# Linkage between Climate Change and Stormwater Management in the Lower Raritan, South River, and Lawrence Brook Subwatersheds

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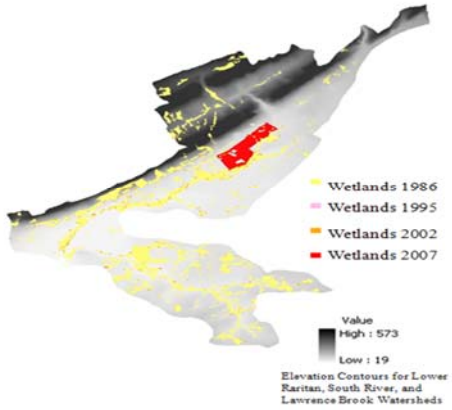
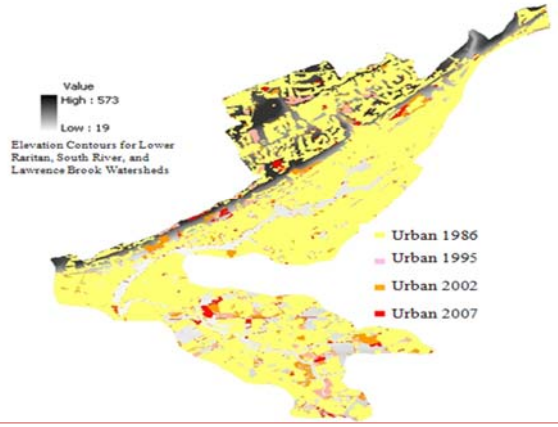
In the last 50 years, the Northeast has seen a 67% increase in very heavy rainstorm events[1] (NCA, 2009). To better understand the effects of the increase in very heavy precipitation, three subwatersheds were delineated for examination and modeling purposes. To execute this, GIS data was compiled and then compared for the years 1986, 1995, and 2010. The results show a steady decrease in agricultural and forest land use, while there has been an overall increase in wetland data. Wetlands have increase ~8% over the last 21 years, but reasons for this are unknown. There has been approximately a 21% increase in urbanization as well. These findings show that there has been an overall decrease in pervious cover. With an increase in heavier rainfall events in the Northeast (NCA), major flooding becomes a concern. With this information, recommendations within these subwatersheds can be made to design stormwater management systems to help alleviate flooding and prepare for heavier rainfall events associated with climate change.



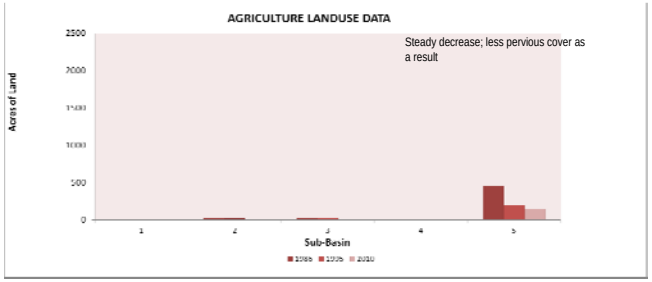

Wetland land use data has increased ~8% in the last 21 years

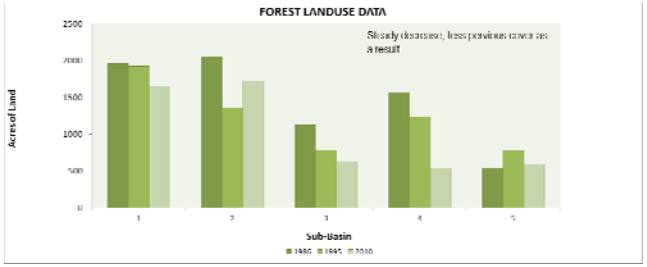


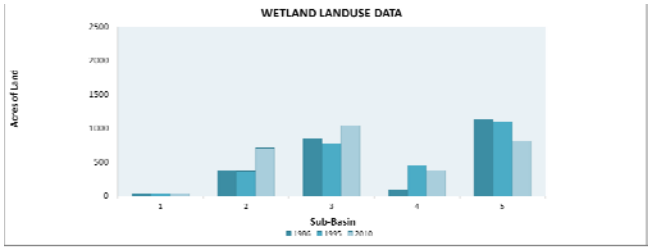

Urban land use data has increased ~21% in the last 21 years

**INCREASE IN URBANIZATION**

| YEAR | CHANGE (ACRES) | TOTAL (ACRES) | PRECENT INCREASE |
|---|---|---|---|
| 1986 - 1995 | 346 | 1,766 | 19.5% |
| 1995 - 2002 | 512 | 2,259 | 22.7% |
| 2002 - 2007 | 440 | 2,145 | 20.5% |


References

[1] "Global Climate Change Impacts in the United States 2009 Report." *Increases in the Number of Days with Very Heavy Precipitation*. N.p., n.d. Web. 16 Nov. 2012. <http://nca2009.globalchange.gov/increases-number-days-very-heavy-precipitation>.