Dr. Josh Kohut – Climate Change, Ocean Currents, & Impacts Glossary

TERM	DEFINITION
Antarctic Bottom Water	Located in the southern ocean near Antarctica it is the coldest, densest and deepest water of all the oceans. It is nutrient-rich water that originates at Antarctica and flows north to all the major oceans of the world.
Antarctic Circumpolar Current	The current, also known as the West Wind Drift, flows clockwise from west to east around Antarctica. The current connects to the Atlantic, Pacific, and Indian Oceans.
Carbon Cycle	Circulation of carbon atoms through the Earth systems as a result of photosynthetic conversion of carbon dioxide into complex organic compounds by plants, which are consumed by other organisms, and return of the carbon to the atmosphere as carbon dioxide as a result of respiration, decay of organisms, and combustion of fossil fuels. (Provided by climate literacy handbook)
Climate Change	A significant and persistent change in the mean state of the climate or its variability. Climate change occurs in response to changes in some aspect of Earth's environment: these include regular changes in Earth's orbit about the sun, re-arrangement of continents through plate tectonic motions, or anthropogenic modification of the atmosphere. (Provided by climate literacy handbook).
Coriolis Effect	The Coriolis effect is a force created by the rotation of the Earth. The force deflects the direction of the ocean current at a 45-degree angle. This deflection pushes the ocean currents into a clockwise motion in the Northern Hemisphere. In the Southern Hemisphere, the ocean currents are pushed into a counterclockwise motion.
Currents	The steady flow of ocean water in a prevailing direction.
Global Warming	The observed increase in average temperature near the Earth's surface and in the lowest layer of the atmosphere. In common usage, "global warming" often refers to the warming that has occurred as a result of increased emissions of greenhouse gases from human activities. Global warming is a type of climate change; it can also lead to other changes in climate conditions, such as changes in precipitation patterns. (Provided by climate literacy handbook)
Greenhouse Effect	The result of heat absorption by certain gases in the atmosphere (called greenhouse gases because they effectively 'trap' heat in the lower atmosphere) and re-radiation downward of some of that heat. Water vapor is the most abundant greenhouse gas, followed by carbon dioxide and other trace gases. Without a natural greenhouse effect, the temperature of the Earth would be about zero degrees F (-18°C) instead of its present 57°F (14°C).

Gyre	An ocean gyre is a circular ocean current formed by the Earth's wind patterns and the forces created by the rotation of the planet.
Ocean Salinity	The relative proportion of salt in the Ocean.
Thermohaline Circulation	Deep-ocean currents driven by differences in the water's density, which is controlled by temperature (*thermo*) and salinity (*haline*). (Provided by NOAA)
Tidal Currents	A horizontal movement of the water caused by gravitational interactions between the Sun, Moon, and Earth. The vertical motion of the tides near the shore causes the water to move horizontally, creating currents. When a tidal current moves toward the land and away from the sea, it "floods." When it moves toward the sea away from the land, it "ebbs." (Provided by NOAA)