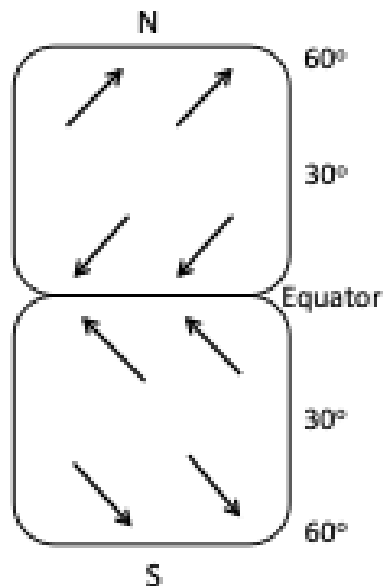


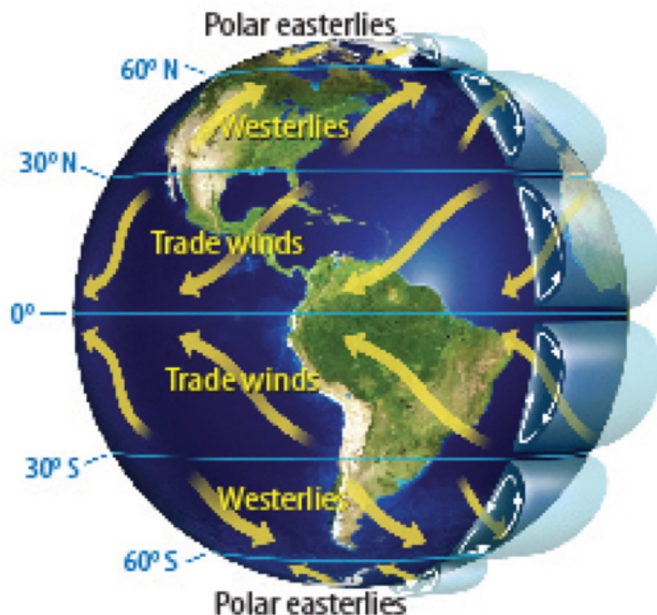
OCEA90 Week 5 activity: Ocean circulation

1. The boxes below represent subtropical gyres in the Northern and Southern hemisphere. The black arrows are showing the direction of the winds.

Note: Questions 1-2 below might be most easily answered on a sheet of paper. You can draw the schematic and insert a picture here.



a) Name the winds plotted on the figure



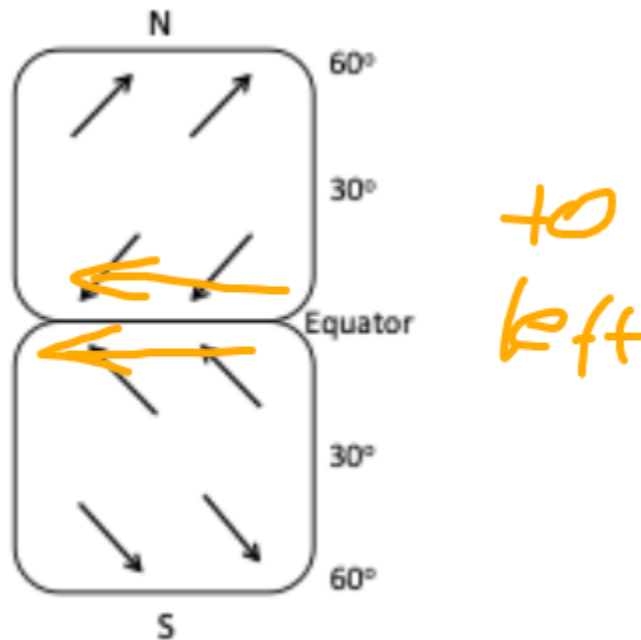
I personally do some research online.

The winds in the map have two type of wind: Trade Wind and Westerlies.

The wind between the equator and the north or south 30-degree is the trade wind.

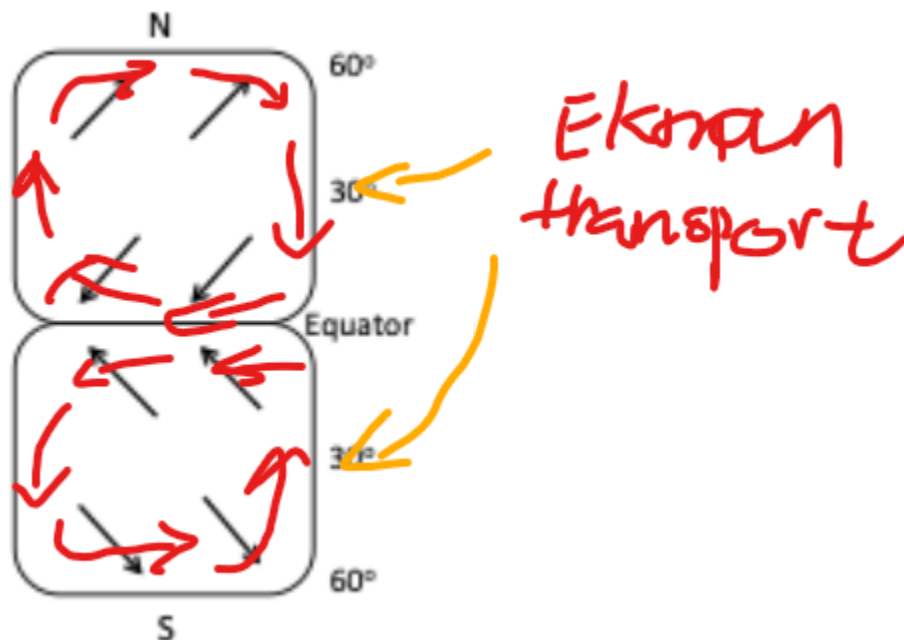
The wind between the north or south 60 and the north or south 30-degree latitude is the Westerlies.

b) Add arrows showing the Ekman transport



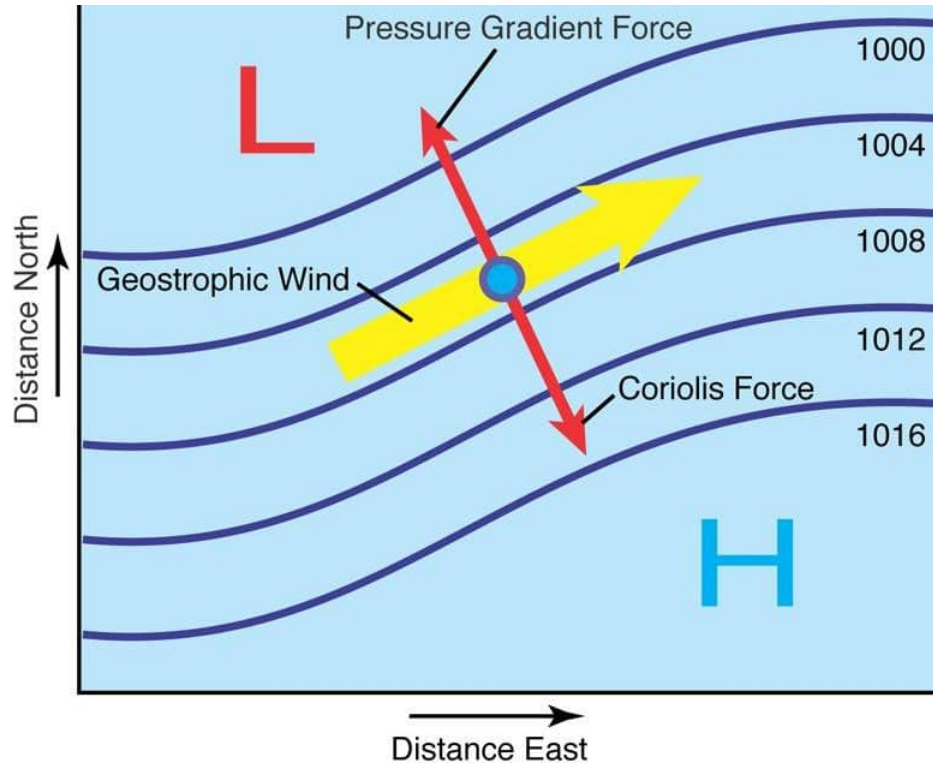
It start moving from Equator and move to the left side.

c) Show the direction of the current



- d) Add arrows showing how the pressure gradient force and the Coriolis effect are balancing - creating a geostrophic current

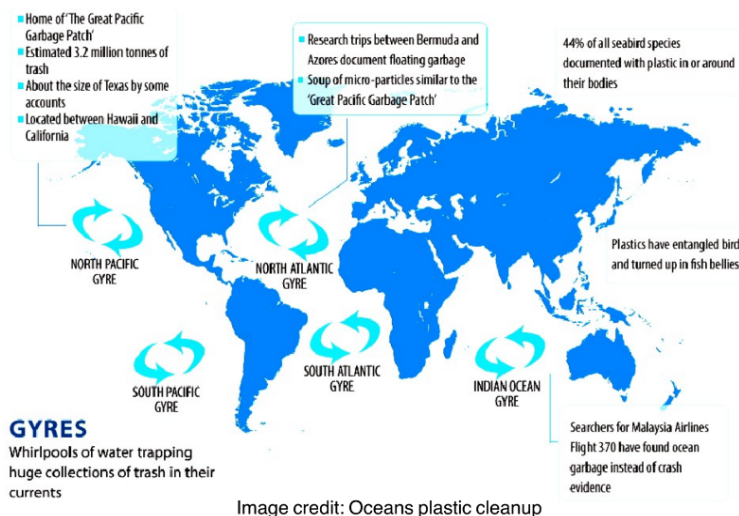
I wasn't sure this question and do research online, I think the picture below should show the balancing for the pressure gradient force and the Coriolis effect



- e) Name the five subtropical gyres

Based on the lecture notes, Here is the five subtropical gyres

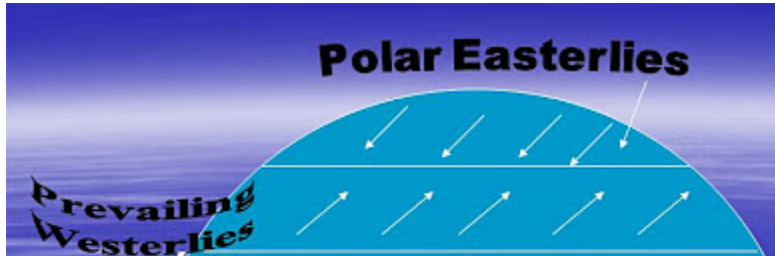
- North Atlantic Gyre
- South Atlantic Gyre
- North Pacific Gyre
- South Pacific Gyre
- Indian Ocean Gyre



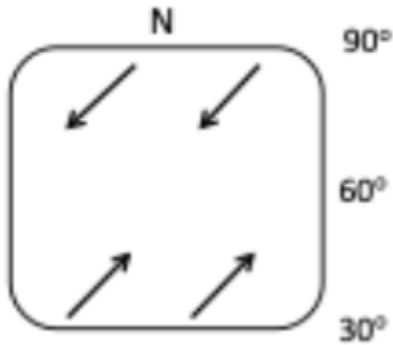
2. The box below represents a subpolar gyre in the Northern hemisphere. The black arrows are showing the direction of the winds.

a) Name the winds plotted on the figure

The winds are westerlies towards north and North side Polar Easterlie.



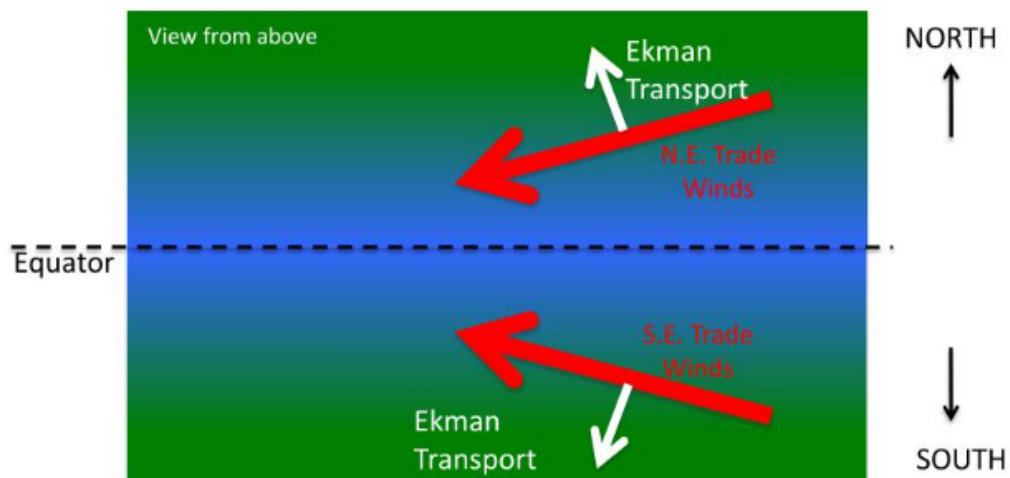
Polar Easterlies

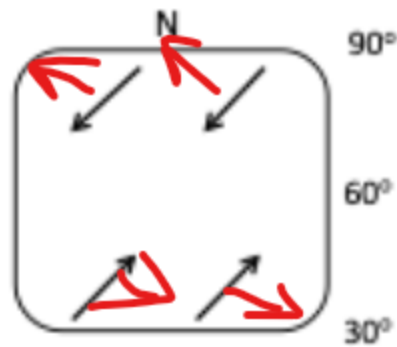


Westerlies

b) Add arrows showing the Ekman transport.

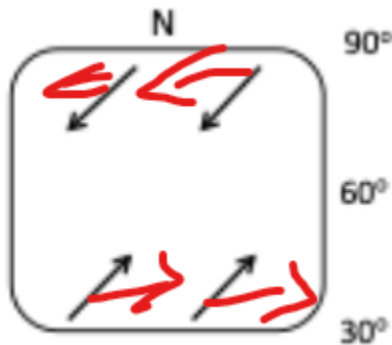
Equatorial Upwelling



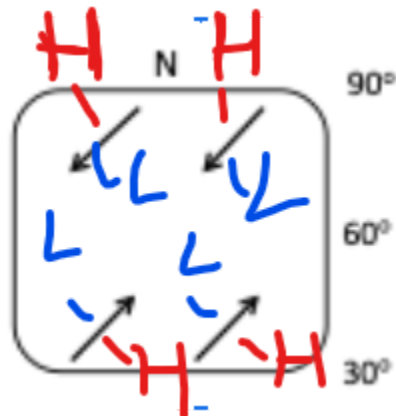


c) Show the direction of the current

Based on the online I search the graph show: I think



d) Add arrows showing how the pressure gradient force and the Coriolis effect are balancing - creating a geostrophic current



3. What are the main differences between surface currents and deep currents?

Surface close to the surface of the ocean. It currents are mainly propelled by wind, the Coriolis effect, and the configuration of the ocean basins. They tend to be faster and more variable, influenced by weather change. Deep is the deep side in the ocean and its currents are not created by wind, but instead by differences in density of masses of water.