

# Progress to Date

- Site walk and
- Conceptual site model development
- Data gathering
- Hydrodynamic model development

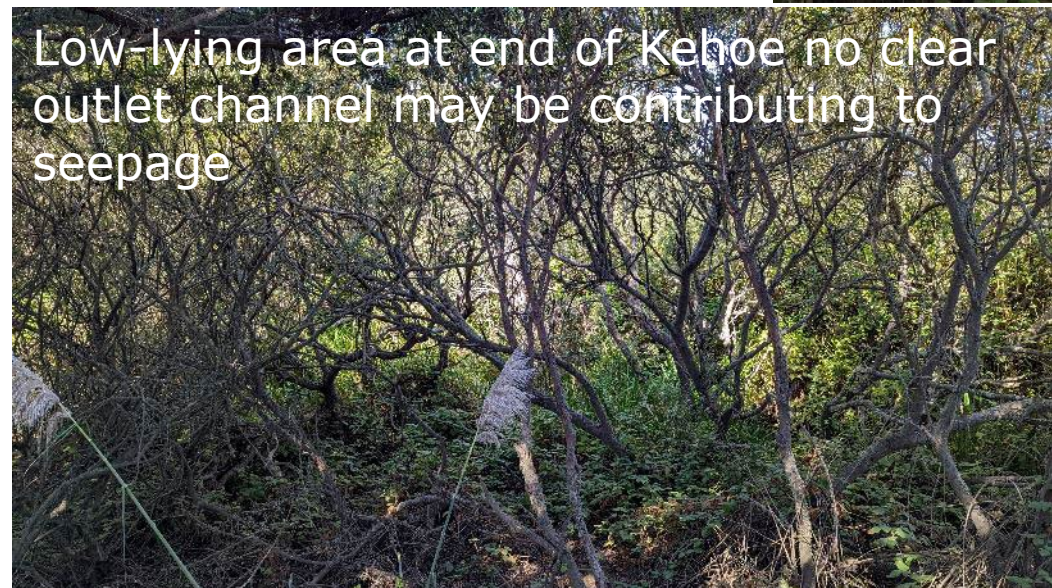
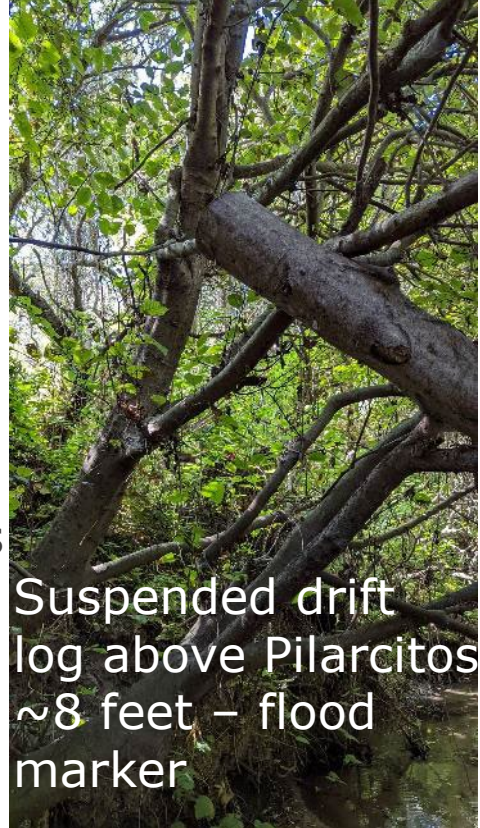


Late 1980s, Date  
Unknown



# Site Walk Highlights

- Team Members identified key site features and processes
- Lack of residual depth in lagoon = stream flow  $\sim$  beach seepage rates
- Contributed to conceptual site description

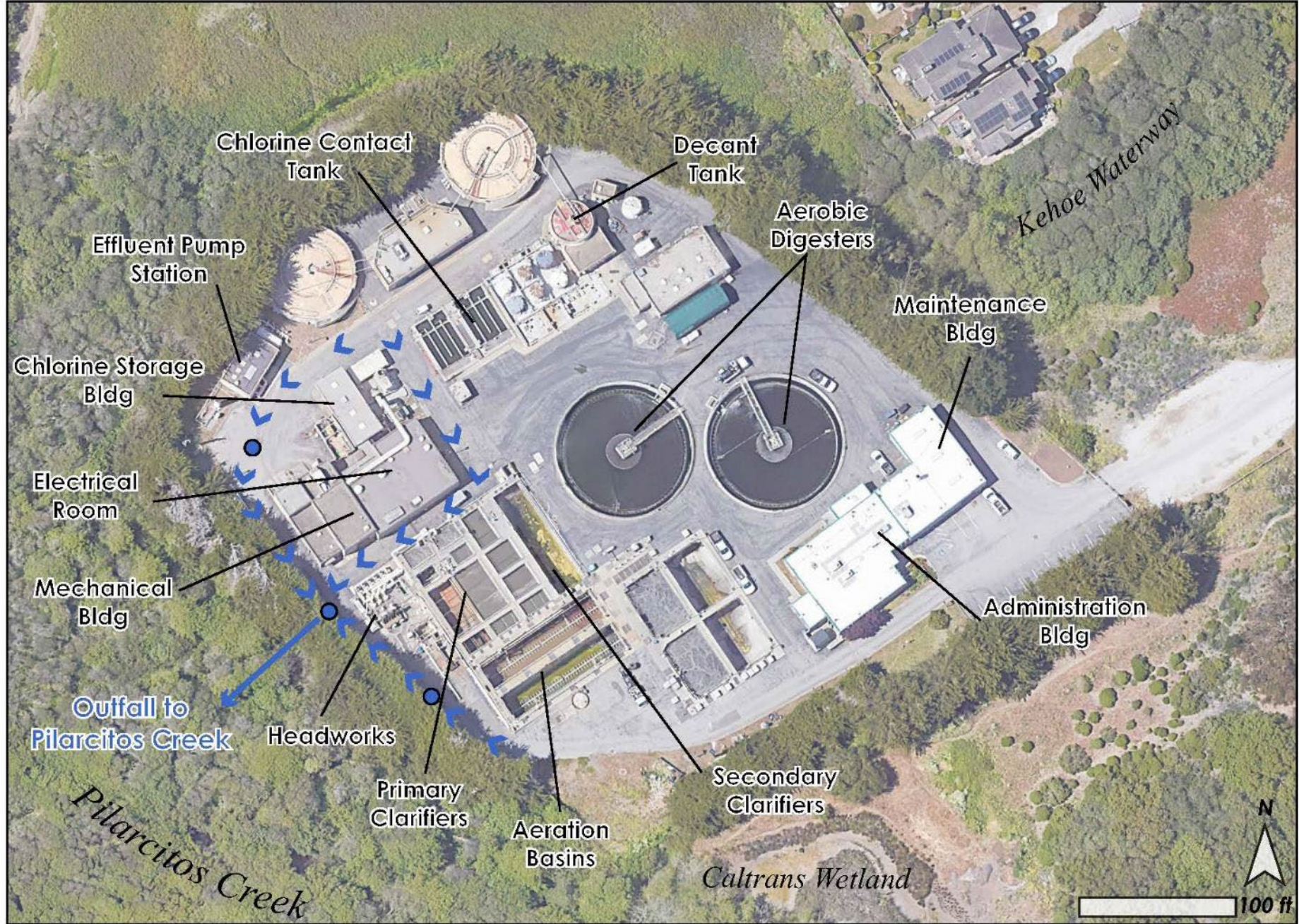




# Conceptual Site Model





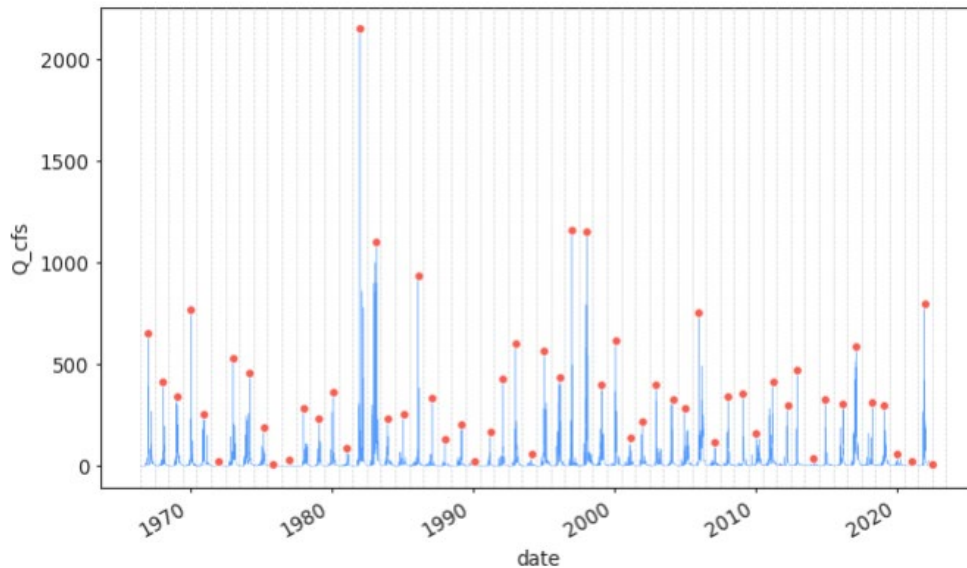


● Catch Basin

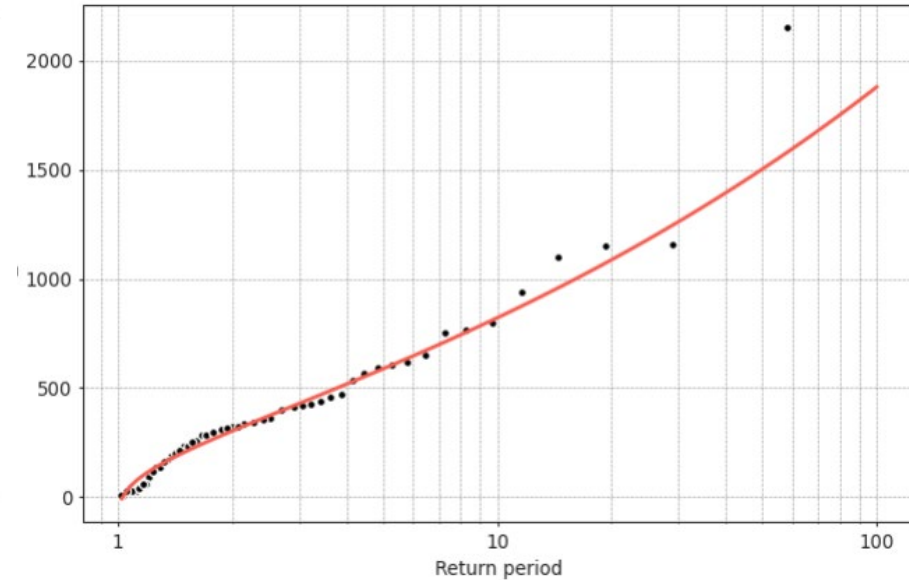
◀ Stormwater Flow



# Data gathered - Fluvial



Pilarcitos Discharge –  
USGS gage #11162630



Pilarcitos Return Periods  
– Extreme Value Results

Kehoe Waterway Discharge- Courtesy of Schaaf & Wheeler Report 2015

Subbasin #	100-yr (cfs)	50-yr (cfs)	25-yr (cfs)	10-yr (cfs)	5-yr (cfs)	2-yr (cfs)
1	8.6	7.1	5.7	3.9	2.6	0.6
2	66.9	59.3	51.7	41.5	33.4	20.5
3	130.9	108.2	86.3	59.3	39.1	12.6
4	109.8	91.0	72.9	50.5	33.7	9.0

# Waves and Coastal

- USGS COSMOS wave data transformed to the site for historic and future projections
- Time series of Total Water Levels (wave runup + tides)
- Beach topography from various historic time periods
- Revising a dune erosion model (using FEMA guidance + storm duration)
- Includes historic trends (aka sediment budget)+ sea level rise changes + 100 year storm erosion

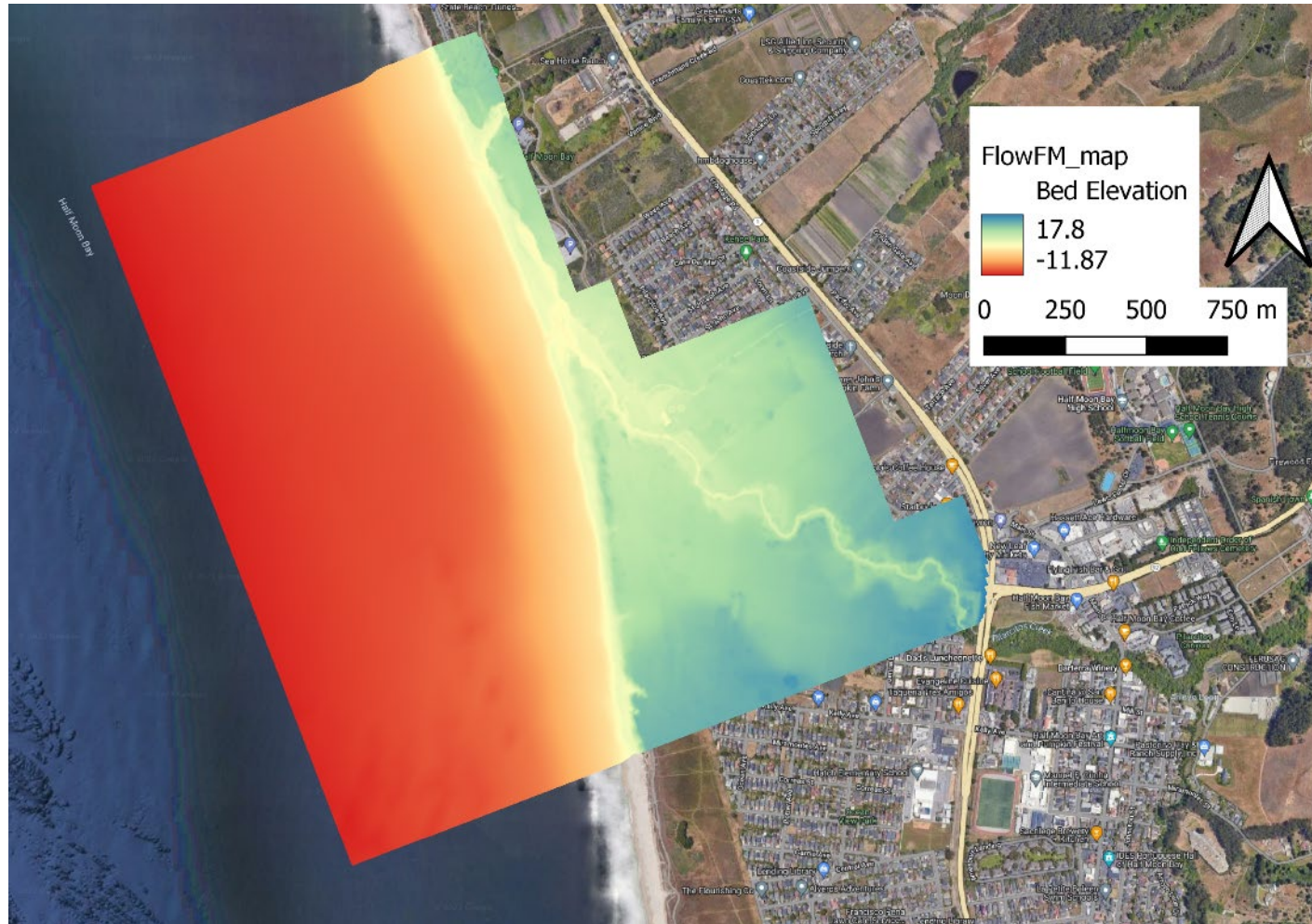


# Upland Elevation



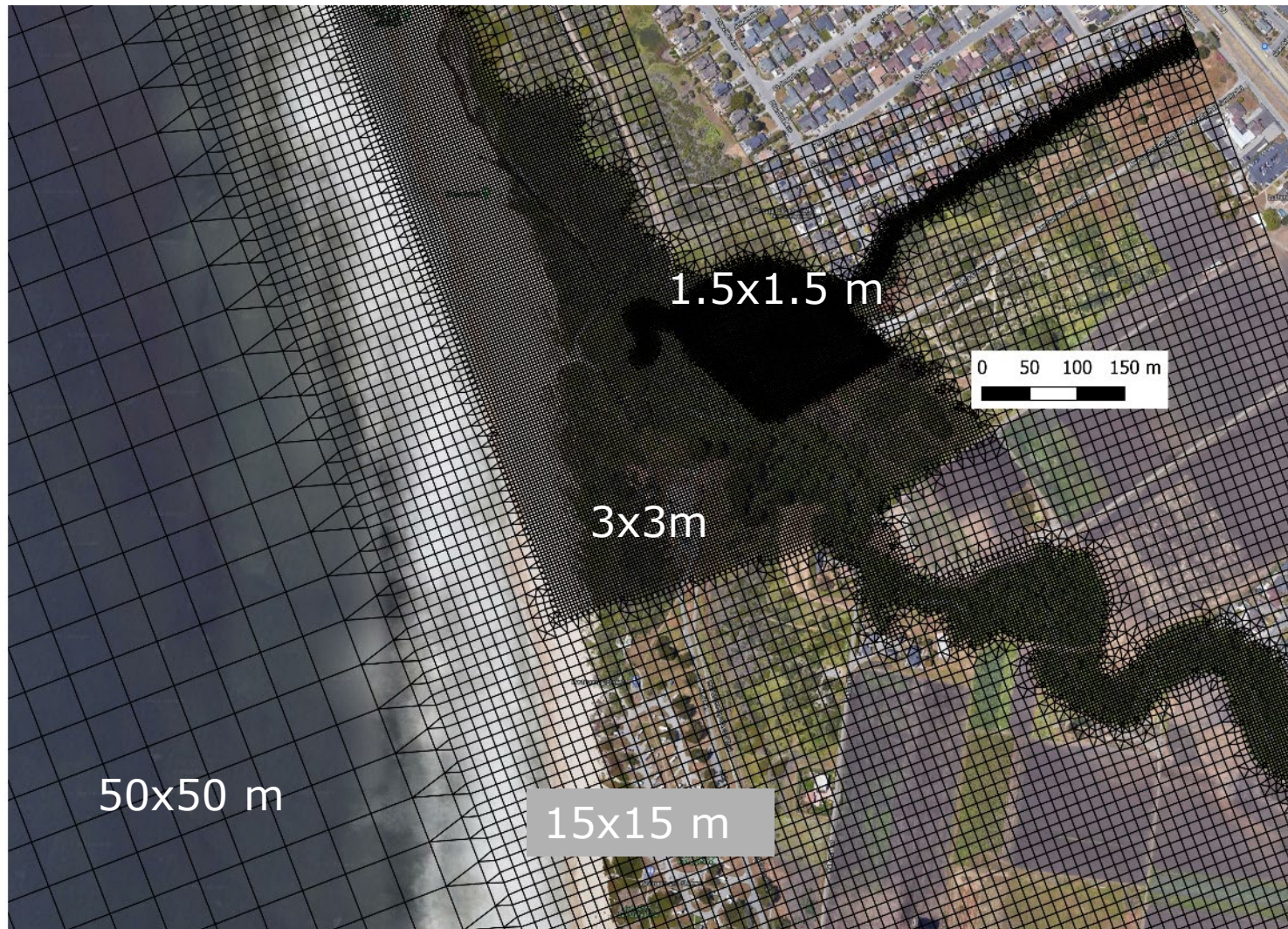


# Model Development





# Hydrodynamic Model Grid





# Pilarcitos Discharge Test- Dec 13-14 2021





# Preliminary Model Results – Dec 2021





# Next Steps and Schedule

- Model refinement including vegetation and discharges --1-2 months
  - Develop inputs for other cases including 1980s storm and 100 year discharge event--1-2 months
  - Model Evaluation 1-4 months
  - Berm evolution model application 3-4 months
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- Thank you!
  - Questions?