*Key Vocabulary – ES10: Oceans*

**Oceanographer** – Someone who studies the oceans.

**Glacial Ice Caps** – Large areas of ice on land formed from packed down snow. The largest ice cap is the ice that covers Antarctica. Greenland also has a glacial ice cap.

**Sea Level** – The height of the ocean. If ice caps melt, that adds water to the ocean and sea level rises.

**Ocean Current** – Large amounts of water that flow within the ocean. Differences in water density and salt content cause the water to flow.

**Upwelling** – The lifting of cold, nutrient-rich water from the deep ocean. The nutrients help ocean creatures. Wind blowing across the ocean surface can cause upwelling.

**Tides** – The rise and fall of water level caused by the gravitational pull of the moon and sun. Most coastlines change between high tide and low tide every 6 hours.

**Food Web** – The way in which food chains connect. A single species can affect several food chains

**Algae** – Simple, plant-like species that can use photosynthesis. Algae in the ocean make more breathable oxygen than plants on land.

**Cyanobacteria** – An early form of algae, it was the first photosynthetic species in the world and the first to release breakable oxygen into the water and atmosphere. It is also called Blue-Green algae.

**Vertebrate** – Animals with a backbone, including mammals, birds, amphibians, reptiles, and fish. Any impact to the base of the food web (plants) will affect vertebrates, too.

**El Nino** – A weather pattern that brings unusually large amounts of rain from the Pacific ocean to Southern California down to Central America. This is caused by weak trade winds and can last for a few months.

**Extraction** – When a substance is pulled out of something. For example, dissolved carbon dioxide is extracted from the oceans when it reacts with calcium to make seashells and limestone.

**Distribution of Heat** – The way heat spreads out from the heat source. In the oceans, warm water spreads from the equator toward the poles.

**Convection** – A pattern of heat distribution that forms a circle up then down. A warm fluid will be less dense than the cooler fluids around it. This causes the warm fluid to rise up. After it rises as high as it can, it will spread out, give its heat to the surrounding area, cool, and fall back down. Magma, ocean water, and the atmosphere all distribute heat through convection.

**Continental Margin** – The underwater boundary between continental crust and oceanic crust. The continental margin includes the continental shelf, continental slope, and the continental rise.

**Continental Shelf** – The underwater, relatively flat, shallow edge of the continent leading into deeper water. Sediments that wash off the continent get deposited here.

**Continental Slope** – The steep, underwater slope of the continent, leading down to the ocean floor. This area experiences erosion such and underwater landslides.

**Continental Rise** – The bottom of the continental slope. It is where the ocean floor first starts to rise up to the continental plate. This is an area of deposition as sediment falling off the slope collects here.

**Abyssal Plain** – The deep, flat section of the oceanic plate. There is little life down there as it is too deep for photosynthesis.

**Seamount** – An underwater mountain, these are usually extinct volcanoes that moved away from the mid-ocean ridge. A variety of life may exist here, especially the part of seamounts that are high enough for the sunlight to fuel photosynthesis.

**Mid-Ocean Ridge** – A long line of underwater volcanoes formed as lava comes up at a divergent boundary in the middle of the ocean. This area supports a chemosynthetic food web as bacteria feed off of sulfur and other chemicals that erupt for volcanic vents here.

**Chemosynthesis** – Bacteria and other simple organisms feed directly off of chemicals rather than using photosynthesis. Chemosynthesis is the center of the food web in areas that are too deep for sunlight to reach. Chemosynthesis also evolved before photosynthesis existed.

**Estuary** – An area where fresh and saltwater mix. It supports a wide range of plants and animals. The Chesapeake Bay is an estuary.