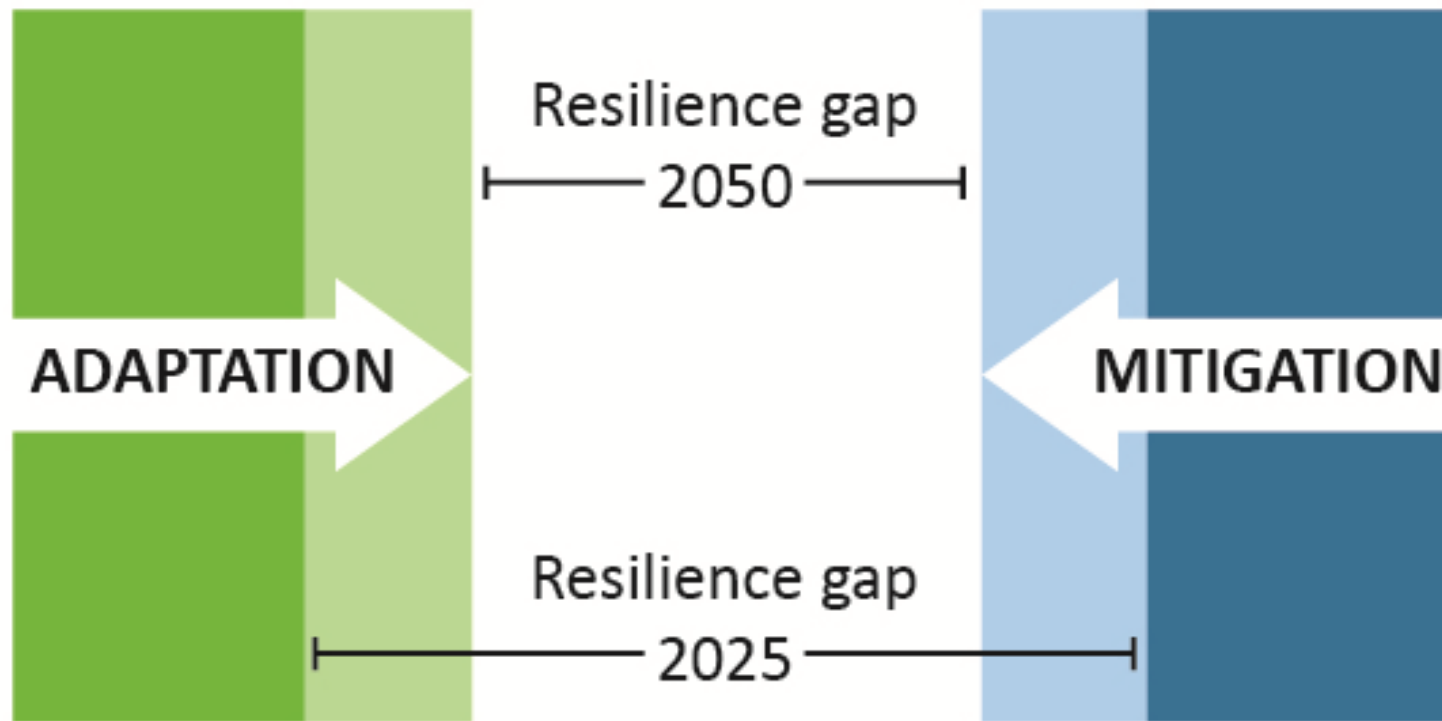




Toward Climate Resilience:  
*A Framework and Principles for Science-Based Adaptation*





An aerial photograph of a coastal region in Louisiana, showing a network of waterways, marshes, and a road. The land appears to be sinking, with water encroaching on the marshes and the road. The sky is clear and blue.

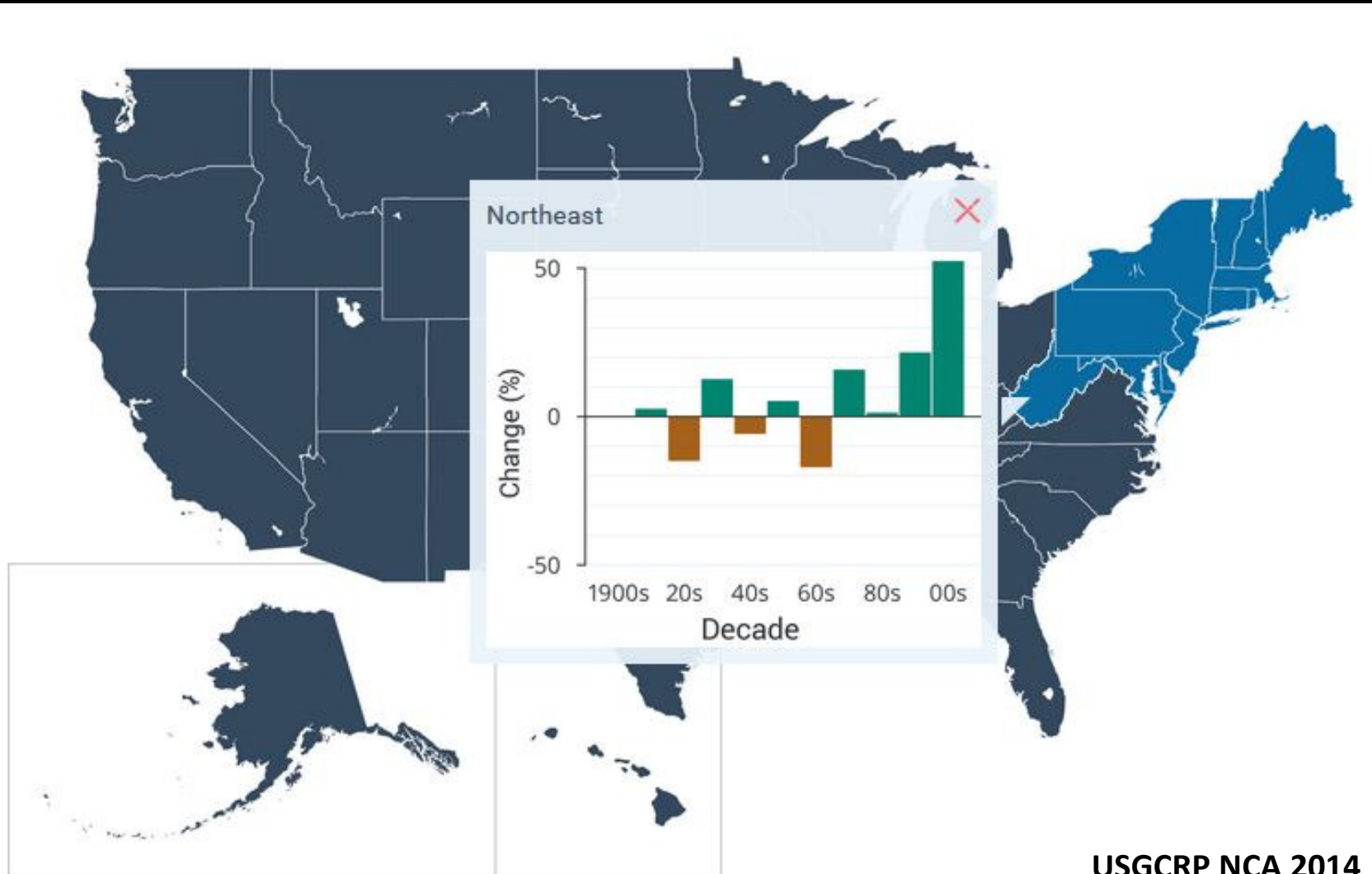
# If we need to adapt, how do we ensure we do it well...?

- 15 principles
- Structured around three basic themes: *science*, *equity*, and *common-sense ambition*.
- Designed to be used by decision makers and practitioners from local to federal level;
- & to articulate our science- and values-based approach.

o: *Isle de Jean Charles in Southern Louisiana where the Biloxi-Chitimacha-Choctaw tribe and the Houma nation homes disappear due to sinking land, extreme erosion, and sea level rise.*

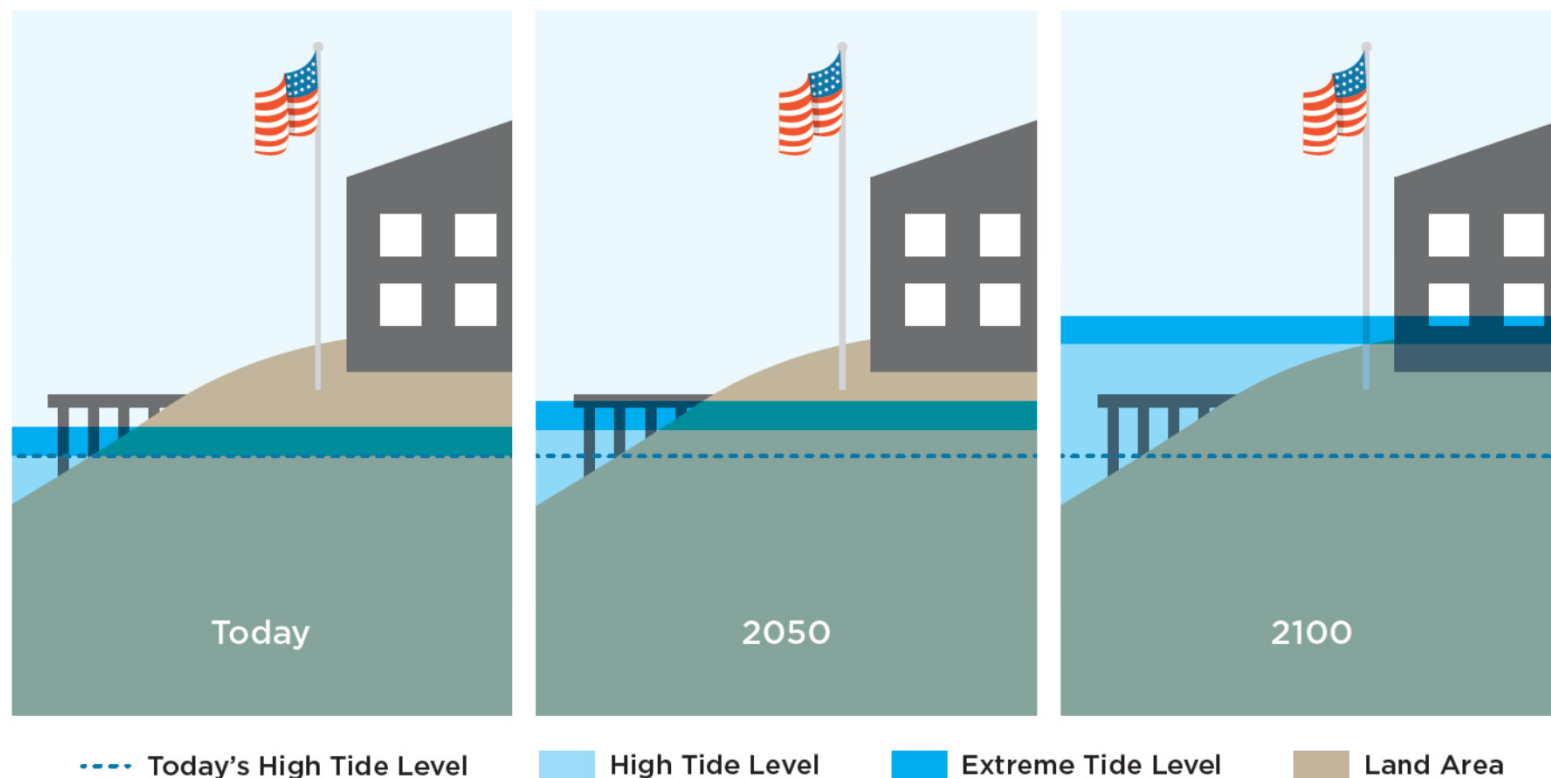
[ Use rigorous science

# 1. Consider projected climate conditions.



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FIGURE 2. How Sea Level Rise Causes Tidal Flooding and Land Loss



*As sea level rises, extreme tides cause local flood conditions to occur more often, to a greater extent, and for longer time periods. And the daily high tide line can eventually begin to encompass new areas, shifting the tidal zone onto presently utilized land. In this analysis, land inundated by at least one high tide each day is considered a loss. This is a highly conservative metric: far less frequent flooding would likely lead to land being considered unusable.*

## { 2. Use systems thinking





# 3. Match scope of planning to magnitude of projected change

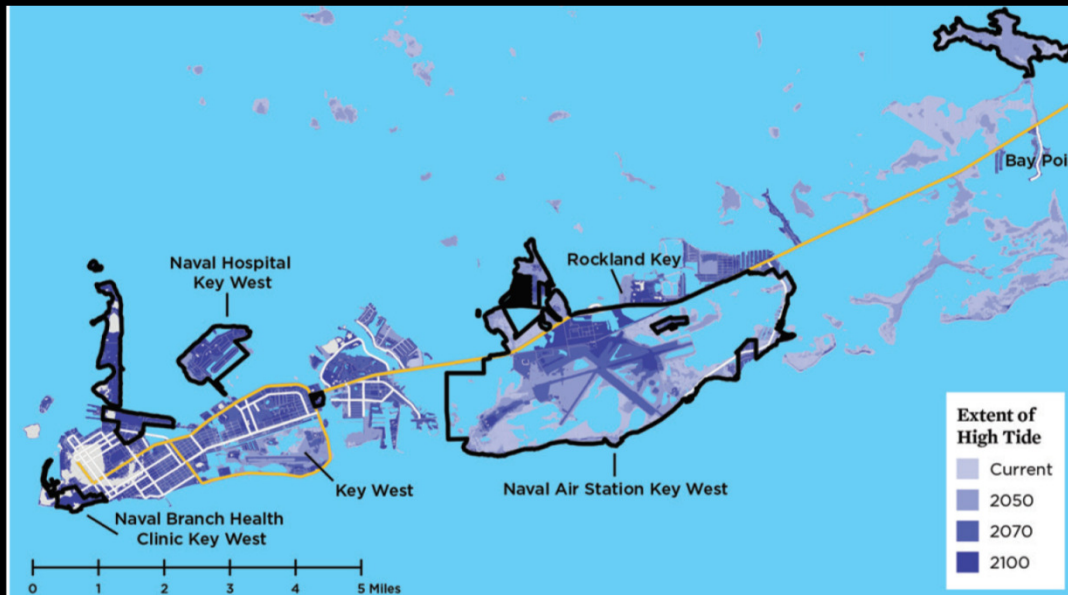
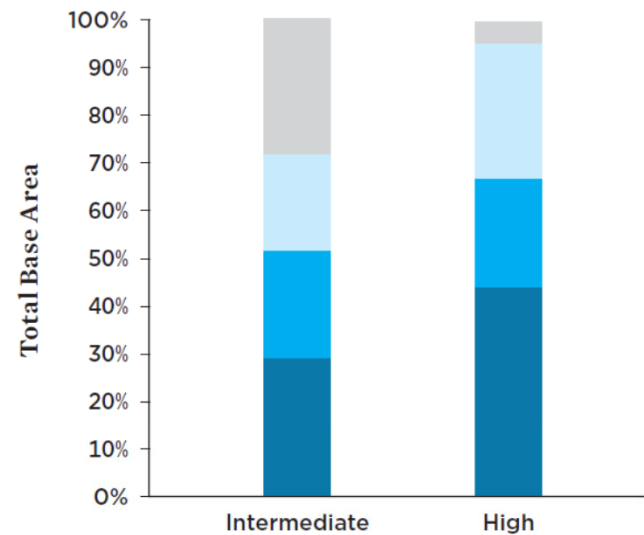


FIGURE 1. Major Land Loss Is Projected for NAS Key West



Year	Intermediate	Highest
2050	1.1	1.7
2070	2.0	3.2
2100	3.8	6.2

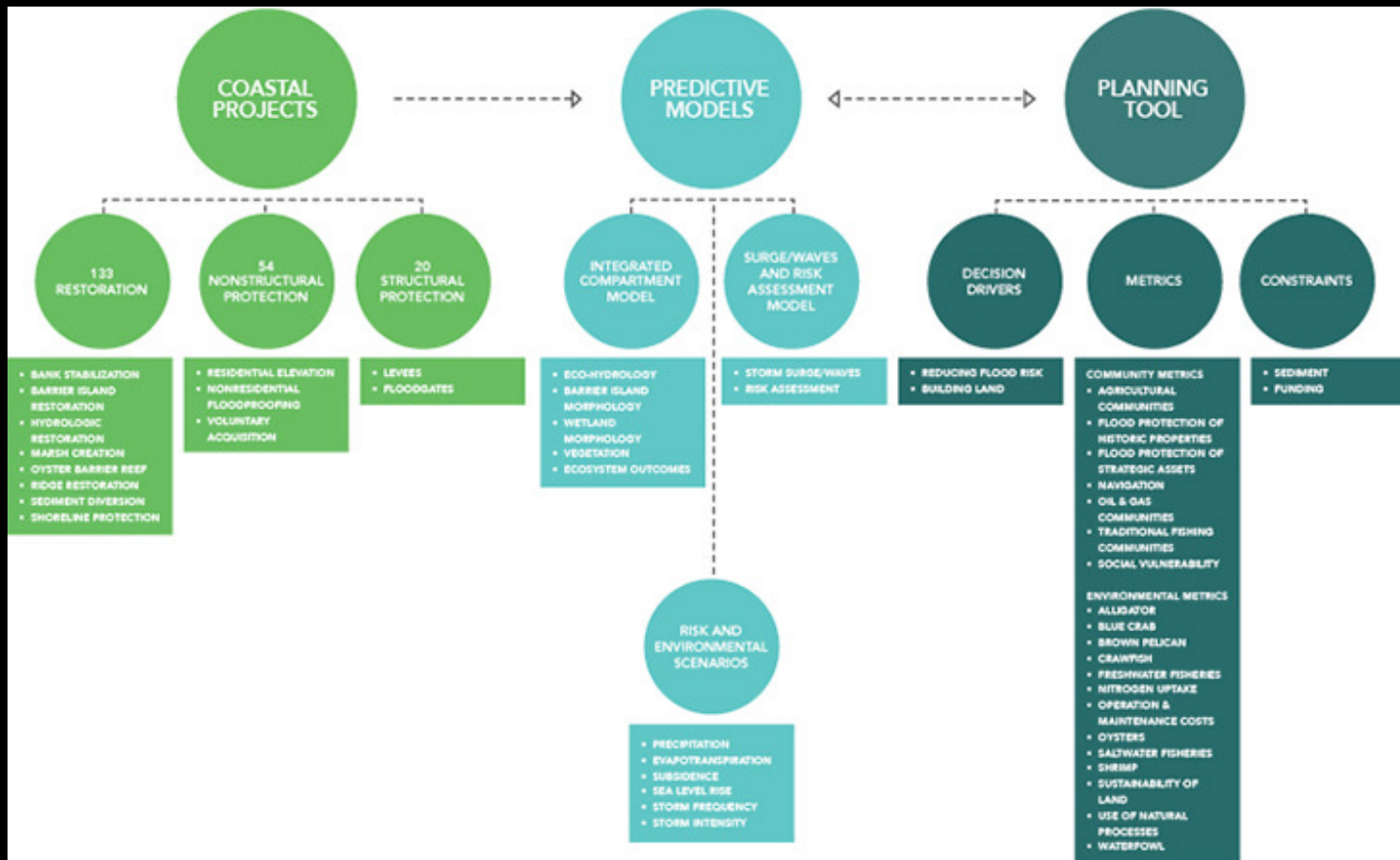
As high tide reaches farther inland, extensive land loss is possible at NAS Key West. Affected land may include developed and undeveloped areas and even wetlands that reside above the current high tide mark. NAS Key West is projected to see substantial loss of currently developed and utilized areas, particularly with the faster rate of sea level rise.

# { 4. Aim for robust decisions and policies



# { 5. Create opportunities to revise and change course

E.g. Louisiana Coastal Master Plan: 2007, 2012 and plan for 2017 new items:  
 1) Emphasizing communities; 2) Focus on flood risk reduction & resilience;  
 3) Improving models & 4) Expanding partnerships & collaboration.



[ Support equitable  
outcomes

6. Ensure costs of responding to climate change and benefits of resilience-building are equitably shared



# { 7. Decide with, not for



# { 8. Minimize harm and maximize options



# { 9. Equip and empower local experts





# { 10. Maximize transparency, accountability, and follow-through



Apply ambitious  
common sense

# { 11. Weed out maladaptation, { both existing and proposed



# { 12. Consider the costs of inaction



# 13. Work to protect the things citizens cherish



# { 14. Reflect a long-term vision



# { 15. Appreciate limits to adaptation { and push mitigation





{ Adapt & learn...

Thank You