Preston Hudlow

GEOG 419

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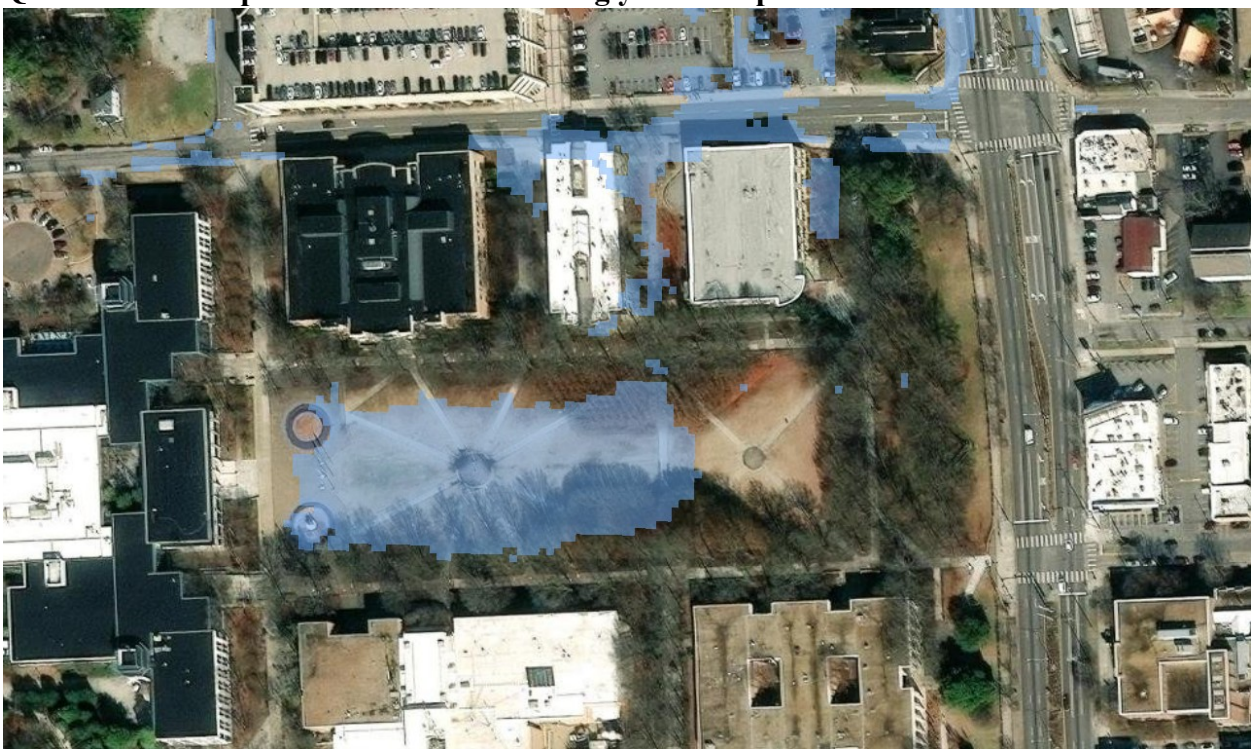
Lab 10

Q1: What typical areas are flooded by the storm surge? What parts of ODU campus are susceptible to flooding if a storm like the 1933 hurricane were to strike again? Are any flood-prone areas indicative of disconnected areas (e.g. depressions or filled creeks)? Explain. Write a short paragraph describing and interpreting storm surge flooding.

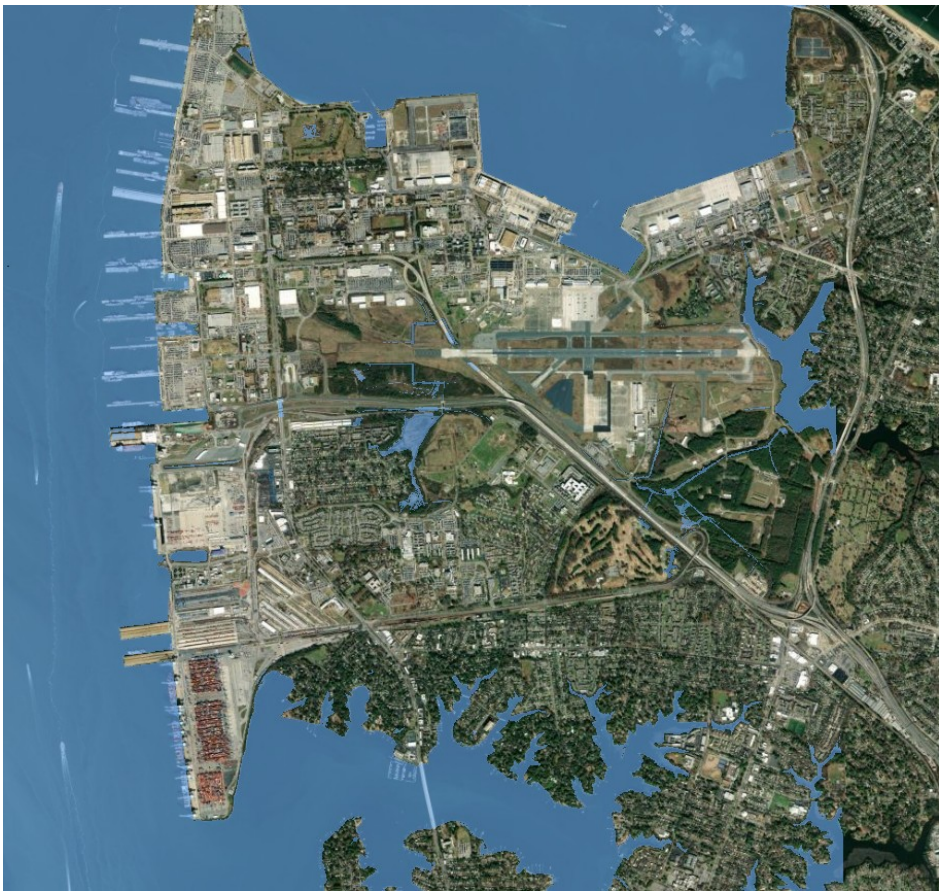
Typical areas flooded by storm surge in Norfolk include low-lying coastal zones along creeks and rivers. In the picture below the middle courtyard seems to accumulate water flowing from a creek to the North which could show depression. On campus the area's most susceptible to flooding are to the west and Northeast. These locations appear to have lower elevations and can trap water. There are some flood prone areas that seem to be isolated which means it could potentially have a depression in the landscape. Storm surges will typically follow a path of least resistance which would follow low elevations to flow inland and accumulate. There are many locations on the ODU campus that are potential flooding zones and could cover anywhere from fields, dorms, and parking lots.

Q2: Include a map screenshot corroborating your interpretation above.



Nice selec

Q3: Review the results. Impressed with SLR impacts by 2050? This doesn't include King tides, let alone storm surges, but is an everyday expected flood. Explain whether you think the results are as expected, or otherwise. Include a screenshot if you think it is helpful to illustrate your interpretation.



.671 meters SLR

The SLR impacts of 2050 are slightly deceptive in my opinion. With this just being the everyday expected flood the results are not that hazardous, however in a major event these zones that are not hazardous can become a major issue. However, though the zones are not that hazardous, flooding on the mainland in areas isolated all around is a major issue. This shows that Norfolk is a prime location for flooding and should be researched to help create plans for safety.

Q4: How well (or not) does the simple Con tool forecast future SLRise at 1.5m MHHW? Explain by comparison to the 2050 map and interpret the topography in these areas and flood extents.

1.5m SLR-light blue .671- dark blue

I think it shows the flooding infiltration locations properly but does not reflect major events such as storm surges or king tides. As you can see from the image above, from the .671m SLR the 1.5m SLR continued and followed paths of least resistance where it could accumulate. Adding storm surges and king tides would make this flooding even more extreme, finding new paths to travel and flooding even more locations.

Q5: Are any artifacts of incomplete hydrocorrection or other errors apparent? Is there evidence (or inference) that sea level rise is reclaiming historic creeks or wetlands? (Hint: You can lookup an old topographic map on the USGS National Map, NOAA historic charts or visit this recent storymap by Dr. Allen that has georeferenced historic maps http://tinyurl.com/hrmaritime) back-to-the future storm surge map versus the current FEMA flood hazard zones.

Yes, noticeable artifacts of incomplete hydrocorrection and historical landscape changes are visible in the Sea Level Rise (SLR) maps. In parts of Norfolk, including areas near the ODU campus, there are isolated pockets of flooding that aren't directly linked to major waterways. Additionally, comparing current SLR projections with historic topographic maps shows clear evidence that sea level rise is reclaiming former creeks, marshes, and wetlands. Areas with frequent flooding in the SLR Viewer often align with the locations of past tidal marshes or stream channels.