

# How rocks shaped the Civil War

March 17 2016

---



Figure 5 from the Hippensteel article, "Carbonate rocks and American Civil War infantry tactics." Union reenactors during a National Battlefield Park demonstration in the limestone outcrops at the center of the Union line at Stones River on the 152nd anniversary of the battle. Karrens (or "cutters," right) provided critical defensive positions for the center of the crumbling Union line during the Battle of Stones River. Credit: Scott P.Hippensteel and Geosphere.

The most studied battleground from the American Civil War, from a geological perspective, is the rolling terrain surrounding Gettysburg, Pennsylvania. Here, the mixture of harder igneous and softer

sedimentary rocks produced famous landform features such as Cemetery Hill and Little Round Top that provided strong defensive positions for the Union Army.

Another even more common type of rock—carbonates such as limestone—provided similarly formidable defensive positions at numerous other battlefields in both the eastern and western theaters of conflict.

Limestones and dolostones shaped the terrain of multiple important battle sites, including Antietam, Stones River, Chickamauga, Franklin, Nashville, and Monocacy, and these rock types proved consequential with respect to the tactics employed by both Union and Confederate commanders.

This article by Scott P. Hippensteel of the University of North Carolina at Charlotte describes how [carbonate rocks](#) produced rolling terrain that limited the range and effectiveness of both artillery and small arms. Additionally, thin soils above limestone bedrock prevented tillage and the resulting forests provided concealment and cover for advancing troops. From a defensive perspective, on a larger geographic scale carbonates provided natural high ground from chert-enriched limestones. On a smaller scale, erosion of these same rocks produced karrens (or "cutters") that provided natural rock-lined trenches for defending troops.

**More information:** Carbonate rocks and American Civil War infantry tactics,  
<http://geosphere.gsapubs.org/content/early/2016/03/16/GES01266.1.abstract>.

Provided by Geological Society of America

Citation: How rocks shaped the Civil War (2016, March 17) retrieved 18 June 2024 from <https://phys.org/news/2016-03-civil-war.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.