IMAPP
Image Modeling As Poly-Patterns
IMAG

Image Model
And Generalization
Basic strategy is to model image as multiplicity (thousands) of segments that capture signal and spatial patterns of image by progressive refinement.
Base (B-level) segments are aggregated from two bytes into (A-level) segments for generalized patterns in one byte.
Nesting uses only two bytes for storing both levels.
Each segment at each level has a proxy pattern of signals that is typical of the pixels contributing to that pattern.
The A-level segments are ordered and numbered by overall intensity (length of proxy signal vector).
Map of A-level segment numbers serves as a simple surrogate image.
Landsat MSS
Landsat TM 9-12
“Pattern pictures” use color transfer tables to colorize segments according to proxy properties.
As a lossy compression, copyrights on original data files are circumnavigated.
Approximate restoration can be accomplished from B-level segments, and residuals can be mapped.
Segments accommodate pattern matching for change detection.
Segment profiles can be tabulated in blocks for contextual analysis.
Segment contextual associations can be analyzed.
Supervised and unsupervised classification of segments can be conducted.
Patterns can be generalized by rendering.
Non-spectral environmental indicators can serve as signals.