

Northeastern Section - 47th Annual Meeting (18♦20 March 2012)

## Paper No. 30-6

**Presentation Time:** 8:00 AM-12:00 PM

# A RIVER RUNS THROUGH IT ♦ THE GEOMORPHIC IMPACTS OF THE VERMONT INTERSTATE HIGHWAY SYSTEM

[VANG, Analeisha M.](#), Geology Department, University of Vermont, 180 Colchester Avenue, Burlington, VT 05405, [analeishavang@gmail.com](mailto:analeishavang@gmail.com) and [BIERMAN, Paul R.](#), Geology Department and School of Natural Resources, University of Vermont, Burlington, VT 05405

The Vermont interstate highway system, constructed between 1958 and 1983, is 510 kilometers (317 miles) long and has altered the sediment distribution pattern and riparian vegetation in many of the state's rivers and the development pattern in towns near interstate exits. Vermont's interstate system is unique in that the interstate, state roads, the railroad, rivers, and towns often share the same confined valley bottom.

Using the Landscape Change Program database (<http://www.uvm.edu/landscape/>) – an archive of nearly 42,000 images of Vermont spanning over 300 years and supported by the National Science Foundation and the National Endowment for the Humanities – we viewed nearly 5000 images of the interstate before, during, and after construction. These images are part of a larger collection of 36,000 images taken from 1958 to 1979, during interstate construction in Vermont.

The photographs taken during construction show the clear cutting of forests, building of cofferdams, and rerouting of rivers necessary to construct the interstate. They also show the construction of bridge piers and the placement of riprap on riverbanks to maintain and protect the structural integrity of the highway. During and immediately after construction, rivers were inundated with sediment and hill slopes were at the mercy of accelerated erosion due to the clear cutting of forests and construction of cofferdams. Rephotography of these areas shows evidence of sediment accumulation immediately adjacent to and downstream of bridge piers, revegetation of riverbanks and surrounding hillslopes, and a routing of runoff from increased amounts of impervious surface. It is apparent that even after 45 years, both the direct and the indirect effects of the interstate system are still being felt.

[Northeastern Section - 47th Annual Meeting \(18♦20 March 2012\)](#)  
[General Information for this Meeting](#)

Session No. 30--Booth# 34

[The Legacy of Humans and Glaciation in Northeastern Rivers \(Posters\)](#)

Hartford Marriott Downtown: Ballrooms A & C and Ballroom Pre-function Area

8:00 AM-12:00 PM, Monday, 19 March 2012

Geological Society of America *Abstracts with Programs*, Vol. 44, No. 2, p. 83

---

© Copyright 2012 The Geological Society of America (GSA), all rights reserved. Permission is hereby granted to the author(s) of this abstract to reproduce and distribute it freely, for noncommercial purposes. Permission is hereby granted to any individual scientist to download a single copy of this electronic file and reproduce up to 20 paper copies for noncommercial purposes advancing science and education, including classroom use, providing all reproductions include the complete content shown here, including the author information. All other forms of reproduction and/or transmittal are prohibited without written permission from GSA Copyright Permissions.

---