lines rather than curvilinear and converging. The angle and amount of off-set from a true contemporary projection indicates the direction and angle of map image distortion. The direction and length (amount) of distortion is greatest in an east-west (Y) direction on the Herrman map. The lines of latitude are relatively straight and parallel as compared to the lines of longitude.

Analysis of the control points reveal the amount of distortion as related to direction and orientation plane of reference. As listed in the appendix of this thesis (pages 91 and 92), the latitudinally oriented control points have a comparably smaller measured distance between the Herrman map and the NOS base map than the longitudinally oriented control points. This is further supported by the standard deviation of the two data sets. There is a smaller amount of deviation with the latitudinally oriented control points as shown both graphically and listed statistically.

The greatest distortion exists in the determination of longitude positions by the surveying techniques of the seventeenth century. As the surveyor traveled along the shoreline in a east-west direction, greater error in accurate positioning occurred which is evident in the greater deformation of the longitude grid illustrated in