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## The Water Cycle: Nature's Infinite Loop

The water supply on Earth is essential for all life to exist and thrive. The **water cycle** is the continuous process that keeps water moving on, above, and around the Earth in different forms.

### 1. The Stages of the Cycle

Each stage of the cycle is an important part of a process that waters our plants, dries up puddles, and helps manage floodwaters.

- **Evaporation:** The process of liquid water warming up and changing into water vapor.
- **Transpiration:** A special kind of evaporation where water is released from plants.
- **Evapotranspiration:** The combined name for when moisture evaporates from the soil and transpires from plants into the atmosphere.
- **Condensation:** The process where water vapor cools down and changes back into a liquid.
- **Precipitation:** Any type of water—like rain, snow, or sleet—that falls from the sky to Earth.
- **Collection:** When water gathers in bodies like lakes or rivers after falling.

### 2. Clouds and the Atmosphere

- **Atmosphere:** The layer of air surrounding Earth. Its current state—including temperature, wind, and rain—is what we call **weather**.
- **Clouds:** Visible masses of tiny water droplets or ice crystals suspended in the air.
- **Cloud Condensation Nuclei:** Tiny particles (like dust) that water vapor sticks to so it can become a raindrop.
- **Fog:** Simply a cloud that is touching or very near the ground<sup>14</sup>.
- **Humidity:** A measure of how much water vapor is currently in the air<sup>15</sup>.
- **Wind:** Air moving from high-pressure areas to low-pressure zones<sup>16</sup>.

### 3. Water on the Land (Freshwater)

Animals rely on **freshwater** sources like lakes, rivers, or springs to drink<sup>17</sup>.

- **River:** A large, flowing stream of fresh water<sup>18</sup>.
- **Lake:** A body of water completely surrounded by land<sup>19</sup>.
- **Runoff:** Excess fluid that overflows from areas like farms or factories<sup>20</sup>.
- **Snowmelt:** The water created when snow melts and begins to flow<sup>21</sup>.
- **Glacier:** A massive "river of ice" that moves very slowly across the land<sup>22</sup>.

### 4. The World Beneath Our Feet

- **Aquifer:** An underground layer of rock or soil that holds water<sup>23</sup>.
- **Groundwater:** The actual water found stored inside an aquifer<sup>24</sup>.

### 5. Ecology and Conservation

- **Ecosystem:** A community where living things (like fish and plants) and nonliving things (like water and rocks) work together<sup>25</sup>.
- **Erosion:** When soil is worn away by the power of wind, water, or ice<sup>26</sup>.
- **Pollutant:** A harmful substance that damages natural resources<sup>27</sup>.
- **Greenhouse Gas:** Gases in our atmosphere that trap heat, causing the air to warm up<sup>28</sup>.

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#### About the Calapooia Watershed Council

Established in 1999, we are dedicated to **Education, Habitat Restoration, and Community**. Our mission is to protect the health of our local watershed for generations to come.