The Appalachian Mountains are young

Michael J. Oard

In the United States, most students learned in their grade school geography class that the Appalachian Mountains have the appearance of old age since they are rather rounded or 'subdued'. They may have also learned the Appalachians are predominantly composed of Paleozoic sedimentary rock. However, there are places in the Appalachian Mountains that are rugged, indicative of recent uplift:

> "Conventional wisdom holds that the southern Appalachian Mountains have not experienced a significant phase of tectonic forcing for >200 myr; yet, they share many characteristics with tectonically active settings, including locally high topographic relief, steep slopes, incised river gorges, and frequent mass-wasting."[1]

There are places with steep vertical cliffs 600 m high in western North Carolina (figure 1). Vertical faces erode much faster than horizontal surfaces, largely from rockfall. 'Old' terrains should not have cliffs. The vertically walled canyons should have become V-shaped valleys long ago if uniformitarian dating were correct.[2]

'Solving' the Appalachian problem

The Appalachian problem was 'solved' by secular scientists postulating more than one uplift, the last called a 'rejuvenation'.[3] The authors use the Cullasaja River basin in Tennessee and North Carolina to show that the most recent uplift was in the late Miocene, about 8.5 million years ago. They noticed that

the Cullasaja River and its tributaries have numerous knickpoints and sharp convexities in an otherwise concave-up longitudinal river and stream profile. Knickpoints are characterized by waterfalls, rapids, or steep gradients in the river or stream. The authors analyze and eliminate all other mechanisms for knickpoint generation except uplift. They determine the time of uplift by using the regression of tributary knickpoints that begin at the junction with the main river and migrate headward. This calculation is based on uniformitarian dates and slow erosion over millions of years, giving it a late Miocene date.

Flood geology reinterpretation

One aspect of Flood geology is to reinterpret observations made by uniformitarians.[4] The secular Appalachian data looks 'solid', so how would we go about reinterpreting the data? The beginning point would be to place the erosion of the Appalachian Mountains within the Biblical Geological Model.[5] Within this framework the erosion of the Appalachian Mountains and the development of the Cullasaja River Basin would have occurred during the Recessive Stage of the Flood. The erosion in the central Appalachians is around 6,000 m, based on the rank (i.e. the stage attained in the progression from vegetation to anthracite) of coal and the amount of sedimentary rocks and sediments on the continental margin.[6,7] This estimate is close to the uniformitarian estimate.[8] Erosion this deep and extensive would be characterized by the Abative or Sheet Flow Phase during the early part of the Recessional Stage of the Noahic Flood.[6,9] Such activity would have occurred during differential uplift of the Appalachians and the sinking of the continental margin by about 14 km![10]

The Cullasaja River valley, as well as other river valleys, display more linear forms of erosion that would be placed in the Dispersive or Channelized Flow Phase, during the latter half of the Recessional Stage. The Cullasaja River Valley was carved after the general erosion of the Appalachians. It would be at this time that the knickpoints retreated rapidly headward, close to where they exist today, indicating that the Appalachian Mountains are young. It was also at this time that hundreds of water and wind gaps were formed by channelized erosion across ridges.[11,12] After the Flood the knickpoints would have retreated only slightly.

Figure 1. Blue Ridge Escarpment, a 600-m high cliff at Caesars Head State Park, North Carolina (view southeast), is an example of a steep escarpment in the Appalachian Mountains.

References

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4. A problem with geological observations is that they sometimes contain a select sample and cause a bias to creep into the interpretation. This is an excellent reason for creationists to do their own field work in geology and paleontology.
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11. Oard, M.J., Origin of Appalachian geomorphology Part III: channelized erosion late in the Flood, *Creation Research Society Quarterly* **48**(4):329–351, 2012.
12. Oard, ref. 7, especially chap. 77.