





Virginia Coastal Plain Aquifer System

Potomac Aquifer Recharge Oversight Committee

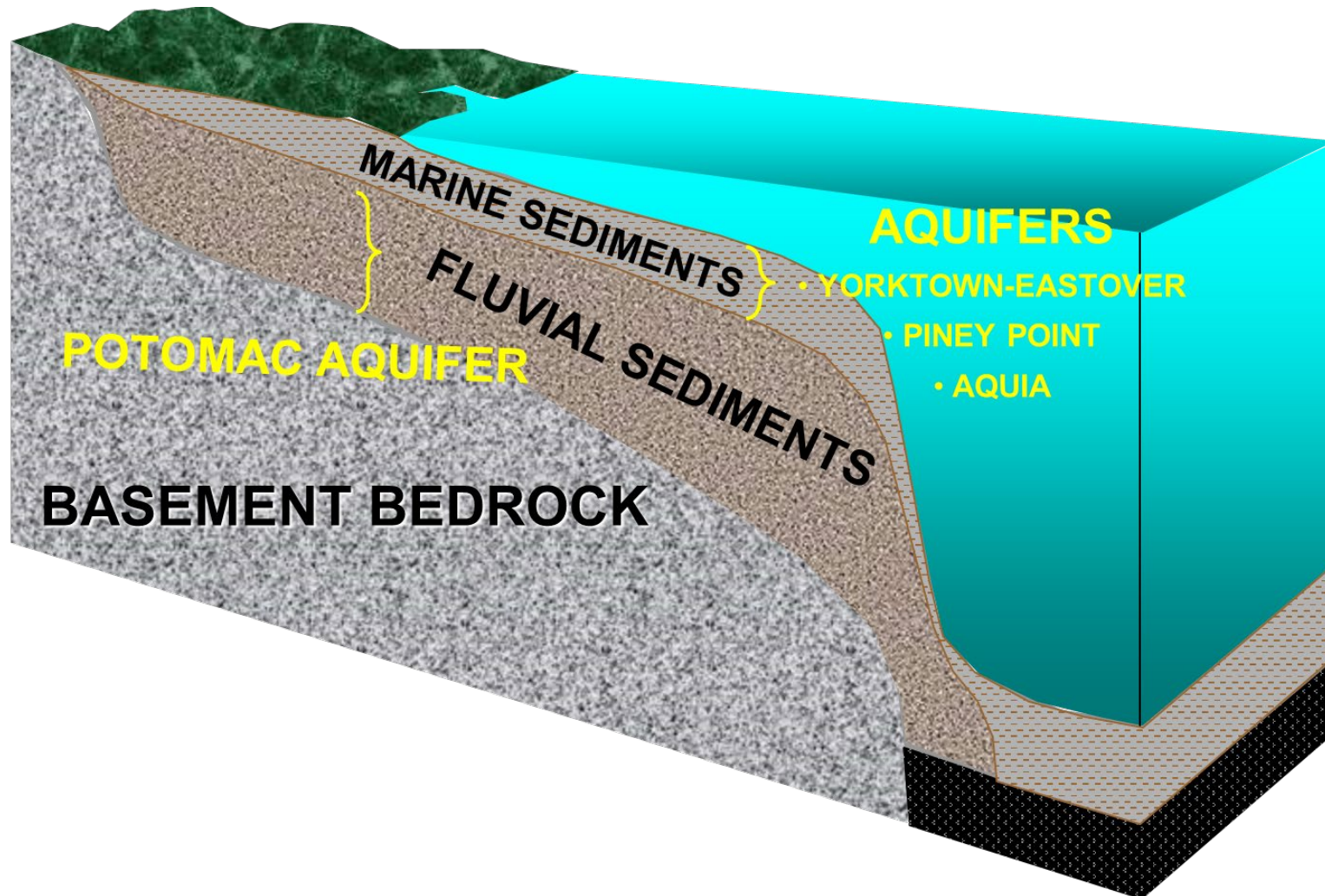
Scott Kudlas

Office of Water Supply

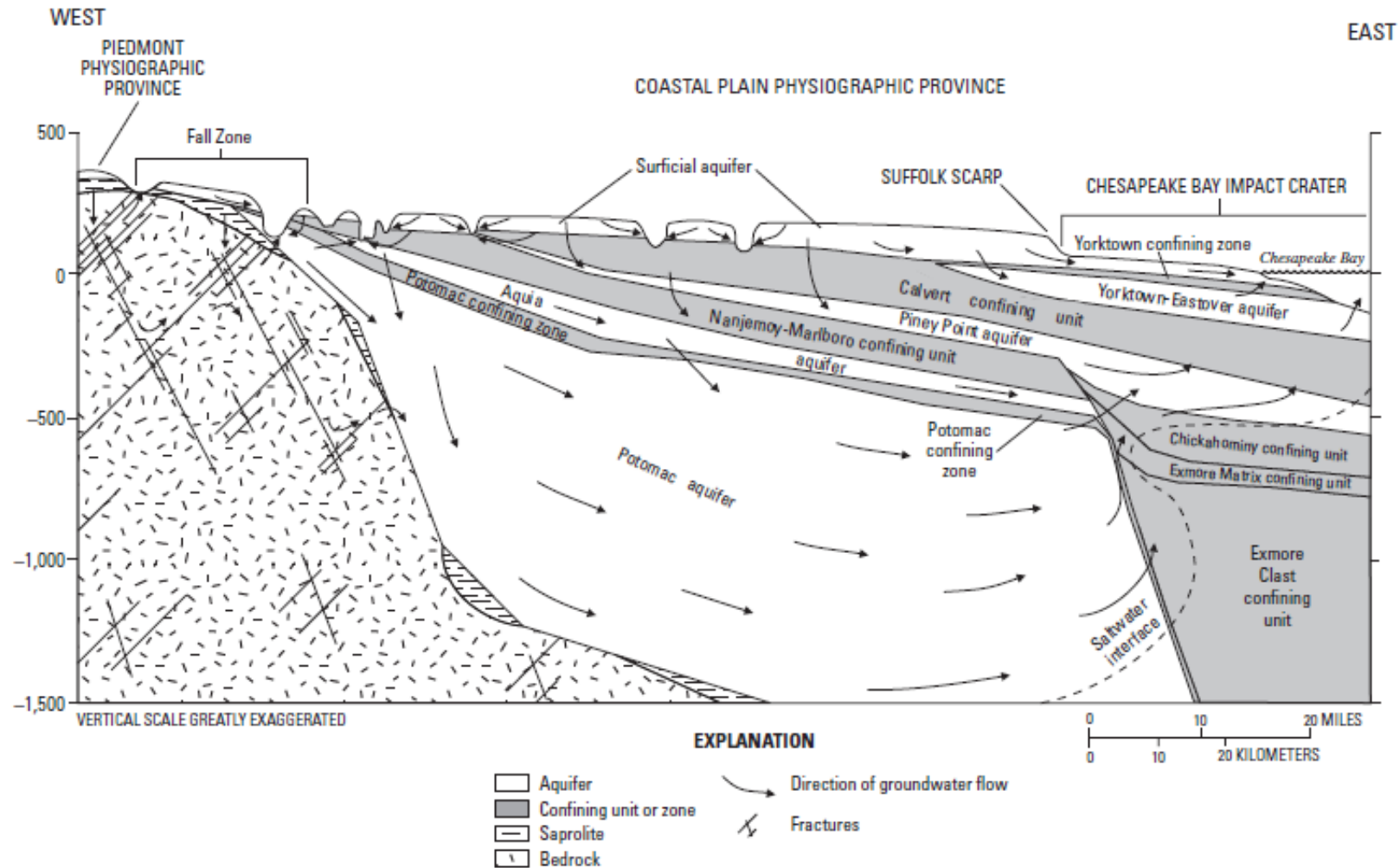
Virginia Department of Environmental Quality

June 27, 2022

Virginia Coastal Aquifer System

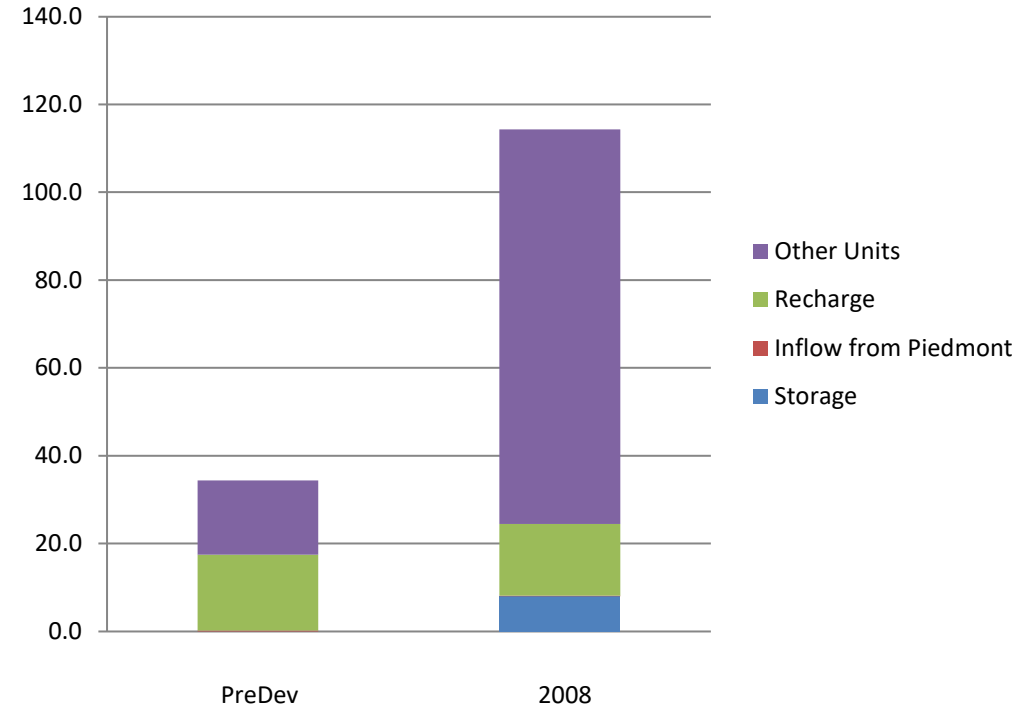


Hydrogeology of the Coastal Aquifer System

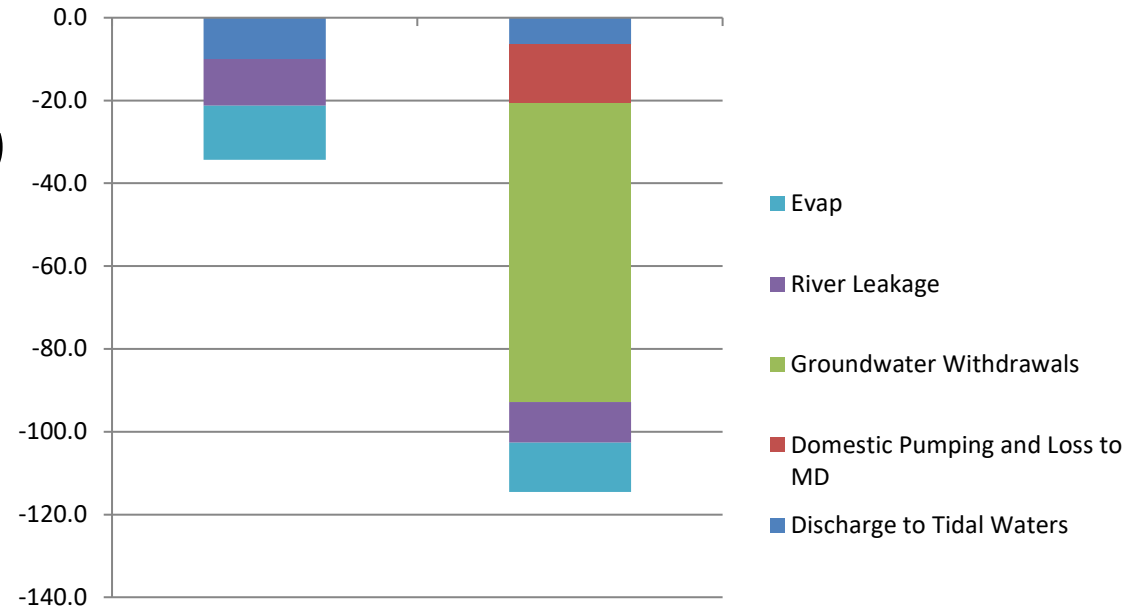


Potomac Aquifer Water Balance: Pre-Development vs. Modern

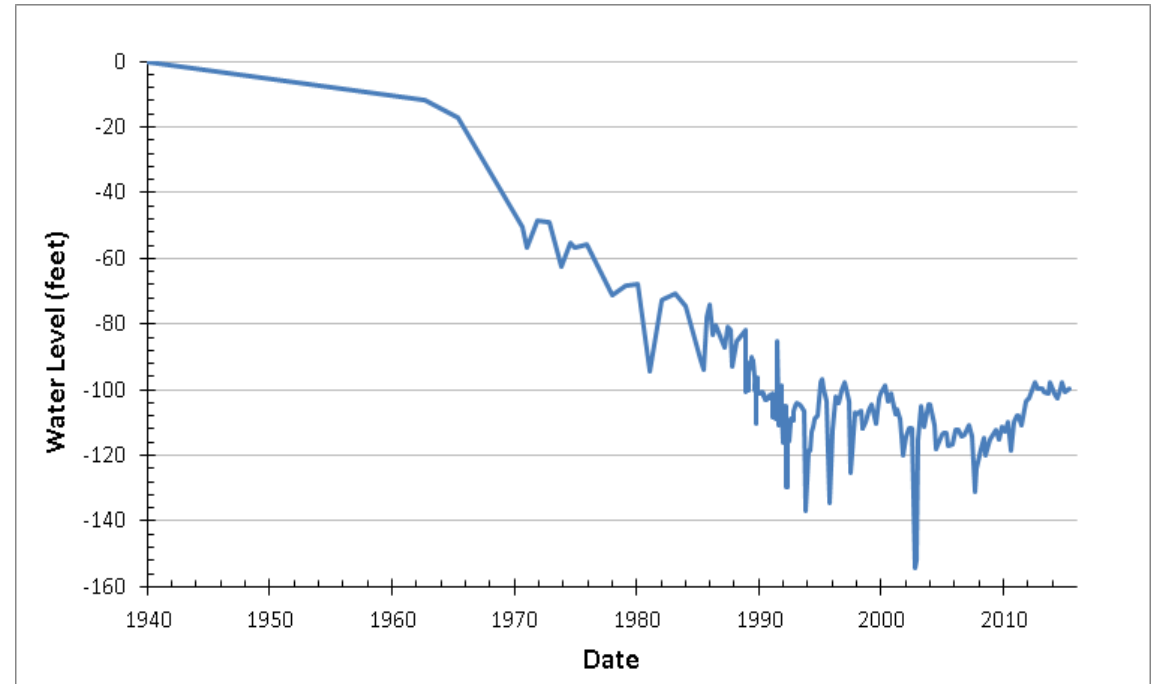
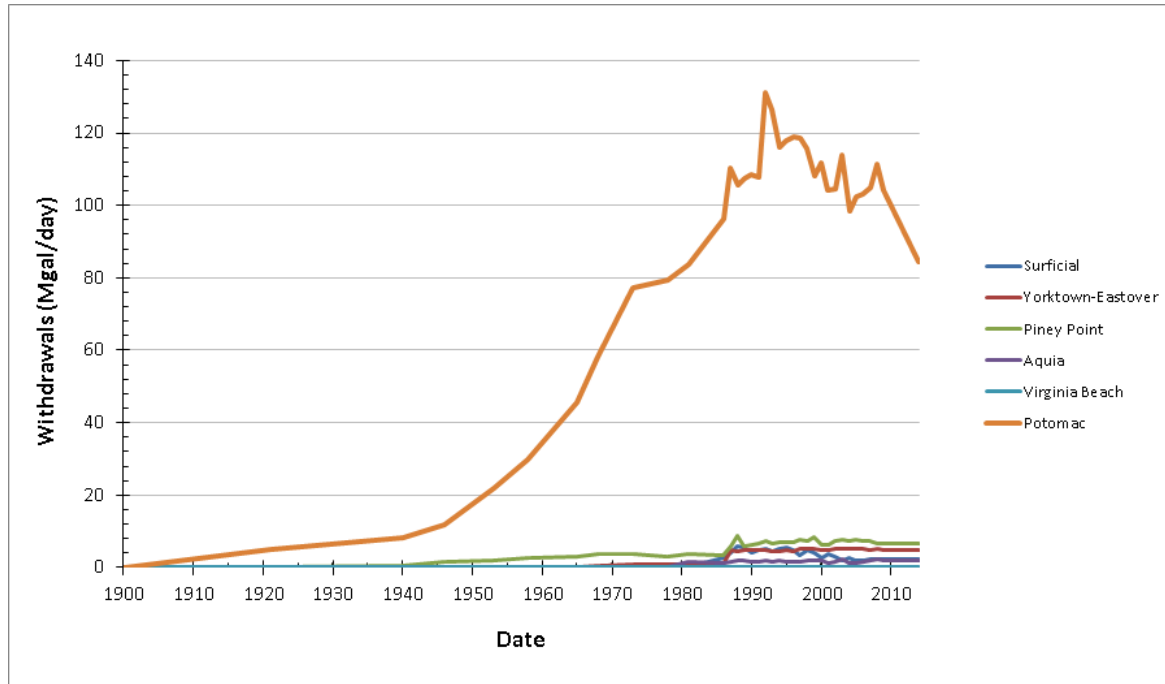
Inflows (MGD)



Outflows (MGD)

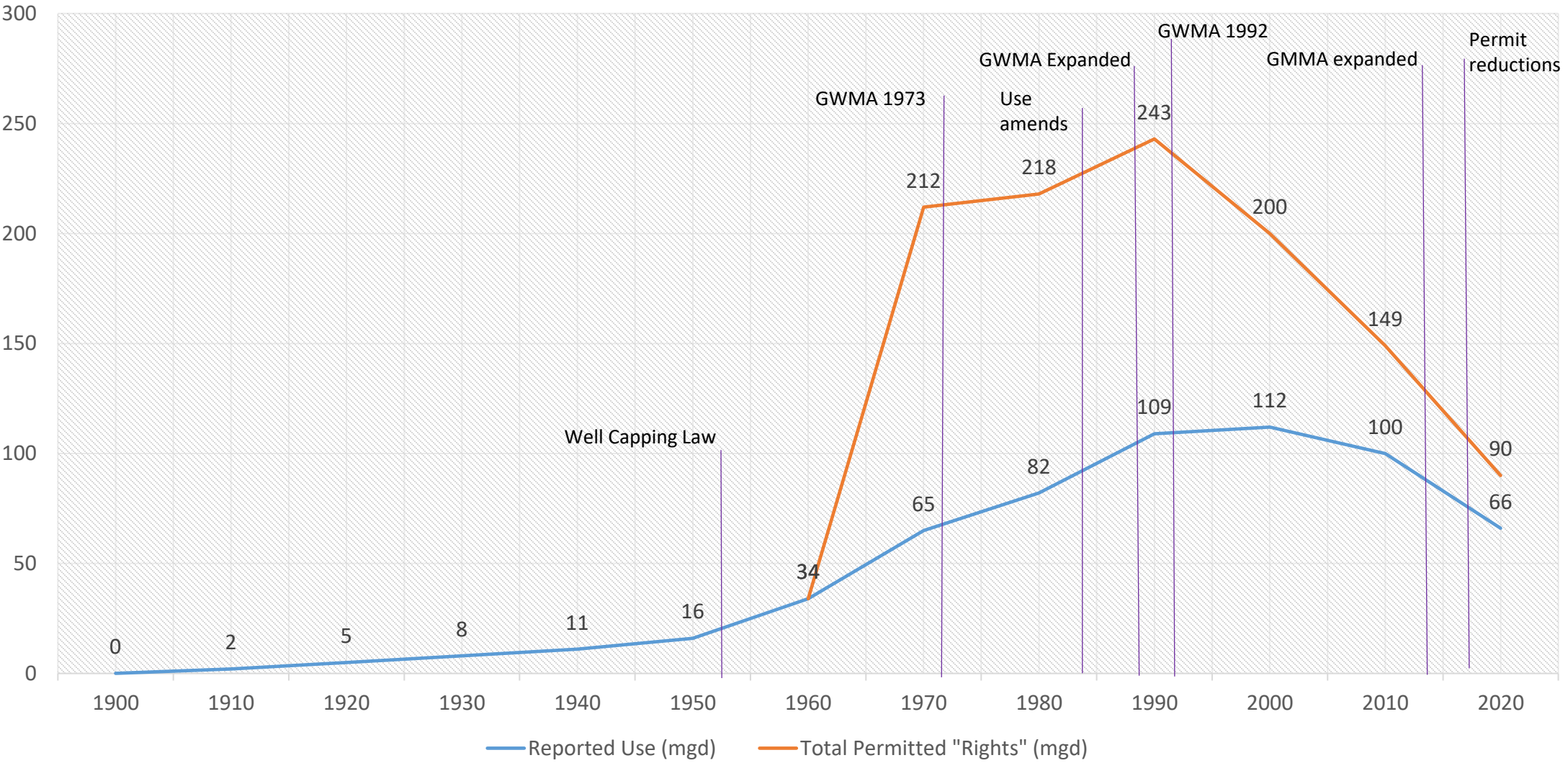


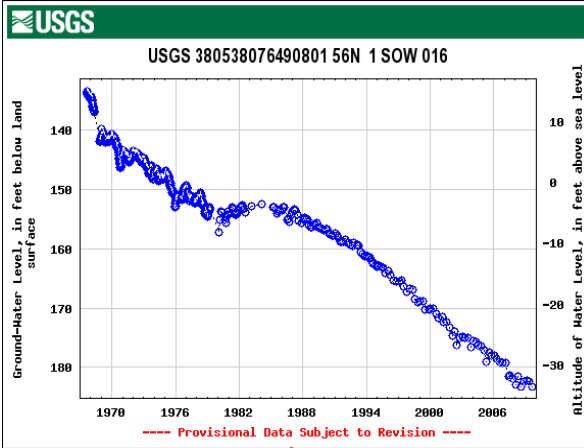
Increases in Withdrawal



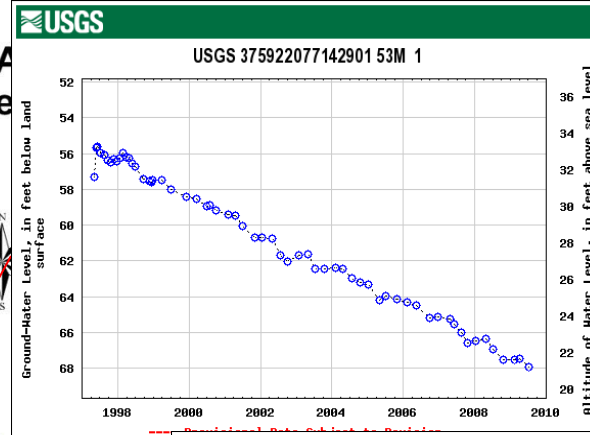
Decreases in Groundwater Level

Reported v. Total Permitted/“Rights”

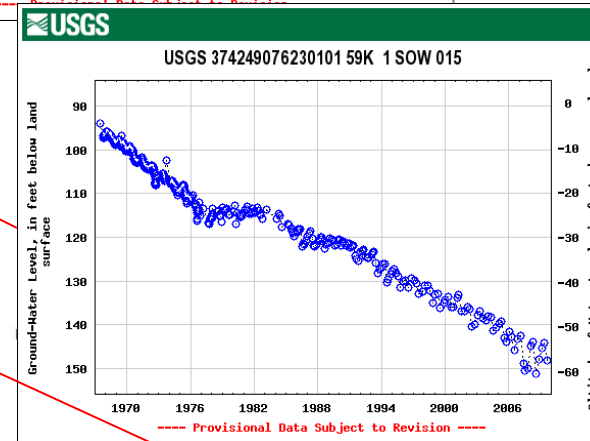
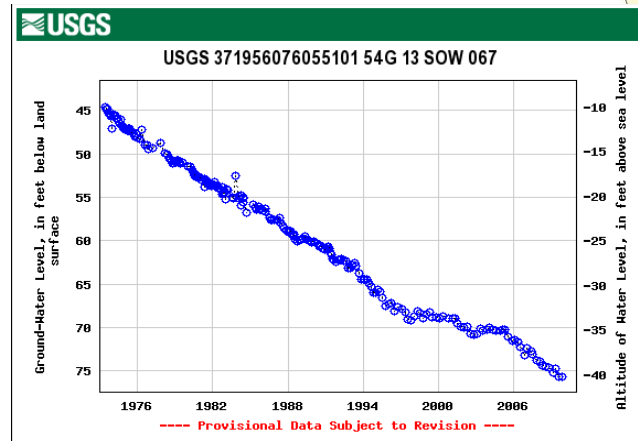




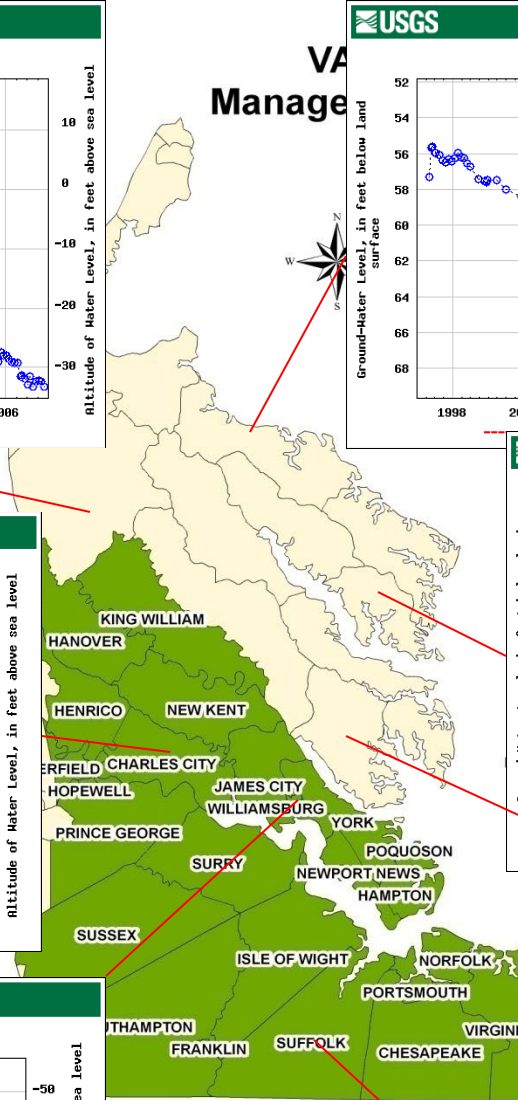
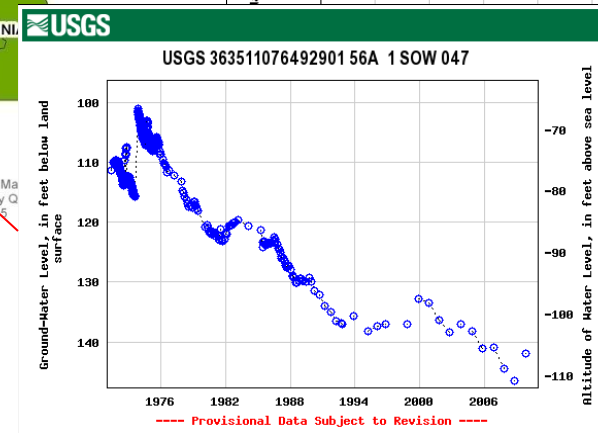
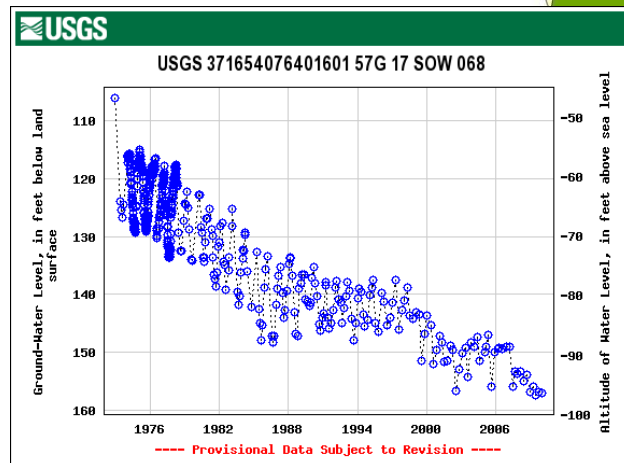
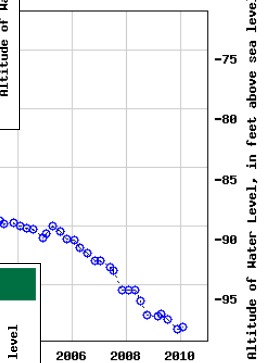
VA
Manage

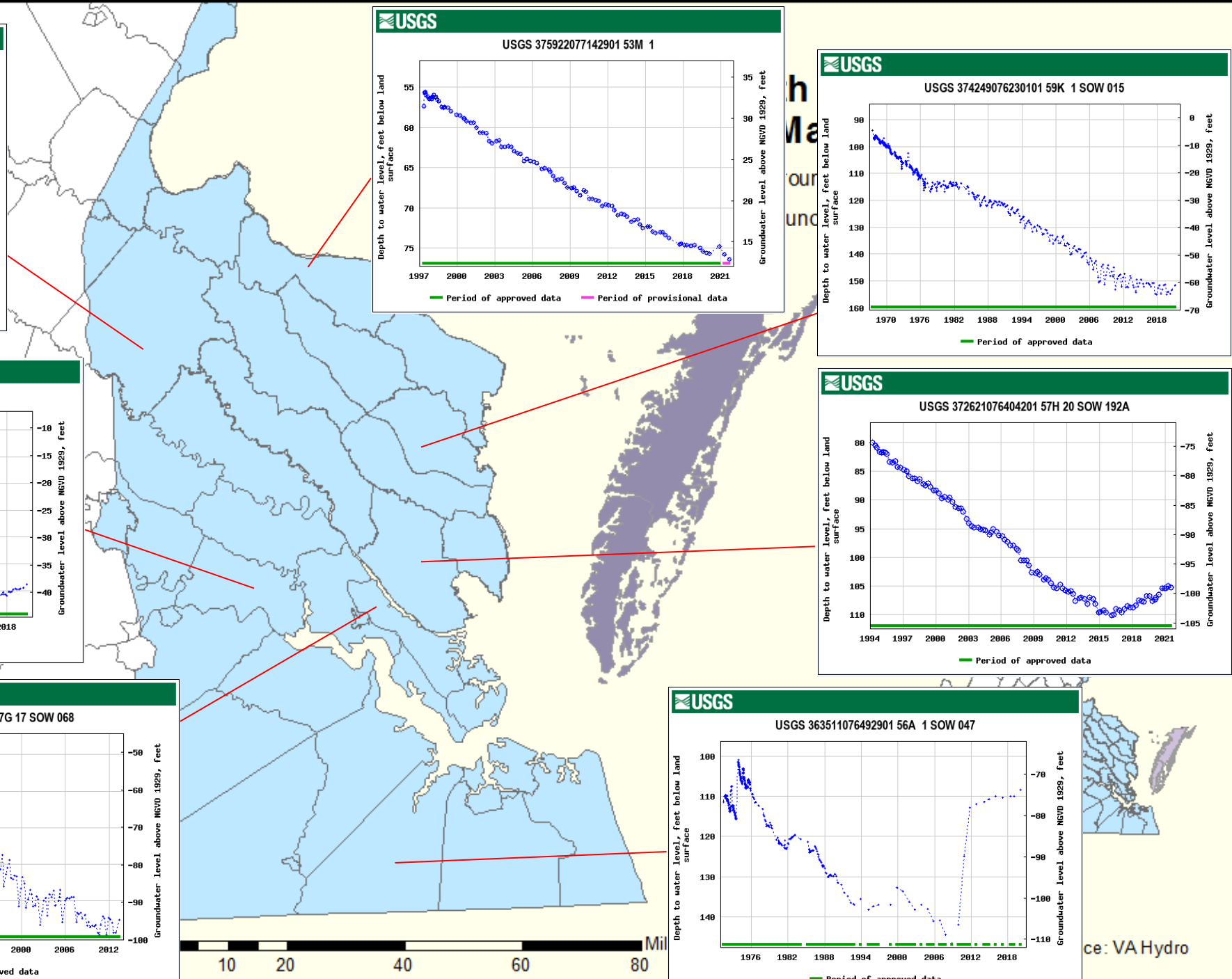
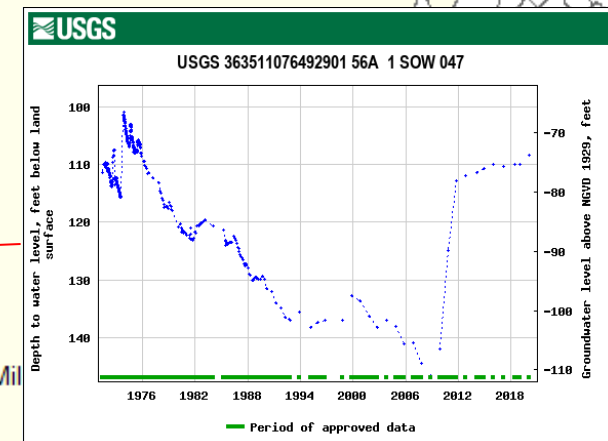
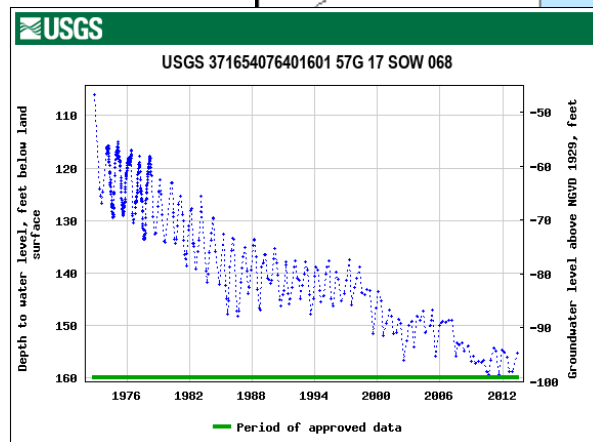
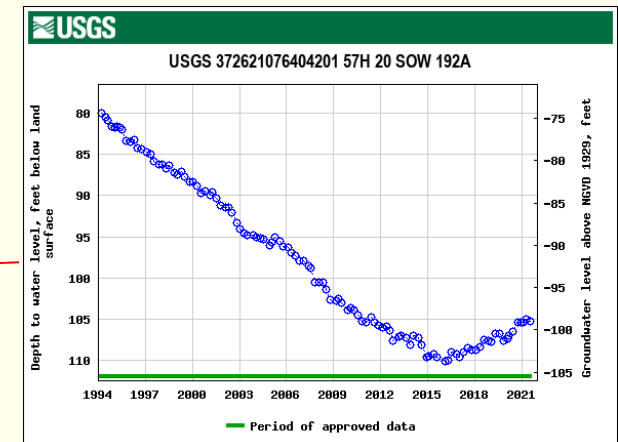
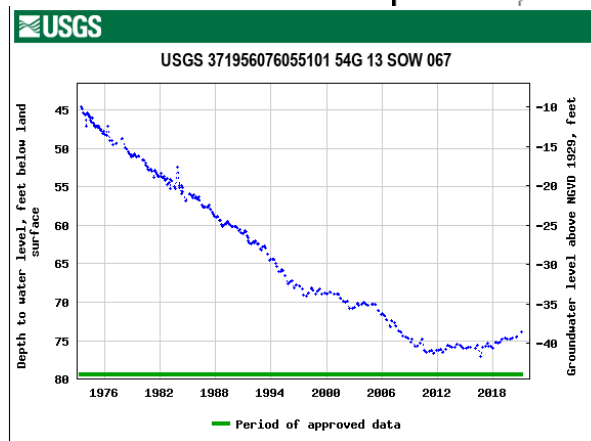
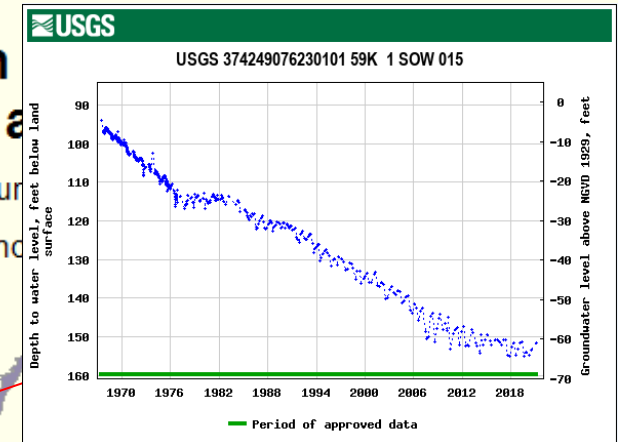
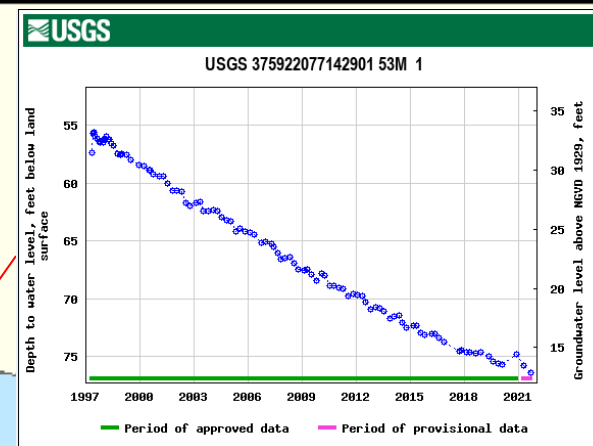
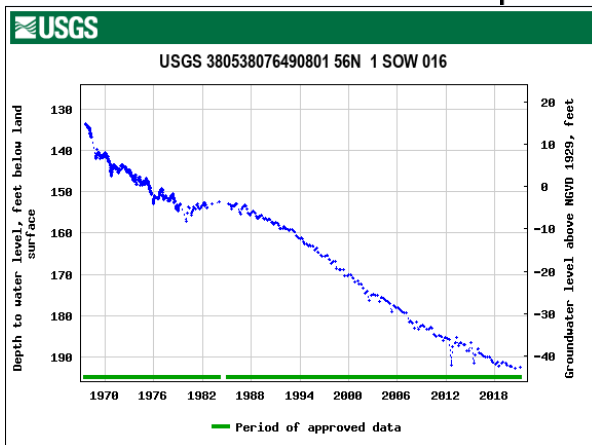


2015

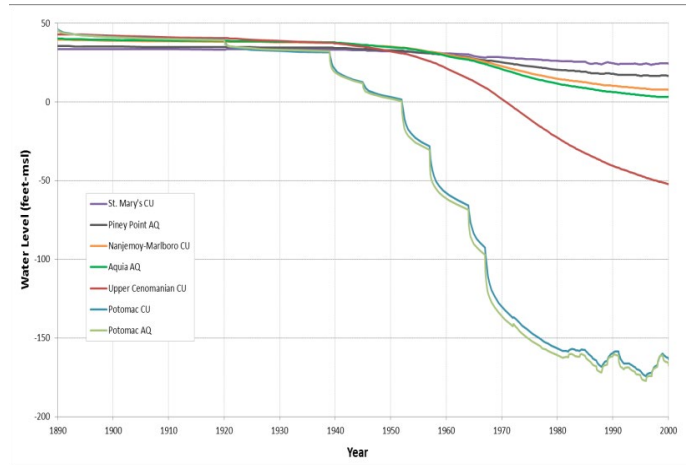


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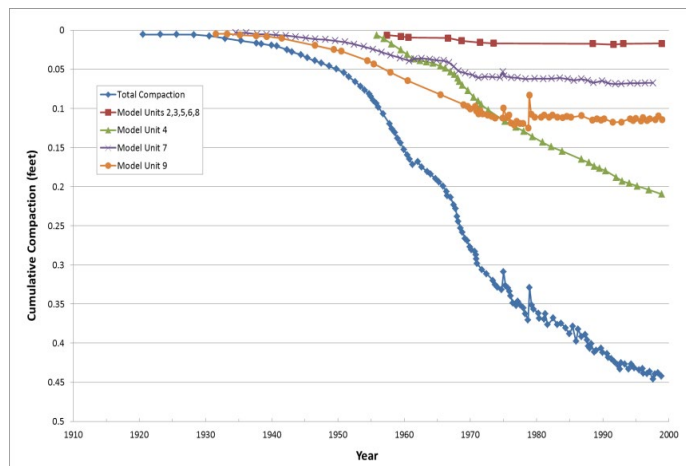




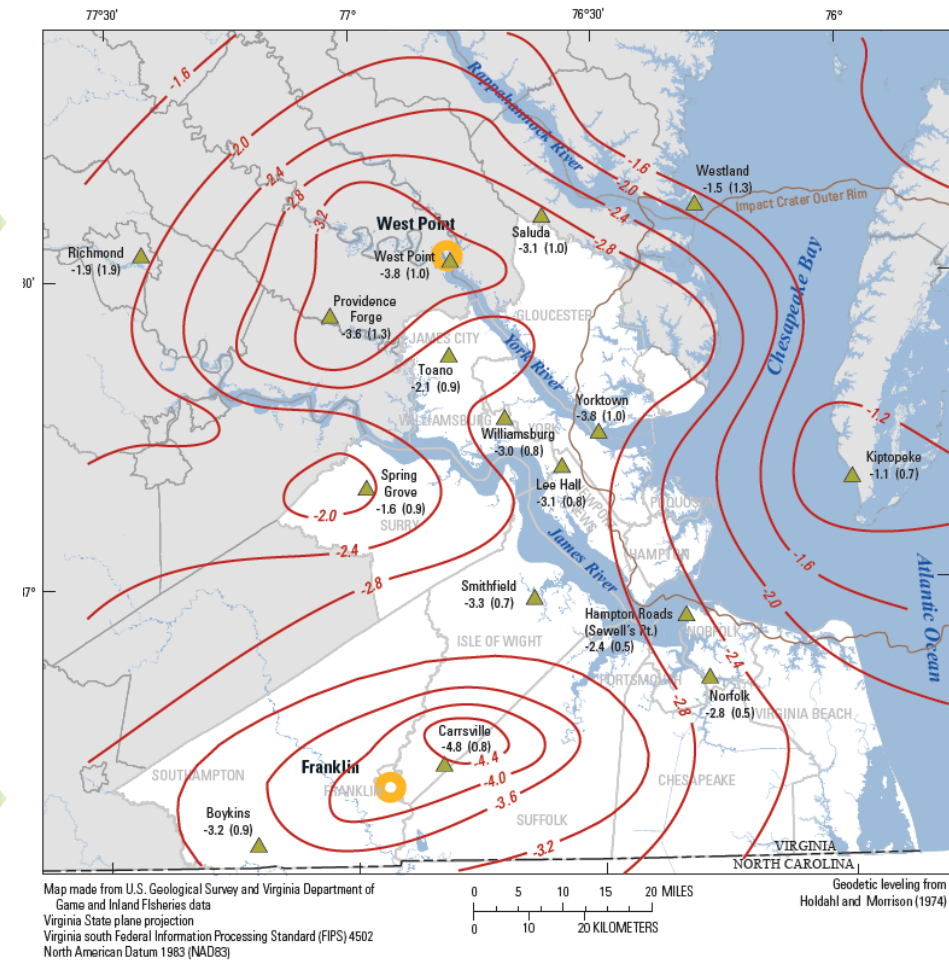
Subsidence Reflects Groundwater Level



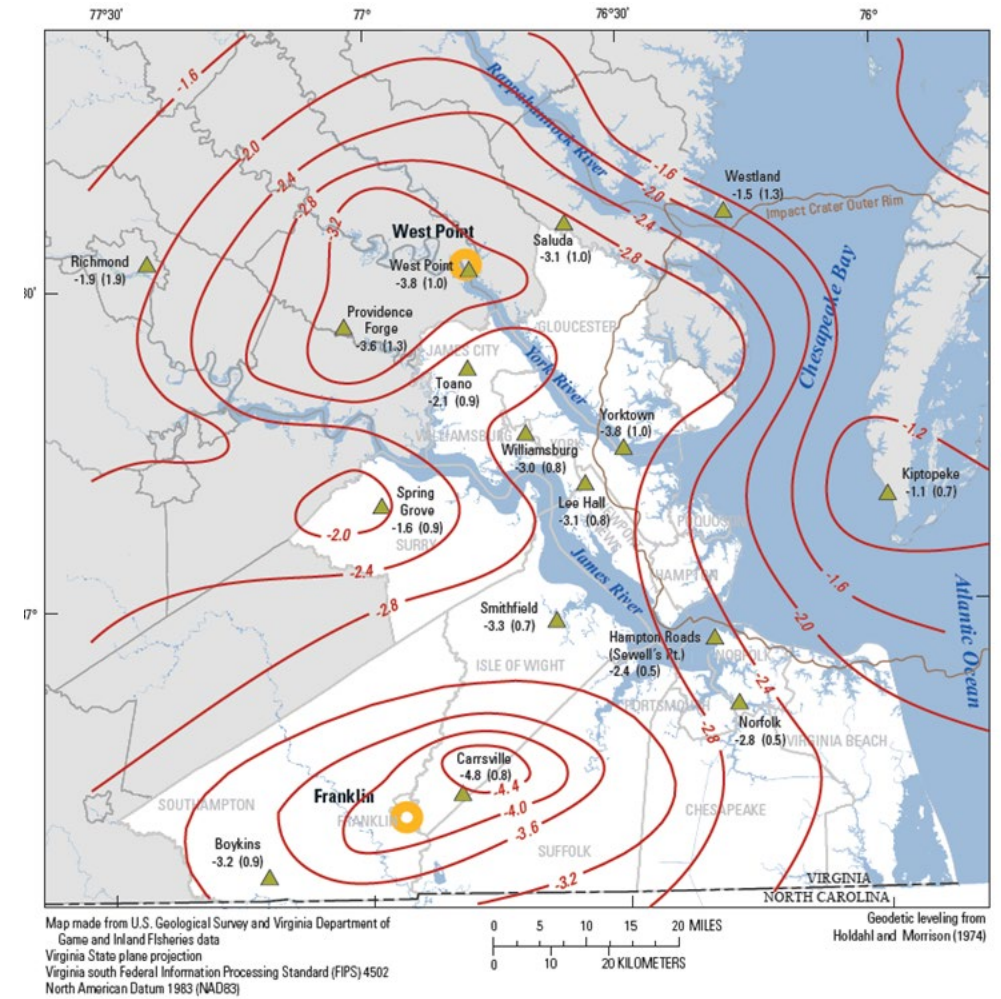
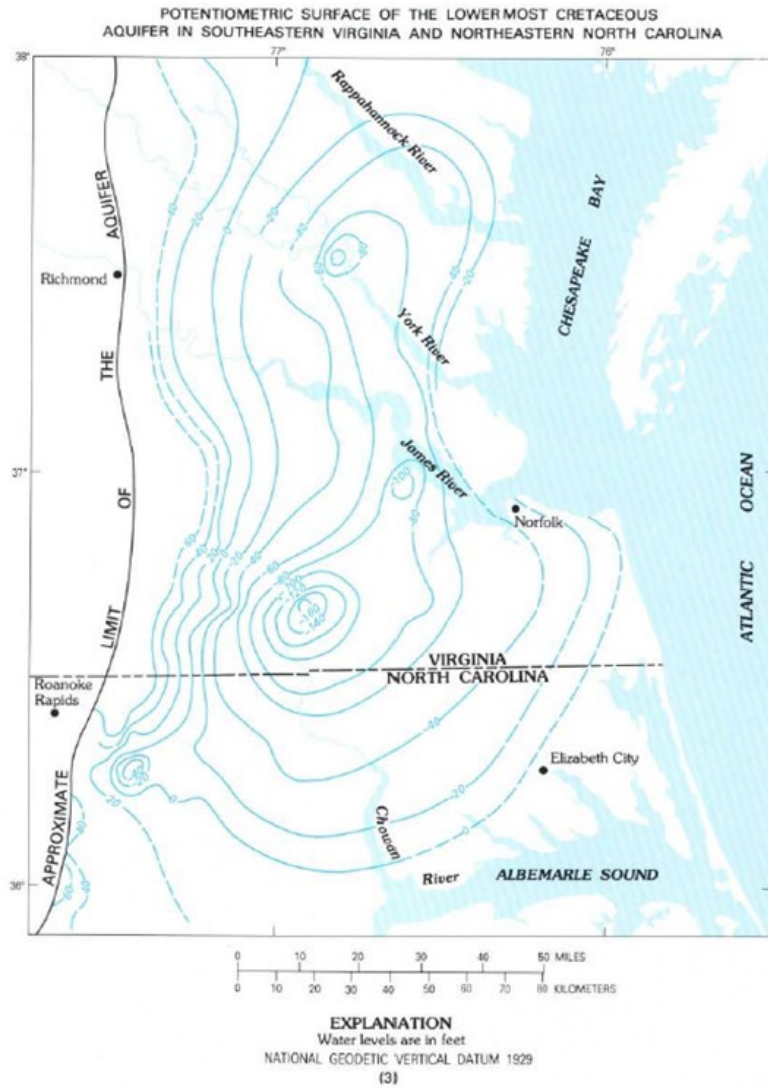
VAHydro-GW simulated water levels at the Franklin



COMPAC simulated aquifer-system compaction at Franklin

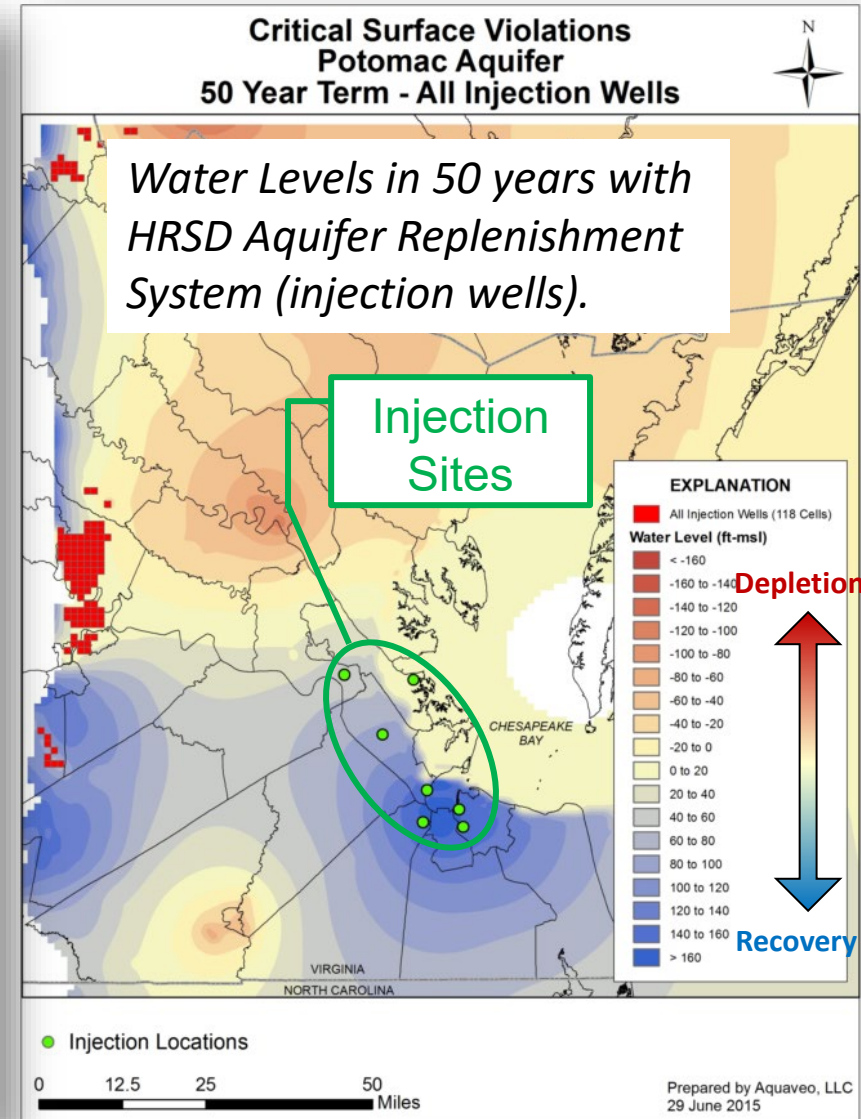
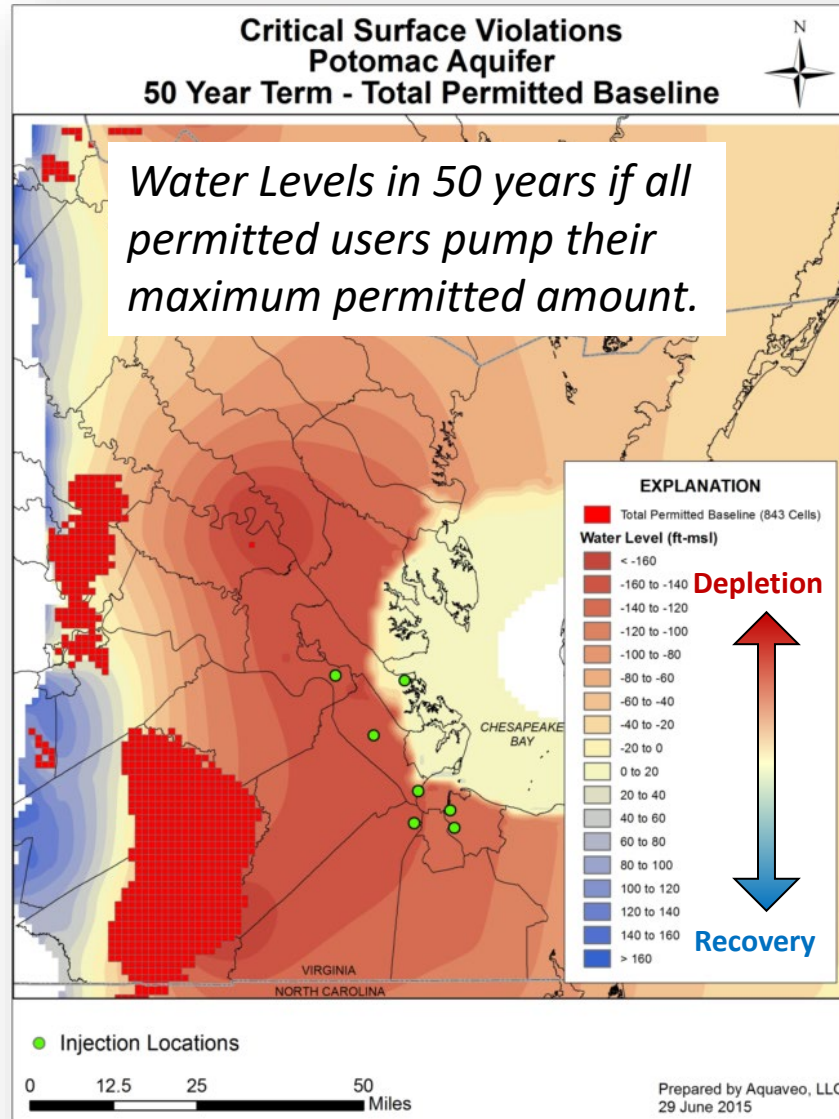


Land elevation change rates from
1940 - 1971 (mm/year)
Negative elevation rates indicate
subsidence



Groundwater Modeling Results

Potomac Aquifer water levels before and after injection



Questions?