

A paragraph/list (250 words maximum) explaining the steps used to create your map. Make sure to explain why you could trust the information provided in any base map you used. Also make sure to explain the visual elements (e.g., why did you choose those colors?).

To make my map, I loaded an image map provided in the class GLOW page of Easter Island into ArcGIS Pro. This map marks the locations of both Moai and Ahu Vinapu structures across the island. I georeferenced this map to create a polygon of the island where I used the map again to mark each structure as points (Moai, Ahu Vinapu, and roads). To discover which of the different kinds of statues would be lost to coastal erosion, I created a buffer around the shoreline that represented the extent of coastal erosion at the 50 and 100 year mark. I calculated the extent by multiplying the average yearly rate (.75m) by the number of years. The different extent buffers are represented as light blue and dark blue traces around the coast that display the extent of coastal loss to the ocean. I chose these colors because the change from light to dark indicates an increase in intensity, and because the blue mimics the waters' color. For the statues themselves, I chose a triangle and circle point symbol to represent each kind of statue, and colored them both green and blue. The color choice was both to stay within my color-scheme of natural-looking blues and greens, but also to indicate which could and could not be saved (green = safe, blue = at-risk). To determine which statues could be saved, I observed those in proximity to roads and created a sheer green polygon that overlays them but still shows which ones are at risk through the color change in the points.

Word Count: 259

A paragraph/list (150 words maximum) offering a brief analysis of your work. What percentage of sites could be lost in 50 years? In 100 years? What's the likelihood that any could be saved?

As shown in the graphs on my layout, a significant number of statues on the island are at-risk of loss due to coastal erosion, especially at the 100-year mark. For the Ahu Vinapu, only 3.3% were at risk within 50 years, but 60% at 100. And with the Moai, 27.7% could be lost in 50 years, and 44.6% in 100. However, as displayed in the second graph on my layout, 69% of the at-risk Moai, and 72% of at-risk Ahu Vinapu statues are potentially salvageable due to their proximity to roads on the island, these salvageable statues lie within the sheer, green polygon on my map. The roads I in my map are based on the map from GLOW, and differ a bit compared to the satellite map from ArcGIS, which may mean that more could be saved than my map estimates.

Word Count: 146

References

GLOW (April 2025). Map of Easter Island – Isla de Pascua, Chile, N.D. Map Image. [April 2025].