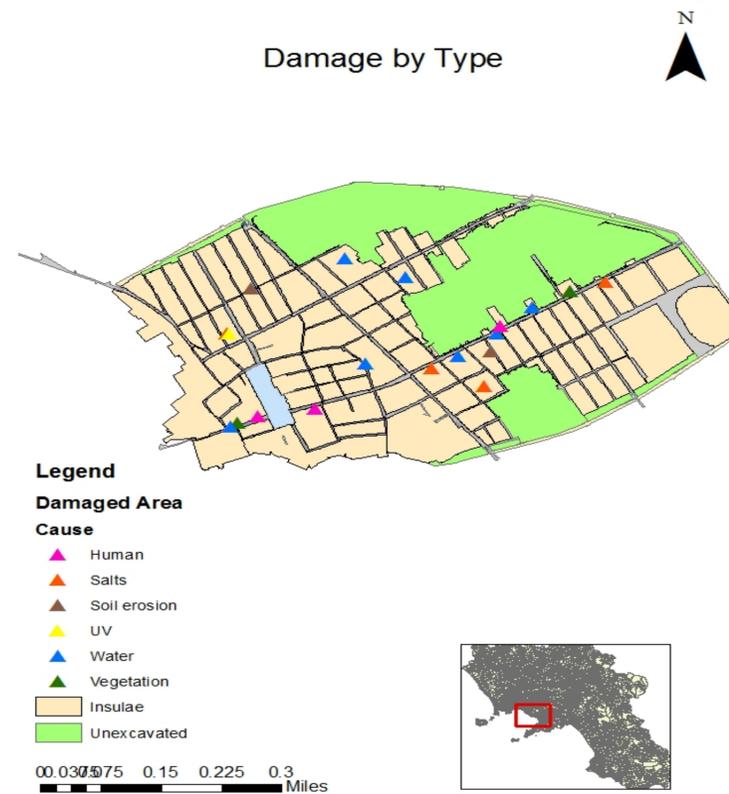
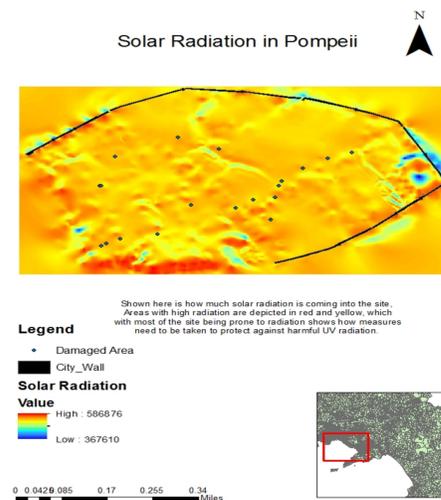


Pompeii's Second Destruction: Mapping Damage in the Archaeological Site of Pompeii

Abstract:

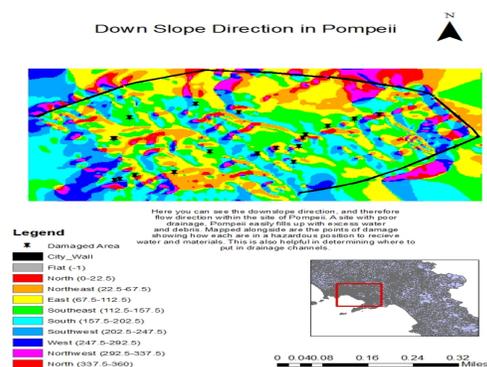
The archaeological site of Pompeii, is crumbling in our midst. Buried by the eruption of the volcanic Mt. Vesuvius in 79 A.D., the southern Italian site is experiencing what some have deemed its second destruction. Without proper care, Pompeii is constantly experiencing abuse from various human and environmental factors.



Conclusion:

It's obvious that Pompeii needs care from looking at how much noted damage has already occurred. Because it is highly possible that not every point of damage was identified by the UNESCO report, and also more than likely that more damage has occurred since the survey was conducted, it is important that the site is regularly surveyed for such points of deterioration. As shown by the map classified by damage type, water damage is the greatest source of wear currently affecting the site. Creating a better drainage system, surveying for leaks, and providing support for weakened structures would effectively limit the amount of water damage. However, high tourist traffic is also passing through just about every point of damage on a daily base and thus human and water factors must interrelate in affecting the accelerated rate of damage occurring. Since tourism is the funding source for all possible restoration projects, curbing the amount of visitors while attempting to structurally support the site would be difficult.

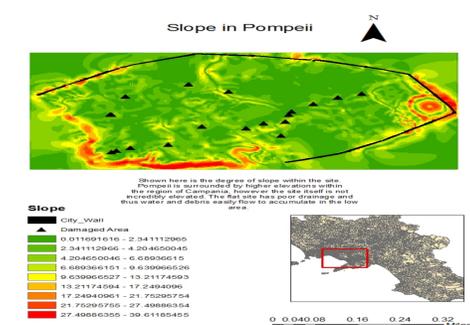
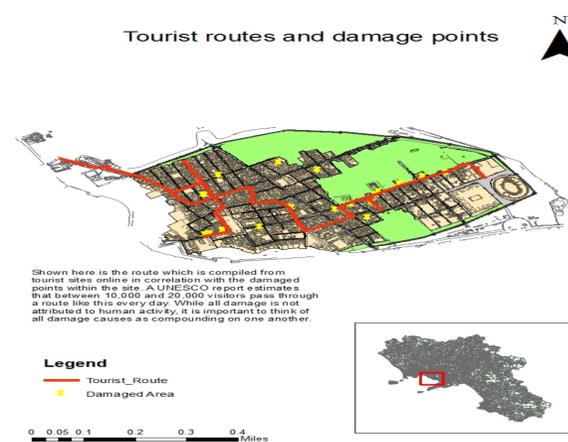
In my project I aimed to identify where exactly the damage had already occurred and to what sources that detriment was owed. I also wanted to look at the individual factors themselves to see how much of a threat each one was posing to the site. From there one could identify what factor or factors were posing the greatest danger to the structures and artwork within the site and therefore where the focus for reconstruction and conservation should occur.



Methodology:

In order to link damage and causality, I first needed to identify what damage had actually occurred at the site. At first, I had much trouble finding a concise source that listed all known damage, as most wanted to discuss specific major damage, such as building collapse. However, after finding a UNESCO report from 2010 that identified all sites of damage with causality attributed, I was able to start spatially locating points of deterioration. After placing all the spots on the map, I further divided and identified the points based on damage type, whether that be water, human, UV, salts, vegetation, or soil erosion. In some cases multiple damage sources were linked to the same structure. I then began to look at each factor by itself, mapping tourist routes for the 10,000-20,000 tourists that frequent the site daily in correlation with the points of damage. I also looked at precipitation rates in conjunction with the surrounding area and how excess water and debris might be funneled into the site, which is noted to have a poor drainage system. Additionally, I examined how much UV radiation would be coming into the site. Important within each individual analysis was to think broadly about how each would compound upon one another, such as how wear produced by heavy tourist traffic would then be further exacerbated by high precipitation.

However, by increasing cost and having better barriers one could limit the amount human destruction to the site. Clearly more work needs to be done to survey the amount of damage occurring in the site, while also finding ways to limit each of the destructive factors, rather than focusing on an individual damage source, due to their ability to compound on one another.



Monthly Precipitation for Naples/Campania Region	
Period	1961-1990
Unit	mm
Minimum	8.59
Maximum	224.12
Mean	83.88

