



Monterey Bay Aquarium  
Research Institute

## **Outreach and resource development for GO-BGC's Adopt-a-Float program**

**Emma Monson, University of St. Thomas**

*Mentor: Dr. George Matsumoto*

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**Adopt-a-Float**

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### **ABSTRACT**

The Global Ocean Biogeochemistry Array (GO-BGC) is in the process of deploying over 600 profiling floats throughout the major oceans. These floats are collecting data to monitor ocean health and GO-BGC is working to bring this data into schools. GO-BGC has started the Adopt-a-Float program as an effort to connect with teachers and provide the data and resources that can be used with their students. During this study, we wanted to find multiple ways to increase participation with the Adopt-a-Float program. This was done through the development of a social media campaign, an outgoing monthly newsletter, and curriculum development.

## INTRODUCTION

Every year, the Global Ocean Biogeochemistry Array (GO-BGC) and the Southern Ocean Carbon and Climate Observations and Modeling (SOCCOM) project deploy biogeochemical profiling floats into the ocean. These floats have a wide variety of sensors that collect data every day. The floats collect data on oxygen, pH, nitrate, chlorophyll fluorescence, particle abundance, irradiance, temperature, salinity, and pressure. This data is then made available to the scientists, the public, and specifically teachers. Through the Adopt-a-Float program, teachers can adopt one of the deployed floats and use the data in their classrooms. This data is found on the website, along with accompanying resources and activities. Using this data gives teachers an opportunity to introduce oceanography to their students and show real-time data.

To increase participation in GO-BGC's Adopt-a-Float program, we introduced a social media campaign, monthly Adopt-a-Float newsletters, and ocean lessons and activities through GO-BGC. By creating new relationships with teachers around the world, GO-BGC can increase its presence and ensure that teachers and students are learning about the current status of the ocean. The Adopt-a-Float program is supported by both GO-BGC and SOCCOM, working to increase float presence in all major oceans to gain a greater sense of ocean health throughout the world.

Throughout the five-year period from 2021-2026, GO-BGC and SOCCOM will deploy 630 profiling floats throughout the oceans. This will allow for greater understanding of ocean health and how human activities are impacting and affecting the ocean. These floats are up for adoption to increase the outreach of the data to people around the world. This data is not only applicable to scientists, but it is also applicable to teachers and their students. The ocean plays a major role in many of Earth's processes, and it is important to understand how it is affecting the lives of people, no matter where they live in relation to an ocean.

## **ACTION PLAN**

### **SOCIAL MEDIA**

In an effort to increase the number of float adoptions, we conducted a 5-week social media campaign. This campaign included five Twitter posts, five Facebook posts, and three Instagram posts. These posts gave information on the Adopt-a-Float program, how to apply, and how the data can be used in the classroom. Within the first 20 hours of our first post, there were 11 new adoptions. This gave us a solid starting point, showing that social media was going to be a useful tool in gaining adoptions and the attention of teachers. At the end of the social media campaign, there were a total of 29 floats adopted.

Each post had a wide range of interactions and engagements, but Twitter was our most consistent and highly engaged platform. Averaging 100 engagements per post, the Adopt-a-Float presence spanned across a wide audience, engaging many different teachers, educators, and educational groups. To reach these different groups we used a variety of hashtags. Some of these included #TeacherTwitter, #Educators, and #OceanAcidification. This was in an effort to reach different audiences with each post, while sharing our information across the widest group as possible.

By creating a social media campaign, the hope is to increase the social presence of GO-BGC and interact with new groups of people. Teachers have become much more present on social media platforms, especially Twitter, where they can share posts from other teachers and/or companies. This allows for simple communication, with a common place to share resources, photos, and so much more. Amidst the pandemic, social media has proven to be a powerful tool to keep people connected, to people both close and far away. By continuing to use these platforms, GO-BGC will be able to increase its presence throughout the world, bringing ocean data to many classrooms and groups.

### **NEWSLETTER**

By implementing a monthly newsletter, GO-BGC hopes to update adopters about general positives or negatives regarding the deployed floats. This newsletter will also provide links directly to float data and resources, to help ease any confusion that may come with navigating the website. Each month teachers will get updates about the Adopt-

a-Float program, which they will be able to share with their students. To continue encouraging engagement in the program, GO-BGC is hoping to create connections with each individual teacher that adopts a float, and learn how we can best help them introduce the float program in their classroom. Adopt-a-Float requires the help of teachers and scientists to create a program that provides students with real-world data from the ocean that they are able to analyze in real time. The monthly newsletter will help to keep teachers up to date on what is happening in the ocean, and any major events or issues that may happen in regard to the floats.

## CURRICULUM

Through the development of ocean related curriculum, we hope to increase engagement of teachers and students with GO-BGC. While the Adopt-a-Float program has proven to entice teachers, we want to ensure that they have resources to use in their classrooms. This involves lessons, activities, and other outreach programs. By providing lessons and activities, teachers will have the resources ready to implement into their existing or developing curriculum and unit plans.

Currently, the lessons on the GO-BGC website consist of two overview lessons, which can be used as stand-alone resources about the Adopt-a-Float program, or as introduction lessons for a unit on oceanography and using float data. Following the introduction activities, there are a variety of individual lesson plans, including lessons on global warming and density, which can also be used on their own, or to create a larger unit. To complete a whole unit, there are also a variety of final projects included, such as creating a blog, to encourage critical thinking about the float unit as a whole

Although lessons are being created now, through GO-BGC, teachers are encouraged to create their own lessons to share with the team and other teachers as well. Throughout the year, we encourage teachers to work with other teachers and GO-BGC to develop new activities and lessons that can be shared with others participating in the Adopt-a-Float program. In addition, there are yearly EARTH workshops, where teachers have an opportunity to come together to collaborate on lessons and activities.

While we want to increase engagement between GO-BGC and teachers, we also want teachers to connect with each other. Whether this is through social media, email,

Zoom, or other methods, we hope that teachers are able to work together and potentially set up classroom calls. By getting in touch with other teachers, there is an opportunity for students to work with other students across the US or across the world, where they can share data and analyses. This is a unique opportunity for teachers and students to come together to discuss ocean health and how it is affecting them, no matter where they are from.

## **CONCLUSION**

The Adopt-a-Float program aims to educate teachers and students about ocean properties and health. This will provide teachers with data and lessons to implement into their classrooms. In the future, we hope to expand our social media presence, send out monthly newsletter updates, as well as continue updating lesson plans and activities. The Adopt-a-Float program will be around for many years to come, and it is important to continue engaging both new and old teachers in the program, while continuing to provide them with the necessary information and resources to implement the float data into their classrooms.

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