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# Folded Appalachians

This image covers the central Pennsylvania section of the Ridge and Valley Province of the Appalachians. This segment is located between the Piedmont and Blue Ridge Provinces. The Appalachian Mountains extend from New York to Alabama. Generally, the age of exposed rock increases from west to east.

This image has been color enhanced by the EarthSat Company to accentuate the geology of the area. The orange-rust colors enhance the forest vegetation that occurs on the plateaus and ridges. Tan and pale colors enhance the intense agricultural and grasslands that occur in the valleys.

This image demonstrates the effects of fluvial erosion on rock layers that have been folded by continental collision. The serpentine features known as zigzag ridges are partly the result of a "side swipe" collision between the North American and African continental plates. The zigzag ridges rise above the eroded valley floors because they are composed of more resistant rock. The zigzag pattern is composed of a series of features known as anticlines and synclines. Notice that the intensity of the folding increases to the southeast.

A geomorphic characteristic of the folded Appalachians is the anomlaous drainage. Many streams have been able to cut through ridges by the process of "steam piracy." For example, as two streams, on opposite sides of a ridge continue to extend their channels upslope, the headwaters of both streams will meet. When this occurs, the ridge has been breached, and a water gap is created. The stream flowing at a lower elevation will pirate the water flow of the stream from the opposite side. If a water gap no longer contains a flowing stream, it is called a wind gap.

The Susquehanna River in the northeast (upper right edge) cuts across several zigzag ridges. The Susquehanna was able to cut through these because it flowed across this region before the development of the present surface. In the past, the Susquehanna flowed across a higher, now-eroded landscape. Through time the river continued to cut downward through the more resistant, once-buried, zigzag ridges as they were exposed by erosion.

Although this image dramatically displays physical features, it also can be used to demonstrate human-environmental interaction. When settlers encountered these parallel ridges and valleys on their way westward, they were funneled into the water and wind gaps made by streams flowing through the ridges and valleys. These natural breaks in the mountains provided settlers with an easier way to cross the many ridges and valleys. Notice that many cities and towns (which are blue in color) are located near these water gaps today.

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