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[Volume 8, Issue 4 \(April 2004\)](#)

Earth Interactions

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Scale-Dependent Relationships between Land-Use Change and Its Determinants in the Volta Basin of Ghana

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ABSTRACT

Relationships between cropland change and presumed determinants were analyzed at scales ranging from 30 to 5100 m using logistic regression. The plot of the odds ratio across the spatial scales indicated that both biophysical and social variables were important in explaining cropland change. In the first period (1984–92), biophysical factors were the dominant factors, while market-related variables were more dominant between 1992 and 1999. Response to changing economic opportunities was the underlying cause of this trend. Policies that would make commercialization of agriculture viable are required in the Volta basin of Ghana.

Manuscript received September 26, 2003, in final form December 7, 2003

DOI: 10.1175/1087-3562(2004)008<0001:SRBLCA>2.0.CO;2

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