

**Avatar: Weather and Climate**

The atmosphere has several influences on weather and climate. By causing winds and ocean currents, the atmosphere distributes heat and moisture around the globe in predictable ways that gives certain parts of Earth their characteristic climates. Globally, water evaporates from the oceans, is converted from liquid water to gaseous water vapor, rises into the atmosphere, and then cools to form liquid water again. That liquid water then comes back down to Earth as precipitation—thus showing us just one way the atmosphere drives climate. In this process, heat energy is transferred from the oceans to the atmosphere. The clouds that you see in the sky are formed by moisture evaporated from Earth, which is just more illustration of the connection between the atmosphere and both the weather and climate. The oceans, too, play a large role in weather and climate. The oceans can store huge amounts of heat and the ocean currents transport heat around the globe. The Gulf Stream current for example, warms the air above it as it travels north and makes the climate of England warmer than it would otherwise be.