The Amount of Chlorophyll in the southern Ocean.

We are looking at changes in chlorophyll seen in the water by the float. The instrument in the float that does this is a fluorometer. The fluorometer “sees” chlorophyll by shining light of a particular wavelength range at the water. Any chlorophyll in the water absorbs that light and re-emits light of a different wavelength. The fluorometer measures the light that comes back. We use that measurement at an indicator of the amount of chlorophyll in the water.

Using your float create graphs to help you examine the amount of chlorophyll in the Southern Ocean.

For each graph, describe the pattern or trend of the graph, any exceptions, limitations or outliers seen in the data.

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| --- | --- | --- |
| X Axis | Y Axis | Description |
| Depth | Temperature |  |
| Chlorophyll | Oxygen |  |
| Nitrates | Chlorophyll |  |
| Depth | Nitrates |  |
| Depth | Chlorophyll |  |
| Depth | Oxygen |  |

Questions

1. According to the data from your float, how was the amount of oxygen in the water affected by the amount of chlorophyll in the water? What does that tell you about how chlorophyll and oxygen are related?
2. According to the data from your float, how was the amount of nitrates in the water affect the amount of chlorophyll in the water? What does that tell you about how chlorophyll and Nitrates are related? What happens if their are too many nitrates?
3. Where in the ocean do you find the chlorophyll? Why are they at this depth? (Hint: you may need to refer to multiple graphs)
4. Choose another float and run a depth vs chlorophyll graph. Compare the data to our float. Is is similar or different? Explain