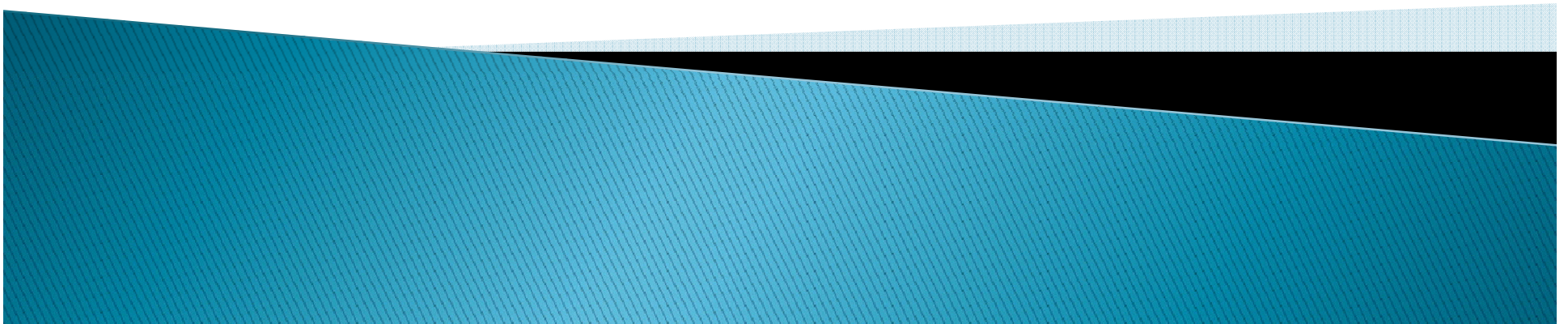


The Effects of Sea Level Rise in Manchester, Massachusetts

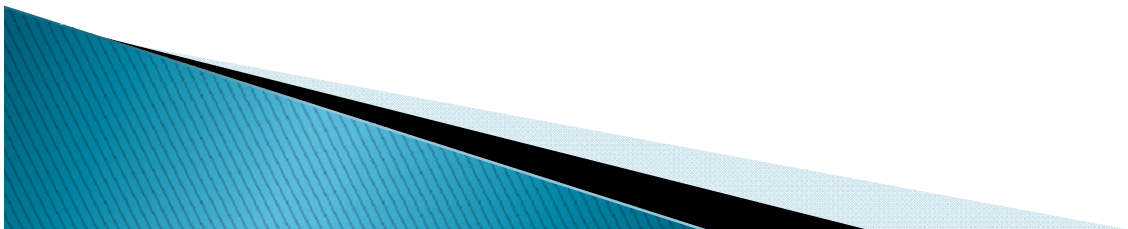
Jennifer Carr
GPH340
Fall 2009



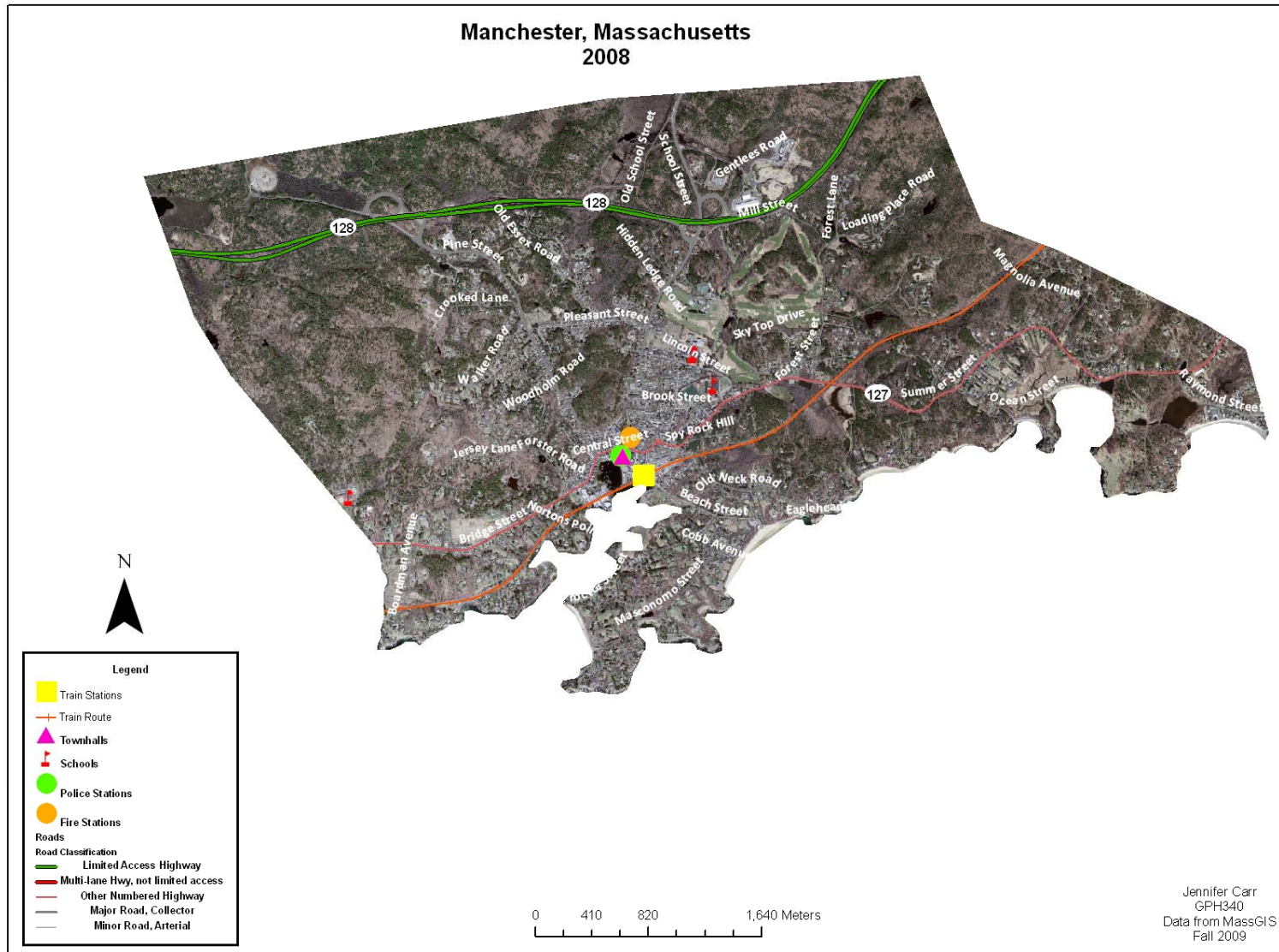


- ▶ The area of Manchester is 20,039,729.1649 square meters
- ▶ Manchester has a population of 5,472 people

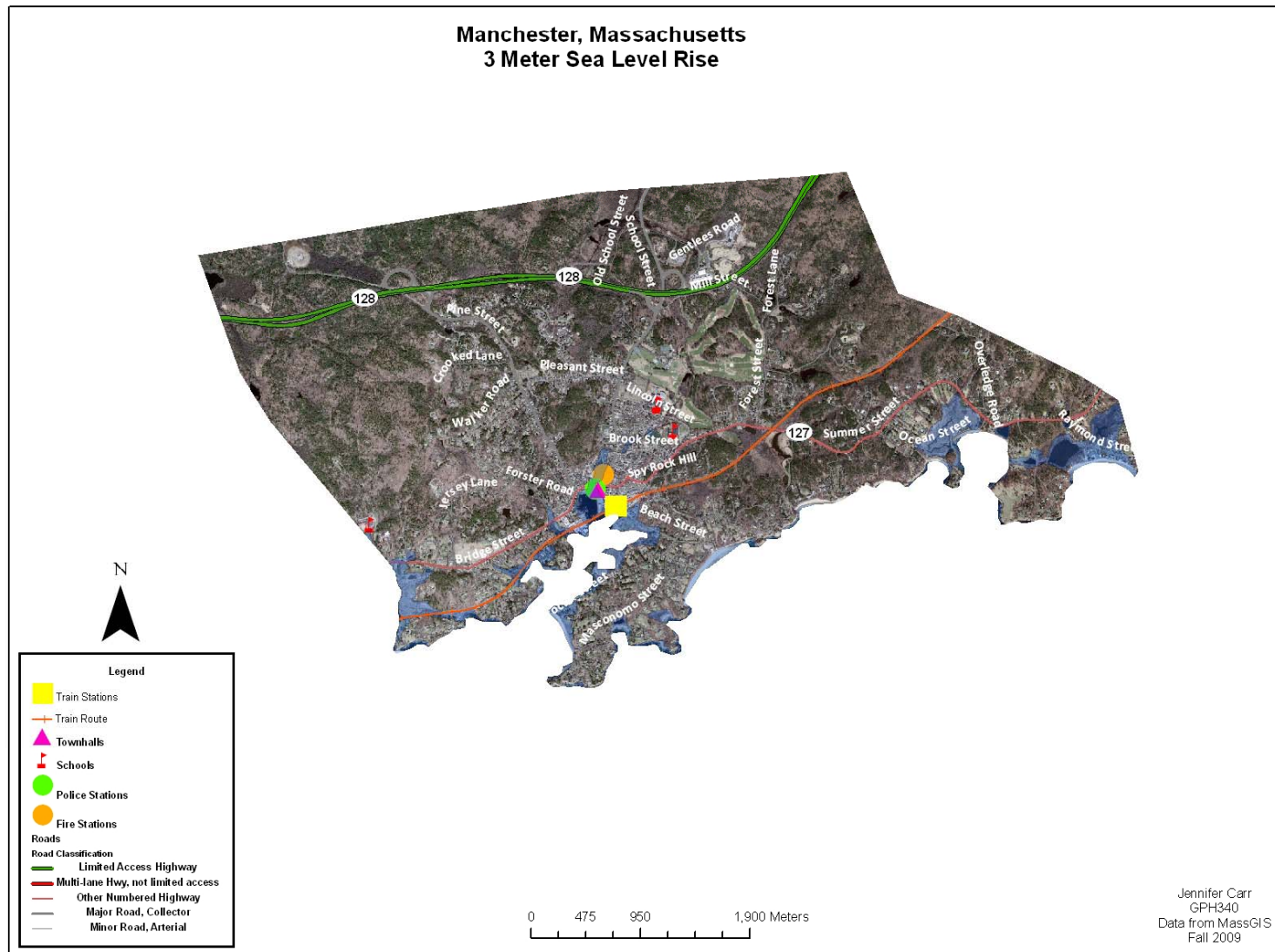
- The goal of this project was to produce maps of Manchester reflecting the effects of varying degrees of sea level rise
- The 3 meter maps reflect the current sea level at high tide, plus storm surge
- The 3.5 meter maps reflect a slight change in sea level at high tide, plus storm surge
- The 4 meter maps reflect the estimated high tide sea level by the end of the century, plus storm surge



Manchester, Massachusetts 2008

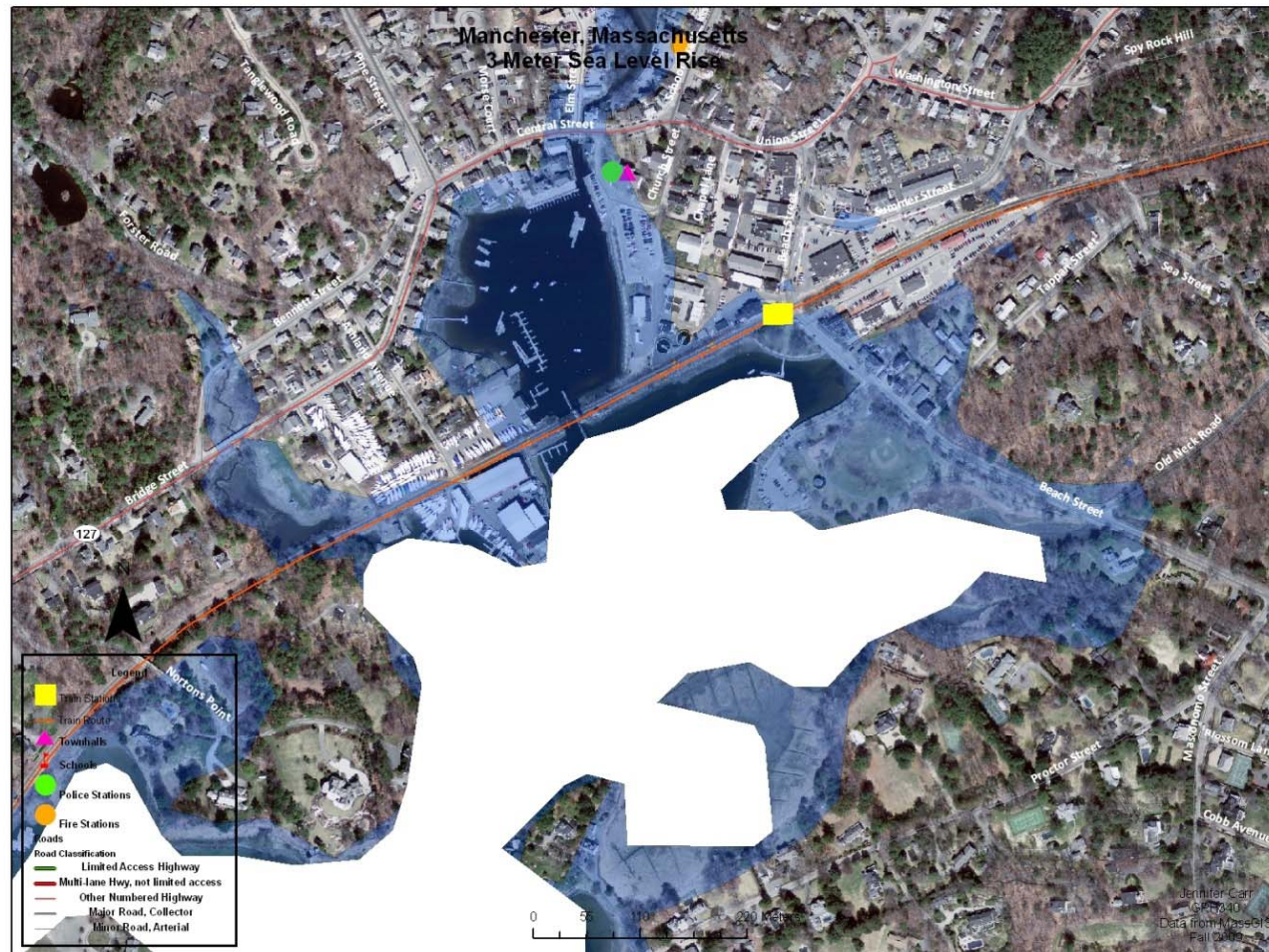


At 3 meters of sea level rise, .06% of Manchester will be flooded.



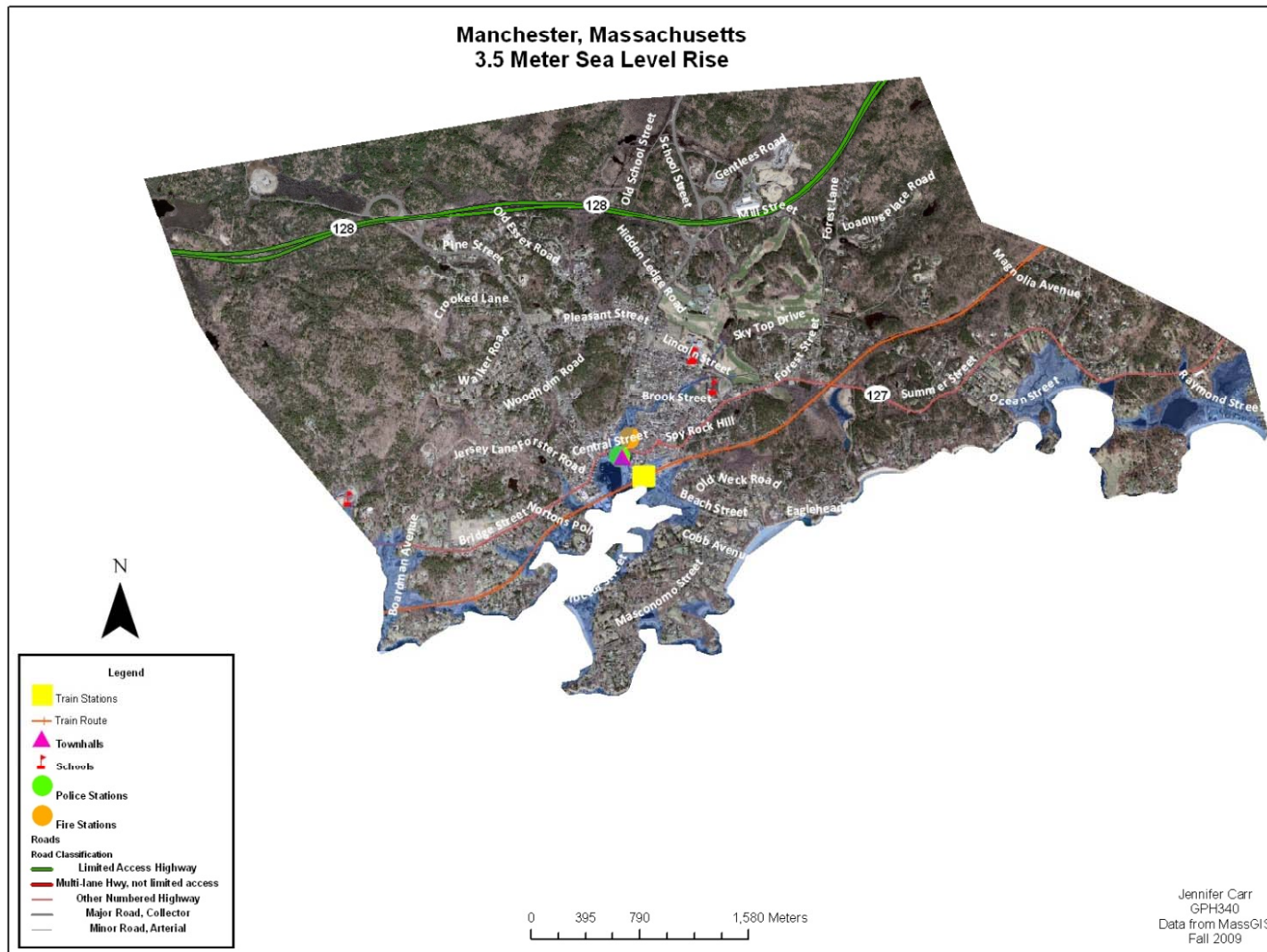
Singing Beach at 3 Meters of Sea Level Rise



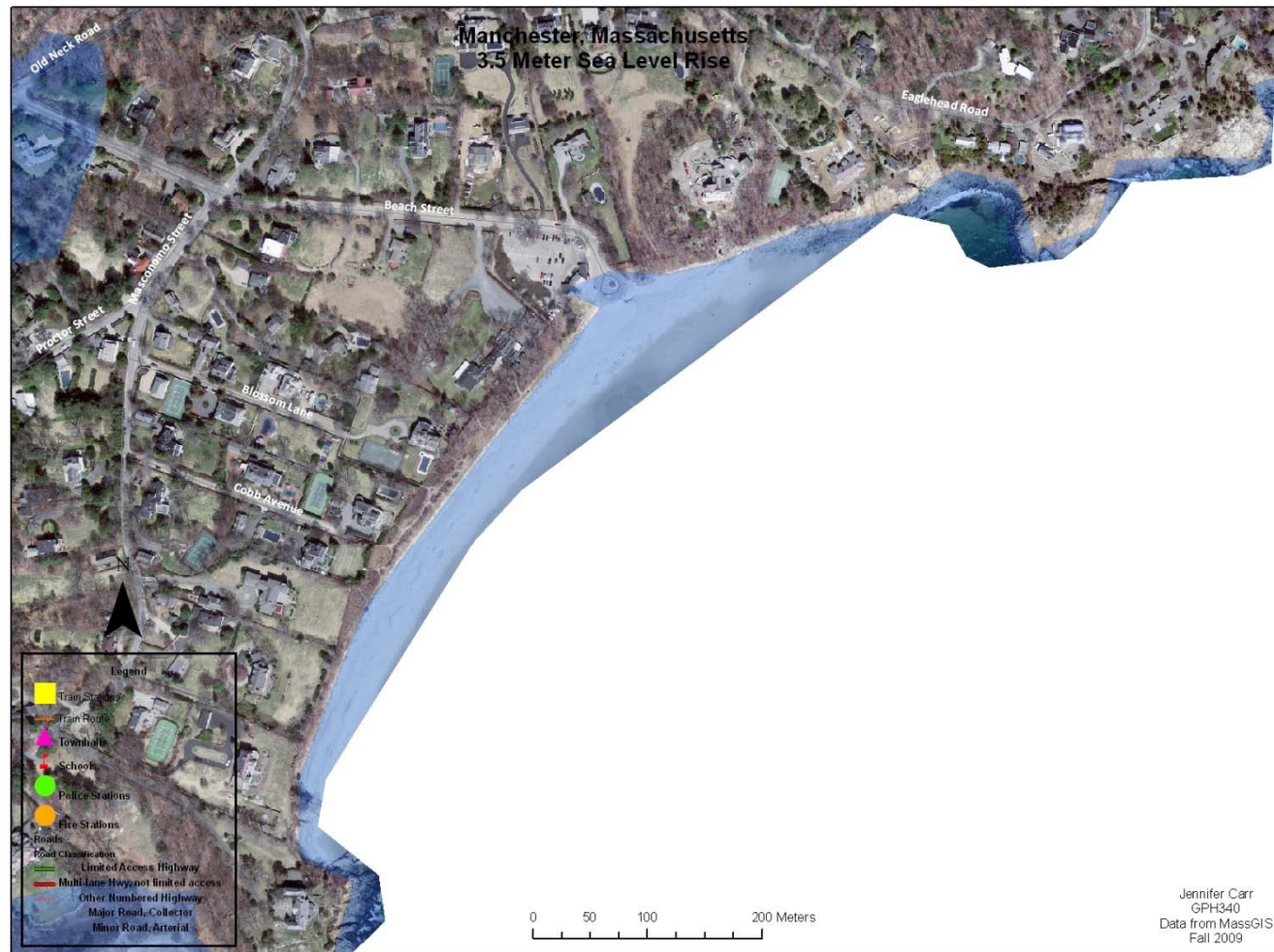




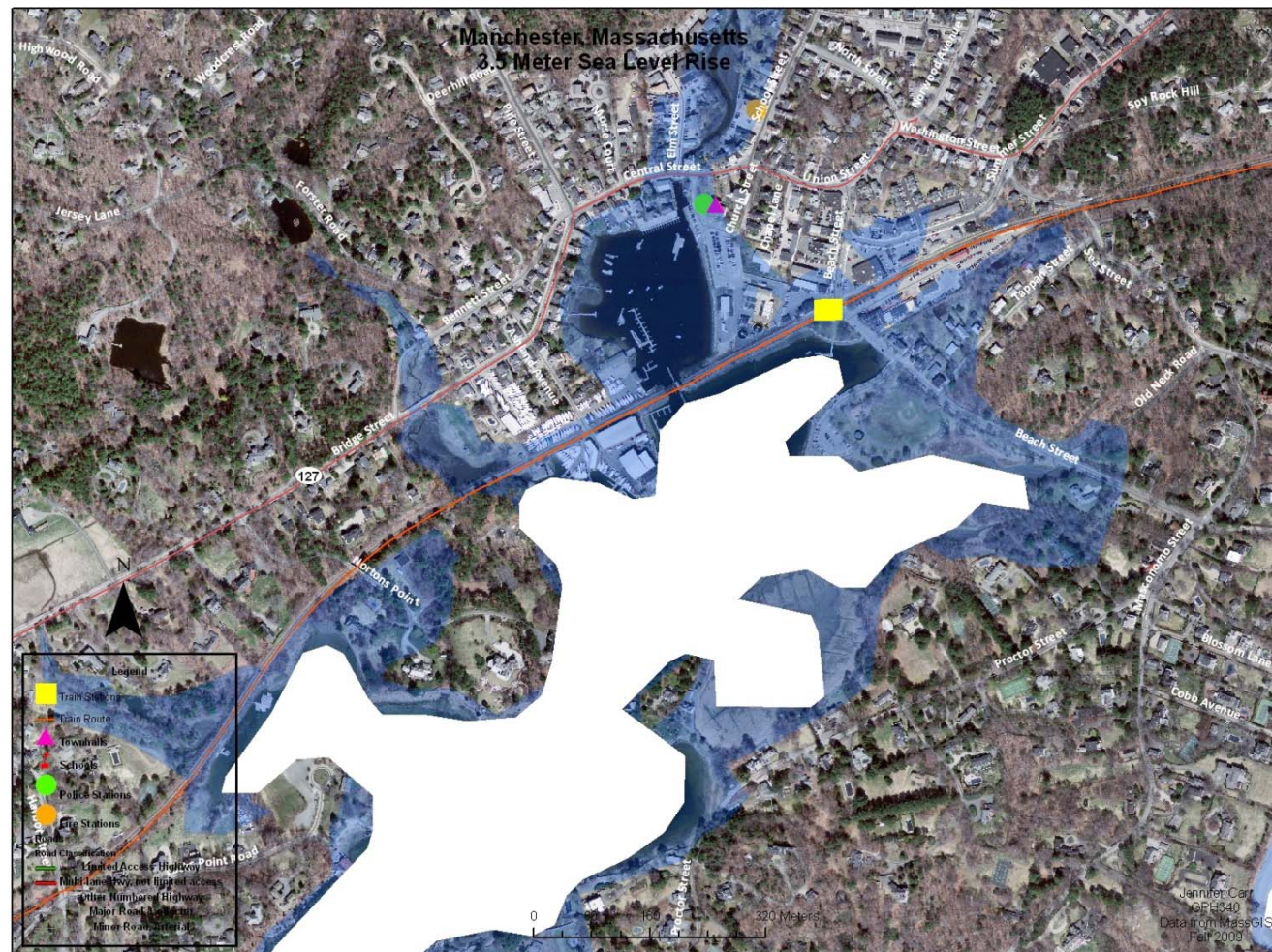
At 3.5 meters of sea level rise, .07% of Manchester will be flooded.



Singing Beach at 3.5 Meters of Sea Level Rise



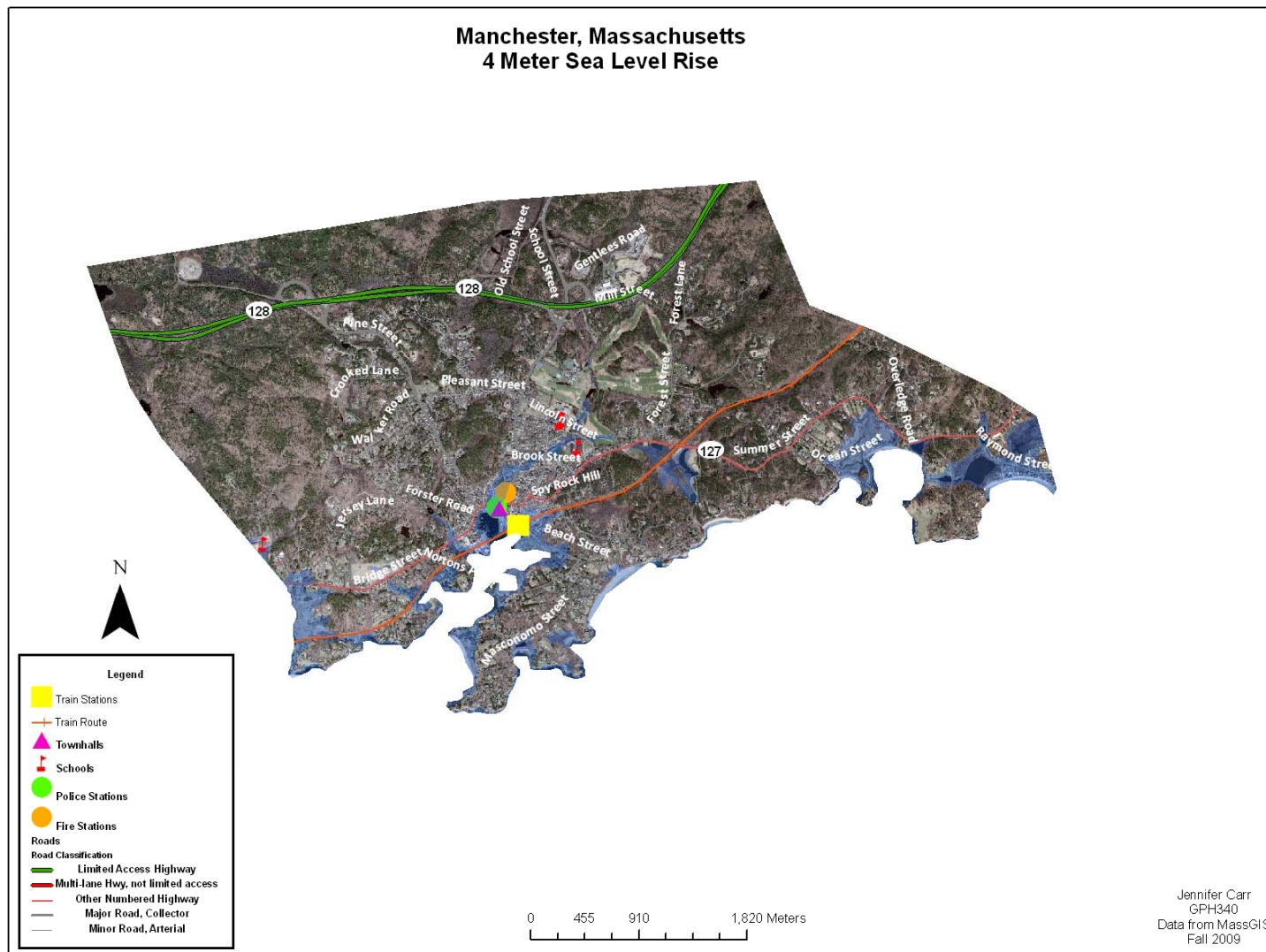
Manchester Harbor, Town Hall, Train Station, Police and Fire Stations at 3.5 Meters of Sea Level Rise



Manchester–Essex Jr./Sr. High School and Elementary School at 3.5 Meters of Sea Level Rise



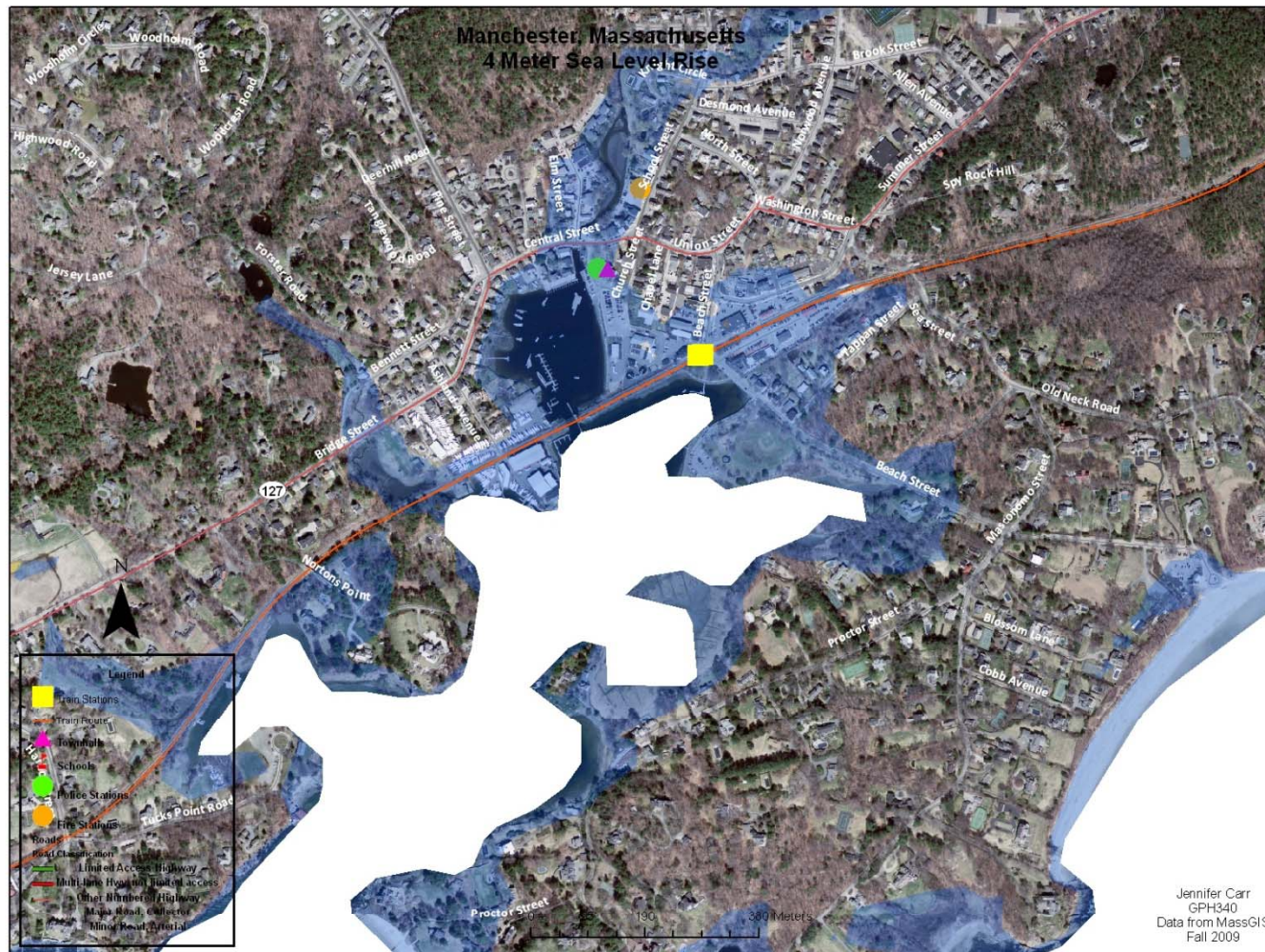
At 4 meters of sea level rise, .08% of Manchester will be flooded.



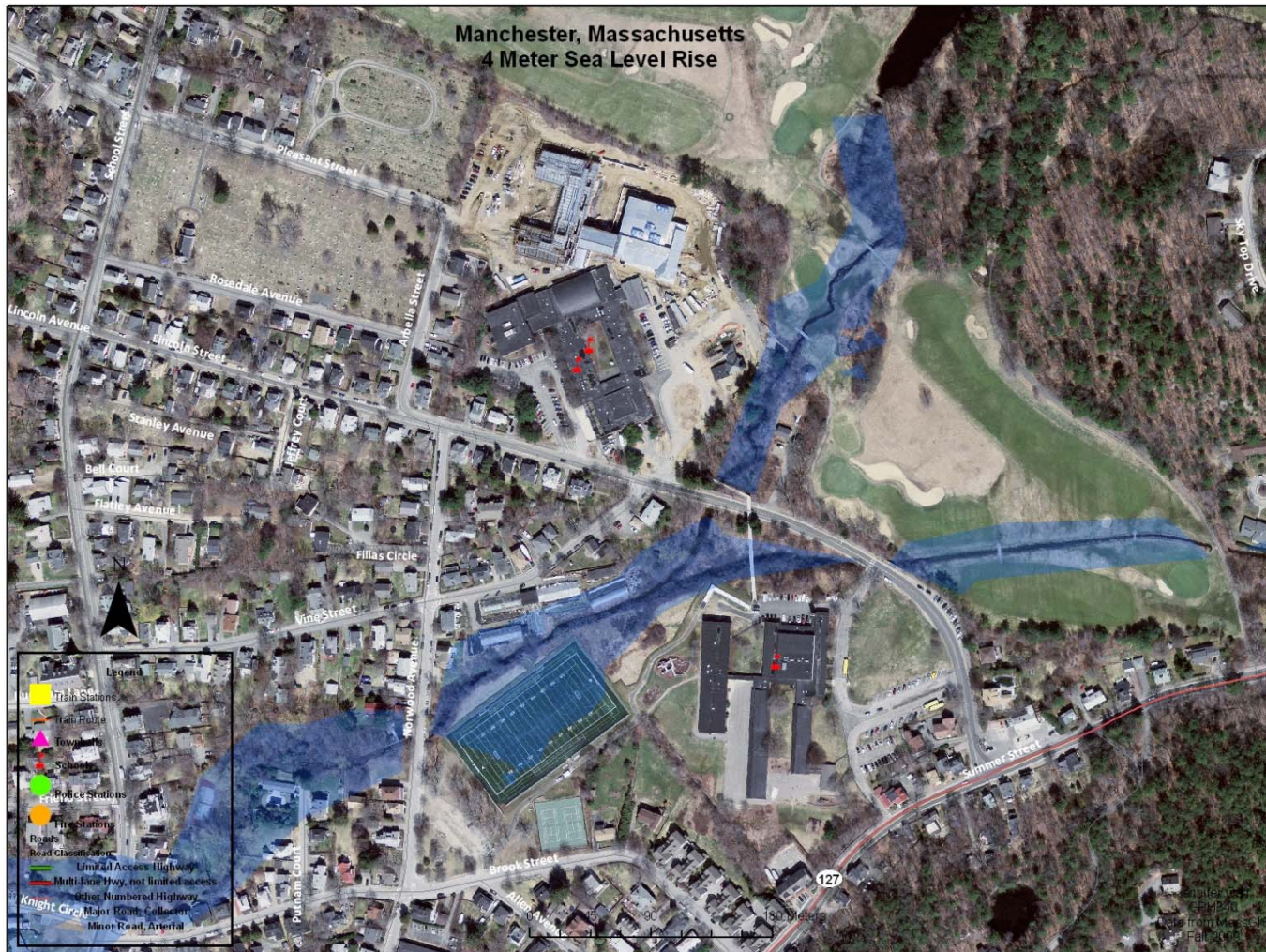
Singing Beach at 4 Meters of Sea Level Rise



Manchester Harbor, Town Hall, Train Station, Police and Fire Stations at 4 Meters of Sea Level Rise



Manchester– Essex Jr./Sr. High School and Manchester Elementary School at 4 Meters of Sea Level Rise



Conclusions

- Manchester is not prepared for even a small percentage of sea level change
- At 3 meters of change:
 - Much of Manchester's municipal infrastructure is damaged
 - The train station, part of the rail way, and part of Rt. 127 will be flooded, making access to the town difficult
- An important part of Manchester's economic vitality, Singing Beach, is completely flooded at all three levels of change
- At 4 meters of change:
 - All of Manchester's municipal infrastructure and most of the Downtown area is flooded. This would lead to major economic losses as the Downtown area draws tourists to the town.
 - Emergency services would also be impaired due to the complete flooding of both the police and fire stations.

