

## Relationships Between Land Cover and Spatial Statistical Compression Capabilities in High-Resolution Imagery

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### Abstract

Current remote sensing technology offers resolution of 1 meter per pixel or better on satellite or airborne imagery. This results in very large data sets and significant computational challenges in classifying and mapping such imagery. Compression of these data sets without loss of important information continues to be a relevant research issue. Previous work has shown that the use of spatial correlation models can be used to compress multispectral imagery data with a resolution of 1 meter per pixel by two orders of magnitude over an Army fort in central Virginia (Shine, 2001). This paper will extend the study of spatial statistical compression over a variety of 1-meter multispectral imagery, including densely populated urban areas such as New York City. Results will be used to describe relationships between the type of landcover in an image and the ability to compress that image using spatial statistical approaches.

### References:

- [1] 1. Shine, J.A., "Compression and Analysis of Very Large Imagery Data Sets Using Spatial Statistics", in proceedings of the 33rd Symposium on the Interface, Costa Mesa, CA, June 2001.