899	17	-1.52	0.899	66	282.55	380.22	453.04	539.38
33R020170718	RR1704	7/18/17	8/21/17	30.09	18.83	-97.73	-79.18	131	126	0.0605	404.77	391.83	414.29	0.383	3.3	22	0.383	3.3	84	282.55	380.22	453.04	539.38
33R020180222	RR1801	02/16/18	03/01/18	32.77	25.76	-80.12	-75.50	32	22	0.0874	414.96	409.73	421.09	3.67	1.4	5	3.67	1.4	12	282.55	380.22	453.04	539.38
33R020180307	RR1802	3/7/18	4/14/18	26.25	-35.29	-80.05	-31.16	160	133	0.08	409.81	403.22	422.91	1.81	2.54	25	1.81	2.54	114	282.55	380.22	453.04	539.38
33R020180423	RR1803	4/23/18	6/4/18	18.00	-30.01	-31.03	69.86	150	107	0.0849	411.38	404.72	418.52	5.26	3.19	22	5.26	3.19	66	282.55	380.22	453.04	539.38
33R020180728	RR1805	8/6/18	8/31/18	21.23	-8.06	-180.00	-180.00	70	70	0.0661	406.58	403.21	407.15	0.0633	0.474	17	0.0633	0.474	50	282.55	380.22	453.04	539.38
33R020180910	RR1806	9/10/18	10/7/18	21.22	-8.02	-157.96	-111.40	127	127	0.0662	406.35	403.74	407.16	-0.0405	0.389	20	-0.0405	0.389	105	282.55	380.22	453.04	539.38
33R020181008	RR1806_Transit	10/8/18	10/12/18	7.58	7.07	-107.20	-87.55	14	14	0.0622	406.44	406.14	406.67	0.13	0.284	2	0.13	0.284	13	282.55	380.22	453.04	539.38
33R020190301	RR1902	03/01/19	03/21/19	32.85	11.35	-79.95	-22.47	83	83	0.0605	412.55	411.13	414.47	1.65	2.11	10	1.65	2.11	19	282.55	380.22	408.01	430.52
33R020190409	RR1903	04/11/19	04/30/19	35.94	31.74	-79.82	-74.78	56	48	0.0718	416.67	415.17	412.2	0.626	2.11	10	0.626	2.11	19	282.55	380.22	408.01	430.52
33R020190512	RR1904	5/12/19	5/25/19	41.28	39.41	-71.34	-70.60	51	45	0.0812	415.66	409.87	423.04	-0.215	0.912	3	-0.215	0.912	23	282.55	380.22	408.01	430.52
33R020190528	RR1904_Transit	5/28/19	6/1/19	41.35	32.61	-79.50	-70.92	17	15	0.0968	417.65	411.76	442.57	4.45	5.22	3	4.45	5.22	10	282.55	380.22	408.01	430.52
33R020191203	RR1907	12/19/19	12/19/19	32.67	16.60	-80.06	-61.92	57	51	0.0785	417.83	411.31	442.57	4.45	5.22	3	4.45	5.22	10	282.55	380.22	408.01	430.52
33R020200106	RR2001	1/10/20	2/13/20	15.87	12.99	-55.67	-50.96	94	44	0.0976	413.82	410.97	417.86	-0.319	1.04	7	-0.319	1.04	17	282.55	380.22	408.01	430.52
33R020200221	RR2002_Transit	2/12/20	3/11/20	13.11	-3.76	-59.63	-18.19	80	75	0.0943	411.53	408.45	416.24	-0.0118	1.02	17	-0.0118	1.02	70	282.55	380.22	408.01	430.52
33R020200321	RR2002	03/21/20	04/17/20	36.82	41.50	-75.76	-18.44	91	88	0.0844	414.1	408.71	422.39	0.779	1.51	25	0.779	1.51	80	282.55	380.22	408.01	430.52
33R020201010	RR2006	10/10/20	11/12/20	37.01	13.68	-79.92	-50.91	85	80	0.0708	415.17	412.2	444.2	2.68	4.95	15	2.68	4.95	59	282.55	380.22	408.01	541.5
33R020201016	RR2007	11/28/20	12/20/20	37.01	15.43	-80.14	-51.48	87	82	0.0867	416.67	415.17	412.2	0.828	2.11	10	0.828	2.11	19	282.55	380.22	408.01	541.5
33R020201015	RR2101	1/15/21	2/24/21	26.35	-4.00	-81.81	-22.57	163	160	0.0907	416.9	413.03	422.51	0.524	1.68	30	0.524	1.68	136	282.55	380.22	408.01	541.5
33R020201035	RR2101_Transit	3/15/21	3/30/21	32.44	6.37	-111.37	-79.45	61	57	0.0809	419.34	416.49	425.03	1.31	1.27	17	1.31	1.27	55	282.55	380.22	408.01	541.5
33R0202010613	RR2102	06/13/21	07/25/21	52.40	31.33	-130.88	-117.23	147	139	0.08	416.1	409.34	423.81	1.06	2.26	11	1.06	2.26	83	282.55	380.22	408.01	541.5
33R0202010814	RR2103_Transit	08/14/21	08/30/21	32.60	6.30	-117.37	-79.37	52	50	0.0903	413.4	410.02	415.75	0.49	0.802	15	0.49	0.802	44	282.55	380.22	408.01	541.86
33R0202010914	RR2103	9/13/21	10/21/21	30.12	18.83	-97.72	-79.62	141	134	0.08	413.87	407.46	425.12	0.795	1.76	26	0.795	1.76	88	282.55	380.22	408.01	541.86
33R020201112	RR2105	11/12/21	12/19/21	27.57	-8.00	-83.30	-22.55	157	156	0.0927	417	414.7	420.12	0.828	1.21	23	0.828	1.21	97	242.02	376.1	408.21	541.86
33R020201017	RR2201	1/12/22	1/29/22	26.35	14.53	-80.05	-23.49	57	57	0.0937	419.57	418.08	422.33	0.868	0.852	6	0.868	0.852	40	242.02	376.1	408.21	541.86
33R020202006	RR2203	8/6/22	9/23/22	45.83	26.08	-81.40	-58.17	146	127	0.0918	412.64	407.4	422.84	-0.433	4.03	20	-0.433	4.03	86	232.26	384.3	430.75	591.87
33R020202006	RR2204	10/6/22	10/24/22	26.23	-2.00	-79.94	-50.83	52	51	0.101	414.67	414.45	415.88	-0.646	0.547	7	-0.646	0.547	17	232.26	384.3	430.75	591.87
33R020202101	RR2205	11/01/22	12/09/22	41.39	4.33	-71.39	-22.43	134	130	0.0878	417.89	414.85	443.29	0.277	1.32	28	0.277	1.32	103	232.26	384.3	430.75	591.87
33R020203006	RR2301	3/7/23	5/9/23	64.21	-7.44	-31.39	-7.43	203	158	0.0824	422.63	415.68	427.38	-0.399	1.2	31	-0.399	1.2	111	232.26	399.36	430.75	541.86
33R020203016	RR2302_Transit	5/16/23	6/1/23	64.16	24.17	-86.32	-18.68	50	48	0.0862	423.93	421.74	425.24	-0.534	0.938	10	-0.534	0.938	46	232.26	399.36	430.75	541.86

Table 2: Individual and grouped measurements for all cruises of NOAA ship Ronald H. Brown (2015 to 2023)

cruise		all	atm	after flag_qc	after flag_dir	after flag_spd	# of indiv vals retained	% of indiv retained (clean/atm)	# of co2_mean groups	# w high StD	# of indiv outliers removed	# of groups after cleaning	# of groups removed	mean StDev for grouped dataset	stand dev for cleaned dataset
RB1501_leg1		6011	400	385	355	291	279	69.8	59	7	12	58	1	0.0825	0.0696
RB1501_leg2		6267	420	419	404	358	302	71.9	76	20	56	69	7	0.145	0.0764
RB1502		15743	1035	990	708	607	592	57.2	133	6	15	131	2	0.0703	0.0585
RB1503_leg1		17367	1140	1110	1013	957	932	81.8	195	14	25	193	2	0.0757	0.0676
RB1503_leg2		15972	1051	1045	909	767	760	72.3	161	2	7	160	1	0.0579	0.0559
RB1504		7863	523	492	418	358	313	59.8	77	14	45	69	8	0.117	0.0508
RB1505		15678	1035	1020	858	784	767	74.1	167	9	17	166	1	0.0504	0.0447
RB1507		12522	825	812	721	637	600	72.7	139	19	37	135	4	0.0966	0.058
RB1601_leg1		1554	110	98	98	58	55	50	13	2	3	13	0	0.0872	0.0471
RB1601_leg2		14259	945	871	383	327	287	30.4	83	11	40	73	10	0.0915	0.0415
RB1602		13630	906	775	747	744	729	80.5	157	6	15	154	3	0.0574	0.0485
RB1603		13267	875	588	550	377	369	42.2	95	2	8	93	2	0.0335	0.0302
RB1604_leg1		7840	520	509	496	467	463	89	95	2	4	95	0	0.0461	0.0442
RB1604_leg2		7761	525	438	409	384	375	71.4	80	3	9	79	1	0.0614	0.0502
RB1606		16477	770	749	703	616	577	74.9	141	14	39	132	9	0.0758	0.0571
RB1701		16281	745	724	603	559	508	68.2	118	19	51	112	6	0.0953	0.0747
RB1702		3053	143	128	128	63	63	44.1	12	0	0	12	0	0.07	0.07
RB1703		14791	670	590	468	431	427	63.7	91	1	4	90	1	0.0616	0.0605
RB1704		18115	820	795	724	636	595	72.6	131	15	41	126	5	0.0847	0.0695
RB1801		3828	195	189	172	151	94	48.2	32	17	57	22	10	0.18	0.0824
RB1802		18090	905	871	809	772	603	66.6	160	52	169	133	27	0.146	0.08
RB1803		18830	865	840	752	682	417	48.2	150	83	265	107	43	0.219	0.0849
RB1805		9203	425	424	404	324	320	75.3	70	3	4	70	0	0.0691	0.0661
RB1806		14912	675	670	608	585	585	86.7	127	0	0	127	0	0.0662	0.0662
RB1806_transit		2101	95	95	74	69	69	72.6	14	0	0	14	0	0.0622	0.0622
RB1902		10434	480	454	409	386	384	80	83	2	2	83	0	0.0617	0.0605
RB1903		8372	404	352	286	255	210	52	56	15	45	48	8	0.112	0.0718
RB1904		6654	300	289	248	238	202	67.3	51	10	36	45	6	0.104	0.0812
RB1904_transit		2046	95	95	95	90	70	73.7	17	9	20	15	2	0.146	0.0968
RB1907		6556	305	295	276	270	199	65.2	57	33	71	51	6	0.148	0.0785
RB2001		14033	655	521	485	458	164	25	94	79	294	44	50	0.412	0.0976
RB2002_transit		9119	426	421	421	397	340	79.8	80	27	57	75	5	0.127	0.0963
RB2002		13461	620	602	502	402	374	60.3	91	16	28	88	3	0.102	0.0844
RB2006		10865	525	467	425	389	351	66.9	85	18	38	80	5	0.107	0.0798
RB2007		11163	515	488	449	402	355	68.9	87	25	47	82	5	0.113	0.0867
RB2101		21116	960	945	783	727	674	70.2	163	34	53	160	3	0.105	0.0907
RB2101_transit		8014	365	342	320	304	282	77.3	61	8	22	57	4	0.102	0.0809
RB2102		20955	980	946	805	681	620	63.3	147	25	61	139	8	0.119	0.08
RB2103_transit		8267	395	356	304	252	230	58.2	52	10	22	50	2	0.11	0.0903
RB2103		19846	900	874	751	632	574	63.8	141	24	58	134	7	0.106	0.08
RB2105		20195	3813	3246	3068	2953	722	18.9	157	60	2231	116	41	0.166	0.0922
RB2201		8170	380	376	303	232	224	58.9	57	6	8	57	0	0.0913	0.0837
RB2203		20882	960	923	716	663	538	56	146	53	125	127	19	0.153	0.0918
RB2204		7079	325	322	286	251	216	66.5	52	23	35	51	1	0.131	0.101
RB2205		18055	826	802	665	604	551	66.7	134	28	53	130	4	0.107	0.0878
RB2301		26617	1218	1180	1005	926	638	52.4	203	91	288	158	45	0.18	0.0824
RB2302_transit		6827	315	266	251	232	203	64.4	50	15	29	48	2	0.11	0.0862

3.2 Individual cruise summary comparisons

Results are presented as two tables for each individual cruise, one comparing shipboard $x\text{CO}_2$ measurements to the MBL data product and one comparing shipboard $x\text{CO}_2$ measurements to the CarbonTracker PBL data product. Each of these tables includes columns providing the mean time (in day/decimal-day for the year) of the shipboard $x\text{CO}_2$ measurements associated with the same time/location grid-cell for the MBL or PBL data product, the $x\text{CO}_2$ of the data product, the mean of the shipboard-measured $x\text{CO}_2$, the difference, the number of shipboard measurements used for the comparison, and the standard deviation of the shipboard measurements. At the bottom of the table is the average, standard deviation, minimum and maximum of the shipboard $x\text{CO}_2$ measurements as well as the average and standard deviation of the differences between the boundary layer $x\text{CO}_2$ value and the shipboard $x\text{CO}_2$ measurement. The count of comparisons made and the total number of shipboard measurement sets are included below the column with number of shipboard measurements used for comparison to the respective boundary layer data product.

Also included in the table is a map of the cruise track (if available), color-coded by $f\text{CO}_{2w}$ seawater measurements. These maps are publicly accessible and can be found at <https://www.aoml.noaa.gov/ocd/ocdweb/brown/>. Below each cruise map is a plot to visualize data presented in the table. Each plot contains 3 subplots: (top) a time series of the shipboard atmospheric $x\text{CO}_2$ measurement groups before and after cleaning and the associated MBL and PBL values; (middle) standard deviations of $x\text{CO}_2$ measurement groups before and after cleaning; and (bottom) the difference between the atmospheric boundary layer $x\text{CO}_2$ value (either MBL or PBL) and the mean of the associated shipboard $x\text{CO}_2$ measurements.

3.2.1 Cruise measurement comparisons to the GlobalView MBL dataset.

Table 3: MBL cruise summary for RB1501, leg1

time	lat	mb1_co2	ship_co2	difference	fshipboard	std of diffs
15.23092	21.44	401.63	400.44	-1.19	3	0.31
16.07916	23.63	401.84	399.6	-2.24	9	0.32
17.27723	26.85	401.94	399.49	-2.45	4	0.19
18.39859	29.79	401.98	399.67	-2.31	7	0.28
19.35835	33.11	402.29	400.14	-2.16	3	0.12
21.5565	38	402.42	399.81	-2.61	17	0.22
27.879	37.99	402.68	401.9	-0.78	15	1.51
		avg	400.15	-1.96		
		st. dev.	0.78	0.64		
		count			7	
		sum			58	
		min	399.49			
		max	401.9			

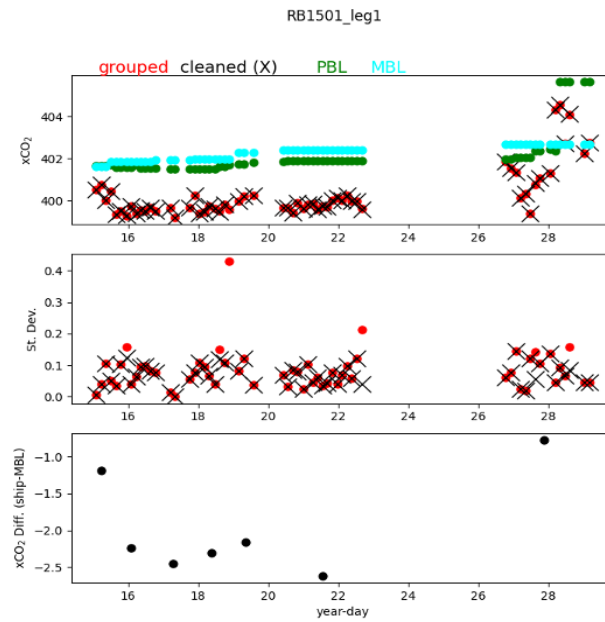
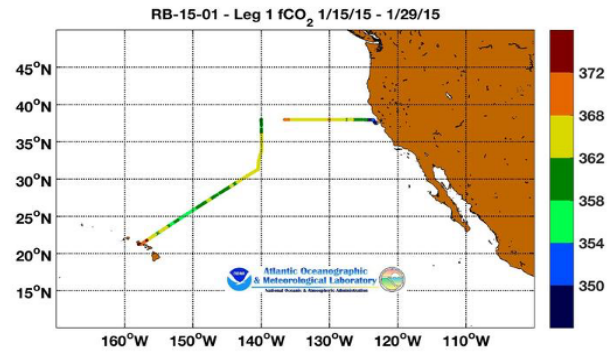


Table 4: MBL cruise summary for RB1501, leg2

time	lat	mb1_co2	ship_co2	difference	fshipboard	std of diffs
32.33597	37.06	402.68	401.88	-0.79	21	2
36.81998	36.86	402.92	400.77	-2.15	26	0.52
40.66003	34.06	402.78	401.52	-1.25	14	0.45
42.63076	33.14	403	407.42	4.42	9	8.24
		avg.	402.9	0.06		
		st. dev.	2.64	2.57		
		count			4	
		sum			70	
		min	400.77			
		max	407.42			

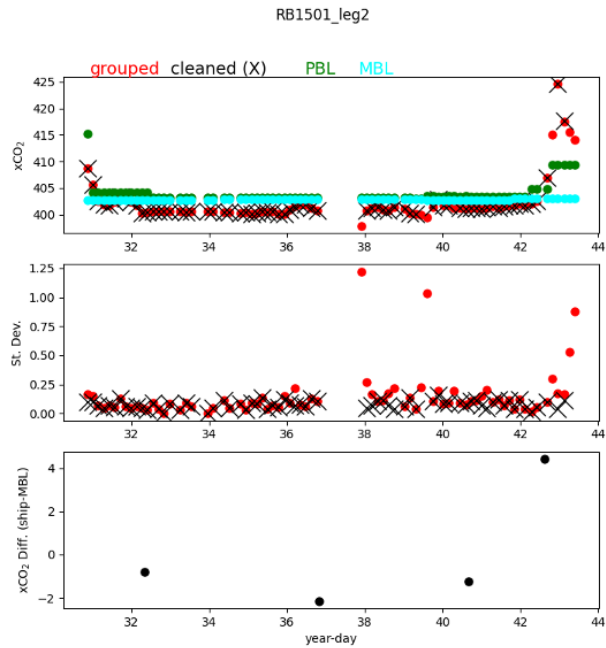
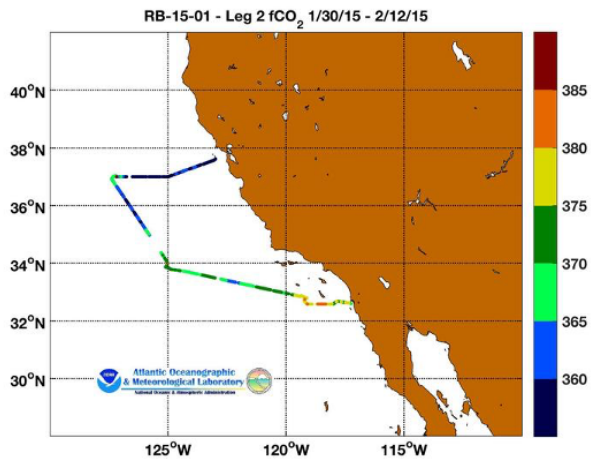


Table 5: MBL cruise summary for RB1502

time	lat	mbi_co2	ship_co2	difference	shipboard	std of diffs
60.9731	23.36	403.12	401.38	-1.74	5	0.24
61.54133	20.59	402.91	401.24	-1.67	1	0
63.77522	10.27	401.81	399.9	-1.91	1	0
64.27047	8.48	401.29	399.92	-1.37	6	0.19
64.97311	7.8	401.44	399.92	-1.52	3	0.14
65.71891	5.57	400.86	399.86	-1	6	0.17
66.79415	2.56	400.24	399.4	-0.84	8	0.43
68.07705	0.02	399.63	398.68	-0.95	8	0.59
70.00625	-2.74	399.08	398.72	-0.35	8	1.07
71.12032	-5.82	398.64	397.77	-0.88	5	0.15
71.85222	-7.91	398.36	397.54	-0.82	4	0.09
75.56706	2.99	400.36	397.96	-2.4	5	0.13
76.33984	5.55	401	399.54	-1.46	6	0.83
77.60259	8.32	401.59	400.6	-0.99	11	0.28
79.2274	5.55	401	398.84	-2.16	9	0.8
79.98694	4.57	401.14	398.19	-2.95	2	0.17
80.66944	2.63	400.48	398.14	-2.34	7	0.14
82.36988	0.04	399.82	398.66	-1.15	14	0.15
84.0656	-2.58	399.22	398.77	-0.45	8	0.14
85.18663	-5.42	398.74	398.23	-0.52	8	0.29
86.02884	-8.18	398.42	397.73	-0.69	4	0.09
87.56392	-12.25	398.18	397.18	-1	2	0.02
		avg.	399.01	-1.33		
		st. dev.	1.15	0.68		
		count			22	
		sum			131	
		min	397.18			
		max	401.38			

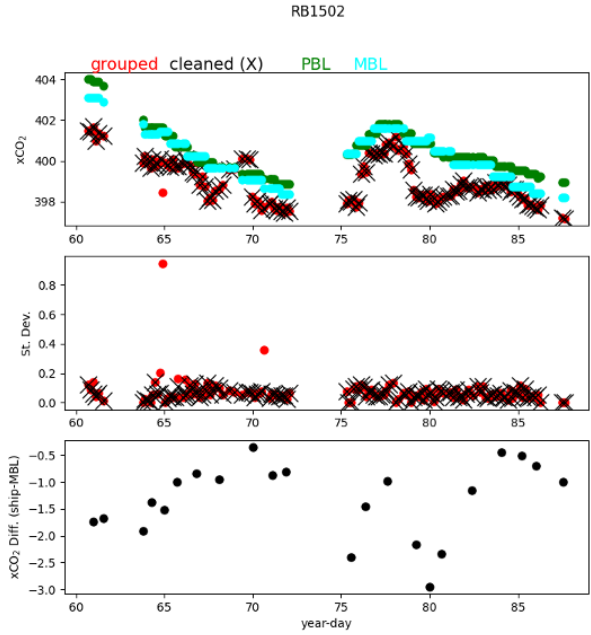
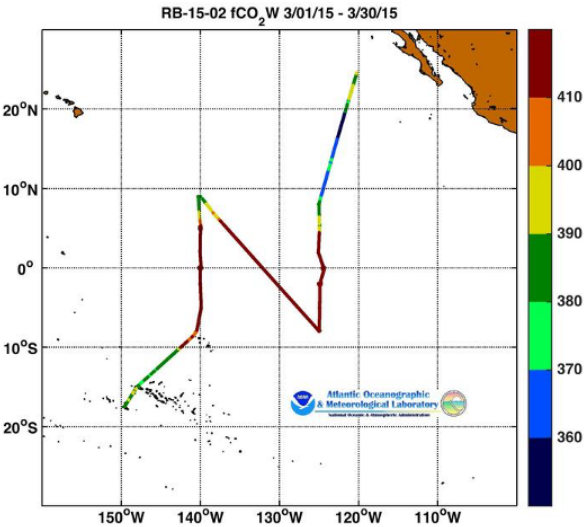


Table 6: MBL cruise summary for RB1503, leg1

time	lat	mb1_co2	ship_co2	difference	f shipboard	std of diffs
101.2357	-16.58	397.8	397.01	-0.78	6	0.21
102.1495	-14.87	397.94	396.81	-1.13	7	0.18
102.9201	-13.54	397.82	396.88	-0.93	4	0.04
104.1126	-11.6	397.99	397.1	-0.89	13	0.33
105.8676	-8.65	398.24	397.51	-0.74	12	0.12
107.8338	-5.64	398.65	398.38	-0.27	16	0.63
109.5873	-3.54	399.24	398.77	-0.47	9	0.42
111.4121	-2.11	399.22	399.68	0.46	17	0.68
114.6246	-0.15	400.02	398.73	-1.28	25	0.32
117.3743	1.73	400.9	398.46	-2.45	2	0.16
119.0691	3.06	400.98	399.55	-1.43	8	1.37
121.5368	5.91	401.92	401.34	-0.58	8	0.83
123.2739	8.74	402.78	402.9	0.12	12	0.26
124.8183	11.34	403.49	403.69	0.21	10	0.2
125.7292	12.82	403.48	404.09	0.61	3	0.22
126.8536	14.51	404.03	403.83	-0.2	12	0.13
128.68	17.41	404.41	403.67	-0.74	13	0.24
130.5748	20.55	404.63	404.2	-0.43	14	0.32
131.6934	22.32	404.74	404.21	-0.54	2	0.08
		avg	400.36	-0.6		
		st. dev.	2.84	0.7		
		count			19	
		sum			193	
		min	396.81			
		max	404.21			

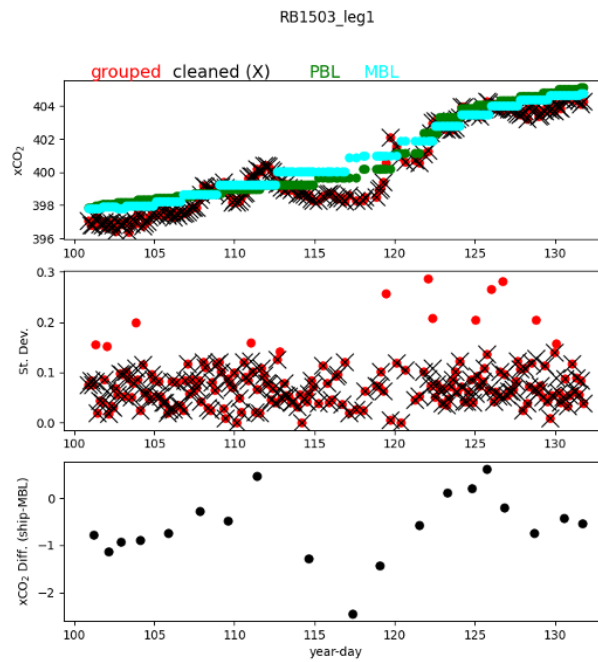
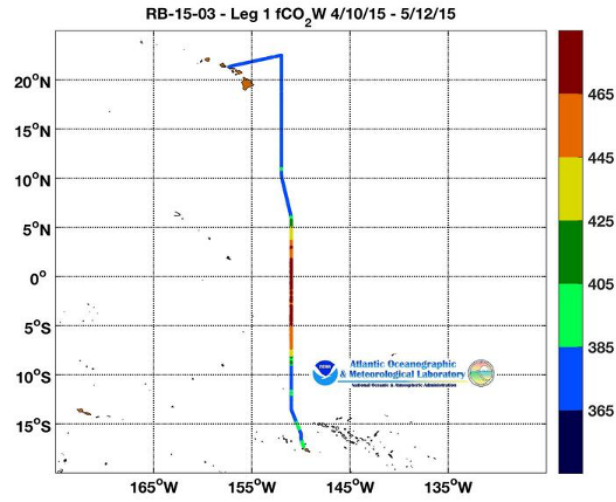


Table 7: MBL cruise summary for RB1503, leg2

time	lat	mb_l_co2	ship_co2	difference	#shipboard	std of diffs
146.3933	21.63	404.29	404.85	0.56	6	0.52
147.3074	22.51	404.28	404.21	-0.07	6	0.16
148.8025	24.82	403.9	404.01	0.11	3	0.14
150.0088	26.69	403.76	403.99	0.23	12	0.4
152.0191	29.95	403.62	403.76	0.14	14	0.31
154.326	33.69	403.54	403.81	0.27	7	0.35
155.6562	35.75	403.57	403.61	0.04	4	0.17
156.8508	37.46	402.88	403.33	0.45	12	0.58
158.9021	40.64	402.97	403.47	0.5	14	0.34
161.2943	44.58	403.19	402.97	-0.22	15	0.41
162.9926	47.29	403.49	404.29	0.8	3	0.09
164.1323	49.12	402.34	403.2	0.86	8	0.52
166.7057	53.41	402.54	402.24	-0.3	22	1.84
168.9724	56.02	402.73	399.6	-3.14	8	0.4
170.429	54.49	402.54	399.64	-2.9	8	0.3
171.9923	54.99	400.99	399.73	-1.27	8	0.36
174.145	56.26	401.07	397.78	-3.29	9	1.3
	avg.		402.62	-0.43		
	st. dev.		2.02	1.33		
	count				17	
	sum				159	
	min		397.78			
	max		404.85			

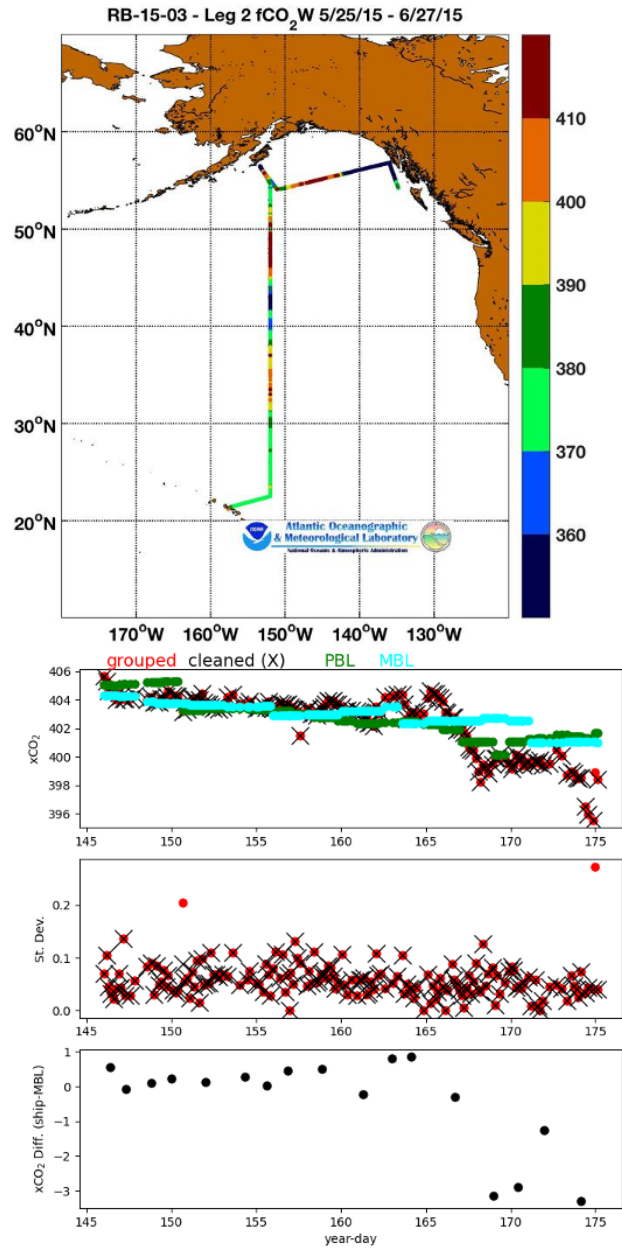


Table 8: MBL cruise summary for RB1504

time	lat	mbi_co2	ship_co2	difference	fshipboard	std of diffs
195.9995	48.21	395.95	399.03	3.09	2	2.29
198.5046	54.64	395.5	398.17	2.67	8	0.63
200.8656	56.89	395.23	392.08	-3.14	7	1.03
205.3511	58.81	393.48	389.4	-4.07	34	1.7
211.0112	57.65	392.08	388.56	-3.52	18	2.2
		avg.	393.45	-1		
		st. dev.	4.37	3.18		
		count			5	
		sum			69	
		min	388.56			
		max	399.03			

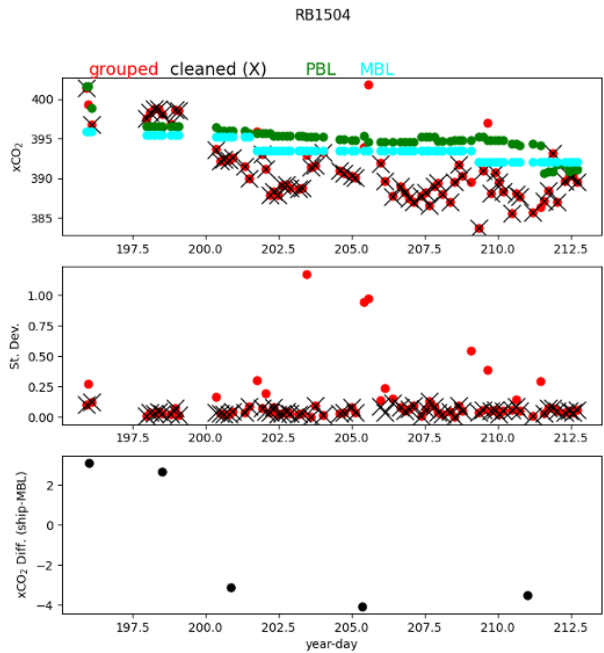
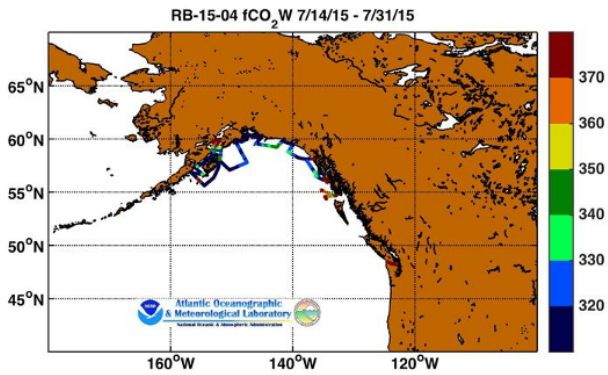


Table 9: MBL cruise summary for RB1505, legs 1 and 2

time	lat	mb1_co2	ship_co2	difference	fshipboard	std of diffs
219.0805	56.39	391.14	389.37	-1.78	3	0.26
220.1429	54.62	391.5	390.66	-0.84	11	3.68
221.7646	59.11	391.14	389.95	-1.2	7	1.98
222.7219	63.63	390.96	389.42	-1.55	5	0.65
223.9837	69.57	390.88	389.33	-1.55	5	0.84
228.4376	70.77	390.45	389.08	-1.37	42	1.29
235.5958	71.4	390.52	389.67	-0.85	46	1.52
241.6246	70.42	391.03	388.82	-2.21	25	0.37
245.0854	64.68	391.23	389.87	-1.35	13	1.22
246.5607	58.18	391.45	389.03	-2.43	8	0.15
		avg.	389.52	-1.51		
		st. dev.	0.51	0.49		
		count			10	
		sum			165	
		min	388.82			
		max	390.66			

RB1505

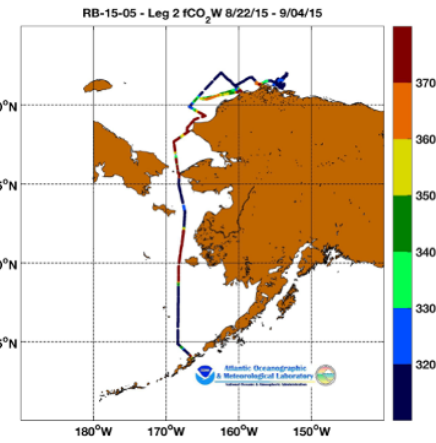
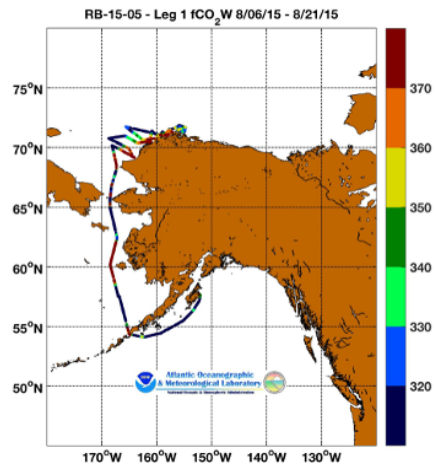
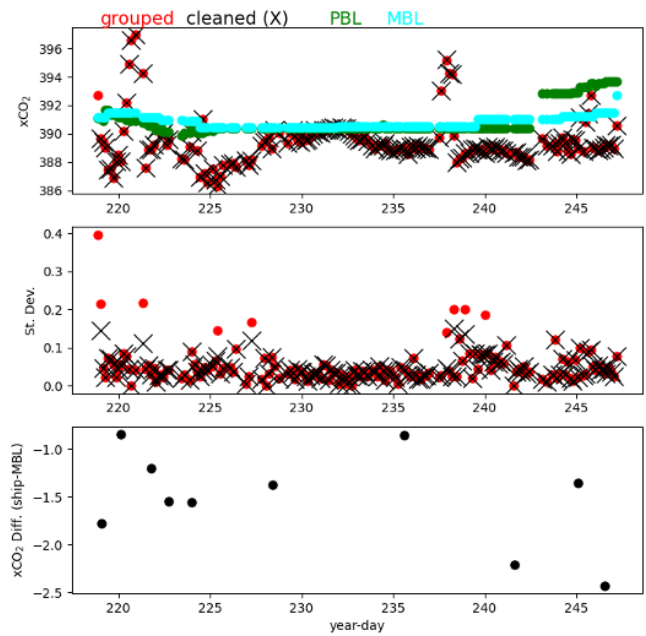


Table 10: MBL cruise summary for RB1507

time	lat	mbi_co2	ship_co2	difference	fshipboard	std of diffs
327.1352	17.39	401.11	399.89	-1.22	6	0.38
327.9095	14.44	400.8	400.09	-0.72	5	0.11
328.6804	11.67	400.55	399.92	-0.63	6	0.07
329.7514	8.38	400.34	399.84	-0.5	7	0.1
330.5747	6.29	400.2	399.75	-0.45	3	0.03
331.1825	4.91	400.54	400.01	-0.53	3	0.19
332.4422	2.28	400.41	399.66	-0.75	7	0.35
334.3365	0.01	400.31	399.4	-0.92	11	0.33
336.1703	-2.89	400.24	399.56	-0.68	6	0.11
337.177	-5.4	400.14	399.63	-0.52	7	0.09
337.8172	-7.58	400.01	399.02	-0.99	2	0.29
338.5121	-9.12	400.15	399.29	-0.86	2	0.02
339.002	-11.48	399.95	399.18	-0.77	5	0.12
340.0238	-13.66	399.72	399.04	-0.68	8	0.18
344.1755	-7.78	400.15	399.63	-0.52	1	0
344.7254	-5.67	400.32	399.68	-0.64	6	0.2
345.5876	-2.83	400.44	399.8	-0.64	5	0.06
346.0882	-1.88	400.66	399.77	-0.89	2	0.03
346.8512	-0.05	400.84	399.63	-1.21	8	0.63
348.0473	2.35	401.04	399.9	-1.14	8	0.15
349.1016	5.32	401.27	400.68	-0.6	7	0.2
349.9427	8.48	401.55	401.63	0.07	5	0.7
350.6442	11.61	401.88	402.42	0.54	4	0.24
351.2817	14.58	402.23	401.97	-0.26	4	0.25
351.9107	17.42	402.6	401.91	-0.69	5	0.19
352.3983	19.4	402.98	402.04	-0.94	2	0.17
		avg.	400.13	-0.66		
		st. dev.	0.97	0.37		
		count			26	
		sum			135	
		min	399.02			
		max	402.42			

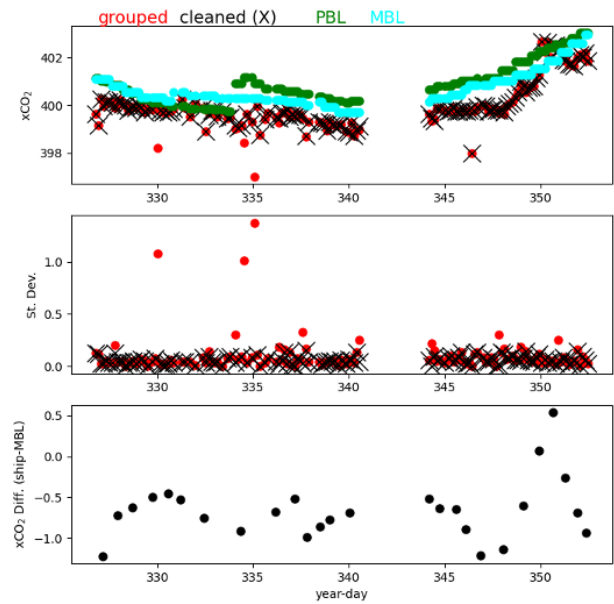
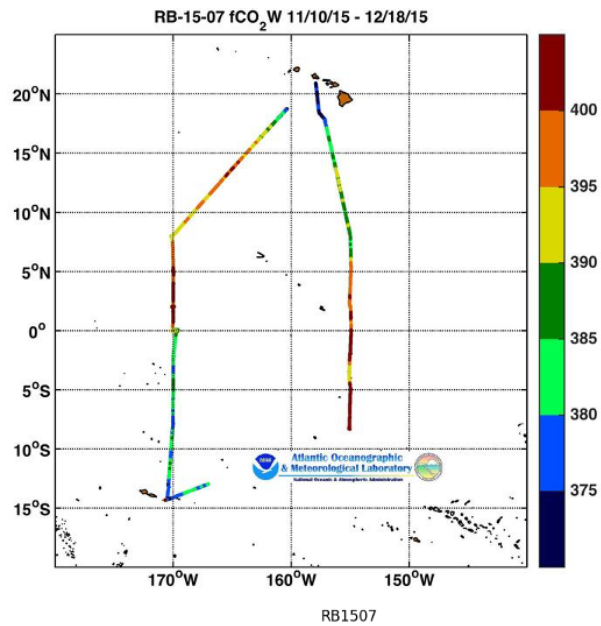


Table 11: MBL cruise summary for RB1601, leg 1

time	lat	mb1_co2	ship_co2	difference	fshipboard	std of diffs
6.748823	21.13	404.65	403.76	-0.88	13	0.98
		avg.	403.76	-0.88		
		st. dev.	0	0		
		count			1	
		sum			13	
		min	403.76			
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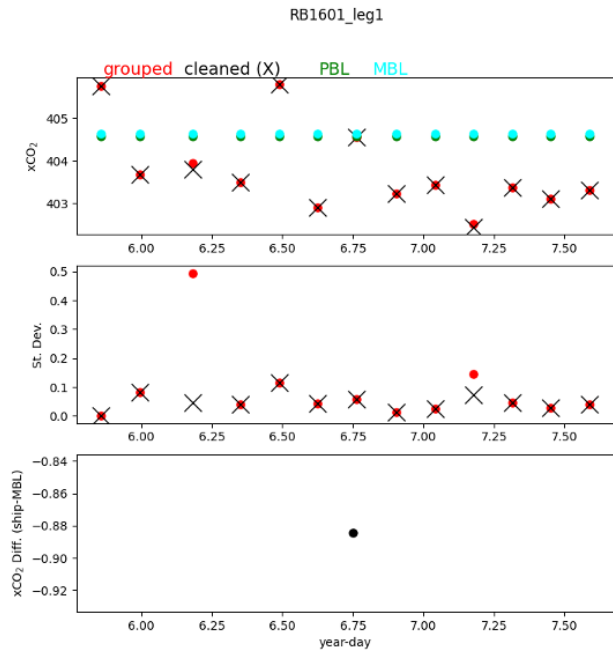
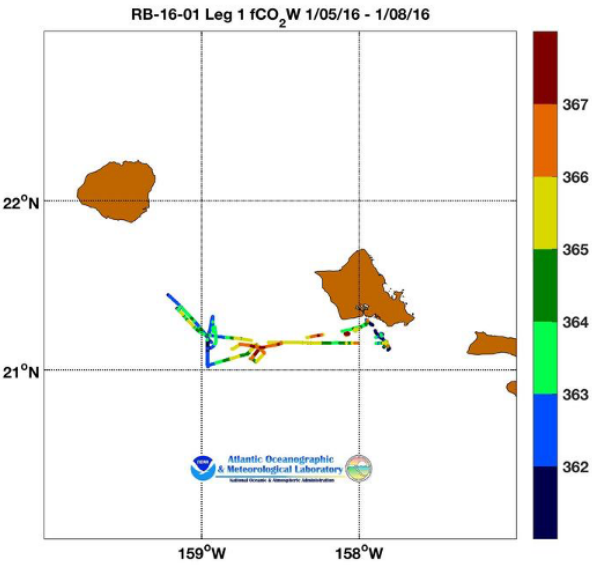


Table 12: MBL cruise summary for RB1601, leg 2

time	lat	mbi_co2	ship_co2	difference	fshipboard	std of diffs
17.92361	8.56	403.42	402.09	-1.33	4	0.09
19.22278	8.59	403.82	402.12	-1.7	3	0.05
21.64906	6.54	403.3	402.06	-1.24	7	0.24
22.72943	7.68	403.82	402.39	-1.43	2	0.11
24.21058	6.88	403.3	402.2	-1.1	2	0.03
24.41553	7.36	403.82	402.22	-1.6	1	0
25.62219	6.62	403.3	402.14	-1.16	5	0.08
28.00302	3.58	403.13	401.92	-1.21	4	0.16
28.35523	4.66	403.64	402.1	-1.54	1	0
29.19982	3.52	403.13	402.02	-1.11	3	0.06
29.54218	4.76	403.64	402.02	-1.62	2	0
30.24856	3.75	403.13	401.77	-1.36	3	0.46
30.81889	4.68	403.64	401.42	-2.22	2	0.81
31.97469	3.91	403.13	402.25	-0.88	1	0
32.24907	4.92	403.64	402.34	-1.3	1	0
33.59652	5.14	403.64	401.73	-1.91	1	0
34.84584	3.86	403.43	402.06	-1.37	1	0
35.9231	7.18	403.95	403.05	-0.9	1	0
36.89737	8.41	404.48	403.15	-1.34	9	0.24
38.16	11.43	405.02	403.8	-1.22	5	0.07
38.86165	14.23	405.53	403.97	-1.55	5	0.22
39.63623	17.3	405.96	405.28	-0.69	6	0.33
40.34212	19.94	406.27	405.58	-0.69	4	0.1
		avg.	402.59	-1.32		
		st. dev.	1.06	0.36		
		count			23	
		sum			73	
		min	401.42			
		max	405.58			

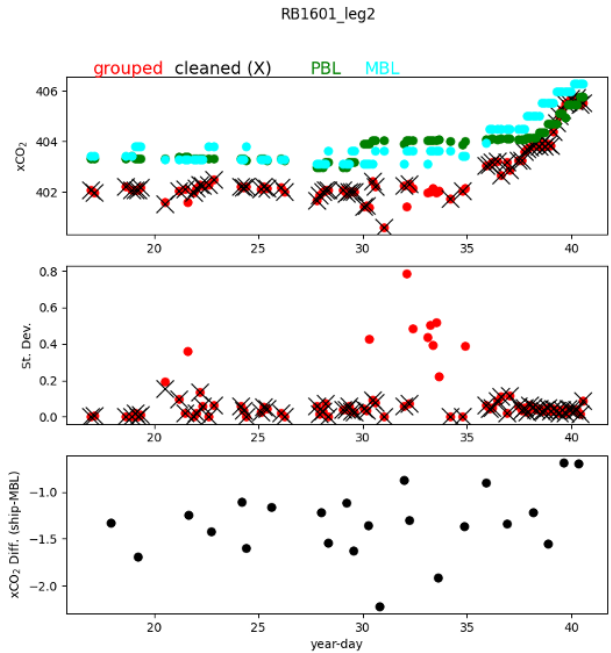
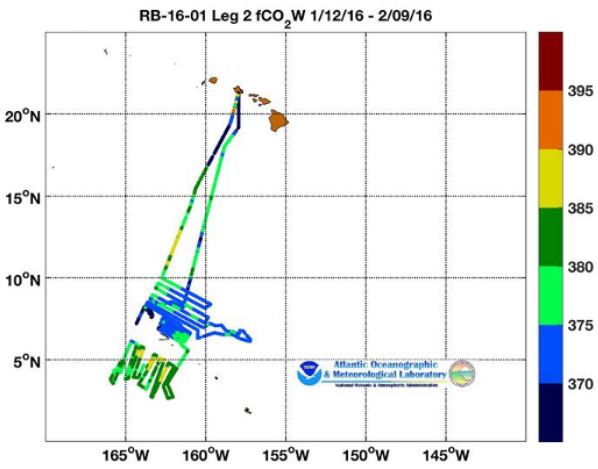


Table 13: MBL cruise summary for RB1602

time	lat	mbi_co2	ship_co2	difference	fshipboard	std of diffs
48.27286	20.38	406.5	403.79	-2.72	5	0.27
48.83449	18.54	406.19	404.19	-2	3	0.24
50.67736	14.41	405.96	403.23	-2.73	10	0.25
51.83824	11.71	405.49	403.46	-2.03	6	0.17
53.34499	9.04	404.99	403.36	-1.62	11	0.2
54.77126	5.67	404.48	403.51	-0.97	7	0.18
56.2265	2.35	403.96	403.67	-0.28	11	0.16
60.10277	-2.7	403.06	402.81	-0.24	8	0.24
62.14035	-5.9	402.5	401.86	-0.63	16	0.85
64.0776	-7.68	401.98	400.64	-1.34	7	0.15
64.87196	-7.85	402.1	400.68	-1.42	3	0.12
65.62085	-5.63	402.63	400.94	-1.69	7	0.23
66.67806	-2.78	403.21	403.02	-0.19	8	0.73
67.87047	-0.08	403.81	403.67	-0.13	9	0.2
69.06623	2.6	404.39	403.74	-0.64	8	0.12
70.26137	5.76	404.92	404.18	-0.74	9	0.55
71.4532	7.84	405.42	405.64	0.22	8	0.13
73.66073	14.93	406.52	405.09	-1.42	3	0.16
74.3074	17.75	406.89	405.23	-1.66	4	0.54
74.94483	20.5	407.2	406.02	-1.19	5	0.03
75.66045	23.61	407.43	405.88	-1.55	6	0.23
	avg.		403.55	-1.19		
	st. dev.		1.53	0.81		
	count				21	
	sum				154	
	min		400.64			
	max		406.02			

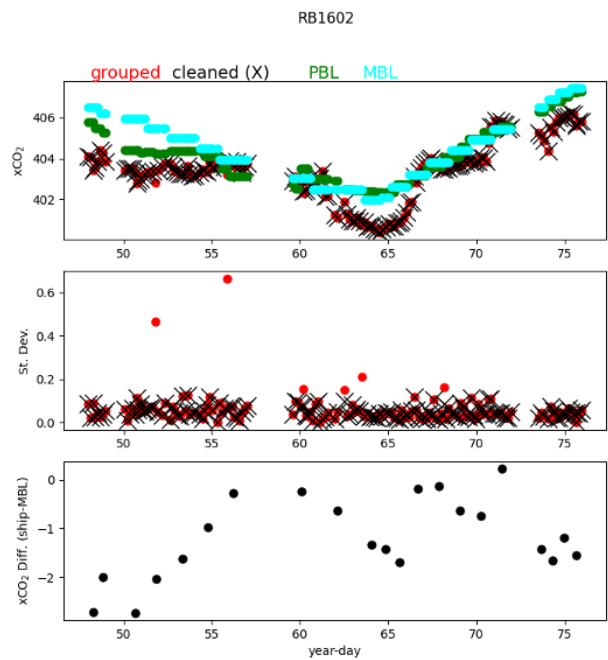
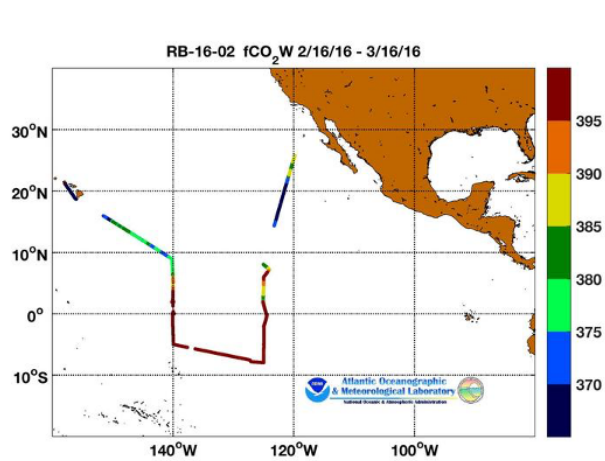


Table 14: MBL cruise summary for RB1603

time	lat	mb1_co2	ship_co2	difference	fshipboard	std of diffs
96.19171	19.33	407.88	406.05	-1.83	2	0.04
98.29989	17.62	407.63	406	-1.62	16	0.57
101.4168	15.13	407.28	405.79	-1.49	15	0.18
102.8644	15.55	407.53	406.02	-1.51	3	0.01
104.579	17.9	407.87	406.67	-1.2	9	1.38
106.7282	15.9	407.53	406.29	-1.24	4	0.04
108.5262	16.41	407.87	406.29	-1.58	18	0.09
111.2603	17.54	408.07	406.75	-1.32	12	0.37
113.044	20.06	408.27	406.93	-1.34	10	0.18
114.0258	23.35	408.35	407.29	-1.05	4	0.36
		avg.	406.41	-1.42		
		st. dev.	0.46	0.22		
		count			10	
		sum			93	
		min	405.79			
		max	407.29			

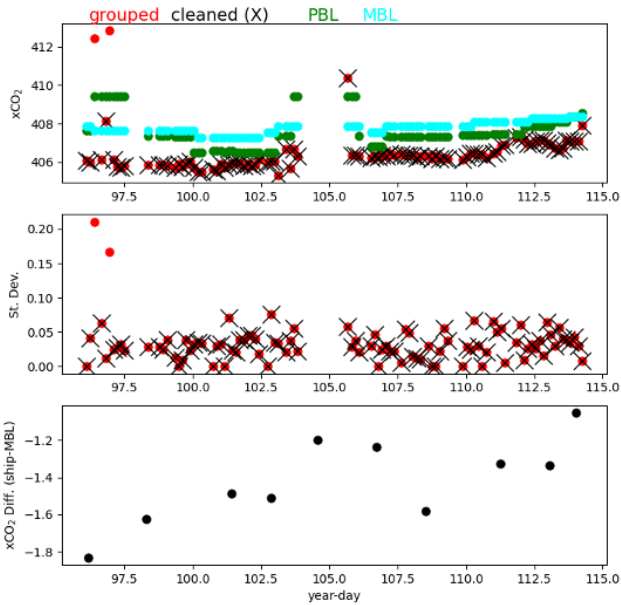
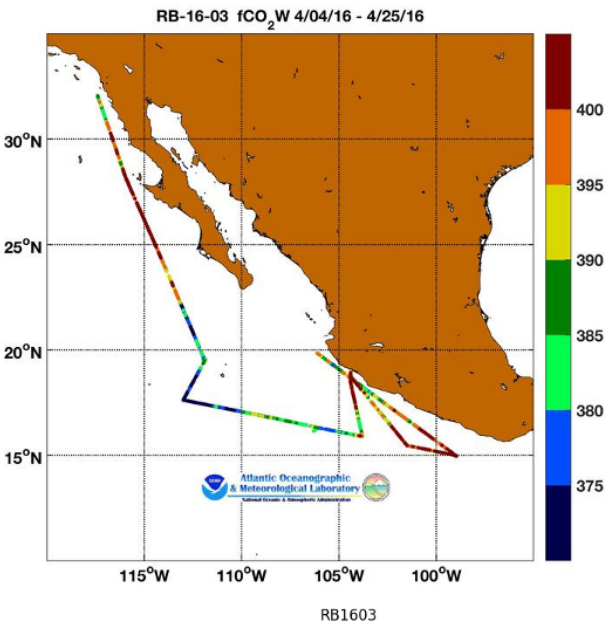


Table 15: MBL cruise summary for RB1604, leg 1

time	lat	mb1_co2	ship_co2	difference	fshipboard	std of diffs
127.2764	32.32	408.12	407.29	-0.83	2	0.21
127.9055	29.98	408.19	407.16	-1.03	5	0.62
128.6083	26.57	408.32	407.42	-0.9	2	0.04
129.0307	25.09	408.41	407.72	-0.69	1	0
130.4436	26.02	408.31	406.94	-1.38	19	0.5
132.9543	28.6	408.19	407.39	-0.8	2	0.05
134.0783	30.62	407.94	406.73	-1.22	14	0.51
137.0454	33.09	407.82	407	-0.81	28	0.63
139.9082	36.43	407.81	406.57	-1.24	11	1.21
141.4775	37.47	407.32	407.72	0.4	11	0.45
		avg.	407.19	-0.85		
		st. dev.	0.37	0.47		
		count			10	
		sum			95	
		min	406.57			
		max	407.72			

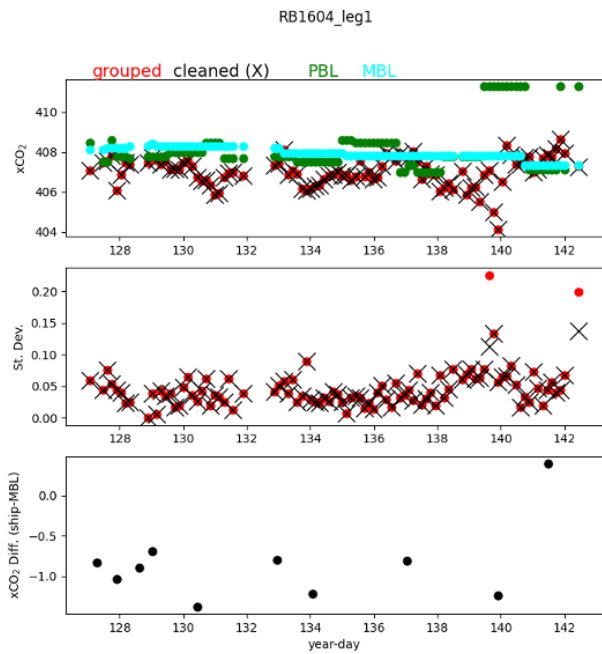
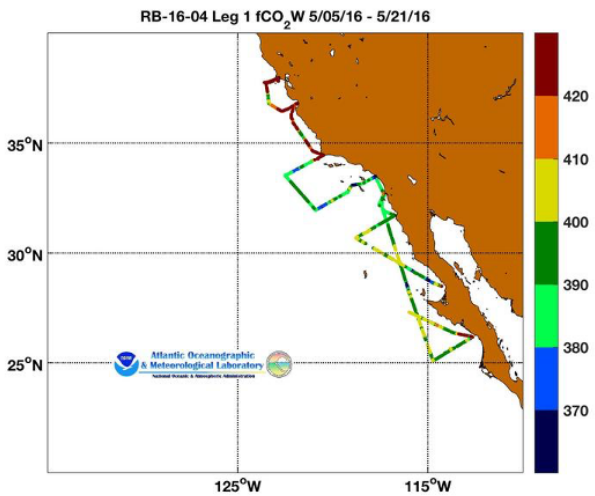


Table 16: MBL cruise summary for RB1604, leg 2

time	lat	mb1_co2	ship_co2	difference	fshipboard	std of diffs
145.237	38.1	407.32	406.94	-0.38	3	0.07
146.9093	40.9	407.42	406.64	-0.77	19	0.63
150.1525	44.99	406.95	407.11	0.16	22	0.52
153.9423	47.89	407.26	406.56	-0.7	25	0.33
156.178	49.61	406.34	405.94	-0.4	4	0.09
156.9106	51.62	406.61	405.77	-0.83	6	0.11
		avg.	406.49	-0.49		
		st. dev.	0.49	0.34		
		count			6	
		sum			79	
		min	405.77			
		max	407.11			

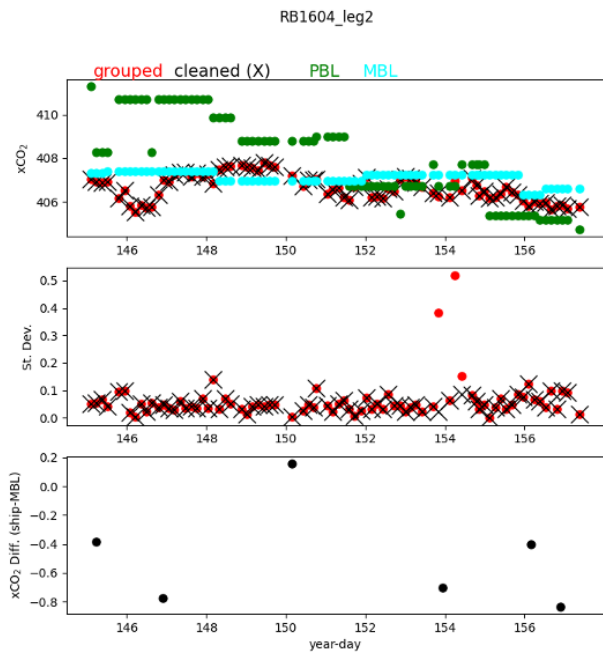
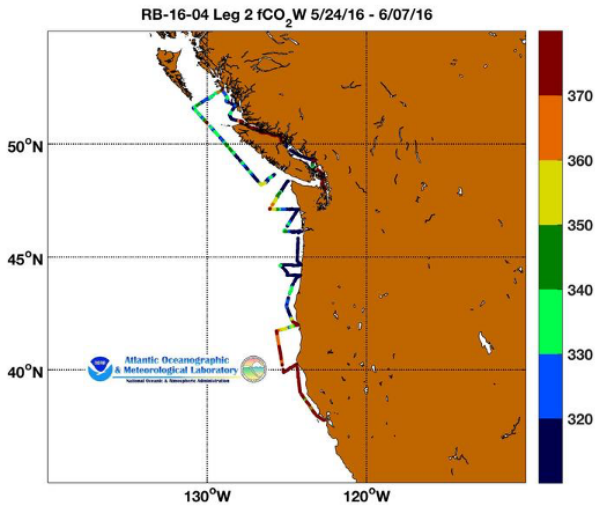
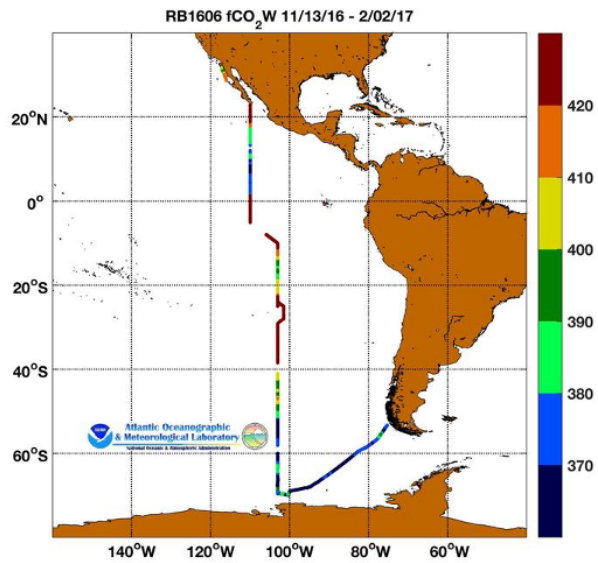


Table 17: MBL cruise summary for RB1606

time	lat	mbi_co2	ship_co2	difference	f shipboard	std of diffs
319.3331	29.92	405.85	420.03	14.18	3	3.7
324.8742	32.67	406.68	414.3	7.62	1	0
325.5173	31.17	406.4	408.07	1.66	1	0
329.552	22.72	405.72	406.69	0.97	5	1.06
330.6483	21.25	405.33	405.14	-0.19	2	0.06
331.3476	19.83	405.77	405.11	-0.66	5	0.17
332.5461	17.29	405.4	404.87	-0.53	7	0.18
333.9736	14.64	405.05	404.32	-0.73	7	0.24
335.8016	11.25	404.73	404.12	-0.61	5	0.22
337.1588	8.59	404.46	402.89	-1.57	6	0.52
338.1559	6.5	404.22	402.69	-1.53	3	0.01
338.8573	5.08	404.55	402.61	-1.93	4	0.04
340.1568	2.63	404.28	402.82	-1.46	9	0.08
342.2533	-0.07	404.03	403.5	-0.53	12	0.33
344.3506	-2.66	403.8	403.1	-0.7	9	0.13
345.4699	-4.75	403.6	402.87	-0.73	2	0.05
348.6889	-8.94	403.55	402.23	-1.32	9	0.37
350.3859	-11.55	403.34	401.65	-1.7	8	0.26
351.8829	-14.56	403.11	401.84	-1.27	7	0.13
353.0841	-17.04	402.81	402.1	-0.71	5	0.07
353.7819	-18.44	402.98	402.6	-0.38	1	0
354.7802	-20.46	402.62	402.16	-0.45	8	0.36
356.2788	-23.46	402.21	402.78	0.58	7	0.97
397.2105	-57.65	400.81	401.37	0.56	4	0.72
398.0406	-55	400.71	401.27	0.56	2	0.31
	avg.		404.45	0.36		
	st. dev.		4.16	3.35		
	count				25	
	sum				132	
	min		401.27			
	max		420.03			



RB1606

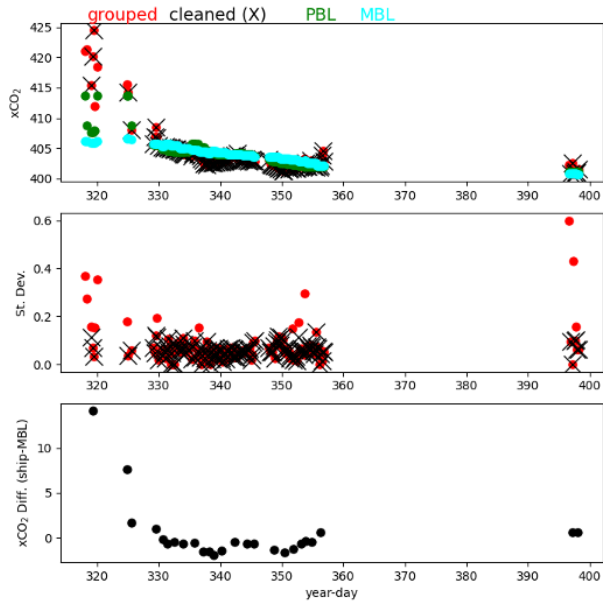


Table 18: MBL cruise summary for RB1701

time	lat	mbi_co2	ship_co2	difference	f shipboard	std of diffs
52.312	-33.45	401.62	402.97	1.35	5	0.3
53.40913	-29.83	402	402.3	0.3	6	0.16
54.5056	-26.51	402.41	401.88	-0.52	5	0.42
55.40599	-23.48	402.79	401.35	-1.44	4	0.21
56.20475	-20.56	403.12	401.78	-1.34	4	0.27
56.90612	-18.61	403.36	402.52	-0.85	1	0
57.40273	-16.89	403.23	401.7	-1.53	4	0.4
58.20131	-14.28	403.4	401.12	-2.28	4	0.46
58.99997	-11.45	403.58	400.81	-2.78	4	0.22
59.79846	-8.61	403.86	401.69	-2.17	3	0.13
60.6964	-5.51	404.29	402.2	-2.1	5	0.09
61.59551	-2.84	404.88	400.63	-4.25	4	0.53
62.94358	-0.08	405.54	404.19	-1.36	6	1.49
64.27532	1.86	406.21	407.53	1.33	2	0.33
65.27449	3.79	406.37	407.91	1.54	6	0.48
66.36979	5.6	406.99	408.75	1.76	5	0.13
67.36702	8.46	407.52	408.92	1.4	5	0.45
68.6669	11.6	407.96	407.73	-0.23	8	0.42
69.96699	14.56	408.36	407.52	-0.84	5	0.19
71.06409	17.24	408.75	407.41	-1.34	6	0.46
71.86306	19.26	409.13	407.57	-1.56	2	0.07
74.64043	20.56	409.28	408.26	-1.02	12	0.78
79.68825	25.5	410.05	409.77	-0.27	1	0
80.96039	27.4	410.21	410.21	-0.01	4	1.07
		avg.	404.86	-0.76		
		st. dev.	3.31	1.48		
		count			24	
		sum			111	
		min	400.63			
		max	410.21			

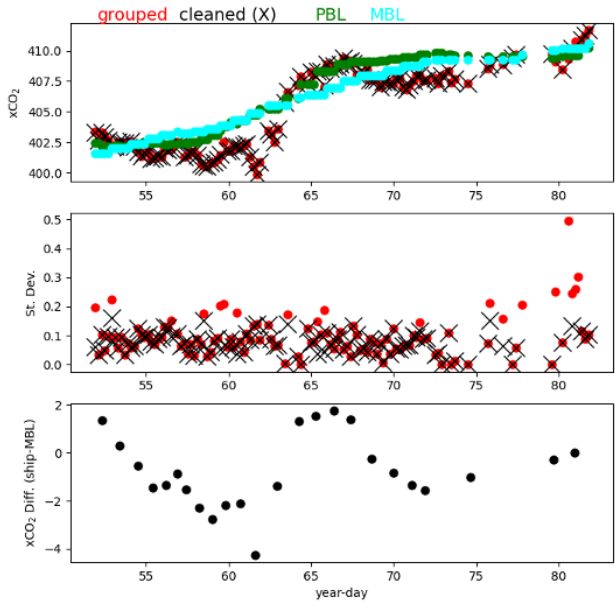
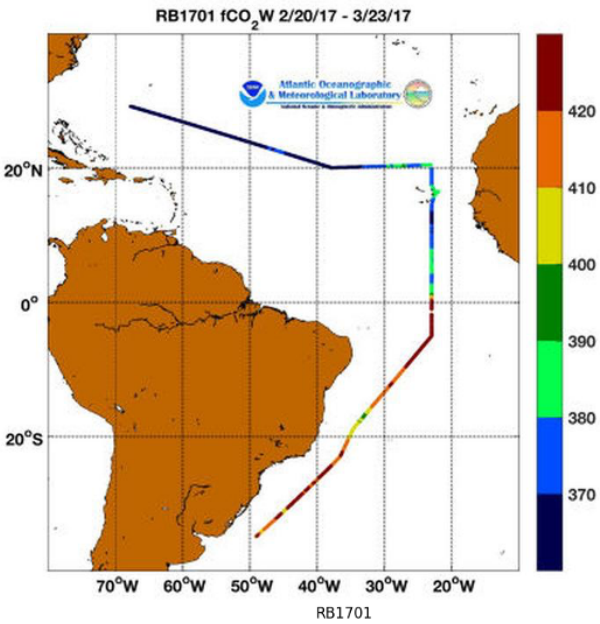


Table 19: MBL cruise summary for RB1702

time	lat	mbi_co2	ship_co2	difference	fshipboard	std of diffs
137.882	-19.3	402.28	401.61	-0.67	12	0.36
		avg.	401.61	-0.67		
		st. dev.	0	0		
		count			1	
		sum			12	
		min	401.61			
		max	401.61			

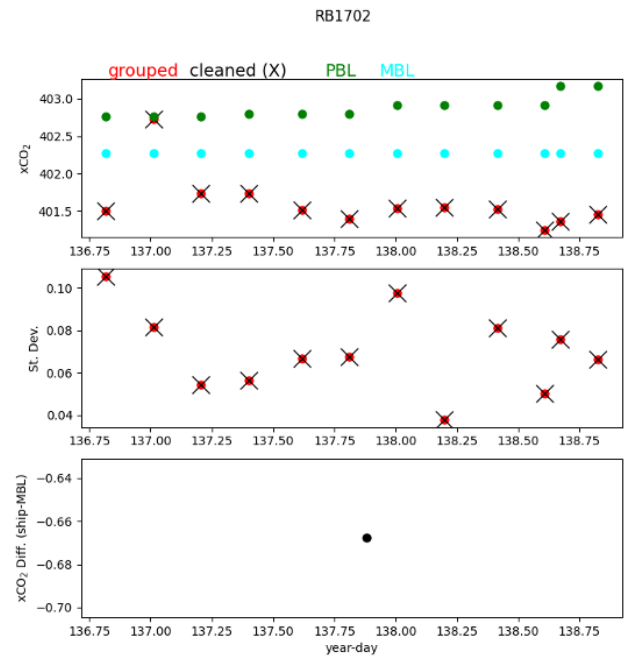
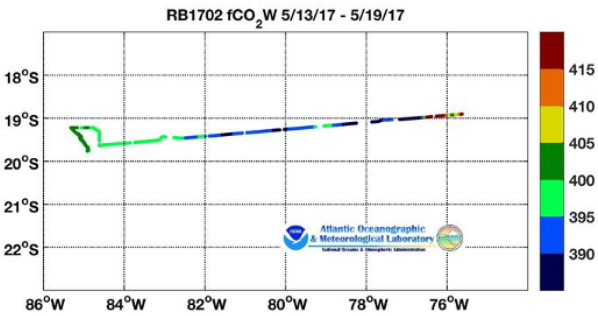


Table 20: MBL cruise summary for RB1703

time	lat	mb1_co2	ship_co2	difference	fshipboard	std of diffs
149.2835	-18.13	402.75	402.33	-0.42	5	0.42
157.252	-8.02	404.07	403.2	-0.88	7	0.16
158.4857	-5.53	404.63	403.74	-0.9	5	0.5
159.5447	-2.87	405.28	404.04	-1.24	5	0.15
160.7441	-0.12	406	404.46	-1.54	6	0.38
162.456	3	406.78	404.46	-2.32	3	0.14
163.2876	4.84	407.58	404.79	-2.79	3	0.47
163.9002	5.49	407.79	404.41	-3.38	2	0.07
166.8399	8.02	408.39	405.43	-2.96	19	0.43
169.4672	5.53	407.79	405.2	-2.59	5	0.14
170.4967	2.79	407.1	405.76	-1.34	5	0.17
171.1074	1.62	406.85	405.84	-1.01	1	0
171.7363	-0.08	406.22	405.57	-0.65	5	0.31
172.8684	-2.63	405.59	405.07	-0.53	6	0.05
173.8988	-5.34	405.01	403.66	-1.35	4	0.04
175.2396	-7.67	404.51	403.66	-0.86	7	0.21
176.1661	-6.34	405.01	403.96	-1.05	2	0.08
		avg.	404.44	-1.52		
		st. dev.	0.94	0.9		
		count			17	
		sum			90	
		min	402.33			
		max	405.84			

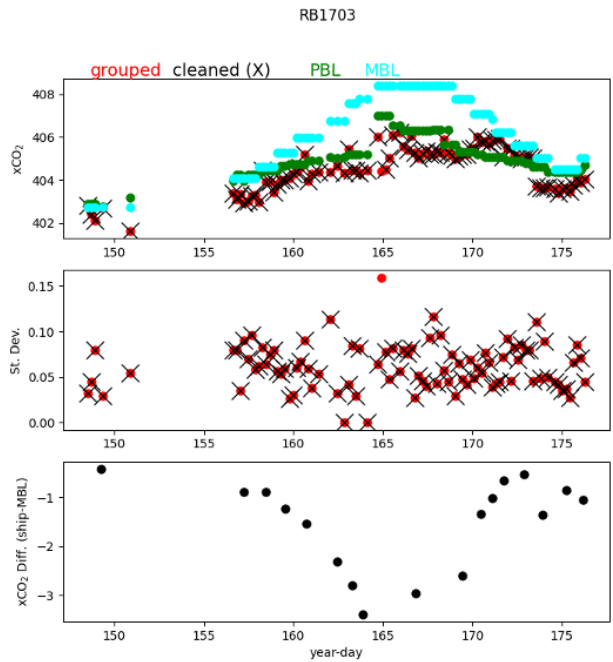
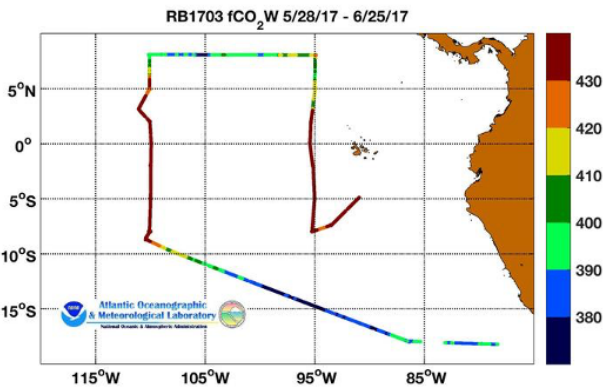


Table 21: MBL cruise summary for RB1704

time	lat	mbi_co2	ship_co2	difference	fshipboard	std of diff.
199.933	24.55	406.34	406.29	-0.05	4	0.55
200.9973	26.25	406.28	406.14	-0.14	3	0.63
202.7512	26.88	405.41	406.47	1.06	5	0.22
204.664	28.89	405.12	406.24	1.12	6	0.14
205.5953	28.17	405.41	405.51	0.09	3	0.24
206.9299	29.46	405.12	406.34	1.22	6	1.86
208.1649	27.97	405.41	404.84	-0.57	2	0.55
208.7765	28.67	405.12	403.3	-1.82	2	0.4
210.8106	27.84	404.49	404.99	0.5	13	0.45
212.9035	28.76	404.15	391.83	-12.32	1	0
214.921	26.18	404.49	402.58	-1.92	12	4.88
216.497	24.81	404.58	405.49	0.91	3	1.27
219.2217	23.05	403.73	404.08	0.35	23	1.23
223.2078	21.47	403.72	406.87	3.15	7	2.7
224.7439	19.91	403.06	404.46	1.41	4	2.23
225.3624	18.97	403.1	403.93	0.83	1	0
225.8743	20.85	403.06	406.21	3.15	4	2.67
226.5941	22.18	402.98	409.98	7.01	2	4.31
227.5216	21.71	403.06	404.27	1.21	5	0.24
229.5177	23.32	402.98	405.12	2.15	11	2.97
231.3295	25.79	402.75	403.11	0.36	3	0.03
232.4654	26.98	402.08	402.81	0.73	6	0.18
		avg.	404.58	0.38		
		st. dev.	3.22	3.3		
		count			22	
		sum			126	
		min	391.83			
		max	409.98			

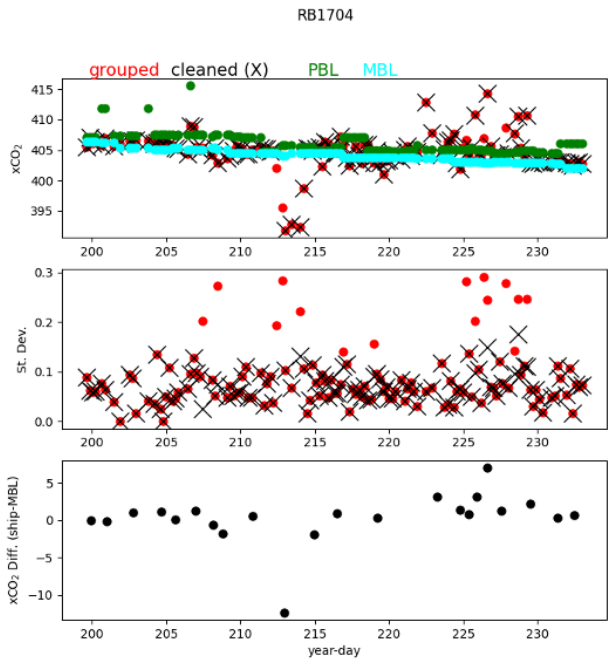
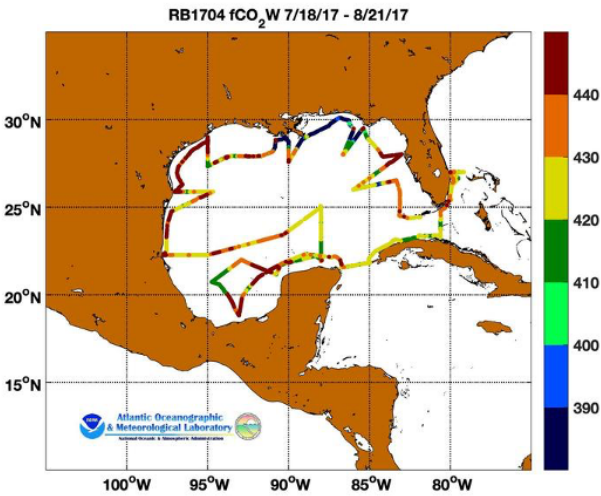


Table 22: MBL cruise summary for RB1801

time	lat	mb1_co2	ship_co2	difference	fshipboard	std of diffs
48.24828	32.63	411.5	417.68	6.18	3	2.36
54.27203	32.53	411.72	415.24	3.52	5	3.69
55.64673	30.16	411.29	413.17	1.88	3	1.09
56.57657	27.03	410.94	414.09	3.15	3	0.94
58.97623	26.38	411.16	414.78	3.62	8	2.62
		avg.	414.99	3.67		
		st. dev.	1.51	1.4		
		count			5	
		sum			22	
		min	413.17			
		max	417.68			

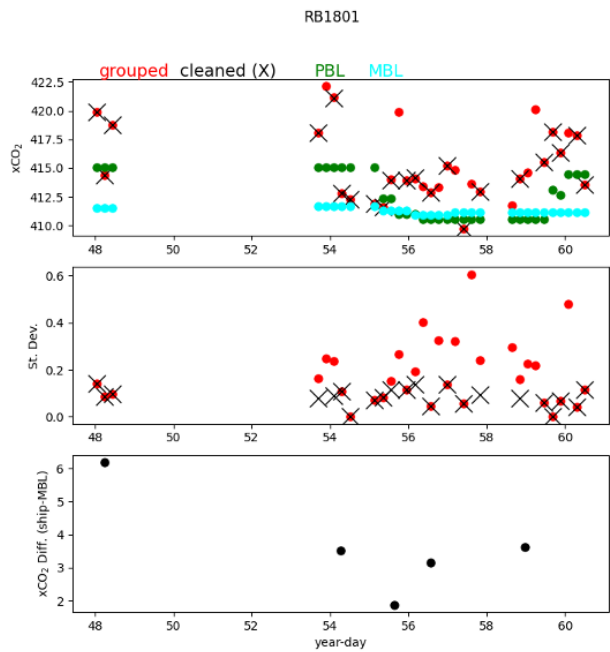
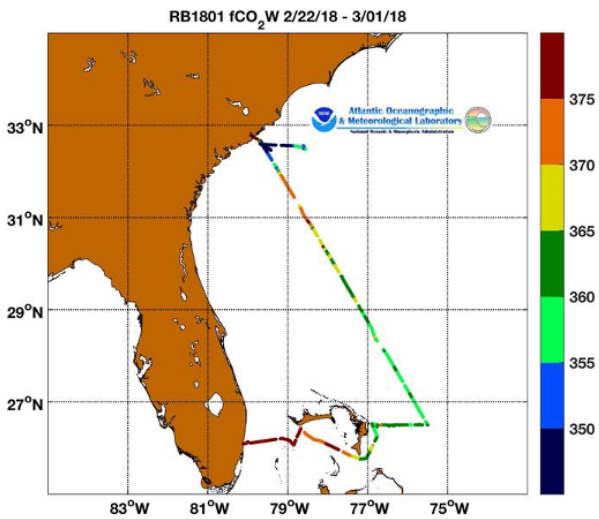


Table 23: MBL cruise summary for RB1802

time	lat	mbi_co2	ship_co2	difference	fshipboard	std of diffs
67.27414	25.91	411.4	413.55	2.15	2	1.07
70.50249	23.51	411.09	413.86	2.77	15	2.23
76.13695	20.53	411.06	413.15	2.09	29	1.85
81.39082	14.25	410.67	418.27	7.6	2	4.64
82.45723	11.61	410.22	416.61	6.4	4	0.47
83.82397	8.5	409.68	415	5.32	3	0.27
84.78935	5.52	409.06	416.11	7.04	3	2.23
85.92459	3.23	408.42	412.35	3.93	5	2.62
87.06015	0.46	407.8	409.28	1.48	2	0.09
87.77781	-0.64	407.74	409.68	1.94	3	0.69
88.70189	-3.16	407.15	410.92	3.77	4	2.05
89.63008	-5.77	406.73	408.76	2.03	4	1.42
90.55896	-8.54	406.52	407.59	1.06	4	1.32
91.58893	-11.59	406.48	407.14	0.66	3	1.97
92.619	-14.7	406.5	406.51	0.01	3	1.07
93.54693	-17.47	406.49	406.06	-0.43	4	0.69
94.47252	-20.32	406.37	405.53	-0.83	5	1.36
95.40163	-23.53	406	405.02	-0.98	3	0.9
96.33113	-26.81	405.68	405	-0.69	5	0.6
97.42636	-30.24	405.31	404.04	-1.27	6	0.47
98.78882	-33.28	404.94	404.38	-0.56	7	1.02
99.92236	-35.19	404.62	404.22	-0.39	3	0.24
101.4219	-33.71	404.94	405.03	0.08	10	1
102.6379	-31.43	405.31	407.13	1.82	1	0
103.1451	-30.9	405.24	405.44	0.2	4	2.91
		avg.	409.22	1.81		
		st. dev.	4.34	2.54		
		count			25	
		sum			134	
		min	404.04			
		max	418.27			

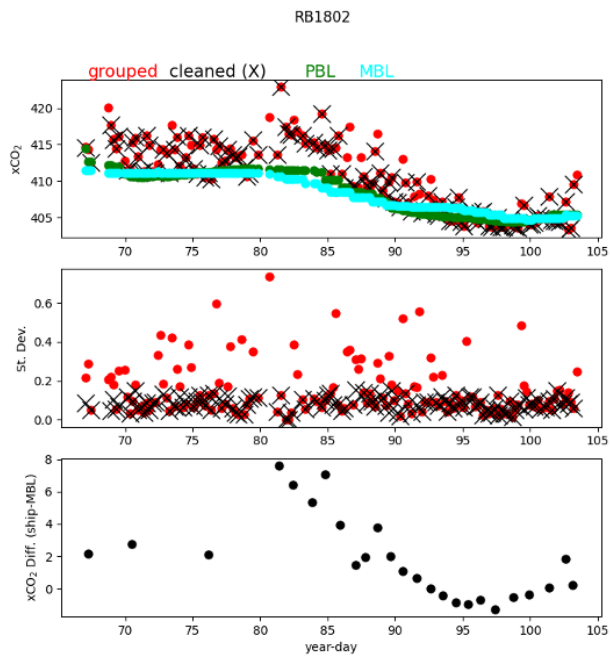
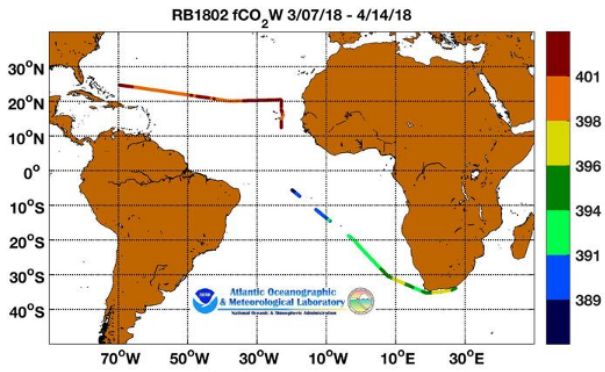


Table 24: MBL cruise summary for RB1803, legs 1 and 2

time	lat	mbi_co2	ship_co2	difference	f shipboard	std of diffs
115.7586	-29.97	405.15	408.05	2.9	13	2.04
118.2415	-29.74	405.06	414.78	9.73	2	2.85
120.4063	-26.76	405.32	414.67	9.35	8	2.2
122.5692	-23.73	405.54	411.11	5.57	5	1.94
124.423	-20.47	405.68	414.23	8.55	7	1.48
125.4446	-18.5	405.72	414.48	8.75	1	0
126.0772	-17.36	405.58	414.77	9.18	3	2.1
127.301	-14.84	405.57	411.14	5.57	3	2.11
129.6595	-11.39	405.56	411.4	5.84	9	2.38
132.2438	-8.94	405.64	412.92	7.28	7	1.38
133.4705	-7.81	405.68	411.62	5.93	3	1.65
134.4433	-6.11	405.96	414.14	8.18	2	0.11
140.1707	-3.23	406.46	412.15	5.69	3	1.58
140.9957	-2.06	406.6	411.63	5.03	3	2.01
142.4401	-0.09	407.27	412.13	4.85	7	1.74
144.8072	3.24	408.11	412.89	4.78	3	1.96
146.178	5.32	409.04	411.65	2.61	5	2.7
147.7946	7.76	410.01	414.71	4.69	3	3.25
148.8257	9.31	409.86	413.77	3.92	2	0.89
150.0627	11.42	410.67	408.77	-1.9	3	0.55
151.8021	14.62	411.37	409.45	-1.92	6	1.3
154.3389	17.22	411.92	413.14	1.23	9	1.13
		avg.	412.44	5.26		
		st. dev.	1.93	3.19		
		count			22	
		sum			107	
		min	408.05			
		max	414.78			

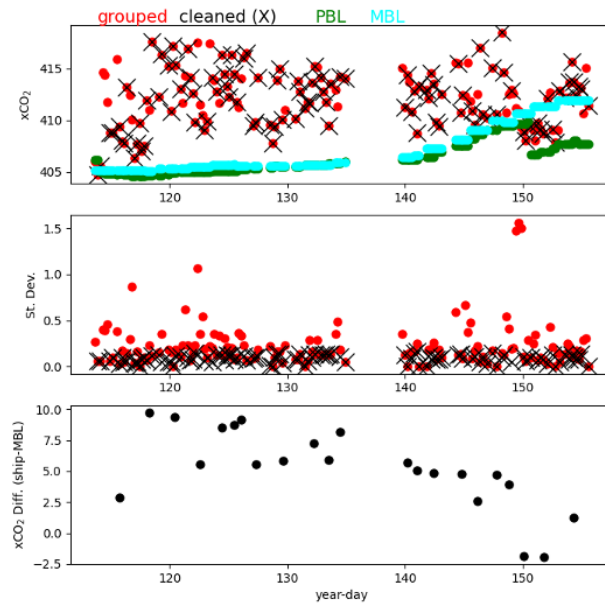
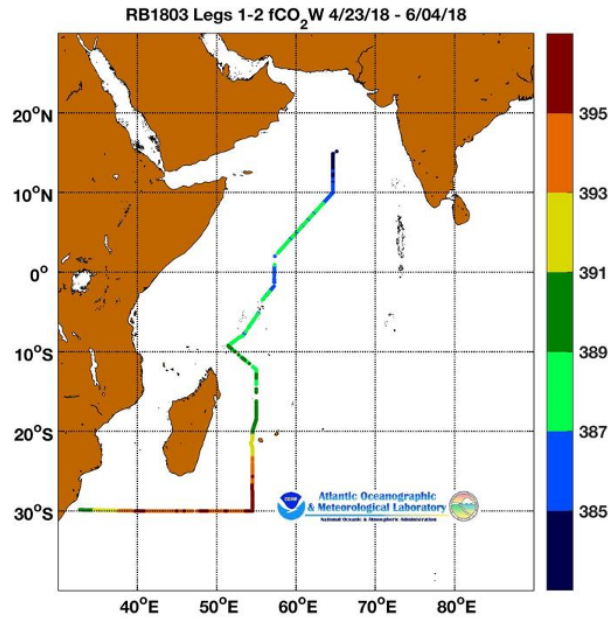


Table 25: MBL cruise summary for RB1805

time	lat	mbi_co2	ship_co2	difference	fshipboard	std of diffs
220.3154	-4.87	407.27	406.47	-0.8	1	0
220.8225	-2.78	407.35	407.23	-0.12	4	0.16
223.4562	3.05	407.28	406.96	-0.32	3	0.06
224.046	5.05	407.09	406.9	-0.19	2	0.13
224.4478	5.62	406.86	407.21	0.35	2	0.29
231.0123	-7.94	407.1	407.27	0.17	3	0.02
231.6365	-5.85	407.19	407.08	-0.11	3	0.16
232.2604	-4.97	407.11	406.95	-0.17	1	0
232.8175	-2.79	407.15	407.28	0.13	4	0.09
234.0001	0.05	407.1	407.33	0.23	6	0.07
235.1352	2.53	406.94	407.25	0.31	5	0.1
236.215	5.68	406.66	407.14	0.47	4	0.14
237.4288	8.73	406.32	406.51	0.19	6	0.37
238.8362	11.49	405.98	406.61	0.63	7	0.37
240.1781	14.39	405.37	406.12	0.75	6	0.15
241.6939	17.57	405.06	405.68	0.61	9	0.66
242.9448	19.99	404.79	403.72	-1.07	4	0.35
	avg.	406.69		0.06		
	st. dev.	0.87		0.47		
	count				17	
	sum				70	
	min	403.72				
	max	407.33				

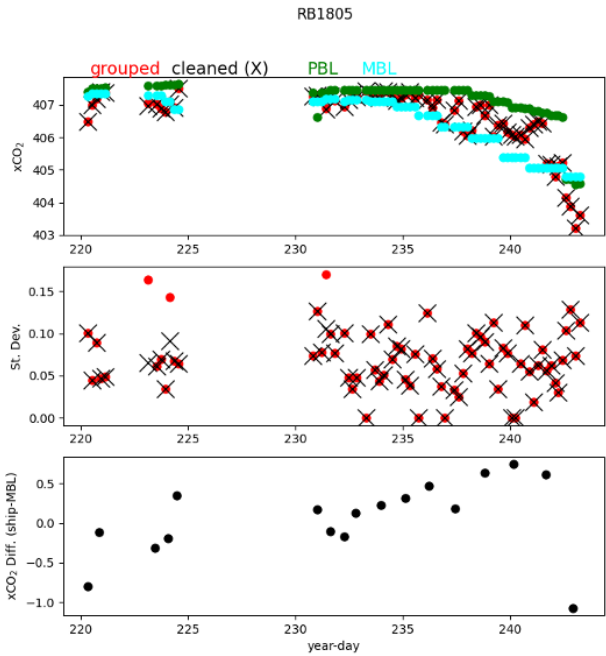
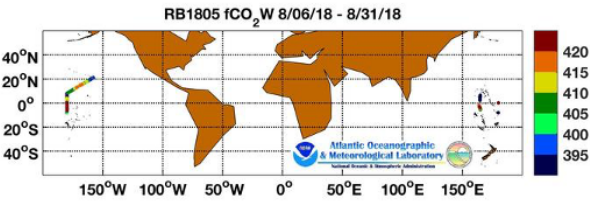


Table 26: MBL cruise summary for RB1806

time	lat	mb1_co2	ship_co2	difference	fshipboard	std of diffs
253.2772	20.33	404.51	404.44	-0.07	3	0.22
254.2013	17.95	404.81	404.29	-0.52	6	0.51
255.3346	16.58	404.69	404.68	-0.02	5	0.07
256.2603	14.64	405.04	405	-0.05	4	0.16
257.186	11.63	405.44	406.11	0.67	5	0.63
258.5245	8.82	405.88	406.58	0.7	8	0.08
260.1958	5.33	406.3	406.63	0.33	8	0.08
261.6676	2.63	406.65	406.67	0.02	4	0.05
262.3357	1.19	406.91	406.94	0.03	1	0
263.4657	-0.03	406.93	406.99	0.07	10	0.1
265.1173	-2.56	407.09	406.64	-0.45	6	0.17
267.6299	-5.79	407.13	406.57	-0.57	17	0.08
269.6543	-7.47	407.07	406.68	-0.39	2	0.18
270.4718	-7.92	407.18	406.59	-0.59	6	0.08
271.7118	-5.58	407.24	406.67	-0.57	6	0.08
272.8431	-2.54	407.18	406.86	-0.31	5	0.18
273.8725	0	406.99	407.04	0.06	5	0.04
275.0096	2.39	406.69	406.84	0.15	6	0.12
276.6545	5.62	406.31	406.66	0.35	6	0.08
279.0677	7.9	406.05	406.41	0.35	14	0.1
		avg.	406.26	-0.04		
		st. dev.	0.86	0.39		
		count			20	
		sum			127	
		min	404.29			
		max	407.04			

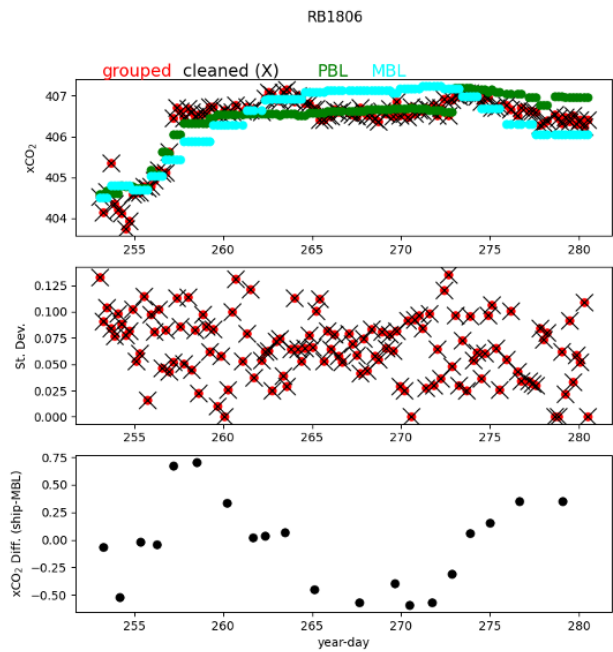
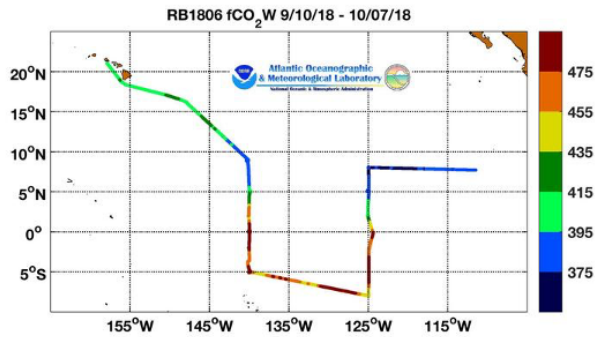


Table 27: MBL cruise summary for RB1806 transit

time	lat	mbi_co2	ship_co2	difference	fshipboard	std of diffs
283.3294	7.37	406.05	406.47	0.41	12	0.11
284.8384	7.16	406.42	406.27	-0.15	2	0.13
		avg.	406.37	0.13		
		st. dev.	0.1	0.28		
		count			2	
		sum			14	
		min	406.27			
		max	406.47			

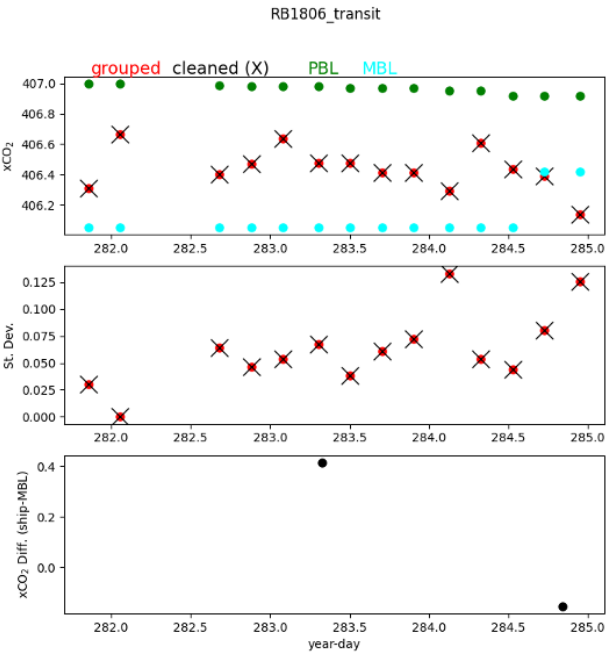
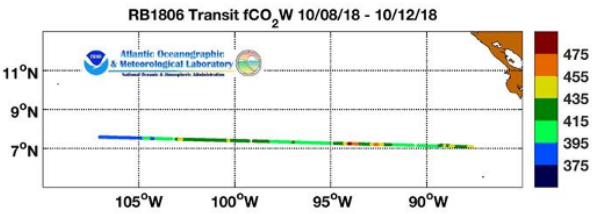


Table 28: MBL cruise summary for RB1902

time	lat	mbi_co2	ship_co2	difference	f shipboard	std of diff
61.57499	32.31	413.96	412.63	-1.33	2	0.03
63.10985	29.8	413.79	411.92	-1.87	8	0.39
64.33543	27.56	413.73	411.87	-1.86	4	0.25
65.35868	26.09	414.08	411.87	-2.21	6	0.08
67.09394	23.66	414.03	412.3	-1.73	11	0.48
70.26701	20.49	413.87	413.31	-0.56	19	0.5
73.1743	20.32	414.19	412.09	-2.1	8	0.45
74.65475	17.19	413.86	412.69	-1.17	3	0.13
75.60458	13.96	413.41	412.68	-0.72	3	0.15
76.5949	11.83	412.89	412.86	-0.02	6	0.3
77.79455	14.66	413.41	412.61	-0.8	5	0.13
79.17195	17.52	413.86	412.67	-1.19	6	0.19
79.88405	18.91	414.11	412.74	-1.37	1	0
	avg.		412.48	-1.3		
	st. dev.		0.42	0.63		
	count				13	
	sum				82	
	min		411.87			
	max		413.31			

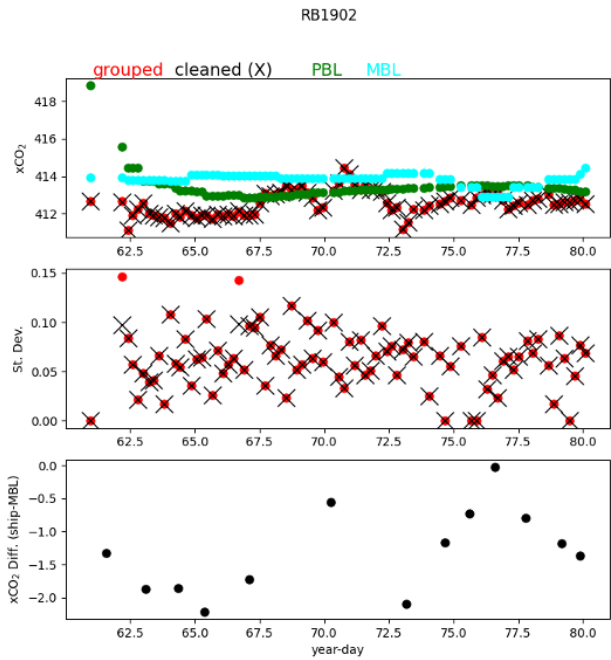
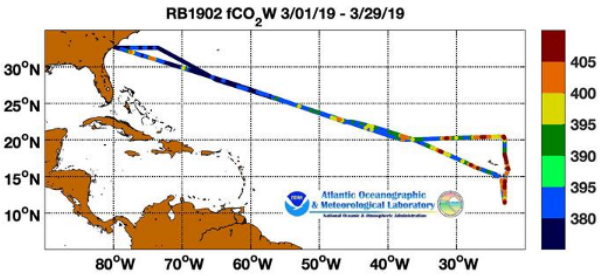
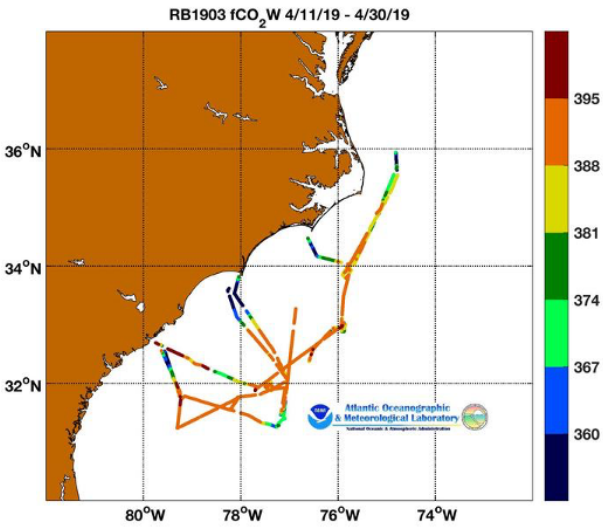


Table 29: : MBL cruise summary for RB1903

time	lat	mbi_co2	ship_co2	difference	f shipboard	std of diffs
101.7083	32.23	415.33	416.74	1.42	7	1.04
102.9223	32.35	415.48	416.83	1.35	3	0.06
103.3501	31.66	415.32	416.53	1.21	1	0
104.1711	31.94	415.48	414.55	-0.93	7	1.07
105.4168	31.42	415.32	420.81	5.49	2	2.01
106.3476	32.17	415.48	419.8	4.32	3	1.84
108.4356	31.35	415.32	416.29	0.96	6	0.47
111.7307	34.75	415.54	418.23	2.69	6	2.87
114.2888	35.7	415.8	417.92	2.12	7	3.22
116.0965	33.58	415.54	413.44	-2.11	7	2.51
		avg.	417.11	1.65		
		st. dev.	2.1	2.11		
		count			10	
		sum			49	
		min	413.44			
		max	420.81			



RB1903

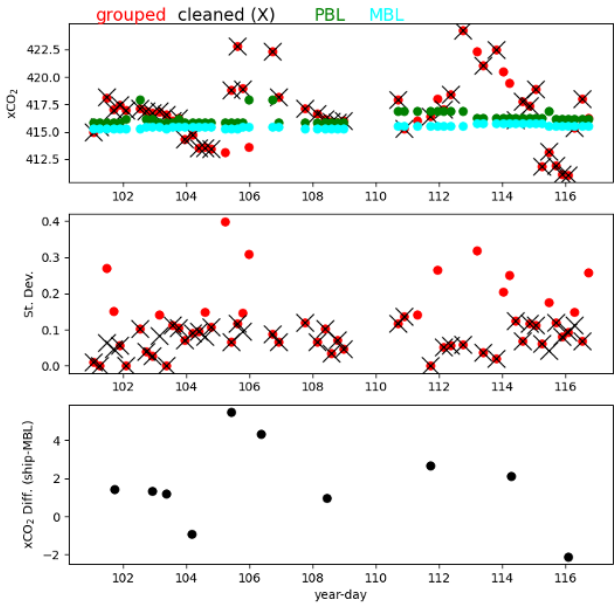


Table 30: MBL cruise summary for RB1904

time	lat	mbi_co2	ship_co2	difference	fshipboard	std of diffs
132.8612	40.66	415.87	414.49	-1.38	3	0.41
136.8568	40.1	415.5	416.35	0.84	25	2.91
142.8167	39.87	414.97	414.87	-0.11	17	2.91
		avg.	415.24	-0.22		
		st. dev.	0.8	0.91		
		count			3	
		sum			45	
		min	414.49			
		max	416.35			

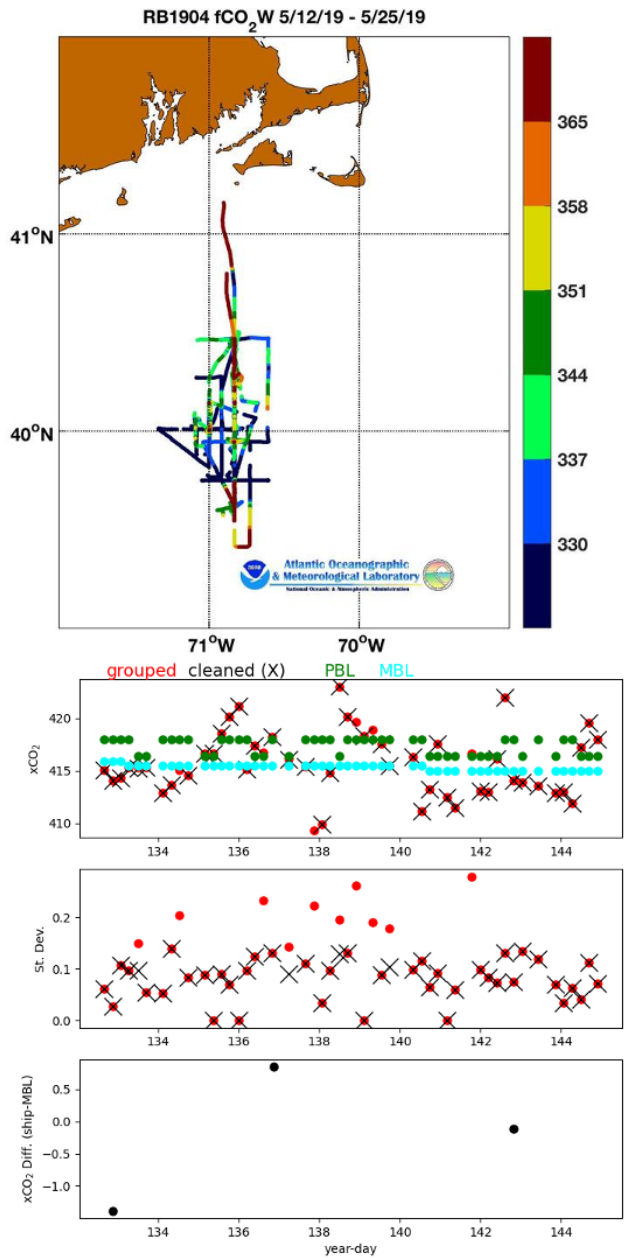


Table 30: MBL cruise summary for RB1904 transit

time	lat	mb_l_co2	ship_co2	difference	fshipboard	std of diffs
149.1332	39.67	414.26	416	1.74	3	0.94
149.8653	36.75	414.18	425.93	11.76	4	10.17
151.3249	33.1	414.27	414.13	-0.14	8	2.25
		avg.	418.69	4.45		
		st. dev.	5.18	5.22		
		count			3	
		sum			15	
		min	414.13			
		max	425.93			

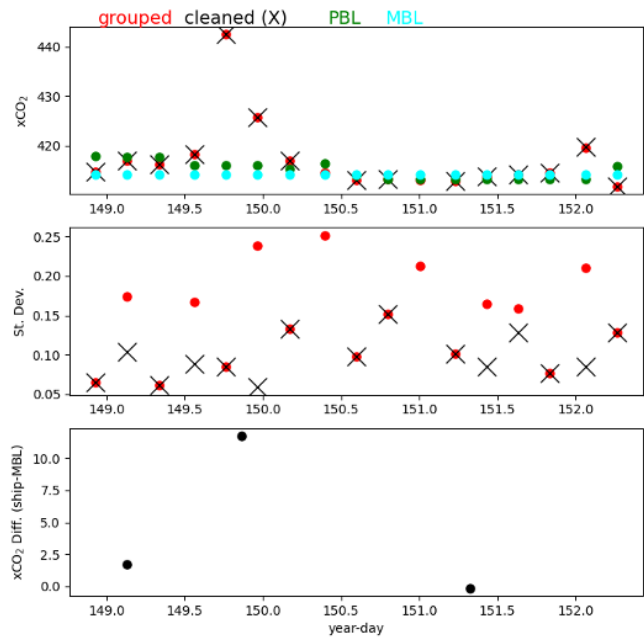
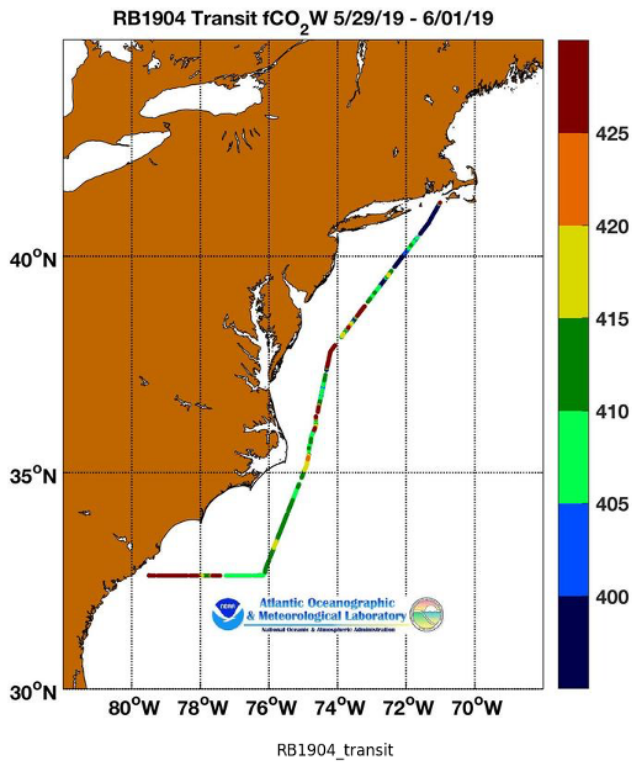


Table 31: MBL cruise summary for RB1907

time	lat	mb1_co2	ship_co2	difference	fshipboard	std of diffs
338.2086	31.14	412.92	418.58	5.67	1	0
338.6243	29.32	413.44	418.34	4.9	2	1.12
342.2935	26.62	413.16	413.42	0.25	17	1.16
348.1149	26.47	413.68	412.59	-1.09	19	0.92
350.7842	22.91	413.35	411.45	-1.91	2	0.15
351.5059	20.59	413.01	410.94	-2.07	5	0.45
352.7571	18.12	412.66	411.83	-0.83	5	0.91
		avg.	413.88	0.7		
		st. dev.	2.99	2.99		
		count			7	
		sum			51	
		min	410.94			
		max	418.58			

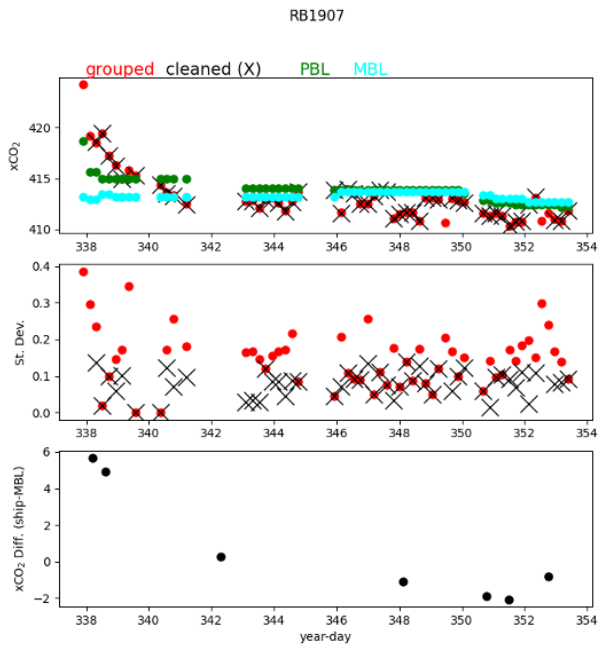
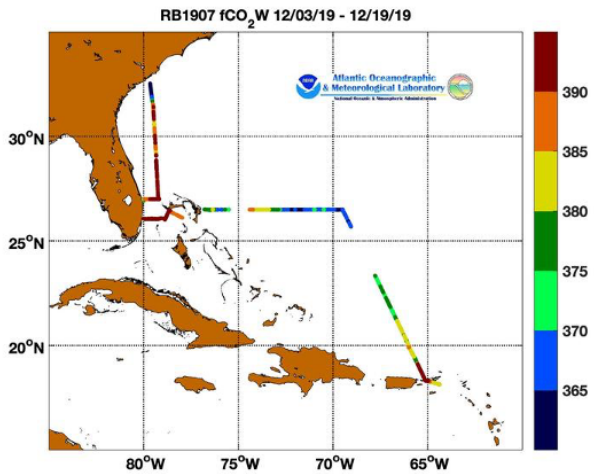


Table 32: MBL cruise summary for RB2001, legs 1 and 2

time	lat	mbi_co2	ship_co2	difference	fshipboard	std of diffs
11.15184	15.33	413.56	414.2	0.64	2	0.47
13.43642	15.25	413.9	412.31	-1.59	1	0
22.98023	14.07	414.15	413.49	-0.67	7	1.14
31.72599	13.77	414.4	412.52	-1.88	14	0.66
35.29543	13.54	414.6	414.44	-0.16	7	2.05
39.60196	13.76	414.6	414.93	0.33	10	0.71
42.6213	14.24	414.75	415.84	1.09	3	0.07
		avg.	413.96	-0.32		
		st. dev.	1.18	1.04		
		count			7	
		sum			44	
		min	412.31			
		max	415.84			

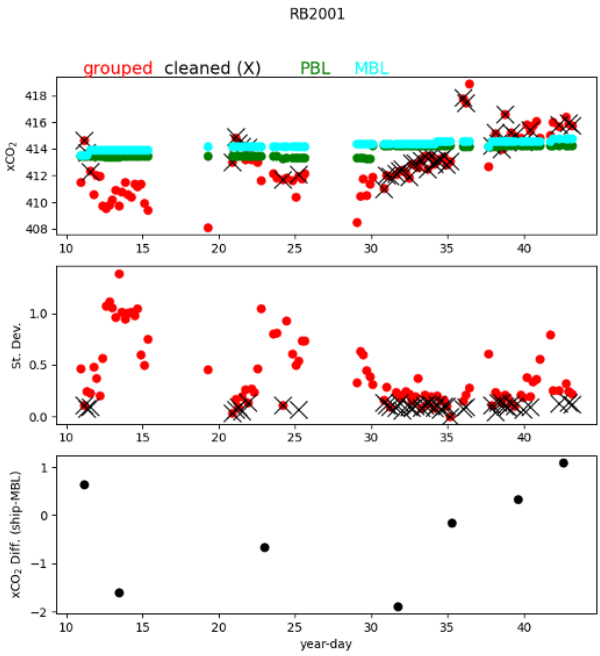
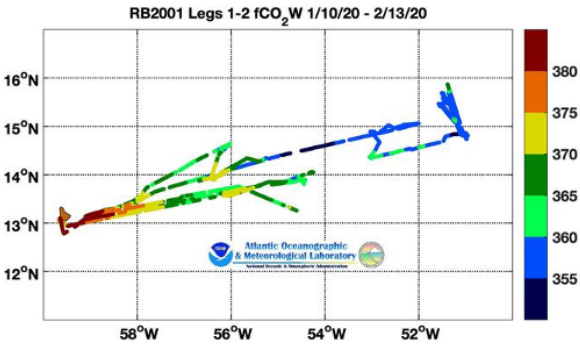


Table 33: MBL cruise summary for RB2002 transit

time	lat	mbi_co2	ship_co2	difference	fshipboard	std of diffs
54.02304	10.56	414.42	414.29	-0.13	2	0.18
54.95935	8.53	413.86	414.43	0.57	6	0.1
56.27847	5.74	413.24	414.41	1.17	6	0.22
57.6953	2.71	412.69	413.96	1.27	5	0.73
58.74273	0.3	412.12	414.17	2.05	4	1.22
60.35729	-3.69	411.67	413.01	1.34	3	0.48
61.08689	-5.88	411.38	411.71	0.33	3	0.2
62.03218	-8.65	411.26	410.48	-0.78	4	0.97
62.97885	-11.48	411.23	409.76	-1.47	4	0.09
63.92146	-14.27	411.23	409.58	-1.65	5	0.16
64.54998	-16.13	411.16	410.02	-1.14	1	0
65.06992	-17.67	411.23	410.59	-0.64	4	0.72
66.01024	-20.47	411.04	410.16	-0.88	5	0.16
66.96504	-23.33	410.73	410.38	-0.35	5	0.17
68.09587	-26.68	410.32	410.53	0.21	6	0.08
69.55724	-30.01	409.86	409.74	-0.12	8	0.15
70.81157	-32.46	409.4	409.41	0	4	0.17
	avg.	411.57	-0.01			
	st. dev.	1.92	1.02			
	count				17	
	sum				75	
	min	409.41				
	max	414.43				

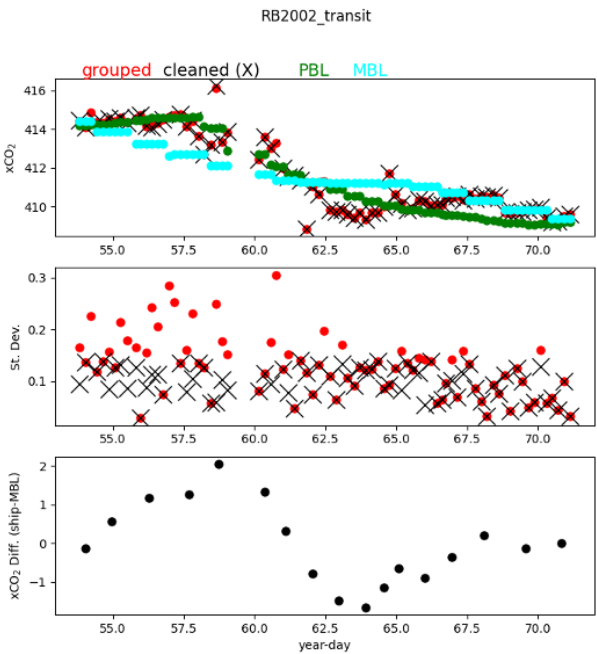
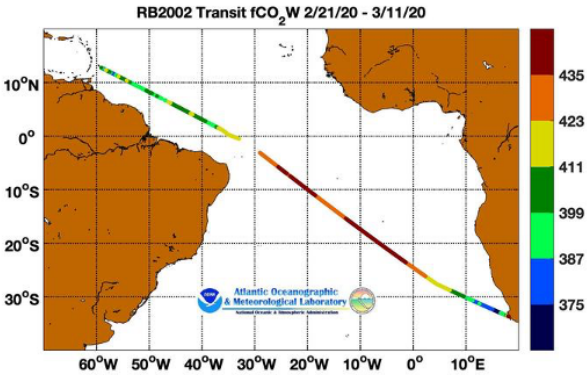


Table 34: MBL cruise summary for RB2002

time	lat	mbi_co2	ship_co2	difference	f shipboard	std of diffs
82.95214	-37.07	409.16	410.5	1.34	6	0.32
84.286	-40.27	408.88	409.94	1.06	7	0.56
86.45155	-36.12	409.16	410.06	0.9	3	0.38
87.21542	-33.84	409.51	410.61	1.1	4	0.53
87.81247	-32.3	409.57	410.94	1.37	3	0.56
90.84645	-23.14	410.71	410.93	0.23	4	0.94
91.68308	-20.19	410.98	409.98	-1	4	0.55
92.51927	-17.24	411.15	410.17	-0.98	4	0.17
93.14711	-14.93	411.2	410.09	-1.11	1	0
93.94524	-11.89	411.21	410.2	-1.01	3	0.13
94.7186	-9.02	411.24	411.05	-0.19	2	0.17
95.44026	-6.31	411.38	411.58	0.2	2	0.33
97.14669	0.27	412.32	416.18	3.86	3	0.7
97.87594	2.97	413.04	417.13	4.09	4	0.35
98.60864	5.76	413.82	417.17	3.34	3	0.51
99.33942	8.44	414.61	416.54	1.93	4	0.19
100.1756	11.46	415.35	416.37	1.02	3	0.62
101.0115	14.63	416.01	416.44	0.43	4	0.43
101.8474	17.75	416.59	415.39	-1.2	4	0.57
102.8983	21.57	417.34	416.4	-0.94	2	0.32
103.5201	23.76	417.8	416.58	-1.22	3	0.32
104.5008	26.51	418.19	419.87	1.68	5	0.59
106.1429	31.04	418.53	419.14	0.61	1	0
106.8662	33.37	418.8	419.45	0.65	6	2.11
107.808	35.72	419.01	421.08	2.06	3	0.75
		avg.	414.15	0.73		
		st. dev.	3.72	1.51		
		count			25	
		sum			88	
		min	409.94			
		max	421.08			

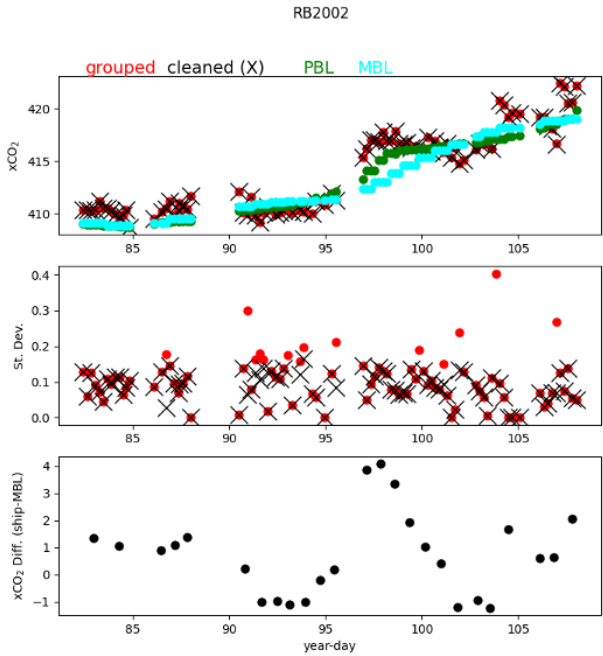
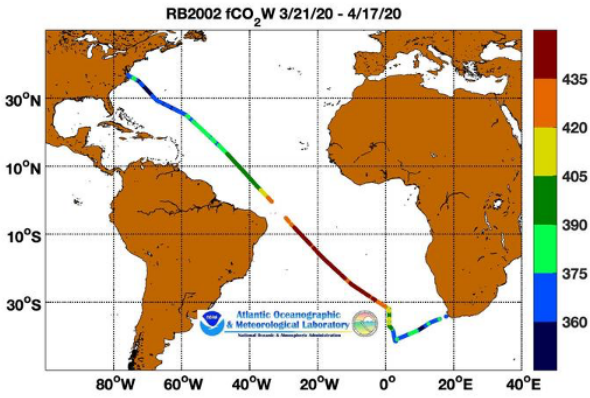
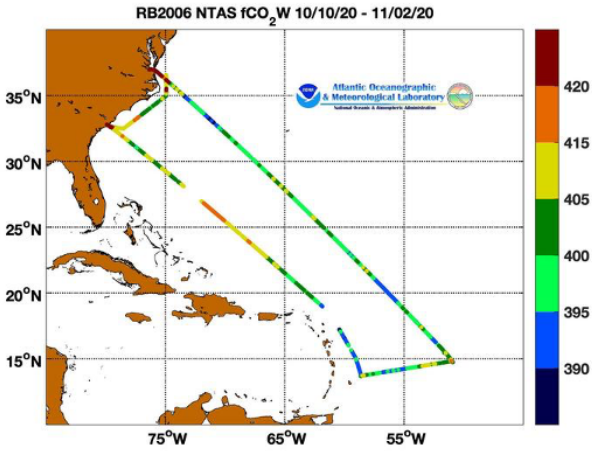


Table 35: MBL cruise summary for RB2006

time	lat	mbi_co2	ship_co2	difference	f shipboard	std of diffs
286.2892	35.79	411.8	413.96	2.16	3	0.89
288.062	33.01	411.79	431.14	19.36	7	8.52
289.6336	29.83	411.82	419.48	7.66	5	1.4
290.738	26.37	411.85	412.46	0.61	3	0.87
291.5698	23.77	411.82	411.52	-0.3	5	0.07
292.411	21.13	411.69	411.57	-0.12	3	0.15
293.6175	16.81	411.99	411.95	-0.04	2	0.22
296.959	14.72	411.66	412.23	0.57	29	0.74
300.2087	16.21	411.99	411.91	-0.08	1	0
300.6178	17.67	412.51	413.96	1.45	3	0.11
301.0476	19.17	412.91	414	1.09	1	0
302.4	23.87	413.25	414.36	1.11	4	0.12
303.3424	26.91	413.48	414.24	0.75	5	0.16
304.492	30.61	413.65	414.14	0.49	4	0.2
305.4315	33.44	413.8	419.32	5.52	4	0.6
	avg.		415.08	2.68		
	st. dev.		4.91	4.95		
	count				15	
	sum				79	
	min		411.52			
	max		431.14			



RB2006

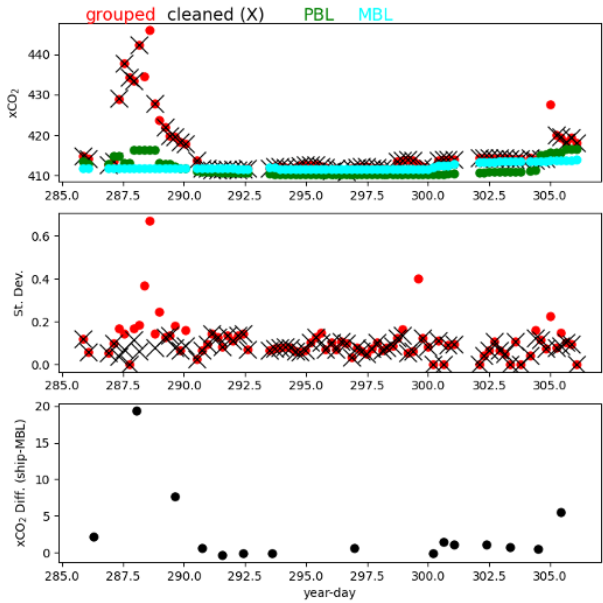
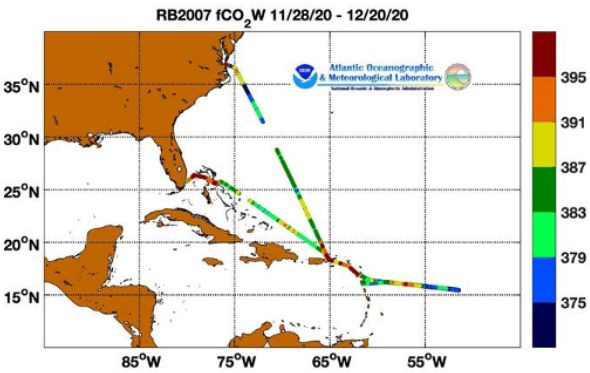


Table 36: : MBL cruise summary for RB2007

time	lat	mb1_co2	ship_co2	difference	fshipboard	std of diffs
333.8163	36.65	416.57	429.77	13.21	1	0
334.6454	33.04	416.18	422.08	5.9	3	1.27
335.5825	28.81	415.83	418.9	3.07	1	0
335.9894	27	415.5	417.52	2.03	3	0.89
336.724	23.65	415.15	415.78	0.63	4	0.33
337.4588	20.35	414.77	415.23	0.46	3	0.12
338.0847	18.21	414.36	416.31	1.95	3	0.67
340.5706	16.4	414.7	415.67	0.98	17	1
344.2754	15.59	414.31	415.21	0.9	15	0.19
346.1449	15.88	414.69	415.36	0.67	1	0
348.7946	16.88	415.05	414.49	-0.56	14	1.04
351.3973	20.44	415.39	414.84	-0.55	5	0.24
352.4395	23.34	415.7	414.83	-0.87	4	0.32
353.3888	25.47	415.98	418.72	2.73	2	4.79
354.4287	25.79	416.25	419.63	3.38	6	0.69
		avg.	417.62	2.26		
		st. dev.	3.88	3.4		
		count			15	
		sum			82	
		min	414.49			
		max	429.77			



RB2007

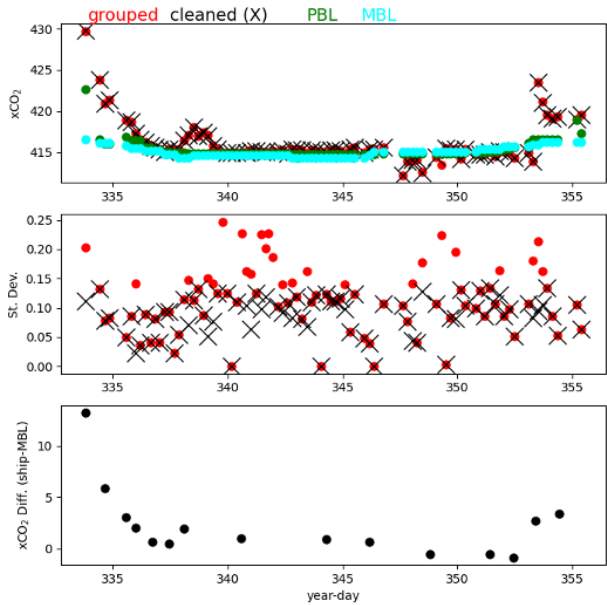


Table 37: MBL cruise summary for RB2101 (map not available)

time	lat	mbi_co2	ship_co2	difference	fshipboard	std of diffs
16.44648	25.84	417.8	420.28	2.48	5	1.66
18.16607	23.81	417.56	417.37	-0.2	9	1.54
19.31503	22.26	418.04	416.31	-1.74	2	0.16
20.63904	20.55	417.64	416.62	-1.02	11	0.28
22.79071	18.53	417.12	416.47	-0.65	10	0.35
25.19551	19.76	417.64	417.01	-0.63	13	0.27
28.3601	20.11	417.99	416.5	-1.49	17	0.38
30.74023	17.61	417.4	417.17	-0.23	2	0.06
31.78042	14.5	416.72	416.89	0.17	2	0.17
32.30056	13	416	416.46	0.46	1	0
32.52656	13.02	416.72	416.3	-0.42	1	0
33.39531	11.4	416	416.86	0.87	5	0.19
34.19968	10	415.26	416.66	1.4	1	0
34.74985	8.36	415.34	416.93	1.59	3	0.13
35.72904	5.5	414.61	417.1	2.49	3	0.36
37.01478	2.95	413.95	416.61	2.66	6	0.82
38.58312	-0.1	413.42	415.59	2.16	7	0.42
40.10737	-2.57	413.07	414.12	1.05	7	0.88
41.51043	-0.02	413.42	415.93	2.51	3	0.08
42.13625	2.58	414.03	417.1	3.07	3	0.43
42.97748	5.6	414.7	418.89	4.18	5	0.3
43.80933	8.78	415.45	418.16	2.72	3	0.11
44.54391	11.5	416.23	416.99	0.77	4	0.13
45.7984	14.93	417.01	416.51	-0.5	8	0.15
47.62527	17.51	417.75	416.38	-1.37	8	0.17
48.93153	19.4	418.4	416.31	-2.09	2	0.06
49.91952	20.86	418.49	416.11	-2.38	5	0.31
52.02174	23.98	418.99	417.86	-1.12	8	2.62
54.26962	25.9	419.32	419.71	0.39	3	0.53
54.89502	24.52	418.99	419.6	0.62	3	0.6
	avg.		417.03	0.52		
	st. dev.		1.24	1.68		
	count				30	
	sum				160	
	min		414.12			
	max		420.28			

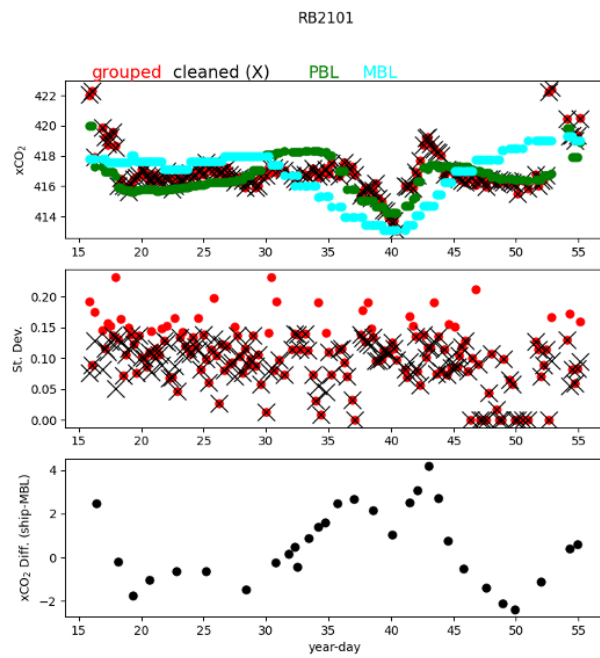


Table 38: MBL cruise summary for RB2101 transit

time	lat	mbi_co2	ship_co2	difference	fshipboard	std of diffs
74.97857	23.62	419.14	419.47	0.34	1	0
75.91841	20.49	418.82	418.64	-0.19	4	0.22
76.86451	17.36	418.39	418.01	-0.39	4	0.3
77.60187	14.7	417.83	418	0.17	3	0.05
78.22977	11.65	417.14	417.38	0.24	3	0.13
78.85776	9.4	416.35	420.59	4.25	2	0.73
80.52907	7.35	416.68	419.35	2.67	1	0
80.8589	6.99	415.75	418.32	2.57	2	0.09
81.58771	8.61	416.68	418.89	2.21	4	1.48
82.64093	11.37	417.51	419.71	2.2	3	1.44
84.10657	14.56	418.19	418.5	0.31	7	0.68
85.47416	17.42	418.7	419.36	0.65	6	0.33
86.62655	20.43	419.05	419.99	0.94	5	0.38
87.2486	22.16	419.26	420.04	0.78	1	0
87.78193	23.88	419.45	420.36	0.91	4	0.34
88.51945	26.76	419.47	422.6	3.13	3	2.1
89.25119	29.92	419.46	420.87	1.41	4	1.02
	avg.	419.42	1.31			
	st. dev.	1.25	1.27			
	count				17	
	sum				57	
	min	417.38				
	max	422.6				

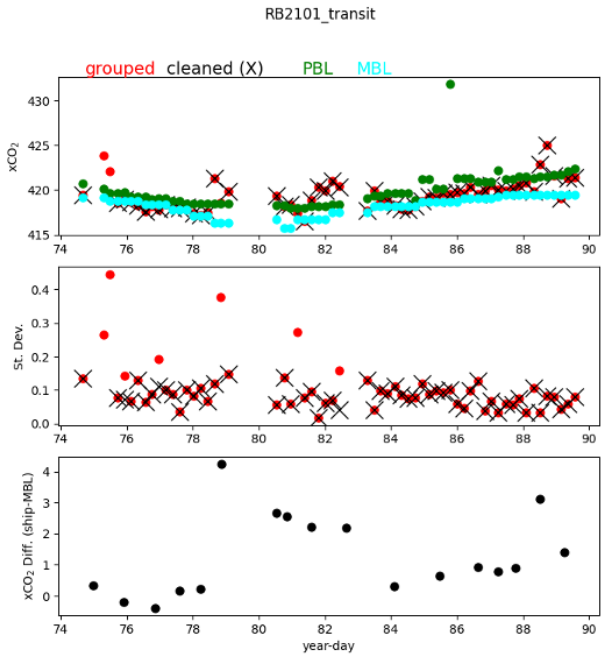


Table 39: MBL cruise summary for RB2102

time	lat	mbl_co2	ship_co2	difference	shipboard	std of diffs
167.5997	33.53	417.9	419.51	1.6	23	0.88
170.5329	35.82	417.58	418.97	1.39	1	0
171.2701	37.23	416.6	418.89	2.29	2	0.62
172.104	40.48	416.22	419.65	3.43	4	1.06
173.2589	44.28	415.98	417.51	1.53	6	0.78
174.9887	48.74	415.91	418.05	2.13	8	2.24
176.6175	51.73	416.02	419.08	3.05	6	1.07
178.0881	49.14	415.91	418.01	2.1	3	0.45
179.86	48.22	414.26	420.62	6.35	8	2.01
181.9684	46.19	414.51	417.76	3.25	6	2.11
183.3867	47.05	414.26	412.79	-1.47	4	0.72
186.7411	43.3	413	414.15	1.14	1	0
188.0175	41.27	413.64	414.2	0.56	7	1.05
189.8708	38.59	414.39	417.17	2.78	1	0
190.6779	39.51	413.64	413.71	0.07	5	0.84
192.9217	37.8	414.39	414.54	0.15	9	1.5
195.5629	36.39	413.37	412.15	-1.23	12	1.77
199.0972	34.26	414.24	415.36	1.12	15	1.99
203.0872	32.61	413.35	411.98	-1.37	12	2.04
204.8721	31.55	414.14	410.45	-3.7	2	0.27
205.5012	31.94	413.35	410.45	-2.9	4	0.34
		avg.	415.95	1.06		
		st. dev.	3.13	2.26		
		count			21	
		sum			139	
		min	410.45			
		max	420.62			

RB2102 West Coast Ocean Acidification fCO₂W 6/13/21 - 7/25/21

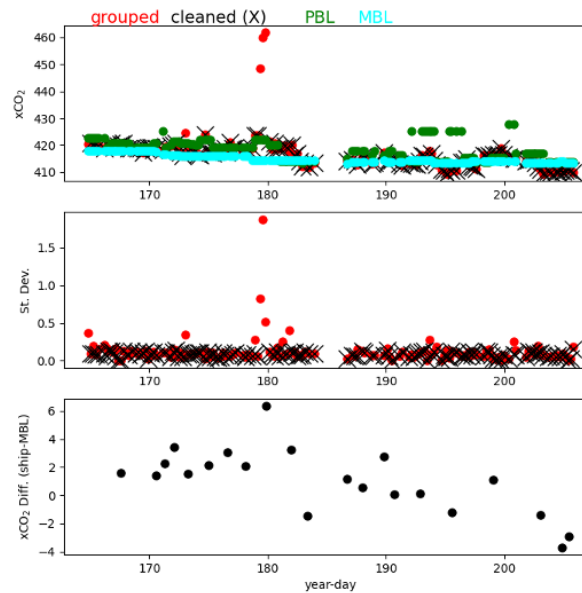
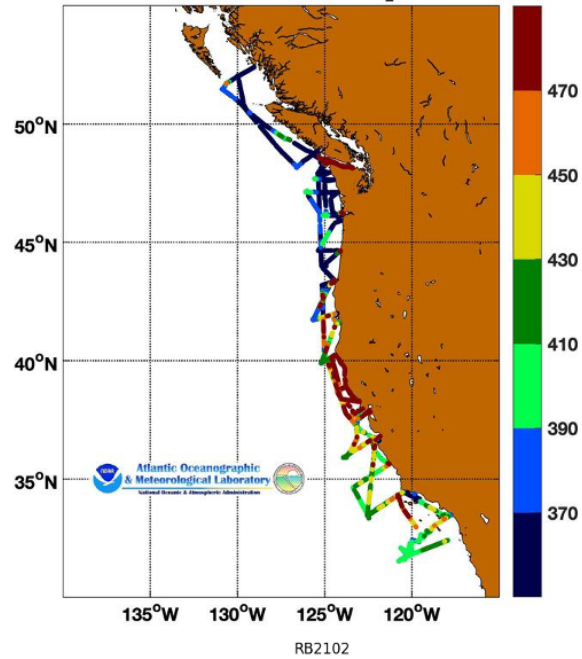


Table 40: MBL cruise summary for RB2103 transit

time	lat	mbi_co2	ship_co2	difference	f shipboard	std of diffs
226.0775	32.51	411.54	410.02	-1.52	1	0
226.5891	30.02	412.16	411.56	-0.6	2	0.46
229.219	20.81	412.99	414.42	1.43	4	0.66
230.3373	17.76	413.16	413.01	-0.15	3	0.33
231.5249	15.26	413.37	414.47	1.11	2	0.72
232.2624	13.59	412.85	413.76	0.91	2	0.11
233.2076	11.5	413.14	413.52	0.38	7	0.4
234.8321	8.38	413.44	414.7	1.26	6	0.5
236.8078	11.5	413.14	412.79	-0.35	3	0.37
237.4359	14.41	412.85	413.42	0.57	3	0.23
238.1715	17.7	412.62	413.94	1.32	4	0.4
238.6991	19.75	412.44	412.73	0.29	1	0
239.957	24.08	411.94	412.86	0.92	5	0.54
240.686	25.6	411.8	412.82	1.02	2	0.15
241.5555	24.58	411.94	412.71	0.77	5	0.23
	avg.		413.12	0.49		
	st. dev.		1.15	0.8		
	count				15	
	sum				50	
	min		410.02			
	max		414.7			

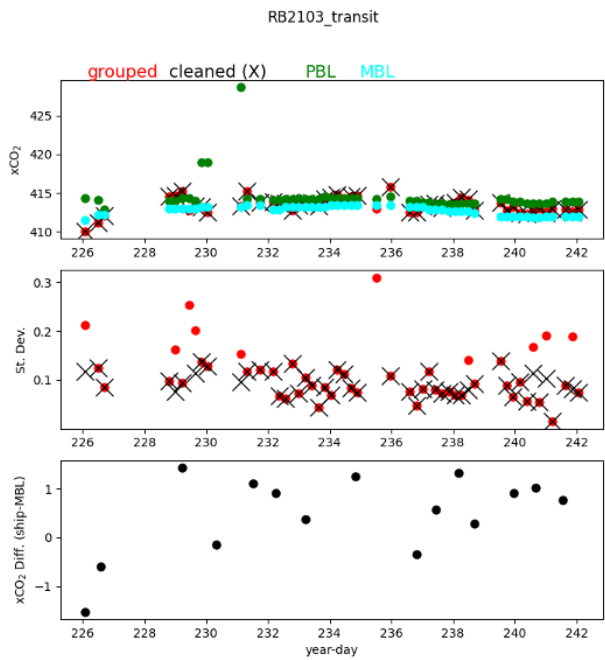
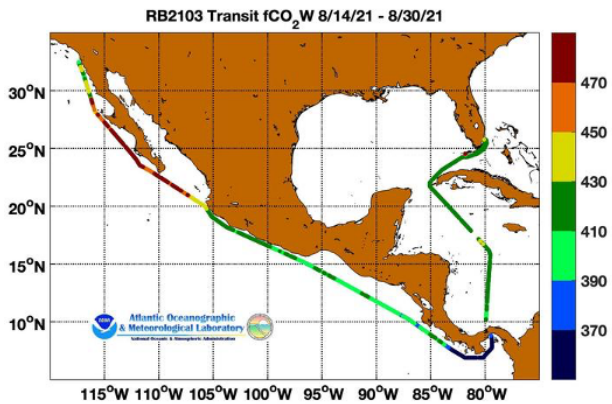
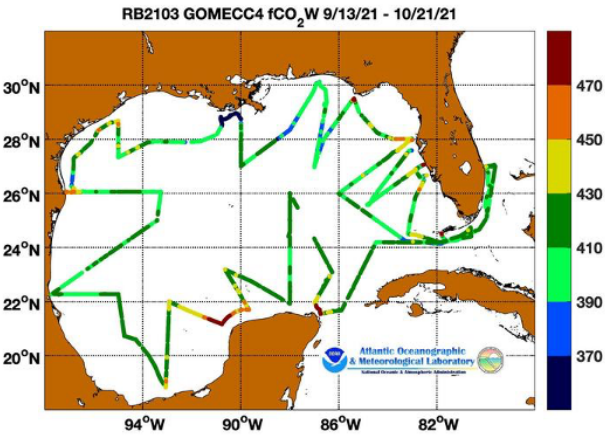


Table 41: MBL cruise summary for RB2103

time	lat	mbi_co2	ship_co2	difference	f shipboard	std of diffs
257.1316	24.47	411.86	413.01	1.15	2	0.26
258.0315	26.58	411.77	412.69	0.92	5	0.29
259.4374	24.57	411.86	414.17	2.3	4	2.03
260.8073	26.11	411.77	411.81	0.04	2	0.14
263.0096	28.05	412.08	412.33	0.25	2	0.05
263.9107	28.9	411.98	411.53	-0.45	5	0.55
265.2129	27.51	412.08	412.14	0.05	5	0.39
266.8058	29.23	411.98	411.56	-0.42	4	4.06
268.6575	27.94	412.08	409.8	-2.29	5	0.79
269.6243	28.78	411.98	409.75	-2.23	2	0.05
271.3492	27.8	412.6	412.32	-0.28	9	0.61
274.9298	26.22	412.6	412.64	0.03	19	0.74
277.5907	26.01	413.3	412.73	-0.57	1	0
279.0049	23.16	413.29	418.25	4.96	10	4.39
280.9994	20.51	413.23	416.41	3.18	5	3.57
282.016	18.84	413.14	414.97	1.83	1	0
283.0837	21.15	413.23	412.3	-0.93	7	0.76
284.6506	22.68	413.29	414.03	0.74	5	1.42
285.3767	21.97	413.88	416.08	2.19	1	0
285.9987	23.78	414.04	417.61	3.57	5	0.5
286.8366	25.7	414.12	415.32	1.2	3	1.78
287.8863	23.29	414.04	413.93	-0.11	7	0.67
289.0423	21.7	413.88	412.92	-0.96	4	0.4
290.6176	24.01	414.04	416.72	2.68	11	2.45
292.2422	26.46	414.12	417.58	3.46	4	0.66
293.6607	26.03	415.01	415.34	0.33	6	0.9
	avg.	413.77	0.79			
	st. dev.	2.29	1.76			
	count				26	
	sum				134	
	min	409.75				
	max	418.25				



RB2103

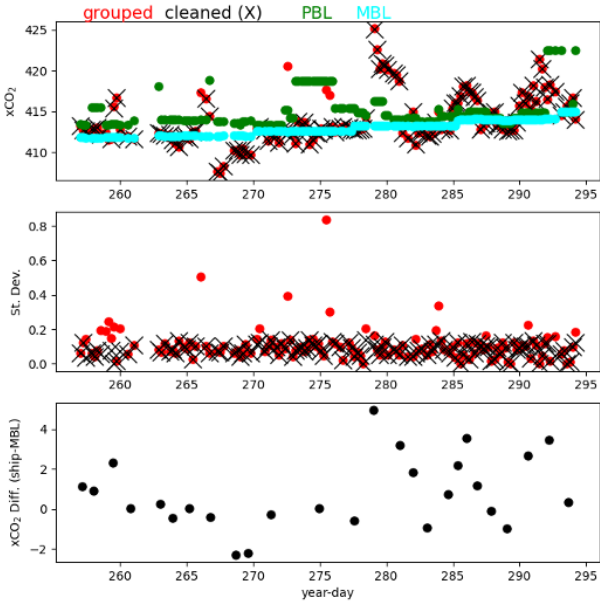


Table 42: MBL cruise summary for RB2105

time	lat	mbi_co2	ship_co2	difference	fshipboard	std of diffs
317.9238	24.49	416.93	419.8	2.87	1	0
319.0325	25.73	417.38	414.71	-2.67	2	0.02
321.2498	24.17	416.93	416.58	-0.35	11	0.37
323.6794	22.4	417.47	417.02	-0.45	4	0.29
327.3351	20.62	416.92	416.99	0.07	23	0.45
331.4303	20.1	417.38	417.87	0.48	5	0.67
332.8149	17	416.83	419.4	2.58	3	0.61
333.8593	14.07	416.33	418.21	1.88	2	0.28
335.1236	11.63	415.94	418.33	2.4	7	0.28
336.5903	8.76	415.64	418.19	2.54	2	0.33
337.6398	5.79	415.45	417.43	1.98	5	0.55
338.2616	4.07	415.32	416.36	1.05	1	0
339.0693	2.86	415.5	416.66	1.16	5	0.23
340.4741	0.03	415.35	415.88	0.52	8	0.41
341.8382	-2.68	415.25	415.55	0.3	5	0.32
342.8868	-5.65	415.19	415.21	0.02	5	0.25
343.629	-7.7	415.16	414.9	-0.26	2	0.09
346.2493	-0.48	415.47	416.38	0.92	1	0
347.4988	3.77	415.68	416.84	1.16	1	0
347.9292	5.51	415.95	416.72	0.77	3	0.13
348.6614	8.57	416.29	416.88	0.58	2	0.08
350.0247	12.16	416.7	417.52	0.81	8	0.3
352.0211	13.92	417.19	417.87	0.68	10	0.44
		avg.	417.01	0.83		
		st. dev.	1.28	1.21		
		count			23	
		sum			116	
		min	414.71			
		max	419.8			

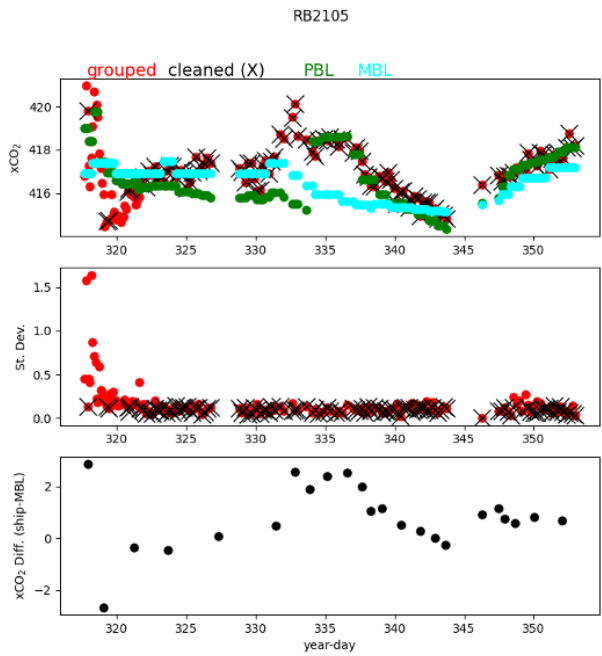
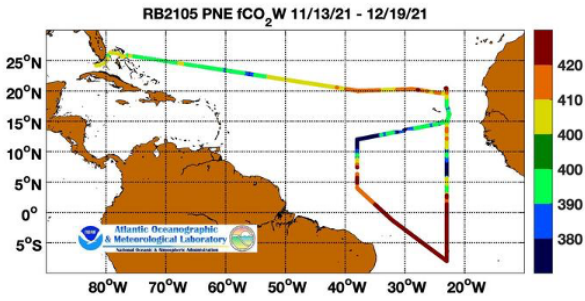


Table 43: MBL cruise summary for RB2201

time	lat	mbi_co2	ship_co2	difference	f shipboard	std of diffs
8.073293	14.57	418.36	419.57	1.22	6	0.29
13.88177	14.97	418.7	419.43	0.73	14	0.57
17.27633	17.63	419.22	419	-0.22	12	0.47
20.40956	20.88	419.96	419.02	-0.94	7	0.2
23.43468	23.98	420.37	419.39	-0.97	10	0.82
25.49356	25.87	420.7	421.41	0.71	8	0.38
		avg.	419.64	0.08		
		st. dev.	0.82	0.85		
		count			6	
		sum			57	
		min	419			
		max	421.41			

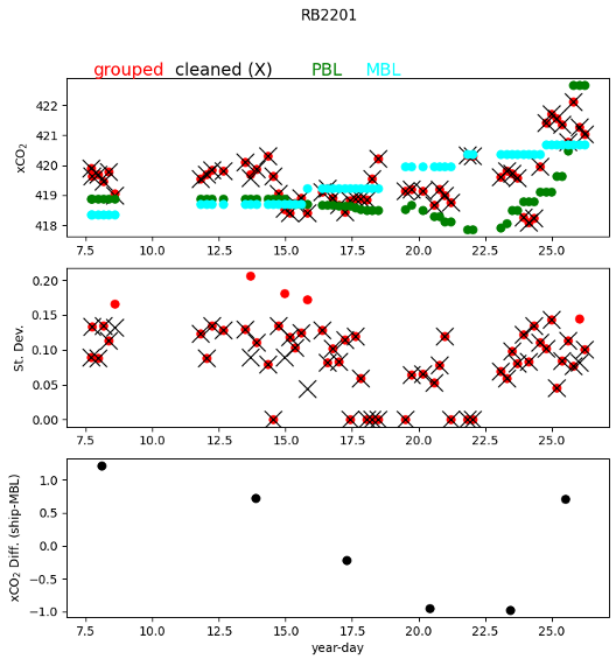
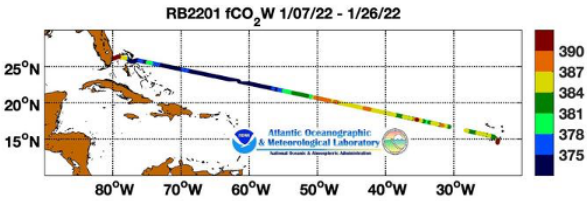


Table 44: MBL cruise summary for RB2203, legs 1 and 2

time	lat	mbi_co2	ship_co2	difference	fshipboard	std of diffs
218.8389	41.69	412.61	421.66	9.05	1	0
222.2619	43.85	410.97	419.47	8.5	13	7.15
226.5309	44.05	410.54	413.67	3.12	11	4.04
229.602	41.96	412.05	410.32	-1.73	2	0.59
230.3663	42.87	410.54	407.57	-2.97	3	0.55
231.3158	41.16	412.05	406.91	-5.14	6	1.37
232.5952	41.02	411.76	404.94	-6.82	5	1.55
233.8335	42.86	410.47	407.31	-3.16	4	4.51
234.7789	40.98	411.76	409.97	-1.79	5	4.72
235.5076	38.39	412.97	415.82	2.86	2	0.51
237.7026	40.39	411.76	413.95	2.19	12	3.57
240.4697	39.89	411.78	409.35	-2.43	5	1.11
250.3985	39.77	412.14	408.61	-3.52	6	2.04
251.913	37.92	412.79	409.94	-2.85	3	1.03
252.6452	38.73	412.14	410.92	-1.22	1	0
253.6665	37.25	412.79	408.59	-4.2	7	1.79
255.062	35.57	413.18	411.71	-1.47	4	3.13
256.9273	33.36	413.51	415.8	2.29	12	2.46
260.9414	30.66	413.82	413.95	0.13	13	1.12
263.9792	29.24	414.08	414.58	0.51	11	0.51
	avg.		411.75	-0.43		
	st. dev.		4.21	4.03		
	count				20	
	sum				126	
	min		404.94			
	max		421.66			

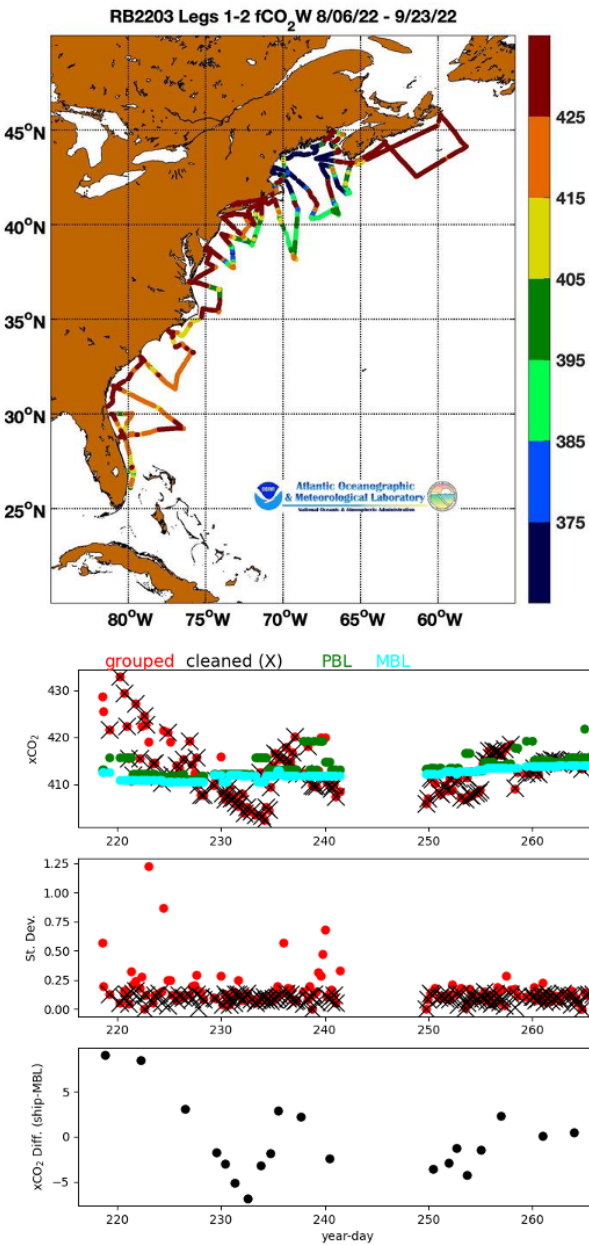


Table 45: MBL cruise summary for RB2204

time	lat	mbi_co2	ship_co2	difference	fshipboard	std of diffs
279.8464	26.13	415.27	415.88	0.62	1	0
282.9301	19.79	415.11	414.54	-0.56	3	0.42
283.3381	18.59	415.04	414.04	-1.01	1	0
285.5072	16.15	415.46	414.84	-0.62	3	0.08
288.2135	15.24	415.33	414.35	-0.98	22	0.52
292.2175	16.24	415.46	414.38	-1.08	3	0.03
294.8424	16.33	415.96	415.06	-0.9	18	0.43
		avg.	414.73	-0.65		
		st. dev.	0.57	0.55		
		count			7	
		sum			51	
		min	414.04			
		max	415.88			

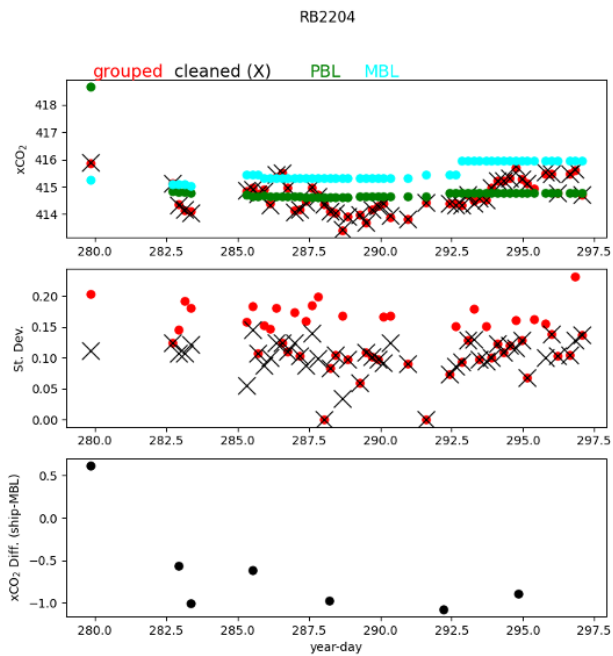
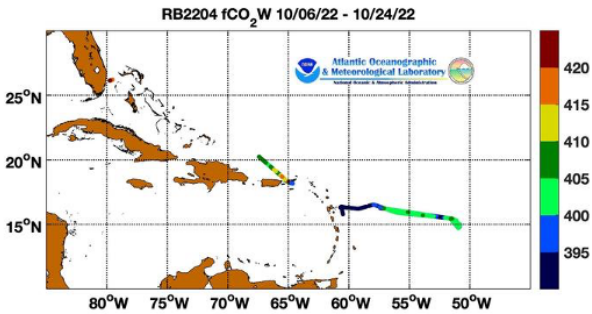
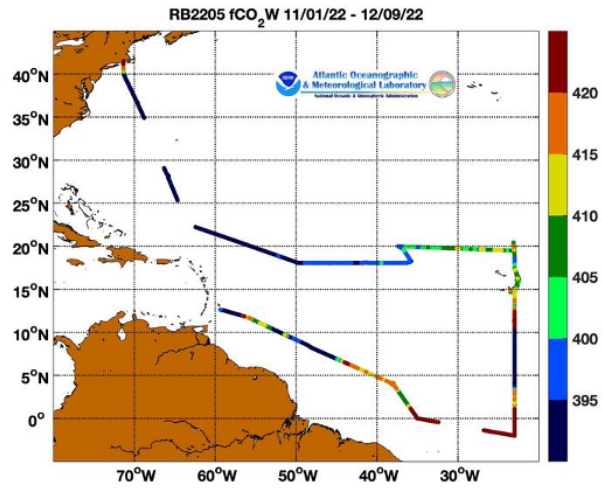


Table 46: MBL cruise summary for RB2205

time	lat	mbi_co2	ship_co2	difference	f shipboard	std of diffs
306.6894	11.63	415.93	415.53	-0.39	9	0.51
307.8429	9.71	415.85	415.8	-0.05	2	0.24
308.6829	8.22	416.2	415.73	-0.47	6	0.43
310.0467	5.74	416.24	415.79	-0.45	7	0.35
312.5997	3.72	416.41	416.75	0.34	13	0.4
314.9807	0.12	416.63	417.41	0.78	6	0.23
316.7413	-1.38	416.9	417.05	0.15	1	0
317.3631	-1.71	417.08	416.71	-0.38	5	0.11
318.466	0	416.9	416.89	-0.01	4	0.07
319.9859	3.17	416.72	416.81	0.09	7	0.29
321.353	5.73	416.59	416.47	-0.12	4	0.31
322.4015	8.79	416.6	416.9	0.3	4	0.33
323.0279	10.58	416.77	417.89	1.12	1	0
323.871	11.86	417.2	417.5	0.29	7	0.43
325.1299	14.61	417.58	418.77	1.18	5	0.31
325.7518	16.39	418.1	419.32	1.22	1	0
326.5991	15.07	417.58	417.71	0.13	3	0.74
327.4405	17.57	418.1	418.27	0.16	5	0.69
329.1622	19.84	418.71	418.03	-0.68	10	0.29
332.0906	19.63	419.16	417.98	-1.18	3	0.15
334.0921	18.33	418.54	417.91	-0.63	2	0.65
337.0243	20.48	419.16	417.6	-1.56	10	0.52
338.1864	22.29	419.82	419.48	-0.34	1	0
339.3351	26.56	420.91	421.3	0.39	4	0.64
339.8685	28.64	421.6	420.3	-1.3	1	0
341.376	34.88	422.26	423.07	0.81	1	0
341.9982	36.92	422.87	425.85	2.99	5	8.72
342.9422	40.5	423.39	428.75	5.36	3	0.09
		avg.	418.48	0.28		
		st. dev.	2.98	1.32		
		count			28	
		sum			130	
		min	415.53			
		max	428.75			



RB2205

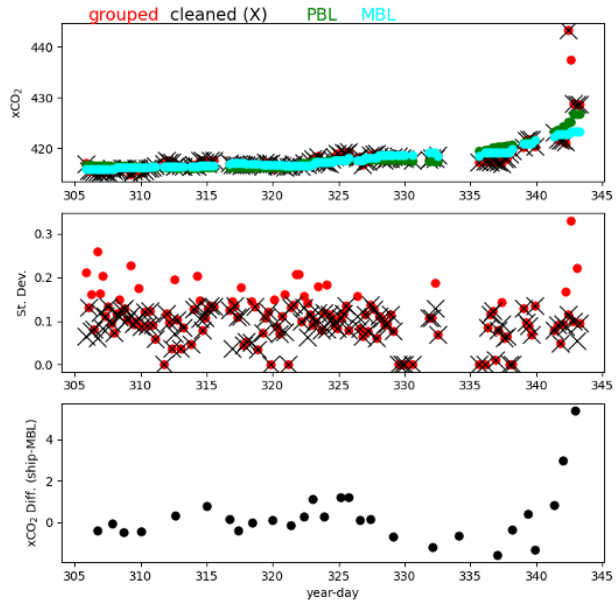


Table 47: MBL cruise summary for RB2301 (map not available)

time	lat	mbi_co2	ship_co2	difference	fshipboard	std of diffs
66.46838	-7.4	417.15	416.57	-0.58	2	0.07
68.17705	-5.91	417.26	416.37	-0.89	12	0.52
70.71208	-2.89	417.61	419.23	1.62	5	0.75
72.09841	-1.16	418.19	418.56	0.38	2	0.18
73.25169	0.5	418.22	419.74	1.52	6	0.56
75.07568	2.87	418.99	421.08	2.09	8	0.29
77.41865	5.7	419.8	421.38	1.57	9	0.38
79.00163	8.38	420.56	421.57	1.01	5	0.27
81.10134	11.63	421.43	422.65	1.21	9	0.29
82.87924	14.52	421.99	423.27	1.28	7	0.16
84.54791	17.47	422.46	422.46	-0.01	7	0.53
86.32298	20.59	422.93	423.35	0.42	2	0.29
88.30808	23.84	423.86	422.66	-1.2	6	0.4
90.18778	26.76	424.4	422.41	-1.99	3	0.13
92.08354	29.71	424.94	423.34	-1.6	1	0
93.92459	33.42	425.44	423.93	-1.51	7	0.95
95.38592	35.65	426.05	425.36	-0.69	2	0.73
104.1385	35.69	426.13	425.02	-1.1	3	0.45
107.5942	28.74	425.57	424.51	-1.06	2	0.18
108.0053	28.06	425.18	424.05	-1.12	2	0.14
109.2647	29.73	425.57	425.38	-0.19	9	0.82
110.4223	31.5	425.73	425.46	-0.27	1	0
111.694	33.28	425.94	425.58	-0.35	6	0.6
113.9126	36.62	426.06	425.27	-0.8	6	0.99
116.3515	40.3	426.13	424.52	-1.61	5	0.52
118.3834	44	425.8	424.98	-0.82	5	0.33
122.0606	50.5	425.82	425.08	-0.74	1	0
123.313	52.98	425.91	424.12	-1.79	10	0.9
124.9841	56.94	426.1	423.7	-2.4	4	1.77
126.2367	59.68	425.75	424.06	-1.69	5	2.21
127.7685	62.54	426.1	425.03	-1.07	6	0.71
	avg.		422.93	-0.4		
	st. dev.		2.5	1.2		
	count				31	
	sum				158	
	min		416.37			
	max		425.58			

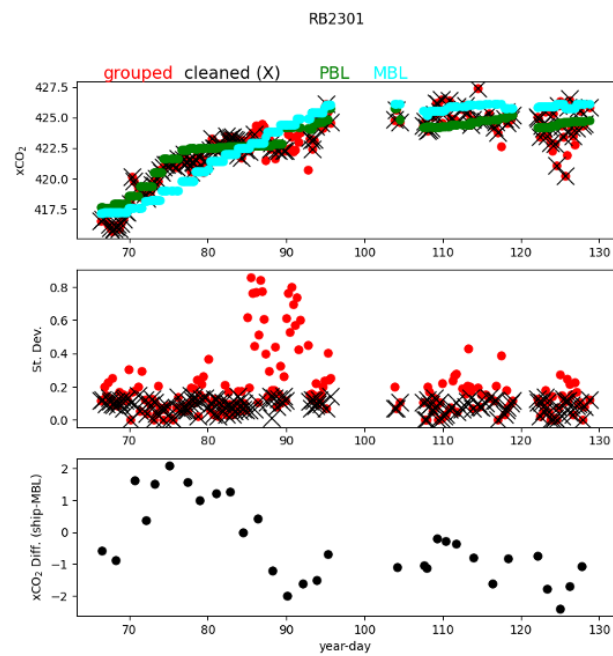
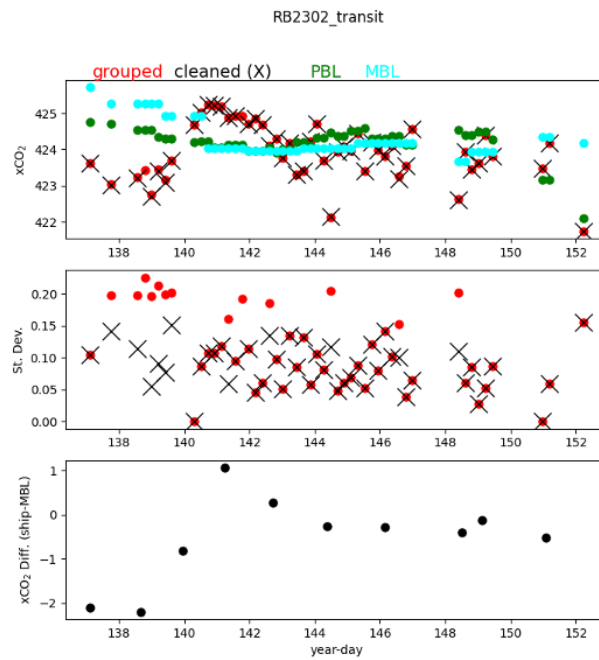


Table 48: MBL cruise summary for RB2302 transit (map not available)

time	lat	mbi_co2	ship_co2	difference	f shipboard	std of diffs
137.119	62.85	425.72	423.63	-2.09	1	0
138.6673	57.6	425.28	423.08	-2.19	4	0.26
139.9662	52.99	424.94	424.12	-0.82	4	0.77
141.2481	48.39	424.03	425.09	1.06	5	0.16
142.7093	44.13	423.97	424.24	0.28	8	0.49
144.3802	40.57	424.04	423.77	-0.27	8	0.71
146.1563	36.98	424.19	423.92	-0.27	9	0.45
148.5081	31.92	423.67	423.27	-0.39	2	0.67
149.1265	30.54	423.94	423.82	-0.12	4	0.36
151.0823	24.62	424.35	423.83	-0.52	2	0.36
		avg.	423.88	-0.53		
		st. dev.	0.52	0.94		
		count			10	
		sum			47	
		min	423.08			
		max	425.09			



3.2 Cruise measurement comparisons to the CarbonTracker PBL dataset

Table 49: PBL cruise summary for RB1501, leg 1

time	lat	lon	pbl_co2	ship_co2	difference	f_shipboard	std of diffs
15.1609	21.29	-157.71	401.64	400.64	-1	2	0.12
15.37097	21.72	-156.81	401.64	400.02	-1.62	1	0
15.51127	22.11	-156.19	401.7	400.44	-1.26	1	0
15.65183	22.48	-155.56	401.58	399.35	-2.23	1	0
15.79233	22.85	-154.95	401.58	399.5	-2.08	1	0
15.95095	23.3	-154.22	401.58	399.31	-2.27	1	0
16.08767	23.66	-153.61	401.58	399.71	-1.87	1	0
16.22444	24.01	-153.02	401.68	399.38	-2.3	1	0
16.36117	24.38	-152.41	401.55	399.52	-2.02	1	0
16.49803	24.74	-151.8	401.55	399.5	-2.05	1	0
16.63471	25.11	-151.17	401.55	399.65	-1.9	1	0
16.79353	25.54	-150.46	401.55	399.48	-2.07	1	0
17.2026	26.62	-148.61	401.52	399.66	-1.86	1	0
17.33941	27.02	-147.94	401.52	399.18	-2.33	1	0
17.84077	28.39	-145.57	401.5	399.95	-1.55	2	0.3
18.04596	28.91	-144.67	401.5	399.37	-2.13	1	0
18.18256	29.26	-144.05	401.5	399.46	-2.05	1	0
18.31923	29.58	-143.53	401.51	399.74	-1.77	1	0
18.47784	29.97	-142.86	401.51	399.63	-1.88	1	0
18.61458	30.33	-142.22	401.6	399.44	-2.15	1	0
18.75139	30.69	-141.58	401.6	399.81	-1.79	1	0
19.24089	32.54	-140.31	401.75	400.08	-1.67	2	0.11
19.59328	34.26	-139.92	401.81	400.24	-1.57	1	0
20.43591	38	-139.98	401.87	399.64	-2.23	1	0
20.57247	38	-140	401.9	399.64	-2.26	1	0
21.13501	38	-140	401.9	399.7	-2.2	7	0.16
21.83938	38	-140	401.9	399.93	-1.97	3	0.18
22.11994	38	-140	401.9	400.02	-1.88	1	0
22.32508	38	-140	401.9	400.11	-1.79	2	0.13
22.53005	38	-140	401.9	399.97	-1.93	1	0
22.6888	38	-140	401.9	399.56	-2.34	1	0
26.78952	38	-133.45	401.99	401.85	-0.14	1	0
26.92611	38	-132.64	401.99	401.54	-0.45	1	0
27.08473	38	-131.71	402.05	401.36	-0.7	1	0
27.28989	38	-130.47	402.05	400.22	-1.83	2	0.09
27.49513	38	-129.23	402.05	399.36	-2.69	1	0
27.6317	38	-128.4	402.38	400.83	-1.55	1	0
27.76863	38	-127.58	402.38	401.08	-1.3	1	0
28.06399	38.01	-126.91	402.43	401.3	-1.13	1	0
28.20078	37.99	-126.12	402.38	404.34	1.96	1	0
28.33743	37.98	-125.34	405.66	404.57	-1.08	1	0
28.47408	37.96	-124.55	405.66	402.72	-2.94	1	0
28.94438	37.95	-123.65	405.66	403.05	-2.61	3	0.79
		avg		400.32	-1.73		
		st. dev.		1.27	0.8		
		count				43	
		sum				58	
		min		399.18			
		max		404.57			

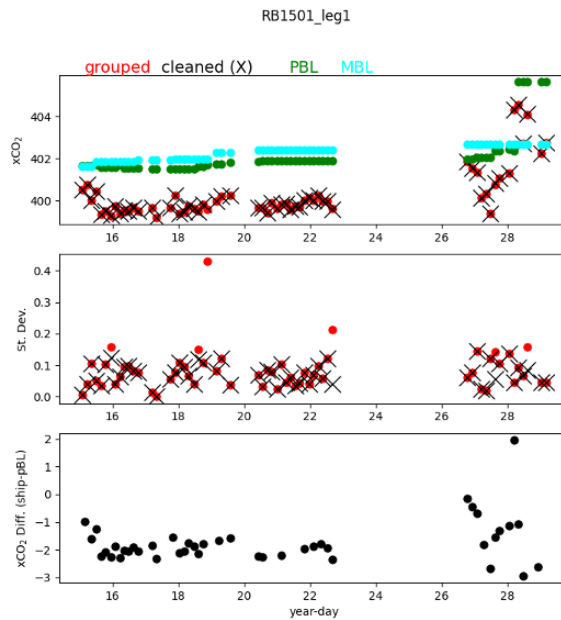
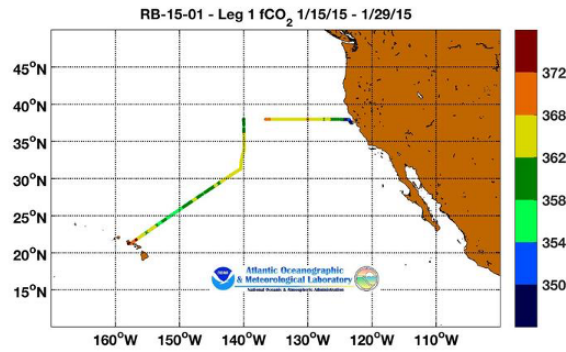


Table 50: PBL cruise summary for RB1501, leg 2

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of difs
30.88068	37.63	-122.96	415.26	408.68	-6.58	1	0
31.0173	37.42	-123.58	404.15	405.65	1.51	1	0
31.22252	37.15	-124.5	404.15	402.25	-1.9	2	0.28
31.42751	37	-125	404.15	401.69	-2.45	1	0
31.56421	37	-125	404.15	402.45	-1.69	1	0
31.92806	37	-125	404.15	402.6	-1.55	4	0.59
32.33832	37	-125.6	404.15	400.33	-3.82	2	0.06
32.56537	37	-126.72	403.12	400.67	-2.45	1	0
32.83879	37	-127.19	403.12	400.61	-2.51	3	0.03
33.32861	37	-127.18	403.12	400.54	-2.59	2	0.09
33.54589	37	-127.18	403.12	400.65	-2.47	1	0
34.14445	37	-127.18	403.12	400.56	-2.56	3	0.12
34.52253	37	-127.18	403.12	400.44	-2.68	1	0
36.04377	37	-127.18	403.12	400.75	-2.37	16	0.57
38.192	37	-127.18	403.12	401.21	-1.91	1	0
38.53931	37.01	-127.2	403.12	401.11	-2.01	4	0.28
39.03427	36.69	-127.2	403.12	401.07	-2.05	1	0
39.17083	36.23	-126.82	403.12	400.34	-2.79	1	0
39.37595	35.58	-126.28	403.04	400.18	-2.87	1	0
39.67943	34.61	-125.5	403.49	401.39	-2.09	1	0
39.96114	34	-125	403.33	402.34	-0.98	2	0.6
40.2346	34	-125	403.49	401.73	-1.75	1	0
40.43944	34	-125	403.33	401.31	-2.01	1	0
40.59806	34	-125	403.49	401.12	-2.37	1	0
40.80316	34	-125	403.33	401.29	-2.04	2	0.03
41.43098	33.94	-125.04	403.33	401.47	-1.85	7	0.25
41.98728	33.73	-124.38	403.33	402.14	-1.19	1	0
42.12406	33.61	-123.65	403.33	401.77	-1.56	1	0
42.35137	33.39	-122.41	404.79	402.3	-2.49	2	0.18
42.69339	33.06	-120.55	404.79	406.88	2.09	1	0
42.89801	32.86	-119.48	409.31	424.6	15.29	1	0
43.19309	32.58	-118.44	409.31	417.61	-8.3	1	0
			avg.	403.05	-1.2		
			st. dev.	5.09	3.72		
			count			32	
			sum			69	
			min	400.18			
			max	424.6			

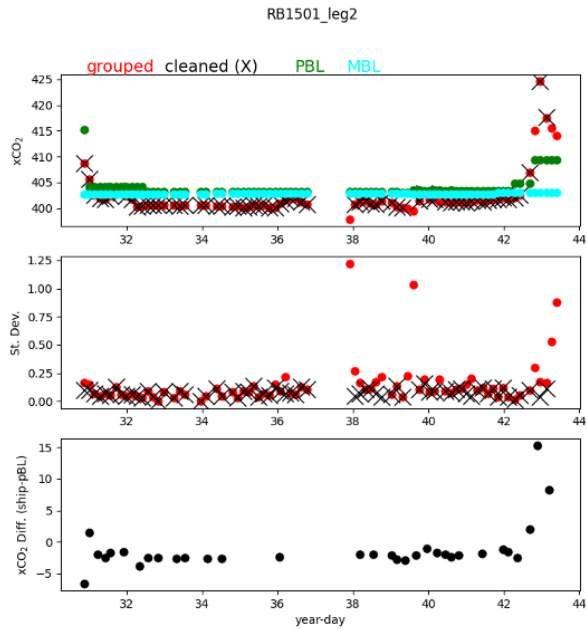
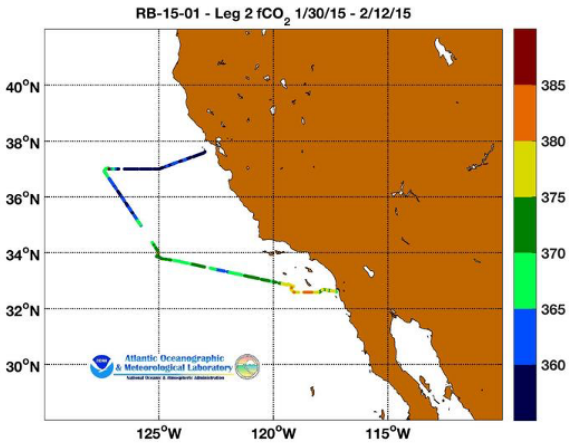


Table 51: PBL cruise summary for RB1502

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diff.
60.76795	24.34	-120.28	404.01	401.45	-2.56	2	0.01
60.97317	23.38	-120.57	403.9	401.69	-2.21	1	0
61.17822	22.38	-120.87	403.9	401.16	-2.75	2	0.19
61.54133	20.59	-121.41	403.69	401.24	-2.45	1	0
63.77522	10.27	-124.39	402.01	399.9	-2.11	1	0
63.91027	9.65	-124.56	401.64	400.25	-1.39	1	0
64.20639	8.39	-124.89	401.64	399.89	-1.76	3	0.16
64.68893	8.03	-125.02	401.64	399.91	-1.74	3	0.15
65.04619	7.89	-125.01	401.22	399.89	-1.32	1	0
65.1839	7.24	-125	401.22	399.77	-1.44	1	0
65.38915	6.46	-124.97	401.22	399.86	-1.35	2	0.19
65.79081	5.28	-124.94	400.7	399.77	-0.93	3	0.05
66.23106	4.33	-124.97	400.7	400.02	-0.68	2	0.09
66.51527	3.29	-125.02	400.28	399.62	-0.66	2	0.17
66.73121	2.38	-125.06	400.28	399.36	-0.92	1	0
67.00471	1.96	-125.08	399.96	399.31	-0.65	3	0.44
67.35734	1.35	-124.88	399.96	398.37	-1.59	2	0.36
67.64171	0.39	-124.55	399.96	398.13	-1.83	2	0.05
68.23353	-0.17	-124.39	399.68	398.88	-0.8	4	0.42
68.96208	-1	-124.6	399.68	399.6	-0.08	1	0
69.78607	-2.17	-124.94	399.37	399.27	-0.1	5	1
70.30484	-3.4	-124.91	399.37	397.93	-1.44	2	0.09
70.5782	-4.56	-124.91	399.1	397.56	-1.54	1	0
71.07834	-5.49	-124.93	399.1	397.85	-1.25	3	0.15
71.42021	-6.77	-124.95	398.87	397.65	-1.22	2	0.07
71.85222	-7.91	-124.98	398.87	397.54	-1.33	4	0.09
75.28928	2.03	-133.97	400.3	397.92	-2.39	1	0
75.49433	2.74	-134.61	400.3	398.01	-2.3	2	0.04
75.69942	3.46	-135.25	400.35	398.13	-2.23	1	0
75.85794	4	-135.74	400.77	397.74	-3.03	1	0
76.06289	4.66	-136.33	400.77	398.65	-2.13	2	0.71
76.26778	5.31	-136.92	400.77	399.74	-1.03	1	0
76.40448	5.75	-137.31	400.77	399.45	-1.32	1	0
76.54117	6.19	-137.71	401.3	400.41	-0.88	1	0
76.69983	6.71	-138.18	401.36	400.36	-1	1	0
76.91339	7.45	-138.76	401.36	400.32	-1.04	2	0.05
77.2551	8.54	-139.61	401.81	400.35	-1.46	3	0.04
77.60784	8.97	-140.27	401.81	400.86	-0.95	2	0.03
77.96003	9	-140.26	401.81	400.72	-1.09	1	0
78.16547	8.4	-140.21	401.81	400.87	-0.94	2	0.33
78.52977	7.19	-140.14	401.36	400.74	-0.63	1	0
78.80242	6.38	-140.09	401.36	399.93	-1.43	3	0.32
79.07617	5.66	-140	400.85	398.56	-2.29	1	0
79.21311	5.17	-139.93	400.85	398.22	-2.63	1	0
79.37001	4.85	-139.94	400.85	398.21	-2.65	1	0
79.508	5.18	-139.99	400.85	398.3	-2.55	1	0
79.64515	4.89	-140.05	400.85	398.32	-2.53	1	0
79.78193	5.03	-139.99	400.85	398.14	-2.71	1	0
79.98694	4.57	-139.99	400.85	398.19	-2.66	2	0.17
80.3507	3.45	-140.02	400.41	398.01	-2.4	3	0.11
80.62402	2.52	-140.03	400.41	398.15	-2.26	1	0
81.00331	1.85	-140.02	400.18	398.26	-1.92	3	0.03
81.32941	1.06	-139.98	400.18	398.6	-1.57	1	0
81.90821	0.15	-139.94	400.18	398.71	-1.47	7	0.17
82.80824	0.04	-140.06	400.18	398.53	-1.64	2	0.09
83.01338	0.02	-139.93	400.18	398.55	-1.63	1	0
83.21832	-0.34	-140.03	400.02	398.67	-1.35	2	0.1
83.50334	-1.32	-140.02	400.02	398.67	-1.35	2	0.06
83.7185	-2.03	-139.99	399.73	398.93	-0.8	1	0
83.9235	-2.02	-140.03	399.73	398.83	-0.9	2	0.06
84.19679	-2.73	-139.98	399.73	398.83	-0.91	2	0.05
84.49198	-3.73	-139.94	399.73	398.66	-1.08	2	0.18
84.76547	-4.67	-139.91	399.53	398.62	-0.91	2	0.01
85.11466	-5.07	-139.91	399.53	398.25	-1.28	3	0.13
85.40277	-5.7	-140.03	399.53	398.16	-1.37	1	0
85.60769	-6.55	-140.19	399.35	397.84	-1.51	2	0.01
85.88118	-7.66	-140.4	399.35	397.75	-1.6	2	0.04
86.10815	-8.49	-140.86	399.16	397.59	-1.56	1	0
86.24484	-8.9	-141.25	399.23	397.82	-1.41	1	0
87.49615	-12.07	-144.76	398.93	397.2	-1.73	1	0
			avg.	399.04	-1.55		
			st. dev.	1.11	0.67		
			count			70	
			sum			130	
			min	397.2			
			max	401.69			

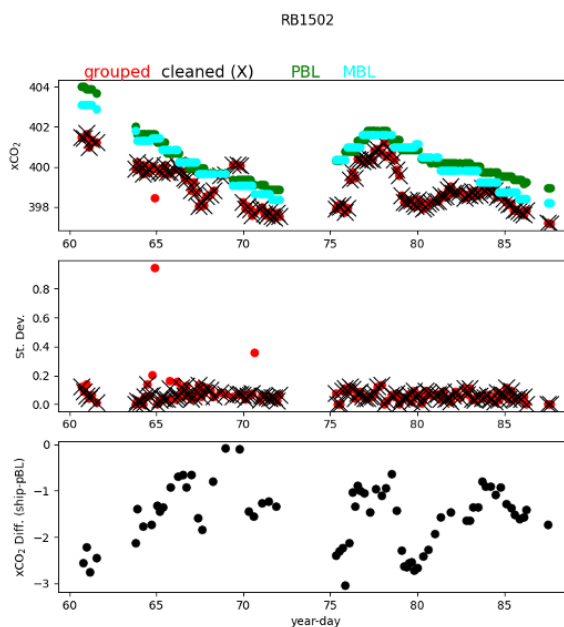
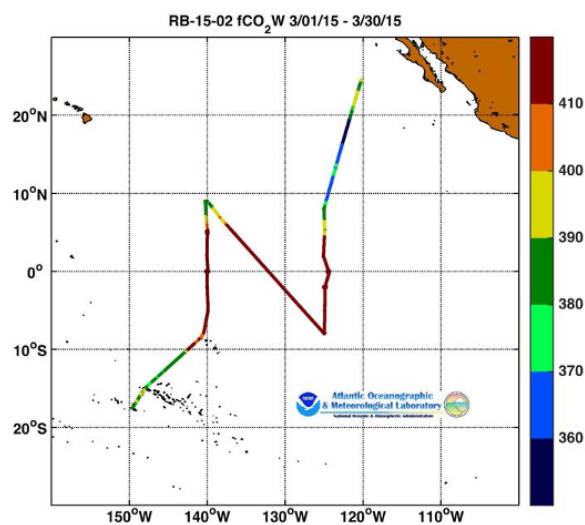


Table 52: PBL cruise summary for RB1503, leg 1

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diff.
100.894	-17.39	-149.67	397.89	397.07	-0.82	1	0
101.099	-16.75	-149.92	397.89	396.8	-1.08	2	0.01
101.3725	-16.29	-150	397.97	397.27	-0.7	2	0.04
101.5774	-16	-150	398	396.85	-1.15	1	0
101.8729	-15.35	-150.26	398.07	396.85	-1.22	3	0.11
102.357	-14.51	-150.6	398.07	396.78	-1.29	4	0.21
102.9201	-13.54	-150.95	398.21	396.88	-1.32	4	0.04
103.553	-12.52	-151	398.21	396.88	-1.33	5	0.27
103.9676	-11.99	-151	398.36	397.47	-0.88	1	0
104.2556	-11.33	-151	398.36	397.02	-1.34	3	0.26
104.7413	-10.56	-151	398.36	397.34	-1.02	4	0.23
105.105	-10	-151	398.43	397.4	-1.03	1	0
105.2416	-9.66	-151	398.43	397.55	-0.88	1	0
105.4467	-9.37	-151	398.43	397.52	-0.91	2	0.1
105.7193	-8.86	-151	398.43	397.53	-0.91	2	0.16
106.0154	-8.35	-151	398.43	397.58	-0.86	2	0.01
106.2206	-8	-151	398.43	397.31	-1.13	1	0
106.4939	-7.64	-151	398.57	397.52	-1.05	3	0.08
106.8576	-7	-151	398.57	397.52	-1.05	2	0.03
107.1995	-6.42	-151	398.57	397.75	-0.81	3	0.1
107.9018	-5.49	-151	398.73	398.56	-0.17	7	0.53
108.8155	-4.47	-151	398.73	399	0.26	6	0.11
109.4529	-3.7	-151	398.96	399.14	0.18	3	0.19
109.7946	-3.29	-151	398.96	398.4	-0.56	2	0.22
109.9997	-3.04	-151	398.96	398.35	-0.61	1	0
110.4322	-2.75	-151	398.96	398.48	-0.48	5	0.25
110.842	-2.54	-151	398.96	399.63	0.67	1	0
111.069	-2.3	-151	398.96	399.75	0.79	2	0
111.274	-2.22	-151	398.96	399.8	0.84	1	0
111.4792	-2.05	-151	398.96	400.14	1.18	2	0.06
111.8356	-1.79	-151	399.24	400.28	1.04	3	0.17
112.1164	-1.56	-151	399.24	400.35	1.1	1	0
112.3213	-1.56	-151	399.24	400.1	0.86	2	0.05
112.5262	-1.56	-151	399.24	399.83	0.59	1	0
112.6848	-1.4	-151	399.24	399.31	0.07	1	0
112.8901	-1.23	-151	399.24	399.22	-0.02	2	0.11
113.1634	-1.07	-151	399.24	399.1	-0.14	2	0.2
113.3686	-0.9	-151	399.24	399.1	-0.14	1	0
113.7094	-0.74	-151	399.24	398.88	-0.37	3	0.14
114.2173	-0.34	-151	399.24	398.72	-0.53	3	0.06
114.5744	-0.18	-151	399.24	398.6	-0.64	2	0.04
114.8479	-0.04	-151	399.24	398.36	-0.88	2	0.05
115.2119	0.08	-151	399.66	398.28	-1.39	1	0
115.6222	0.41	-151	399.66	398.6	-1.06	2	0.07
115.9748	0.66	-151	399.66	398.72	-0.95	2	0.01
116.3274	0.9	-151	399.66	398.5	-1.16	1	0
116.4642	1.07	-151	399.66	398.38	-1.28	1	0
116.7374	1.23	-151	399.66	398.47	-1.19	1	0
117.2149	1.62	-151	399.66	398.38	-1.28	3	0.16
118.0117	2.22	-151	400.22	398.29	-1.93	1	0
118.501	2.6	-151	400.22	398.52	-1.71	2	0
118.9906	3	-151	400.22	398.93	-1.3	1	0
119.3777	3.28	-151	400.22	400.18	-0.04	3	1.37
120.1065	4	-151	401.14	401.6	0.46	1	0
120.5376	4.5	-151	401.14	400.78	-0.36	2	0.17
121.3805	5.65	-151	401.14	400.65	-0.49	2	0.1
122.0331	6.64	-151.14	402.38	401.61	-0.77	3	0.55
122.4963	7.37	-151.31	402.38	403.06	0.68	3	0.06
123.1334	8.5	-151.58	403.34	402.8	-0.54	6	0.21
123.8392	9.73	-151.88	403.34	402.96	-0.38	4	0.32
124.1811	10.29	-151.98	403.83	403.98	0.14	1	0
124.397	10.65	-152	403.83	403.79	-0.05	2	0.15
124.8183	11.32	-152	403.83	403.61	-0.23	4	0.08
125.4513	12.4	-152	404.09	403.81	-0.29	5	0.31
126.0099	13.22	-152	404.09	404.02	-0.07	2	0.19
126.3664	13.8	-152	404.09	403.85	-0.24	2	0.02
126.7824	14.37	-152	404.34	403.96	-0.38	4	0.07
127.3459	15.25	-152	404.34	403.76	-0.58	4	0.07
127.6878	15.92	-152	404.34	403.55	-0.79	1	0
127.8464	16	-152	404.58	403.48	-1.1	1	0
127.983	16.32	-152	404.58	403.61	-0.96	1	0
128.2564	16.73	-152	404.58	403.6	-0.98	3	0.28
128.5297	17.05	-152	404.58	404.11	-0.46	1	0
128.6883	17.5	-152	404.58	403.81	-0.76	1	0
128.9618	17.84	-152	404.58	403.56	-1.02	3	0.24
129.2353	18.41	-152	404.78	403.75	-1.04	1	0
129.5233	18.8	-152	404.78	403.77	-1.02	3	0.07
129.8043	19.36	-152	404.78	403.79	-1	1	0
130.0093	19.59	-152	404.78	403.94	-0.85	2	0.25
130.2144	20	-152	405	403.89	-1.1	1	0
130.3729	20.18	-152	405	403.86	-1.14	1	0
130.5095	20.5	-152	405	404.32	0.67	1	0
130.6461	20.58	-152	405	404.47	0.53	1	0
130.7828	21	-152	405	404.43	0.56	1	0
131.2063	21.59	-152	405	404.48	0.52	5	0.12
131.6934	22.32	-152	405.12	404.21	-0.91	2	0.08
			avg.	400.33	-0.58		
			st. dev.	2.68	0.67		
			count			86	
			sum			193	
			min	396.78			
			max	404.48			

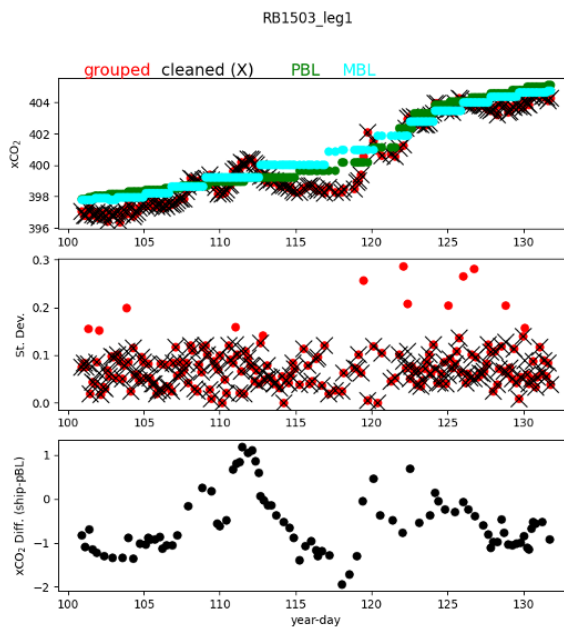
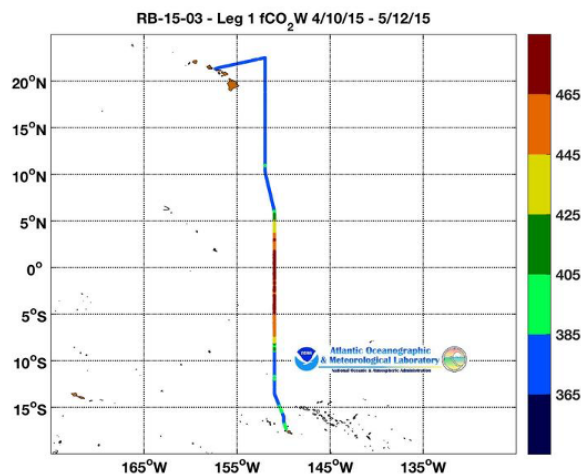


Table 53: PBL cruise summary for RB1503, leg 2

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diffs
146.1163	21.35	-157.38	405.03	405.49	0.46	2	0.16
146.3897	21.63	-156.28	405.03	404.73	-0.3	2	0.08
146.5945	21.82	-155.31	404.99	404.64	-0.35	1	0
146.7533	21.99	-154.51	404.99	404.02	-0.97	1	0
146.9584	22.19	-153.52	405.07	404.38	-0.69	2	0.11
147.2316	22.45	-152.25	405.12	404.07	-1.04	2	0.02
147.5954	22.66	-152	405.12	404.08	-1.03	1	0
147.869	23.1	-152	405.12	404.3	-0.82	1	0
148.5746	24.5	-152	405.22	404.02	-1.2	1	0
148.848	24.96	-152	405.22	404.18	-1.04	1	0
149.1289	25.26	-152	405.22	403.84	-1.37	3	0.03
149.4167	25.69	-152	405.22	404.04	-1.18	1	0
149.6902	26.2	-152	405.28	404.31	-0.96	3	0.22
150.1223	26.92	-152	405.28	404.34	-0.94	1	0
150.2594	27	-152	405.28	404.25	-1.03	1	0
150.3954	27.37	-152	405.28	404.26	-1.02	1	0
150.6692	27.73	-152	403.29	403.13	-0.16	1	0
150.8853	28.11	-152	403.3	403.59	0.3	2	0.23
151.1697	28.57	-152	403.3	404	0.71	2	0.09
151.3751	29	-152	403.3	404.05	0.76	1	0
151.5119	29.01	-152	403.3	403.76	0.46	1	0
151.7282	29.52	-152	403.3	404.22	0.93	2	0.22
152.1494	30.18	-152	403.36	403.67	0.31	4	0.11
152.491	30.63	-152	403.36	403.42	0.05	1	0
152.6495	31	-152	403.36	403.49	0.12	1	0
152.7864	31.22	-152	403.36	403.31	-0.05	1	0
153.0601	31.59	-152	403.36	403.42	0.06	1	0
153.4815	32.29	-152	403.42	404.3	0.89	2	0.1
154.2561	33.59	-152	403.42	403.69	0.27	2	0.02
154.8144	34.54	-152	403.33	403.63	0.29	2	0.24
155.3149	35.25	-152	403.33	403.53	0.19	2	0.09
155.7244	35.83	-152	403.33	403.6	0.27	3	0.19
156.0193	36.5	-152	403.22	403.41	0.19	1	0
156.1558	36.5	-152	403.22	403.53	0.32	1	0
156.7107	37.2	-152	403.22	403.62	0.41	5	0.15
157.0229	37.5	-152	403.22	403.5	0.29	1	0
157.1595	38	-152	403	403.32	0.32	1	0
157.4328	38.33	-152	403	402.68	-0.32	3	0.86
157.9915	39.02	-152	403	403.31	0.31	1	0
158.1965	39.5	-152	403	403.2	0.2	2	0.21
158.4015	40	-152	402.8	403.07	0.27	1	0
158.56	40	-152	403	402.92	-0.08	1	0
158.9704	40.8	-152	402.8	403.53	0.73	5	0.28
159.5393	41.67	-152	402.8	403.85	1.05	3	0.1
159.8133	42.01	-152	402.52	403.7	1.19	1	0
160.0866	42.5	-152	402.52	403.5	0.98	1	0
160.4275	43.17	-152	402.52	403.26	0.75	3	0.04
161.0803	44.24	-152	402.37	403.13	0.76	3	0.05
161.4977	44.9	-152	402.37	402.56	0.19	3	0.22
161.9225	45.64	-152	402.37	402.72	0.35	3	0.59
162.2034	46	-152	402.37	403	0.63	1	0
162.3401	46.4	-152	402.43	403.06	0.62	1	0
162.6135	46.81	-152	402.43	404.18	1.75	1	0
163.1822	47.53	-152	402.43	404.34	1.91	2	0.06
163.6827	48.35	-152	402.45	404.03	1.58	2	0.33
163.8879	48.74	-152	402.45	402.62	0.18	1	0
164.0922	49	-152	402.45	403.01	0.56	2	0.11
164.3764	49.5	-152	402.45	402.95	0.51	2	0.07
165.0039	50.74	-152	402.27	403.59	1.32	2	0.56
165.435	51.24	-152	402.27	404.51	2.24	3	0.1
165.7769	51.89	-152	402.27	404.17	1.9	2	0.04
165.9819	52.21	-152	401.93	403.91	1.98	1	0
166.2078	52.7	-152	401.93	403.12	1.19	2	0.01
166.6873	53.46	-152	401.93	402.46	0.53	3	0.42
166.9829	54	-152	401.93	401.99	0.06	1	0
167.1196	54.23	-152	401.06	401.92	0.86	1	0
167.393	54.55	-152	401.06	401.28	0.22	3	0.43
168.253	55.56	-152.68	401.06	399.43	-1.62	9	0.7
169.3223	56.2	-153.18	400.1	399.95	-0.15	4	0.11
169.988	55.35	-152.37	401.06	399.32	-1.73	2	0.17
170.3443	54.21	-151.25	401.06	399.82	-1.24	3	0.27
170.6937	54.13	-150.39	401.06	399.67	-1.39	2	0.29
171.0353	54.35	-149.14	401.25	399.65	-1.6	1	0
171.1933	54.49	-148.36	401.25	399.44	-1.81	1	0
171.4675	54.66	-147.46	401.25	399.62	-1.63	1	0
171.6711	54.76	-146.93	401.29	399.66	-1.63	2	0.1
171.8781	54.95	-145.89	401.29	399.37	-1.92	1	0
172.31	55.17	-144.74	401.29	399.48	-1.81	1	0
172.8735	55.58	-142.55	401.55	400.29	-1.26	2	0.24
173.3002	55.83	-141.18	401.55	398.71	-2.84	1	0
173.5738	56.03	-140.14	401.42	398.95	-2.48	1	0
173.7325	56.17	-139.4	401.42	398.85	-2.58	1	0
174.006	56.36	-138.38	401.42	398.53	-2.89	3	0.03
174.4957	56.7	-136.46	401.29	396.2	-5.08	2	0.29
174.8484	56.32	-135.8	401.29	395.51	-5.77	1	0
175.0535	55.42	-135.37	401.69	398.4	-3.29	1	0
			avg.	402.58	-0.29		
			st. dev.	2.08	1.41		
			count			86	
			sum			160	
			min	395.51			
			max	405.49			

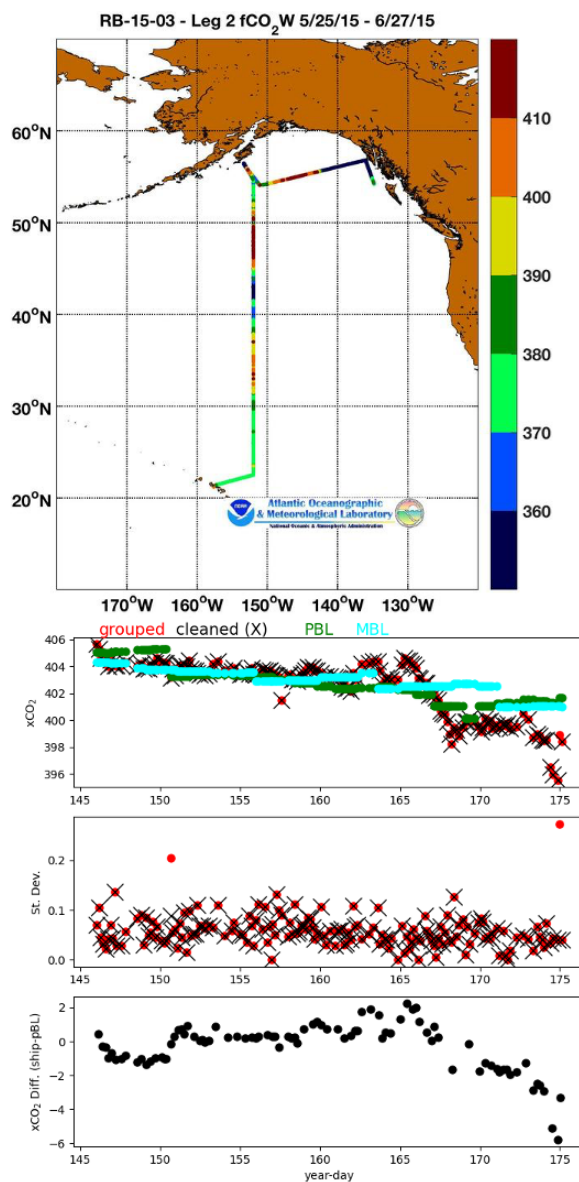


Table 54: PBL cruise summary for RB1504

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diff.
195.9458	48.17	-122.83	401.59	401.33	-0.27	1	0
196.1067	48.3	-123.94	398.81	396.74	-2.07	1	0
198.1033	54.5	-134.51	396.6	398.2	1.59	3	0.52
198.4452	54.64	-133.66	396.6	398.37	1.77	2	0.32
198.809	54.68	-132.86	396.6	396.85	0.24	1	0
198.9456	54.7	-133.53	396.6	398.6	2	1	0
199.0825	54.99	-134.55	396.6	398.55	1.95	1	0
200.361	56.23	-134.59	396.45	393.64	-2.82	1	0
200.4979	56.31	-135.55	395.95	392.18	-3.77	1	0
200.6347	56.52	-136.24	395.95	392.42	-3.53	1	0
200.8616	56.7	-135.72	395.95	392.41	-3.54	2	0.16
201.3528	57.76	-137.46	395.95	391.54	-4.41	1	0
201.4895	58.04	-137.67	395.69	389.99	-5.7	1	0
201.9139	58.18	-136.72	395.69	392.1	-3.59	2	0.96
202.1952	58.12	-137.35	395.69	387.9	-7.79	1	0
202.3319	58.18	-138.61	395.33	388.3	-7.02	1	0
202.685	58.45	-139.76	395.33	387.94	-7.39	1	0
202.6848	58.83	-140.75	395.33	389.13	-6.2	2	0.06
202.901	59.02	-140.5	395.33	388.76	-6.56	1	0
203.176	59.4	-139.99	395.33	388.62	-6.71	1	0
203.3114	59.54	-140.35	395.33	388.8	-6.53	1	0
203.5986	59.78	-141.66	395.22	391.46	-3.75	2	0.1
204.0166	59.24	-142.61	395.22	393.23	-1.99	1	0
204.6542	59.86	-145.58	394.95	390.84	-4.11	2	0.17
204.9961	60.14	-145.55	394.81	390.29	-4.52	1	0
205.1327	60.29	-146.73	394.81	390.11	-4.71	1	0
206.0546	59.72	-149.35	394.63	390.74	-3.89	2	1.12
206.4074	59.17	-148.82	394.63	387.68	-6.95	1	0
206.8254	58.56	-148.25	394.63	388.25	-6.38	3	0.62
207.1136	58.13	-147.83	394.63	387.07	-7.56	1	0
207.4559	57.76	-147.62	395.2	388.03	-7.17	2	0.21
207.6613	57.52	-148.58	395.2	386.6	-8.6	1	0
207.8197	57.27	-149.59	395.2	388.95	-6.25	1	0
208.0249	57.19	-150.54	394.64	388.73	-5.92	2	0.72
208.3667	57.77	-151.62	394.64	387.03	-7.61	1	0
208.5058	58.02	-152.03	394.77	389.59	-5.19	1	0
208.7309	58.62	-151.78	394.77	391.04	-3.74	2	0.74
209.3463	58.9	-153.11	395.23	383.73	-11.49	1	0
209.505	59.27	-153.07	395.23	390.98	-4.25	1	0
209.71	59.82	-152.62	394.77	388.1	-6.67	1	0
209.9152	59.9	-151.99	394.77	390.7	-4.07	1	0
210.052	59.38	-152.41	394.77	389.58	-5.19	1	0
210.1886	58.86	-152.81	394.77	388.36	-6.42	1	0
210.484	57.91	-154.26	394.37	385.63	-8.74	1	0
210.6206	57.56	-155.11	394.37	388.01	-6.35	1	0
210.7575	57.36	-156.05	394.12	387.64	-6.47	1	0
211.1895	56.78	-155	394.37	385.72	-8.64	1	0
211.5998	56.58	-156.18	390.65	387.15	-3.5	1	0
211.8048	56.23	-155.56	390.91	390.83	-0.08	2	2.35
212.0321	55.86	-154.91	391.71	387.01	-4.69	1	0
212.3053	55.91	-153.88	391.71	389.66	-2.04	1	0
212.4419	56.28	-153.13	390.91	390.35	-0.55	1	0
212.5788	56.51	-152.83	391.11	390.31	-0.8	1	0
		avg.		390.49	-4.5		
		st. dev.		3.68	3		
		count				53	
		sum				68	
		min		383.73			
		max		401.33			

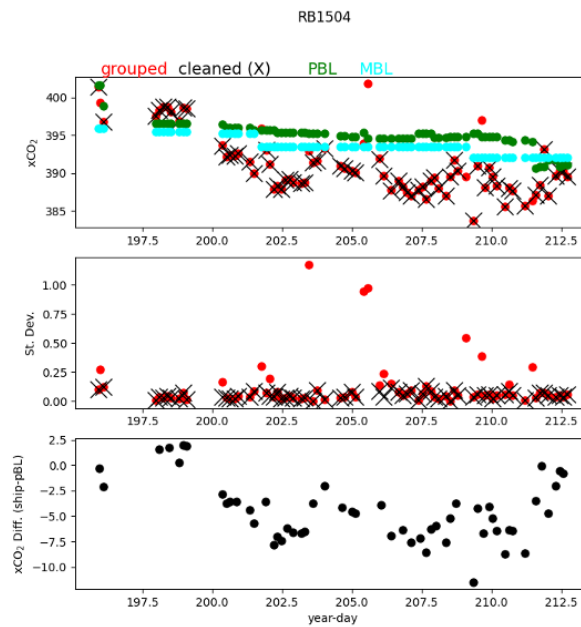
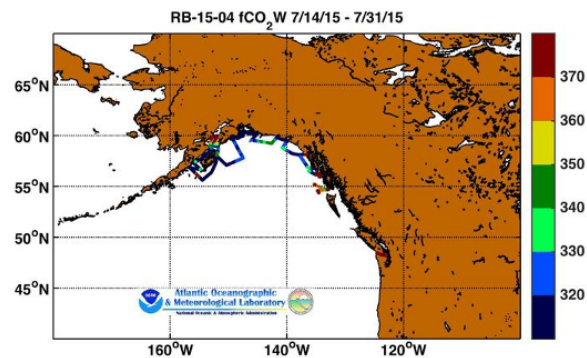


Table 55: PBL cruise summary for RB1505, legs 1 and 2

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diffs
219.012	56.6	-153	391.11	389.67	-1.45	1	0
219.149	56.13	-153.81	390.91	389.4	-1.5	1	0
219.286	55.68	-154.77	391.71	389.02	-2.68	1	0
219.422	55.33	-155.78	391.71	387.44	-4.27	1	0
219.581	55	-157.06	391.38	387.5	-3.88	1	0
219.7865	54.63	-158.54	391.38	387.45	-3.93	2	0.56
219.991	54.4	-159.56	391.18	388.47	-2.71	1	0
220.128	54.28	-160.75	391.18	388.05	-3.14	1	0
220.265	54.15	-161.91	391.18	390.2	-0.98	1	0
220.4238	54.19	-163.27	390.94	392.2	1.26	1	0
220.561	54.29	-164.36	390.94	394.9	3.96	1	0
220.696	54.48	-165.09	390.92	396.59	5.67	1	0
220.931	55.44	-165.61	390.92	396.98	6.05	1	0
221.342	57.35	-166.7	390.76	394.26	3.5	1	0
221.478	57.79	-167.14	390.76	387.58	-3.18	1	0
221.615	58.42	-167.49	390.57	388.92	-1.65	1	0
221.774	59.12	-167.87	390.57	388.89	-1.68	1	0
221.911	59.73	-168.21	390.5	389.18	-1.31	1	0
222.116	60.67	-168.2	390.27	390.39	0.12	2	0.13
222.321	61.63	-167.66	390.43	389.95	-0.49	1	0
222.458	62.28	-167.28	390.15	390.08	-0.07	1	0
222.6855	63.38	-167.67	390.15	389.4	-0.75	2	0.18
223.4596	67.49	-167.76	389.87	388.26	-1.61	1	0
223.5945	68.17	-167.32	390.06	388.21	-1.86	1	0
223.871	69.54	-167.81	390.06	389.06	-1.01	1	0
224.007	70.17	-168.12	390.35	390.1	-0.25	1	0
224.144	70.06	-167.65	390.39	390.48	0.09	1	0
224.3705	69.81	-166.56	390.06	387.9	-2.16	2	0.93
224.576	69.57	-165.68	390.06	391.02	0.95	1	0
224.9027	69.49	-164.75	390.15	387.07	-3.08	3	0.41
225.282	70.08	-165.81	390.39	386.76	-3.63	1	0
225.419	70.28	-166.68	390.39	386.36	-4.03	1	0
225.556	70.5	-167.66	390.39	387.02	-3.38	1	0
225.692	70.71	-168.61	390.35	387.82	-2.53	1	0
226.125	70.92	-165.62	390.39	387.84	-2.55	1	0
226.2616	70.66	-164.63	390.41	387.89	-2.52	1	0
226.398	70.4	-163.63	390.41	387.68	-2.73	1	0
227.1045	70.58	-161.15	390.36	387.98	-2.38	3	0.16
227.81	70.7	-160.04	390.36	389.18	-1.18	1	0
228.0845	70.75	-159.87	390.36	389.57	-0.79	3	0.12
228.4365	71.2	-158.73	390.41	389.62	-0.79	2	0.66
228.79	70.79	-159.75	390.36	390.03	-0.33	1	0
229.2	70.6	-162.54	390.41	389.37	-1.04	1	0
229.4275	70.92	-163.36	390.41	390.16	-0.24	2	0.08
229.7015	71.27	-164.4	390.41	389.71	-0.7	2	0.15
229.9748	71.6	-165.31	390.39	389.64	-0.75	2	0.22
230.202	71.57	-164.34	390.41	389.56	-0.85	1	0
230.339	71.42	-163.87	390.41	389.59	-0.82	1	0
230.476	71.25	-161.33	390.36	389.89	-0.47	1	0
230.6128	71.08	-159.77	390.36	389.96	-0.4	1	0
230.8937	70.9	-158.52	390.41	390.13	-0.28	3	0.1
231.182	71.18	-158.2	390.41	390.26	-0.14	1	0
231.4548	71.3	-157.55	390.41	390.32	-0.09	3	0.07
231.8802	70.89	-158.46	390.41	390.37	-0.04	3	0.07
232.161	71.06	-158.33	390.41	390.42	0.01	1	0
232.298	71.53	-157.26	390.41	390.4	-0.01	1	0
232.435	71.72	-156.16	390.41	390.41	0	1	0
232.572	71.56	-155.89	390.35	390.17	-0.18	1	0
232.7305	71.42	-156.17	390.41	389.99	-0.42	1	0
233.141	71.58	-155.58	390.35	389.69	-0.66	5	0.13
233.573	71.68	-154.83	390.35	389.46	-0.89	1	0
233.9155	71.28	-155.26	390.35	389.06	-1.3	2	0.09
234.121	71.51	-154.58	390.35	389.2	-1.15	1	0
234.258	71.88	-153.61	390.35	389.15	-1.2	1	0
234.4185	72	-151.47	390.64	389.12	-1.52	1	0
234.6223	71.8	-153.58	390.35	389.11	-1.24	2	0.22
234.964	71.4	-154.24	390.35	388.82	-1.54	2	0
235.3287	71.24	-153.77	390.35	388.93	-1.43	2	0.04
236.3045	71.24	-154.49	390.35	388.98	-1.37	10	0.15
237.8625	71.37	-157.53	390.41	393.3	2.89	5	1.92
238.4055	71.69	-158.35	390.41	388.91	-1.5	2	0.96
238.7011	71.47	-159.5	390.36	388.28	-2.08	2	0.03
238.906	71.22	-160.54	390.36	388.64	-1.72	1	0
239.18	71	-159.95	390.36	388.6	-1.76	1	0
239.317	71.02	-160	390.36	388.9	-1.46	1	0
239.476	71.02	-160	390.36	388.92	-1.44	1	0
239.7493	70.97	-160.44	390.36	388.82	-1.54	3	0.06
240.1673	70.83	-161.43	390.36	388.91	-1.45	3	0.19
240.455	70.65	-162.64	390.41	388.9	-1.51	1	0
240.592	70.51	-163.4	390.41	389.06	-1.34	1	0
240.9398	70.38	-164.5	390.41	388.82	-1.59	4	0.11
241.574	70.69	-161.68	390.36	388.62	-1.74	1	0
241.7765	70.92	-159.85	390.36	388.54	-1.83	2	0.17
242.004	71.22	-160.54	390.36	388.38	-1.98	1	0
242.209	71.54	-161.29	390.36	388.22	-2.14	2	0.14
242.414	71.87	-162.06	390.41	388.2	-2.21	1	0
243.122	69.88	-166.81	392.85	389.66	-3.19	1	0
243.5418	69.37	-165.64	392.85	389.15	-3.7	2	0.01
243.827	68.7	-166.82	392.85	389.36	-3.49	1	0
244.032	68.15	-167.42	392.85	389.04	-3.81	2	0.31
244.3055	67.66	-168.7	392.83	389.55	-3.28	2	0.18
244.6015	66.48	-168.57	392.83	388.66	-4.18	2	0.09
244.875	65.64	-168.26	392.88	389.56	-3.32	2	0.02
245.0808	64.98	-168.25	392.88	388.95	-3.93	1	0
245.217	64.36	-167.95	393.29	391.15	-2.14	1	0
245.376	63.64	-167.6	393.29	388.73	-4.56	1	0
245.5815	62.67	-167.49	393.29	391.14	-2.15	2	0.27
245.8545	61.48	-167.74	393.56	390.86	-2.7	2	1.83
246.06	60.56	-168.03	393.37	388.92	-4.45	1	0
246.2872	59.51	-168.26	393.55	388.86	-4.69	2	0.01
246.492	58.53	-168.3	393.55	388.99	-4.56	1	0
246.6975	57.51	-168.32	393.66	389.2	-4.45	2	0.03
246.903	56.55	-168.34	393.66	389.21	-4.45	1	0
247.1295	55.43	-168.37	393.7	389.78	-3.92	2	0.81
avg.			389.43	-1.53			
st. dev.			1.66	1.93			
count					104		
sum					166		
min				386.36			
max				396.98			

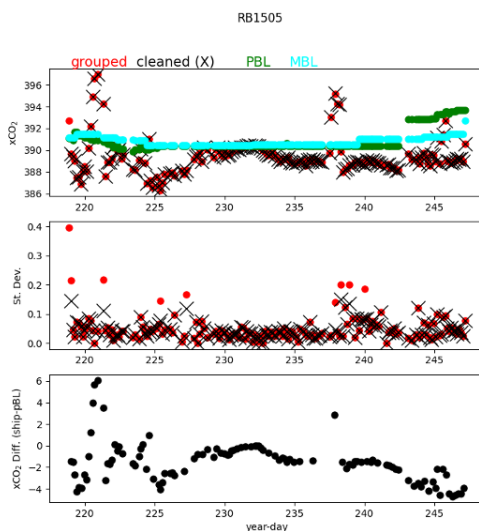
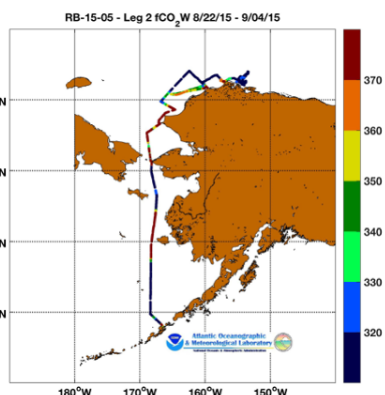
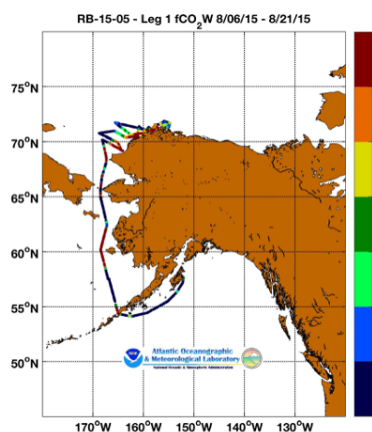


Table 56: PBL cruise summary for RB1507

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diff.
326.8615	18.49	-160.58	401.14	399.4	-1.74	2	0.23
327.1353	17.4	-161.58	401.04	400.12	-0.92	2	0.15
327.4087	16.29	-162.6	400.98	400.14	-0.84	2	0
327.6359	15.4	-163.41	400.86	400.11	-0.75	1	0
327.7726	14.88	-163.88	400.86	399.9	-0.96	1	0
327.9779	14.2	-164.5	400.86	400.2	-0.66	2	0.04
328.183	13.51	-165.12	400.66	400.04	-0.62	1	0
328.322	13	-165.59	400.66	400.01	-0.65	1	0
328.478	12.42	-166.11	400.66	399.79	-0.87	1	0
328.6155	11.91	-166.57	400.51	399.94	-0.57	1	0
328.7522	11.39	-167.04	400.51	399.92	-0.59	1	0
328.9573	10.66	-167.68	400.51	399.93	-0.59	2	0.03
329.242	9.55	-168.67	400.28	399.83	-0.45	2	0.1
329.4563	8.74	-169.38	400.28	399.87	-0.41	1	0
329.7318	7.99	-170.06	400.1	399.83	-0.28	1	0
329.8683	8.01	-170.04	400.28	400.04	-0.25	1	0
330.157	7.73	-170.09	400.1	399.75	-0.35	2	0.02
330.5063	6.53	-170.02	400.1	399.74	-0.37	2	0.04
330.9471	5.33	-169.99	399.96	399.97	0	3	0.22
331.4176	4.56	-169.99	399.96	399.9	-0.07	1	0
331.691	3.56	-169.99	399.85	399.53	-0.33	1	0
332.1917	2.24	-169.99	399.85	400	0.14	2	0.08
332.5341	1.95	-170.08	399.81	398.91	-0.91	1	0
332.7605	2.02	-170.03	399.85	399.7	-0.15	2	0.1
333.0339	1.62	-170	399.81	399.66	-0.16	2	0.12
333.3753	0.28	-170.06	399.81	399.76	-0.05	1	0
333.6721	-0.02	-170	399.75	399.45	-0.31	1	0
333.8093	-0.01	-169.98	399.75	399.5	-0.26	1	0
334.0824	-0.02	-170.02	400.91	399.18	-1.73	1	0
334.2988	-0.04	-169.79	400.91	399.12	-1.79	2	0.06
334.6975	0.06	-169.77	401.19	399.47	-1.71	2	0.16
335.2144	-0.52	-169.8	400.91	399.37	-1.53	2	0.61
335.8667	-2.27	-169.99	400.71	399.52	-1.19	3	0.1
336.3371	-3	-170.01	400.71	399.45	-1.26	1	0
336.474	-3.55	-170.01	400.71	399.67	-1.04	1	0
336.6108	-4	-170	400.59	399.67	-0.92	1	0
336.9696	-4.88	-169.98	400.59	399.64	-0.95	4	0.11
337.3168	-5.56	-170	400.59	399.63	-0.95	1	0
337.5218	-6.35	-170.02	400.47	399.61	-0.87	2	0.01
337.8172	-7.58	-170.01	400.47	399.02	-1.45	2	0.29
338.4326	-8.72	-170.08	400.38	399.31	-1.06	1	0
338.5915	-9.52	-170.14	400.38	399.27	-1.11	1	0
338.7968	-10.51	-170.21	400.28	399.09	-1.19	2	0.14
339.002	-11.48	-170.29	400.28	399.32	-0.96	1	0
339.2071	-12.44	-170.36	400.2	399.19	-1.01	2	0.02
339.5026	-13.7	-170.44	400.2	399.19	-1.02	2	0.01
339.8447	-14.26	-170.43	400.14	398.93	-1.21	1	0
339.9814	-14.02	-169.79	400.14	398.89	-1.24	1	0
340.1183	-13.78	-169.16	400.2	399.29	-0.91	1	0
340.2769	-13.51	-168.43	400.2	398.73	-1.47	1	0
340.482	-13.14	-167.48	400.21	399.04	-1.17	2	0.08
344.2548	-7.41	-155.03	400.67	399.55	-1.13	2	0.09
344.4709	-6.41	-155.01	400.67	399.35	-1.33	1	0
344.6762	-5.46	-154.99	400.82	399.86	-0.96	2	0.01
345.0975	-4.81	-154.98	400.82	399.78	-1.04	2	0.02
345.3138	-4.01	-155.08	400.82	399.8	-1.02	1	0
345.4507	-3.36	-155.06	400.93	399.91	-1.02	1	0
345.6561	-2.4	-155.03	400.93	399.76	-1.18	2	0
345.8611	-1.97	-155.02	401.01	399.79	-1.23	1	0
346.1566	-1.66	-154.97	401.01	399.78	-1.23	3	0.03
346.4976	-0.54	-154.93	401.01	398.88	-2.14	2	0.89
346.7038	0	-154.91	401.15	399.92	-1.23	1	0
346.9995	0	-154.9	401.01	400.02	-1	1	0
347.2044	0.44	-154.93	401.15	399.85	-1.31	2	0.11
347.6258	1.61	-154.95	401.15	399.81	-1.34	4	0.03
347.9787	2.01	-154.99	401.45	399.83	-1.62	1	0
348.1842	2.29	-155.04	401.45	399.83	-1.62	2	0.13
348.3893	3.04	-155.01	401.45	400.1	-1.35	1	0
348.548	3.79	-154.98	401.45	400.15	-1.3	1	0
348.7533	4.7	-154.95	401.82	400.44	-1.38	2	0.11
349.1693	5.31	-154.93	401.82	400.76	-1.05	4	0.16
349.5278	6.6	-154.95	402.07	400.79	-1.28	1	0
349.7331	7.54	-154.97	402.07	400.97	-1.1	2	0.16
349.9383	8.45	-155.07	402.27	401.29	-0.98	1	0
350.1545	9.43	-155.29	402.27	402.45	0.18	2	0.21
350.4391	10.67	-155.56	402.41	402.33	-0.08	2	0.31
350.6441	11.59	-155.76	402.41	402.48	0.07	1	0
350.7809	12.24	-155.9	402.55	402.52	-0.03	1	0
351.0766	13.62	-156.21	402.49	402.38	-0.11	1	0
351.2817	14.58	-156.42	402.65	401.88	-0.77	2	0.02
351.4869	15.54	-156.64	402.65	401.72	-0.94	1	0
351.6923	16.5	-156.85	402.82	401.69	-1.13	2	0.05
351.9194	17.51	-157.08	402.82	402.03	-0.79	1	0
352.1248	18.29	-157.49	403.03	402.07	-0.96	2	0.07
352.3983	19.4	-157.75	403.03	402.04	-0.99	2	0.17
		avg.		400.03	-0.9		
		st. dev.		0.93	0.5		
		count				85	
		sum				135	
		min		398.73			
		max		402.52			

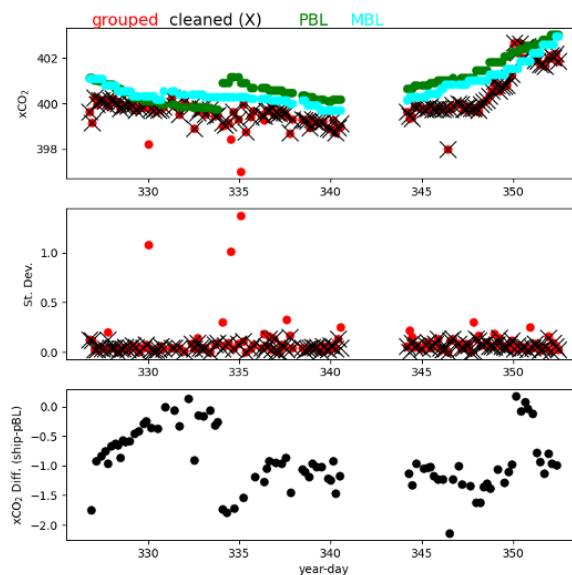
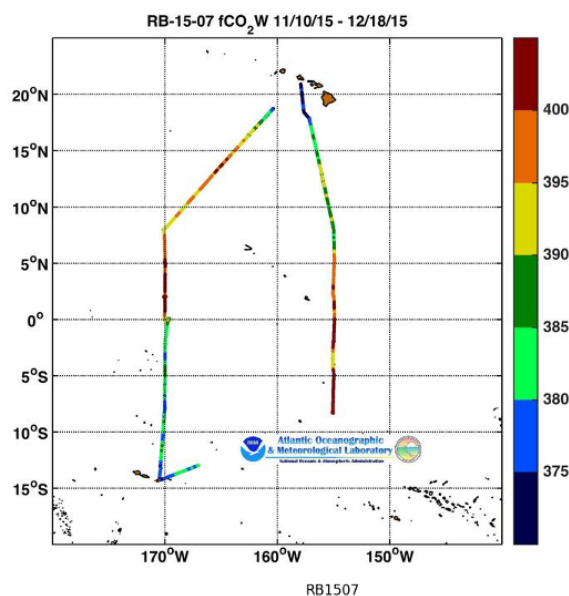
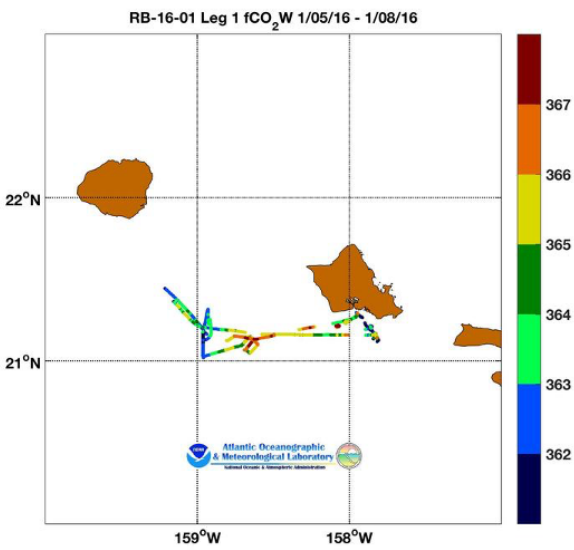


Table 57: PBL cruise summary for RB1601, leg 1

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diffs
6.011721	21.13	-999	404.57	404.41	-0.16	3	0.95
6.969954	21.13	-158.84	404.57	403.57	-1	10	0.9
			avg.	403.99	-0.58		
			st. dev.	0.42	0.42		
			count			2	
			sum			13	
			min	403.57			
			max	404.41			



RB1601_leg1

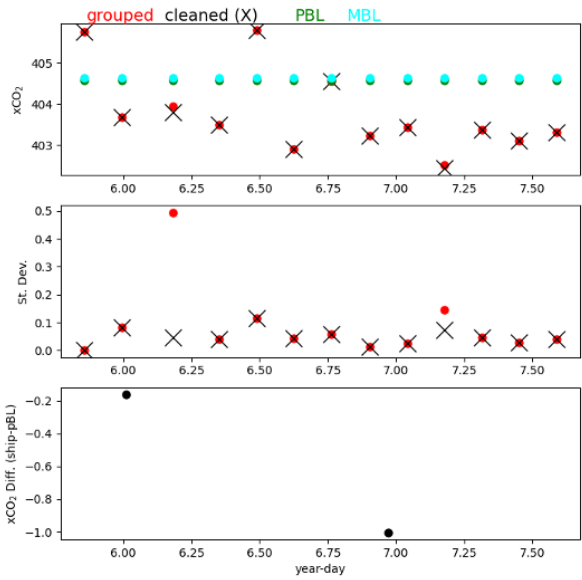


Table 58: PBL cruise summary for RB1601, leg 2

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diff
17.04745	9.35	-162.33	403.33	402.03	-1.29	2	0.06
18.65213	7.49	-160.51	403.32	402.22	-1.1	1	0
18.94741	8.05	-161.57	403.41	402.09	-1.32	1	0
19.15364	8.46	-162.34	403.33	402.09	-1.24	2	0
19.36105	8.86	-163.1	403.33	402.19	-1.14	1	0
20.49817	7.05	-159.98	403.32	401.53	-1.79	1	0
21.42467	6.37	-157.69	403.39	402.08	-1.31	2	0.02
21.95761	6.57	-159.32	403.32	402.08	-1.25	2	0.09
22.25255	6.52	-160.41	403.32	402.28	-1.04	2	0.02
22.59296	7.36	-161.49	403.32	402.28	-1.04	1	0
22.8659	8	-162.66	403.33	402.51	-0.82	1	0
24.1421	6.71	-161.32	403.32	402.23	-1.09	1	0
24.27906	7.04	-161.87	403.32	402.17	-1.15	1	0
24.41553	7.36	-162.39	403.26	402.22	-1.04	1	0
25.18991	6.59	-161.68	403.32	402.18	-1.14	2	0.05
25.39494	7.03	-162.44	403.26	402.16	-1.1	1	0
26.1006	6.29	-161.69	403.32	402.19	-1.14	1	0
26.23558	6.61	-162.25	403.26	402	-1.25	1	0
27.78669	2.81	-162.42	402.97	401.68	-1.29	1	0
28.003	3.61	-162.51	402.97	401.95	-1.02	2	0.07
28.2873	4.47	-162.11	403.18	402.09	-1.08	2	0.01
29.13134	3.27	-163.22	402.97	402.02	-0.96	2	0.07
29.40528	4.27	-162.85	403.18	402.02	-1.16	2	0
29.61057	5.01	-162.68	403.18	402.02	-1.16	1	0
30.04399	3.38	-163.63	403.9	401.43	-2.47	1	0
30.18029	3.44	-164.1	403.9	401.47	-2.43	1	0
30.69689	4.55	-163.55	404.06	401.76	-2.3	3	0.82
31.97469	3.91	-164.44	403.9	402.25	-1.64	1	0
32.18064	4.66	-164.25	404.06	402.34	-1.72	1	0
34.20688	4.42	-165.52	403.99	401.73	-2.26	1	0
34.7763	3.62	-165.83	403.87	402.06	-1.81	1	0
35.99148	7.4	-164.23	404.06	403.07	-0.99	2	0.02
36.19684	8.06	-163.91	404.1	403.2	-0.9	1	0
36.47071	7.55	-163.41	404.06	403.21	-0.85	1	0
36.60694	8.01	-163.63	404.1	402.67	-1.43	1	0
36.96955	8.43	-162.64	404.1	403.03	-1.07	2	0.16
37.44958	8.63	-161.29	404.09	403.25	-0.84	1	0
37.60827	9.24	-161.14	404.09	403.26	-0.83	1	0
37.74506	9.78	-160.99	404.09	403.58	-0.51	1	0
37.95033	10.6	-160.78	404.15	403.74	-0.41	2	0.03
38.22405	11.68	-160.5	404.15	403.87	-0.28	2	0.05
38.45123	12.59	-160.26	404.36	403.79	-0.57	1	0
38.58809	13.13	-160.12	404.36	403.95	-0.41	1	0
38.72473	13.67	-159.98	404.36	403.8	-0.56	1	0
38.93001	14.5	-159.76	404.68	403.87	-0.81	2	0.02
39.21476	15.66	-159.45	404.68	404.55	-0.13	2	0.16
39.43094	16.49	-159.23	405.1	405.01	-0.09	1	0
39.56772	17.03	-159.09	405.1	405.23	0.13	1	0
39.70453	17.58	-158.94	404.93	405.47	0.54	1	0
39.91005	18.36	-158.57	405.46	405.62	0.16	2	0.06
40.20531	19.4	-157.97	405.46	405.67	0.21	2	0.07
40.47894	20.47	-157.94	405.77	405.49	-0.28	2	0.03
		avg.		402.86	-1.01		
		st. dev.			1.18	0.64	
		count				52	
		sum				73	
		min		401.43			
		max		405.67			

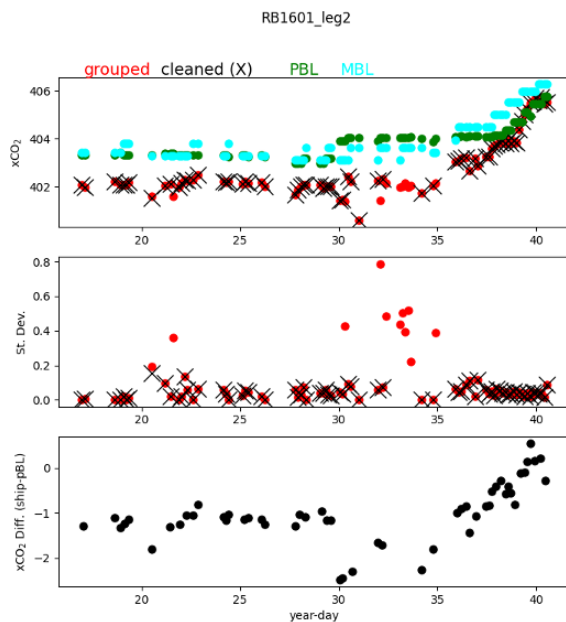
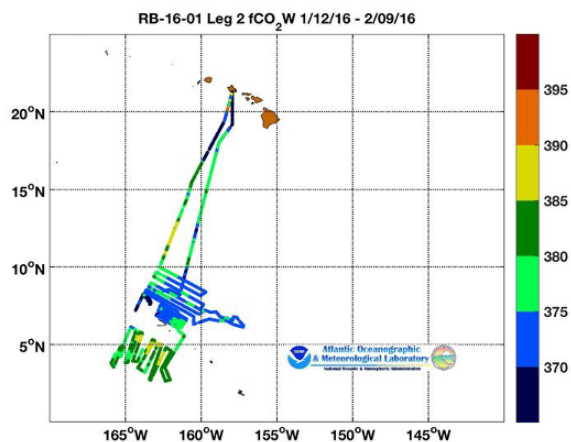


Table 59: PBL cruise summary for RB1602

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diffl
47.99919	21.29	-157.94	405.77	404.09	-1.68	1	0
48.20444	20.66	-157.51	405.77	403.74	-2.03	2	0.32
48.4781	19.66	-156.8	405.46	403.69	-1.76	2	0.14
48.68307	18.87	-156.25	405.46	404.43	-1.03	1	0
48.9102	18.37	-155.49	405.24	404.08	-1.17	2	0.21
50.09498	15.77	-151.2	404.42	403.44	-0.98	1	0
50.30031	15.3	-150.42	404.42	403.51	-0.9	2	0.01
50.59599	14.6	-149.28	404.4	403.39	-1.01	2	0.1
50.79332	14.13	-148.52	404.4	402.84	-1.57	2	0.06
51.03144	13.58	-147.62	404.28	403.08	-1.19	2	0.09
51.2365	13.1	-146.85	404.3	403.24	-1.06	1	0
51.37326	12.78	-146.33	404.3	403.35	-0.95	1	0
51.58928	12.28	-145.52	404.3	403.31	-0.99	2	0.08
51.87372	11.62	-144.45	404.22	403.42	-0.81	1	0
52.21572	10.84	-143.2	404.24	403.58	-0.67	1	0
52.35268	10.53	-142.7	404.24	403.76	-0.48	1	0
52.71699	9.71	-141.39	404.35	403.69	-0.66	2	0.08
53.05903	9.09	-140.39	404.37	403.32	-1.05	3	0.05
53.69731	8.79	-140.17	404.37	403.28	-1.09	6	0.17
54.33481	7	-140.06	404.35	403.28	-1.07	1	0
54.47212	6.59	-140.04	404.35	403.48	-0.87	1	0
54.60805	6	-140.01	404.13	403.41	-0.71	1	0
54.81431	5.29	-139.99	404.13	403.55	-0.58	2	0.21
55.04122	5	-140.02	404.13	403.55	-0.58	1	0
55.38303	4.24	-139.99	404.13	403.74	-0.38	2	0.03
55.58928	3.51	-140	403.52	403.74	0.21	1	0
55.80518	2.73	-140.02	403.52	403.59	0.06	1	0
56.15781	1.96	-140.08	403.14	403.76	0.62	3	0.13
56.43191	1.89	-139.94	403.14	403.84	0.7	1	0
56.79024	1.87	-140.04	403.14	403.56	0.42	4	0.17
59.60723	-1.73	-140.03	402.75	402.91	0.16	1	0
59.82337	-2.04	-140.03	402.53	402.97	0.44	2	0.15
60.10826	-2.41	-140.01	403.5	402.65	-0.85	2	0.25
60.38204	-3.43	-139.98	403.5	402.67	-0.83	2	0.25
60.66675	-4.48	-139.94	403	402.75	-0.26	2	0.27
60.95191	-5.01	-139.92	403	402.97	-0.04	2	0.05
61.15498	-4.99	-139.9	403	403.04	0.04	1	0
61.29418	-5.1	-139.44	403	403.4	0.4	1	0
61.51033	-5.3	-138.46	403	402.17	-0.83	2	0.03
61.97964	-5.72	-136.35	402.92	401.26	-1.65	1	0
62.11657	-5.84	-135.75	402.92	401.13	-1.78	1	0
62.59498	-6.27	-133.62	402.47	401.57	-0.9	2	0.26
62.88959	-6.52	-132.33	402.47	400.99	-1.48	2	0.06
63.09524	-6.7	-131.47	402.45	400.97	-1.48	1	0
63.30013	-6.89	-130.49	402.45	401.05	-1.4	2	0.09
63.73254	-7.3	-128.42	402.42	400.76	-1.66	2	0.13
63.93732	-7.5	-127.45	402.42	400.75	-1.67	1	0
64.14284	-7.86	-126.61	402.42	400.62	-1.8	2	0.06
64.42755	-7.96	-125.37	402.38	400.47	-1.91	2	0.07
64.95183	-7.64	-124.97	402.38	400.69	-1.69	4	0.1
65.35021	-6.36	-124.96	402.38	400.69	-1.69	1	0
65.62394	-5.41	-124.94	402.76	400.89	-1.87	3	0.05
66.04197	-4.66	-124.94	402.76	401.45	-1.31	3	0.3
66.39868	-3.49	-124.94	403.17	402.51	-0.65	2	0.62
66.81514	-2.32	-124.94	403.17	403.37	0.21	4	0.34
67.24188	-1.55	-124.8	403.58	403.87	0.29	2	0.07
67.73009	-0.34	-124.51	403.58	403.72	0.14	5	0.21
68.22262	0.53	-124.71	404.06	403.52	-0.54	2	0.05
68.42792	1.18	-124.88	404.06	403.52	-0.54	1	0
68.78711	1.91	-125.07	404.06	403.64	-0.42	4	0.01
69.20292	2.78	-125.05	404.56	403.84	-0.72	2	0.09
69.40835	3.55	-125.01	404.56	403.82	-0.73	1	0
69.63566	4.35	-124.98	404.97	403.91	-1.06	2	0
70.04634	5.22	-124.97	404.97	403.89	-1.08	4	0.11
70.54731	6.42	-124.64	405.29	404.2	-1.09	3	0.38
71.0318	7.4	-124.31	405.29	405.64	0.35	4	0.12
71.5955	8.03	-125.02	405.55	405.64	0.09	4	0.13
71.93742	8.04	-124.98	405.55	405.53	-0.02	1	0
73.59037	14.62	-123.14	406.27	405.2	-1.07	2	0.06
73.80146	15.54	-122.88	406.28	404.87	-1.41	1	0
74.08265	16.78	-122.52	406.55	404.34	-2.21	1	0
74.2233	17.38	-122.34	406.55	405.54	-1.01	1	0
74.39348	18.12	-122.13	406.78	405.3	-1.49	1	0
74.53019	18.72	-121.95	406.78	405.75	-1.03	1	0
74.73539	19.61	-121.69	406.78	406	-0.78	2	0.01
74.94041	20.47	-121.43	407.01	405.99	-1.02	1	0
75.15647	21.41	-121.15	407.01	406.04	-0.96	2	0.02
75.44107	22.65	-120.78	407.22	406.18	-1.03	2	0.04
75.65975	23.61	-120.49	407.22	405.65	-1.57	2	0.03
75.88053	24.56	-120.2	407.29	405.81	-1.48	2	0.01
		avg.		403.41	-0.85		
		st. dev.			1.45	0.69	
		count				80	
		sum				154	
		min		400.47			
		max		406.18			

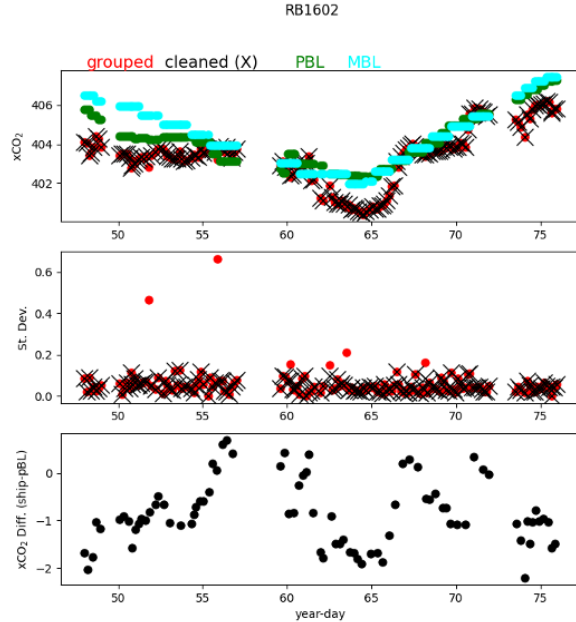
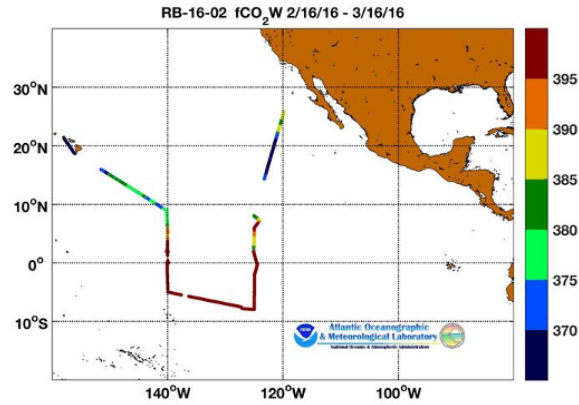


Table 60: PBL cruise summary for RB1603

time	lat	lon	pbl_co2	ship_co2	difference	fshipboard	std of diff.
96.19171	19.33	-105.35	407.64	406.05	-1.59	2	0.04
97.01063	18.7	-104.45	409.42	406.28	-3.14	6	0.86
98.35487	17.72	-103.01	407.36	405.84	-1.52	1	0
98.92337	17.43	-102.59	407.36	405.82	-1.53	3	0.01
99.35579	16.48	-101.18	407.32	405.73	-1.58	1	0
99.6982	16.24	-100.84	407.32	405.9	-1.42	4	0.09
100.0394	15.99	-100.46	406.47	405.72	-0.74	1	0
100.2668	15.42	-99.61	406.47	405.5	-0.97	2	0
100.8891	15	-99	406.56	405.67	-0.9	3	0.15
101.1792	15	-99	406.47	405.73	-0.74	1	0
101.3834	14.97	-98.96	406.56	405.9	-0.67	2	0.04
101.5889	15	-99	406.47	405.94	-0.52	1	0
101.7254	15	-99	406.47	405.93	-0.54	1	0
101.9527	15.05	-99.25	406.47	405.85	-0.62	2	0.05
102.2266	15.28	-100.51	406.47	405.82	-0.64	2	0.03
102.7563	15.53	-101.55	406.47	406.04	-0.42	4	0.04
103.1381	16.19	-102.13	407.36	405.3	-2.06	1	0
103.4118	17.14	-102.98	407.36	406.69	-0.67	1	0
103.5705	17.73	-103.49	407.36	405.67	-1.69	1	0
103.7068	18.25	-103.96	409.42	406.66	-2.76	1	0
105.3233	18.6	-104.37	409.42	407.35	-2.07	4	1.75
106.0904	17.41	-104.15	407.36	406.3	-1.05	1	0
106.7282	15.9	-103.82	406.8	406.29	-0.51	4	0.04
107.0691	16.03	-104.52	407.36	406.3	-1.06	1	0
107.2854	16.21	-105.51	407.31	406.39	-0.92	2	0.05
108.3238	16.32	-106.16	407.31	406.29	-1.02	10	0.07
109.2543	16.62	-107.59	407.31	406.18	-1.13	2	0.02
109.9593	16.81	-108.59	407.43	406.19	-1.24	2	0.07
110.1654	16.97	-109.42	407.43	406.46	-0.97	1	0
110.5124	17.17	-110.53	407.43	406.37	-1.06	4	0.08
111.0764	17.33	-111.39	407.46	406.51	-0.95	2	0.05
111.3491	17.55	-112.58	407.46	406.87	-0.59	2	0.01
111.8508	17.63	-113	407.46	407.26	-0.21	1	0
111.9873	17.63	-113	407.46	407.33	-0.13	1	0
112.1926	18.39	-112.55	407.87	407.08	-0.79	2	0.11
112.7617	19.47	-111.93	407.87	407.03	-0.85	6	0.09
113.3307	20.39	-112.3	408.11	406.68	-1.43	2	0.05
113.6044	21.5	-112.81	408.11	406.91	-1.2	2	0.21
113.878	22.69	-113.36	408.35	407.09	-1.26	2	0
114.1054	23.7	-113.83	408.35	407.07	-1.28	1	0
		avg.		406.3	-1.11		
		st. dev.			0.54	0.61	
		count				40	
		sum				92	
		min		405.3			
		max		407.35			

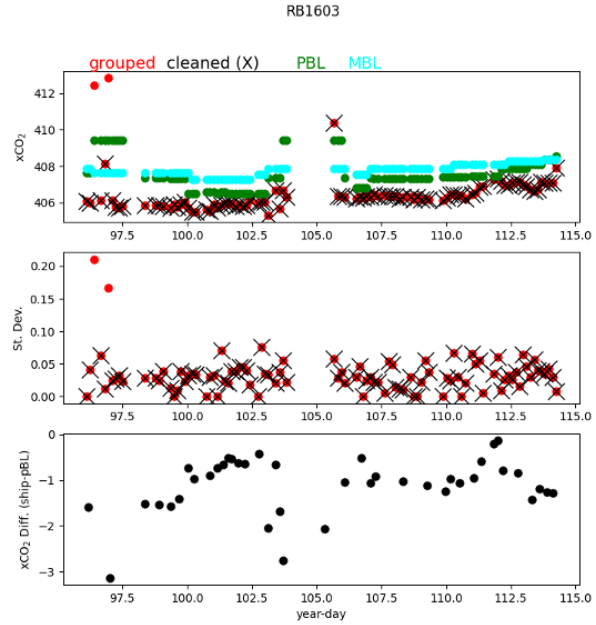
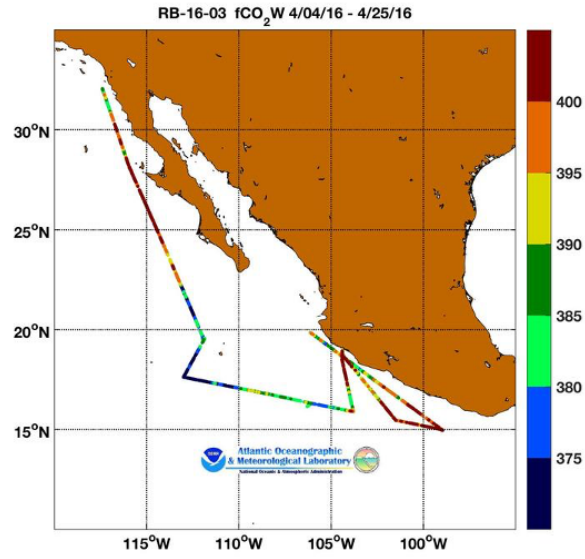


Table 61: PBL cruise summary for RB1604, leg 1

time	lat	lon	pbl_co2	ship_co2	difference	#shipboard	std of diffs
127.071	32.65	-117.25	408.48	407.08	-1.4	1	0
127.5502	31.67	-117.25	407.5	407.53	0.04	2	0.04
127.7555	30.71	-116.9	408.62	407.81	-0.81	1	0
127.9827	29.61	-116.49	407.76	406.46	-1.29	2	0.38
128.1879	28.59	-116.12	407.76	407.47	-0.28	1	0
128.3247	27.94	-115.87	407.7	407.37	-0.33	1	0
129.1671	25.27	-114.43	407.77	407.54	-0.23	5	0.12
130.0839	25.65	-113.66	407.99	407.13	-0.86	8	0.33
130.7841	26.12	-112.75	408.46	406.45	-2.01	2	0.14
131.0577	26.37	-113.54	408.46	405.92	-2.54	2	0.04
131.3531	26.76	-114.64	407.7	406.85	-0.86	2	0.12
131.7276	27.35	-115.74	407.7	406.9	-0.8	2	0.1
132.9543	28.6	-114.57	407.76	407.39	-0.37	2	0.05
133.1597	29.03	-115.52	407.76	408.14	0.39	1	0
133.3649	29.51	-116.45	407.76	406.97	-0.79	2	0.1
133.5699	30.01	-117.43	407.5	406.89	-0.61	1	0
133.9447	30.69	-118.5	407.5	406.18	-1.32	4	0.07
134.2867	31.02	-118.12	407.5	406.33	-1.17	1	0
134.6448	31.31	-117.54	407.5	406.84	-0.66	4	0.12
135.1288	31.69	-116.85	408.62	406.76	-1.86	3	0.12
135.4928	32.4	-117.41	408.48	407.15	-1.33	2	0.4
135.7664	33.33	-117.69	408.48	406.89	-1.59	2	0.1
136.1156	33.27	-118.21	408.48	406.89	-1.58	3	0.28
136.4038	33.03	-119.04	408.48	407.94	-0.54	1	0
136.6088	32.64	-119.51	408.48	407.67	-0.81	2	0.09
136.8824	32.3	-120.21	407	407.86	0.86	2	0.07
137.1777	31.95	-120.91	407.32	407.89	0.57	2	0.16
137.4509	32.48	-121.44	407	407.06	0.07	2	0.44
137.8002	33.32	-122.3	407	407.02	0.03	3	0.2
138.088	33.78	-121.94	407	406.03	-0.97	1	0
138.2936	34.11	-121.23	407.78	406.3	-1.48	2	0.11
138.7412	34.42	-120.7	407.78	406.33	-1.45	3	0.49
139.0677	34.75	-121.14	407.78	406.2	-1.58	1	0
139.2729	35.53	-121.77	407.78	405.88	-1.9	2	0.37
139.478	36.38	-122.15	411.3	406.85	-4.45	1	0
139.7734	36.78	-121.89	411.3	405.39	-5.91	3	1.24
140.3998	36.59	-122.4	411.3	407.53	-3.77	6	0.56
140.958	36.86	-123.32	407.13	407.39	0.26	2	0.4
141.4543	37.65	-123.32	407.13	407.71	0.58	5	0.34
141.8687	37.89	-123	411.3	408.65	-2.65	1	0
142.0056	37.74	-123.47	407.13	407.94	0.82	1	0
		avg.	407.04	-1.09			
		st. dev.	0.7	1.34			
		count				41	
		sum				94	
		min	405.39				
		max	408.65				

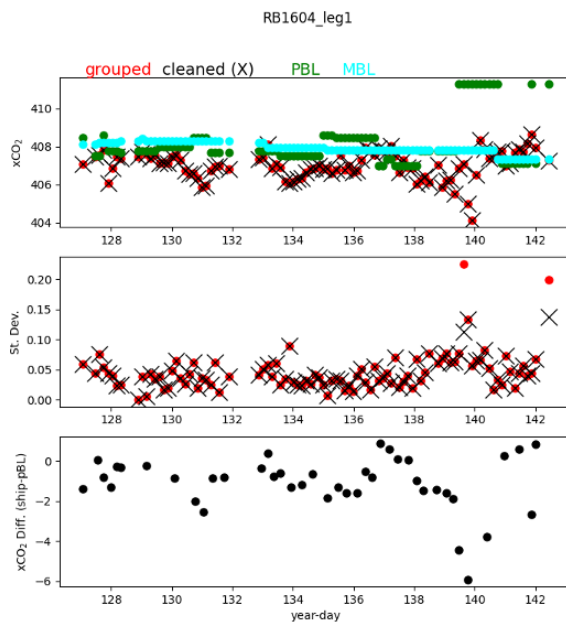
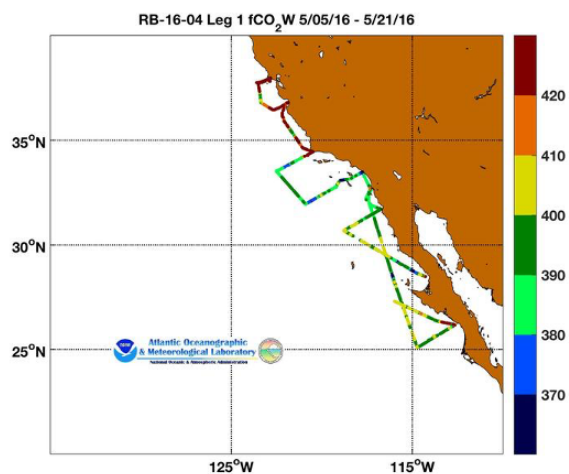


Table 62: PBL cruise summary for RB1604, leg 2

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diff.
145.1	37.78	-122.6	411.3	407.03	-4.26	1	0
145.3055	38.26	-123.42	408.27	406.89	-1.38	2	0.03
145.5109	38.99	-124.16	408.27	406.92	-1.35	1	0
146.1441	40.16	-124.57	410.7	405.94	-4.76	6	0.33
146.627	39.89	-125.2	408.27	405.76	-2.52	1	0
146.854	40.43	-125.34	410.7	406.64	-4.06	2	0.34
147.2644	41.63	-125.48	410.7	407.22	-3.48	4	0.19
147.8334	41.94	-124.57	410.7	407.23	-3.47	4	0.08
148.244	42.45	-124.82	409.86	407.15	-2.71	2	0.32
148.5394	43.63	-124.69	409.86	407.61	-2.25	2	0.03
149.0918	44.21	-124.7	408.8	407.57	-1.23	4	0.09
149.5869	44.58	-125.31	408.8	407.69	-1.11	3	0.08
150.2915	44.65	-124.39	408.8	406.96	-1.84	2	0.24
150.6339	45.43	-124.32	408.8	406.99	-1.81	2	0.01
151.1546	46.11	-124.33	408.97	406.56	-2.41	5	0.28
151.5933	46.13	-124.73	406.71	406.1	-0.62	1	0
151.73	46.13	-125.01	406.71	406.67	-0.04	1	0
151.9571	46.6	-124.76	406.71	406.99	0.28	2	0.13
152.299	47.12	-124.62	406.71	406.2	-0.51	3	0.03
152.6518	47.12	-125.12	406.71	406.55	-0.16	2	0.06
152.8679	47.12	-126.08	405.45	407.04	1.59	1	0
153.2098	47.65	-125.62	406.71	406.94	0.23	4	0.19
153.7102	48.37	-124.79	407.72	406.4	-1.32	1	0
153.9839	47.81	-124.74	406.71	406.31	-0.41	2	0.09
154.7516	48.61	-125.65	407.72	406.62	-1.09	5	0.27
155.4788	48.35	-126.39	405.35	406.36	1	6	0.17
155.9727	48.86	-127.42	405.35	406.04	0.69	1	0
156.1779	49.61	-128.35	405.35	405.89	0.54	2	0.09
156.4627	50.63	-129.63	405.17	405.93	0.76	2	0.01
156.8841	51.65	-130.6	405.17	405.74	0.56	4	0.09
			avg.	406.66	-1.24		
			st. dev.	0.55	1.66		
			count			30	
			sum			78	
			min	405.74			
			max	407.69			

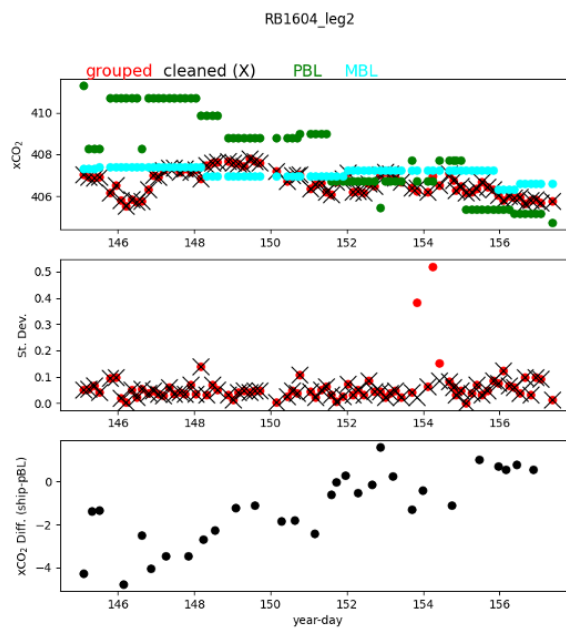
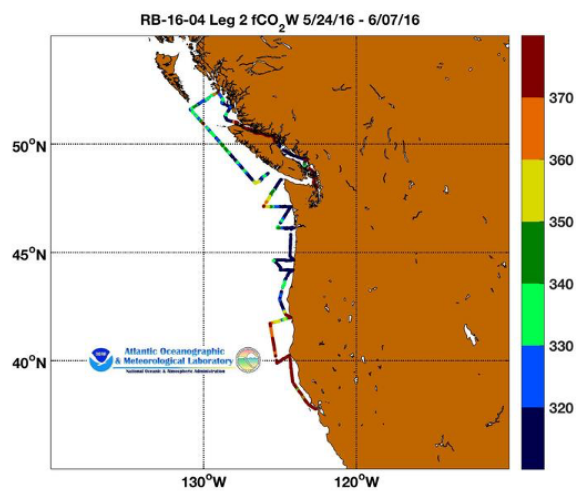


Table 63: PBL cruise summary for RB1606

time	lat	lon	pbl_co2	ship_co2	difference	frshipboard	std of diffl
319.0368	28.62	-115.96	407.63	415.43	7.81	1	0
319.2308	29.45	-116.25	407.63	420.18	12.55	1	0
319.423	30.32	-116.57	407.85	424.48	16.64	1	0
323.2597	32.68	-117.31	413.66	414.3	0.64	1	0
325.5173	31.17	-117.07	408.73	408.07	-0.66	1	0
329.552	22.72	-110	405.54	406.69	1.15	5	1.06
330.5403	21.5	-110	404.89	405.2	0.3	1	0
330.9504	20.59	-110	404.89	405.21	0.32	3	0.11
331.4469	19.69	-110	404.65	405.06	0.41	2	0.08
331.8475	18.75	-110	404.65	405.02	0.37	2	0.14
332.1384	18	-110	404.65	405	0.35	1	0
332.3551	17.65	-109.99	404.5	404.82	0.33	1	0
332.5503	17.34	-110	404.5	404.78	0.29	1	0
332.84	16.75	-110	404.5	404.87	0.38	2	0.06
333.1532	16	-110	404.5	404.55	0.05	1	0
333.3476	15.64	-110	404.44	404.55	0.11	1	0
333.5422	15.41	-110	404.44	404.52	0.08	1	0
333.8441	14.75	-110	404.44	404.26	-0.19	2	0.13
334.1464	14.5	-110	404.44	404.02	-0.42	1	0
334.3408	14.06	-110	404.44	404.01	-0.44	1	0
334.7497	13.41	-110	404.39	404.62	0.23	1	0
335.6612	11.54	-110	405.69	404.16	-1.54	4	0.23
336.3631	10.1	-110	405.69	403.97	-1.73	1	0
336.6545	9.62	-110	405.16	403.72	-1.43	1	0
337.1618	8.53	-110	405.16	402.93	-2.22	3	0.38
337.6588	7.66	-110	404.55	402.41	-2.14	2	0.11
338.0585	6.75	-110	404.55	402.69	-1.86	2	0
338.3507	6	-110	404.19	402.68	-1.52	1	0
338.6632	5.41	-110	404.19	402.62	-1.57	2	0.04
338.9541	5	-110	404.19	402.56	-1.63	1	0
339.1486	4.5	-110	404.19	402.65	-1.54	1	0
339.5592	3.53	-110	404.05	402.77	-1.28	3	0.07
340.0561	2.73	-110	404.05	402.76	-1.29	2	0.04
340.3583	2.29	-110	404.05	402.88	-1.17	1	0
340.5524	2.03	-110	404.05	402.82	-1.23	1	0
340.8551	1.64	-110	404.05	402.92	-1.14	2	0.02
341.1574	1.25	-110	404.05	403.01	-1.04	1	0
341.3514	1	-110	404.05	403.2	-0.86	1	0
341.6541	0.64	-110	404.05	403.61	-0.44	2	0.12
341.9565	0.25	-110	404.05	403.66	-0.39	1	0
342.1509	0	-110	404.05	403.64	-0.41	1	0
342.3461	-0.23	-110	404.1	403.81	-0.29	1	0
342.5612	-0.47	-110	404.1	403.65	-0.45	1	0
342.8525	-0.76	-110	404.1	403.74	-0.35	2	0.44
343.1442	-1.08	-110	404.1	403.22	-0.87	1	0
343.4566	-1.49	-110	404.1	403.11	-0.98	2	0.01
343.7486	-1.81	-110	404.1	403.3	-0.8	1	0
344.2504	-2.47	-110	404.02	403.08	-0.95	4	0.13
344.7416	-3.12	-110	404.02	402.97	-1.06	1	0
344.9568	-3.54	-110	404.02	403.01	-1.01	1	0
345.1521	-4	-110	403.78	403.22	-0.57	1	0
345.4699	-4.75	-110	403.78	402.87	-0.92	2	0.05
347.8972	-7.94	-105.88	403.36	403.12	-0.24	1	0
348.1886	-8.36	-105.29	403.04	402.34	-0.7	2	0.03
348.5881	-8.79	-104.69	402.91	402.16	-0.75	2	0.08
348.8905	-9.12	-104.24	402.91	402.19	-0.72	1	0
349.2863	-9.7	-103.42	402.91	401.91	-1	3	0.18
349.7867	-10.32	-103	402.62	401.7	-0.92	2	0.16
350.078	-11	-103	402.62	401.31	-1.31	1	0
350.3913	-11.62	-103	402.62	401.59	-1.03	2	0.33
350.6829	-12	-103	402.45	401.94	-0.5	1	0
350.877	-12.5	-103	402.45	401.83	-0.62	1	0
351.0932	-13	-103	402.45	401.54	-0.9	1	0
351.3846	-13.56	-103	402.45	401.87	-0.58	2	0.14
351.6761	-14	-103	402.25	401.69	-0.57	1	0
351.8925	-14.5	-103	402.25	402.04	-0.22	1	0
352.1836	-15.24	-103	402.25	401.83	-0.43	2	0.06
352.4752	-15.78	-103	402.25	401.77	-0.49	1	0
352.6912	-16.17	-103	402.17	402.01	-0.16	1	0
352.9826	-16.78	-103	402.17	402.14	-0.03	2	0.04
353.2741	-17.5	-103	402.17	402.06	-0.1	1	0
353.6847	-18.29	-103	402.06	402.39	0.33	2	0.21
354.0731	-19	-103	402.06	401.93	-0.13	1	0
354.2891	-19.5	-103	402.06	401.93	-0.13	1	0
354.485	-20	-103	402.02	402.27	0.25	1	0
354.6776	-20.22	-103	402.02	402.97	0.95	1	0
354.871	-20.5	-103	402.02	402.45	0.43	1	0
355.1848	-21.25	-103	402.02	401.98	-0.04	2	0.03
355.476	-21.97	-103	402.02	401.8	-0.22	1	0
355.8804	-22.62	-103	401.98	402.04	0.06	3	0.11
356.3724	-23.75	-103	401.98	402.97	0.99	2	0.89
356.7828	-24.46	-103	401.96	403.72	1.76	2	0.86
396.9406	-58.56	-80.59	401.07	400.92	-0.15	1	0
397.1367	-57.91	-79.61	401.09	402.61	1.52	1	0
397.5444	-56.56	-77.75	401.06	400.84	-0.22	1	0
397.7385	-55.91	-77.26	401.13	401.11	-0.01	1	0
397.9327	-55.3	-76.79	401.13	400.97	-0.16	1	0
			avg	403.76	0		
			st. dev	3.6	2.54		
			count			87	
			sum			131	
			min	400.84			
			max	424.48			

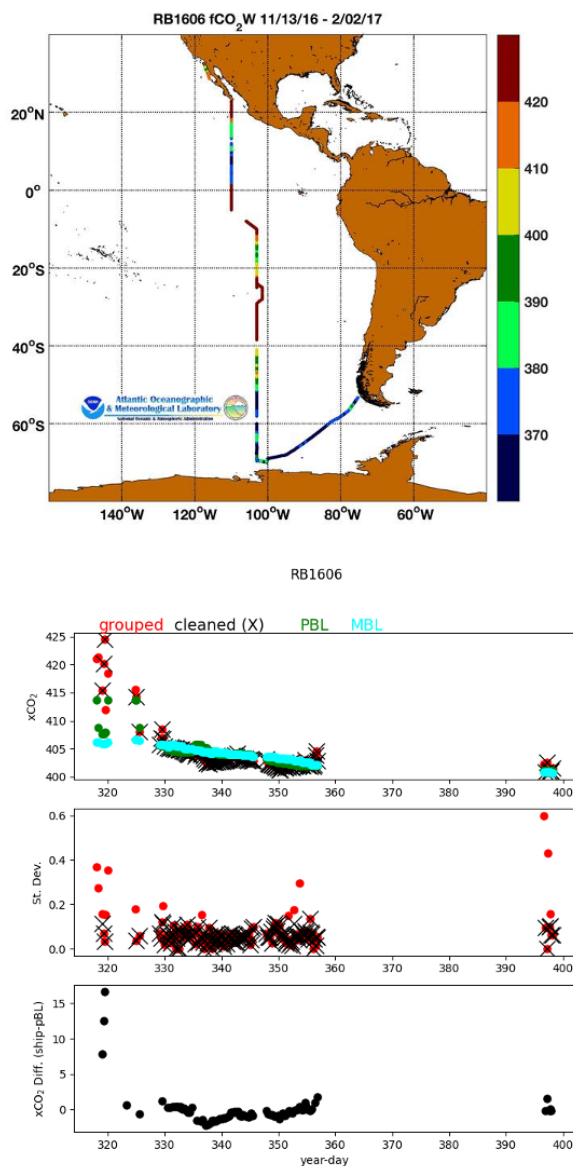


Table 64: PBL cruise summary for RB1701

time	lat	lon	pbl_co2	ship_co2	difference	fshipboard	std of diffs
51.91663	-34.92	-49.12	402.46	403.34	0.87	1	0
52.114	-34.19	-48.3	402.46	402.65	0.18	1	0
52.30829	-33.45	-47.49	402.17	403.27	1.1	1	0
52.50256	-32.73	-46.69	402.17	402.96	0.79	1	0
52.81564	-31.7	-45.57	402.16	402.39	0.23	2	0.24
53.10701	-30.77	-44.58	402.21	402.18	-0.03	1	0
53.30104	-30.13	-43.89	402.21	402.52	0.31	1	0
53.51703	-29.37	-43.1	402.14	402.41	0.27	1	0
53.80847	-28.65	-42.34	402.14	402.29	0.15	2	0.18
54.0997	-27.87	-41.52	402.31	402.56	0.25	1	0
54.31563	-27.14	-40.77	402.31	402.13	-0.17	1	0
54.50992	-26.49	-40.1	402.31	401.72	-0.58	1	0
54.70428	-25.85	-39.45	402.43	401.36	-1.07	1	0
54.89846	-25.21	-38.8	402.42	401.63	-0.79	1	0
55.11475	-24.48	-38.07	402.42	401.69	-0.73	1	0
55.30884	-23.83	-37.42	402.41	401.12	-1.29	1	0
55.50309	-23.18	-36.78	402.41	401.22	-1.19	1	0
55.6973	-22.41	-36.32	402.41	401.37	-1.04	1	0
55.91348	-21.8	-36.03	402.43	401.33	-1.1	1	0
56.20471	-20.57	-35.45	402.3	401.94	-0.36	2	0.07
56.49611	-19.32	-34.88	402.35	401.91	-0.44	1	0
56.90612	-18.61	-34.46	402.35	402.52	0.16	1	0
57.19763	-17.57	-33.58	402.47	401.84	-0.64	2	0.51
57.51075	-16.45	-32.64	402.37	401.41	-0.96	1	0
57.70494	-15.99	-32.26	402.52	401.72	-0.8	1	0
57.89907	-15.36	-31.73	402.52	401.71	-0.81	1	0
58.09332	-14.67	-31.14	402.52	401.41	-1.11	1	0
58.3093	-13.89	-30.48	402.81	400.75	-2.06	1	0
58.50355	-13.2	-29.89	402.73	400.61	-2.12	1	0
58.69767	-12.52	-29.31	402.73	400.49	-2.24	1	0
58.99999	-11.45	-28.4	403.12	400.82	-2.3	2	0.04
59.30221	-10.37	-27.5	403.12	401.1	-2.02	1	0
59.4962	-9.69	-26.93	403.42	401.5	-1.92	1	0
59.90649	-8.23	-25.71	403.78	401.77	-2.01	1	0
60.10073	-7.53	-25.12	404.13	401.8	-2.34	1	0
60.29495	-6.82	-24.53	404.13	402.19	-1.94	1	0
60.48899	-6.12	-23.94	404	402.13	-1.87	1	0
60.70497	-5.36	-23.3	404.33	402.08	-2.25	1	0
60.89939	-4.89	-23	404.33	402.24	-2.1	1	0
61.09369	-4.34	-23	404.33	402.34	-1.99	1	0
61.3958	-3.43	-23	404.76	400.9	-3.86	2	0.42
61.69801	-2.5	-23	404.76	399.87	-4.89	1	0
61.89244	-2	-23	405.26	400.86	-4.41	1	0
62.38563	-1	-23	405.26	403.47	-1.8	1	0
62.57992	-0.76	-23	405.26	403.15	-2.12	1	0
62.77457	-0.34	-23	405.26	402.53	-2.73	1	0
62.96847	0	-22.96	405.26	403.58	-1.68	1	0
63.38017	0.66	-23	406.09	405.74	-0.36	1	0
63.57272	0.96	-23	406.09	406.66	0.57	1	0
64.17716	1.71	-23	406.09	407.2	1.11	1	0
64.37348	2	-23	407.22	407.87	0.65	1	0
64.97594	3.56	-22.98	407.22	407.86	0.64	3	0.41
65.67185	4.15	-22.99	408.29	408.19	-0.09	4	0.62
66.16237	5	-23	408.29	408.54	0.26	1	0
66.37858	5.61	-23	408.29	408.75	0.47	1	0
66.66985	6.45	-23	408.86	408.79	-0.07	2	0.1
67.06921	7.66	-23	408.86	409.21	0.35	2	0.18
67.46843	8.75	-23	409.08	409.06	-0.02	2	0.1
67.75984	9.5	-23	409.08	408.06	-1.02	1	0
67.97584	10.33	-23	409.14	407.93	-1.2	1	0
68.1702	10.78	-23	409.14	408.22	-0.92	1	0
68.66692	11.56	-22.99	409.14	407.81	-1.32	4	0.37
69.26076	12.74	-23	409.2	407.24	-1.97	2	0.21
69.57399	13.5	-23	409.2	407.46	-1.74	1	0
69.76839	14	-23	409.32	407.35	-1.98	1	0
69.96254	14.52	-22.99	409.32	407.31	-2.02	1	0
70.265	15.39	-22.76	409.32	407.75	-1.57	2	0.03
70.76174	16.51	-22.41	409.5	406.99	-2.51	3	0.15
71.26924	17.7	-22.98	409.5	407.71	-1.79	2	0.22
71.56082	18.5	-23	409.66	408.05	-1.61	1	0
71.75492	19	-23	409.66	407.5	-2.16	1	0
71.9712	19.51	-23	409.66	407.64	-2.02	1	0
72.68853	20.44	-23.35	409.8	407.68	-2.12	3	0.27
73.29234	20.37	-25.9	409.7	408.31	-1.39	1	0
73.48619	20.33	-26.92	409.7	407.4	-2.3	1	0
73.68195	20.31	-27.95	409.61	407.67	-1.94	1	0
74.48263	20.19	-32.15	409.58	407.34	-2.24	1	0
75.69008	20.03	-37.85	409.57	408.52	-1.05	1	0
75.80186	20	-37.91	409.36	408.88	-0.48	1	0
76.60091	20.76	-40.21	409.54	408.82	-0.72	1	0
77.18394	21.54	-42.72	409.51	409.42	-0.09	1	0
77.39965	21.88	-43.79	409.51	409.71	0.2	1	0
79.57911	25.33	-54.93	409.37	409.77	0.41	1	0
80.18598	26.27	-58.02	409.54	408.46	-1.07	1	0
80.79066	27.15	-60.95	409.59	410.22	0.63	1	0
81.39541	28.04	-63.92	410.29	410.9	0.61	1	0
81.58971	28.33	-64.9	410.29	411.25	0.96	1	0
		avg.	404.8	-1.02			
		st. dev.	3.3	1.22			
		count		87			
		sum		111			
		min	399.87				
		max	411.25				

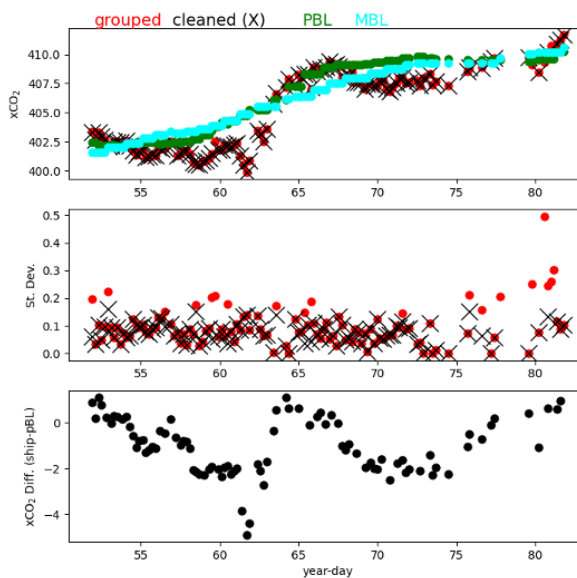
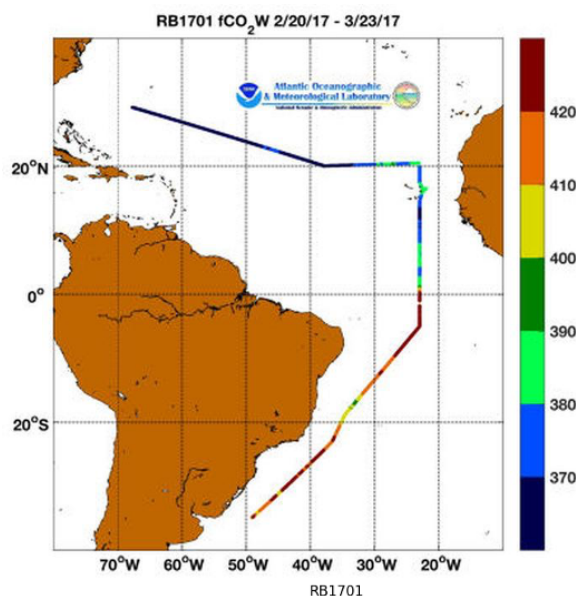


Table 65: PBL cruise summary for RB1702

time	lat	lon	pbl_co2	ship_co2	difference	fshipboard	std of diffs
136.9144	-19.31	-85.09	402.76	402.12	-0.64	2	0.62
137.2059	-19.59	-84.61	402.76	401.74	-1.02	1	0
137.4001	-19.56	-83.76	402.79	401.74	-1.05	1	0
137.6163	-19.45	-82.79	402.79	401.52	-1.28	1	0
137.8104	-19.41	-81.92	402.79	401.4	-1.39	1	0
138.102	-19.3	-80.52	402.91	401.54	-1.37	2	0.01
138.4153	-19.18	-79.07	402.91	401.53	-1.38	1	0
138.6084	-19.11	-78.17	402.91	401.25	-1.66	1	0
138.7476	-19.06	-77.54	403.17	401.42	-1.75	2	0.05
			avg.	401.58	-1.28		
			st. dev.	0.24	0.32		
			count			9	
			sum			12	
			min	401.25			
			max	402.12			

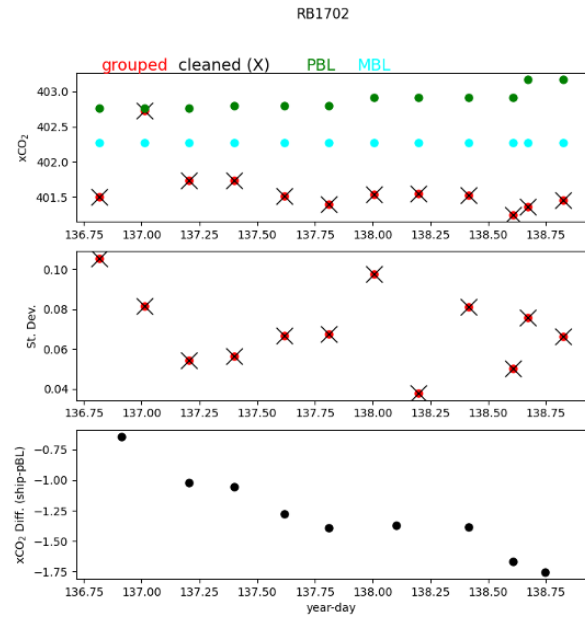
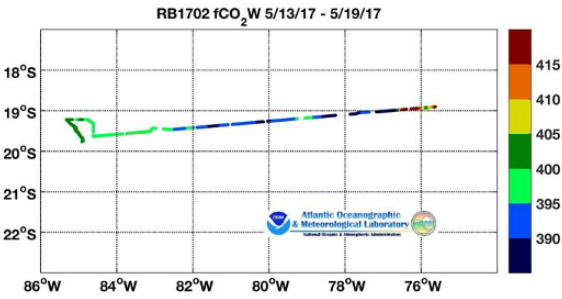


Table 66: PBL cruise summary for RB1703

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diff.
148.5309	-18.22	-78.19	402.91	402.8	-0.12	1	0
148.731	-18.19	-79.2	402.91	402.4	-0.51	1	0
148.9317	-18.16	-80.2	402.91	402.11	-0.81	1	0
149.3565	-18.1	-82.37	402.79	402.7	-0.1	1	0
150.8675	-17.98	-86.42	403.18	401.63	-1.55	1	0
156.6409	-8.62	-110.39	403.97	403.38	-0.59	1	0
156.9418	-7.97	-110.06	404.24	403.23	-1	2	0.11
157.2424	-8.02	-110.06	403.97	402.94	-1.03	1	0
157.6657	-7.86	-110.1	404.24	403.2	-1.04	3	0.12
158.0668	-6.81	-110.04	404.24	402.97	-1.27	1	0
158.2895	-5.87	-110.01	404.46	404.44	-0.02	1	0
158.4901	-5.04	-109.98	404.46	403.91	-0.56	1	0
158.8987	-4.72	-109.97	404.46	403.73	-0.73	3	0.2
159.3145	-3.47	-109.97	404.65	404	-0.65	1	0
159.5152	-2.66	-109.96	404.65	404.01	-0.64	1	0
159.9902	-1.76	-109.95	404.76	404.24	-0.52	3	0.11
160.5027	-0.19	-109.93	404.76	404.88	0.13	2	0.32
161.0895	0.33	-109.93	404.92	404.21	-0.72	3	0.18
162.0401	2.01	-110.02	405.06	404.39	-0.67	1	0
162.4634	3.11	-111.03	405.05	404.66	-0.39	1	0
162.8646	3.88	-110.68	405.06	404.33	-0.73	1	0
163.1871	4.75	-110.23	405.2	404.95	-0.25	2	0.49
163.4886	5.01	-110.07	405.2	404.46	-0.74	1	0
163.6891	5	-110.07	405.2	404.34	-0.86	1	0
164.1113	5.98	-110.07	405.2	404.47	-0.73	1	0
164.8368	8.06	-110.14	407.01	406.02	-0.99	1	0
165.1372	8.08	-109.28	407.01	404.5	-2.51	1	0
165.3377	8.08	-108.27	407.01	405.05	-1.96	1	0
165.5603	8.07	-107.15	406.56	406.1	-0.46	1	0
165.9613	8.07	-105.1	406.56	406.23	-0.33	1	0
166.162	8.06	-104.11	406.32	405.55	-0.77	1	0
166.3847	8.05	-103.01	406.32	405.39	-0.93	1	0
166.5855	8.06	-102.01	406.32	406.07	-0.25	1	0
166.7855	8.05	-100.97	406.3	405.28	-1.02	1	0
166.9859	8.05	-99.94	406.3	405.02	-1.28	1	0
167.2086	8.04	-98.83	406.32	405.23	-1.09	1	0
167.4089	8.04	-97.83	406.32	405.38	-0.93	1	0
167.6094	8.04	-96.87	406.32	405.2	-1.12	1	0
167.8098	8.04	-95.91	406.36	405.2	-1.15	1	0
168.1324	8.03	-94.96	406.36	405.3	-1.05	2	0.02
168.4332	7.99	-94.93	405.67	405.9	0.24	1	0
168.6339	8.03	-94.94	406.36	405.3	-1.06	1	0
168.8565	7.51	-94.96	405.67	405.17	-0.5	1	0
169.057	6.67	-94.97	405.67	405.01	-0.66	1	0
169.2577	5.84	-95	405.31	405.13	-0.18	1	0
169.4582	5.03	-95.02	405.31	405.21	-0.11	1	0
169.6812	5.13	-94.94	405.31	405.2	-0.12	1	0
169.8817	4.98	-94.97	405.31	405.44	0.12	1	0
170.0822	4.2	-95.06	405.31	405.49	0.18	1	0
170.283	3.35	-95.17	405.19	406.01	0.82	1	0
170.5056	2.5	-95.27	405.19	405.77	0.58	1	0
170.9068	1.83	-95.35	405.06	405.78	0.72	3	0.06
171.5313	0.32	-95.43	405.06	405.63	0.57	3	0.38
171.9323	-0.32	-95.39	404.9	405.48	0.58	1	0
172.4561	-1.67	-95.23	404.9	405.17	0.28	4	0.19
172.9799	-2.49	-95.12	404.79	405.06	0.27	1	0
173.1802	-3.38	-95.08	404.79	405.08	0.28	1	0
173.3808	-4.28	-95.04	404.61	405.04	0.43	1	0
173.5814	-4.98	-94.99	404.61	403.7	-0.9	1	0
173.804	-4.95	-95.01	404.61	403.63	-0.98	1	0
174.0046	-5.32	-95.03	404.61	403.62	-0.98	1	0
174.2053	-6.11	-95.1	404.36	403.7	-0.67	1	0
174.8291	-7.94	-95.23	404.36	403.53	-0.84	3	0.09
175.23	-7.68	-94.34	404.36	403.65	-0.71	1	0
175.6534	-7.4	-93.51	404.36	403.79	-0.57	3	0.25
176.0547	-6.72	-92.81	404.45	403.88	-0.56	1	0
			avg.	404.55	-0.54		
			st. dev.	1.05	0.62		
			count			66	
			sum			89	
			min	401.63			
			max	406.23			

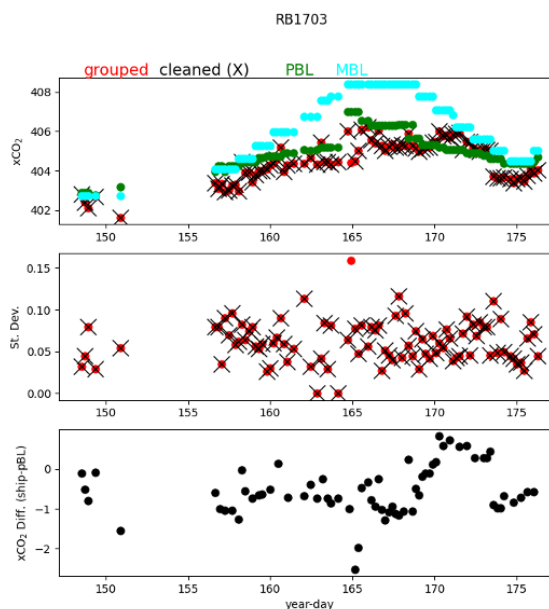
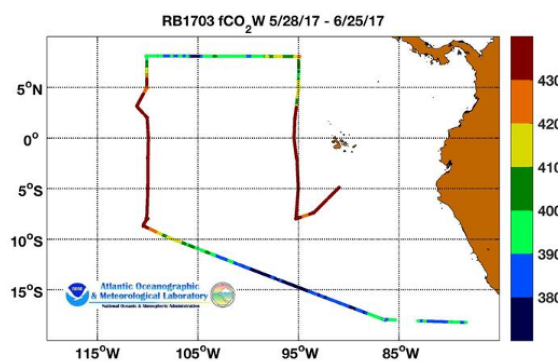


Table 67: PBL cruise summary for RB1704

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diffs
199.6324	24.44	-81.83	407.05	405.53	-1.52	1	0
199.9332	24.43	-82.71	407.05	406.62	-0.42	2	0.45
200.2333	24.92	-83.12	407.05	406.39	-0.66	1	0
200.7563	26.34	-83.41	411.91	406.41	-5.51	2	0.62
201.4792	26.06	-85.68	407.38	405.6	-1.78	1	0
201.8777	26	-86	407.38	406.07	-1.32	1	0
202.5028	26.65	-85.02	407.38	406.46	-0.92	1	0
202.703	26.72	-84.92	407.38	406.57	-0.81	1	0
202.9239	27.06	-84.4	407.38	406.74	-0.65	1	0
203.7485	27.95	-83.53	411.91	406.52	-5.39	1	0
204.1484	28.4	-84.59	407.48	406.14	-1.34	1	0
204.3492	28.86	-85.04	407.48	406.2	-1.28	1	0
204.6708	29.33	-85.51	407.48	406.33	-1.15	2	0.03
204.9724	28.87	-85.92	407.48	406.42	-1.06	1	0
205.2838	28.42	-86.28	407.48	405.93	-1.54	2	0.09
205.5953	28	-86.62	407.38	405.37	-2.01	1	0
205.7954	28.24	-86.51	407.48	405.3	-2.17	1	0
206.4182	29.95	-86.27	407.48	404.3	-3.17	1	0
206.6185	30.07	-86.94	415.59	408.94	-6.66	1	0
206.8187	29.67	-87.49	407.51	408.88	1.37	1	0
207.1412	29.21	-88.48	407.51	405.29	-2.22	2	0.29
207.4418	28.68	-89.29	407.51	405.32	-2.2	1	0
208.0648	27.81	-90	407.26	404.29	-2.97	1	0
208.2651	28.13	-90	407.51	405.39	-2.12	1	0
208.9471	28.56	-90.55	407.58	403.57	-4.01	3	0.51
209.5106	27.99	-91.46	407.26	404.98	-2.28	1	0
209.8109	27.9	-92.47	407.26	405.53	-1.73	2	0.15
210.6141	27.87	-93.76	407.13	404.91	-2.22	5	0.45
211.5574	27.87	-93.83	404.76	405.2	0.44	1	0
212.0747	27.58	-94.78	404.76	405.01	0.25	3	0.2
213.2039	28.67	-95.4	405.84	392.32	-13.52	2	0.5
214.1273	26.71	-96.78	405.52	395.61	-9.91	2	3.18
214.6507	25.91	-96.65	405.56	405.21	-0.36	3	0.21
215.2657	25.88	-95.5	404.92	404.35	-0.57	3	1.4
215.7738	25.81	-94.82	404.92	406.31	1.38	2	0.15
216.0962	25.45	-95.69	404.92	405.58	0.66	1	0
216.2968	25.14	-96.37	405.56	404.7	-0.87	1	0
216.4971	24.87	-96.97	405.56	404.49	-1.07	1	0
216.6972	24.43	-97.36	405.56	407.29	1.72	1	0
217.0198	23.47	-97.53	407.12	404.74	-2.39	2	0.99
217.5279	22.38	-97.51	407.12	403.95	-3.18	3	1.28
218.1439	22.27	-96.42	407.12	404.32	-2.81	3	1.24
218.6672	22.27	-95.34	405.01	404.74	-0.27	2	1.17
218.968	22.3	-94.89	405.01	402.91	-2.1	1	0
219.1683	22.54	-93.91	405.01	404.92	-0.09	1	0
219.3911	22.8	-92.86	404.95	402.97	-1.98	1	0
219.5916	23.04	-91.9	404.95	401.01	-3.94	1	0
219.7921	23.28	-90.91	404.95	403.17	-1.79	1	0
219.9926	23.65	-90	404.88	403.34	-1.55	1	0
220.2154	24.3	-89.04	404.83	404.68	-0.15	1	0
220.4157	24.87	-88.2	404.83	404.14	-0.7	1	0
220.9278	24.33	-88	404.83	404.31	-0.52	2	0.85
221.2394	23.63	-88	404.88	405.65	0.77	1	0
221.4399	23.1	-88	404.88	404.09	-0.8	1	0
221.6399	22.54	-88	404.88	404.6	-0.28	1	0
221.8623	21.95	-87.99	405.79	404.75	-1.03	1	0
222.4635	21.64	-90.54	405.13	412.85	7.72	1	0
222.8865	21.45	-91.56	405.13	407.79	2.65	1	0
223.5098	22	-92.92	405.13	404.2	-0.93	1	0
223.7102	21.53	-93.6	405.03	405.3	0.27	1	0
224.1203	20.76	-94.49	405.03	406.94	1.9	3	0.51
224.5391	20.21	-93.97	405.03	402.89	-2.14	1	0
224.9471	19.58	-93.51	405.14	403.66	-1.48	2	1.72
225.3624	18.97	-93.04	405.14	403.93	-1.21	1	0
225.5626	19.85	-92.87	405.42	405.42	0	1	0
225.763	20.58	-92.28	405.13	410.76	5.63	1	0
225.9856	21.26	-91.42	405.13	404.47	-0.66	1	0
226.186	21.72	-90.54	405.13	404.19	-0.95	1	0
226.5867	22.3	-88.68	404.88	414.29	9.41	1	0
226.8092	22.17	-87.55	404.88	405.67	0.79	1	0
227.2099	21.69	-86.55	404.54	404.29	-0.25	3	0.12
227.8332	21.73	-85.6	404.54	404.23	-0.31	2	0.35
228.5571	22.43	-84.63	404.66	409.18	4.53	2	1.4
228.8578	22.9	-83.77	404.89	405.38	0.49	1	0
229.0584	23.08	-83.13	404.89	404.08	-0.81	1	0
229.281	23.21	-82.41	404.89	410.69	5.8	1	0
229.5814	23.35	-81.41	404.89	402.87	-2.02	2	0.11
230.0972	23.63	-80.62	404.6	403.02	-1.58	3	0.03
230.9287	24.89	-80.44	404.54	403	-1.53	1	0
231.2292	25.54	-80.03	404.54	403.1	-1.44	2	0.03
231.53	26.29	-79.92	406.12	403.14	-2.98	1	0
231.9531	27.02	-79.88	406.12	402.86	-3.26	1	0
232.2538	26.98	-79.59	406.12	402.64	-3.48	2	0.13
232.6769	27	-79.33	406.12	403	-3.12	2	0.1
			avg.	405.05	-1.09		
			st. dev.	2.76	2.99		
			count			84	
			sum			125	
			min	392.32			
			max	414.29			

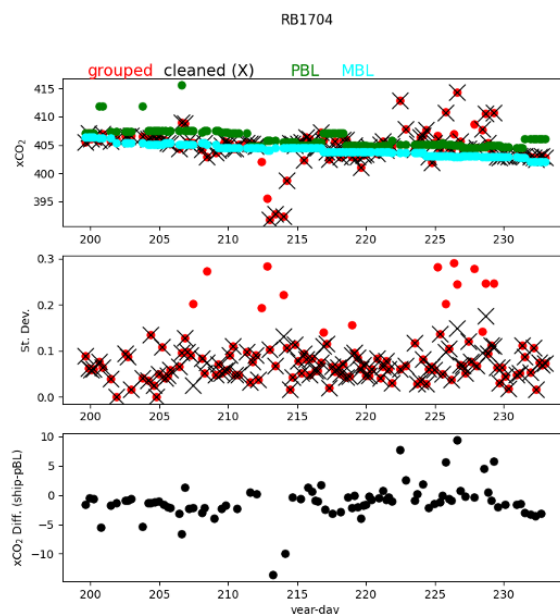
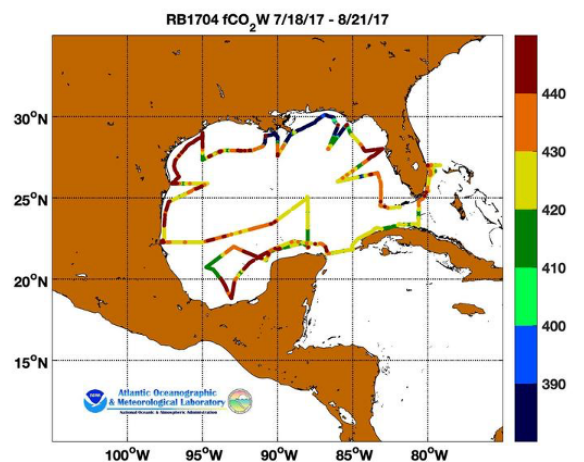


Table 68: PBL cruise summary for RB1801

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diffs
50.46756	32.63	-79.56	415.11	417.78	2.67	4	2.05
54.09742	32.49	-78.56	415.11	421.09	5.98	1	0
54.64726	32.48	-79.42	415.11	412.33	-2.78	3	0.37
55.34576	31.27	-78.72	412.4	411.63	-0.77	1	0
55.54632	30.53	-78.21	412.4	413.94	1.55	1	0
55.84742	29.42	-77.46	410.99	413.94	2.95	1	0
56.17062	28.16	-76.63	410.99	414.14	3.15	1	0
56.88443	26.53	-75.69	410.58	414.07	3.5	2	1.15
58.50846	26.5	-76.5	410.58	413.08	2.51	4	2.15
59.6721	26.07	-76.87	413.1	418.19	5.1	1	0
59.87066	25.95	-77.7	412.67	416.33	3.66	1	0
60.18259	26.29	-78.72	414.44	417.83	3.38	1	0
			avg.	415.36	2.58		
			st. dev.	2.73	2.27		
			count			12	
			sum			21	
			min	411.63			
			max	421.09			

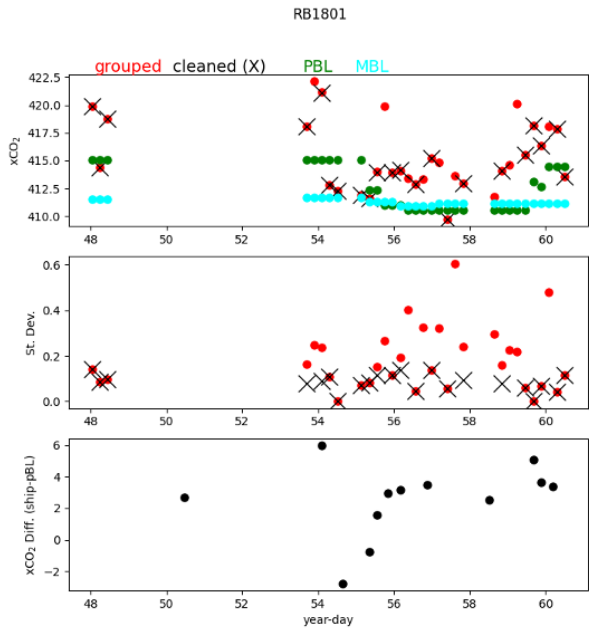
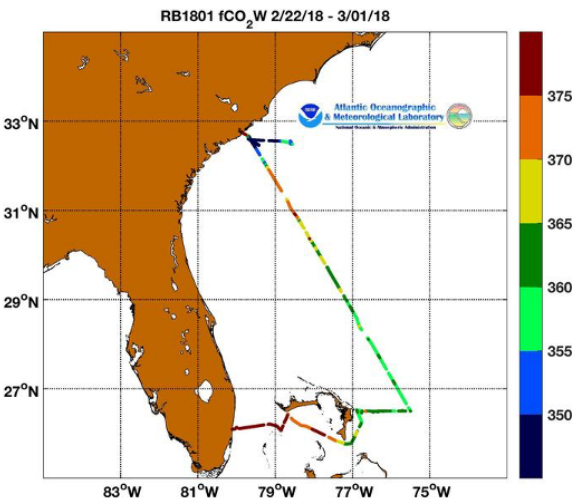


Table 69: PBL cruise summary for RB1802

time	lat	lon	pbl_co2	ship_co2	difference	#shipboard	std of diff.
67.07322	26.2	-78.87	414.44	414.62	0.18	1	0
67.47523	25.65	-76.76	412.67	412.48	-0.19	1	0
68.91518	24.63	-69.48	412.23	417.63	5.4	1	0
69.11578	24.47	-68.41	411.91	415.69	3.78	1	0
69.31658	24.33	-67.39	411.91	414.47	2.56	1	0
69.53295	24.16	-66.23	411.91	416.36	4.45	1	0
70.1418	23.78	-63.58	410.98	411.43	0.45	1	0
70.36462	23.62	-62.43	410.68	411.7	1.02	1	0
70.56647	23.48	-61.46	410.68	415.3	4.63	1	0
70.76618	23.34	-60.49	410.68	415.96	5.28	1	0
70.96688	23.19	-59.48	410.53	413.35	2.81	1	0
71.18972	23.03	-58.34	410.53	411.23	0.7	1	0
71.39054	22.88	-57.33	410.53	411.32	0.79	1	0
71.5913	22.74	-56.38	410.6	416.24	5.63	1	0
71.79186	22.6	-55.42	410.6	414.89	4.28	1	0
72.01488	22.45	-54.36	410.6	411.33	0.72	1	0
72.21548	22.31	-53.38	410.7	411.16	0.46	1	0
72.83968	21.85	-50.26	410.59	414.34	3.75	1	0
73.04042	21.7	-49.25	410.59	413.89	3.29	1	0
73.24112	21.55	-48.27	410.59	411.08	0.48	1	0
73.66478	21.25	-46.22	410.7	414.35	3.65	1	0
73.86546	21.12	-45.33	410.7	416.14	5.44	1	0
74.06622	20.98	-44.39	410.86	412.05	1.19	1	0
74.26698	20.85	-43.46	410.86	411.49	0.63	1	0
74.48984	20.7	-42.47	410.86	413.2	2.34	1	0
74.69062	20.57	-41.59	411.01	416.23	5.22	1	0
75.09192	20.31	-39.82	411.01	411.65	0.64	1	0
75.31488	20.16	-38.83	411.17	411.04	-0.13	1	0
75.82183	20.02	-37.83	411.17	413.11	1.94	4	2.39
76.34002	20.05	-36.73	411.17	410.21	-0.96	1	0
76.54062	20.08	-35.81	411.35	415.71	4.36	1	0
76.96392	20.13	-33.84	411.35	414.84	3.5	1	0
77.1646	20.16	-32.9	411.5	412.57	1.07	1	0
77.46568	20.19	-31.53	411.5	413.56	2.06	2	0.76
77.98978	20.26	-29.18	411.59	413.62	2.03	1	0
78.19038	20.28	-28.29	411.59	413.29	1.7	1	0
78.39128	20.31	-27.42	411.59	413.43	1.84	1	0
78.91528	20.37	-25.41	411.66	411.21	-0.45	2	0.59
79.21646	20.42	-24.18	411.66	410.98	-0.69	1	0
79.43936	20.45	-23.26	411.74	415.62	3.88	1	0
79.84106	19.5	-23	411.69	413.56	1.88	1	0
81.29052	14.5	-23	411.57	413.63	2.06	1	0
81.49112	14	-23	411.57	413.33	1.77	1	0
82.0149	12.35	-23	411.51	416.96	5.45	2	0.43
82.52435	11.48	-22.99	411.5	416.35	4.85	1	0
83.14056	10.5	-23	411.5	416.19	4.69	1	0
83.34126	10	-23	411.49	415.11	3.62	1	0
83.96514	8	-23	411.49	415.26	3.77	1	0
84.16552	7.5	-23	411.26	414.63	3.37	1	0
84.59005	6.07	-23	411.26	419.22	7.96	1	0
84.889	5.25	-23	410.19	414.55	4.35	2	0.39
85.51282	4.09	-22.97	410.19	413.9	3.7	3	2.21
86.03582	3.33	-23	409.02	410.98	1.96	1	0
86.33641	2.34	-23	409.02	409.08	0.06	1	0
87.16031	0.34	-22.99	408.48	409.28	0.79	2	0.09
87.78331	-0.58	-23	408.18	410.03	1.84	2	0.59
88.18367	-1.71	-23	408.18	409.32	1.13	2	0.34
88.5059	-2.65	-23	407.68	414.15	6.47	1	0
88.80652	-3.44	-22.47	407.68	411.15	3.47	1	0
89.10698	-4.27	-21.47	407.24	408.73	1.5	1	0
89.32962	-4.91	-20.7	407.2	407.59	0.39	1	0
89.53006	-5.49	-20.01	406.54	409.84	3.3	1	0
89.73014	-6.05	-19.33	406.28	410.48	4.2	1	0
89.93048	-6.65	-18.62	406.28	407.14	0.86	1	0
90.25347	-7.63	-17.43	406.23	406.76	0.52	2	0.27
90.75528	-9.12	-15.62	405.98	409.84	3.85	1	0
90.97802	-9.76	-14.83	405.95	407	1.05	1	0
91.17868	-10.36	-14.09	405.74	405.82	0.08	1	0
91.58006	-11.57	-12.61	405.74	409.92	4.19	1	0
91.9033	-12.54	-11.43	405.52	405.66	0.15	1	0
92.2044	-13.45	-10.3	405.52	406.02	0.5	1	0
92.405	-14.06	-9.54	405.36	407.99	2.63	1	0
92.92878	-15.62	-7.61	405.31	405.52	0.2	1	0
93.22962	-16.52	-6.48	405.21	405.29	0.08	1	0
93.45218	-17.18	-5.65	405.16	407.14	1.98	1	0
93.65268	-17.79	-4.88	405.16	406.12	0.96	1	0
93.85322	-18.39	-4.13	405.09	405.68	0.59	1	0
94.05378	-19	-3.35	405.09	404.49	-0.6	1	0
94.27636	-19.67	-2.5	405.04	404.58	-0.46	1	0
94.57722	-20.62	-1.46	405.02	407.12	2.09	2	0.65
94.87802	-21.71	-0.56	405.02	404.36	-0.66	1	0
95.10078	-22.48	0.14	404.95	403.78	-1.18	1	0
95.50208	-23.87	1.45	404.95	405.39	0.43	1	0
95.70272	-24.61	2.15	404.92	405.9	0.97	1	0
95.92568	-25.42	2.91	404.92	404.61	-0.31	1	0
96.12618	-26.15	3.62	404.78	404.23	-0.55	1	0
96.3254	-26.87	4.31	404.78	405.58	0.8	1	0
96.5278	-27.58	4.99	404.78	405.81	1.03	1	0
96.7506	-28.01	5.4	404.74	404.74	0	1	0
96.95138	-28.73	6.11	404.64	403.86	-0.78	1	0
97.15212	-29.44	6.81	404.64	403.69	-0.95	1	0
97.35282	-30.13	7.48	404.56	404.24	-0.31	1	0
97.61917	-30.87	8.65	404.56	404.39	-0.16	2	0.61
97.86348	-31.4	9.83	404.5	403.65	-0.85	1	0
98.06422	-31.81	10.77	404.5	403.68	-0.81	1	0
98.26468	-32.22	11.68	404.45	404.31	-0.14	1	0
98.48778	-32.67	12.73	404.44	404.77	0.33	1	0
98.68848	-33.07	13.65	404.44	403.93	-0.51	1	0
98.88908	-33.48	14.59	404.44	403.73	-0.71	1	0
99.08988	-33.9	15.56	404.59	403.56	-1.04	1	0
99.51348	-34.74	17.52	404.44	406.7	2.27	1	0
99.71426	-35.13	18.45	404.68	404.56	-0.13	1	0
99.91498	-35.27	19.5	404.68	404.05	-0.64	1	0
100.1378	-35.18	20.79	404.68	404.07	-0.62	1	0
100.3386	-35.11	21.97	404.85	404.33	-0.52	1	0
100.5393	-34.95	23	404.85	405.3	0.44	1	0
100.74	-34.76	24.16	404.91	404.89	-0.01	1	0
101.2769	-34.25	26.61	404.91	406.41	1.51	2	1.51
101.5907	-33.72	27.52	405.36	404.7	-0.67	1	0
101.8123	-33.24	28.19	405.36	404.51	-0.85	1	0
102.015	-32.78	28.85	405.36	404.56	-0.8	1	0
102.2144	-32.24	29.48	405.36	404.44	-0.92	1	0
102.6305	-31.47	30.33	405.34	405.02	-0.32	3	1.61
103.2473	-30.79	30.9	405.34	406.55	1.21	3	3
			avg.	409.75	1.62		
			st. dev.	4.59	2.22		
			count			114	134
			sum				
			min	403.56			
			max	422.91			

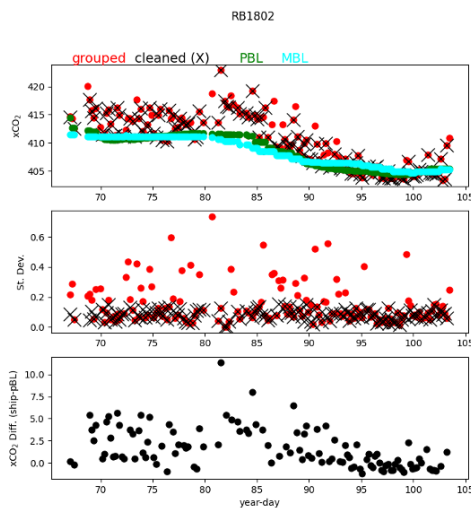
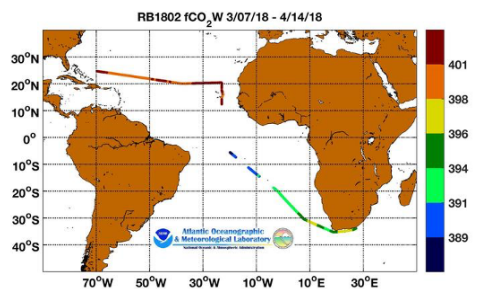


Table 70: PBL cruise summary for RB 1803 legs 1 and 2

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diffs
113.8637	-29.86	32.7	406.15	404.72	-1.43	1	0
114.0641	-29.88	33.7	404.97	405.6	0.62	1	0
114.8889	-29.97	38.25	404.87	408.81	3.94	1	0
115.1118	-29.99	39.49	404.85	408.82	3.97	1	0
115.7136	-30	42.37	404.82	409.39	4.57	1	0
115.9364	-30	43.73	404.82	408.02	3.21	1	0
116.1369	-30	44.91	404.73	407.76	3.03	1	0
116.3375	-30	45.98	404.76	413.2	8.44	1	0
117.0011	-30	49.72	404.62	406.32	1.71	1	0
117.2015	-30	50.88	404.7	407.83	3.13	1	0
117.4265	-30	51.21	404.58	409.74	5.16	1	0
117.625	-30	52.27	404.58	406.99	2.41	1	0
117.8254	-30	53.41	404.58	407.53	2.95	1	0
118.2415	-29.74	54.5	404.64	414.78	10.15	2	2.85
119.1737	-28.33	54.5	404.64	414.34	9.7	2	2.09
119.898	-27.33	54.48	404.71	415.28	10.57	1	0
120.2	-27.11	54.49	404.93	414.05	9.12	2	3.17
120.4996	-26.67	54.49	404.93	415.37	10.44	1	0
121.2295	-25.68	54.5	404.97	414.97	10	2	1.96
121.9481	-24.66	54.51	404.97	412.18	7.21	3	1.79
122.6718	-23.57	54.51	404.99	409.04	4.05	1	0
123.2958	-22.64	54.5	404.99	409.94	4.95	1	0
123.8044	-21.56	54.42	405.09	413.45	8.36	2	0.65
124.3203	-20.73	54.51	405.09	416.32	11.23	1	0
124.9382	-19.52	54.66	405.08	414.1	9.03	4	1.49
125.5558	-18.33	54.99	405.08	413.14	8.06	2	1.34
126.3876	-16.66	55	405.22	416.25	11.03	2	0.24
127.094	-15.12	55	405.33	409.47	4.14	1	0
127.4045	-14.7	55	405.33	411.98	6.64	2	2.14
128.6181	-12.18	54.94	405.45	408.66	3.21	2	0.87
129.0202	-11.69	54.33	405.57	411.67	6.1	2	2.24
129.8444	-11.25	53.82	405.54	411.78	6.24	3	2.3
130.8704	-10.75	53.21	405.54	413.81	8.27	1	0
131.0706	-10.38	52.77	405.54	412.82	7.29	1	0
131.4957	-9.89	52.19	405.67	411.18	5.5	1	0
131.7938	-9.44	51.65	405.67	411.73	6.05	2	0.06
132.1164	-8.91	51.9	405.67	413.71	8.03	1	0
132.6878	-8.46	52.5	405.67	414.04	8.37	3	0.99
133.2701	-8.05	53.19	405.67	411.79	6.11	1	0
133.5707	-7.69	53.51	405.83	411.53	5.7	2	2.02
134.2861	-6.37	54.42	405.88	414.25	8.37	1	0
134.9149	-5.34	55.12	406.03	414.04	8	1	0
139.8648	-3.59	55.63	406.17	411.23	5.06	1	0
140.1641	-3.24	56	406.17	414.37	8.2	1	0
140.6879	-2.54	56.58	406.17	410.81	4.64	3	1.62
141.1953	-1.77	57.22	406.48	413.3	6.82	1	0
142.1314	-0.41	57.26	406.48	413.29	6.81	4	0.85
142.8518	0.33	57.28	406.9	410.57	3.67	3	1.38
144.4919	2.8	58.06	407.58	415.48	7.91	1	0
144.9148	3.42	58.64	407.58	411.59	4.02	2	0.83
145.7388	4.66	59.77	408.21	410.22	2.01	2	0.67
146.3548	5.6	60.63	408.6	413.78	5.18	2	3.2
146.9649	6.46	61.41	409.07	410.24	1.17	1	0
147.5863	7.44	62.32	409.07	412.81	3.73	2	2.23
148.4116	8.72	63.5	409.5	416.59	7.08	2	1.93
149.135	9.78	64.47	409.5	412.88	3.38	1	0
150.0596	11.45	64.67	409.69	408.47	-1.22	2	0.43
150.6832	12.7	64.67	406.67	409.36	2.69	1	0
151.0918	13.49	64.67	406.67	409.72	3.05	1	0
151.6078	14.55	64.67	406.98	408.93	1.95	2	0.24
152.2306	15.28	65.38	406.98	412.08	5.11	1	0
152.6332	15.73	66.16	407.26	408.51	1.25	2	0.61
153.3565	16.45	67.41	407.67	412.56	4.88	2	0.34
154.0808	17.2	68.71	407.67	414.71	7.04	2	0.98
154.4602	17.48	69.28	408.04	413.02	4.97	2	0.66
155.1746	17.77	68.53	407.67	412.58	4.9	3	0.81
		avg.		411.63	5.58		
		st. dev.			2.76	2.91	
		count				66	
		sum				107	
		min		404.72			
		max		416.59			

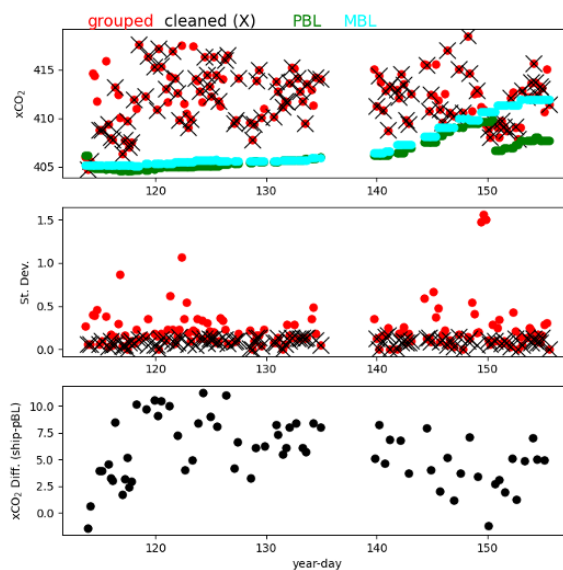
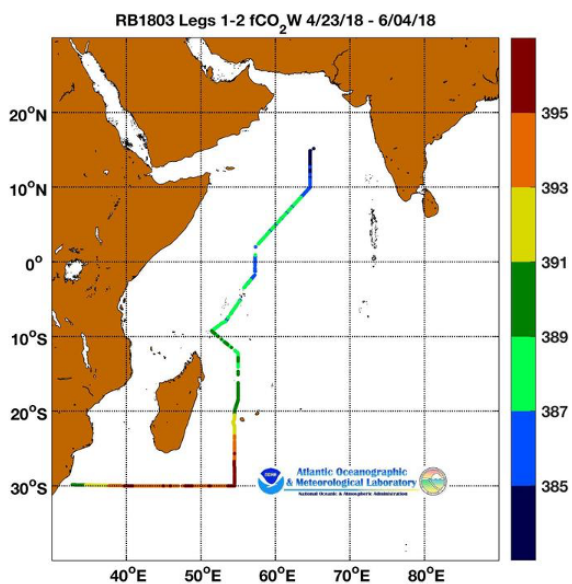


Table 71: PBL cruise summary for RB1805

time	lat	lon	pbl co2	ship co2	difference	shipboard	std of diff.
220.3154	-4.87	165.13	407.4	406.47	-0.93	1	0
220.6164	-3.51	164.52	407.5	407.09	-0.42	2	0.1
220.9173	-2.11	163.9	407.5	407.39	-0.11	1	0
221.14	-1.99	163.84	407.52	407.37	-0.15	1	0
223.3225	2.61	164.78	407.59	407	-0.59	2	0.04
223.7236	3.93	164.84	407.59	406.88	-0.71	1	0
224.1465	5.08	164.89	407.62	406.91	-0.71	3	0.11
224.548	6.1	164.96	407.63	407.5	-0.13	1	0
230.8116	-7.98	179.95	407.37	407.27	-0.1	1	0
231.0123	-7.96	-108	406.62	407.29	0.67	1	0
231.2129	-7.89	-179.93	407.36	407.24	-0.12	1	0
231.4359	-6.79	-179.93	407.36	406.87	-0.49	1	0
231.6365	-5.78	-179.9	407.45	407.26	-0.19	1	0
232.0487	-4.98	-179.79	407.45	407.03	-0.41	2	0.09
232.561	-3.52	-179.85	407.46	407.23	-0.22	2	0.07
232.8617	-2.09	-179.87	407.46	407.24	-0.21	1	0
233.3856	-1.54	-179.88	407.45	407.37	-0.09	2	0.05
233.6851	-0.12	-179.92	407.45	407.31	-0.14	1	0
234.1076	0.11	-179.95	407.45	407.34	-0.11	3	0.1
234.6191	1.58	-179.84	407.45	407.22	-0.23	2	0.1
235.1306	2.26	-179.81	407.45	407.31	-0.14	3	0.08
235.5535	3.86	-179.86	407.45	407.2	-0.26	1	0
235.9536	4.91	-179.91	407.46	407.24	-0.23	2	0.09
236.3762	5.97	-179.87	407.46	406.92	-0.54	1	0
236.5764	6.94	-179.87	407.46	407.15	-0.31	1	0
236.7766	7.94	-179.88	407.46	406.46	-1	1	0
237.1874	8.21	-179.55	407.44	406.62	-0.82	2	0.22
237.5895	8.91	-178.4	407.44	407.13	-0.3	1	0
237.9109	9.55	-177.33	407.44	406.12	-1.32	2	0.07
238.2223	10.15	-176.35	407.29	406.22	-1.07	1	0
238.4226	10.6	-175.61	407.29	406.95	-0.34	1	0
238.7343	11.3	-174.44	407.29	406.84	-0.45	2	0.17
239.0461	11.97	-173.34	407.25	407	-0.25	1	0
239.2466	12.35	-172.71	407.1	406.03	-1.07	1	0
239.447	12.78	-171.99	407.1	406.39	-0.71	1	0
239.6697	13.26	-171.18	407.1	406.42	-0.68	1	0
239.8702	13.72	-170.46	407.07	406.17	-0.9	1	0
240.0695	14.14	-169.7	406.91	406.07	-0.84	1	0
240.272	14.59	-168.94	406.91	406.02	-0.89	1	0
240.4939	15.09	-168.1	406.91	406.08	-0.84	1	0
240.6932	15.54	-167.34	406.89	405.95	-0.94	1	0
240.8954	16	-166.57	406.89	406.31	-0.58	1	0
241.2068	16.65	-165.46	406.8	406.45	-0.35	2	0.04
241.5066	17.25	-164.44	406.76	406.43	-0.32	1	0
241.7067	17.64	-163.77	406.76	405.19	-1.57	1	0
241.9292	18.05	-163.06	406.68	405.16	-1.52	1	0
242.1807	18.48	-162.32	406.68	404.95	-1.73	2	0.15
242.4324	18.93	-161.54	406.61	405.21	-1.4	1	0
242.7331	19.56	-160.45	404.71	404.02	-0.68	2	0.13
243.0562	20.22	-159.31	404.56	403.21	-1.35	1	0
		avg.	406.57	-0.58			
		st. dev.	0.88	0.47			
		count				50	
		sum				69	
		min	403.21				
		max	407.5				

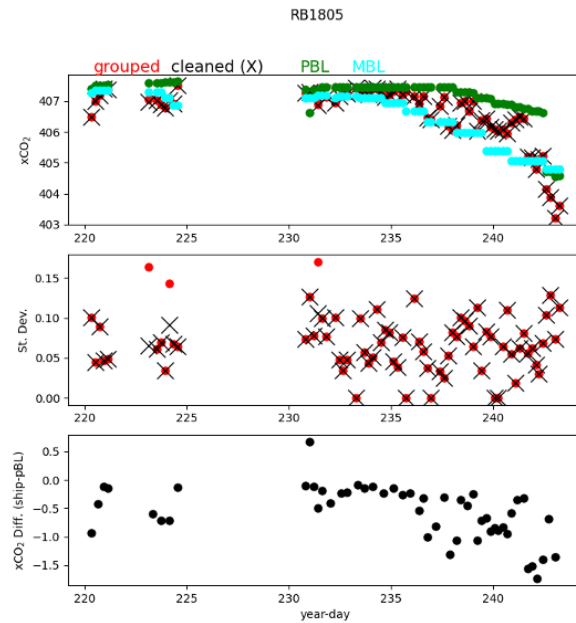
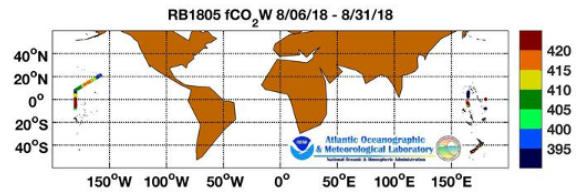


Table 72: PBL cruise summary for RB1806

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diffs
253.0766	21.12	-157.95	404.59	404.52	-0.06	1	0
253.2772	20.34	-157.35	404.59	404.14	-0.45	1	0
253.4778	19.52	-156.71	404.67	404.66	-0.01	1	0
253.678	18.76	-156.12	404.67	405.35	0.67	1	0
253.9008	18.26	-155.18	404.62	404.35	-0.27	1	0
254.1012	18.03	-154.26	404.62	404.21	-0.41	1	0
254.3015	17.8	-153.34	404.81	404.13	-0.67	1	0
254.5019	17.56	-152.38	404.79	403.74	-1.04	1	0
254.7246	17.3	-151.31	404.79	403.92	-0.86	1	0
254.9251	17.06	-150.41	404.79	404.59	-0.2	1	0
255.1255	16.83	-149.67	404.74	404.64	-0.1	1	0
255.437	16.46	-148.58	404.74	404.71	-0.03	2	0.07
255.7485	16.08	-147.85	404.74	404.74	0	1	0
255.9488	15.65	-147.37	405.18	404.77	-0.41	1	0
256.149	15.01	-146.66	405.09	404.93	-0.16	1	0
256.3715	14.29	-145.88	405.09	405.19	0.1	1	0
256.5719	13.64	-145.16	405.63	405.1	-0.53	1	0
256.7722	12.99	-144.46	405.63	405.12	-0.51	1	0
256.9724	12.34	-143.76	405.58	405.63	0.05	1	0
257.195	11.62	-142.97	406.04	406.47	0.42	1	0
257.3951	10.93	-142.23	406.04	406.72	0.68	1	0
257.5955	10.27	-141.52	406.04	406.62	0.58	1	0
257.7958	9.61	-140.81	406.34	406.46	0.12	1	0
258.187	8.97	-140.24	406.34	406.58	0.24	4	0.07
258.8414	9	-140.25	406.34	406.57	0.23	1	0
259.0417	8.4	-140.14	406.34	406.55	0.21	1	0
259.2419	7.69	-140.08	406.47	406.72	0.26	1	0
259.442	6.93	-140.05	406.47	406.73	0.27	1	0
259.664	6	-140.01	406.54	406.53	-0.01	1	0
259.8646	5.22	-139.98	406.54	406.53	-0.01	1	0
260.0649	4.99	-139.96	406.54	406.66	0.12	1	0
260.2669	5.09	-140	406.54	406.57	0.04	1	0
260.4877	4.96	-139.85	406.54	406.6	0.06	1	0
260.6878	4.98	-140.02	406.54	406.78	0.24	1	0
261.0888	4.47	-139.98	406.54	406.63	0.1	1	0
261.3113	3.64	-140	406.56	406.73	0.17	1	0
261.5117	2.92	-140.02	406.56	406.65	0.09	1	0
261.7122	1.99	-140.04	406.57	406.7	0.13	1	0
262.2355	1.57	-140	406.57	406.77	0.2	2	0.17
262.6366	0.28	-139.95	406.57	407.06	0.49	2	0.03
262.9597	0.04	-140.01	406.57	406.91	0.34	1	0
263.1604	0	-139.97	406.51	406.87	0.36	1	0
263.3611	0.04	-140.05	406.57	407.08	0.52	1	0
263.5616	0.12	-139.91	406.57	407.16	0.59	1	0
263.8846	0.03	-140.03	406.57	406.89	0.32	2	0.03
264.2859	-0.57	-139.96	406.51	406.99	0.48	2	0.01
264.609	-1.78	-140.01	406.51	406.81	0.3	1	0
265.0099	-2.16	-140.01	406.59	406.72	-0.14	3	0.06
265.4326	-3.13	-139.98	406.59	406.41	-0.17	1	0
265.6327	-3.96	-140.19	406.59	406.41	-0.18	1	0
265.8331	-4.63	-140.02	406.63	406.53	-0.1	1	0
266.1448	-4.97	-139.93	406.63	406.58	-0.05	2	0.09
266.4567	-5.05	-139.84	406.63	406.6	-0.03	1	0
266.6574	-4.96	-139.97	406.63	406.65	0.02	1	0
267.0808	-5.14	-139.18	406.63	406.57	-0.06	1	0
267.2814	-5.32	-138.3	406.63	406.55	-0.08	1	0
267.4821	-5.5	-137.41	406.62	406.51	-0.12	1	0
267.6826	-5.68	-136.49	406.62	406.7	0.08	1	0
267.9055	-5.88	-135.49	406.62	406.6	-0.03	1	0
268.1061	-6.07	-134.57	406.67	406.52	-0.14	1	0
268.3059	-6.25	-133.66	406.67	406.52	-0.14	1	0
268.5066	-6.45	-132.77	406.67	406.44	-0.22	1	0
268.7294	-6.63	-131.77	406.68	406.38	-0.3	1	0
268.93	-6.81	-130.87	406.68	406.63	-0.04	1	0
269.1307	-6.99	-129.98	406.68	406.68	-0.12	1	0
269.3314	-7.18	-129.06	406.68	406.68	0	1	0
269.5341	-7.39	-128.01	406.68	406.5	-0.18	1	0
269.7546	-7.56	-127.18	406.68	406.86	0.18	1	0
269.9552	-7.7	-126.46	406.68	406.51	-0.16	1	0
270.1558	-7.84	-125.76	406.68	406.56	-0.13	1	0
270.3787	-7.99	-125	406.68	406.49	-0.2	1	0
270.5813	-8.01	-125.05	406.72	406.74	0.02	1	0
270.9877	-7.71	-124.96	406.68	406.61	-0.07	3	0.04
271.4031	-6.36	-124.96	406.68	406.7	0.02	1	0
271.7045	-5.31	-124.95	406.64	406.72	0.08	2	0.06
272.1278	-4.68	-124.93	406.64	406.62	-0.03	2	0.1
272.4287	-3.68	-124.95	406.61	406.91	0.31	1	0
272.7405	-2.55	-124.93	406.61	406.7	0.09	2	0.19
273.0525	-2.08	-124.94	407.21	407.02	-0.18	1	0
273.3534	-1.42	-124.74	407.2	407.02	-0.18	2	0.04
273.7767	-0.19	-124.4	407.2	407.08	-0.12	2	0
274.0774	0.31	-124.56	407.15	407.02	-0.13	1	0
274.3895	1.52	-124.9	407.15	406.92	-0.23	2	0.06
274.7013	1.98	-125.07	407.15	407.01	-0.14	1	0
274.902	2	-125.11	407.1	406.97	-0.13	1	0
275.1026	1.97	-125.06	407.15	406.72	-0.44	1	0
275.3252	2.84	-125.05	407.1	406.72	-0.38	1	0
275.5255	3.58	-125.02	407.1	406.75	-0.34	1	0
276.0383	5.12	-124.92	407.04	406.73	-0.32	2	0.05
276.5511	5.15	-125.08	407.04	406.52	-0.52	1	0
276.7509	5.14	-124.92	407.04	406.71	-0.33	1	0
277.174	6.18	-124.95	406.97	406.64	-0.33	1	0
277.4746	7.46	-124.97	406.97	406.62	-0.35	2	0.01
277.7968	8.04	-124.98	406.77	406.29	-0.48	1	0
277.997	8.03	-125.01	406.77	406.33	-0.44	1	0
278.1963	8.03	-124.39	406.77	406.4	-0.38	1	0
278.6198	7.97	-122.2	406.98	406.53	-0.45	1	0
278.8179	7.95	-121.17	406.98	406.46	-0.52	1	0
279.0203	7.92	-120.15	406.98	406.33	-0.65	1	0
279.2202	7.9	-119.15	406.97	406.47	-0.5	1	0
279.4428	7.87	-118.08	406.97	406.37	-0.6	1	0
279.6429	7.84	-117.09	406.97	406.52	-0.45	1	0
279.843	7.82	-116.11	406.97	406.3	-0.66	1	0
280.0432	7.79	-115.12	406.97	406.42	-0.54	1	0
280.2653	7.76	-113.96	406.96	406.24	-0.73	1	0
		ppl		406.29	-0.09		
		st. dev.		0.82	0.33		
		count				105	
		sum				126	
		min		403.74			
		max		407.16			

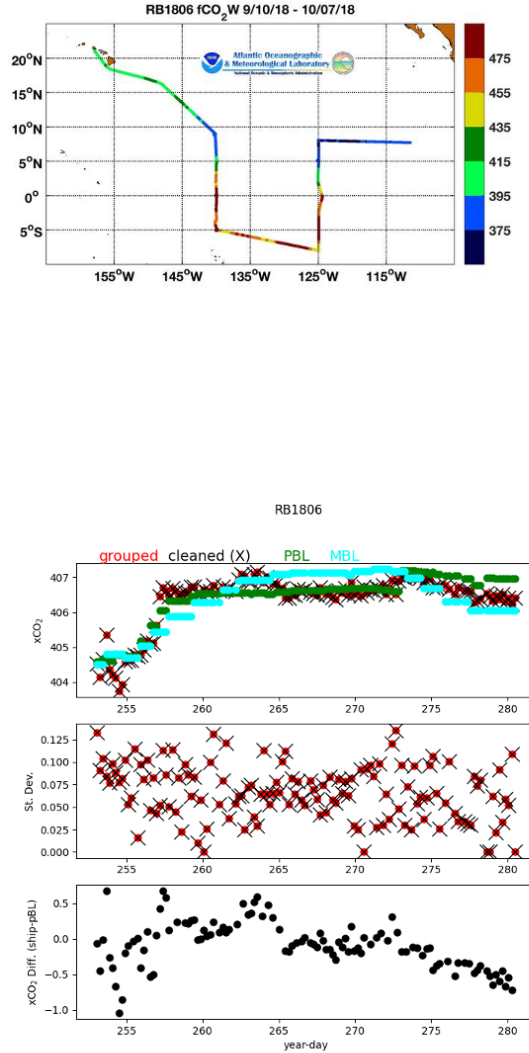


Table 73: PBL cruise summary for RB1806 transit

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diffs
281.8581	7.55	-106.05	407	406.31	-0.69	1	0
282.0567	7.53	-105.08	407	406.67	-0.33	1	0
282.6803	7.45	-102.19	406.96	406.4	-0.59	1	0
282.8808	7.43	-101.22	406.98	406.47	-0.51	1	0
283.0809	7.4	-100.22	406.98	406.64	-0.34	1	0
283.3034	7.37	-99.06	406.98	406.48	-0.5	1	0
283.5037	7.34	-98.02	406.97	406.48	-0.49	1	0
283.7039	7.32	-97.01	406.97	406.42	-0.55	1	0
283.9042	7.29	-96.02	406.97	406.41	-0.56	1	0
284.1265	7.26	-94.84	406.95	406.29	-0.66	1	0
284.3267	7.23	-93.77	406.95	406.61	-0.34	1	0
284.527	7.2	-92.72	406.92	406.44	-0.48	1	0
284.7272	7.18	-91.65	406.92	406.39	-0.52	1	0
			avg.	406.46	-0.5		
			st. dev.	0.11	0.11		
			count			13	
			sum			13	
			min	406.29			
			max	406.67			

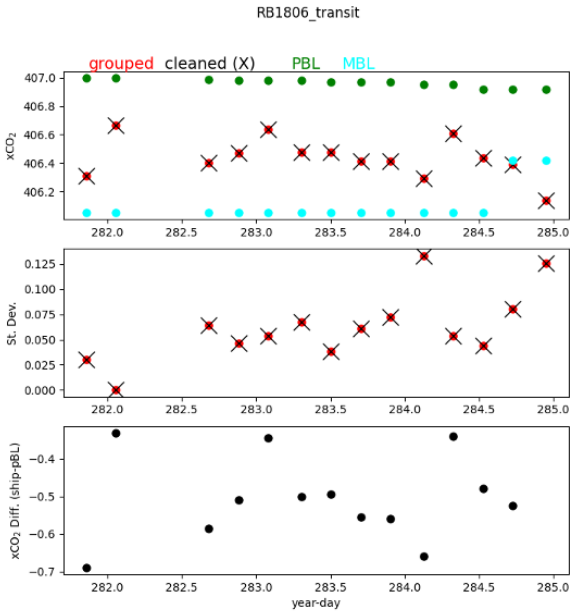
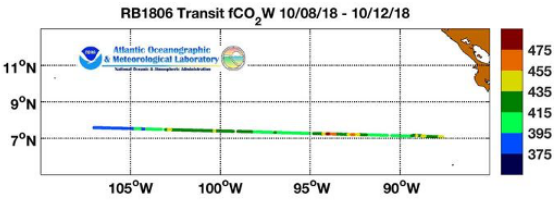


Table 74: PBL cruise summary for RB1902

time	lat	lon	pbl_co2	ship_co2	difference	fshipboard	std of diffs
60.9664	32.61	-78.76	418.85	412.66	-6.19	1	0
62.18358	32.01	-72.36	415.57	412.6	-2.97	1	0
62.40218	31.5	-71.35	414.43	411.13	-3.3	1	0
62.60172	30.99	-70.34	414.43	411.93	-2.5	1	0
62.80128	30.49	-69.37	414.43	412.23	-2.2	1	0
63.00072	29.99	-68.41	413.75	412.58	-1.17	1	0
63.21952	29.46	-67.38	413.75	412.02	-1.73	1	0
63.41816	28.99	-66.48	413.75	411.9	-1.85	1	0
63.71759	28.48	-65.5	413.6	411.8	-1.8	2	0.02
64.03606	28.01	-64.3	413.6	411.48	-2.12	1	0
64.23564	27.71	-63.28	413.37	412.01	-1.36	1	0
64.43524	27.41	-62.28	413.22	411.84	-1.38	1	0
64.63478	27.12	-61.28	413.22	412.14	-1.08	1	0
64.85348	26.79	-60.19	413.22	411.93	-1.3	1	0
65.05304	26.5	-59.22	413.17	411.79	-1.38	1	0
65.25246	26.24	-58.35	413.17	411.92	-1.26	1	0
65.45206	25.96	-57.42	412.97	411.92	-1.04	1	0
65.67072	25.65	-56.39	412.97	411.72	-1.25	1	0
65.87034	25.38	-55.46	412.97	411.95	-1.03	1	0
66.06998	25.1	-54.53	412.97	411.87	-1.1	1	0
66.26962	24.81	-53.58	412.98	411.97	-1.01	1	0
66.48883	24.5	-52.56	412.98	411.89	-1.1	1	0
66.68794	24.22	-51.65	412.98	412.14	-0.84	1	0
66.8875	23.95	-50.75	412.87	411.93	-0.94	1	0
67.08688	23.66	-49.83	412.87	411.91	-0.96	1	0
67.30576	23.36	-48.83	412.87	411.95	-0.92	1	0
67.50516	23.08	-47.92	412.89	412.57	-0.33	1	0
67.70476	22.81	-47.02	412.89	413.11	0.22	1	0
67.90442	22.53	-46.14	412.89	412.94	0.05	1	0
68.12306	22.23	-45.16	412.89	413.02	0.13	1	0
68.32268	21.95	-44.24	412.95	413.14	0.19	1	0
68.52228	21.67	-43.34	412.95	413.54	0.58	1	0
68.72174	21.38	-42.41	412.95	413.29	0.34	1	0
68.94058	21.05	-41.37	413.06	413.26	0.2	1	0
69.14004	20.75	-40.39	413.06	413.49	0.43	1	0
69.33952	20.47	-39.42	413.06	413.16	0.1	1	0
69.53914	20.21	-38.5	413.16	412.85	-0.31	1	0
70.02396	20.05	-37.63	413.16	412.59	-0.56	3	0.44
70.57526	20.07	-36.27	413.16	413.64	0.49	1	0
70.77484	20.09	-35.38	413.23	414.47	1.24	1	0
70.97422	20.12	-34.45	413.23	414.1	0.88	1	0
71.17382	20.15	-33.51	413.23	413.56	0.34	1	0
71.39244	20.18	-32.48	413.26	413.3	0.04	1	0
71.59202	20.21	-31.58	413.26	413.58	0.32	1	0
71.79162	20.25	-30.66	413.26	413.26	0	1	0
71.99124	20.28	-29.69	413.29	413.33	0.04	1	0
72.20986	20.31	-28.63	413.29	413.17	-0.11	1	0
72.40946	20.34	-27.68	413.29	412.59	-0.7	1	0
72.60904	20.37	-26.73	413.32	412.19	-1.13	1	0
72.80844	20.41	-25.81	413.32	412.34	-0.99	1	0
73.02724	20.44	-24.83	413.32	411.18	-2.14	1	0
73.49901	20.45	-23.41	413.39	411.99	-1.41	3	0.33
74.0432	19.64	-23	413.44	412.46	-0.98	1	0
74.44246	18	-23	413.44	412.55	-0.89	1	0
74.6612	17.25	-22.8	413.48	412.66	-0.83	1	0
74.86058	16.32	-22.56	413.48	412.87	-0.62	1	0
75.25964	15	-22.86	413.5	412.74	-0.77	1	0
75.77705	13.44	-23	413.5	412.66	-0.84	2	0.18
76.07692	12.5	-23	413.5	412.98	-0.51	1	0
76.29558	12	-23	413.5	413.13	-0.36	1	0
76.49516	11.48	-22.99	413.49	413.02	-0.46	1	0
76.69462	11.45	-23.01	413.49	413.07	-0.41	1	0
76.89424	11.47	-22.99	413.49	412.7	-0.79	1	0
77.11286	12.09	-23.1	413.5	412.26	-1.24	1	0
77.31248	13.07	-23.24	413.5	412.45	-1.04	1	0
77.68097	14.51	-23.69	413.5	412.54	-0.96	2	0.05
78.04995	15.45	-24.86	413.42	412.71	-0.71	1	0
78.2484	15.77	-25.82	413.42	412.79	-0.63	1	0
78.66773	16.5	-27.77	413.35	413.07	-0.29	1	0
78.8663	16.91	-28.72	413.35	412.48	-0.87	1	0
79.0659	17.32	-29.69	413.35	412.53	-0.82	1	0
79.26572	17.73	-30.66	413.31	412.61	-0.7	1	0
79.4822	18.16	-31.7	413.26	412.61	-0.65	1	0
79.68388	18.52	-32.58	413.26	412.73	-0.53	1	0
79.88405	18.91	-33.52	413.2	412.74	-0.46	1	0
		avg.		412.58	-0.83		
		st. dev.		0.64	1.03		
		count				75	
		sum				82	
		min		411.13			
		max		414.47			

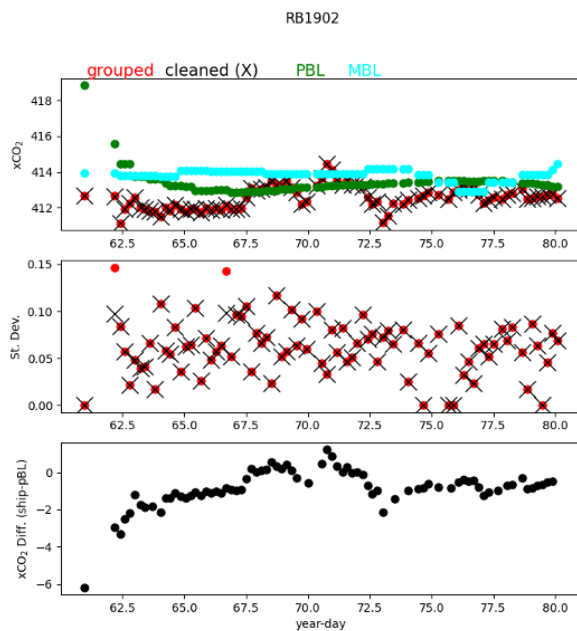
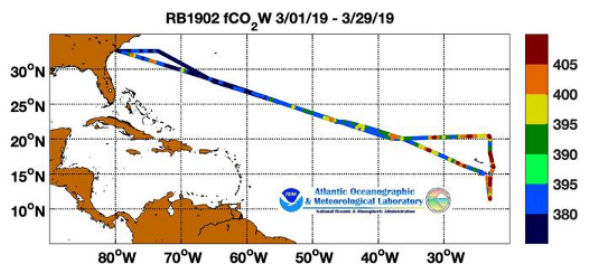


Table 75: PBL cruise summary for RB1903

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diffs
101.4703	31.89	-77.36	415.86	416.62	0.76	5	1.21
102.0887	32.49	-77.28	416.16	416.99	0.83	1	0
102.5177	33.64	-78.22	417.96	417.09	-0.86	1	0
102.8212	32.64	-77.58	416.16	416.8	0.64	2	0.05
103.342	31.78	-77.19	415.86	416.47	0.61	3	0.36
103.7536	32	-77.37	416.16	416.22	0.05	1	0
104.3785	31.94	-77.46	415.86	413.93	-1.93	5	0.5
105.3156	31.5	-78.66	415.83	418.8	2.97	1	0
105.7001	31.5	-79.25	415.83	420.85	5.01	2	1.97
106.348	32.6	-79.62	417.96	422.37	4.41	1	0
106.9134	31.74	-79.23	415.83	418.15	2.32	1	0
107.7463	31.5	-78.03	415.83	417.16	1.33	1	0
108.5734	31.32	-77.21	415.86	416.11	0.25	5	0.28
110.7001	34.49	-76.63	416.92	417.93	1.01	1	0
111.8779	34.79	-75.26	416.92	418.29	1.37	5	3.14
114.2888	35.7	-74.82	416.25	417.92	1.68	7	3.22
115.4642	34.57	-75.39	416.92	413.2	-3.72	1	0
115.9922	33.7	-75.84	416.16	412.36	-3.81	4	1.76
116.52	32.95	-75.85	416.16	417.99	1.83	1	0
			avg.	417.12	0.78		
			st. dev.	2.29	2.21		
			count			19	
			sum			48	
			min	412.36			
			max	422.37			

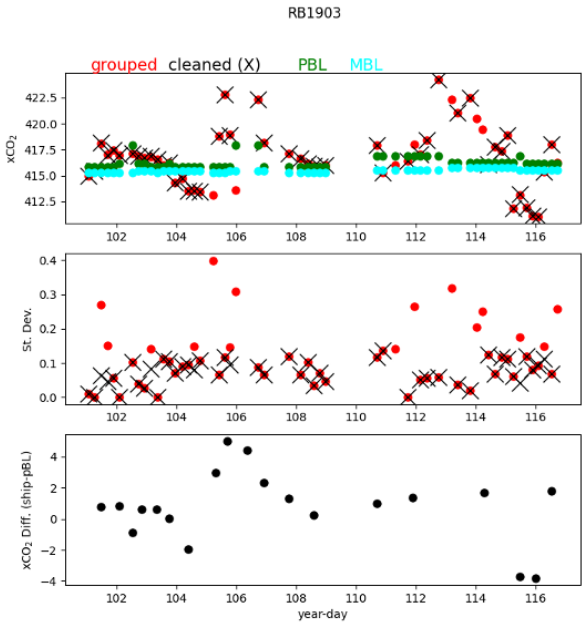
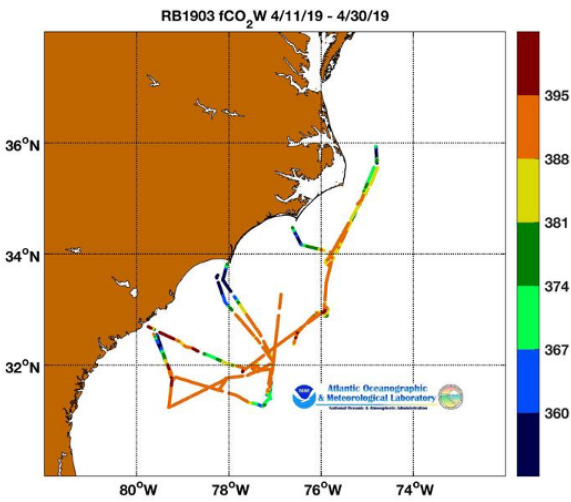
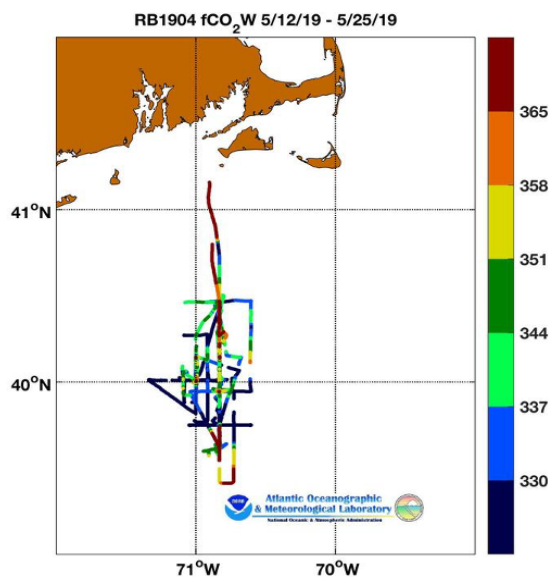


Table 76: PBL cruise summary for RB1904

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diffs
132.6583	41.18	-70.91	417.94	415.06	-2.88	1	0
133.064	40.31	-70.83	417.94	414.57	-3.36	3	0.53
133.5932	39.95	-70.86	416.36	415.25	-1.11	2	0.04
134.421	40.35	-70.8	417.94	413.69	-4.24	3	0.69
135.2599	39.85	-70.83	416.36	416.64	0.28	2	0
135.6661	40.24	-70.83	417.94	419.36	1.42	2	0.78
135.9898	40.46	-71.12	417.94	421.1	3.16	1	0
136.1948	40.04	-70.61	417.94	415.14	-2.79	1	0
136.4989	39.79	-70.83	416.36	417.34	0.98	1	0
136.8254	40.31	-70.85	417.94	418.2	0.26	1	0
137.231	39.77	-70.83	416.36	416.04	-0.32	1	0
137.963	40.2	-70.92	417.94	413.35	-4.59	3	2.47
138.4923	39.82	-71	416.36	423.04	6.68	1	0
138.7965	40.01	-71.1	417.94	420.17	2.23	1	0
139.1015	40.01	-70.92	417.94	418.31	0.37	1	0
140.0281	40.13	-70.85	417.94	415.12	-2.82	4	2.4
141.5669	39.74	-70.81	416.36	413.83	-2.53	7	2.02
142.7127	40.15	-70.83	417.94	418.01	0.08	2	3.97
143.028	39.64	-70.83	416.36	413.91	-2.45	1	0
143.4336	40.46	-70.83	417.94	413.52	-4.41	1	0
143.8615	39.96	-71	416.36	412.86	-3.5	1	0
144.1655	40.01	-71	417.94	412.43	-5.51	2	0.55
144.695	39.81	-70.87	416.36	418.25	1.89	3	0.96
			avg.	416.31	-1.01		
			st. dev.	2.79	2.9		
			count			23	
			sum			45	
			min	412.43			
			max	423.04			



RB1904

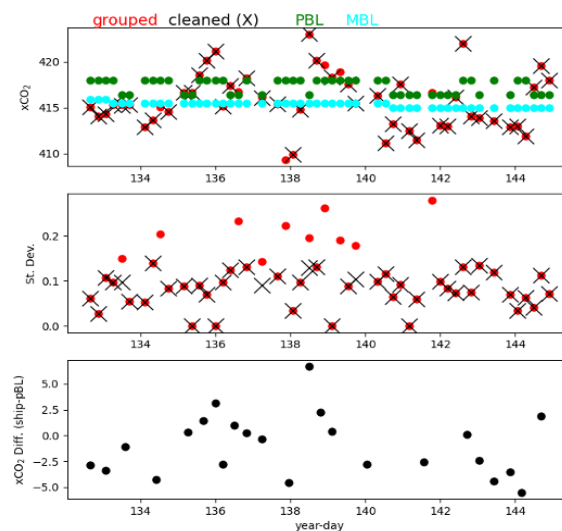
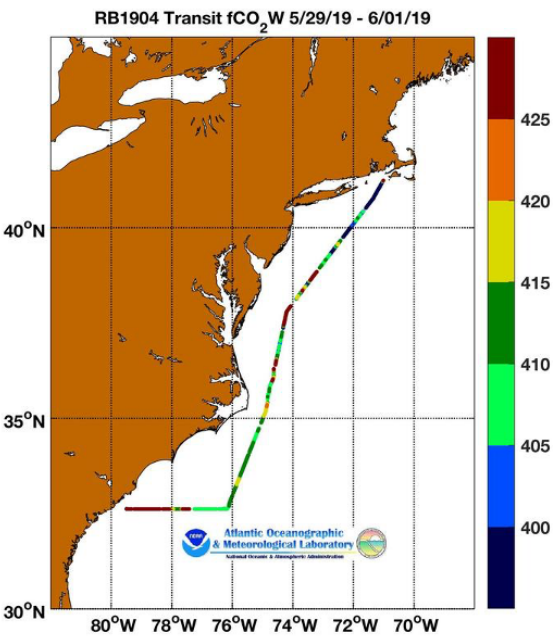


Table 77: PBL cruise summary for RB1904 transit

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diffs
148.9304	40.45	-71.66	417.94	414.74	-3.2	1	0
149.1332	39.68	-72.4	417.64	416.97	-0.67	1	0
149.3361	38.87	-73.19	417.64	416.29	-1.35	1	0
149.6625	37.63	-74.2	415.96	430.48	14.51	2	12.1
149.9667	36.32	-74.63	415.96	425.76	9.8	1	0
150.1694	35.43	-74.83	415.3	417.03	1.73	1	0
150.5973	34.06	-75.46	413.99	412.99	-1	1	0
150.8001	33.44	-75.77	413.24	413.29	0.05	1	0
151.5322	32.62	-76.26	413.24	413.82	0.58	4	0.6
152.0614	32.62	-77.4	413.24	419.71	6.47	1	0
			avg.	418.11	2.69		
			st. dev.	5.47	5.41		
			count			10	
			sum			14	
			min	412.99			
			max	430.48			



RB1904_transit

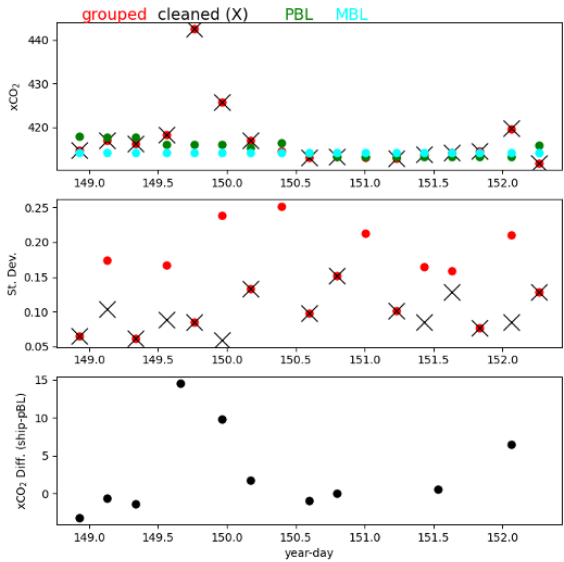


Table 79: PBL cruise summary for RB1907

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diffs
338.3101	30.7	-79.45	415.67	418.58	2.92	1	0
338.5125	29.76	-79.39	414.96	419.46	4.5	1	0
338.8379	28.59	-79.32	414.96	416.72	1.76	2	0.5
339.142	27.37	-79.25	414.98	414.95	-0.03	1	0
339.5711	27	-79.63	414.98	415.3	0.32	1	0
340.4745	26.05	-79.53	414.98	413.92	-1.05	2	0.41
340.992	26.17	-78.63	414.98	412.85	-2.13	2	0.39
343.6235	26.5	-76.34	414	412.68	-1.32	6	0.3
344.5635	26.5	-75.75	414	412.71	-1.29	3	0.78
345.9219	26.5	-74.23	413.84	413.82	-0.01	1	0
346.4516	26.5	-73.52	413.84	412.89	-0.95	4	0.92
347.2832	26.5	-72.36	413.84	413.32	-0.52	4	0.5
348.0137	26.5	-71.78	413.82	411.41	-2.41	3	0.28
348.841	26.5	-70.56	413.82	412.32	-1.51	5	0.93
349.677	26.5	-69.5	413.82	412.96	-0.87	2	0.1
350.082	26	-69.22	413.49	412.63	-0.86	1	0
350.6831	23.36	-67.79	412.85	411.6	-1.25	1	0
350.8854	22.45	-67.3	412.85	411.3	-1.55	1	0
351.189	21.49	-66.79	412.6	411.45	-1.15	2	0.1
351.515	20.52	-66.28	412.6	410.31	-2.28	1	0
351.8183	19.73	-65.86	412.42	410.76	-1.66	2	0.02
352.2339	18.65	-65.29	412.42	412.82	0.4	2	0.36
352.7532	18.2	-64.64	412.42	410.92	-1.5	1	0
353.185	17.72	-63.07	412.21	410.77	-1.44	1	0
		avg.		413.19	-0.58		
		st. dev.		2.32	1.6		
		count				24	
		sum				50	
		min		410.31			
		max		419.46			

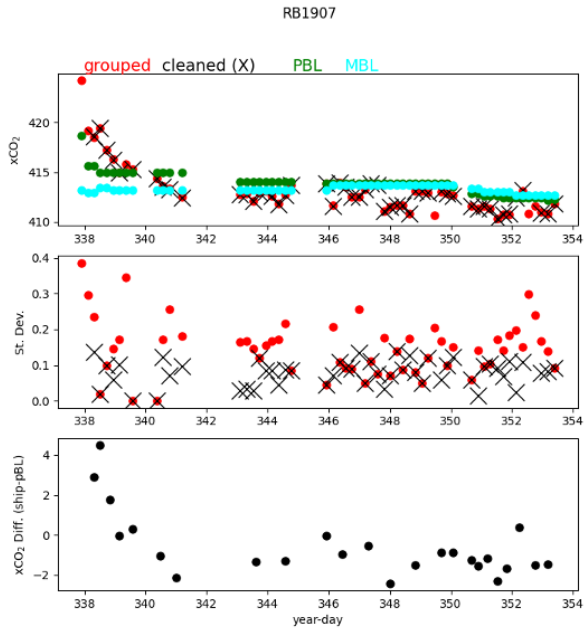
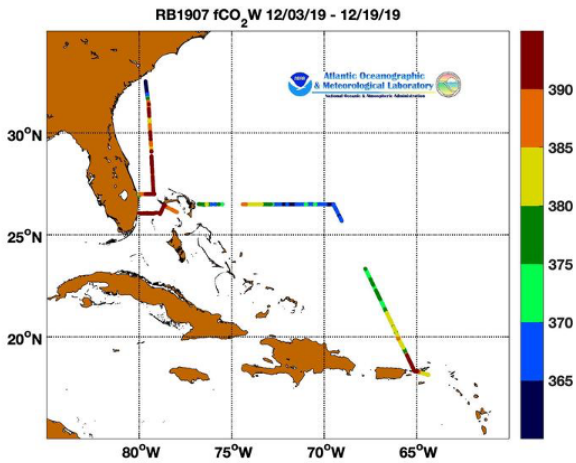


Table 78: PBL cruise summary for RB2001, legs 1 and 2

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diffs
11.6689	15.35	-51.44	413.45	413.57	0.12	3	0.97
21.34482	14.36	-53.02	413.45	414.13	0.68	5	0.62
24.21365	13.99	-56.41	413.29	411.7	-1.59	1	0
25.88022	13.14	-59.09	413.31	412.08	-1.23	1	0
32.70896	13.88	-54.51	414.25	412.65	-1.6	17	0.67
34.96623	13.78	-55.34	414.25	412.83	-1.42	1	0
35.1701	13.58	-56.39	414.25	413.08	-1.17	1	0
36.20276	13.08	-59.63	414.19	417.66	3.47	2	0.2
37.91138	13.09	-58.69	414.19	414.27	0.08	1	0
38.21489	13.33	-57.46	414.19	414.83	0.64	2	0.4
38.54068	13.57	-56.18	414.25	414.02	-0.23	1	0
38.74306	13.76	-55.46	414.25	416.59	2.34	1	0
39.04659	13.85	-54.86	414.25	414.87	0.62	2	0.38
39.37246	14.03	-54.35	414.28	414.98	0.71	1	0
40.40331	13.85	-54.86	414.25	415	0.74	2	0.47
42.53816	13.92	-56.48	414.25	415.8	1.55	1	0
43.05511	14.51	-56.16	414.28	415.87	1.59	2	0.08
			avg.	414.35	0.31		
			st.dev.	1.56	1.4		
			count			17	
			sum			44	
			min	411.7			
			max	417.66			

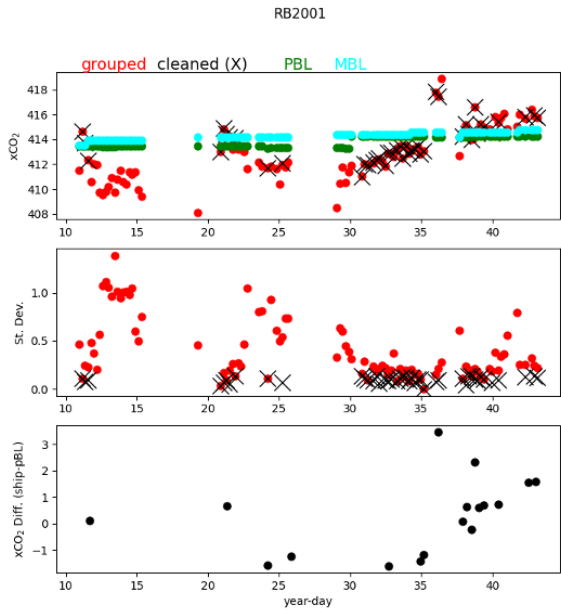
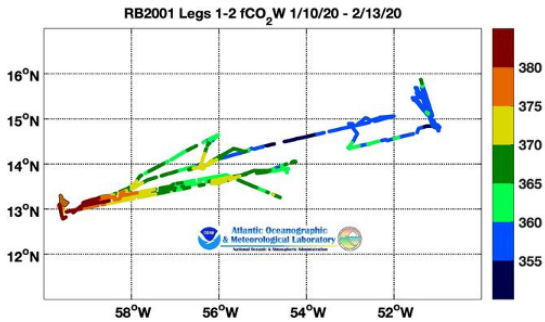


Table 79: PBL cruise summary for RB2002 transit

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diffs
53.82066	11.01	-55.54	414.2	414.47	0.26	1	0
54.02302	10.56	-54.65	414.2	414.11	-0.09	1	0
54.42764	9.68	-52.9	414.23	414.37	0.14	1	0
54.65242	9.2	-51.95	414.23	414.32	0.09	1	0
54.85482	8.76	-51.06	414.23	414.56	0.32	1	0
55.06396	8.29	-50.14	414.33	414.42	0.1	1	0
55.26632	7.84	-49.25	414.37	414.58	0.21	1	0
55.49094	7.39	-48.36	414.37	414.34	-0.02	1	0
55.80392	6.74	-47.1	414.46	414.61	0.14	1	0
55.97325	6.38	-46.39	414.46	414.74	0.27	1	0
56.174	5.96	-45.56	414.52	414.21	-0.31	1	0
56.37638	5.53	-44.72	414.6	414.12	-0.48	1	0
56.57872	5.1	-43.87	414.6	414.28	-0.32	1	0
56.76452	4.7	-43.1	414.6	414.52	-0.08	1	0
57.37518	3.4	-40.56	414.58	414.79	0.2	1	0
57.60112	2.93	-39.64	414.58	414.16	-0.43	1	0
57.80442	2.49	-38.79	414.65	414.48	-0.17	1	0
58.00796	2.04	-37.91	414.65	413.66	-0.99	1	0
58.21158	1.57	-36.99	414.13	412.72	-1.41	1	0
58.4375	1.05	-35.98	414.08	413.21	-0.87	1	0
58.64088	0.43	-35.22	414.08	416.24	2.17	1	0
58.84446	0.03	-34.38	414.08	413.35	-0.73	1	0
59.04806	-0.31	-33.45	412.9	413.89	1	1	0
60.15378	-3.1	-29.04	412.69	412.42	-0.27	1	0
60.35724	-3.68	-28.28	412.69	413.59	0.9	1	0
60.56084	-4.28	-27.49	412.17	413.01	0.84	1	0
60.99072	-5.58	-25.79	412.09	411.99	-0.11	1	0
61.29607	-6.52	-24.56	411.69	411.58	-0.12	2	0.05
61.60146	-7.45	-23.34	411.64	411.38	-0.26	1	0
61.82756	-8.1	-22.48	411.28	408.85	-2.42	1	0
62.0405	-8.6	-21.82	411.28	411.04	-0.24	1	0
62.3457	-9.54	-20.57	411.26	410.63	-0.63	1	0
62.67338	-10.55	-19.23	410.9	409.86	-1.04	1	0
62.87763	-11.17	-18.41	410.9	409.73	-1.18	1	0
63.08046	-11.78	-17.6	410.9	409.84	-1.06	1	0
63.28394	-12.4	-16.78	410.55	409.63	-0.92	1	0
63.6117	-13.36	-15.48	410.55	409.56	-0.99	2	0.13
63.91704	-14.27	-14.27	410.27	409.35	-0.92	1	0
64.12046	-14.85	-13.49	410.27	409.71	-0.56	1	0
64.3464	-15.52	-12.57	410.27	409.71	-0.55	1	0
64.54998	-16.13	-11.75	410.05	410.02	-0.03	1	0
64.75352	-16.72	-10.95	410.05	411.72	1.67	1	0
64.95694	-17.33	-10.11	410.05	410.67	0.62	1	0
65.18284	-18.01	-9.17	409.87	410.15	0.27	1	0
65.38638	-18.62	-8.35	409.84	409.82	-0.02	1	0
65.58986	-19.21	-7.52	409.84	409.93	0.09	1	0
65.7933	-19.81	-6.69	409.84	410.39	0.55	1	0
66.01922	-20.5	-5.73	409.69	410.29	0.6	1	0
66.32442	-21.4	-4.47	409.69	410.09	0.39	2	0.02
66.62954	-22.31	-3.2	409.61	410.08	0.48	1	0
66.74393	-22.65	-2.72	409.58	410.45	0.87	1	0
66.94722	-23.27	-1.84	409.58	410.51	0.93	1	0
67.15066	-23.89	-0.95	409.58	410.55	0.97	1	0
67.35388	-24.52	-0.05	409.51	410.31	0.8	1	0
67.58	-25.18	0.89	409.46	410.66	1.2	1	0
67.7833	-25.78	1.77	409.46	410.4	0.94	1	0
67.98676	-26.4	2.67	409.38	410.56	1.18	1	0
68.18973	-26.99	3.53	409.31	410.5	1.19	1	0
68.4161	-27.65	4.51	409.31	410.58	1.27	1	0
68.61934	-28.1	5.49	409.25	410.46	1.21	1	0
68.82282	-28.55	6.47	409.19	409.7	0.52	1	0
69.02628	-28.97	7.41	409.19	409.65	0.46	1	0
69.25206	-29.42	8.4	409.19	409.68	0.5	1	0
69.45536	-29.8	9.26	409.17	409.74	0.58	1	0
69.6589	-30.2	10.14	409.09	409.85	0.76	1	0
69.86244	-30.6	11.05	409.09	409.9	0.81	1	0
70.19001	-31.26	12.53	409.12	409.7	0.57	2	0.26
70.49518	-31.88	13.95	409.12	409.22	0.1	1	0
70.69872	-32.28	14.85	409.08	409.26	0.18	1	0
70.92456	-32.68	15.79	409.22	409.51	0.3	1	0
		avg		411.63	0.13		
		st. dev.		2.03	0.78		
		count				70	
		sum				74	
		min		408.85			
		max		416.24			

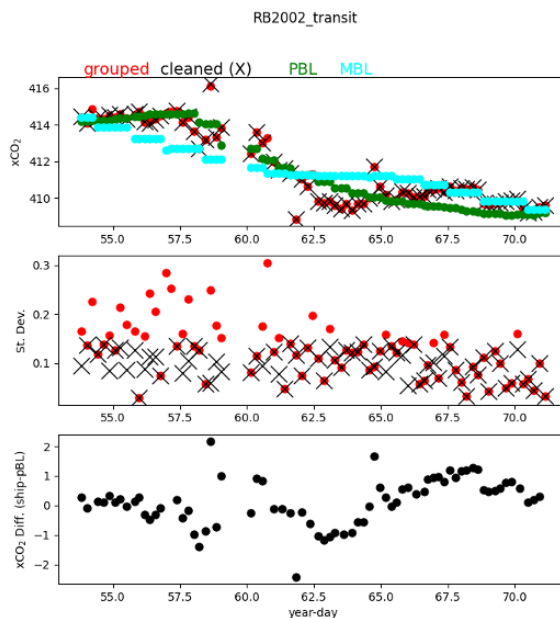
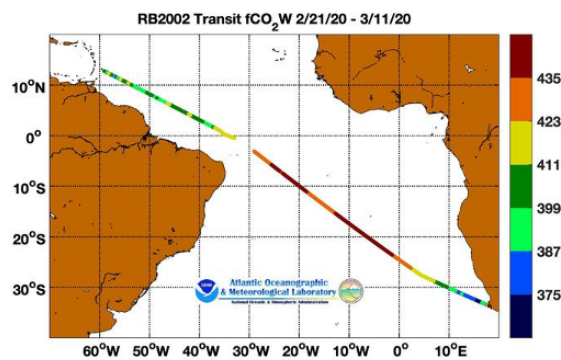


Table 80: PBL cruise summary for RB2002

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diffs
82.43602	-35.82	13.56	409.03	410.33	1.3	1	0
82.63934	-36.1	13.02	408.96	410.38	1.42	1	0
82.84294	-36.71	12.04	408.96	410.24	1.29	1	0
83.04646	-37.32	11.08	408.95	410.38	1.43	1	0
83.27236	-37.96	10.04	408.95	411.2	2.24	1	0
83.47574	-38.49	9.07	408.84	410.51	1.66	1	0
83.6792	-38.92	8.04	408.85	410.52	1.67	1	0
83.88276	-39.37	6.95	408.85	410.3	1.45	1	0
84.10872	-39.9	5.7	408.88	409.98	1.1	1	0
84.31208	-40.37	4.54	408.77	409.82	1.06	1	0
84.51546	-40.83	3.41	408.77	409.87	1.11	1	0
84.65024	-41	3	408.77	410.39	1.63	1	0
84.85354	-41.5	3	408.81	408.71	-0.1	1	0
86.09778	-37	1	409.06	409.54	0.47	1	0
86.62843	-35.69	1	409.16	410.32	1.16	2	0.13
86.93382	-34.76	1	409.16	411.17	2.01	1	0
87.15988	-33.93	1.04	409.25	409.87	0.62	1	0
87.45923	-33.23	1	409.25	410.68	1.43	3	0.29
87.81318	-32.02	1	409.25	410.44	1.19	1	0
88.0145	-31.89	0.83	409.29	411.73	2.44	1	0
90.52345	-24.17	-10.67	410.25	412.09	1.85	1	0
90.75096	-23.52	-11.39	410.25	410.1	-0.14	1	0
91.05569	-22.43	-12.58	410.36	410.76	0.41	2	0.86
91.36112	-21.34	-13.75	410.42	409.84	-0.57	1	0
91.58698	-20.54	-14.62	410.42	409.18	-1.24	1	0
91.79046	-19.82	-15.39	410.58	410.2	-0.37	1	0
91.99374	-19.07	-16.16	410.58	410.7	0.12	1	0
92.19724	-18.39	-16.93	410.58	410.33	-0.25	1	0
92.4232	-17.6	-17.79	410.63	409.93	-0.7	1	0
92.62666	-16.87	-18.52	410.71	410.08	-0.62	1	0
92.82998	-16.12	-19.28	410.71	410.32	-0.39	1	0
93.2605	-14.49	-20.78	410.81	410.09	-0.72	1	0
93.76801	-12.55	-22.57	411.05	410.28	-0.77	2	0.06
94.2997	-10.56	-24.47	411.31	410.03	-1.28	1	0
94.503	-9.82	-25.17	411.52	411.22	-0.3	1	0
94.9342	-8.21	-26.71	411.52	410.89	-0.64	1	0
95.3378	-6.71	-28.11	411.83	411.91	0.08	1	0
95.54273	-5.91	-28.78	412.14	411.25	-0.89	1	0
96.94346	-0.48	-33.47	413.31	415.32	2.01	1	0
97.14628	0.27	-34.17	414.13	416.19	2.05	1	0
97.35034	1.03	-34.87	414.13	417.03	2.9	1	0
97.55392	1.78	-35.6	414.13	416.98	2.84	1	0
97.77986	2.62	-36.42	415.14	416.86	1.72	1	0
97.98324	3.35	-37.13	415.14	417.73	2.59	1	0
98.18672	4.13	-37.89	415.8	416.95	1.15	1	0
98.39022	4.92	-38.6	415.8	416.94	1.15	1	0
98.61616	5.8	-39.37	415.72	417.87	2.15	1	0
98.81954	6.55	-40.03	415.98	416.69	0.71	1	0
99.02294	7.33	-40.73	415.98	416.63	0.65	1	0
99.22644	8.07	-41.4	416.1	416.79	0.69	1	0
99.45246	8.82	-42.1	416.06	416.28	0.23	1	0
99.65582	9.54	-42.79	416.06	416.46	0.41	1	0
100.1756	11.46	-44.59	416.16	416.6	0.44	2	0.64
100.4919	12.67	-45.69	416.25	415.91	-0.34	1	0
100.6952	13.44	-46.4	416.25	416.94	0.7	1	0
100.8986	14.2	-47.14	416.41	416.32	-0.09	1	0
101.1241	15.07	-48	416.41	415.79	-0.62	1	0
101.328	15.82	-48.78	416.36	416.69	0.33	1	0
101.5302	16.56	-49.55	416.56	415.39	-1.17	1	0
101.7347	17.34	-50.37	416.56	416.3	-0.26	1	0
101.9606	18.19	-51.28	416.66	414.75	-1.91	1	0
102.164	18.93	-52.07	416.66	415.13	-1.53	1	0
102.7966	21.21	-54.51	416.78	416.08	-0.7	1	0
103	21.94	-55.3	416.78	416.72	-0.07	1	0
103.2033	22.64	-56.07	416.93	416.61	-0.32	1	0
103.4084	23.37	-56.87	416.93	416.94	0.01	1	0
103.6327	24.15	-57.71	417.09	416.17	-0.92	1	0
104.0394	25.42	-59.43	417.09	420.76	3.67	1	0
104.2429	25.9	-60.4	417.13	420.37	3.24	1	0
104.4669	26.43	-61.45	417.36	419.18	1.82	1	0
104.6728	26.91	-62.42	417.36	419.55	2.19	1	0
105.0819	27.88	-64.36	417.45	419.5	2.05	1	0
106.1429	31.04	-68.9	418.12	419.14	1.02	1	0
106.3465	31.78	-69.59	418.18	419.21	1.03	1	0
106.5498	32.49	-70.24	418.47	418.31	-0.15	1	0
106.7531	33.14	-70.87	418.47	418.1	-0.37	1	0
106.9791	33.76	-71.46	418.47	416.6	-1.86	1	0
107.1827	34.27	-71.95	418.84	422.39	3.55	1	0
107.3862	34.8	-72.46	419.04	422.06	3.02	1	0
107.7025	35.52	-73.54	419.04	420.55	1.51	2	0.06
			avg.	414.1	0.7		
			st. dev.	3.78	1.29		
			count			80	
			sum			87	
			min	408.71			
			max	422.39			

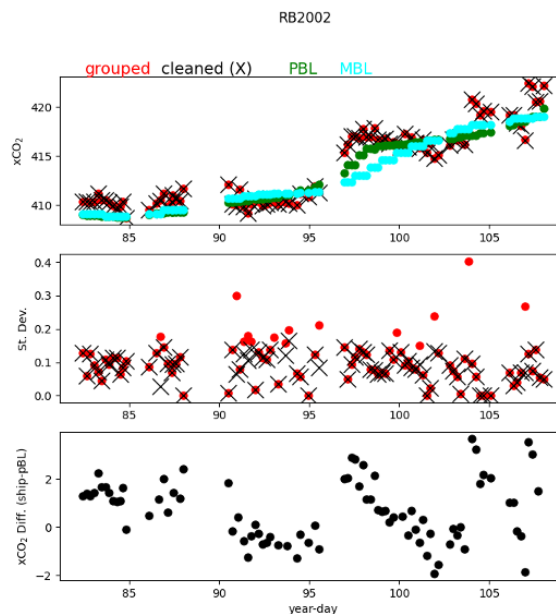
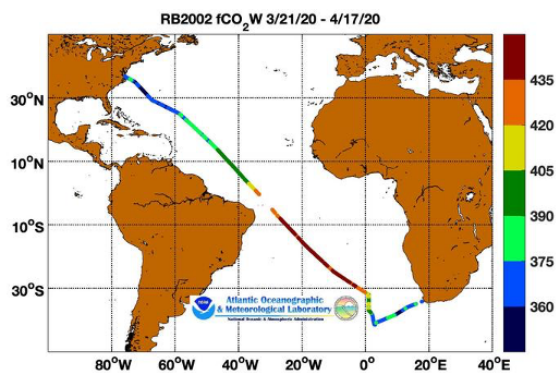


Table 81: PBL cruise summary for RB2006

time	lat	lon	pbl_co2	ship_co2	difference	fshipboard	std of diffl
285.8747	36.56	-74.95	413.46	414.9	1.44	1	0
286.4964	35.4	-74.94	412.81	413.5	0.69	2	0.72
287.1185	34.63	-75.45	414.89	413.47	-1.42	1	0
287.3222	34.07	-76.25	414.89	429.01	14.11	1	0
287.6514	33.27	-77.39	413.18	436.04	22.86	2	1.64
288.0574	32.57	-78.59	416.39	437.81	21.43	2	4.39
288.5888	32.63	-79.6	416.39	427.83	-11.44	1	0
289.2221	31.12	-77.53	412.82	421.88	9.06	1	0
289.4256	30.48	-76.66	412.82	419.73	-6.91	1	0
289.6289	29.84	-75.8	412.15	419.57	7.42	1	0
289.8326	29.2	-74.94	411.72	418.38	6.66	1	0
290.0588	28.48	-73.98	411.72	417.83	6.11	1	0
290.5346	26.99	-72.01	411.21	413.69	2.47	1	0
290.738	26.37	-71.21	411.06	411.93	0.88	1	0
290.9415	25.74	-70.39	410.9	411.75	0.85	1	0
291.145	25.11	-69.57	410.9	411.48	0.58	1	0
291.3708	24.38	-68.63	410.88	411.4	0.52	1	0
291.6761	23.44	-67.43	410.78	411.58	0.8	2	0.01
291.9813	22.5	-66.24	410.78	411.53	0.75	1	0
292.2072	21.76	-65.31	410.69	411.36	0.67	1	0
292.4108	21.1	-64.48	410.69	411.62	0.93	1	0
292.6149	20.53	-63.77	410.69	411.72	1.03	1	0
293.5158	17.25	-60.44	410.44	411.74	1.3	1	0
293.7192	16.36	-59.88	410.39	412.17	1.78	1	0
293.9229	15.47	-59.32	410.36	412.24	1.89	1	0
294.1266	14.55	-58.88	410.36	412.13	1.77	1	0
294.5562	13.72	-58.63	410.4	412.09	1.69	3	0.36
294.9634	13.8	-57.97	410.4	412.62	2.23	1	0
295.1895	13.97	-56.83	410.36	412.77	2.41	1	0
295.393	14.13	-55.78	410.36	412.65	2.29	1	0
295.5965	14.27	-54.78	410.36	412.33	1.97	1	0
295.8001	14.42	-53.78	410.35	412.08	1.73	1	0
296.0262	14.57	-52.75	410.35	411.2	0.84	1	0
296.4334	14.78	-51.39	410.35	411.44	1.09	3	0.36
296.8625	14.84	-50.99	410.33	411.93	1.6	1	0
297.6905	14.83	-51.05	410.35	411.95	1.6	7	0.19
298.639	14.78	-50.95	410.33	412.46	2.14	2	1.15
299.4684	15.45	-51.54	410.35	413.12	2.77	5	0.88
300.2087	16.21	-52.3	410.41	411.91	1.5	1	0
300.4151	16.95	-53.09	410.41	413.82	3.4	1	0
300.616	17.66	-53.84	410.41	413.97	3.56	1	0
300.8222	18.39	-54.6	410.48	414.09	3.61	1	0
301.0476	19.17	-55.44	410.48	414	3.52	1	0
302.0887	22.81	-59.38	410.73	414.43	3.7	1	0
302.2924	23.53	-60.16	410.76	414.5	3.74	1	0
302.4964	24.25	-60.96	410.86	414.33	3.47	1	0
302.7225	24.92	-61.7	410.86	414.17	3.3	1	0
302.9264	25.61	-62.48	410.86	414.39	3.53	1	0
303.2316	26.58	-63.57	410.98	414.31	3.33	2	0.05
303.5593	27.58	-64.7	410.98	413.93	2.95	1	0
303.7629	28.21	-65.41	411.05	414.23	3.18	1	0
304.1696	29.55	-66.96	411.13	414.32	3.19	1	0
304.3964	30.3	-67.84	411.38	413.82	2.44	1	0
304.5993	30.97	-68.63	415.08	414.28	-0.8	1	0
304.8029	31.61	-69.39	415.29	414.15	-1.14	1	0
305.1194	32.56	-70.51	415.78	420.07	4.29	1	0
305.436	33.45	-71.59	415.78	419.5	-3.72	1	0
305.6395	34.02	-72.28	416.54	418.4	-1.86	1	0
305.843	34.64	-73.04	416.54	419.32	2.78	1	0
		avg.	415.24	3.46			
		st. dev.	5.48	4.41			
		count		59			
		sum		79			
		min	411.2				
		max	437.81				

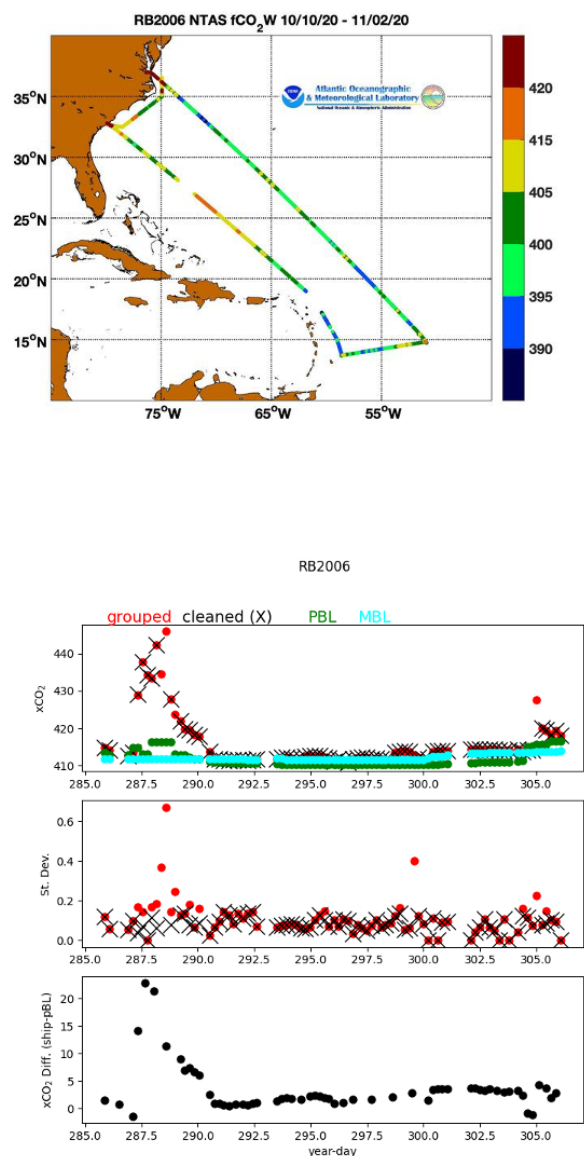


Table 82: PBL cruise summary for RB2007

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diffs
333.8163	36.65	-75.19	422.62	429.77	7.16	1	0
334.4269	34.06	-73.53	416.54	423.85	7.32	1	0
334.653	33.01	-72.92	415.99	420.97	4.99	1	0
334.8565	32.05	-72.38	415.99	421.4	5.42	1	0
335.5825	28.81	-70.59	416.93	418.9	1.96	1	0
335.7859	27.92	-70.11	416.43	418.68	2.25	1	0
335.9894	27.01	-69.62	416.43	417.37	0.93	1	0
336.1929	26.07	-69.11	416.43	416.53	0.09	1	0
336.4189	25.02	-68.56	415.64	416.3	0.66	1	0
336.6222	24.09	-68.09	415.64	415.77	0.13	1	0
336.8257	23.2	-67.63	415.28	415.65	0.38	1	0
337.0293	22.28	-67.15	415.28	415.4	0.12	1	0
337.2553	21.27	-66.63	415.07	415.07	0	1	0
337.4587	20.34	-66.15	415.07	415.35	0.28	1	0
337.6622	19.43	-65.68	414.99	415.28	0.3	1	0
337.866	18.5	-65.21	414.99	415.44	0.45	1	0
338.0923	18.2	-64.66	414.99	416.43	1.44	1	0
338.2959	17.92	-63.68	414.89	417.06	2.17	1	0
338.4992	17.48	-62.75	414.9	418.08	3.19	1	0
338.7027	16.89	-61.92	414.9	417.03	2.13	1	0
340.4778	16.34	-60.56	414.9	415.51	0.61	12	0.8
342.1672	16.26	-59.61	414.87	415.08	0.22	1	0
342.3709	16.15	-58.58	414.87	415.24	0.37	1	0
342.5967	16.06	-57.72	414.87	414.88	0.02	1	0
342.8001	15.97	-56.73	414.73	415.38	0.64	1	0
343.0036	15.87	-55.72	414.73	415.3	0.57	1	0
343.2071	15.76	-54.68	414.73	415.24	0.5	1	0
343.4331	15.65	-53.53	414.78	414.91	0.12	1	0
343.6365	15.55	-52.51	414.78	415.28	0.49	1	0
344.5747	15.46	-51.54	414.78	415.17	0.39	8	0.17
345.5125	15.54	-52.09	414.78	415.58	0.79	1	0
345.9403	15.77	-54.31	414.73	415.01	0.28	1	0
346.1449	15.88	-55.35	414.73	415.36	0.63	1	0
346.3509	15.98	-56.45	414.73	415.42	0.69	1	0
346.7766	16.21	-58.77	414.87	415.56	0.69	1	0
348.3542	16.34	-60.6	414.9	413.56	-1.33	6	0.86
349.492	16.75	-61.59	414.9	415.55	0.65	1	0
349.6943	17.28	-62.5	414.9	415.25	0.35	1	0
349.8978	17.85	-63.41	414.89	415.4	0.51	1	0
350.2255	18.14	-64.47	414.99	414.78	-0.2	2	0.58
350.778	18.48	-65.24	414.99	414.78	-0.21	1	0
350.9813	19.23	-65.95	414.99	414.71	-0.28	1	0
351.1849	19.82	-66.88	415	414.72	-0.27	1	0
351.3884	20.41	-67.8	415.07	415.07	0	1	0
351.6144	21.07	-68.84	415.07	414.54	-0.53	1	0
351.8177	21.67	-69.79	415.14	415.17	0.03	1	0
352.0212	22.26	-70.73	415.41	415.12	-0.3	1	0
352.2247	22.85	-71.66	415.41	414.96	-0.46	1	0
352.4512	23.5	-72.7	415.63	414.29	-1.34	1	0
353.0611	24.77	-74.75	416.18	414.96	-1.22	1	0
353.2871	25.27	-75.56	416.6	413.93	-2.67	1	0
353.4905	25.68	-76.33	416.6	423.5	6.9	1	0
354.0104	25.7	-77.26	416.6	419.81	3.21	4	0.75
355.1636	26.08	-79.61	418.89	418.98	0.09	1	0
			avg	416.45	0.95		
			st. dev.	2.85	2.01		
			count			54	
			sum			81	
			min	413.56			
			max	429.77			

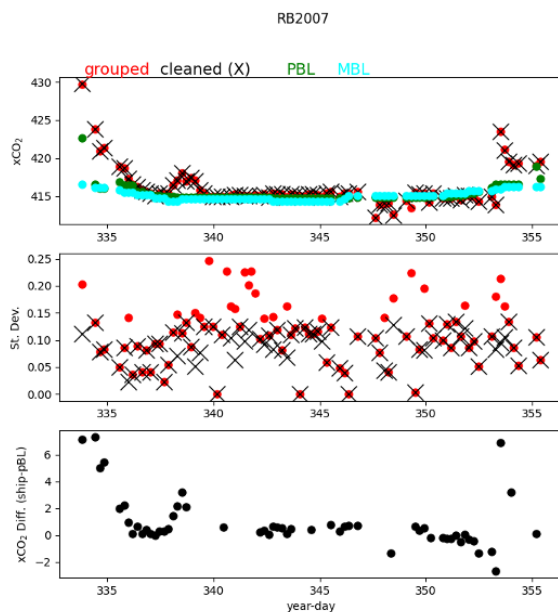


Table 83: PBL Cruise summary for RB2102

time	lat	lon	pbl_co2	ship_co2	difference	f_shipboard	std of diff.
165.131	32.53	-118.19	422.56	420.71	-1.85	2	0.18
165.4373	32.3	-119.04	422.56	420.44	-2.12	1	0
165.6639	32.24	-118.98	422.56	419.73	-2.82	1	0
166.1841	32.97	-119.77	422.56	418.85	-3.71	1	0
166.4905	33.5	-120.27	419.24	420.01	0.76	2	0.02
167.2855	34.24	-120.77	420.7	420.05	-0.65	6	0.68
168.219	34.03	-121.37	420.7	419	-1.7	1	0
169.3473	33.53	-122.49	419.24	418.82	-0.42	8	0.6
170.3286	34.91	-122.34	420.7	418.33	-2.37	1	0
170.5329	35.82	-122.21	420.7	418.97	-1.73	1	0
171.1679	36.92	-122.66	425.27	418.28	-6.99	1	0
171.3723	37.54	-123.52	419.08	419.51	0.43	1	0
171.7803	39.22	-124.48	420.12	419.75	-0.37	1	0
172.0076	40.07	-124.89	421.47	420.1	-1.37	1	0
172.212	40.91	-125.04	421.47	420.81	-0.66	1	0
172.4164	41.7	-125.07	421.47	417.94	-3.53	1	0
172.6206	42.5	-125.1	420.85	417.32	-3.54	1	0
172.8473	43.14	-125.15	420.85	415.96	-4.9	1	0
173.2558	43.98	-125.18	420.85	417.75	-3.1	1	0
173.46	44.88	-125.23	420.51	418.42	-2.09	1	0
173.6866	45.9	-125.28	420.51	417.55	-2.95	1	0
173.8909	46.2	-125.29	420.08	418.06	-2.02	1	0
174.0953	47.16	-125.34	420.08	416.62	-3.46	1	0
174.2996	48.1	-125.24	422.01	416.34	-5.67	1	0
174.7306	48.13	-123.43	422.01	423.81	1.79	1	0
174.935	48.33	-124.4	422.01	417.66	-4.35	1	0
175.1392	48.7	-125.67	422.01	417.33	-4.68	1	0
175.3659	49.31	-126.96	419.18	416.89	-2.29	1	0
175.5699	49.79	-128.09	419.18	417.67	-1.51	1	0
175.7742	50.43	-129.24	419.04	418.06	-0.98	1	0
176.198	51.35	-130.66	419.04	418.39	-0.65	3	0.46
177.037	52.11	-129.75	419.06	419.76	0.7	3	1.08
177.8839	49.92	-128.74	419.18	417.37	-1.81	1	0
178.0882	49.13	-127.83	419.18	418.26	-0.92	1	0
178.5078	48.36	-126.57	419.18	418.64	-0.54	2	0.25
179.2396	48.73	-125.64	422.01	423.66	1.64	2	0.04
180.1746	47.96	-125.26	420.08	421.48	1.39	1	0
180.4025	47.95	-124.91	420.08	418.57	-1.51	1	0
180.709	47.71	-125.15	420.08	419.88	-0.2	2	0.97
181.0154	47.45	-125	414.08	418.93	4.85	1	0
181.4463	46.21	-124.74	414.08	419.48	5.4	2	0.25
182.2862	46.13	-124.46	414.08	417.81	3.73	3	1.62
182.6949	46.28	-125.32	414.08	414.19	0.11	1	0
182.9216	47.1	-126.07	413.52	412.25	-1.27	1	0
183.1252	47.14	-125.68	414.08	413.48	-0.6	1	0
183.5354	47.1	-124.99	414.08	411.91	-2.17	1	0
183.9647	46.86	-124.66	414.08	413.53	-0.55	1	0
186.7411	43.3	-124.5	415.18	414.15	-1.04	1	0
187.361	41.76	-125.46	417.85	413.86	-4	3	0.73
188.0904	41.81	-124.3	417.85	415.63	-2.22	2	0.11
188.8275	39.91	-125.19	416.36	413.22	-3.14	1	0
189.0317	40.1	-124.72	417.85	413.34	-4.52	1	0
189.8708	38.59	-123.53	416.36	417.17	0.81	1	0
190.0976	39.38	-123.87	416.36	413.56	-2.8	1	0
190.4027	40.19	-124.32	417.85	414.65	-3.2	2	0.14
191.2432	38.89	-123.81	416.36	412.84	-3.52	2	0.31
191.9801	37.85	-123.09	414	413.44	-0.56	1	0
192.1844	37.94	-122.88	425.07	413.1	-11.97	1	0
192.6078	37.7	-123.19	414	413.35	-0.65	3	0.64
193.5495	37.81	-122.47	425.07	415.76	-9.31	5	0.89
194.2943	37.65	-123.04	414	412.72	-1.28	1	0
194.8048	35.94	-123.82	413.88	410.74	-3.14	2	0.28
195.1339	36.29	-123.13	414	409.38	-4.62	1	0
195.4402	36.46	-122.77	425.07	410.89	-14.18	2	0.27
195.9717	36.79	-121.85	425.07	410.66	-14.42	1	0
196.3818	36.7	-122.01	425.07	413.63	-11.44	1	0
196.8054	35.56	-121.79	415.27	413.86	-1.41	3	1.03
197.3235	34.98	-122.67	415.27	412	-3.26	2	0.15
197.6525	34.64	-123.37	413.88	411.24	-2.64	1	0
198.3794	33.59	-122.32	413.8	416.09	2.3	2	0.14
198.697	33.82	-121.83	413.8	416.33	2.54	1	0
198.9011	34.15	-121.15	415.27	415.77	0.51	1	0
199.5309	34.38	-120.61	415.27	417.01	1.74	5	0.87
200.5795	34.17	-119.68	427.65	415.44	-12.21	2	0.31
200.989	33.91	-119.24	416.82	414.98	-1.83	1	0
201.8315	33.42	-117.9	416.82	414	-2.82	1	0
202.2476	33.2	-118.35	416.82	414.61	-2.21	3	0.21
202.6713	32.82	-118.92	416.82	413.44	-3.37	1	0
203.0873	32.6	-119.54	416.82	410.73	-6.09	3	1.05
203.8172	32.08	-120.63	413.8	410.01	-3.79	2	0.15
204.7677	31.72	-120.44	413.81	410.36	-3.45	5	0.26
205.3919	32.1	-120.08	413.8	410.76	-3.04	1	0
205.7116	31.86	-120.11	413.81	410.19	-3.61	2	0.31
			avg.	416.11	-2.4		
			st. dev.	3.35	3.57		
			count			83	
			sum			139	
			min	409.38			
			max	423.81			

RB2102 West Coast Ocean Acidification fCO₂ W 6/13/21 - 7/25/21

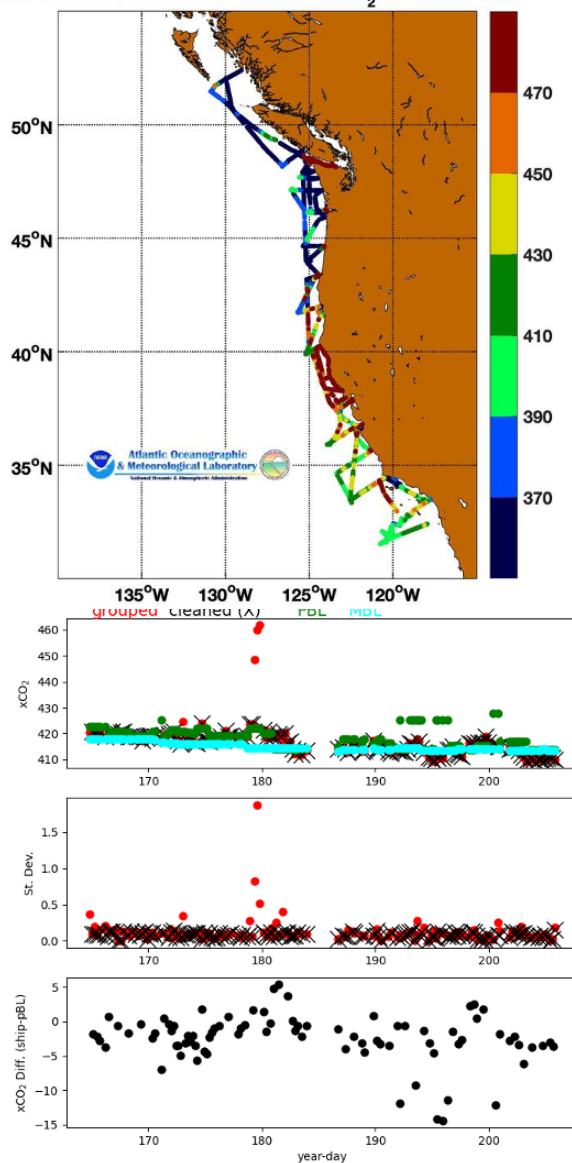


Table 84: PBL cruise summary for RB2103 transit

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diff
226.0775	32.51	-117.32	414.36	410.02	-4.34	1	0
226.4861	30.52	-116.64	414.15	411.1	-3.05	1	0
226.6922	29.51	-116.31	412.87	412.02	-0.85	1	0
228.9035	21.65	-108.48	413.95	414.57	0.63	2	0.07
229.2098	20.87	-107.2	414.31	415.18	0.87	1	0
229.6412	19.58	-105.47	413.93	413.36	-0.57	1	0
229.8456	18.87	-104.79	418.91	413.23	-5.68	1	0
230.05	18.3	-103.94	418.91	412.55	-6.36	1	0
231.1162	16.12	-98.91	428.69	413.26	-15.43	1	0
231.3205	15.69	-97.89	414.19	415.19	1	1	0
231.7293	14.83	-96	414.19	413.76	-0.44	1	0
232.1602	13.85	-94.04	414.13	413.87	-0.26	1	0
232.3647	13.34	-93.04	414.13	413.65	-0.48	1	0
232.569	12.84	-92.08	414.19	413.62	-0.57	1	0
232.7958	12.34	-91.11	414.19	412.79	-1.4	1	0
233.0001	11.92	-90.31	414.29	413.36	-0.93	1	0
233.2044	11.51	-89.5	414.25	413.65	-0.6	1	0
233.4087	11.08	-88.67	414.25	413.74	-0.5	1	0
233.6355	10.61	-87.78	414.25	413.29	-0.95	1	0
233.8396	10.18	-86.97	414.57	414.16	-0.41	1	0
234.0441	9.64	-86.15	414.36	414.42	0.06	1	0
234.2484	9.1	-85.34	414.36	414.73	0.37	1	0
234.4751	8.46	-84.38	414.36	414.14	-0.23	1	0
234.6793	7.87	-83.5	414.31	414.54	0.23	1	0
234.8834	7.32	-82.6	414.31	414.61	0.3	1	0
235.975	8.95	-79.57	414.5	415.75	1.25	1	0
236.5887	10.45	-79.91	414.02	412.52	-1.5	1	0
236.815	11.55	-79.83	414.02	412.53	-1.49	1	0
237.0198	12.49	-79.76	413.76	413.31	-0.45	1	0
237.2241	13.41	-79.7	413.76	413.47	-0.29	1	0
237.4284	14.36	-79.64	413.65	413.67	0.03	1	0
237.6552	15.48	-79.54	413.65	413.11	-0.54	1	0
237.8595	16.47	-79.93	413.56	413.4	-0.16	1	0
238.0638	17.32	-80.75	413.56	413.73	0.18	1	0
238.268	18.06	-81.48	413.6	414.43	0.84	1	0
238.4948	18.96	-82.35	413.6	414.19	0.59	1	0
238.6991	19.75	-83.13	413.6	412.73	-0.86	1	0
239.6414	23.39	-83.54	414.22	413.25	-0.97	2	0.49
239.9479	24.17	-82.23	413.85	413.16	-0.68	1	0
240.1748	24.44	-81.05	413.85	412.36	-1.49	1	0
240.3794	25	-80.06	413.59	412.28	-1.31	1	0
240.686	25.6	-80.06	413.59	412.82	-0.77	2	0.15
241.0153	24.82	-80.46	413.59	412.36	-1.23	1	0
241.6906	24.52	-81.63	413.85	412.8	-1.04	4	0.17
		avg.	413.43	-1.12			
		st. dev.	1.05	2.65			
		count				44	
		sum				50	
		min	410.02				
		max	415.75				

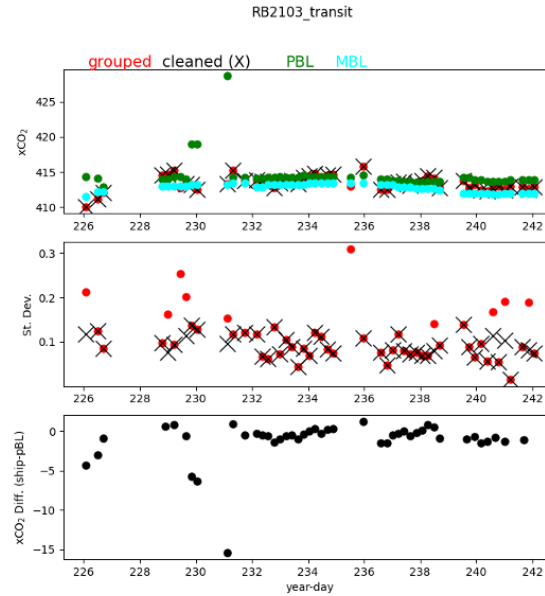
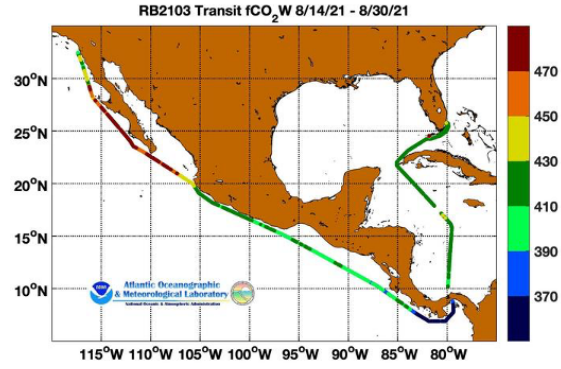


Table 85: PBL cruise summary for RB2103

time	lat	lon	pbl_co2	ship_co2	difference	fshipboard	std of diffs
257.0296	24.24	-81.42	413.44	413.27	-0.17	1	0
257.2336	24.7	-80.25	413.39	412.76	-0.63	1	0
257.4377	25.87	-79.83	413.39	412.67	-0.72	1	0
258.18	26.76	-79.88	415.51	412.7	-2.81	4	0.32
259.3427	24.21	-81.64	413.44	411.64	-1.8	1	0
259.5472	24.19	-82.06	413.44	415.42	1.98	1	0
259.751	24.44	-82.59	413.44	416.76	3.32	1	0
259.9559	24.94	-84.36	413.42	412.86	-0.56	1	0
260.5917	26	-85.99	413.42	411.95	-1.47	1	0
261.0229	26.22	-85.66	413.88	411.67	-2.21	1	0
262.9074	28.01	-83.3	418.06	412.38	-5.68	1	0
263.214	28.26	-84.33	414.04	412.19	-1.85	2	0.09
263.8497	29.34	-85.53	414.04	411.85	-2.19	2	0.31
264.1556	28.86	-85.92	414.04	411.15	-2.89	1	0
264.3824	28.51	-86.21	414.04	410.72	-3.32	1	0
265.0027	27.69	-86.74	413.88	411.84	-2.05	3	0.17
265.4261	26.98	-87	413.88	412.55	-1.33	1	0
265.6304	27.51	-86.89	413.88	412.62	-1.27	1	0
266.4699	29.44	-86.51	414.04	416.61	2.56	1	0
266.6743	30.11	-86.8	418.82	414.5	-4.32	1	0
267.3096	29.05	-87.52	413.84	407.68	-6.16	1	0
267.514	28.7	-87.76	413.84	407.46	-6.38	1	0
267.7408	28.35	-88	413.84	408.29	-5.55	1	0
268.6825	27.6	-90	413.59	410.22	-3.37	2	0.01
268.9889	27.91	-90	413.35	409.75	-3.6	1	0
269.3065	28.49	-89.99	413.84	410.15	-3.69	2	0.35
269.8287	28.83	-90.81	413.95	409.7	-4.24	1	0
270.2596	27.89	-92.24	413.35	412.89	-0.46	1	0
270.464	27.92	-93.35	413.34	413.13	-0.2	1	0
271.3855	27.63	-94.71	413.34	411.91	-1.43	5	0.51
272.1433	27.91	-95	413.34	412.71	-0.62	1	0
272.3479	28.33	-95	415.17	412.61	-2.56	1	0
272.881	27.66	-96.42	414.26	412.47	-1.79	2	0.25
273.1874	26.37	-96.9	418.71	411.06	-7.65	1	0
274.1353	26.05	-97.1	418.71	412.6	-6.11	8	0.92
275.1849	26.06	-96.48	418.71	412.86	-5.85	2	0.14
275.9111	26.06	-96.44	418.71	413.14	-5.57	1	0
276.3417	26.06	-95.48	415.45	412.7	-2.75	2	0.21
276.751	26.06	-94.67	415.45	413.11	-2.34	1	0
277.3865	26.04	-93.48	415.45	412.87	-2.58	3	0.13
277.8165	25.05	-93.41	414.92	412.68	-2.24	1	0
278.022	24.89	-93.6	414.92	412.81	-2.1	1	0
278.2287	24.3	-94.54	414.92	412.94	-1.98	1	0
278.4307	23.73	-95.44	414.5	414.22	-0.28	1	0
279.1686	22.27	-97.4	416.24	423.88	7.64	2	1.23
279.5998	22.28	-96.48	416.24	420.59	4.35	2	0.28
280.0074	22.28	-95.66	414.5	420.44	5.93	2	0.3
280.5408	21.33	-94.85	414.07	419.71	5.64	1	0
280.9575	20.54	-94.36	414.07	416.88	2.81	3	3.16
281.5839	19.61	-93.5	414.22	411.71	-2.5	1	0
282.016	18.84	-93.07	414.22	414.97	0.75	1	0
282.221	19.49	-93.04	414.22	410.96	-3.26	1	0
282.4255	20.51	-92.99	413.83	412.46	-1.37	1	0
282.8454	21.64	-92.67	413.83	412.32	-1.51	2	0.25
283.3675	21.48	-91.64	413.83	412.15	-1.67	2	0.13
283.6964	21.22	-90.72	413.83	413.73	-0.1	1	0
284.1052	22.1	-89.93	414.44	412.88	-1.56	1	0
284.3108	22.66	-90.29	414.44	412.99	-1.45	1	0
284.7417	23.18	-90.64	414.44	412.77	-1.67	1	0
284.9453	22.95	-90.1	414.44	415.45	1	1	0
285.1498	22.52	-89.12	414.44	416.04	1.6	1	0
285.3767	21.97	-88.08	415.35	416.08	0.73	1	0
285.5832	22.54	-88	414.44	416.93	2.49	1	0
285.7851	23.16	-88	414.44	418.14	3.69	1	0
285.9896	23.78	-87.99	414.44	418.25	3.81	1	0
286.2147	24.4	-88.05	414.96	417.41	2.45	1	0
286.7327	25.53	-87.97	414.96	415.83	0.87	4	1.77
287.2603	24.97	-87.39	414.96	413.29	-1.67	1	0
287.4644	24.18	-86.92	414.97	413.64	-1.33	1	0
287.6687	23.36	-86.43	414.21	413.87	-0.34	1	0
288.2027	22.63	-86.57	414.21	414.18	-0.04	4	0.78
288.9402	21.71	-86.58	413.62	412.99	-0.63	3	0.44
289.3487	21.68	-85.9	413.62	412.73	-0.89	1	0
289.5754	22.1	-85.65	414.21	412.68	-1.54	1	0
289.7798	23	-85.15	414.21	413.67	-0.54	1	0
289.9843	23.96	-84.61	414.21	415.77	1.56	1	0
290.1886	24.19	-83.64	414.91	417.31	2.39	1	0
290.4153	24.19	-82.44	414.91	416.11	1.2	1	0
290.6195	24.27	-81.37	414.91	416.95	2.03	1	0
290.926	24.56	-80.63	414.66	416.79	2.12	2	1.45
291.2549	24.26	-81.61	414.91	416.26	1.34	1	0
291.4604	24.36	-82.5	414.91	421.4	6.49	1	0
291.6635	24.68	-83.15	414.91	420.23	5.32	1	0
291.8679	25.64	-82.93	414.91	418.04	3.13	1	0
292.1967	26.74	-82.65	422.56	417.44	-5.12	2	0.86
292.9234	26.45	-83.53	422.56	416.01	-6.55	2	1.4
293.555	25.7	-84.65	414.97	415.58	0.61	3	0.44
293.9779	26.05	-84.44	415.99	416.69	0.69	1	0
		avg.	414		-0.8		
		st. dev.	3		3.11		
		count			88		
		sum			133		
		min	407.46				
		max	423.88				

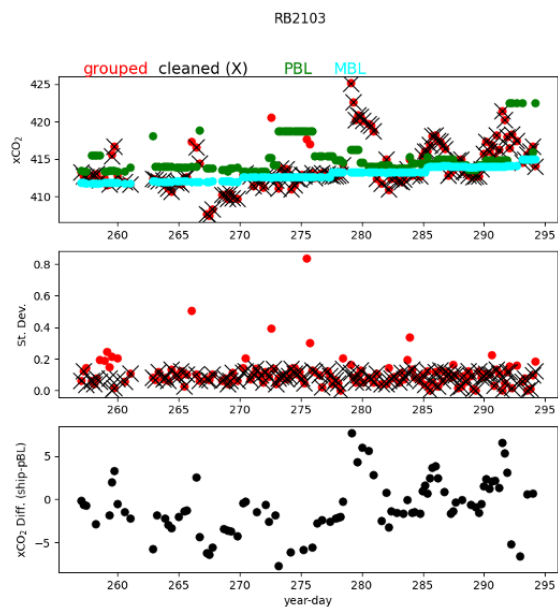
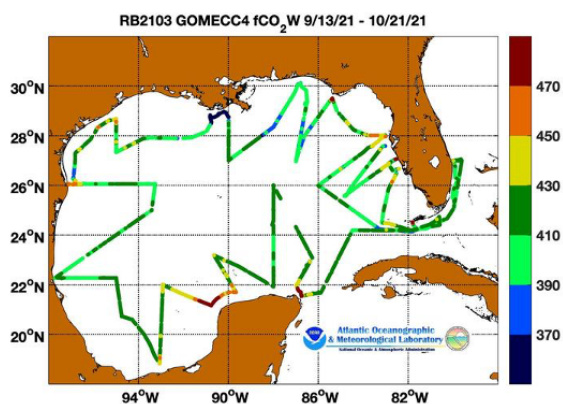


Table 86: PBL cruise summary for RB2105

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diff.
317.7801	24.23	-81.42	419	419.8	0.8	1	0
319.3672	25.55	-74.4	416.93	414.71	-2.22	2	0.02
320.8007	24.5	-67.41	416.45	416.15	-0.3	3	0.07
321.6275	23.92	-63.53	416.2	416.41	0.22	1	0
321.8978	23.74	-62.36	416.26	416.74	0.49	1	0
322.1021	23.59	-61.37	416.26	416.28	0.03	1	0
322.3065	23.43	-60.34	416.26	417.04	0.78	1	0
322.5333	23.26	-59.18	416.36	416.83	0.48	1	0
322.7375	23.1	-58.16	416.36	417.23	0.87	1	0
322.9417	22.95	-57.18	416.36	416.55	0.2	1	0
323.1461	22.8	-56.2	416.37	416.83	0.46	1	0
323.3729	22.63	-55.09	416.37	416.54	0.18	1	0
323.5773	22.48	-54.08	416.37	417.02	0.65	1	0
323.7815	22.32	-53.07	416.34	417.27	0.93	1	0
323.9858	22.17	-52.07	416.34	417.23	0.89	1	0
324.2127	22	-50.97	416.33	416.77	0.44	1	0
324.417	21.85	-50	416.07	416.96	0.89	1	0
324.6213	21.7	-49	416.07	417.09	1.01	1	0
324.8256	21.55	-48	416.06	416.87	0.8	1	0
325.0524	21.38	-46.88	416.06	416.24	0.18	1	0
325.2569	21.23	-45.87	416.06	416.5	0.44	1	0
325.4612	21.08	-44.85	415.99	416.94	0.95	1	0
325.6653	20.92	-43.82	415.99	417.69	1.7	1	0
325.8922	20.77	-42.82	415.99	417.04	1.05	1	0
326.0966	20.61	-41.78	415.89	417.18	1.29	1	0
326.3009	20.45	-40.73	415.89	417.35	1.46	1	0
326.5051	20.29	-39.68	415.89	417.63	1.73	1	0
326.7319	20.12	-38.52	415.78	417.4	1.63	1	0
328.8203	20.17	-32.87	415.77	417.14	1.37	1	0
329.0245	20.21	-31.79	415.77	417	1.24	1	0
329.2515	20.25	-30.61	415.77	416.49	0.72	1	0
329.4557	20.28	-29.56	415.91	417.38	1.47	1	0
329.6601	20.28	-28.57	415.91	417.39	1.48	1	0
329.8645	20.13	-27.53	415.91	416.65	0.74	1	0
330.0913	19.97	-26.39	415.72	416.11	0.4	1	0
330.2955	19.83	-25.34	415.72	416.13	0.41	1	0
330.4999	19.68	-24.28	415.72	417.26	1.54	1	0
330.7043	19.53	-23.24	415.84	417.51	1.67	1	0
330.9311	19.96	-23	415.84	416.92	1.08	1	0
331.1353	20.29	-23	416.04	417.49	1.45	1	0
331.5552	20.42	-23.12	416.04	418.2	2.16	2	0.52
331.9747	19.43	-23	415.84	418.52	2.68	1	0
332.6105	17.5	-23	415.5	419.46	3.97	1	0
332.8149	17	-22.82	415.5	420.12	4.62	1	0
333.0192	16.5	-22.74	415.5	418.64	3.14	1	0
333.6547	14.64	-22.96	415.22	418.49	3.27	1	0
334.0639	13.5	-23	418.4	417.93	-0.47	1	0
334.3921	12.75	-23	418.4	418.07	-0.32	2	0.34
335.0167	11.23	-23	418.58	418.47	-0.11	2	0.03
335.5391	11.48	-22.99	418.58	418.54	-0.04	2	0.07
335.9698	10.5	-23	418.58	418.16	-0.43	1	0
336.1742	10	-23	418.58	418.52	-0.06	1	0
337.1157	7.25	-23	417.8	417.98	0.18	2	0.13
337.4221	6.44	-23	417.8	417.94	0.13	1	0
337.7509	5.46	-23	416.62	417.19	0.57	2	0.3
338.269	4.23	-22.99	416.62	416.46	-0.15	3	0.2
338.8968	3.5	-23	415.96	416.79	0.83	1	0
339.1011	2.87	-23	415.96	416.7	0.74	1	0
339.328	2.14	-23	415.96	416.56	0.6	1	0
339.6343	1.5	-23	415.56	416.79	1.24	2	0.17
340.1601	0.42	-23	415.56	415.93	0.37	3	0.3
340.5761	0	-23	415.56	416.11	0.56	1	0
340.7805	-0.31	-23	415.27	415.52	0.25	1	0
341.0074	-0.75	-23	415.27	415.36	0.09	1	0
341.3138	-1.49	-23	415.27	415.75	0.48	2	0.14
341.7338	-2.29	-23	415.02	415.34	0.32	2	0.39
342.1537	-3.55	-23	415.02	415.59	0.57	2	0
342.4601	-4.5	-23	414.74	415.6	0.86	1	0
342.6869	-5	-23	414.74	415.19	0.45	1	0
342.8913	-5.61	-23	414.74	415.32	0.57	1	0
343.0957	-6.25	-22.99	414.52	414.84	0.32	1	0
343.3	-6.92	-23	414.52	415.08	0.57	1	0
343.5268	-7.4	-23	414.52	414.99	0.47	1	0
343.7312	-8	-23	414.34	414.81	0.47	1	0
346.2493	-0.48	-33.02	415.54	416.38	0.84	1	0
347.4988	3.77	-37.74	415.8	416.84	1.04	1	0
347.7251	4.62	-38	416.3	416.54	0.24	1	0
347.9292	5.52	-38	416.3	416.78	0.48	1	0
348.1335	6.39	-38	416.84	416.84	0.01	1	0
348.3378	7.23	-38	416.84	416.8	-0.04	1	0
348.6668	8.54	-38	417.1	416.96	-0.15	1	0
349.1776	10.93	-38	417.31	416.97	-0.34	1	0
349.5065	11.99	-38	417.31	417.89	0.58	1	0
349.915	12.07	-37.66	417.44	417.45	0.01	2	0.11
350.244	12.33	-36.26	417.44	417.23	-0.21	1	0
350.4483	12.5	-35.41	417.55	417.86	0.32	1	0
350.6525	12.68	-34.46	417.55	417.78	0.24	1	0
350.8569	12.86	-33.51	417.55	417.51	-0.03	1	0
351.0837	13.07	-32.43	417.67	417.1	-0.57	1	0
351.2881	13.25	-31.46	417.67	417.58	-0.08	1	0
351.4923	13.44	-30.48	417.67	417.81	0.15	1	0
351.6966	13.63	-29.48	417.92	417.89	-0.03	1	0
351.9234	13.84	-28.37	417.92	417.46	-0.46	1	0
352.1278	14.03	-27.38	417.88	417.65	-0.23	1	0
352.3321	14.22	-26.38	418.14	418.14	0	1	0
352.5363	14.41	-25.39	418.14	418.76	0.62	1	0
352.8653	14.67	-24.13	418.14	418.15	0.01	2	0.06
		avg.		417.04	0.65		
		st. dev.		1.05	0.93		
		count				97	
		sum				116	
		min		414.71			
		max		420.12			

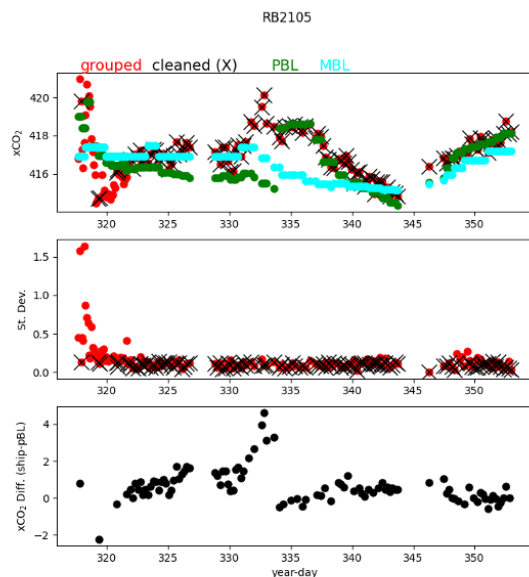
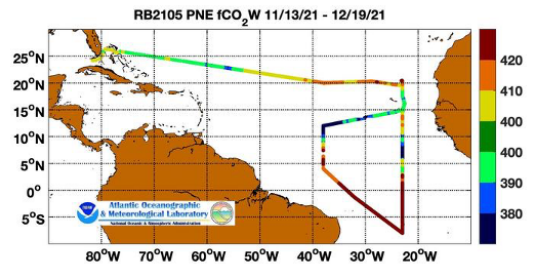


Table 87: PBL cruise summary for RB2201

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diffs
13.35873	14.69	-23.56	418.87	419.68	0.81	16	0.32
14.95472	15.02	-23.82	418.87	418.55	-0.33	1	0
15.15906	15.47	-24.72	418.71	418.41	-0.31	1	0
15.36328	15.67	-25.71	418.71	418.74	0.03	1	0
15.5677	15.88	-26.7	418.71	418.9	0.19	1	0
15.79458	16.11	-27.81	418.71	418.4	-0.3	1	0
16.36848	16.69	-30.63	418.69	419.12	0.43	1	0
16.57268	16.9	-31.64	418.69	419.22	0.53	1	0
16.77706	17.11	-32.65	418.69	418.92	0.23	1	0
16.98148	17.32	-33.66	418.65	418.68	0.02	1	0
17.20832	17.55	-34.78	418.65	418.45	-0.2	1	0
17.4143	17.76	-35.83	418.65	418.82	0.17	1	0
17.6169	17.97	-36.86	418.59	418.88	0.29	1	0
17.82158	18.19	-37.91	418.52	418.87	0.35	1	0
18.0481	18.42	-39.05	418.49	418.84	0.35	1	0
18.2547	18.64	-40.12	418.49	419.55	1.05	1	0
18.4578	18.85	-41.17	418.49	420.21	1.72	1	0
19.5033	19.94	-46.51	418.54	419.14	0.61	1	0
19.72635	20.17	-47.67	418.67	419.21	0.55	1	0
20.1384	20.6	-49.8	418.5	419.14	0.63	1	0
20.5684	21.05	-52.04	418.31	418.67	0.36	1	0
20.772	21.26	-53.09	418.31	419.2	0.89	1	0
20.97655	21.47	-54.14	418.12	419	0.87	1	0
21.1819	21.69	-55.21	418.12	418.76	0.64	1	0
21.8153	22.32	-58.35	417.86	420.35	2.49	1	0
22.0217	22.52	-59.39	417.86	420.32	2.46	1	0
23.08657	23.63	-64.99	417.9	419.62	1.72	1	0
23.2917	23.85	-66.09	418.05	419.81	1.76	1	0
23.4961	24.06	-67.19	418.51	419.72	1.21	1	0
23.70046	24.26	-68.22	418.51	419.57	1.05	1	0
23.92716	24.49	-69.39	418.8	418.27	-0.54	1	0
24.13158	24.68	-70.38	418.8	418.08	-0.72	1	0
24.33594	24.88	-71.43	418.8	418.25	-0.56	1	0
24.54034	25.09	-72.5	419.11	419.96	0.85	1	0
24.76712	25.31	-73.62	419.11	421.42	2.31	1	0
24.9714	25.52	-74.71	419.11	421.7	2.59	1	0
25.17582	25.73	-75.79	419.65	421.56	1.91	1	0
25.38022	25.73	-76.88	419.65	421.35	1.7	1	0
25.60706	26.09	-77.98	420.5	420.79	0.29	1	0
25.91342	26.23	-79.46	422.67	421.7	-0.97	2	0.43
		avg.		419.45	0.68		
		st. dev.		1	0.91		
		count				40	
		sum				56	
		min		418.08			
		max		421.7			

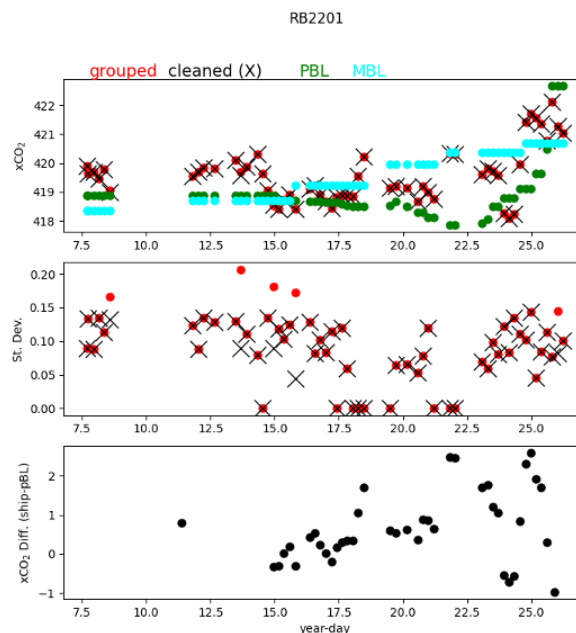
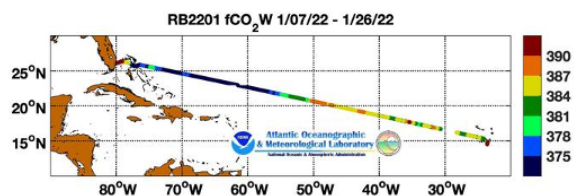


Table 88: PBL cruise summary for RB2203

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diffs
219.2477	42.27	-70.18	415.71	421.66	5.95	1	0
220.292	43.42	-69.96	415.71	432.84	17.13	1	0
220.721	43.53	-70.08	415.71	429.45	13.74	1	0
221.1301	43.61	-69.47	415.71	418.92	3.2	2	3.41
221.5608	43.77	-68.06	412.15	412.07	-0.08	1	0
221.7651	44.1	-68.1	412.26	427.18	14.92	1	0
222.4974	44.59	-66.69	412.26	420.95	8.69	3	3.91
223.5465	43.55	-67.62	412.15	414.46	2.31	2	0.08
224.1818	43.34	-65.54	411.75	410.98	-0.77	2	0.6
224.9191	44.21	-63.35	411.43	421.14	9.71	1	0
225.2251	43.45	-62.4	411.75	411.92	0.17	1	0
225.759	42.53	-61.41	411.75	414.07	2.32	1	0
225.9634	42.77	-60.94	411.75	413.4	1.65	1	0
226.3721	43.9	-58.64	412.2	415.25	3.04	1	0
227.2194	45.36	-59.63	411.01	416.66	5.65	2	2.47
227.643	44.8	-61.16	410.74	415.72	4.98	1	0
227.8474	44.35	-62.29	410.74	410.01	-0.73	1	0
228.0518	43.88	-63.48	411.75	407.69	-4.06	1	0
228.2792	43.35	-64.81	411.75	407.8	-3.95	1	0
229.4241	41.75	-65.89	412.14	410.32	-1.82	2	0.59
230.162	43.05	-66.85	412.15	408.1	-4.05	1	0
230.3663	43.05	-67.51	412.15	406.81	-5.34	1	0
230.6841	42.32	-67.11	412.15	408.71	-3.45	2	0.9
231.1039	41.32	-66.74	412.22	407.17	-5.05	2	0.12
231.7339	40.71	-66.56	412.22	406.35	-5.87	4	0.92
232.2503	40.43	-67.54	412.22	403.88	-8.35	1	0
232.4772	40.33	-68.14	412.22	405.09	-7.14	1	0
232.8859	41.22	-67.9	412.22	404.29	-7.94	1	0
233.4192	42.65	-69.54	415.71	407.28	-8.43	2	3.73
233.7258	42.91	-70.19	415.71	412.54	-3.18	1	0
233.93	43.01	-70.52	415.71	403.29	-12.42	1	0
234.1568	42.65	-70.27	415.71	402.4	-13.31	1	0
234.3612	42.07	-69.64	415.71	405.2	-10.52	1	0
234.6678	41.42	-69.34	413.1	407.02	-6.08	2	2.33
234.9967	40.49	-69.07	413.1	414.01	0.9	1	0
235.2011	39.53	-69.17	413.05	416.61	3.56	1	0
235.6853	38.53	-69.35	413.05	415.82	2.77	2	0.51
236.3474	39.45	-69.78	413.05	416.41	3.36	2	1.55
236.6764	39.92	-70	413.05	414.81	1.76	1	0
236.9827	40.47	-70.23	413.1	418.52	5.42	2	1.64
237.2888	41.3	-70.52	413.1	412.22	-0.88	1	0
238.1394	41.16	-72.62	419.13	415.32	-3.8	2	2.87
238.5602	41.3	-71.49	413.1	411.01	-2.1	1	0
238.7668	40.98	-71.87	413.1	409.73	-3.38	1	0
238.9691	40.53	-72.16	419.13	409.54	-9.58	1	0
239.1959	39.98	-71.83	413.05	409.57	-3.48	1	0
240.2404	39.34	-72.54	414.74	410.15	-4.58	2	0.22
240.7622	39.34	-71.83	413.05	409.57	-3.48	2	0.46
241.0798	40.32	-71.41	413.1	407.29	-5.81	1	0
249.7197	41.27	-71.42	413.22	405.82	-7.4	1	0
249.9223	40.7	-71.72	413.22	407.06	-6.15	1	0
250.3373	39.42	-72.36	413.53	411.26	-2.26	2	0.27
250.9657	39.22	-73.71	413.53	408.39	-5.14	1	0
251.17	38.93	-73.42	413.53	407.89	-5.63	1	0
251.7033	37.76	-73.31	412.74	409.28	-3.46	2	0.54
252.1227	38.09	-73.78	413.53	411.26	-2.26	1	0
252.7473	38.63	-74.81	413.53	411.13	-2.39	2	0.22
253.0763	37.91	-74.77	412.74	407.26	-5.48	1	0
253.4862	37.1	-75.65	416.65	406.86	-9.8	1	0
253.6887	36.95	-76.06	416.65	411.4	-5.25	1	0
253.916	36.94	-75.65	416.65	407.68	-8.97	1	0
254.3245	36.65	-74.44	412.74	407.8	-4.94	2	0.3
254.9599	35.58	-74.28	412.93	410.55	-2.38	3	2.78
255.3684	35.54	-75.06	414.78	415.18	0.4	1	0
255.5951	34.97	-75.45	414.78	414.91	0.13	1	0
255.9017	34.46	-76.41	414.78	416.45	1.67	2	0.7
256.2093	34.27	-77.25	414.78	417.21	2.43	1	0
256.6391	33.52	-76.49	414.06	416.72	2.66	3	0.34
257.0479	33.23	-75.81	414.06	416.53	2.47	1	0
257.2745	32.67	-76.36	414.06	417.53	3.47	1	0
257.8874	31.72	-77.64	414.46	418.54	4.09	1	0
258.3184	32.54	-78.65	417.69	409.19	-8.5	1	0
258.5228	33	-79.17	417.69	412.6	-5.09	1	0
259.6445	30.43	-81.27	419.24	412.43	-6.81	2	0.13
260.5484	31.33	-80.73	415.09	413.33	-1.76	5	0.81
261.1751	30.91	-79.57	415.09	414.93	-0.16	1	0
261.493	30.5	-78.54	415.09	414.76	-0.33	2	0.03
261.8109	30	-77.64	414.46	415.27	0.81	1	0
262.0151	29.74	-77.19	414.75	415.07	0.32	1	0
262.5432	29.28	-76.7	414.75	414.75	0.01	4	0.27
263.5923	28.9	-79.58	415.72	415.06	-0.67	2	0.22
264.0134	28.81	-80.26	415.72	414.88	-0.85	2	0.13
264.3311	29.7	-79.95	415.72	414.19	-1.54	1	0
264.7388	30	-80.45	415.72	413.25	-2.48	1	0
265.1713	29.49	-80.7	415.72	414.61	-1.12	1	0
265.3752	28.62	-80.17	415.72	414.5	-1.24	1	0
			avg	412.52	-1.42		
			st. dev.	5.42	5.55		
			count			86	
			sum			126	
			min	402.4			
			max	432.84			

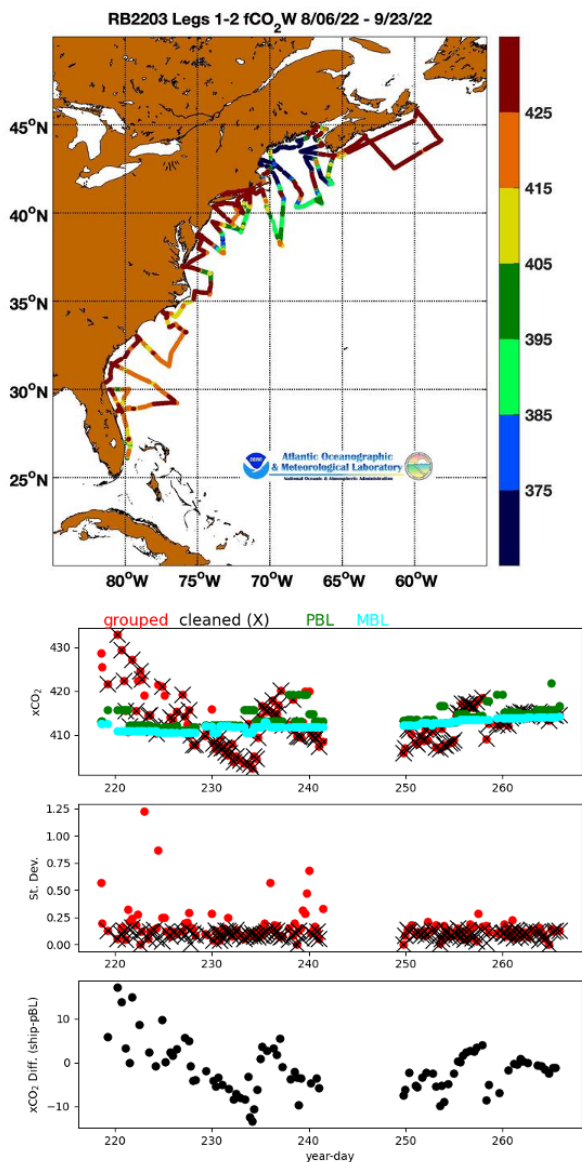


Table 89: PBL cruise summary for RB2204

time	lat	lon	pbl_co2	ship_co2	difference	fshipboard	std of diffs
279.8464	26.13	-79.83	418.66	415.88	-2.77	1	0
282.7265	20.23	-67.41	414.83	415.13	0.3	1	0
283.0319	19.57	-66.6	414.82	414.25	-0.57	2	0.07
283.3381	18.59	-65.39	414.78	414.04	-0.75	1	0
285.3033	16.27	-57.42	414.7	414.86	0.16	1	0
285.5072	16.15	-56.49	414.66	414.92	0.26	1	0
285.7113	16.02	-55.56	414.66	414.74	0.08	1	0
285.9153	15.88	-54.61	414.69	414.84	0.15	1	0
286.142	15.73	-53.54	414.65	414.34	-0.3	1	0
286.3462	15.6	-52.56	414.65	415.44	0.79	1	0
286.8678	15.35	-51.39	414.65	414.68	0.04	4	0.59
287.3895	15.01	-50.83	414.61	414.42	-0.18	1	0
288.2333	14.75	-50.97	414.61	414.22	-0.39	7	0.47
289.8077	15.44	-51.54	414.65	414.08	-0.57	6	0.23
290.9542	15.68	-53.63	414.65	413.83	-0.81	1	0
291.5879	16.09	-56.61	414.66	414.41	-0.25	1	0
294.6224	16.33	-60.55	414.78	414.99	0.21	20	0.46
			avg.	414.65	-0.27		
			st. dev.	0.52	0.75		
			count			17	
			sum			51	
			min	413.83			
			max	415.88			

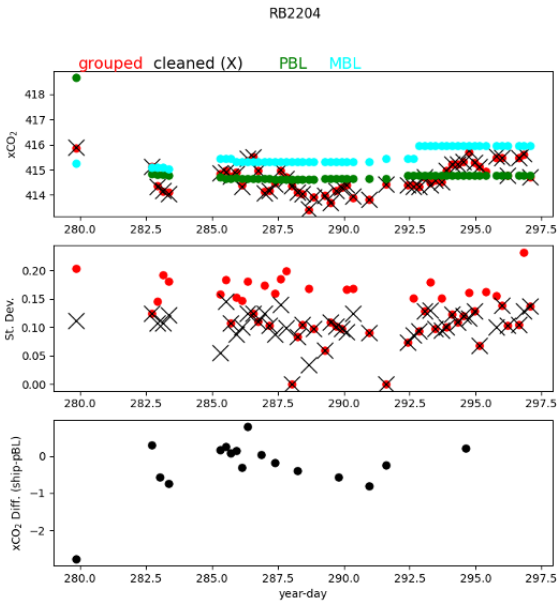
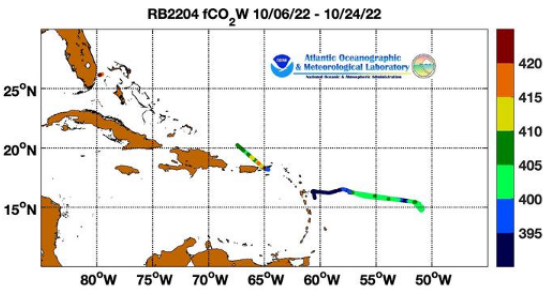


Table 90: PBL cruise summary for RB2205

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diff
305.8578	12.65	-59.4	416.71	416.92	0.2	1	0
306.0617	12.44	-58.54	416.71	415.61	-1.1	1	0
306.2659	12.21	-57.68	416.71	415.58	-1.13	1	0
306.5836	11.88	-56.5	416.51	415.29	-1.21	2	0.01
306.901	11.48	-55.39	416.51	415.19	-1.32	1	0
307.105	11.1	-54.52	416.51	415.33	-1.18	1	0
307.3094	10.72	-53.64	416.56	415.43	-1.13	1	0
307.5364	10.29	-52.67	416.56	415.17	-1.39	1	0
307.7408	9.9	-51.79	416.36	416.04	-0.32	1	0
307.945	9.52	-50.89	416.46	415.57	-0.89	1	0
308.1495	9.12	-49.97	416.46	415.71	-0.75	1	0
308.4787	8.56	-48.71	416.46	415.85	-0.61	2	0.23
308.785	8.04	-47.71	416.56	416	-0.56	1	0
308.9894	7.7	-46.88	416.34	416.12	-0.22	1	0
309.2164	7.32	-45.96	416.34	414.85	-1.49	1	0
309.4207	6.98	-45.13	416.34	415.56	-0.79	1	0
309.625	6.6	-44.22	416.42	416.11	-0.31	1	0
309.8293	6.19	-43.25	416.42	416.09	-0.33	1	0
310.0573	5.73	-42.14	416.14	415.16	-0.98	1	0
310.2606	5.31	-41.14	416.17	415.51	-0.66	1	0
310.4649	4.89	-40.13	416.17	416.01	-0.16	1	0
310.6691	4.46	-39.1	416.17	416.12	-0.04	1	0
311.8198	4.05	-38.04	416.19	416.9	0.71	7	0.48
312.7795	3.97	-38.16	416.11	416.69	0.59	1	0
313.0861	4.09	-38.05	416.19	416.55	0.35	2	0.09
313.8235	3.41	-37.55	416.11	416.45	0.35	1	0
314.0278	2.65	-36.99	416.11	416.76	0.65	1	0
314.2546	1.84	-36.38	416.15	416.38	0.24	1	0
314.4587	1.11	-35.83	416.16	417.57	1.41	1	0
314.7652	0.19	-35.15	416.16	417.45	1.29	2	0.11
315.0942	-0.1	-34.39	416.19	416.93	0.74	1	0
315.2983	-0.25	-33.49	416.19	417.53	1.34	1	0
315.5025	-0.41	-32.56	416.19	417.54	1.35	1	0
316.7413	-1.38	-26.82	416.19	417.05	0.86	1	0
316.9455	-1.53	-25.89	416.19	416.66	0.47	1	0
317.252	-1.76	-24.5	416.19	416.77	0.58	2	0.02
317.5809	-1.99	-23.04	416.2	416.52	0.31	1	0
317.7851	-1.5	-23	416.2	416.81	0.61	1	0
317.99	-0.98	-23	416.2	416.81	0.61	1	0
318.5226	0.13	-23	416.21	416.95	0.75	2	0.02
318.829	0.74	-23	416.21	416.84	0.63	1	0
319.2589	1.51	-23	416.21	416.45	0.24	1	0
319.5659	2.25	-23	416.19	417.14	0.95	2	0.18
319.8708	3.23	-23	416.19	417.04	0.85	1	0
320.5131	4.13	-22.99	416.23	416.52	0.3	4	0.2
321.2463	5.39	-22.99	416.23	416.35	0.12	2	0.03
321.5529	6.36	-23	416.6	416.99	0.39	1	0
322.1883	8.16	-23	417.07	416.45	-0.62	1	0
322.3926	8.81	-23	417.07	417.01	-0.06	1	0
322.7214	9.75	-23	417.07	417.06	0	2	0.29
323.0279	10.58	-23	417.37	417.89	0.53	1	0
323.2323	11.19	-23	417.37	417.45	0.09	1	0
323.4591	11.49	-22.98	417.37	418.38	1.01	1	0
323.7655	11.46	-23.01	417.37	417.38	0.02	2	0.1
324.0722	11.91	-23	417.37	417.12	-0.24	1	0
324.299	12.5	-23	417.54	416.99	-0.55	1	0
324.6055	13.25	-23	417.54	418.05	0.51	2	0.29
324.9121	14.01	-23.01	417.59	418.93	1.34	1	0
325.1389	14.61	-22.97	417.59	418.46	0.87	1	0
325.4453	15.47	-22.74	417.59	419.05	1.46	2	0.05
325.7518	16.39	-22.69	417.7	419.32	1.62	1	0
326.4894	14.84	-23.33	417.59	418.23	0.65	2	0.08
326.8185	15.53	-22.63	417.59	416.66	-0.93	1	0
327.023	16.4	-22.55	417.7	417.44	-0.26	1	0
327.2271	17.01	-22.82	417.7	417.43	-0.26	1	0
327.4315	17.55	-23	417.7	418.64	0.94	1	0
327.6584	18.16	-23	417.81	418.76	0.94	1	0
327.8627	18.74	-22.99	417.81	419.07	1.26	1	0
328.067	19.34	-23.03	417.81	418.52	0.7	1	0
328.4907	20.35	-23.13	417.84	417.85	0.01	3	0.19
328.9506	19.98	-23	417.81	417.9	0.08	1	0
329.1548	19.5	-23	417.81	418.24	0.42	1	0
329.5626	19.57	-24.9	417.7	418.45	0.75	1	0
329.7894	19.6	-26.04	417.7	418.12	0.42	1	0
329.9971	19.64	-27.1	417.62	417.88	0.26	1	0
330.6283	19.75	-30.35	417.5	417.65	0.15	1	0
331.879	19.96	-36.78	417.38	417.85	0.48	1	0
332.083	19.83	-37.04	417.38	418.18	0.8	1	0
332.3099	19.08	-36.37	417.38	417.89	0.51	1	0
332.5143	18.31	-35.83	417.42	418.56	1.14	1	0
335.67	18.35	-50.61	419.44	417.26	-2.18	1	0
336.0767	19	-52.58	419.65	417.47	-2.18	1	0
336.281	19.33	-53.57	419.65	417.45	-2.19	1	0
336.5087	19.69	-54.66	419.78	417.19	-2.59	1	0
336.7134	20.01	-55.63	420.18	417.56	-2.62	1	0
336.9173	20.32	-56.6	420.18	417.35	-2.83	1	0
337.1228	20.64	-57.58	420.32	417.23	-3.09	1	0
337.349	20.99	-58.64	420.32	416.98	-3.34	1	0
337.5533	21.31	-59.61	420.32	417.87	-2.45	1	0
337.7577	21.62	-60.59	420.46	418.03	-2.42	1	0
337.9631	21.94	-61.55	420.46	418.88	-1.57	1	0
338.1864	22.29	-62.65	420.72	419.48	-1.23	1	0
339.0286	25.32	-64.65	420.99	420.2	-0.79	1	0
339.335	26.56	-65.2	421.25	421.67	0.42	2	0.12
339.6416	27.8	-65.75	421.25	421.68	0.43	1	0
339.8685	28.64	-66.12	421.61	420.3	-1.31	1	0
341.376	34.88	-68.78	423.28	423.07	-0.21	1	0
341.6825	35.72	-69.18	423.73	421.65	-2.08	2	0.02
341.9891	36.8	-69.7	424.31	421.54	-2.77	1	0
342.216	37.78	-70.21	424.31	421.15	-3.16	1	0
342.4208	38.56	-70.61	425.12	443.29	18.17	1	0
342.8289	40.18	-71.31	426.76	428.88	2.12	1	0
343.1577	41.21	-71.38	426.76	428.69	1.93	2	0.04
			avg.	417.91	-0.02		
			st. dev.	3.34	2.17		
			count			103	
			sum			130	
			min	414.85			
			max	443.29			

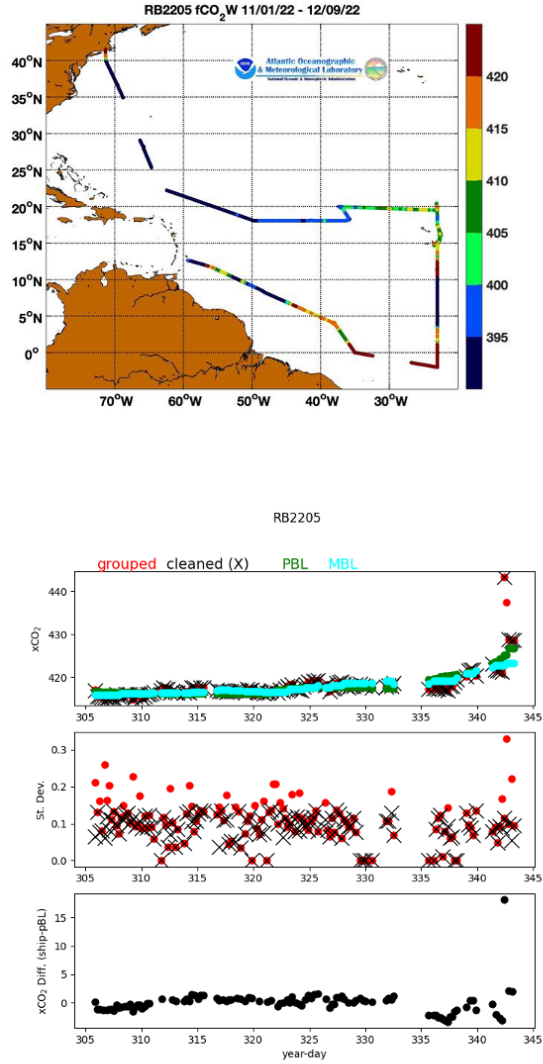


Table 91: PBL cruise summary for RB2301 (map not available)

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diffl
66.36622	-7.51	-31.3	417.64	416.5	-1.14	1	0
66.57054	-7.29	-30.44	417.64	416.64	-.1	1	0
66.97882	-6.96	-29.01	417.57	416.86	-0.72	1	0
67.40994	-6.52	-27.18	417.57	416.26	-1.32	1	0
67.6142	-6.32	-26.33	417.48	415.99	-1.49	1	0
67.8186	-6.11	-25.47	417.48	415.68	-1.8	1	0
68.02296	-5.99	-24.99	417.94	415.89	-2.05	1	0
68.22724	-5.99	-25	417.94	416.04	-1.9	1	0
68.4541	-6	-25	417.94	416.26	-1.67	1	0
68.65852	-5.5	-25	417.94	415.91	-2.03	1	0
68.86286	-5.5	-25	417.94	416.32	-1.62	1	0
69.2714	-5	-25	417.94	416.69	-1.24	1	0
69.6011	-4.5	-25	417.94	417.27	-0.66	2	0.03
70.1139	-3.72	-25	418.58	417.96	-0.62	1	0
70.31602	-3.49	-25	418.58	420.12	1.54	1	0
70.543	-3	-25	418.58	419.81	1.23	1	0
71.15622	-2.33	-25	418.58	419.32	0.74	1	0
71.64811	-1.66	-25	419.39	418.84	-0.55	2	0.1
72.55636	-0.45	-25	419.39	418.93	-0.47	3	0.45
73.0406	0.28	-25	420.5	419.81	-0.69	1	0
73.24508	0.52	-25	420.5	419.47	-1.03	1	0
73.449	0.7	-25	420.5	420.04	-0.45	1	0
73.88119	1.34	-25	420.5	420.62	0.13	2	0.11
74.2894	2	-25	421.67	420.9	-0.77	1	0
74.60717	2.36	-25	421.67	421.16	-0.51	2	0.01
75.75421	3.64	-25.32	421.67	421.22	-0.45	4	0.25
76.69621	4.42	-25.72	422.33	421.5	-0.83	2	0.08
77.21841	5.38	-26.19	422.33	421.58	-0.75	3	0.31
77.93006	6.57	-26.79	422.53	421.16	-1.36	4	0.41
78.48769	7.5	-27.25	422.44	421.6	-0.84	1	0
79.00607	8.41	-27.7	422.5	421.58	-0.92	3	0.34
79.5089	9.24	-28.12	422.5	421.5	-.1	1	0
80.27165	10.35	-28.68	422.53	422.82	0.29	2	0.47
80.6803	11	-29	422.53	422.51	-0.02	1	0
80.88456	11.23	-29	422.53	422.49	-0.04	1	0
81.1114	11.5	-29.01	422.53	422.46	-0.07	1	0
81.51983	12.29	-29	422.59	422.72	0.13	3	0.23
81.92876	13	-29	422.59	422.57	-0.02	1	0
82.35984	13.53	-29	422.59	423.51	0.92	1	0
82.76865	14.29	-29	423.1	423.2	0.57	3	0.14
83.30202	15.25	-29	422.63	423.32	0.7	2	0.09
83.60866	15.88	-29	422.63	423.15	0.52	1	0
83.8129	16	-29	422.64	421.91	-0.73	1	0
84.13068	16.75	-29	422.64	422.42	-0.23	2	0.71
84.55075	17.43	-29	422.64	422.93	0.29	2	0.21
84.85724	18	-29	422.65	422.37	-0.28	1	0
85.28858	18.9	-29	422.65	422.21	-0.44	1	0
85.90162	20	-29	422.68	423.64	0.95	1	0
86.21954	20.41	-28.77	422.68	423.06	0.38	1	0
87.36983	22.4	-27.65	422.72	423.42	0.71	1	0
87.99034	23.31	-27.16	422.72	422.67	-0.05	2	0.27
88.728	24.51	-26.48	422.85	422.4	-0.46	3	0.11
89.35228	25.45	-25.93	422.85	422.6	-0.25	1	0
89.87446	26.31	-25.46	424.2	422.32	-1.88	2	0
90.9907	31.33	-17.41	424.09	423.34	-0.75	1	0
93.19518	31.72	-16.51	424.09	423.11	-0.99	1	0
93.39958	32.22	-15.71	424.24	422.41	-1.83	1	0
93.60402	32.83	-14.88	424.55	423.18	-1.36	1	0
93.83082	33.31	-14.21	424.55	424.31	-0.23	1	0
94.03518	33.71	-13.65	424.55	424.96	0.42	1	0
94.2396	34.09	-13.12	424.66	424.98	0.32	1	0
94.54617	34.75	-12.29	424.66	424.59	-0.08	1	0
95.0794	35.4	-10.12	424.85	426.1	1.24	1	0
95.59023	35.8	-8.3	425.76	424.63	-1.13	1	0
103.8657	35.97	-7.53	425.76	424.81	-0.95	1	0
104.0702	35.76	-8.49	425.76	425.64	-0.12	1	0
104.4798	35.33	-10.39	424.85	424.61	-0.24	1	0
107.4924	28.94	-22.62	424.22	424.34	0.12	1	0
107.6961	28.54	-23.43	424.22	424.69	0.47	1	0
107.9037	28.12	-24.27	424.3	424.2	-0.1	1	0
108.107	28	-24.52	424.2	423.91	-0.29	1	0
108.4359	28.6	-24.16	424.3	424.08	-0.22	2	0.07
108.7423	28.99	-23.93	424.22	425.09	0.87	1	0
109.265	29.69	-23.55	424.22	425.77	1.55	4	0.4
109.7864	30.5	-23.09	424.27	426.51	2.24	1	0
110.0933	30.9	-22.87	424.27	425.56	1.28	1	0
110.6267	31.75	-22.39	424.27	425.92	1.64	2	0.46
111.1377	32.54	-21.95	424.41	424.92	0.51	1	0
111.6717	33.22	-21.56	424.41	425.27	0.86	2	0.62
112.5108	34.51	-20.85	424.43	425.69	1.25	1	0
113.0902	35.33	-20.37	424.43	425.67	1.24	2	0.29
113.6363	35.99	-19.99	424.43	424.4	-0.03	1	0
113.8406	36.5	-20.01	424.67	424.82	0.15	1	0
114.4758	37.5	-20	424.67	427.38	2.71	1	0
114.7824	38	-20.01	424.78	424.81	0.03	2	0.05
115.7245	39.25	-20.01	424.78	425.01	0.23	2	0.33
116.5644	40.5	-19.98	424.87	424.18	-0.69	1	0
116.7688	41	-20	424.87	424.6	-0.27	1	0
116.9754	41.5	-20	424.87	423.78	-1.09	1	0
117.884	42.99	-19.99	424.99	424.89	-0.1	1	0
118.0884	43.5	-20	424.99	425.49	0.5	1	0
118.2928	44	-20	425.17	424.53	-0.64	1	0
118.7238	44.5	-20	425.17	424.82	-0.35	1	0
118.9282	45	-20	425.17	425.18	0.01	1	0
122.0606	50.5	-20	424.18	425.08	0.89	1	0
122.5823	51.46	-20.01	424.18	424.21	0.03	4	0.54
123.2067	52.75	-20	424.21	424.5	0.28	2	0.99
123.6278	53.44	-20	424.21	423.58	-0.63	2	0.68
124.1486	54.85	-20	424.34	425.37	1.03	1	0
124.353	55.39	-20	424.34	422.86	-1.48	1	0
124.5584	55.78	-20	424.34	421.1	-3.24	1	0
124.8861	56.7	-20	424.54	426.01	1.47	1	0
125.1927	57.5	-20	424.54	424.3	-0.24	1	0
125.6088	58.5	-20	424.65	421.81	-2.83	2	1.58
126.1844	59.37	-20	424.65	426.2	1.55	2	0.33
126.6528	60.5	-20	424.7	423.83	-0.87	2	0.36
127.0763	61.33	-20	424.7	424.15	-0.55	1	0
127.2807	61.67	-20	424.7	425.75	1.05	1	0
127.4849	62	-20	424.73	425.57	0.84	1	0
127.916	63.04	-20	424.73	424.36	-0.37	1	0
128.12	63.29	-20	424.73	424.5	-0.23	1	0
			avg.	422.57	-0.2		
			st. dev.	2.92	1.02		
			count			111	
			sum			157	
			min	415.68			
			max	427.38			

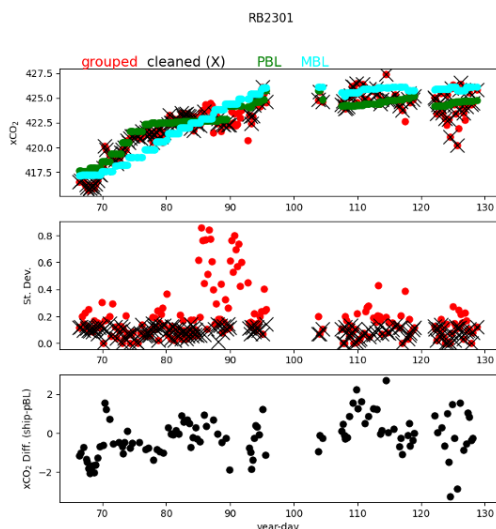
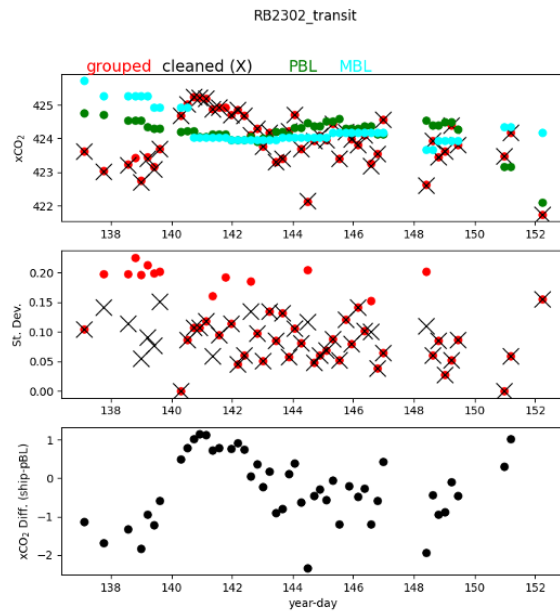


Table 92: PBL cruise summary for RB2302 transit (map not available)

time	lat	lon	pbl_co2	ship_co2	difference	shipboard	std of diffs
137.119	62.85	-22.08	424.75	423.63	-1.12	1	0
137.7548	60.23	-20	424.7	423.01	-1.69	1	0
138.5721	57.86	-18.95	424.54	423.22	-1.32	1	0
139.0032	56.65	-20.12	424.54	422.7	-1.84	1	0
139.2076	55.88	-20.74	424.34	423.4	-0.94	1	0
139.4119	55.15	-21.32	424.29	423.08	-1.21	1	0
139.6161	54.37	-21.92	424.29	423.7	-0.59	1	0
140.3152	51.59	-24	424.21	424.7	0.48	1	0
140.5217	50.86	-25.18	424.22	425.01	0.8	1	0
140.726	50.18	-26.36	424.22	425.24	1.03	1	0
140.9304	49.48	-27.55	424.07	425.22	1.15	1	0
141.1347	48.76	-28.76	424.07	425.2	1.13	1	0
141.3614	47.98	-30.04	424.13	424.87	0.74	1	0
141.5656	47.32	-31.12	424.13	424.92	0.79	1	0
141.9741	45.92	-33.35	423.95	424.72	0.77	1	0
142.178	45.23	-34.5	423.95	424.86	0.91	1	0
142.407	44.72	-35.99	423.95	424.69	0.74	1	0
142.6099	44.27	-37.29	424.06	424.11	0.05	1	0
142.8143	43.86	-38.46	423.92	424.3	0.38	1	0
143.0186	43.43	-39.69	424.01	423.78	-0.23	1	0
143.2227	43.03	-40.97	424.01	424.18	0.17	1	0
143.4496	42.54	-42.18	424.2	423.3	-0.9	1	0
143.6539	42.11	-43.39	424.2	423.4	-0.8	1	0
143.8583	41.67	-44.6	424.11	424.22	0.1	1	0
144.0625	41.2	-45.88	424.32	424.7	0.38	1	0
144.2668	40.76	-47.09	424.32	423.69	-0.64	1	0
144.4937	40.33	-48.25	424.48	422.14	-2.34	1	0
144.6981	39.91	-49.38	424.38	423.93	-0.45	1	0
144.902	39.52	-50.43	424.38	424.09	-0.29	1	0
145.1067	39.04	-51.68	424.52	423.95	-0.57	1	0
145.3112	38.58	-52.9	424.52	424.45	-0.07	1	0
145.5381	38.11	-54.15	424.59	423.39	-1.2	1	0
145.8446	37.55	-55.41	424.29	424.09	-0.2	2	0.11
146.1512	37.11	-56.72	424.29	423.81	-0.48	1	0
146.3556	36.7	-57.79	424.38	424.1	-0.28	1	0
146.5825	36.21	-59.05	424.38	423.19	-1.19	1	0
146.788	35.74	-60.23	424.14	423.55	-0.59	1	0
146.9912	35.31	-61.32	424.14	424.57	0.43	1	0
148.406	32.15	-69.11	424.54	422.6	-1.94	1	0
148.6102	31.7	-70.18	424.39	423.95	-0.44	1	0
148.8145	31.23	-71.29	424.39	423.44	-0.94	1	0
149.0188	30.78	-72.35	424.49	423.62	-0.87	1	0
149.2231	30.33	-73.4	424.49	424.39	-0.1	1	0
149.4497	29.83	-74.58	424.28	423.82	-0.46	1	0
150.9794	24.75	-79.88	423.17	423.47	0.3	1	0
151.1853	24.49	-80.78	423.17	424.18	1.01	1	0
			avg.	423.97	-0.27		
			st. dev.	0.72	0.88		
			count			46	
			sum			47	
			min	422.14			
			max	425.24			



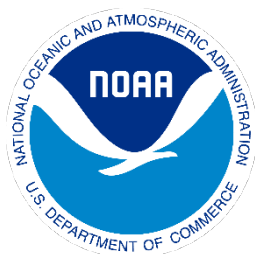
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