**CH104: Chemistry and the Environment Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Homework: Plastics in the Ocean**

1. In reading through the Abstract of the article, describe 3 major findings that the authors want you to take away from their work.
2. What is an oceanic gyre? Why do plastics seem to accumulate in these areas? (you may need to use additional internet resources to answer this question).
3. In your own words describe what is being shown in Figure 1. Be sure to mention a) How the figure was built (ie what data did the authors use to make this model?) b) What are the key take away points that you learned from visualizing this graph and c) What do the different color dots correspond to? d) What size plastic particles were found at the highest density?
4. What methods were used to determine plastic concentrations within a given area? What different variables exist that might affect sampling variability? Ie what are the sources of error in their collection methods?
5. In the results section, the authors hypothesized that they would find that the smallest microplastics would be the most abundant as they are likely formed from the breakdown of larger plastics. However, this is not what the researchers found. They found that the larger microplastics (1.01 – 4.75 mm) were the most abundant. Can you generate another hypothesis that would explain these results?
6. Once you have finished reading the paper, refer back to the keypoint statements that you listed in question 1. Did the research presented by the authors support these conclusions? Why or why not?