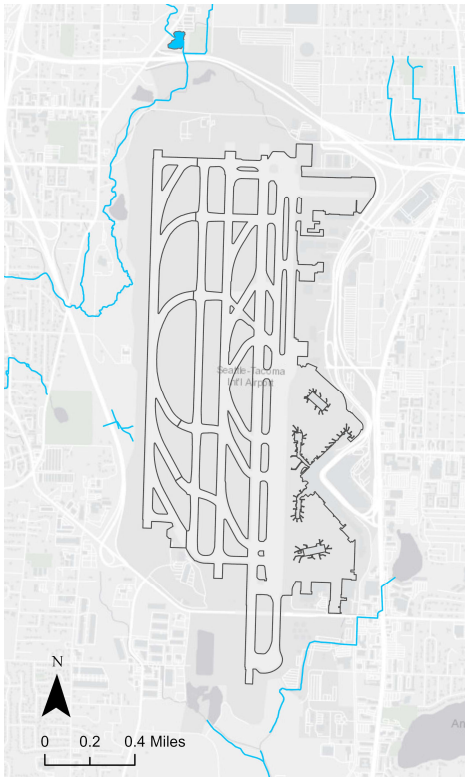
Stream daylighting and changing hydrology within a Port of Seattle wetland mitigation site

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UW Certificate in Wetland Science & Management



From culvert failure to stream restoration



Deposition and sheet flow in upstream reach of mitigation site





Project overview



Hydrography

	Miller Creek	Wetland
Current		
Former		

- Installed box culvert
- Failed culvert pipe
- Port property

0 0.01 0.03 Mi.

N W E S



Has depth to groundwater changed within the wetland mitigation site over time?





2021 delineated wetlands

Miller Creek

Elevation contour (1 ft)

Monitoring well

Port property

Interpolate data from points (wells) to raster surface, and automate through time





2021 delineated wetlands

Miller Creek

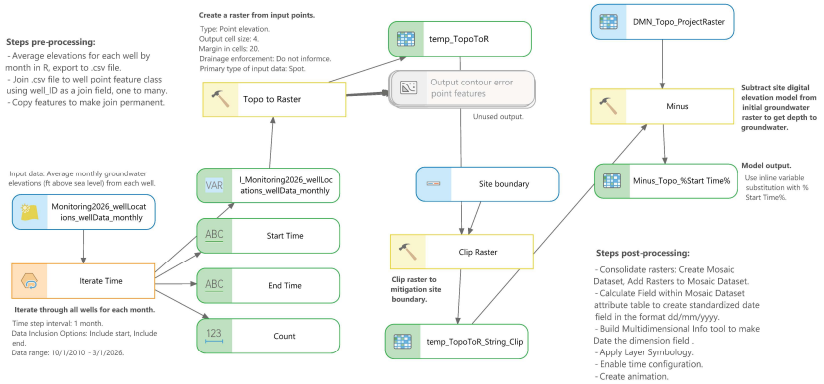
Elevation contour (1 ft)

Monitoring well

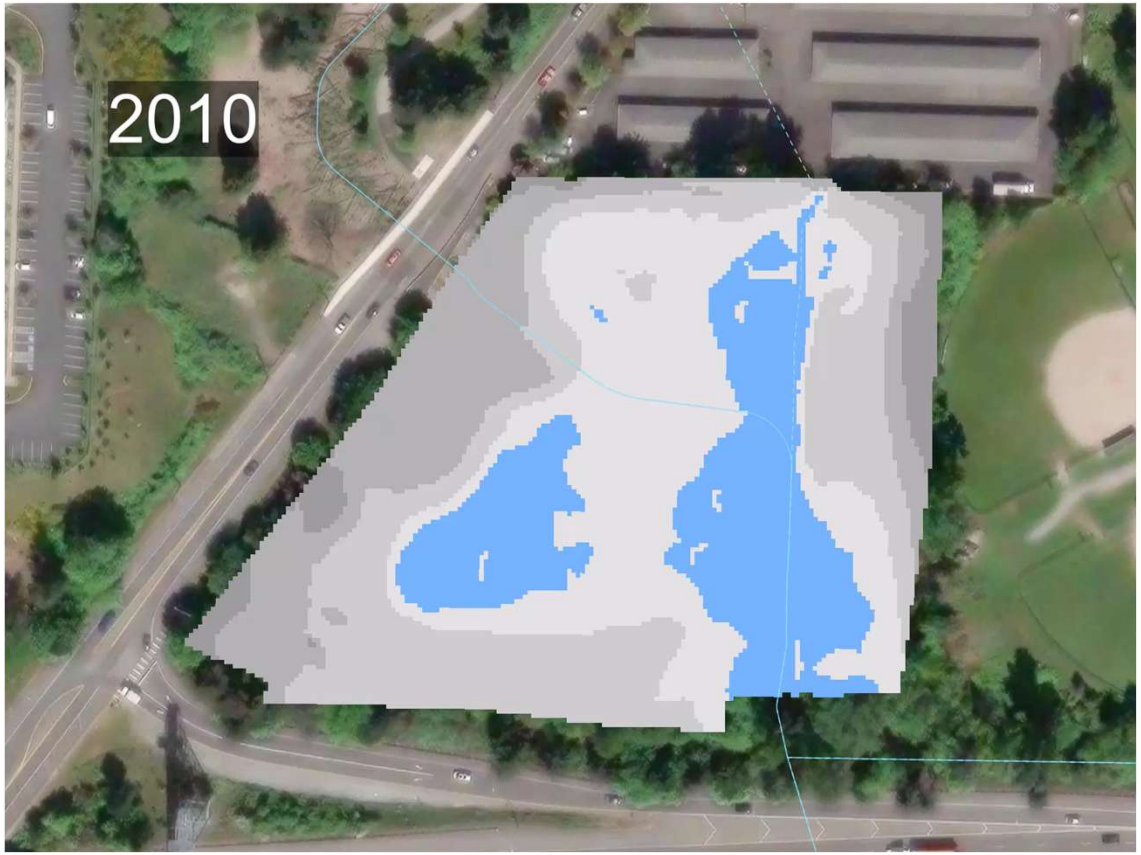
Port property

Methods: Automating Topo to Raster tool

- Iterate Time (interval: 1 month)
- Topo to Raster (input: elevation)
- Clip to site boundary
- Subtract DEM from output to get **depth to groundwater**



Depth to groundwater through time



Analysis indicates slight increases in groundwater over time

- Seasonality drives visual differences in depth to groundwater contours, not timing of the stream restoration project
- Other statistics show higher groundwater across well data over time
- However, other factors within the watershed may play a role (temperature, precipitation, urbanization)





Thank you! Happy Wetlands Month!

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