Learning Objectives

The exercises in this multi-week module are designed to help you answer the question: how does wind impact ocean ecosystems? In class last week you examined how wind, upwelling, and productivity were connected off the coast of central/southern California. In this pre-exercise, you’ll examine productivity patterns in other parts of the Pacific.

This pre-exercise will prepare you for next week’s in class exercise. When you reach the end of this pre-exercise, you will be able to:

● Describe were upwelling and downwelling occur in other areas of the Pacific Basin

● Describe other processes that are responsible for vertical water movement in non-coastal areas

Pre-Exercise Instructions and Questions

1. Navigate to ArcGIS Online and sign in with your account. Follow the steps from Exercise B to visualize the cholorphyll data again. Go back to the time period around your upwelling event and zoom out from Central California. Take a look at other parts of the Pacific. You should see a high productivity band near the equator, and low productivity zones in the center of the two Pacific gyres. Take a snapshot of the Pacific basin and annotate it to point out these patterns (you can copy and paste your figure into ppt or google slides to annotate it before pasting it back in here).
2. Use a concept sketch to illustrate and describe how upwelling and downwelling influence the two patterns described above. Why does vertical motion occur in each of these other regions? Feel free to use your OER textbook or class slides as references.