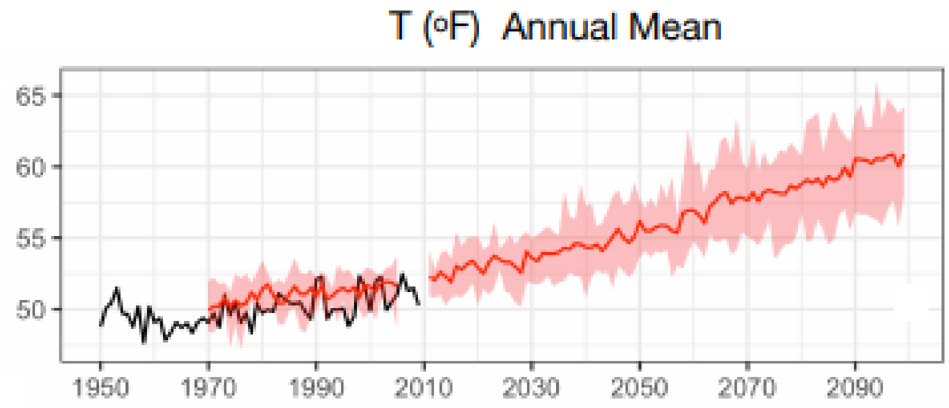
CT Temperature Projections



CT PSCAR, 2018

- Significant increase in average annual temperatures, with largest increase expected in summer and in fall.
- Increase in the number heat wave and fewer frost days.
- Growing season expected to increase ~ 35 days by 2050.

CT Precipitation Projections

- Increase of annual precipitation, with the largest increase expected in winter and spring.
- Results in fall and summer are inconclusive.
- Number of heavy rain days is projected to increase, increasing flood risk.
- Decrease in summer water availability expected to increase drought.

New Haven MRGP report, 2018

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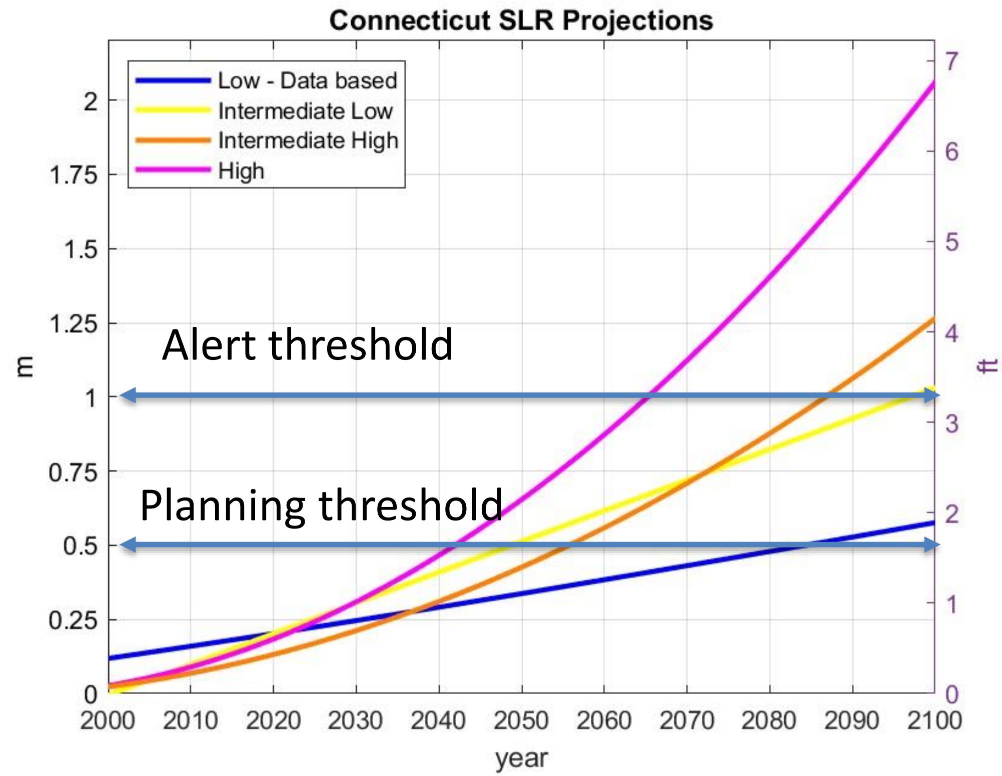
CT Sea Level Rise Projections

- Plan for sea level rise of 20 inches by 2050.
- Scientific basis for projections revisited every 10 years.
- Senate Bill No. 7/Public Act 18-82 “An Act Concerning Climate Change Planning and Resiliency”.



O’Donnell, 2018

https://circa.uconn.edu/sea-level-rise/

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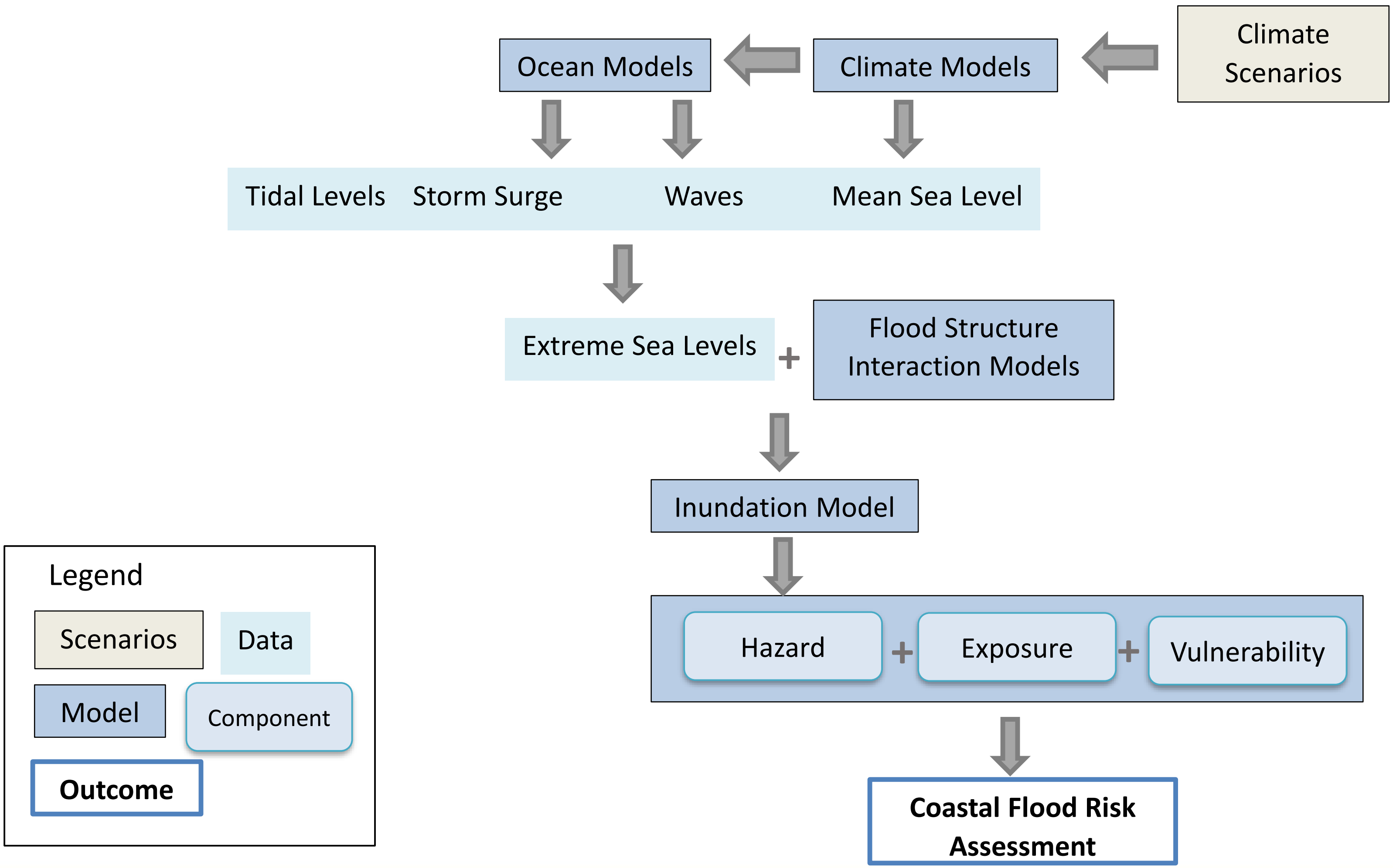
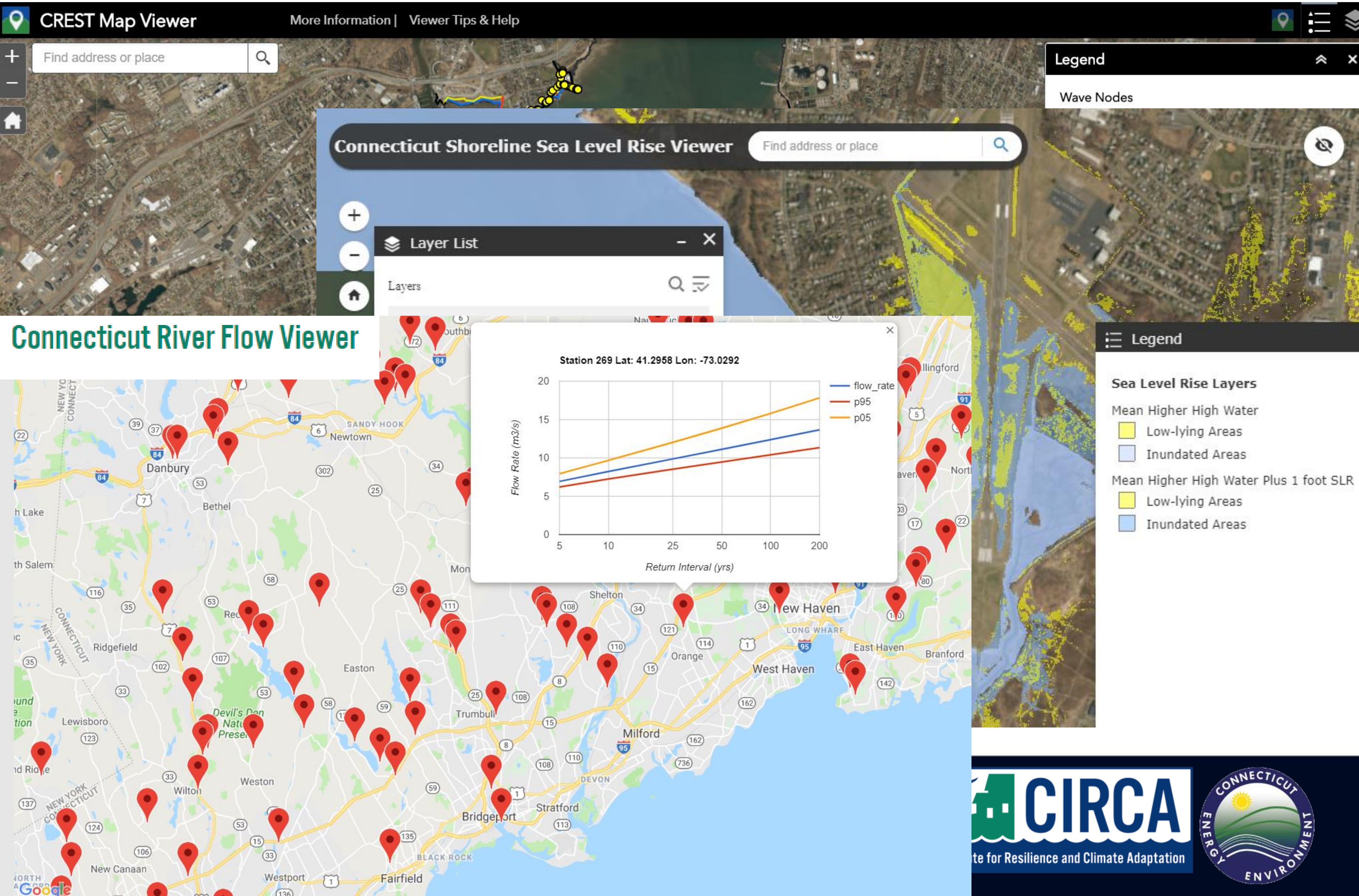
Science Based Risk Assessment

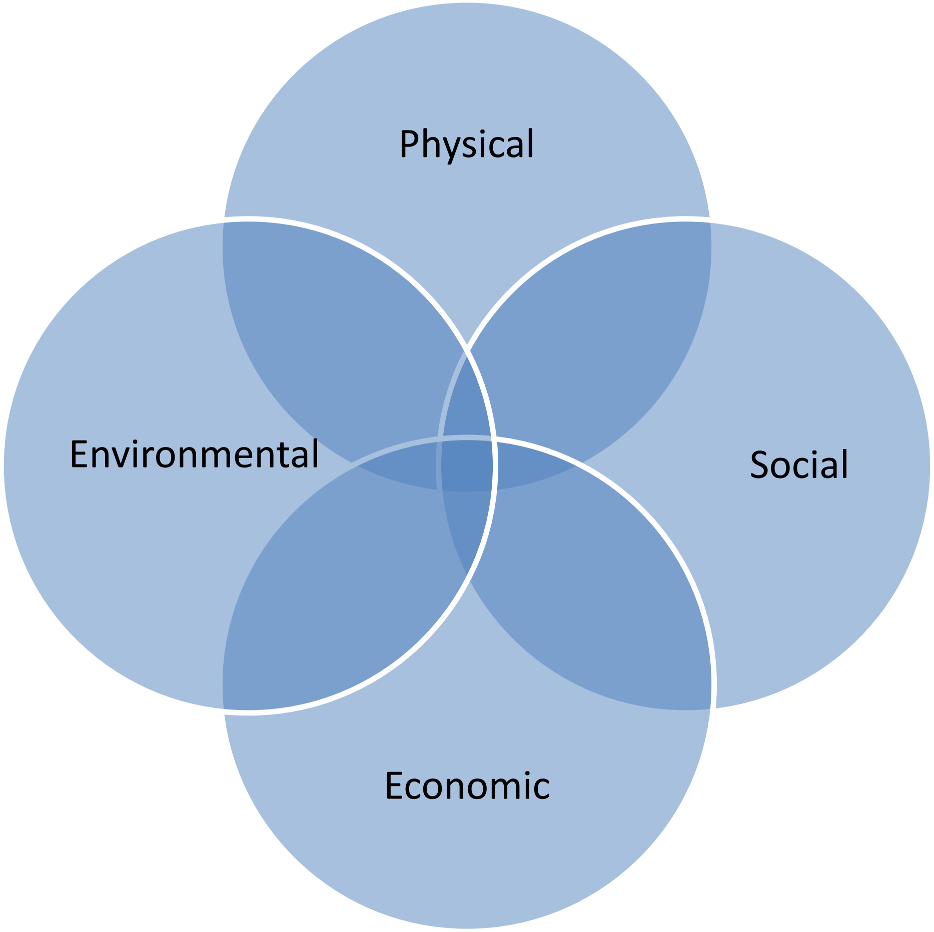


CIRCA Viewers

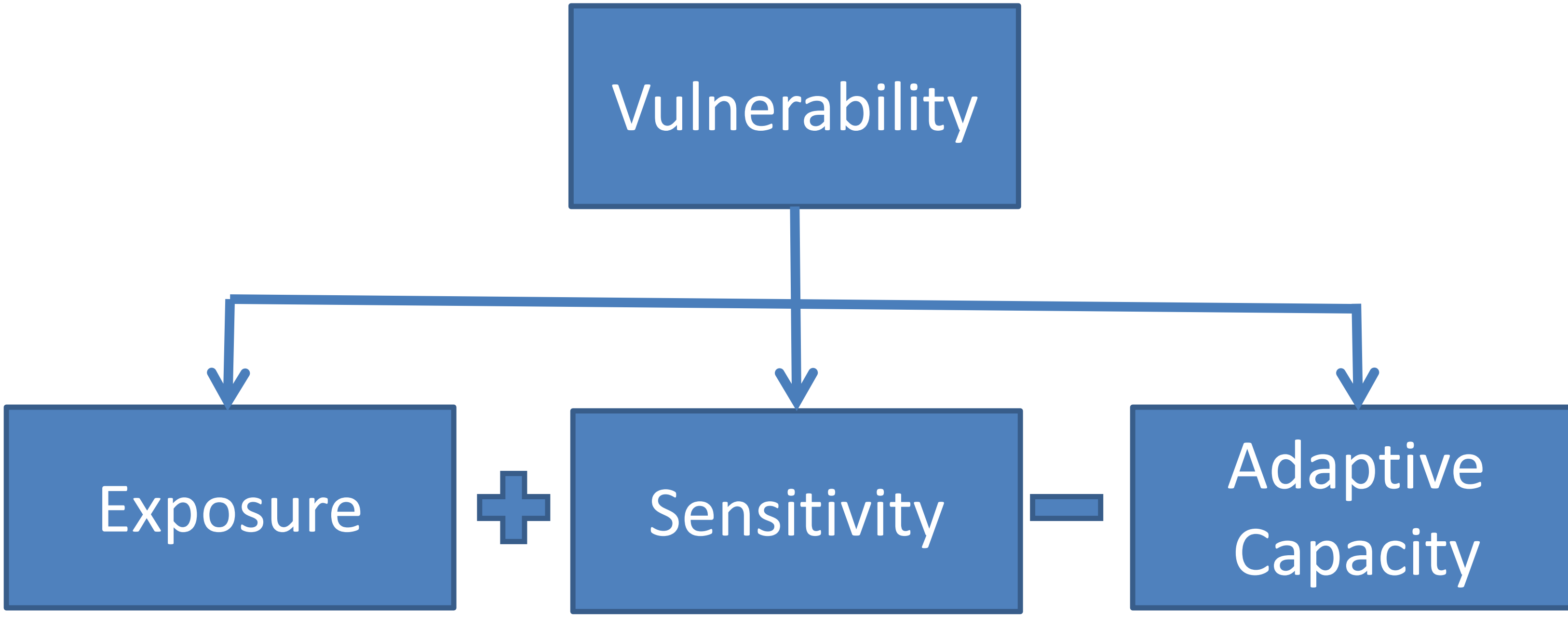


Vulnerability is

- Site specific
- Scale dependent
- Multidimensional
- Changing over time



The Vulnerability Equation



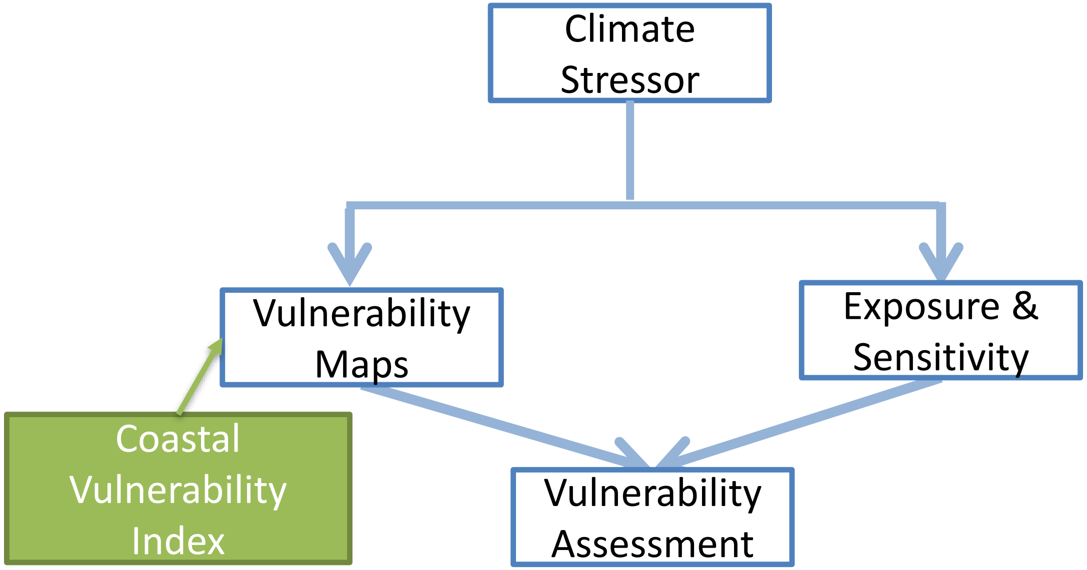
When and Where
Duration

Degree of Impact
Level of Stress

Ability to Cope

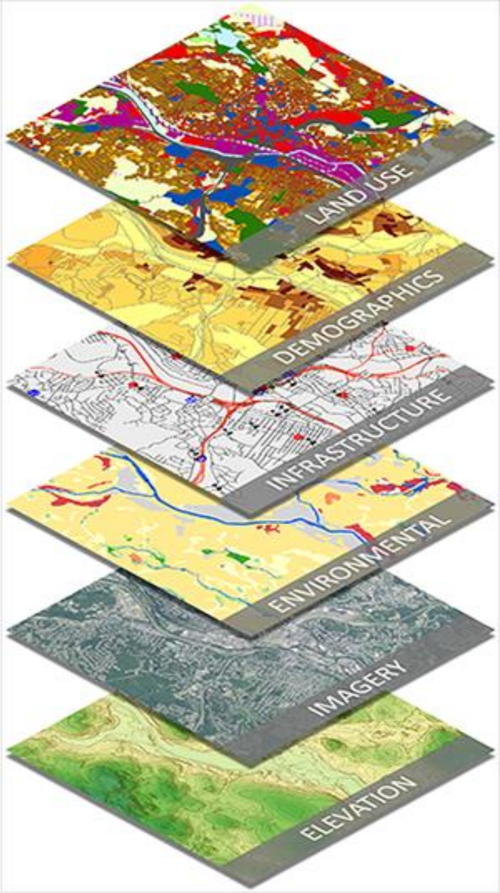
The Vulnerability Assessment

- Build public awareness
- Strategically allocate limited resources
- Identify impacts to community assets
- Inform & prioritize projects



Input Layers: Indicators

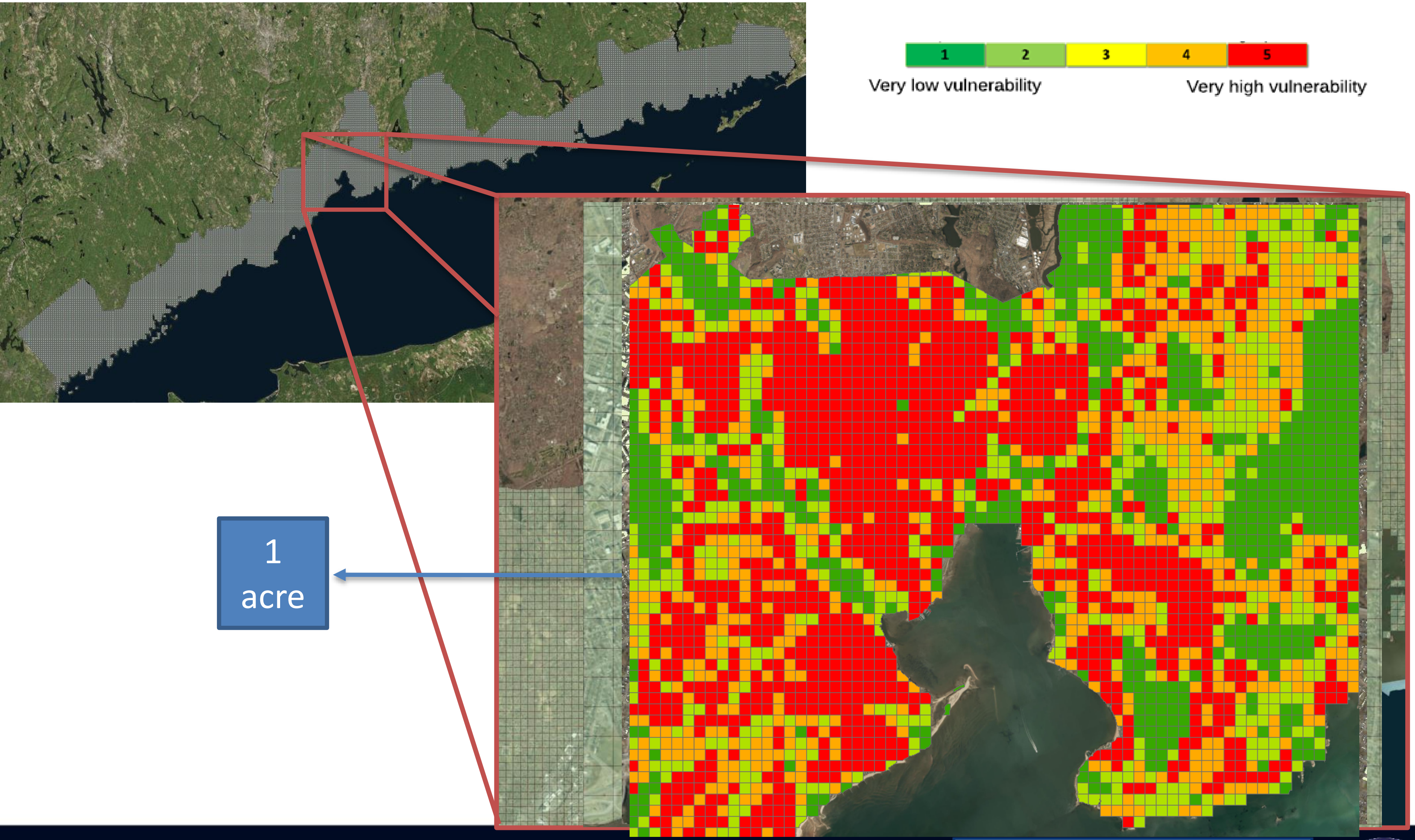
1. Sea level rise
2. Wave height and power
3. Wind speed and direction
4. Storm surge
5. Tidal range
6. Rainfall
7. Hydraulic connectivity
8. Foreshore slope
9. Soil subsidence
10. Soil drainage
11. Coastal elevation
12. Shoreline change rate
13. Erosion susceptibility
14. Geomorphology
15. Geology
16. Engineering frontage
17. Aquifer type
18. Marsh habitat
19. Critical habitat
20. Coastal Forests
21. Roads
22. Railways and Stations
23. Airports
24. Critical infrastructure
25. Buildings
26. Population density
27. Elderly and young population
28. Median household income
29. Land use
30. Health insurance
31. Disable population
32. Employed population



Output Layers: Vulnerability

- Coastal Exposure
- Wave Exposure
- Wind Exposure
- Surge potential
- Salt water intrusion impact
- Erosion impacts
- Natural habitat impacts
- Critical facilities and infrastructure
- Social impacts

Design of Coastal Vulnerability Index



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Breakout Session

1. What additional tools would be helpful for climate change planning?

2. What are some challenges to incorporating technical information and data into existing planning documents?

3. How would you use a tool like the vulnerability index that was just presented in your planning and decision making?

4. What regional vulnerabilities would benefit from further study?