

Global Atmospheric and Ocean Circulation Systems Answer Sheet

The activities and extra information for this lecture can be in a StoryMap here:
<https://arcg.is/0bmfSX>

Question 1: What causes the Earth's energy budget to be unequally distributed?

Answer: The curvature of the Earth

Question 2: Describe the spatial distribution of the global warm and cold currents

Answer: The warm currents move from lower to higher latitudes and the cold currents return to the lower latitudes

Question 3: What is the main current redistributing heat from the east coast of America across the North Atlantic to the UK? And what is the main current surrounding Antarctica?

Answer: Gulf Stream and the Antarctic Circumpolar Current

Question 4: Do you notice any significant change in ocean currents across the year?

Answer: Students may note that there is no significant change throughout the year apart from some daily fluctuations. Students may want to focus in on an area e.g. pacific basin to observe some change. Ultimately, this map shows that the ocean currents are relatively stationary.

Question 5: Do you observe any similarities in the pattern of ocean currents with temperature and salinity?

Answer: The ocean current from the eastern coast of America (Gulf stream) shows similarities with both the salinity and temperature. Following the same pattern as the currents, is an increase in temperature and a slight decrease in salinity.

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