

## **HOW WE VISUALIZE GEOMORPHOLOGY – A NEW APPROACH TO TEXTBOOK FIGURES**

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Figures, the most common form of 2D and 3D scientific visualization, are critical for communicating information about process and form, the fundamentals of Geomorphology. Here, we report the approach we have taken in designing a unique and coherent set of figures for a new and different Geomorphology textbook, *Key Concepts in Geomorphology*. The book and its figures are designed to focus on and effectively convey the most important, core concepts of Geomorphology.

Our figure design attempts to maximize accessibility for today's undergraduate geomorphology students. Each figure is developed through a close and iterative partnership between the textbook authors and the figure designer (a current geomorphology Ph.D. student). Subsequently, each draft figure is modified in review by input from researchers, professors, and students in the field. A central component of our approach is to create figures that not only enable students to understand concepts discussed in each textbook chapter, but also allow professors to use the figures as stand-alone teaching aids.

Our design philosophy simplifies overly complex figures to the essential underlying concepts, while increasing the amount of description included in the figure itself. Thus, many figures resemble concept sketches. For example, a scatter plot will show not only data and axes, but will also include detailed annotation that guides students, helping them identify and understand the concepts each figure is designed to convey. Color plays a critical role in the figures we are developing; not only are full color figures more likely than black and white plots to attract the attention of today's students, but intentional use of color allows us to tie together various elements and concepts in figures, and to provide unifying themes such as the differences between humid and arid region geomorphology (greens and yellows) and the influences of water and ice (shades of blue) throughout the textbook. For both 2D and 3D figures alike, information typically stated in the text or figure captions alone is incorporated directly into the figure layout with color-coded textboxes. Taken together, these new and fresh strategies for figure design will provide students with a more accessible resource for learning Geomorphology.

[2009 Portland GSA Annual Meeting \(18-21 October 2009\)](#)

[General Information for this Meeting](#)

Session No. 244--Booth# 89

[Geomorphology \(Posters\)](#)

Oregon Convention Center: Hall A

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