

# PHYSIOGRAPHIC PROVINCES

The landscape of the world is geologically young. “That the land on which we rest is not simple and original, but that it is a composition, and had been formed by the operation of second causes” was a startling realization that Hutton first saw fit to advertize anonymously in 1785.<sup>1</sup>

## d21 Geomorphology < scenery >

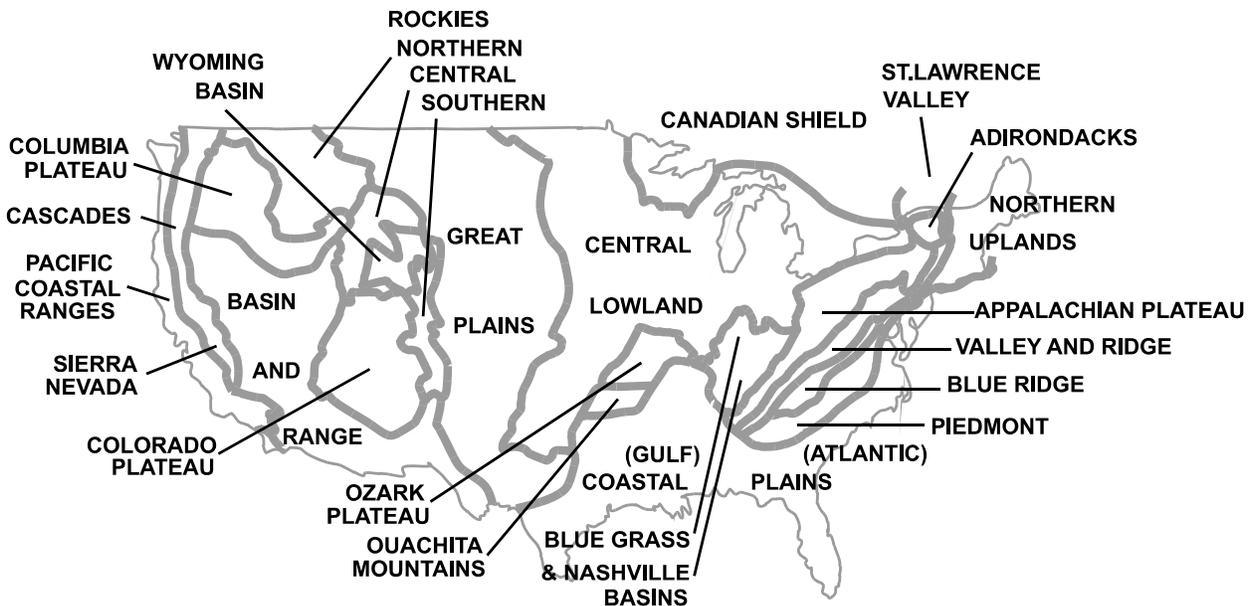
Immediately the mountains huge appear / Emergent, and their broad bare backs upheave  
 Into the clouds, their tops ascend the sky. / So high as heaved the tumid hills, so low  
 Down sank a hollow bottom broad and deep, / Capacious bed of waters:  
 —John Milton *Paradise Lost*, Book VII.<sup>2</sup>

Geomorphology is the study of the scenery for practical purposes of explaining it.<sup>3</sup> Geomorphological reasoning largely relies upon retroductive inference to generate fruitful hypotheses.<sup>4</sup>

The major landscape features: mountains, valleys, and plains, have not changed appreciably in all of historical time but *none* of these same ones were present at the beginning of the Cenozoic. The *physiographic provinces* are areas (**Figure d21.1**) that differ in their scenery because of differences of rock type, rock structure, climate (**Footnote d21.1**), climate changes (as say ice ages), tectonism, volcanism, deposition, and erosion.

Attached to a civil engineering firm, an insurance company, a lawyers’ office, a town planning board, an architectural firm, an environmental agency, &c., the scope for a geomorphologist to earn a good living seems limitless. Geology is so young a science that countries’ cities, towns, home sites, recreational areas, and industrial parks, and the laws that govern that were in place before two hundred years ago (and even less), were constructed and enacted respectively with no true awareness that the scenery is not static but its forming and sculpting is ongoing everywhere and that the scenery can be read for that reality. Entire infrastructures need to be retrofitted and related laws recast. □

Figure d21.1<sup>5</sup> The physiographic provinces of the United States



Footnote d21 The de facto standard for climatological classification is that introduced by Wladimir Köppen and his student Rudolph Geiger in 1928 and modified by Glenn T. Trewartha in 1980.<sup>6</sup>