

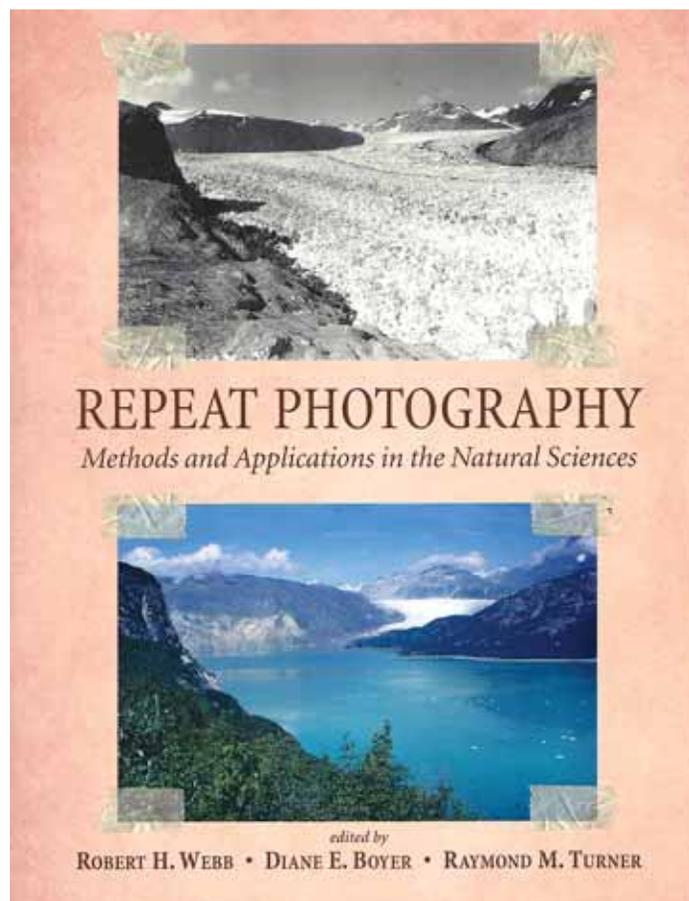
## BOOK PROFILE

*Repeat Photography: Methods and Applications in the Natural Sciences*

**IF A PICTURE IS WORTH A THOUSAND WORDS, IMAGINE** how much data can be gleaned from a decade of sequential pictures. Repeat photography, which is described in this reference book of the same name as “nearly as old as photography itself,” has evolved from a way to track the movement of glaciers—around 1888—to a modern field of study with “broad scientific, cultural, and historical applications.” The practice of taking multiple photos of the same natural resource from the same vantage point over a length of time, often many years, enables resource managers and scientists to document vegetation density and evaluate ecological and geologic changes in landscapes. According to editors Robert Webb, Diane Boyer, and Raymond Turner (2010), more than two decades have elapsed since a similar work focusing solely on repeat photography was published. Since that time, the field has “exploded with new methods, new areas of application, and new questions.” The editors note, however, that technological advances such as satellite remote sensing will likely not be available to developing countries with limited budgets. So, they say, the “point and shoot” method will have to suffice. And so it does.

After all the pointing and shooting, the real work begins. The authors discuss how analysis of repeat photography can be used in conjunction with detailed ecological surveys to provide a robust and accessible qualitative and quantitative measure of environmental change. In 23 chapters and with 100 photo sequences, scientists from five continents contributed articles that discuss techniques, geologic and geomorphic uses, applications in population ecology and landscape change, and relevance to societal concerns or reconstructions of changes in cultural features. A large portion of the book is dedicated to the applications of repeat photography in areas such as geoscience, geomorphology and glacier movement, the long-term stability of archaeological sites, population ecology, climate change, and cultural development.

Repeat photography’s most often used application is to acquire baseline information on the stability of vegetation to document ecosystem change. “Knowledge of vegetative conditions and trends is essential for informed management of wildlife. Lacking such knowledge, managers tend to accept current vegetative conditions as the norm, not understanding that wildlife habitats have undergone pronounced changes,” writes George E. Gruell in the book’s foreword. An example of the results possible with the use of this technique is illustrated (by Webb) in a research report on Grand Canyon National Park in this issue of *Park Science* (see page 83).



The book also explores where repeat photography is headed as technology evolves. High-resolution film and digital media are permanent benchmarks in repeat photography, and the implications of archival storage systems that guarantee longevity of the data are broad. The authors also discuss the use of GIS (Geographical Information System) in repeat photography analyses.

In this comprehensive text about past and current methods and uses of repeat photography, the editors have compiled essays and studies that exhibit the scientific ends to which repeat photography, an inherently interdisciplinary field of study, is the means. “As a scientific tool, repeat photography is unique in that it can be used to both generate and test hypotheses regarding ecological and landscape changes, sometimes with the same set of changes,” write Webb et al. (2010).

**Reference**

Webb, R. H., D. E. Boyer, and R. M. Turner. 2010. *Repeat photography: Methods and applications in the natural sciences*. Island Press, Washington D.C., USA.

—Jonathan Nawn and Amy Stevenson