

ABSTRACT PROCEEDINGS

BGS'05

36th Binghamton Geomorphology Symposium

GEOMORPHOLOGY & ECOSYSTEMS

University at Buffalo - Buffalo, New York
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Binghamton Geomorphology Symposium - A Brief History

In 1966 four geomorphologists and physical geographers at the State University of New York-Binghamton, all graduates of A.N. Strahler at Columbia University, began organizing weekly “brown-bag lunches” and discussing informally about their common interests: geomorphology and water. As the discussions became more focused over the next few years, and with the addition of Marie Morisawa to SUNY-Binghamton in 1970, the group put on the first Binghamton Geomorphology Symposium, focusing specifically on Environmental Geomorphology. These co-conspirators were dismayed at the increasing specialization and compartmentalization that had occurred in the sciences, and noted that many of the intriguing problems in science had become interdisciplinary. Because many problems in environmental science transcend traditional science and cut across scientific disciplines, they viewed the geomorphologist, as the surviving generalist in earth science, as being particularly capable of interacting in emerging environmental issues. Thus, they convened the first Binghamton Symposium, stating that “This Symposium is the first in what will be an annual symposia series in geomorphology.” And so it was. The Binghamton Symposium has been held annually ever since for over three decades. Each year the Symposium covers a specific topic as it relates to geomorphology:

1. Environmental Geomorphology (1970)
2. Quantitative Geomorphology (1971)
3. Coastal Geomorphology (1972)
4. Fluvial Geomorphology (1973)
5. Glacial Geomorphology (1974)
6. Theories of Landform Development (1975)
7. Geomorphology and Engineering (1976)
8. Geomorphology in Arid Regions (1977)
9. Thresholds in Geomorphology (1978)
10. Adjustments of the Fluvial System (1979)
11. Applied Geomorphology (1980)
12. Space and Time in Geomorphology (1981)
13. Groundwater as a Geomorphic Agent (1982)
14. Models in Geomorphology (1983)
15. Tectonic Geomorphology (1984)
16. Hillslope Processes (1985)
17. Aeolian Geomorphology (1986)
18. Catastrophic Flooding (1987)
19. History of Geomorphology (1988)
20. Appalachian Geomorphology (1989)
21. Soils and Landscape Evolution (1990)
22. Periglacial Geomorphology (1991)
23. Geomorphic Systems (1992)
24. Geomorphology: The Research Frontier and Beyond (1993)
25. Geomorphology and Natural Hazards (1994)
26. Biogeomorphology (1995)
27. The Scientific Nature of Geomorphology (1996)
28. Engineering Geomorphology (1997)
29. Coastal Geomorphology (1998)
30. Geomorphology in the Public Eye (1999)
31. Modeling and Geomorphology (2000)
32. Mountain Geomorphology (2001)
33. Dams and Geomorphology (2002)
34. Ice Sheet Geomorphology (2003)
35. Weathering and Landscape Evolution (2004)
36. Geomorphology and Ecosystems (2005)
37. Human Impacts on Fluvial Systems (2006)
38. Complexity, Criticality, and Chaos in Geomorphology (2007)

Symposium Objectives

Of particular interest for the Binghamton Geomorphology Symposium (BGS) 2005 “Geomorphology and Ecosystems” are empirical, theoretical, and modeling investigations of geomorphic and ecological links that occur at the whole ecosystem scale. Recent advances in ecological research have emphasized that material and energy flows and cycling across ecosystems are dominated largely at the biochemical and microbial levels, and further, that such processes are influenced heavily by either geomorphic setting or concurrent geomorphic processes. As such, we placed particular emphasis on soliciting papers focusing on links between geomorphology and biogeochemistry, nutrient cycling, and primary productivity within ecosystems (e.g. carbon fluxes within landscapes), both because of its relevance in terms of pure and applied research, and because this area has received relatively little attention within the geomorphic community.

We are glad to present papers that examine geomorphic and ecological links across a range of trophic levels within ecosystems, thus drawing attention to entire food-web dynamics that are influenced by geomorphic forms and processes. Finally, we drew upon more traditional geomorphic-ecological research by soliciting papers focusing on geomorphic influences on community ecology (e.g., habitats), and the influence of animals on landscapes. Several papers are targeted at more applied research within the realms of ecosystem restoration (e.g., river restoration, coastal restoration), and provide an appropriate balance between pure and applied science. We strongly believe that the BGS 2005 program provides a whole-system context for geomorphology and ecosystems, but also exposes some of the most critical and novel research currently underway. Further, we tried to create an atmosphere of truly interdisciplinary thinking and collaboration between geomorphologists and ecologists.

Our goal is a bit non-traditional from other BGS in that we explicitly target both geomorphologists and ecologists as speakers to present their expertise and cutting edge research in both fields. We seek to make each group more aware of the fundamental concepts, approaches, and current research within each discipline.

The goals of the proposed symposium are:

- current geomorphic research which is expressly focused on how geomorphic forms or processes affect whole ecosystems (at the watershed scale),
- current ecological research (at the ecosystem scale) which expressly considers geomorphology,
- conceptual issues within ecology and geomorphology which promote or restrict collaborative research (e.g., temporal and spatial scales, opposing methods of problem formulation),
- applications of geomorphology and ecology in environmental management or restoration, and
- increase exposure of research from young scientists, female scientists, students, and scientists from regions of the world not strongly represented in past Binghamton Symposia.