12.3: The Sediment Cycle

You learned earlier that sediment is material, in either particulate or dissolved form, that is produced by weathering of rocks on the continents and then transported, by some agent (water is by far the most important, in general, but wind and moving glacier ice are important as well, at certain times and places) to come to rest as a sediment deposit. A whole field of Earth science, *sedimentary geology*, is devoted to the study of sediments, as well as the sedimentary rocks that are formed when sediment is buried and becomes lithified.

In a sense, the sediment cycle is simpler than the water cycle, because after sediment is formed it inevitably moves downhill toward places of rest. From the perspective of the Earth's surface, sedimentary processes are basically a matter of source, transport, and sink. (Scientists like to use the term ***sink*** for a kind of place to which matter moves and accumulates, or a kind of place to which energy flows and is there stored or dissipated.)

To have a full appreciation of the sediment cycle, you need to think beyond the Earth's surface and the processes and kinds of environments of reservoirs associated with it. Although sediment can be stored in lakes and in river valleys for geologically long periods of time, and become buried deeply enough to be converted to sedimentary rocks, most sediments end up in the world's oceans. The oceans don't fill up, though: plate tectonics operates, in ways that are beyond the scope of this course, to recycle the sediments and sedimentary rocks back to the continents, there to be exposed once again to weathering and transport, to complete the cycle.