Ian Enochs - NOAA Federal <ian.enochs@noaa.gov>

# NCRMP 2023 BMUs

6 messages

**Benjamin Chomitz - NOAA Affiliate** <benjamin.chomitz@noaa.gov> Fri, Dec 6, 2024 at 2:10 PM
To: Ian Enochs - NOAA Federal <ian.enochs@noaa.gov>, Nicole Besemer - NOAA Federal <nicole.besemer@noaa.gov>

Hi Ian and Nikki,

Here is my data for the 2023 Pacific and Atlantic NCRMP BMUs along with some initial analysis for QAQC. I have included the spreadsheets in both the NCRMP submission format and the format for the Global Bar analysis (suffix _GloBar).

Here's the link to the repository and rmarkdown report of the initial analysis using your Global BAR analysis code that includes the parrotfish and environmental data that you're using for your analysis of all the BMUs. I don't know if those data are still relevant to the timeframe of the 2023 NCRMP year. Anyway, your QAQC and summary statistics are included in there for your reference.

I'd like to spend more time making these prettier and better tailored but I want to make sure you get a chance to look at it before I spend more time on it. I'm sure my github could be better organized as well.

Notes on Flagged tags:

Tags where change in block mass, density and other data = NA

4880 - no prescan data
4895 - no prescan data
6751 - BMU was massively overgrown with barnacles and not scanned\analyzed

Tags flagged as outliers in figure 1.6, plot of deltaVolume vs deltaMass:

Pacific: 2482, 2489, 2477, 2480, 4583
These BMUs were deployed for about 5 years. They have massive accretion that is more dense than the Porites block.

Atlantic: 6925 from Arecibo PR
The analysis of the BMU does not present any issues. It does have relatively more heavy accretion than most of the other Pacific BMUs.

Please let me know if you have any trouble accessing the data or github pages and if there are any questions regarding the data.

Thanks and all the best,
Ben

**4 attachments**

**NCRMP_Pacific_2023_BRC.csv**
12K

**NCRMP_Atlantic_2023_BRC.csv**
39K

**NCRMP_Atlantic_2023_BRC_GloBar.xlsx**
68K

**NCRMP_Pacific_2023_BRC_GloBar.xlsx**
31K

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**Ian Enochs - NOAA Federal** <ian.enochs@noaa.gov> Mon, Dec 9, 2024 at 10:38 AM
To: Benjamin Chomitz - NOAA Affiliate <benjamin.chomitz@noaa.gov>
Cc: Nicole Besemer - NOAA Federal <nicole.besemer@noaa.gov>

Awesome Ben! Thank you so much for putting this together and sharing.
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**The AOML Coral Program**
**Monitoring and fieldwork**
**Experimental Reef Lab**
**Open source engineering**
**A bit about me**

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**Nicole Besemer - NOAA Federal** <nicole.besemer@noaa.gov> Mon, Dec 9, 2024 at 2:10 PM
To: Ian Enochs - NOAA Federal <ian.enochs@noaa.gov>
Cc: Benjamin Chomitz - NOAA Affiliate <benjamin.chomitz@noaa.gov>

Did you notice any red flags or looks good to proceed? if you need more time, that's ok too!
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## Nicole Besemer
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**Ian Enochs - NOAA Federal** <ian.enochs@noaa.gov> Wed, Dec 11, 2024 at 4:04 PM
To: Nicole Besemer - NOAA Federal <nicole.besemer@noaa.gov>
Cc: Benjamin Chomitz - NOAA Affiliate <benjamin.chomitz@noaa.gov>

I haven't had the bandwidth to really get into this deeply and trust that you guys have spent time qa/qc-ing this. In my extremely cursory look, the only thing that gives me immediate pause are the apparent linearly aligned points in the far right of Figures 1.6 and 3.1.1. Any idea what is causing that?
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**Benjamin Chomitz - NOAA Affiliate** <benjamin.chomitz@noaa.gov> Wed, Dec 11, 2024 at 6:11 PM
To: Ian Enochs - NOAA Federal <ian.enochs@noaa.gov>
Cc: Nicole Besemer - NOAA Federal <nicole.besemer@noaa.gov>

Hi Ian,

Thanks for taking a look at this while you're doing conference stuff.

BMUs to the far right of figure 1.6:

I believe this is due to the heavy and dense coral accretion on those BMUs. All but one of those BMUs were from the Pacific deployment which lasted 5 years. The BMU from Puerto Rico in there also had significantly more accretion than the other Caribbean BMUs.
The volume of the accretion is not factored into the calculations of deltaVolume so while the deltaVolume of the outlying BMUs' blocks stay in the same range as the rest of the BMUs, the deltaMass is shifted relatively more to the right with more accretion. I'm not sure why it's so linear though. Maybe the volume of the accretion is proportional to the volume of the block? I'll check the scans and analysis again tomorrow for any issues.

BMUs to the far right of figure 3.1.1:

These are the same BMUs that were flagged in figure 1.6 but the y-axis on 3.1.1 represents grazing which is calculated from block volumes.
I think we're seeing the same thing where the heavily accreted BMUs have relatively more change in mass in relation to factors calculated from block volumes like grazing.

Does that make sense? Please let me know if you have any more questions.

Best,
Ben

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**Benjamin Chomitz - NOAA Affiliate** <benjamin.chomitz@noaa.gov> Thu, Dec 12, 2024 at 5:26 PM
To: Ian Enochs - NOAA Federal <ian.enochs@noaa.gov>
Cc: Nicole Besemer - NOAA Federal <nicole.besemer@noaa.gov>

Hi Ian and Nikki,

I double checked the scans of the flagged BMUs and their respective volume data and it all looks good to me. To check for other errors, I reweighed the apparently problematic BMUs. All of them matched the dataset except one:
BMU 2477 from TAU-011 in the Pacific had its clean and dirty post masses switched which resulted in deltaMass that was too high. I corrected the issue in the dataset and checked all of the data for swapped clean and dirty weights (if clean mass > dirty mass, it's an issue) and found none.

I've attached the corrected datasets. They also have more complete metadata. I'm going to look it over again in the morning with fresh eyes to feel confident that there are no more silly mistakes.

Here is the new github repository and rmarkdown report.

Please let me know if you have any more questions.

All the best,
Ben

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88K