

In this study, a portion of the seafloor along the north coast of Peru was modeled, and ideal and actual locations of pre-columbian and colonial period ports were assessed. Many factors (such as proximity to existing settlements, availability of resources, and suitability of an area for launching and harboring boats) could have influenced how Spanish colonists and people indigenous to the area selected port locations. This study focuses on analyzing one of these factors: seafloor depth. By using ArcGIS, bathymetric data could be digitized and compared to port locations in both quantitative and qualitative terms, with the long-term goal of modeling ideal port locations in the area of study. Bathymetric maps from the Dirección de Hidrografía y Navegación del Perú were georeferenced and digitized using ArcMap, and then raster models of the seafloor in the area of interest were interpolated from the resulting vector data. These models were used both to provide data about the seafloor depths near several points of interest, and to contribute to a model of potentially ideal port locations. This model took into account seafloor depth, proximity to shoals, and distance from the shore. According to the seafloor model created, the average depth within a 1 km radius of each point of interest was -9.1 m, with a standard deviation of 0.4. According to the port location suitability model, the average suitability score of the points of interest was approximately equal to that of the coastal area as a whole. Further study would be necessary to determine to what extent the suitability of the points of interest differed from the suitability of other random points along the coast, so at this point it is unclear to what extent seafloor depth was a factor in the selection of port locations in the area of study.