

Modeling the Effects of Sea-Level Rise on Groundwater Levels in Coastal New Hampshire

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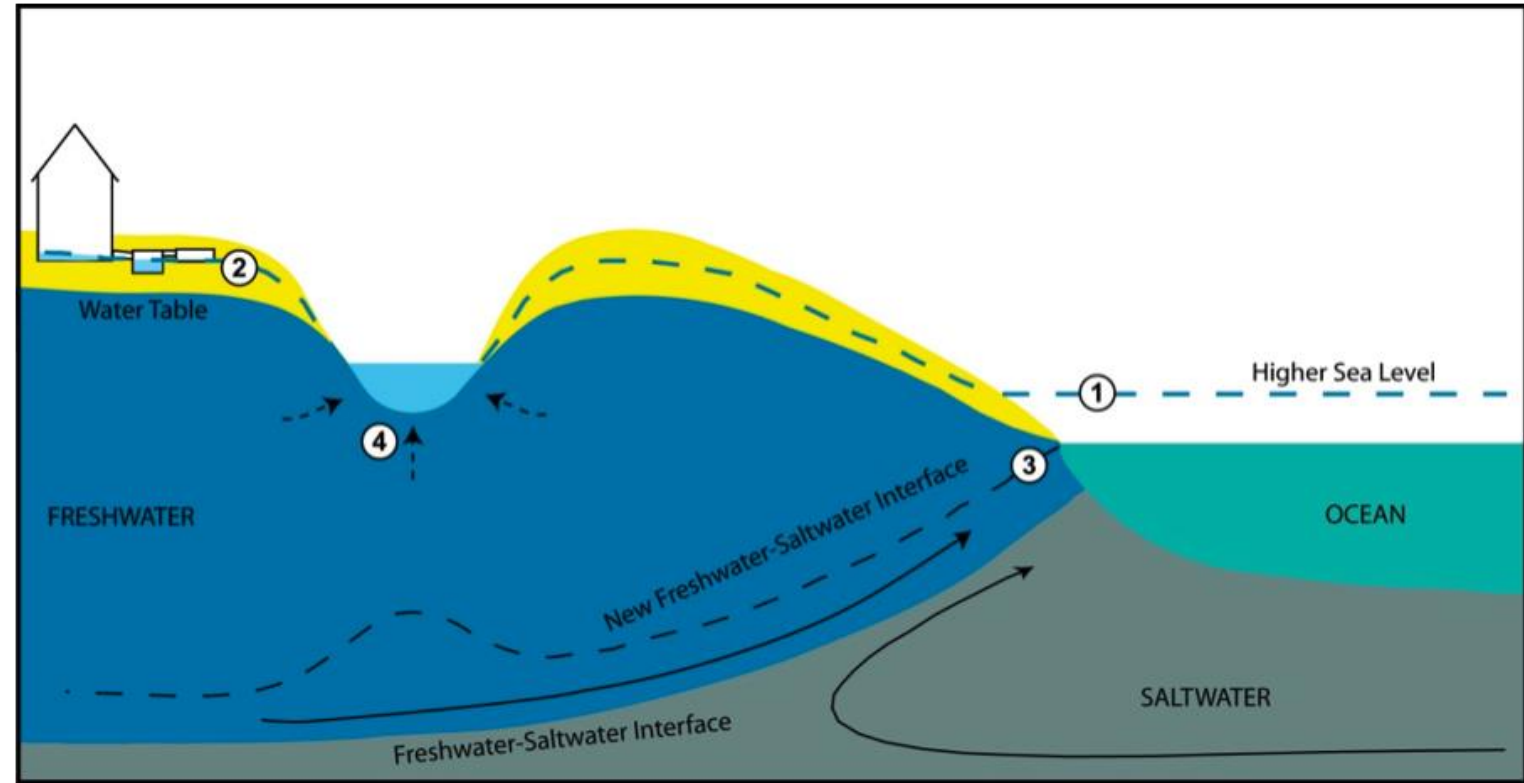
UNH Department of Civil and Environmental
Engineering



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Sea levels are rising - How will sea-level rise affect groundwater?

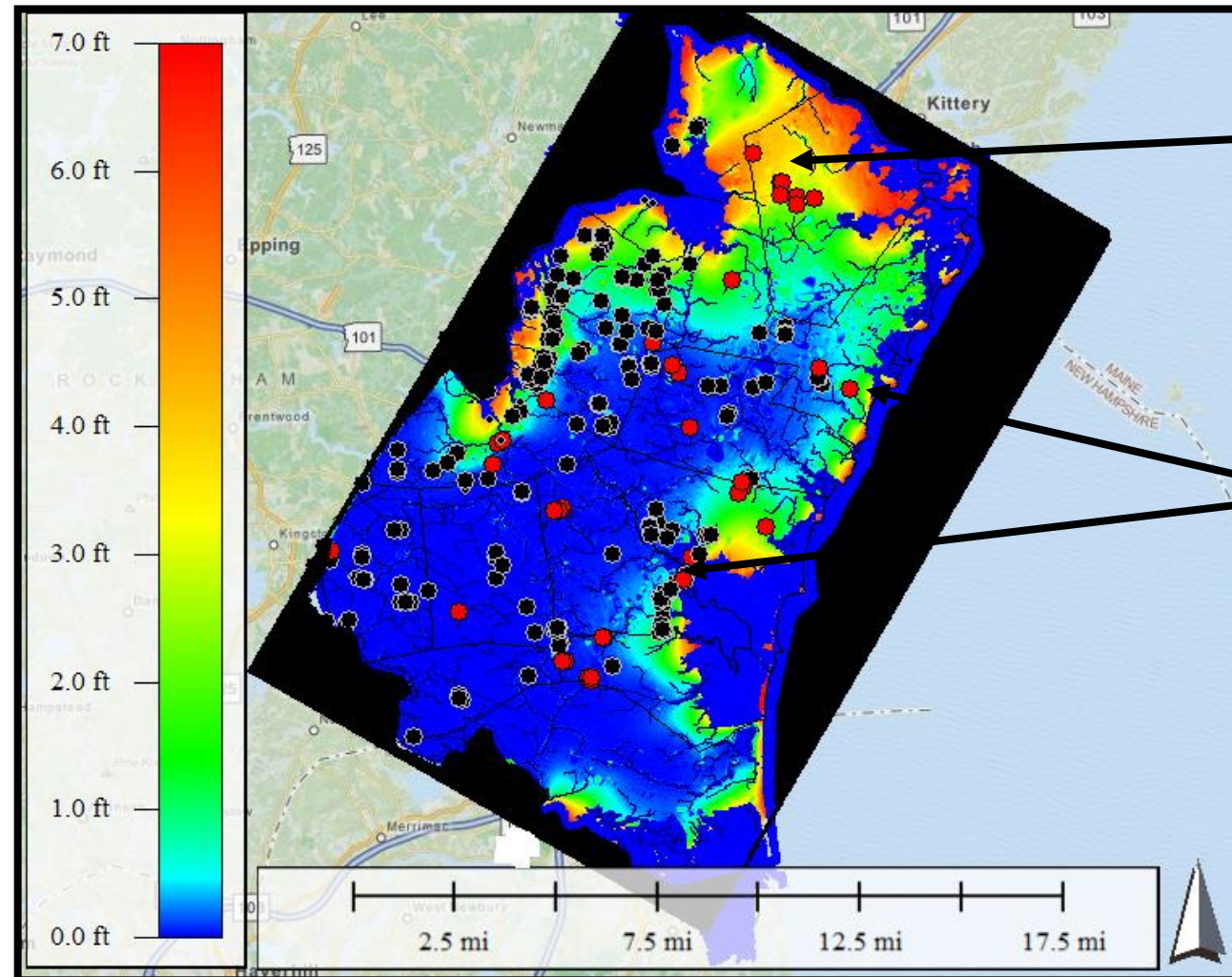


Source: U.S. Geological Survey

Why do we care?



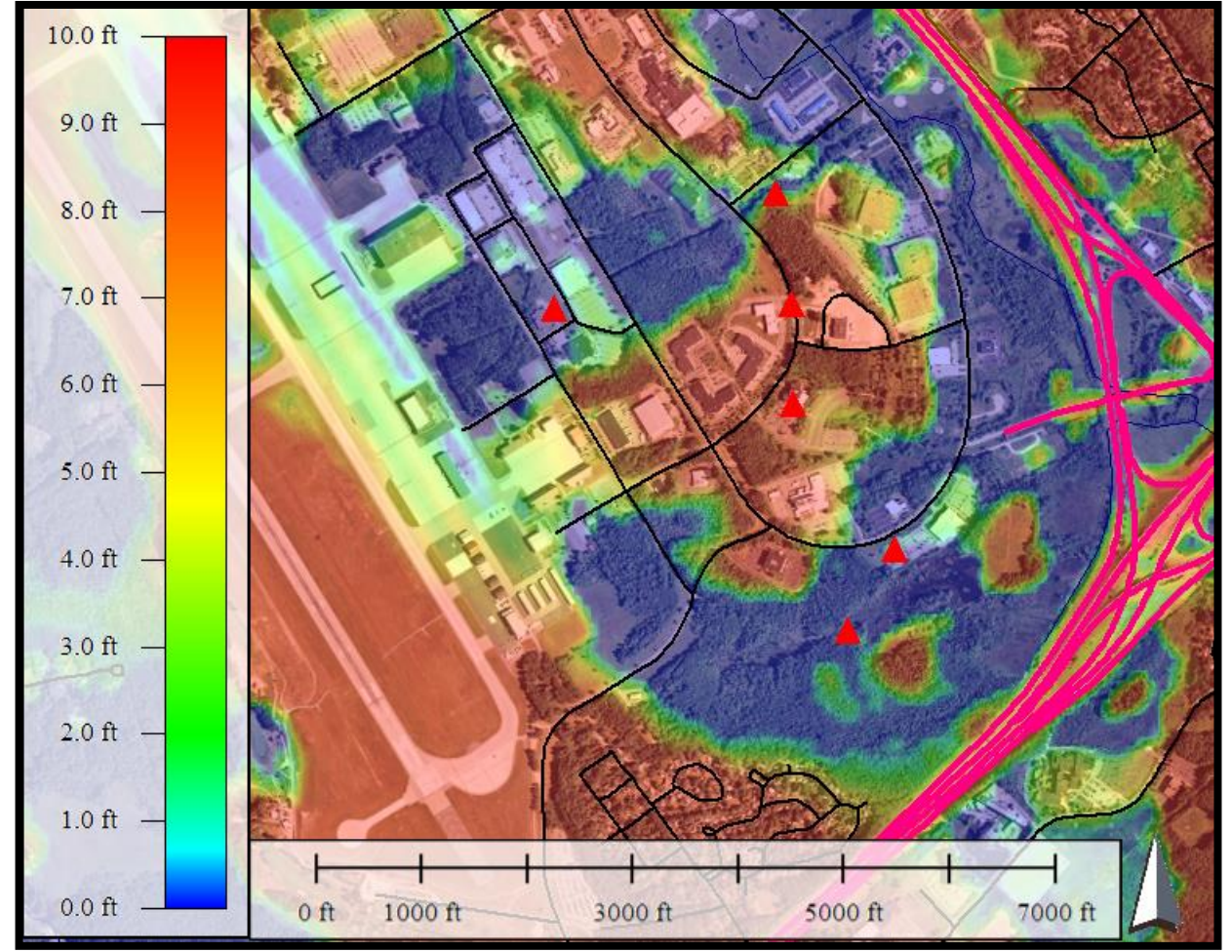
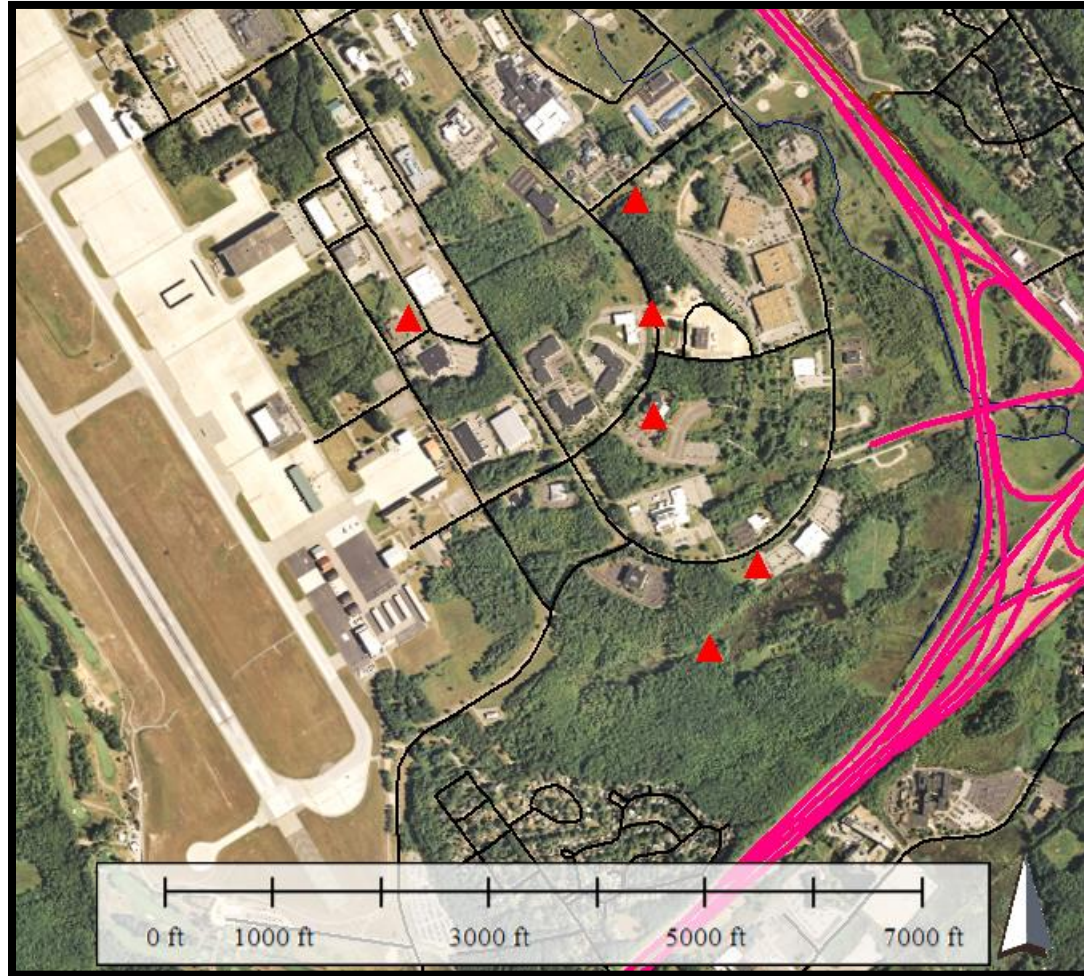
Will drinking water supplies be harmed by saltwater intrusion?



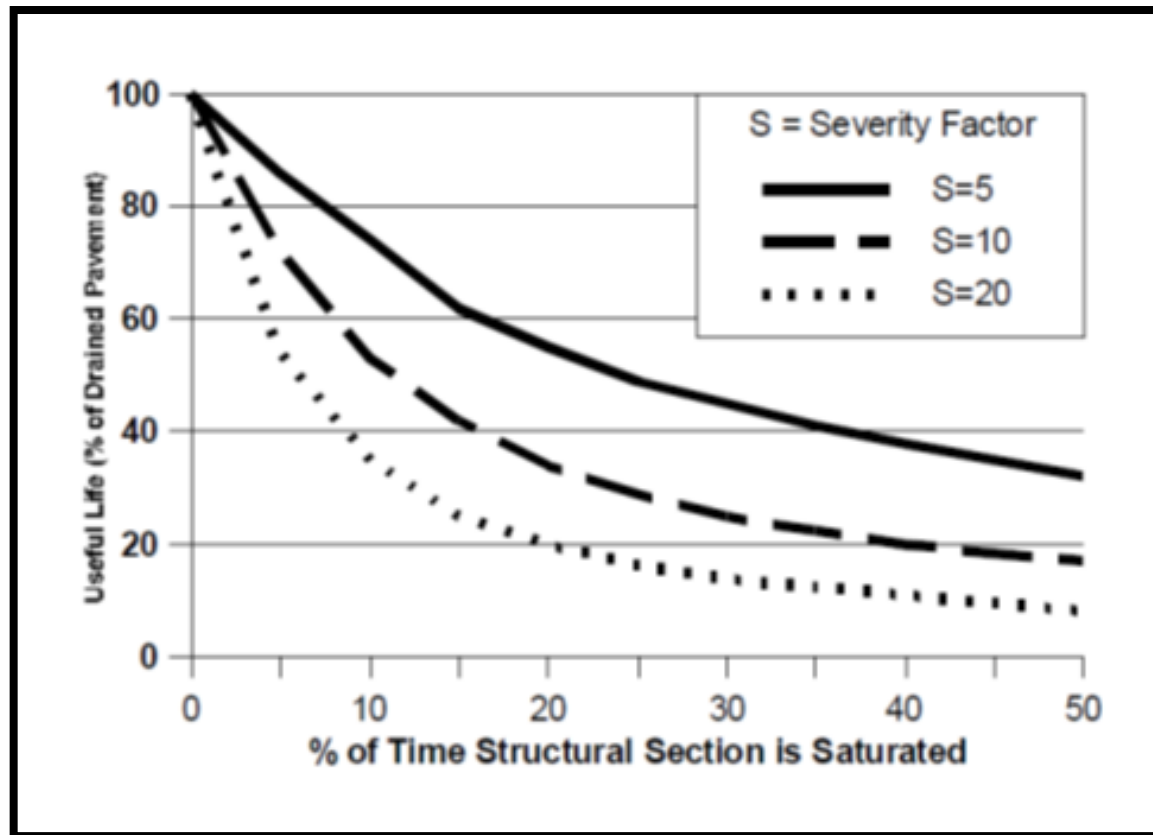
Area where GW is predicted to rise the most with SLR

Areas potentially at risk from saltwater intrusion with SLR

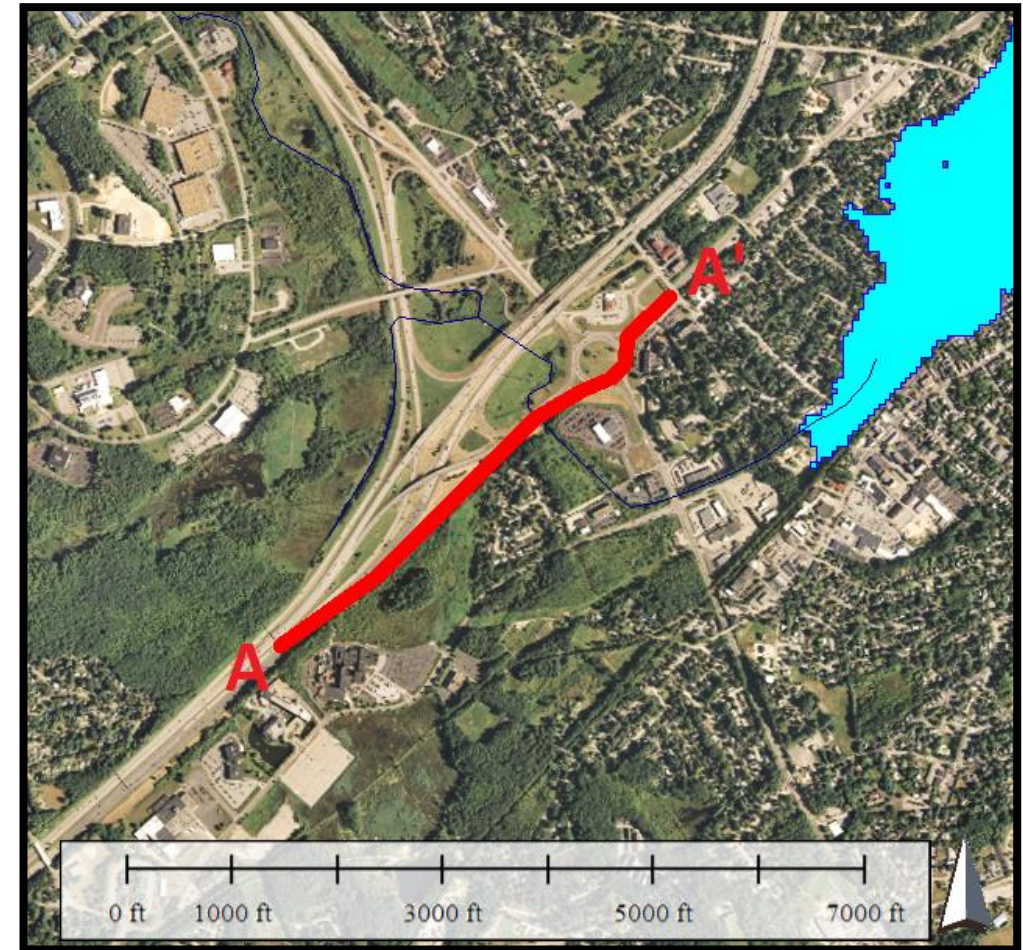
Where might rising groundwater come in contact with contaminated soils?



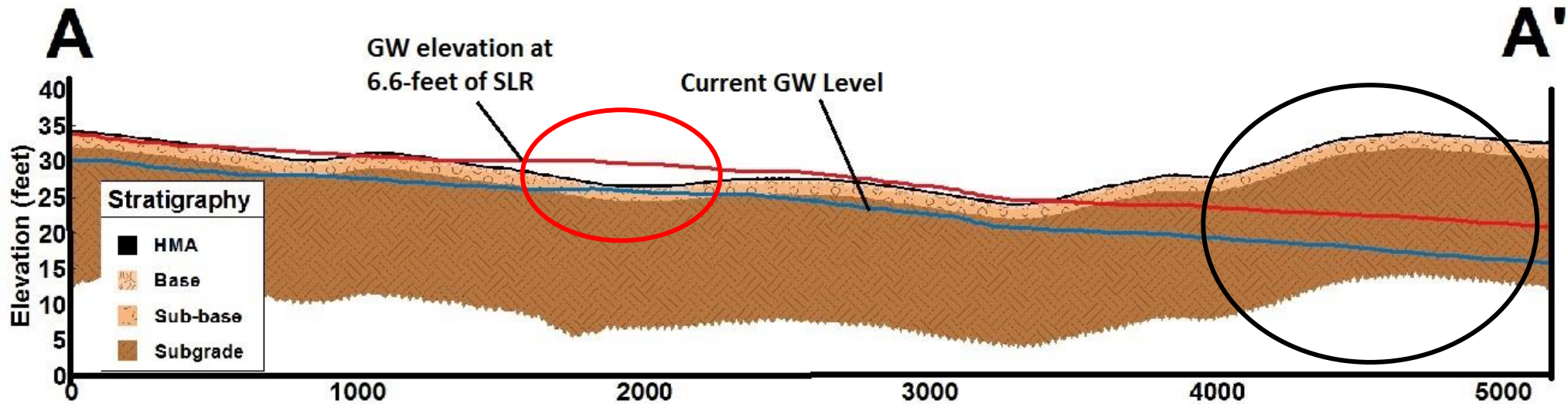
How does rising groundwater affect the performance of coastal road infrastructure?



Source: Cedergren, 1988



Sections of roads where the groundwater table is already shallow are the most vulnerable



What actions can communities take . . .

- Formally consider groundwater predictions when:
 - ✓ designing or repairing road infrastructure,
 - ✓ establishing criteria for the cleanup of contaminated sites
 - ✓ permitting onsite septic systems, and
 - ✓ designing sea walls or other protective structures to mitigate damage from sea level rise

What actions can communities take . . .

- Identify drinking water supply wells that may be at risk from saltwater intrusion and plan for alternative sources, if necessary
- Identify the critical infrastructure in your community where rising groundwater may cause problems
- Protect existing wetlands and adjacent areas to allow for wetland expansion
- Collaborate with research institutions, community planning organizations, government, and private partners to plan for the future



*Thank you
Questions?*

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