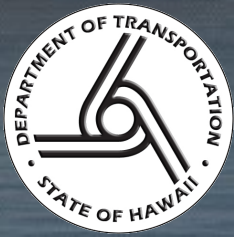
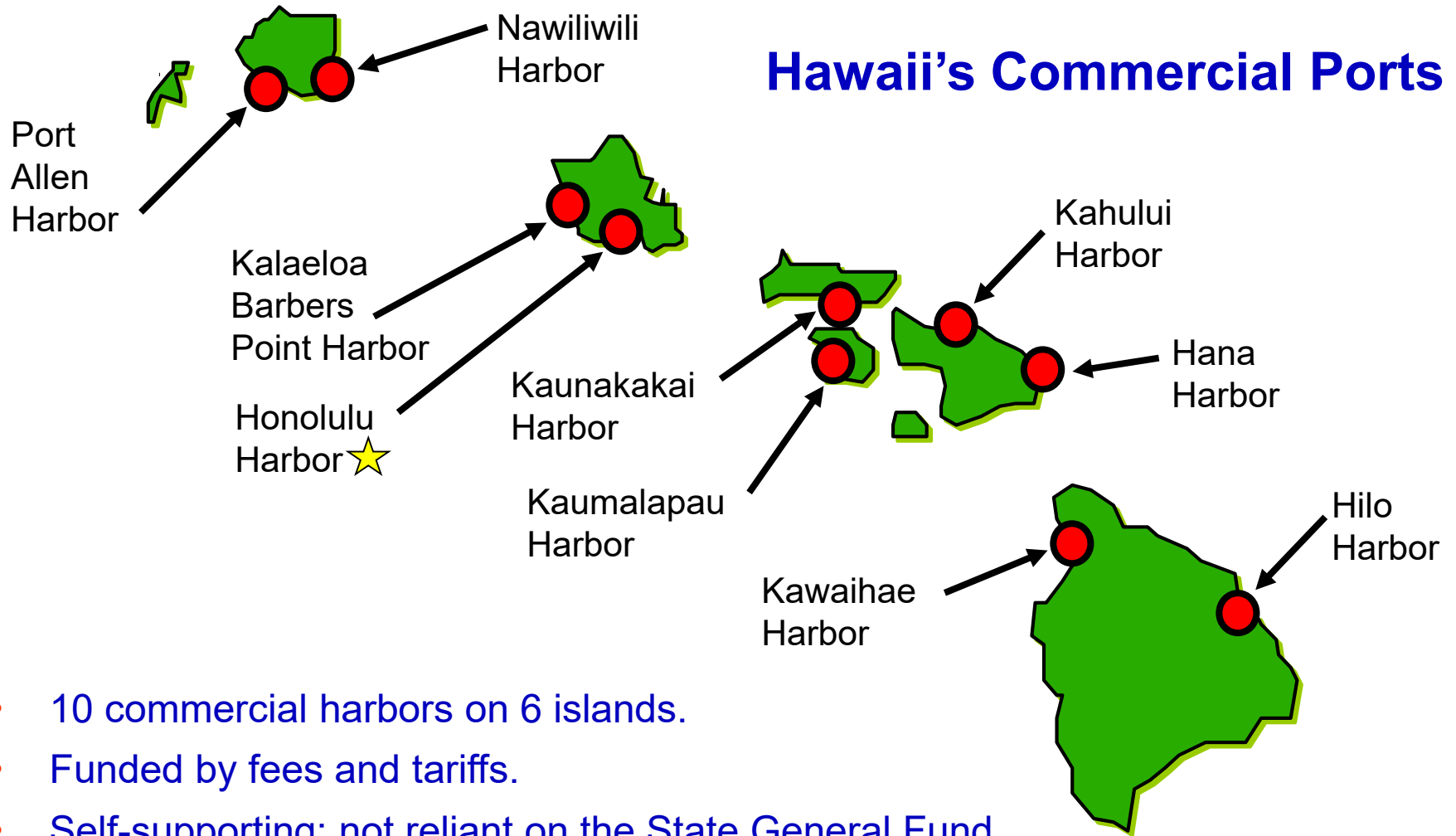


Hawaii's Commercial Harbor System

Storms, Flooding & Sea Level
Defense Implementation
Conference
November 18, 2020



STATEWIDE HARBORS SYSTEM



IMPORTANCE OF HAWAII'S HARBORS

- 80% of all goods used in Hawaii are imported.
- 98.6% of the goods are brought in through the commercial harbors system.
- Maritime activities: cargo; cruise; commercial fishing; ship building and repairs; marine research; military support ops.

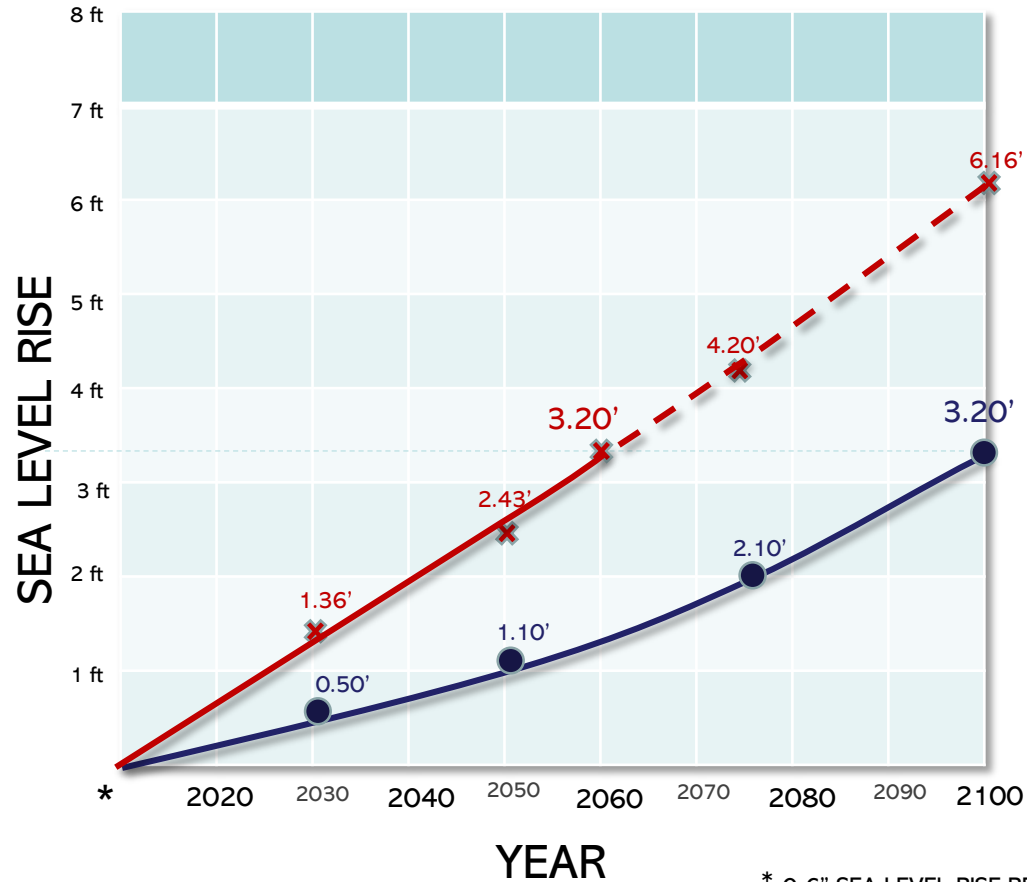
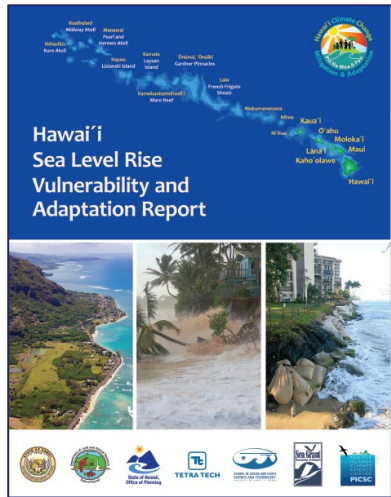


KAPALAMA CONTAINER TERMINAL – \$500M



SEA LEVEL RISE PREDICTIONS

HAWAII SEA LEVEL RISE VULNERABILITY AND ADAPTATION REPORT



* 0-6" SEA LEVEL RISE RECORDED BETWEEN 2000 - 2010

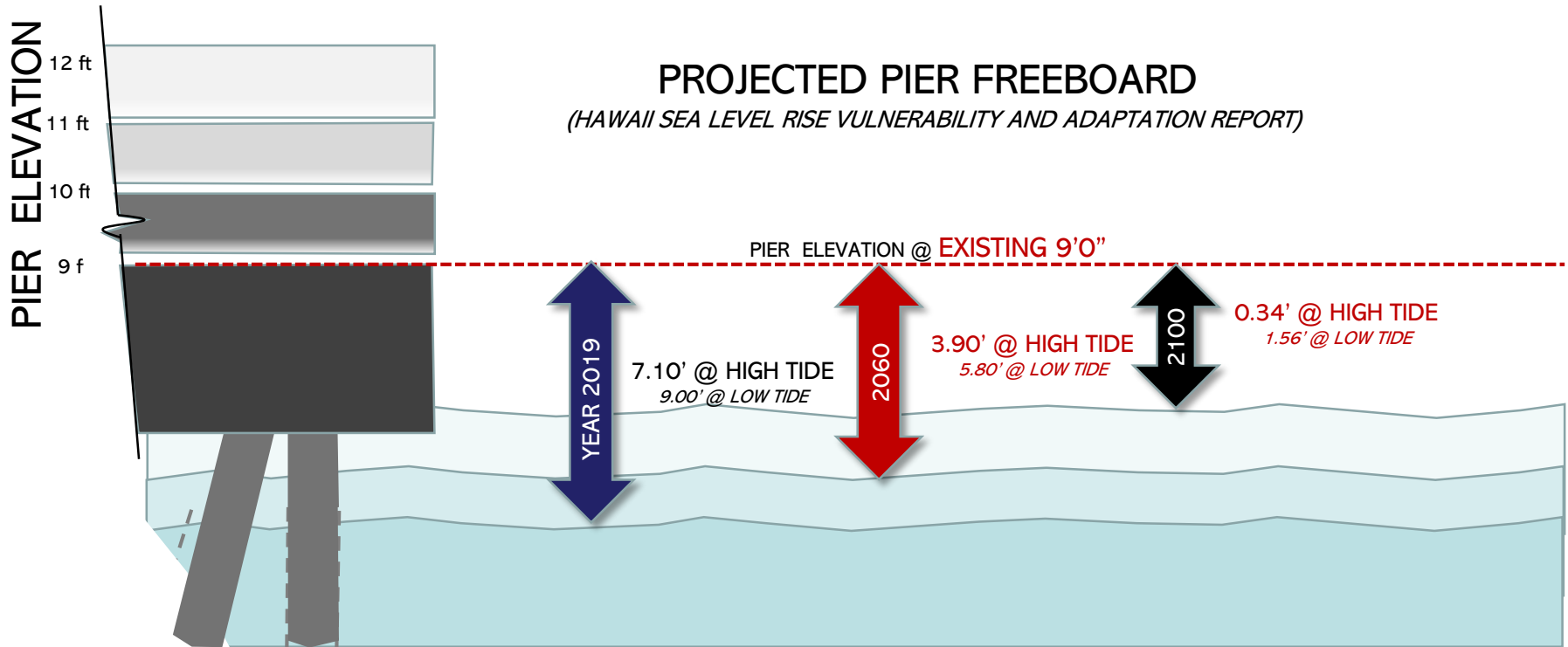
SEA LEVEL CHANGE – INFRASTRUCTURE MOD



SEA LEVEL CHANGE – INCREMENTAL ADAPTATION

FREEBOARD

3.2 Feet Rise by YEAR 2060



SEA LEVEL CHANGE – ADPAPTATION STRATEGIES

- Physical modifications to harbors infrastructure
 - incremental elevation of piers and bulkheads
 - full elevation with mechanical enhancements
 - retreat from shoreline; construct lock & dam that services new inland harbor
- Mechanical enhancements
 - custom ramps, gantry cranes, or cargo elevators
- Vessel modifications
 - cranes on barges
 - vessel platform lifts
 - vessel ballast adjustments

SEA LEVEL CHANGE – RISK VS COST

- Incremental changes are lower costs upfront but costly over time with multiple planning, design, and construction projects.
- Incremental changes cause numerous disruptions to operations over time.
- Full modifications have higher upfront costs but may cause least disruptions to operations.
- Full modifications will require modifications to vessels and barges.
- Where is the funding coming from? Federal infrastructure investments?

SHORELINE PROTECTION

- DLNR – responsible for shoreline management, resource management, parks, and recreational harbors.
- DOT-HARBORS – responsible for commercial harbors.
- DOT-HIGHWAYS – responsible for State highways.
- COUNTIES – responsible for local roads and county parks.

ALOHA

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Harbors Division
Department of Transportation

Aloha!



For the latest information on:

- News.
- Vessel schedules.
- Cargo stats.
- PORT HAWAII Handbook.
- Contact numbers.

Go to www.hawaii.gov/dot/harbors