

expected to accumulate with distance away from the starting point. Thus, the area of least distortion of the map, being the area of the bay's entrance, can be used as an 'anchor point' for the shifting or rotating of the digitized plots (Figure 14). Thereby, the alignment of the Y direction of the map is based on the entrance of the Chesapeake Bay. The adjusted, realigned version of the Herrman map should closely resemble the contemporary shoreline of the NOS nautical charts. However, the resulting correlation resembled that of the techniques used for local shifting, block by block. Only the entrance of the bay region was aligned whereas, areas in the northern portion of the bay had shifted more out of alignment than with the global (overall) best-fit of the maps.

This suggests that a skewness or variable distortion exists in the Herrman map which contributes to the misalignment of the standard best-fit technique. Variable distortion can be corrected using the Affine package on the Intergraph digitizing system. This package adjusts the digitized points of one file and forces a fit of the points to match the true location of the contemporary digital data (Figure 12). However, this technique would not reveal the truly unique character and distinct variations in the Herrman map. The corrected Herrman map