Linking Geosphere to other spheres with climate

As climate changes, the geosphere interacts with various other parts of the Earth system.

Biosphere: The carbon cycle, usually linked with the Earth's biosphere, includes deep storage of carbon in the form of fossil fuels like coal, oil, and gas as well as carbonate rocks like limestone.

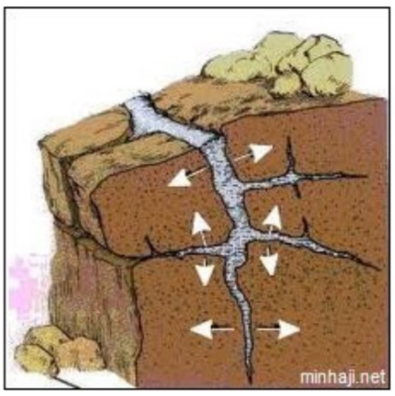
Here living things break apart rock.

Cryosphere: Glaciers and ice sheets, parts of the cryosphere, have a large impact on the rocks and sediments below them. They erode rocks on the geosphere and push rocks up and over the land as they melt and move.

Hydrosphere and Atmosphere: The erosion of rocks, a major part of the rock cycle and change in the geosphere over time. Erosion, transportation, and deposition of sediments wouldn't occur without the hydrosphere's rivers, lakes, and ocean or the atmosphere's winds and precipitation.

Different combinations of sedimentary rocks form in environments with different climate conditions. This allows geologists to reconstruct what an environment was like millions of years ago based on the sedimentary rocks that were deposited.

Mechanical Weathering



This is the physical break up or disintegration of rocks.

Ex: Rocks rolling down a slope or fast moving stream rub and bump against each other.

Climate change can also cause mechanical weathering. During the freeze thaw period we get Frost wedging. (warm in day but temps drop below freezing at night) water seeps into the rocks freezes and expands. This causes cracks and eventually the rocks break apart.

Frost Wedging: Water seeps into rocks and freezes then expands cause rocks to break.

https://www.youtube.com/watch?v=BxmAJMjJ5Nk 7 min.