

# GROUNDWATER RESOURCES KONA, HAWAI'I

Commission on Water Resource Management  
9/19/2012

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U.S. Geological Survey

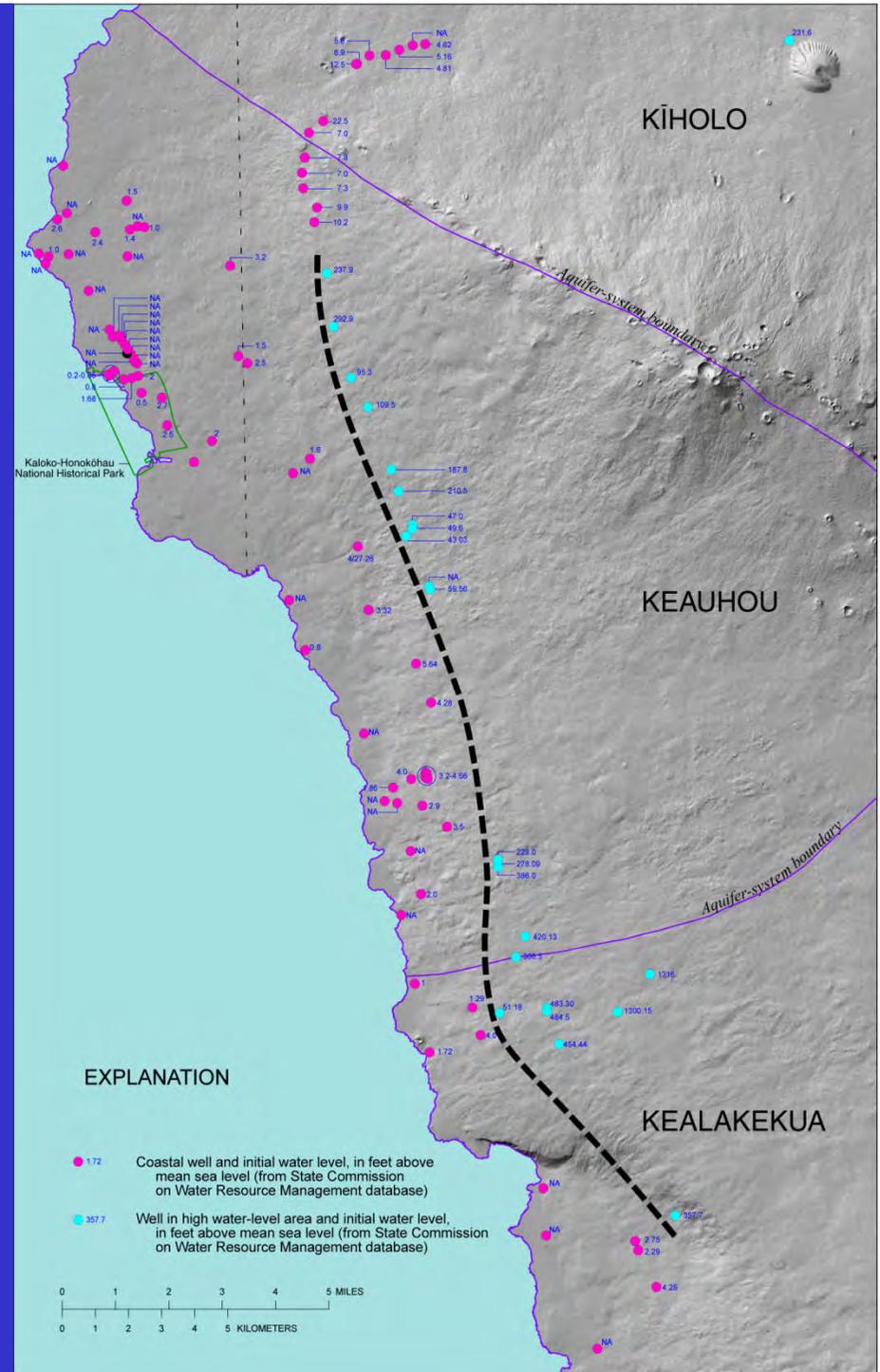
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# Outline

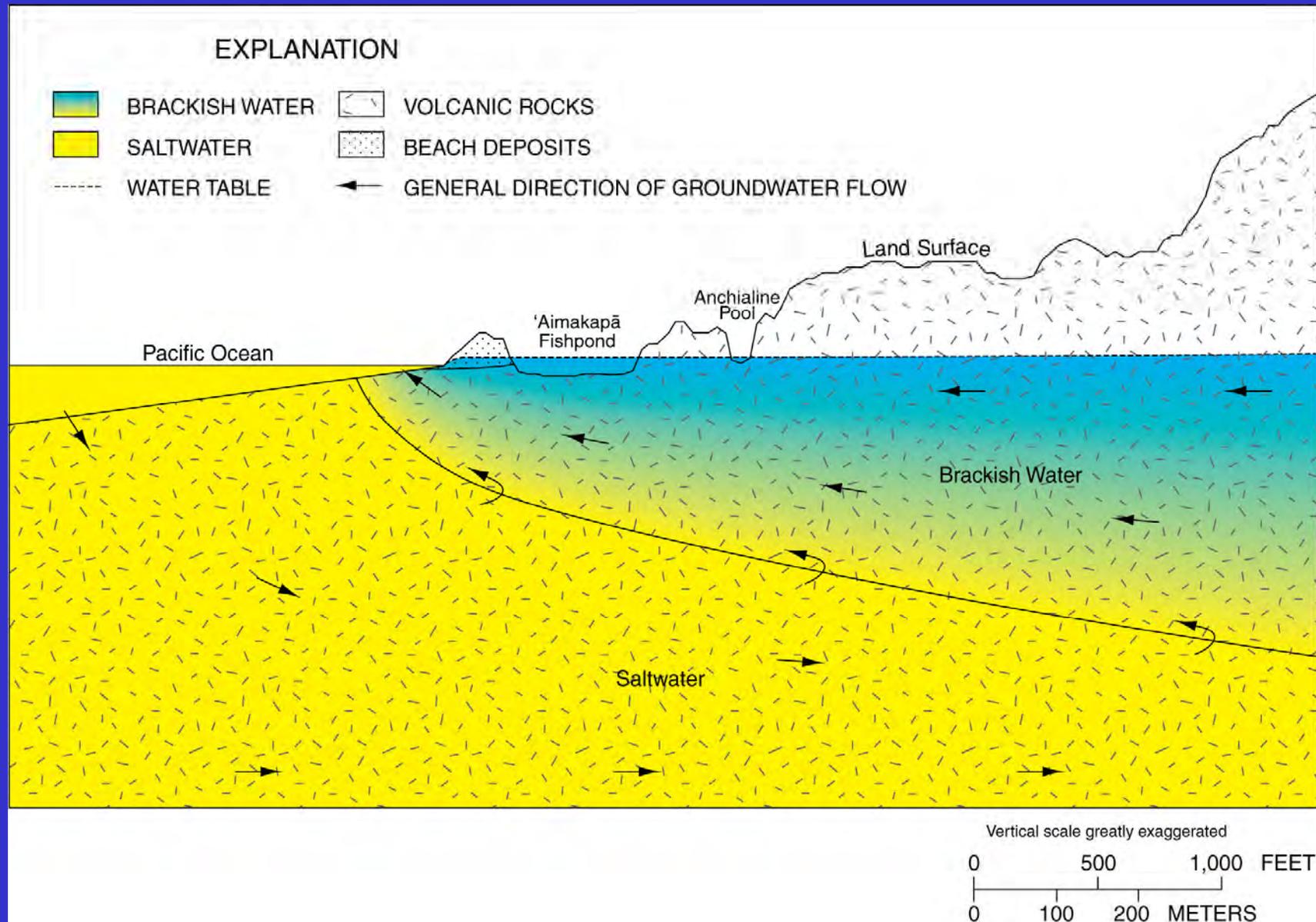
1. Coastal groundwater
2. High-level groundwater
3. Preliminary modeling

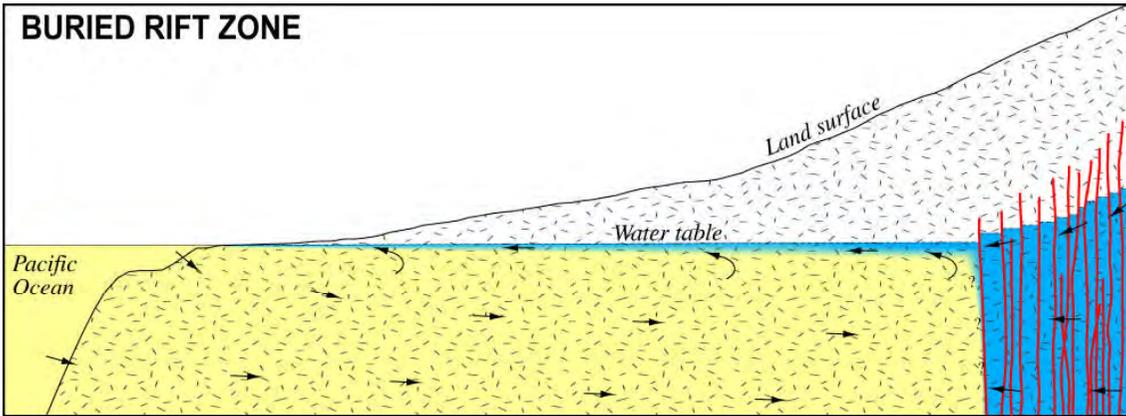
# Groundwater Levels

- Well in coastal system (water table generally less than 3 feet)
- Well in high-level system (water table greater than 40 feet)



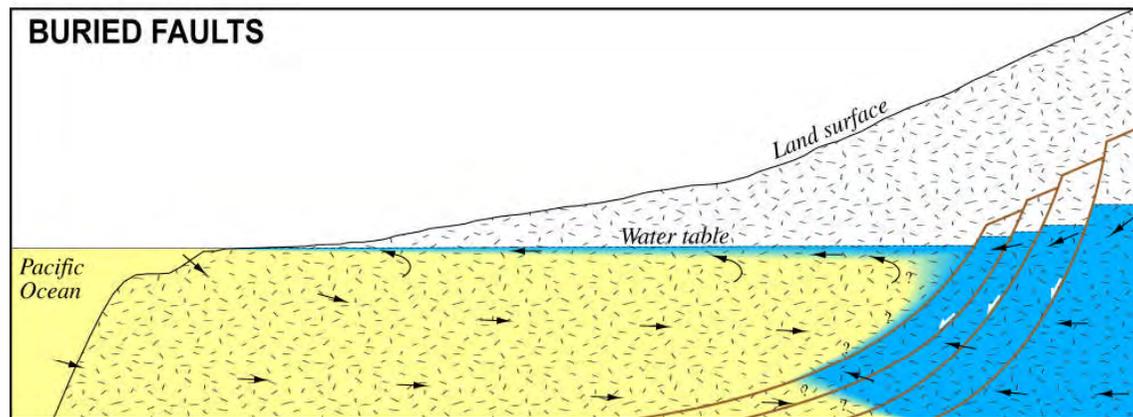
# Coastal Groundwater System



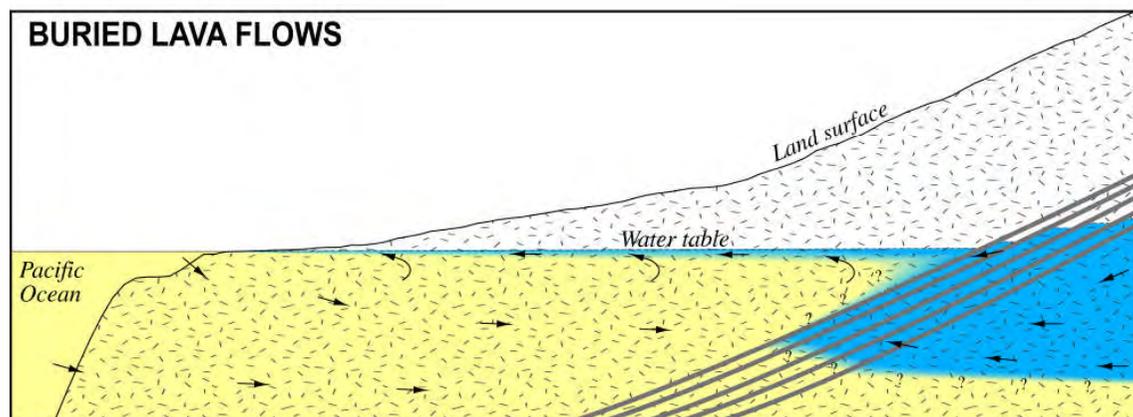


# Origin of High Water Levels

Intrusive, low-permeability dikes



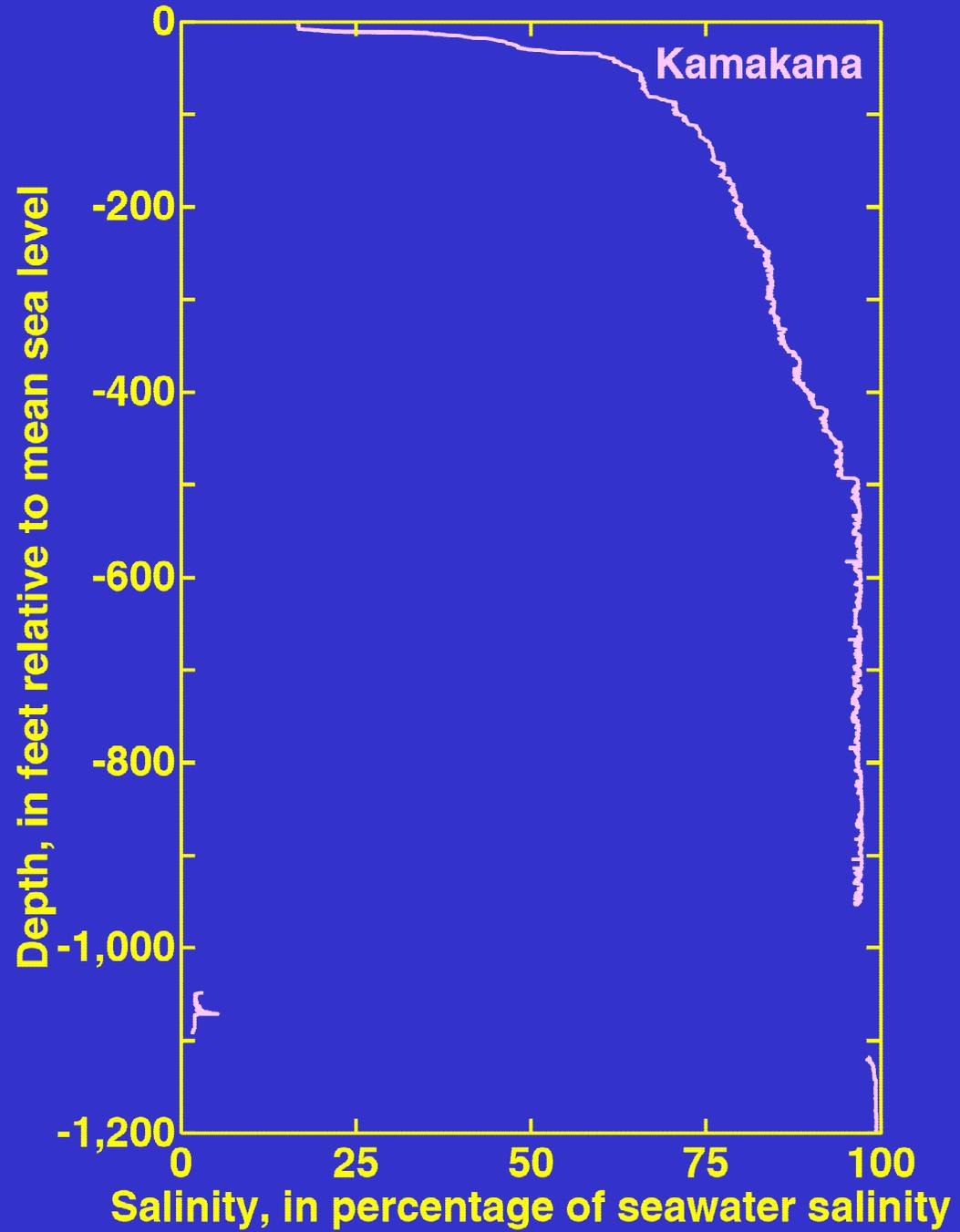
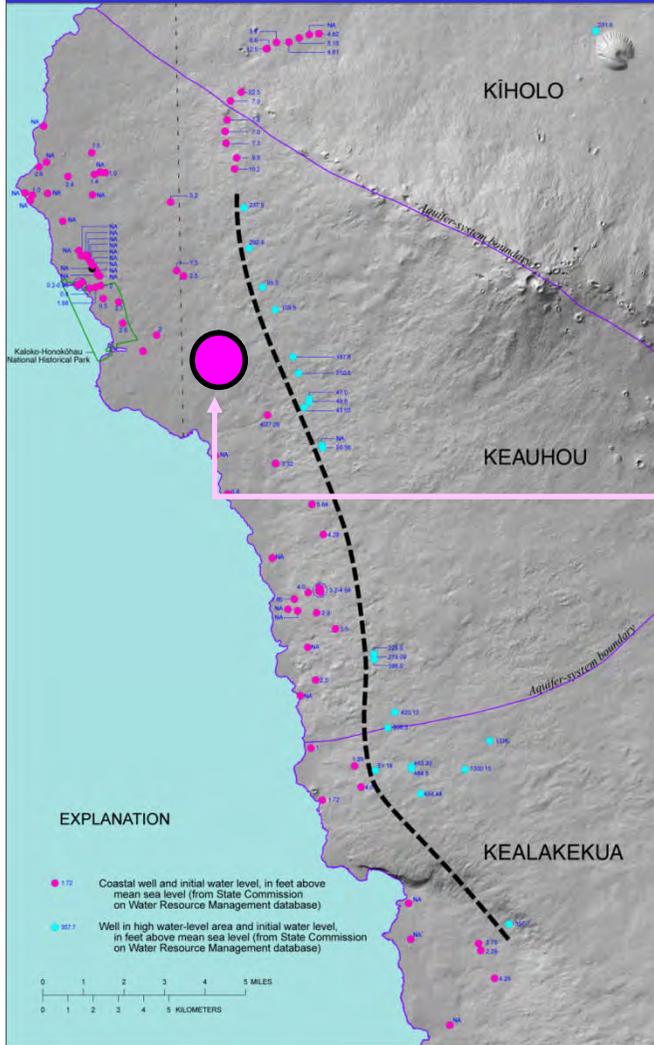
Faults draped with younger lava flows



Low-permeability layers (ash, lava flows, weathered rock)

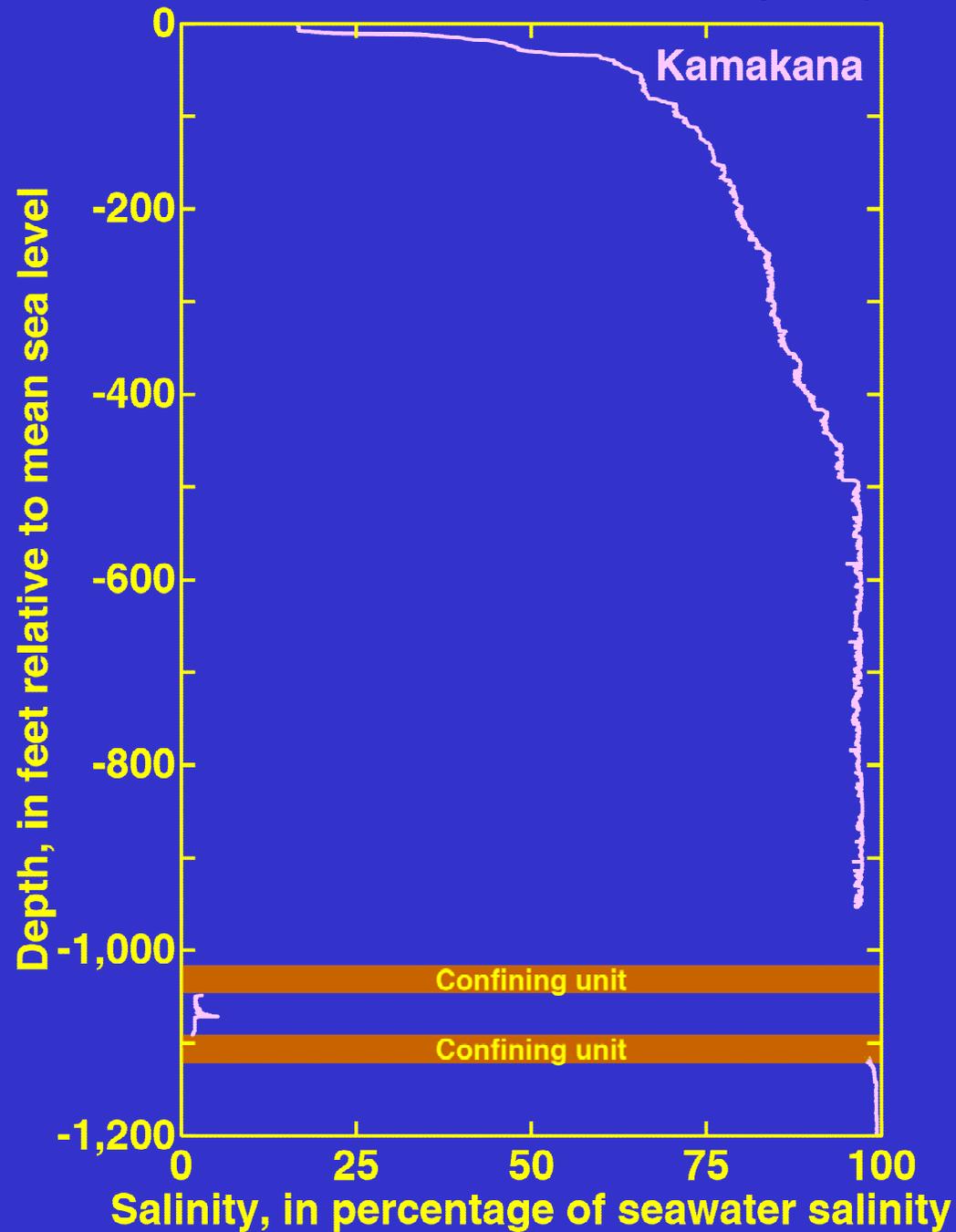
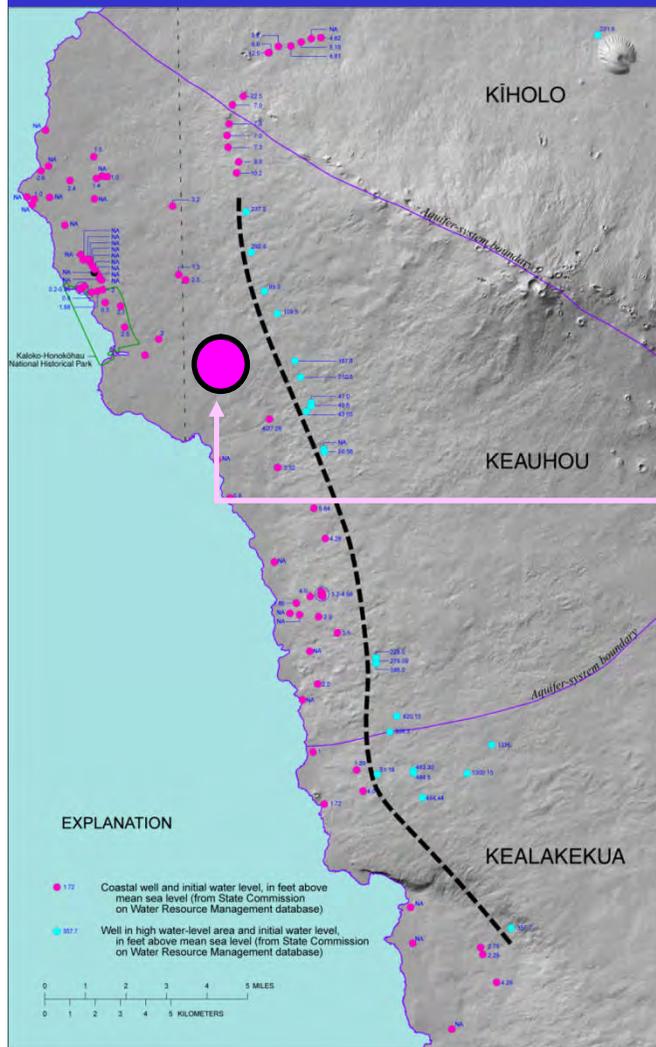
# Salinity Profile

Data from Tom Nance Water Resources Engineering



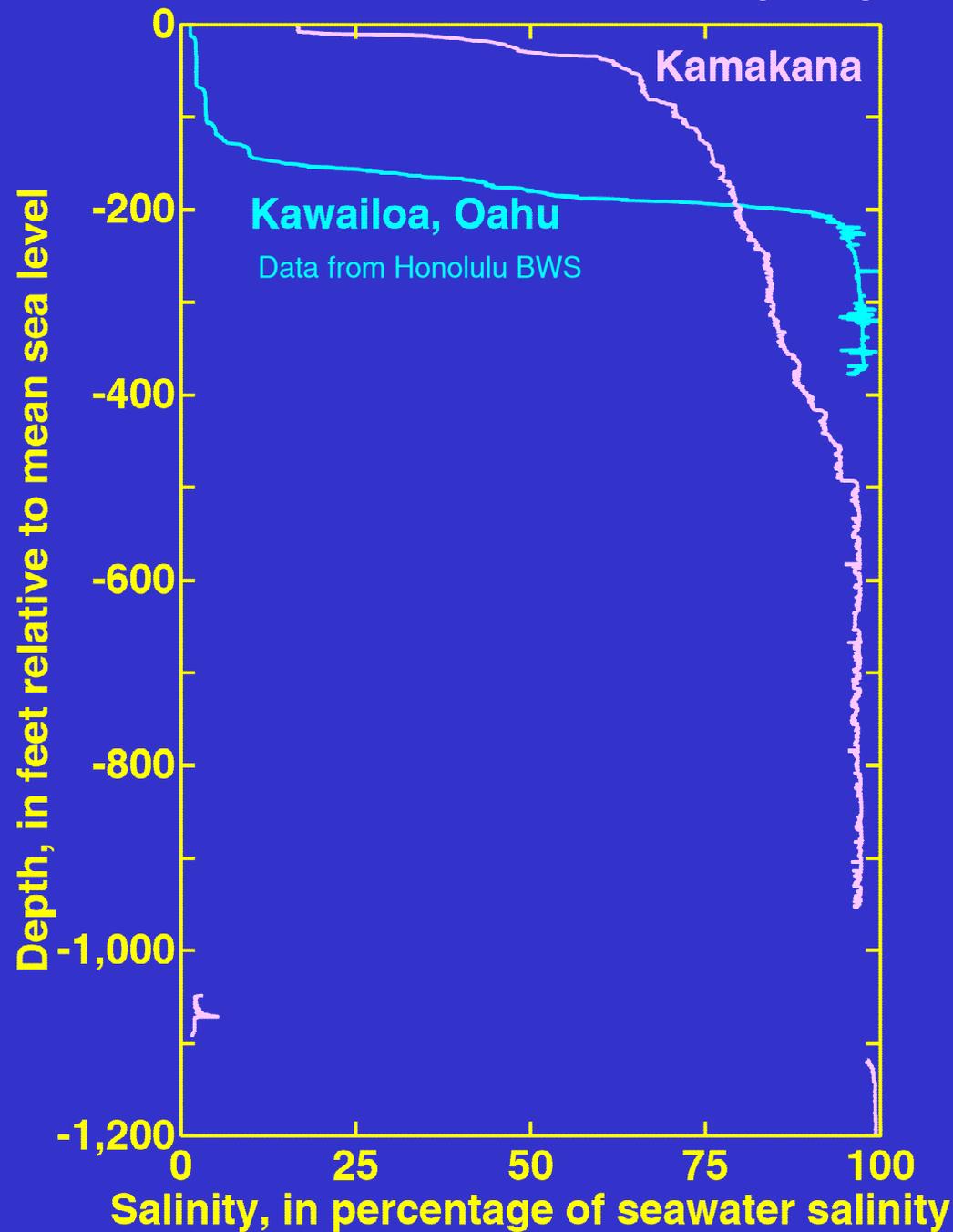
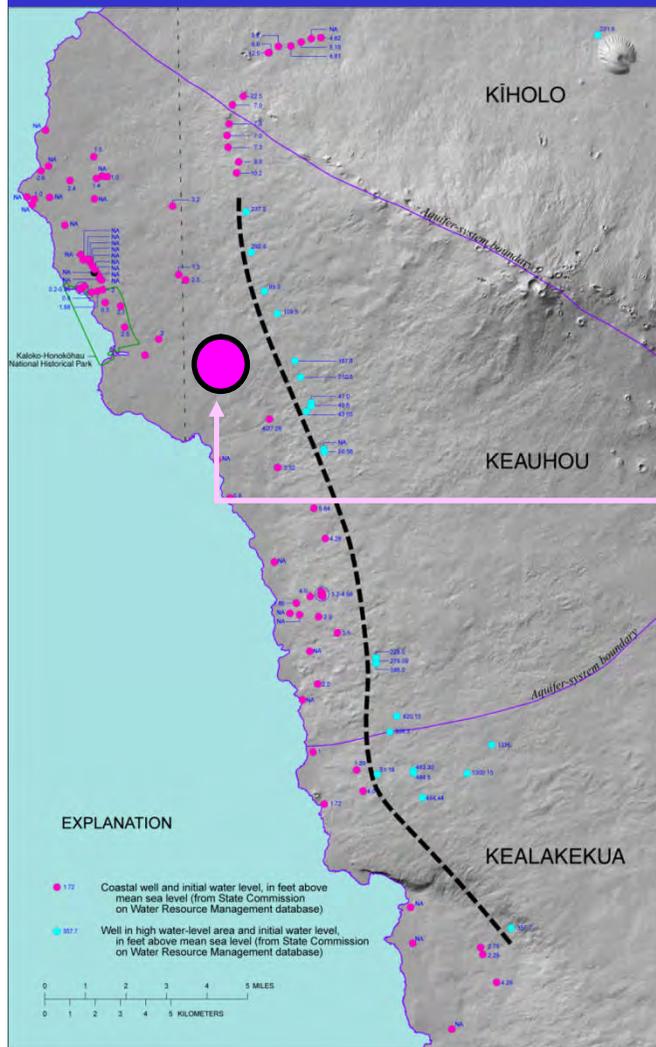
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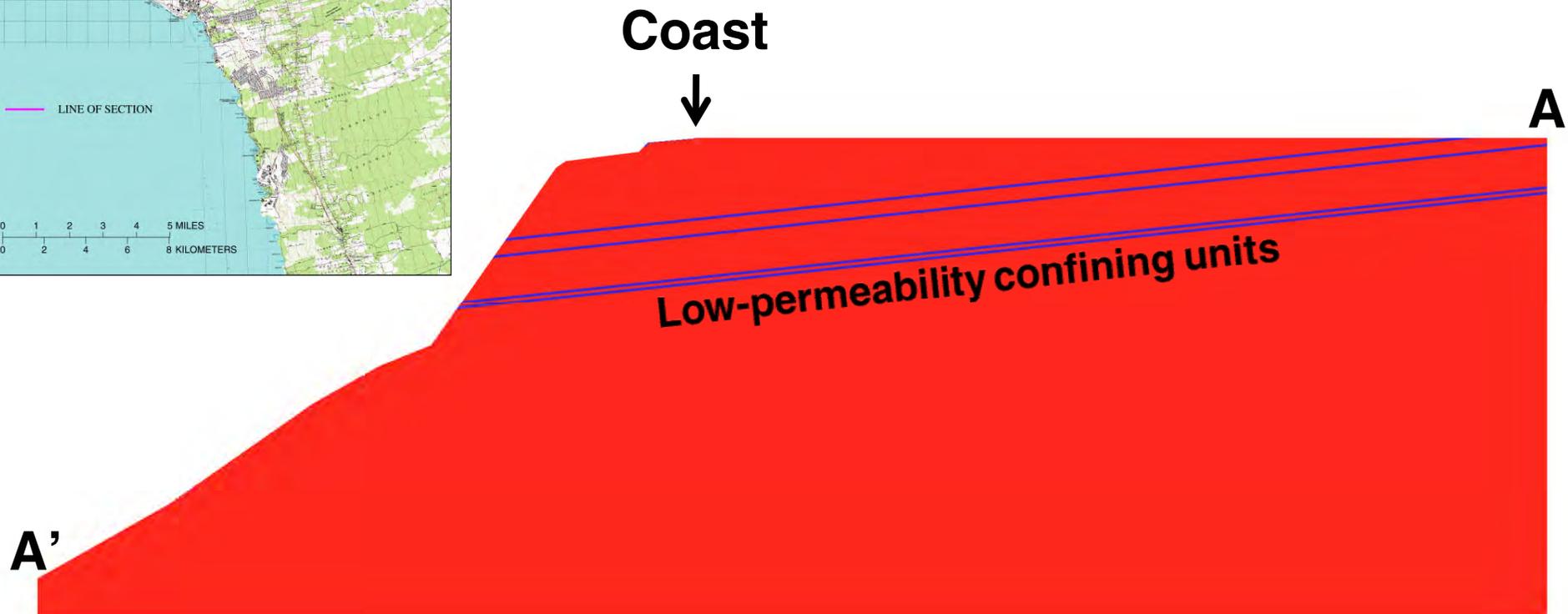
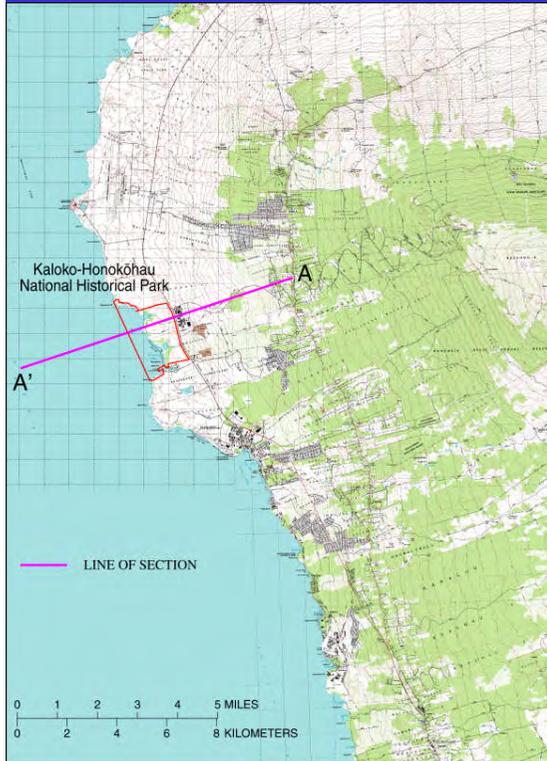
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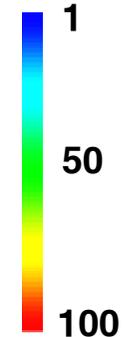
# Numerical Groundwater Model

## 2-Dimensional Cross Section



# Numerical Groundwater Model

Salinity, in percent seawater



## 2-Dimensional Cross Section



Coast



A

A'

Simulated salinity distribution