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MANUAL AND AUTOMATED MAPPING
OF
CONTINUOUS STATISTICAL SURFACES:
AN EMPIRICAL EVALUATION

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A DISSERTATION

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ABSTRACT

MANUAL AND AUTOMATED MAPPING OF CONTINUOUS STATISTICAL SURFACES: AN EMPIRICAL EVALUATION

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Gebeyehu Mulugeta

Results of studies of automated mapping of continuous statistical surfaces from sample data suggest that there is no one best method for mapping even a single class of phenomena. One also finds that manually-produced maps are often used as the standard against which computer-produced maps are compared in such studies. There is a lack of research, except for few studies in geology, comparing manual and automated contouring. No systematic attempt has been made to document discrepancies (as judged by experts or non-experts) between manual and automated interpolation. Nor is there any attempt to compare expert and non-expert interpolation.

The present study surveys opinions about manual and computer interpolation; compares the performances of individuals, groups (experts versus non-experts), and methods (manual versus computer) in spatial interpolation; and documents and compares expert and non-expert evaluations of manually- and computer-drawn maps. Three groups of