CLUE into CLIMATE

KQED education network

Science ready to EXPLORE

ANIMATION TRANSCRIPT – CLIMATE CHANGE AND THE WATER CYCLE

Watch the animations online at http://www.kqed.org/education/educators/clue-into-climate/water-cycle.jsp

Water Cycle Animation

The water cycle is a critical part of life on earth. All people and organisms depend on the water cycle.

Water, heated by the sun, **evaporates** and forms clouds (**condensation**) which are made up of millions of tiny water droplets.

Land formations and changing air temperatures force clouds to rise and cool, triggering the release of **precipitation**.

Precipitation can come in the form of rain, hail or snow. In locations where the temperature is cold enough, water is **stored** as snow and ice, forming glaciers and snow pack.

Liquid water flows as streams and rivers and over the ground as **runoff**. This **runoff** can flow into rivers, lakes, and the ocean.

Water **infiltrates** the soil becoming groundwater that can be stored underground or flow into other bodies of water.

Water also evaporates back into the atmosphere from plants in a process called **transpiration**.

Increased Precipitation

Warmer temperatures lead to increased rates of **evaporation**, **transpiration**, and the amount of water vapor in the air. In some areas, this leads to more **precipitation**. Increased **precipitation** can result in greater **infiltration** and **runoff** and can cause flooding.

Decreased Precipitation

In some environments, especially those with limited open water, increased **evaporation** and **transpiration** dries out the ground, leaving less water to move to the atmosphere, fewer clouds, and less **precipitation**. This can lead to drought conditions.

Rising Sea Levels

Earth's vast oceans are also affected by climate changes. Sea levels rise with increased temperatures partly because of melting glaciers and ice caps in the polar regions.

Sea levels are also affected by thermal expansion. With more heat, water molecules move farther apart, increasing the volume of the ocean. Coastal regions are at risk of flooding from potential sea level increases.