

OUTSTANDING GEOLOGIC FEATURE OF PENNSYLVANIA

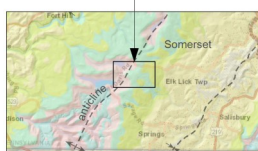
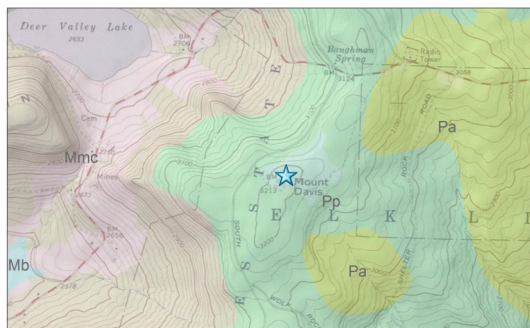
MT. DAVIS, SOMERSET COUNTY

Stuart O. Reese, 2016



Location

Mt. Davis, Forbes State Forest, Somerset Co., Elk Lick Twp., lat: 39.78620, lon: -79.17839 (parking); lat: 39.78613, lon: -79.17697 (marker); Markleton 7.5-minute quadrangle



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Geology

The highest point in Pennsylvania, Mt. Davis, is at an elevation of 3,213 feet. The summit is on Negro Mountain in Forbes State Forest, in the Allegheny Mountains section of the Appalachian Plateaus physiographic province. The Allegheny Mountains are part of the topographic highlands of the Central Appalachians. Topographic relief in the vicinity of the ridges is on the order of 1,000 feet. Areas between the ridges have a local relief of approximately 500 feet. Total relief in Somerset County is nearly 2,000 feet—from Mt. Davis to where the Youghiogheny River exits the county at about 1,270 feet.

The Pottsville Formation (Pp) underlies much of Negro Mountain and ranges in thickness from 10 to 70 feet. The rocks are mainly conglomeratic sandstone with minor amounts of siltstone, claystone, and thin coals. Sandstone is the most resistant rock type and tends to form the ridges and cap most of the highest points, including Mt. Davis. Structurally, the rocks are part of the Negro Mountain anticline (upfold), which contributes to the high elevation.

The Appalachian Plateaus have been weathering since the Alleghanian orogeny (mountain-building event) ended about 270 million years ago. Mt. Davis has eroded to a flat-topped summit, and the actual high point is difficult to discern. Explanations for such flat summits in this area include slow weathering of resistant rocks under very cold, periglacial conditions in the Pleistocene. Glaciation occurred in northern Pennsylvania from about 2 million to 15,000 years ago, and the high altitude of Mt. Davis contributed to the climatic effects. At the summit, Pottsville sandstone slabs show evidence of freeze-thaw action in the form of 25- to 30-foot-wide circular patterns in rocks that were detached from the near-surface bedrock.



Sweeping panoramic view to the west and southwest from the observation tower at the summit. Winding Ridge and Glade Mountain can be seen at a distance. A raised-relief map at the tower depicts local geographic features and explains how an optical illusion creates an impression that distant summits are higher. Photographs by Kevin Tarbert and Peter Reynier, Pennsylvania Geological Survey interns.

Recommended Reading

[Forbes State Forest](#) web page of DCNR.