

THE
UNIVERSITY
OF RHODE ISLAND
DEPARTMENT OF
MARINE AFFAIRS



The Marine Affairs Coastal Resilience Lab

We envision a world in which science informs coastal resilience decisions for the benefit of society.



Barriers to Extreme Weather Adaptation for Seaports – What do Decision-Makers say?

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UNIVERSITY OF RHODE ISLAND

AAPA Environmental Committee meeting
Norfolk, VA November 15th, 2017

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SOCIAL SCIENCE INSTITUTE FOR
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Worldmaritimenews.com – Port of Oakland

Today

Presentation
(20 min)



Workshop
(15 min)



Discussion
(10 min)



How can research and development assist decision-makers in implementing seaport adaptations to extreme weather impacts?



www.platinumpropertiesnyc.com



Satellite image of Hurricane Arthur, 2014.
Credit: NOAA



Hurricane Katrina damaged boats in Gulf Coast ports.
Credit: NOAA

Rising Seas Are Flooding Virginia's Naval Base, and There's No Plan to Fix It

The giant naval base at Norfolk is under threat by rising seas and sinking land, but little is being done to hold back the tides.

By Nicholas Kusnetz

OCT 25, 2017

<https://insideclimatenews.org/news/10252017/military-norfolk-naval-base-flooding-climate-change-sea-level-global-warming-virginia>

Resilience:

The ability to anticipate, prepare for, and adapt to changing conditions

and

withstand, respond to, and recover rapidly from disruptions





I. Protect

Restoration - Current Status:

HUD EA – Restoration

60-acre fill was completed on March 27, 2011

24-acre dredging schedule to advertise March 2011 – ON HOLD

24-acre fill is scheduled to begin in April 2011

+25 feet elevation is scheduled to start Fall 2011

Permanent tenant facilities

Upgrades to road, rail and utilities on the Port

Equipment upgrades



2. Elevate



3. Design for submersion 8.18



4. Abandon



www.alastairhumphreys.com



HARMONY OF THE SEAS

Critical

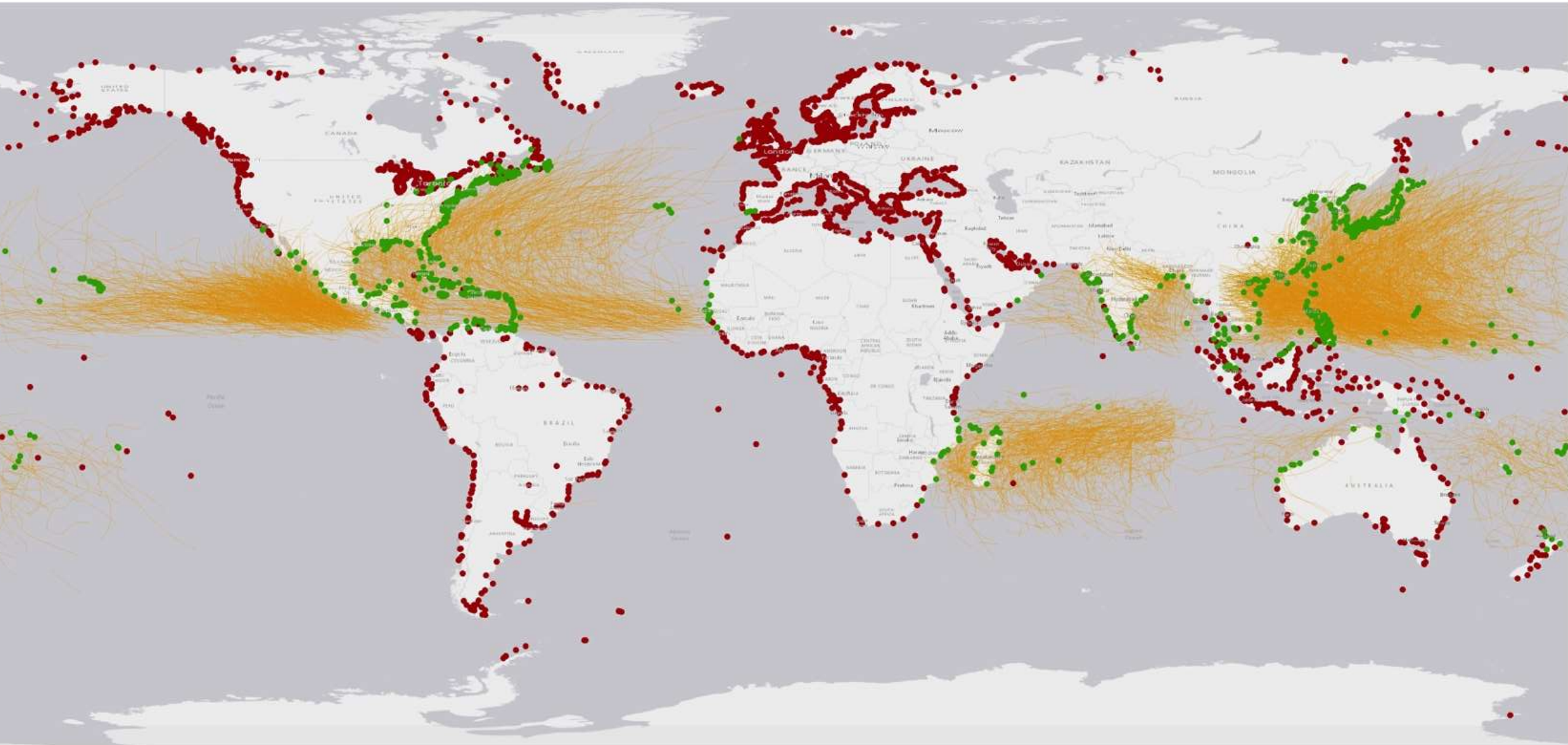
> 99% of the volume of overseas trade enters or leaves the U.S. by ship (MARAD 2016)

Exposed

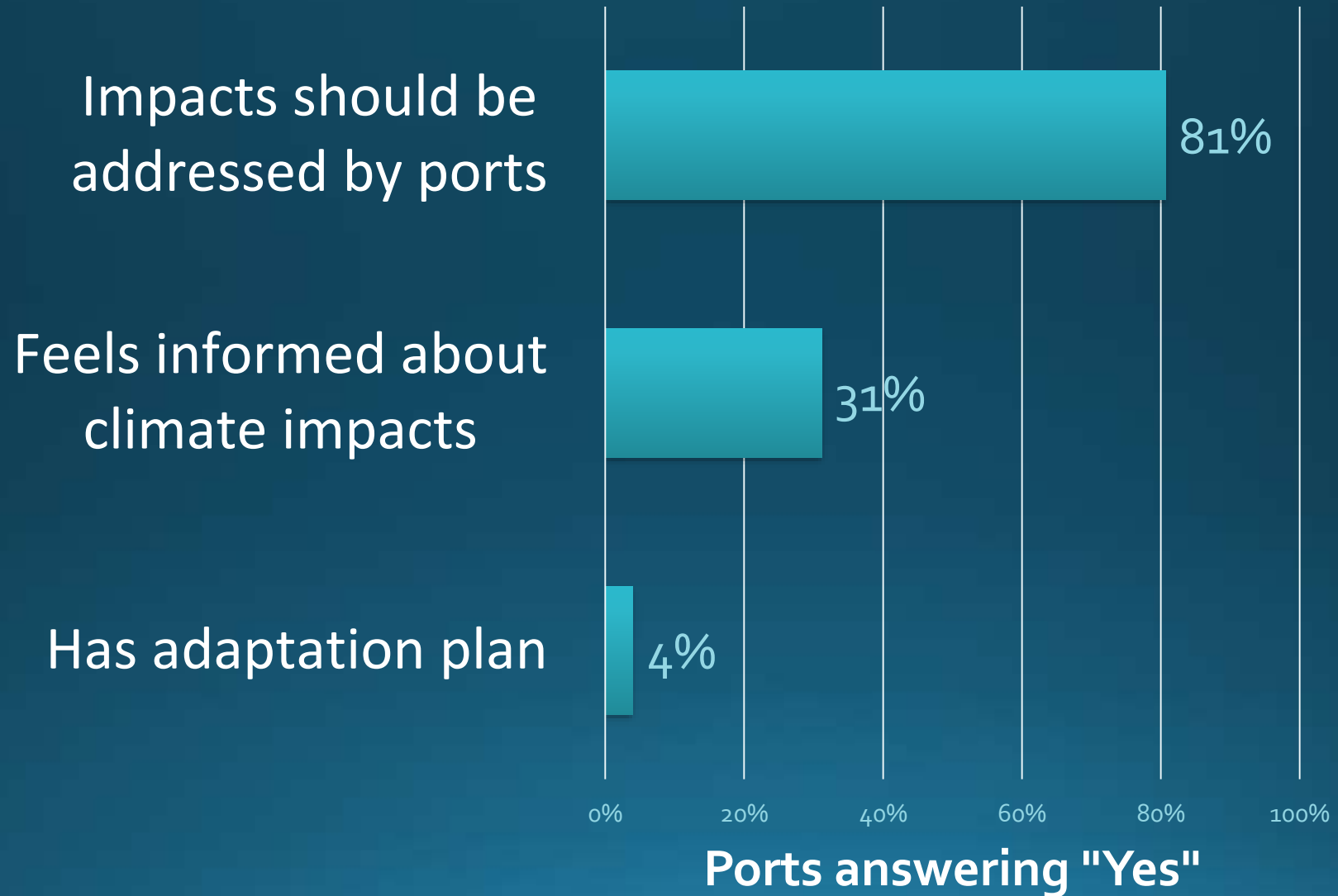
Constrained



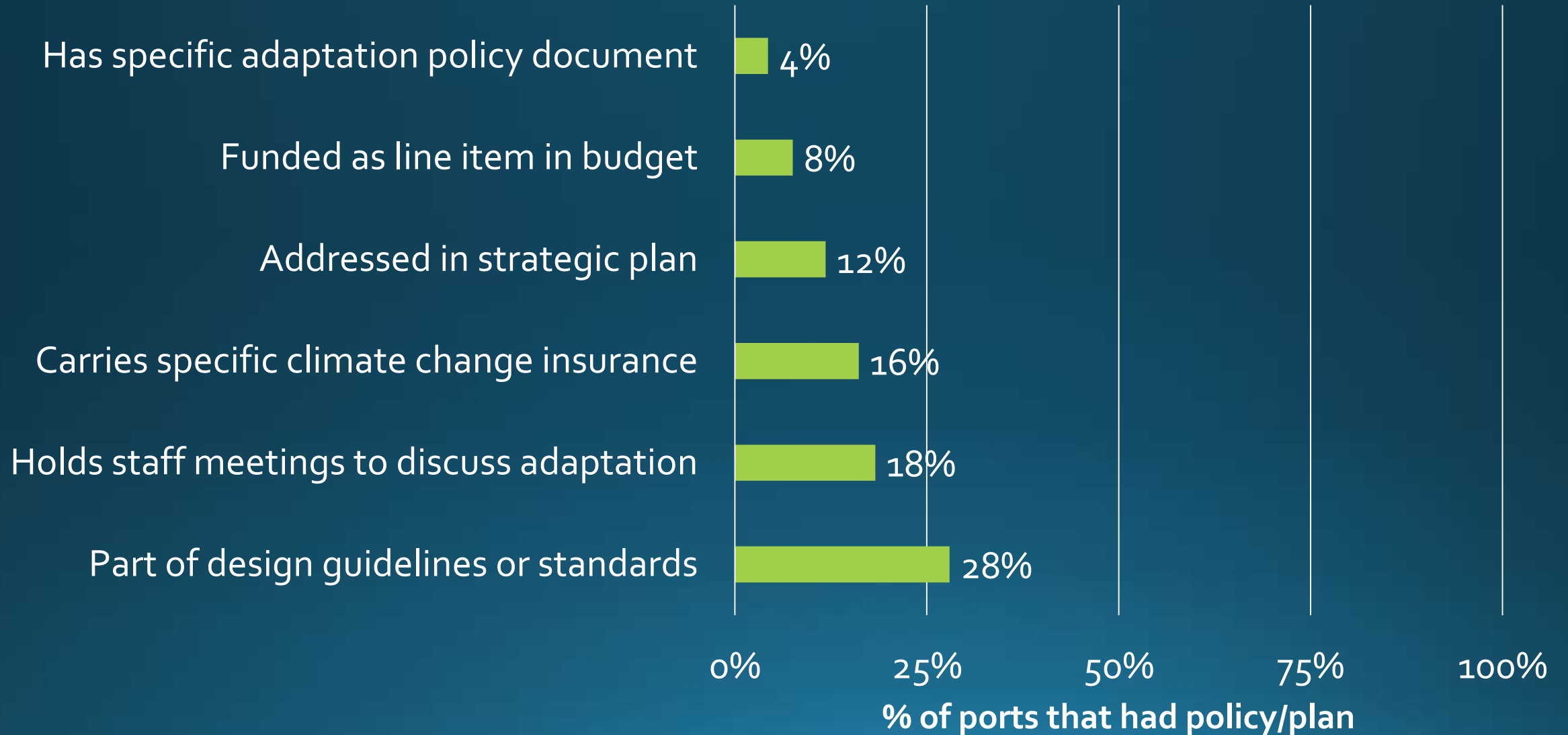
World Ports and Tropical Storms (1990 – 2008)



Ports concerned, but little action thus far



Ports have few formal plans that address adaptation






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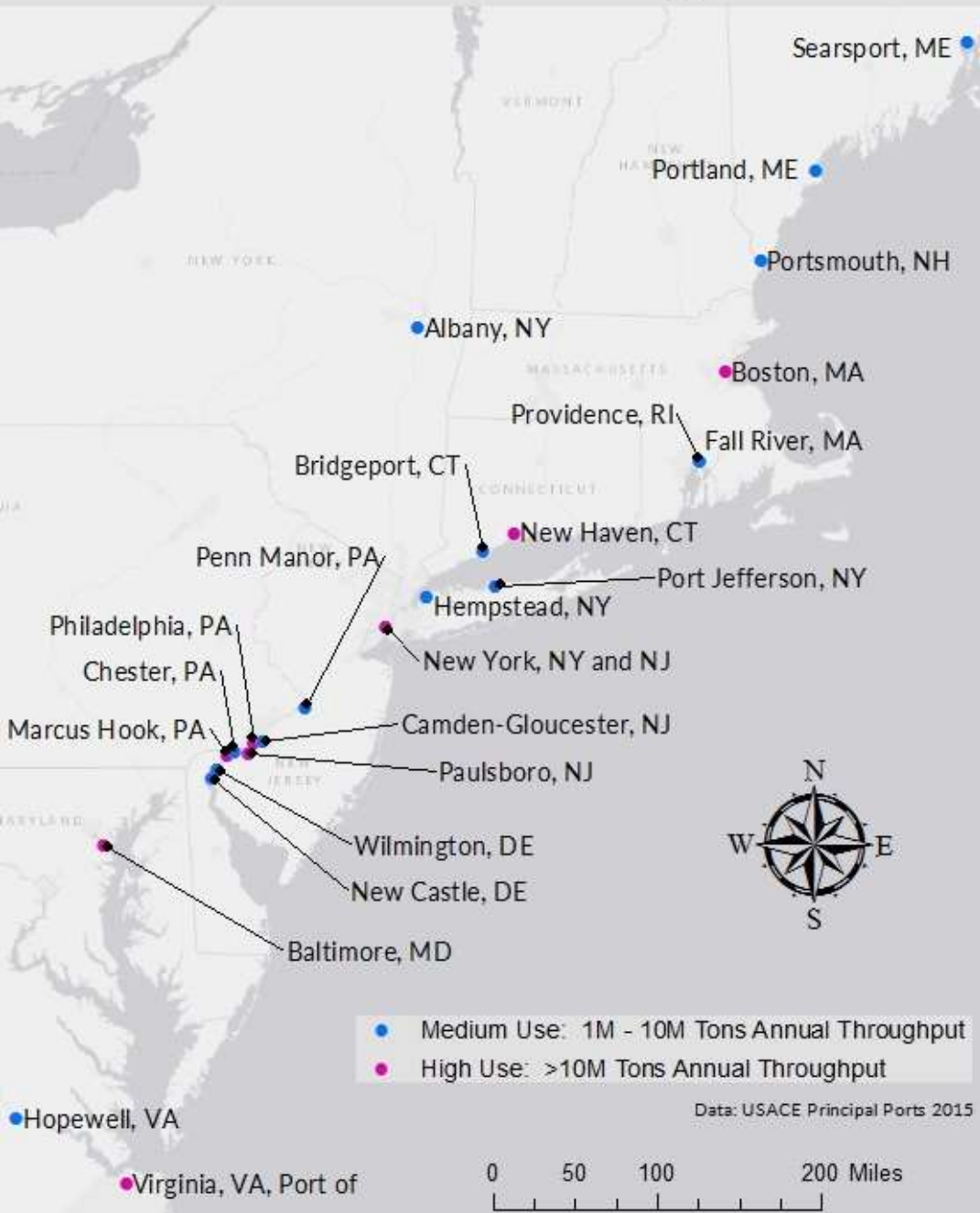

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ENVIRONMENTAL SPECIALISTS



PORT RESILIENCE

North Atlantic Medium and High Use Ports



What barriers prevent port authorities from making resilience investments at their ports?

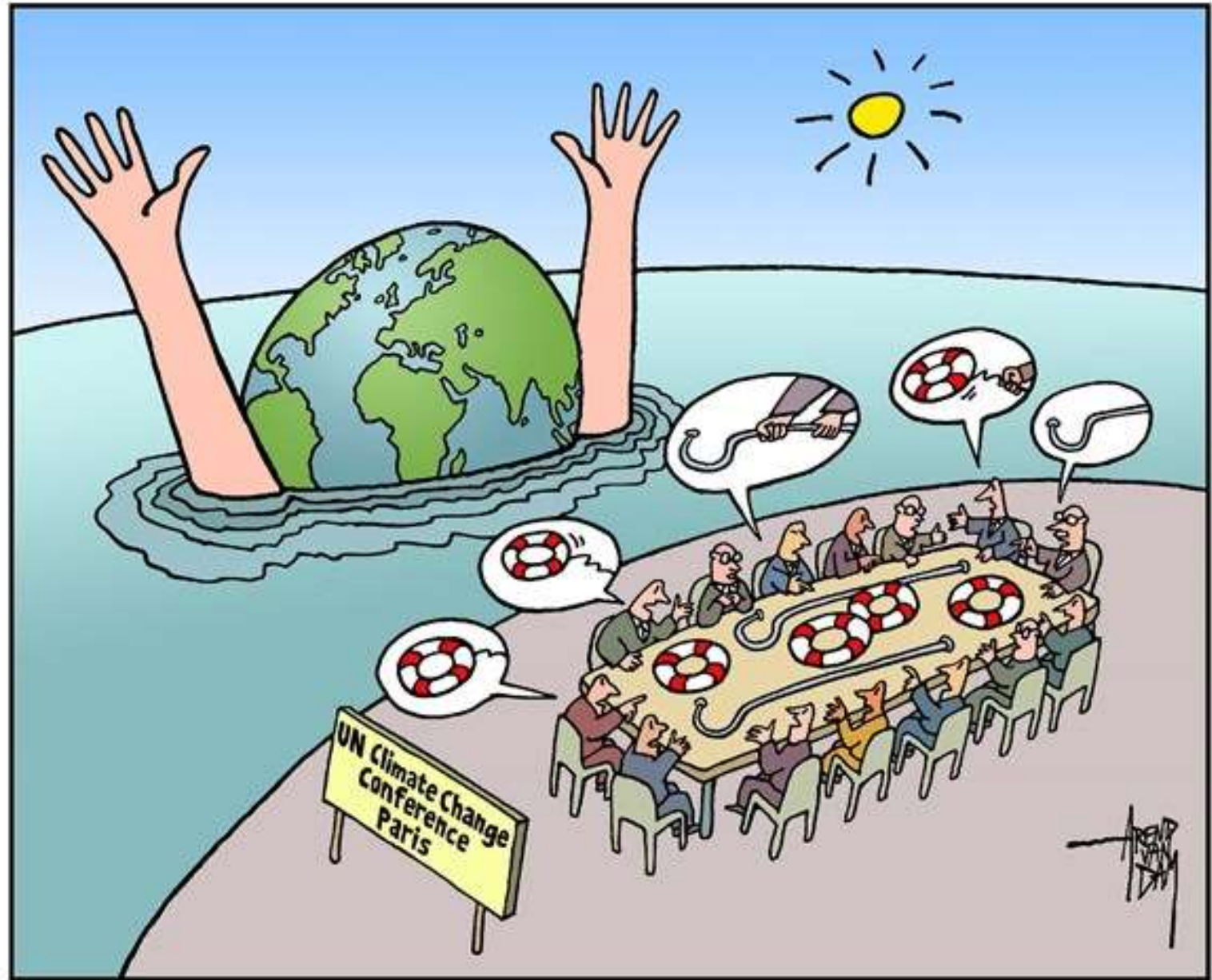
How do port representatives perceive concepts of seaport vulnerability?

What
is a



Factors that:

Impede
Prevent
Delay



End-users example:



**US Army Corps
of Engineers®**



**American Association
of Port Authorities**



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Examples of barriers



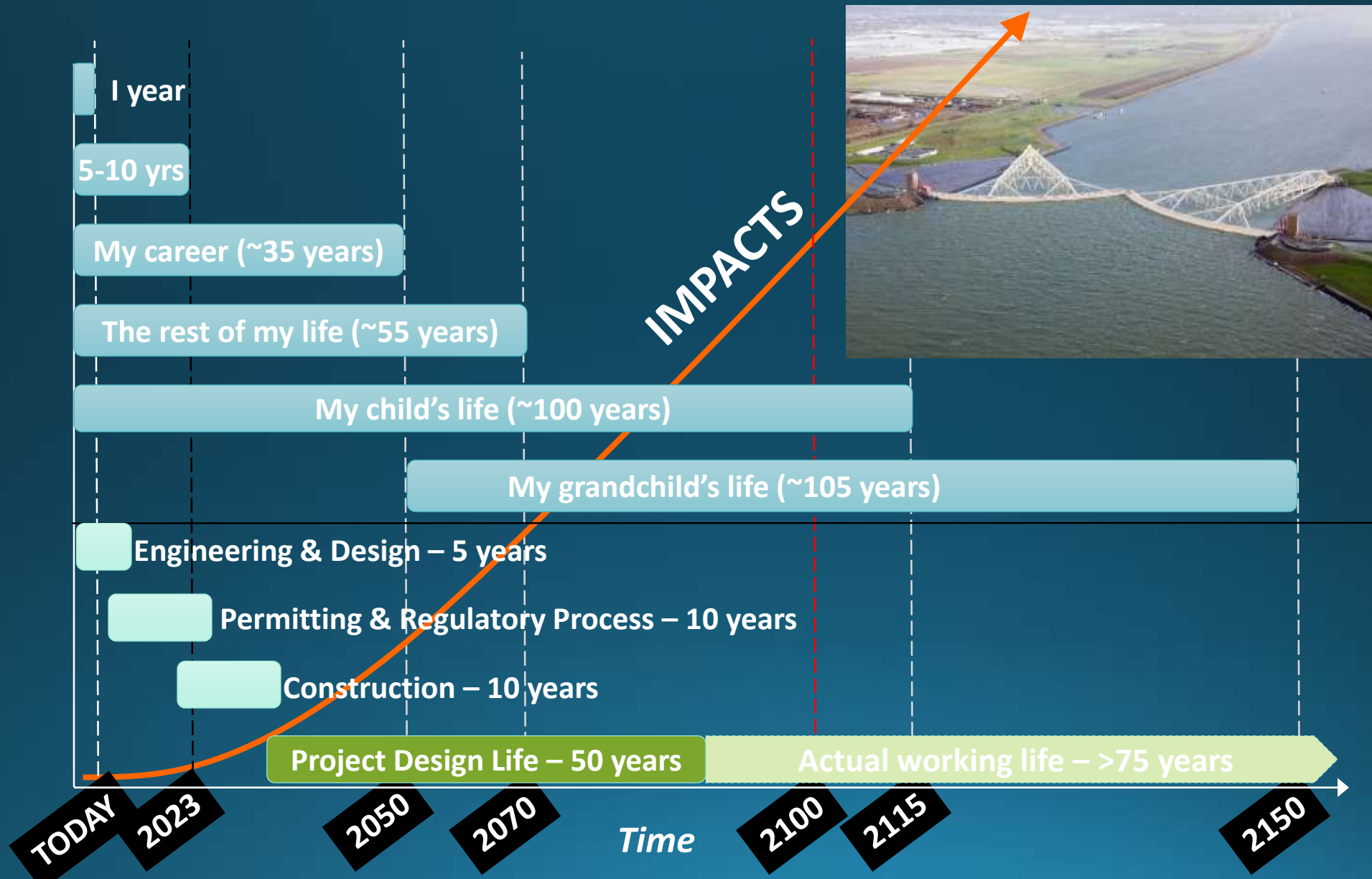


Science, policy, communication gaps:

- *low awareness*
- *skepticism*
- *overconfidence*
- *denial*



Misaligned time horizons



Barriers to Port Resilience




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Topics for discussions

- Who specifically in these 23 ports should we interview?
 - What are the best ways to contact the decision-makers?
- What is AAPA's role in helping its members build resilience?
 - And how would these results assist you in your efforts?
- The URI team is in the process of expanding this project:
 - Should we expand to include other facilities in the port service – chain?
 - Or should we expand in other regions that we have not covered yet?
 - What other questions should we seek to respond to?

Thank You!

For more information web.uri.edu/abecker

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