CEDAS Webinar: Addressing climate change through resilient development

May 28, 2019

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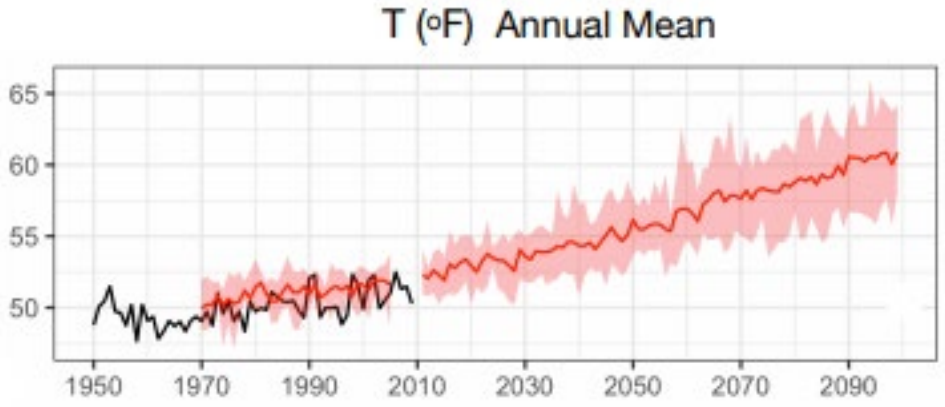
Connecticut Institute for Resilience and Climate Adaptation

CONNECTICUT ENERGY ENVIRONMENT

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.

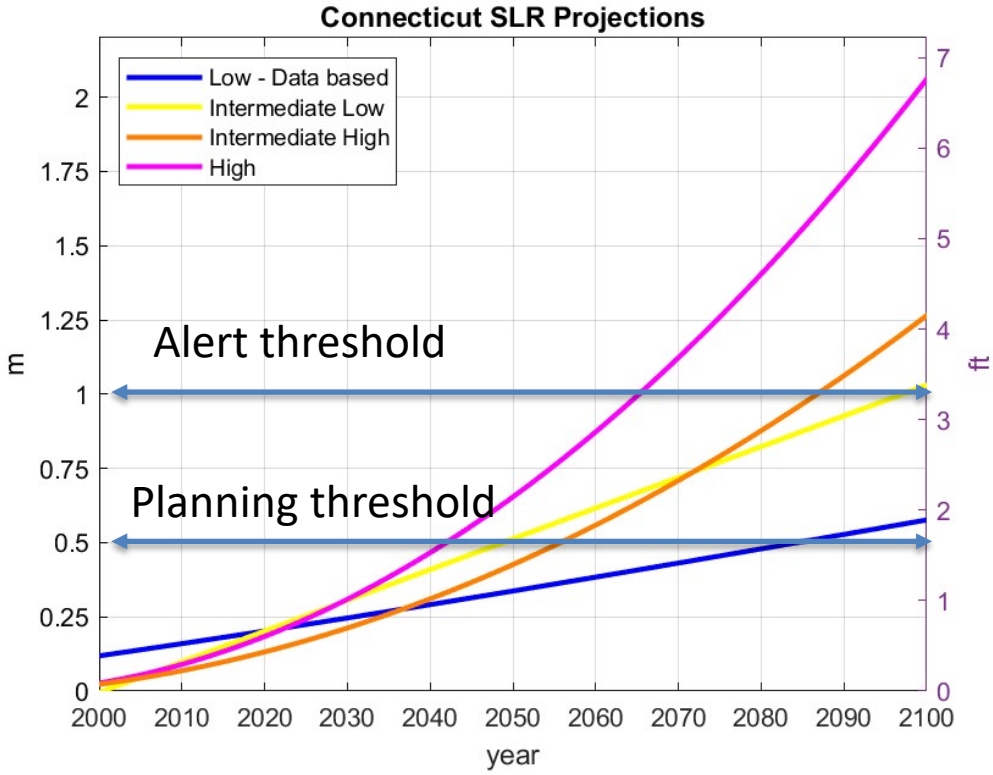
CT Precipitation Projections

- 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

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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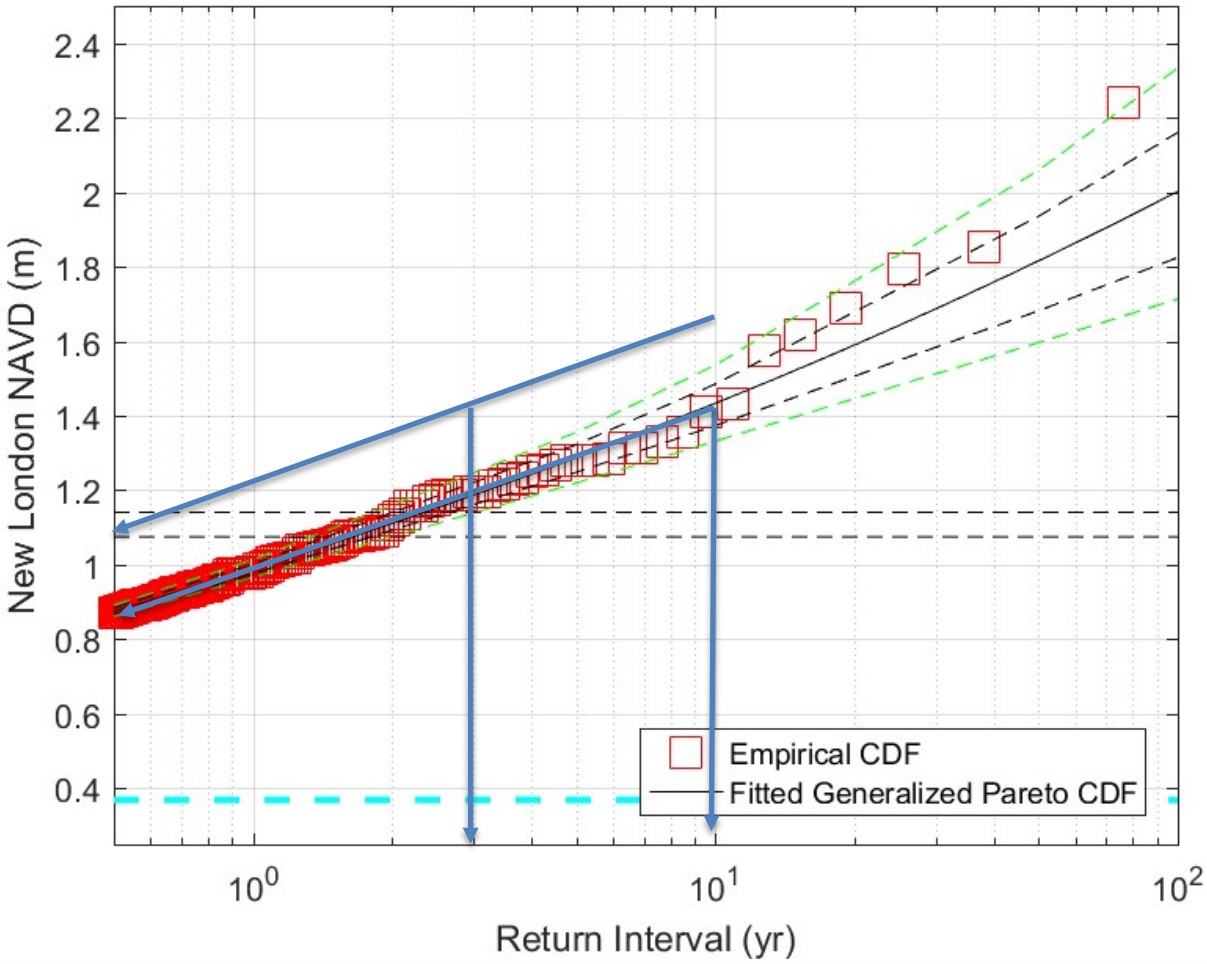

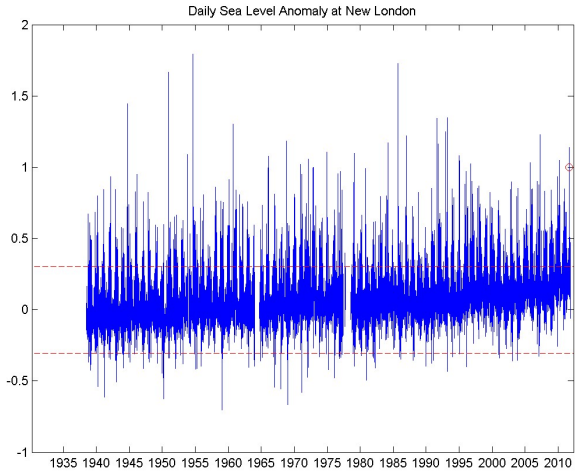

New London Total Water Level Return Interval -O'Donnell

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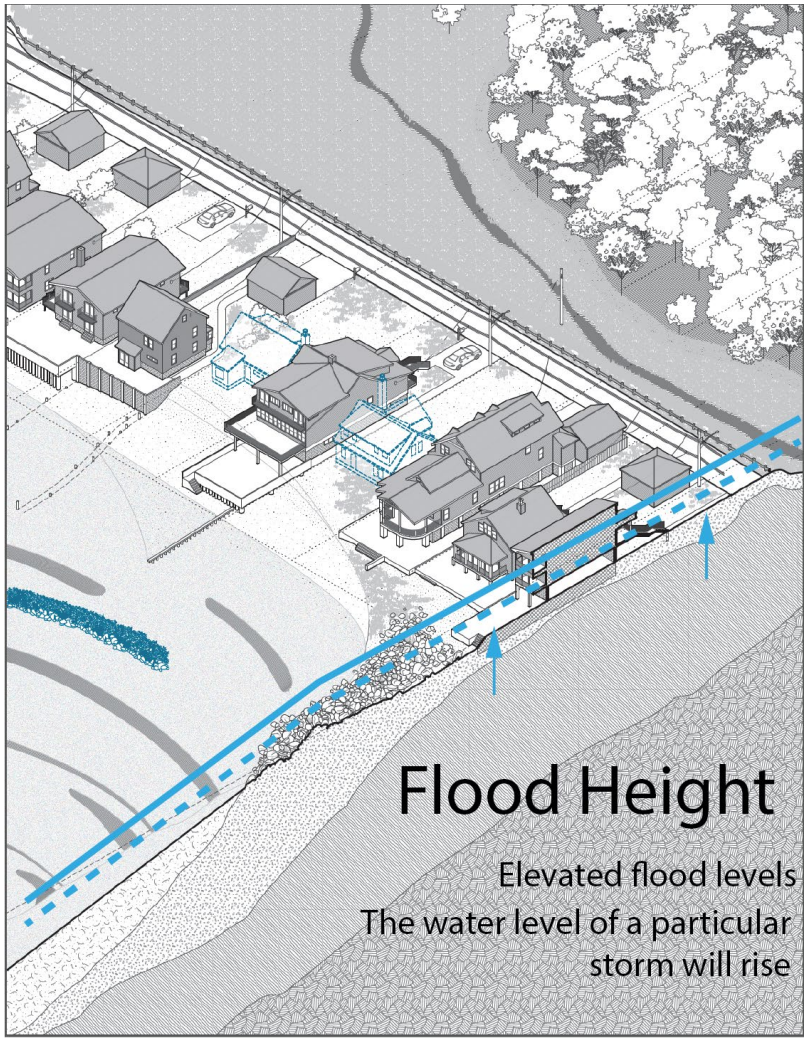

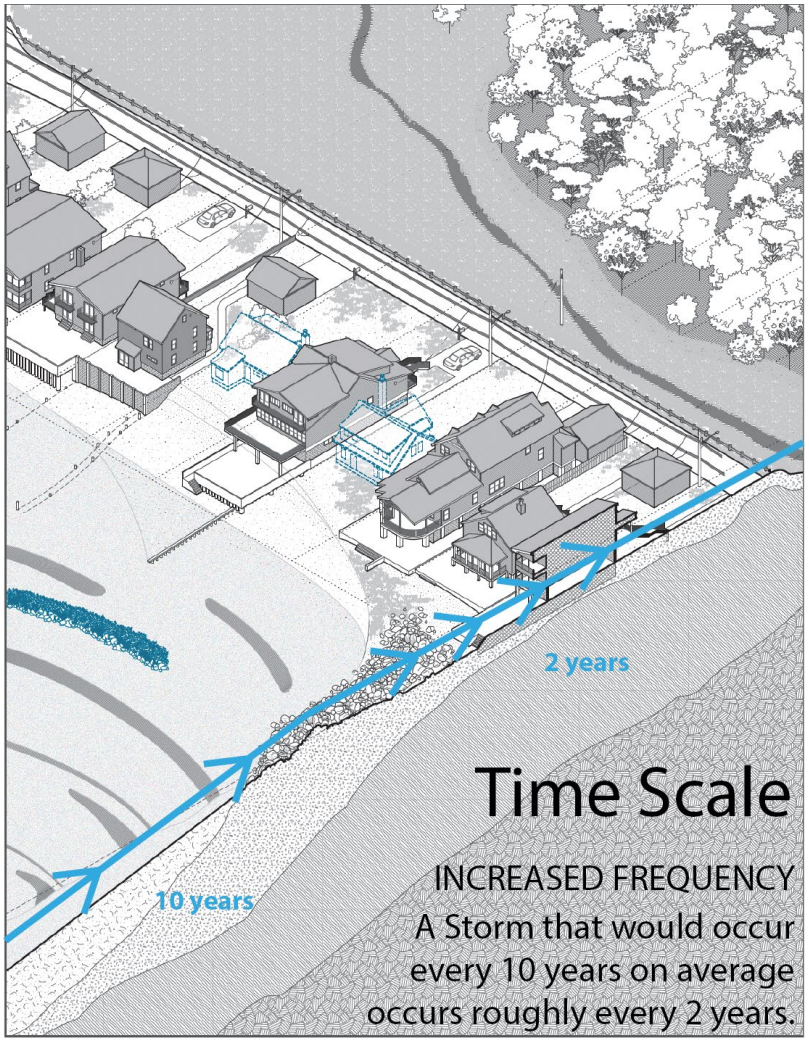

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CONNECTICUT ENERGY ENVIRONMENT

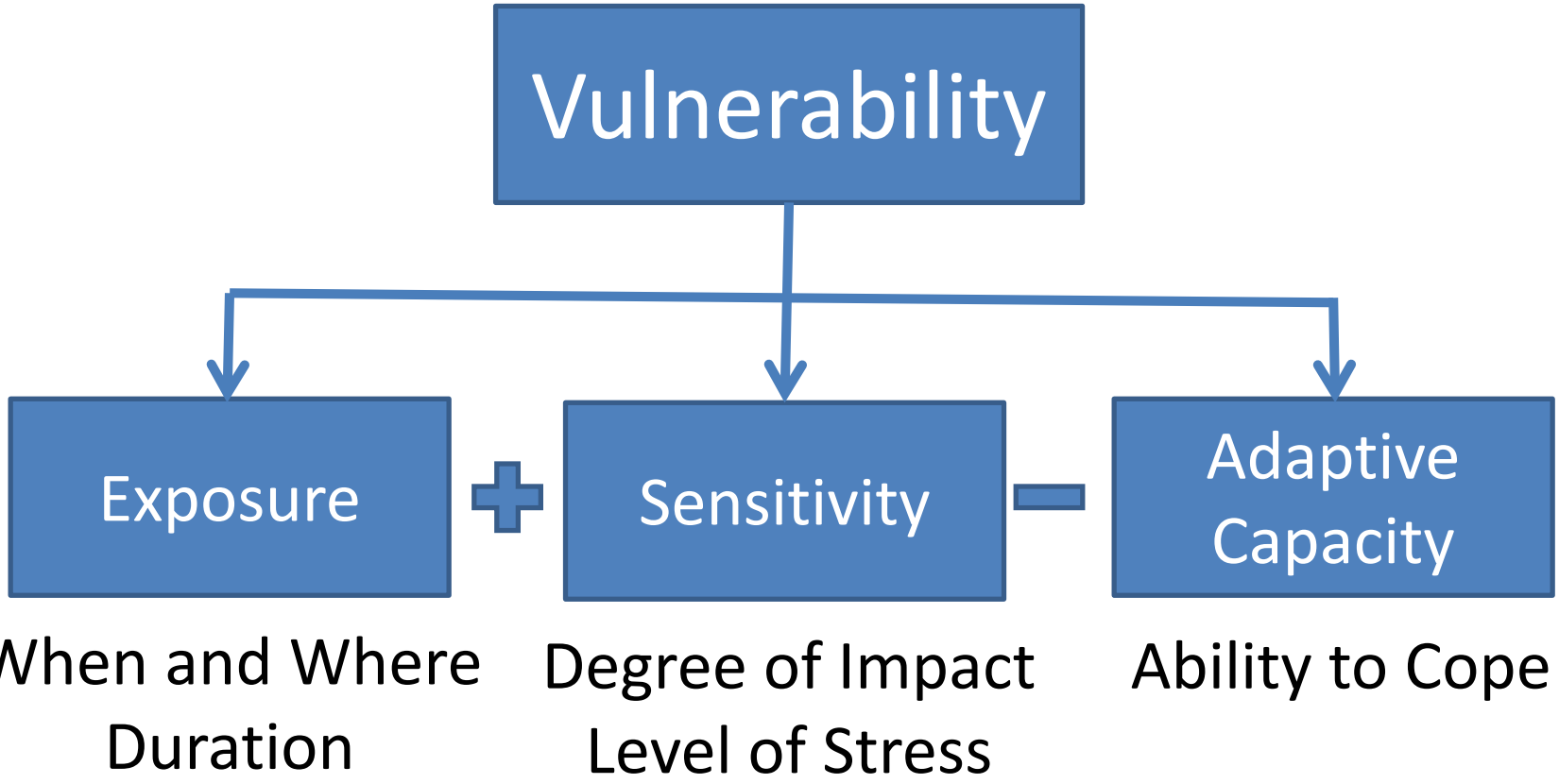
Vulnerability Assessment

SITE-SPECIFIC

MULTIDIMENSIONAL

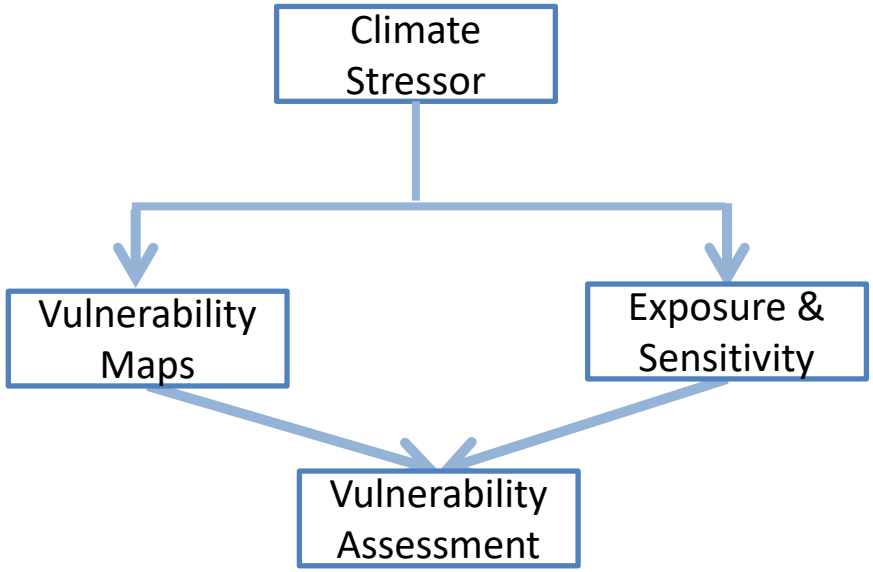
SCALE DEPENDENT

CHANGING OVER TIME


Vulnerability
Exposure
Sensitivity
Adaptive Capacity
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



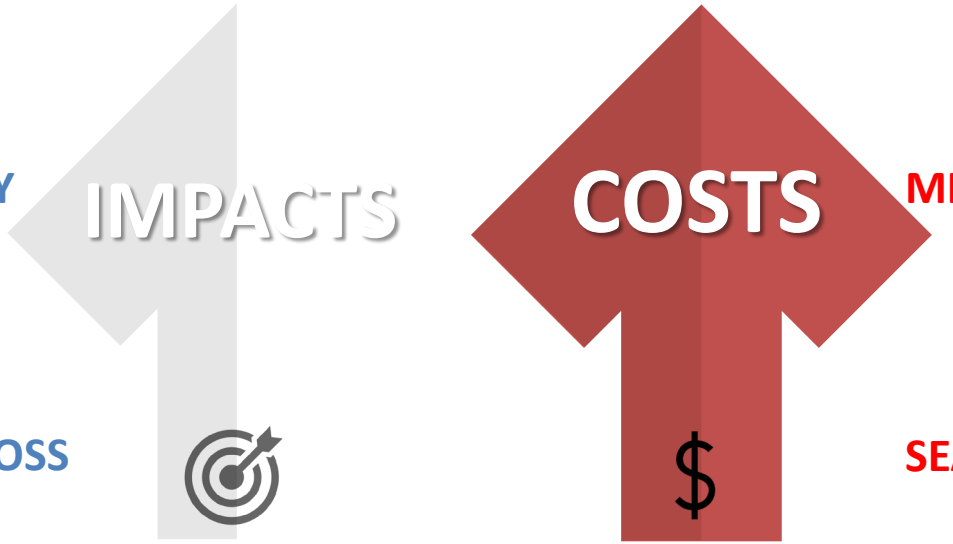
Direct Costs of Sea Level Rise

EROSION

FLOOD PROBABILITY

COASTAL WETLAND LOSS

SALINIZATION OF RIVERS



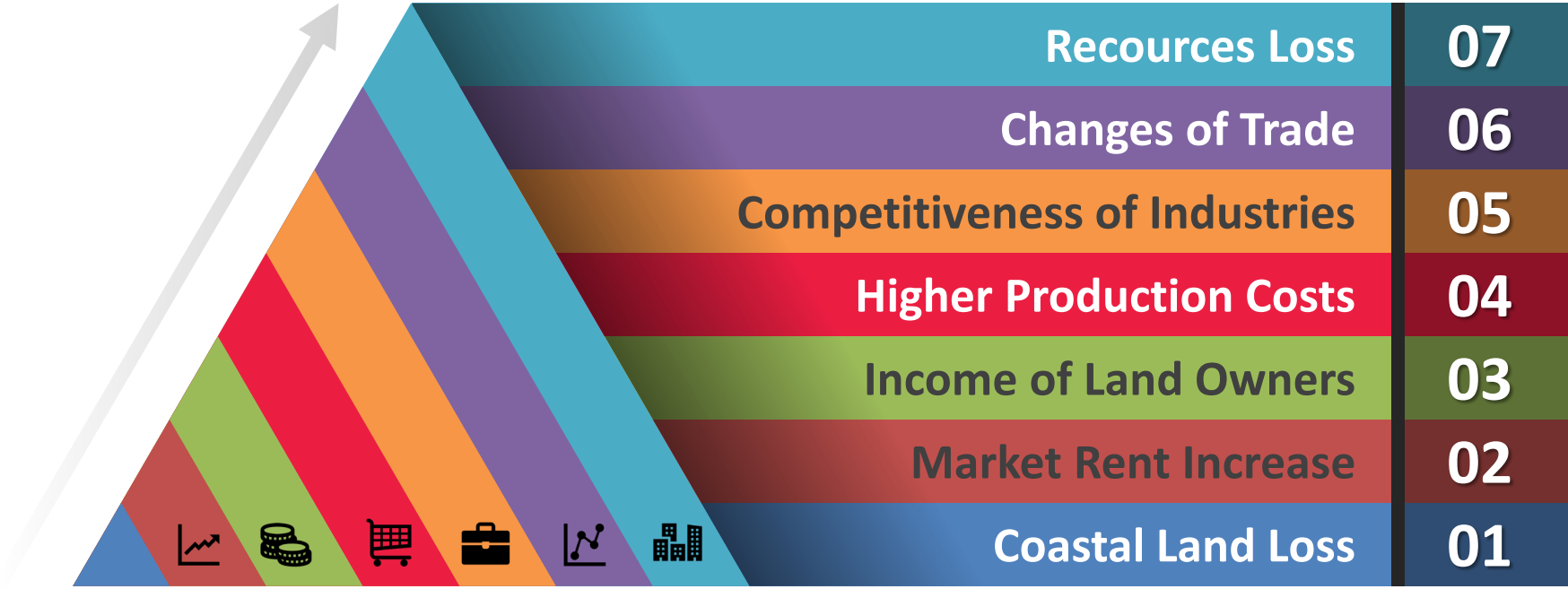
LAND LOSS COSTS

MIGRATION COSTS

SEA FLOOD COSTS

SALINIZATION COSTS

Wider Economic Impacts



(Bosello et al., 2012)

The Cost of Sea Level Rise

CT has the 2nd highest exposure of vulnerable coastal assets on the eastern seaboard, with more than $542 billion at risk to coastal storms (HUD-NDRC,2015).

High levels of coastal protection (>70% of the threatened coast) would be optimal for the majority of the world's regions (Tol, 2007).

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