



A Tale of Two Tsunamis:

CRESCENT CITY HARBOR DISTRICT

Mike Rademaker, Harbormaster & CEO

Presenter:

April 2026 Conference of the

Pacific Coast Congress of Harbormasters & Port Managers



Crescent City: The West Coast Tsunami Magnet

#1 - EXPOSURE: Low elevation, land projects into ocean

#2 - FAR OFFSHORE
Shape of the Pacific Ocean seafloor focuses tsunamis towards California's North Coast

#3 - NEAR OFFSHORE
Continental shelf is slightly bowl-shaped trapping wave energy

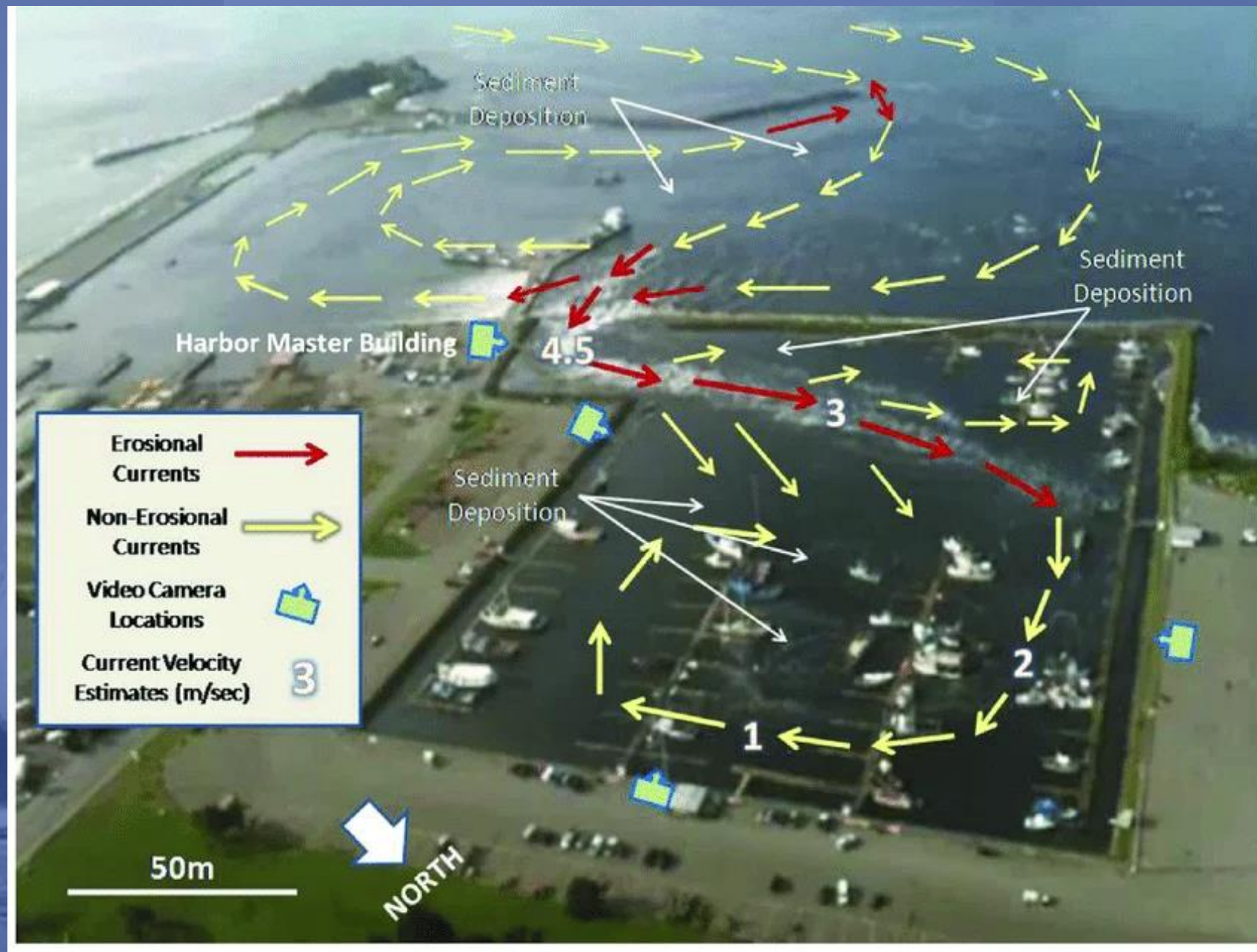
#4 - COASTLINE
Del Norte County coastline focuses tsunami energy into Crescent Harbor



#5 - HARBOR SHAPE
Tsunami waves reflect and cause oscillations in the outer harbor

#6 - BOAT BASIN
Small boat basin with a narrow entrance accelerates currents entering and the hard walls cause waves to reflect

Figure Credit: Lori Dengler



Numbers show estimated surface velocities (m/s) for the 2011 tsunami, and arrows indicate flow direction based on 14 ground-level and aerial videos taken of the event

Figure Credit: Amanda Admire

2011 Tohoku tsunami:



2011 Tohoku tsunami:



Reconstructed Boat Basin



The sacrificial "H" Dock



H Dock →



The sacrificial “H” Dock



Condition after 2025 tsunami

The sacrificial “H” Dock

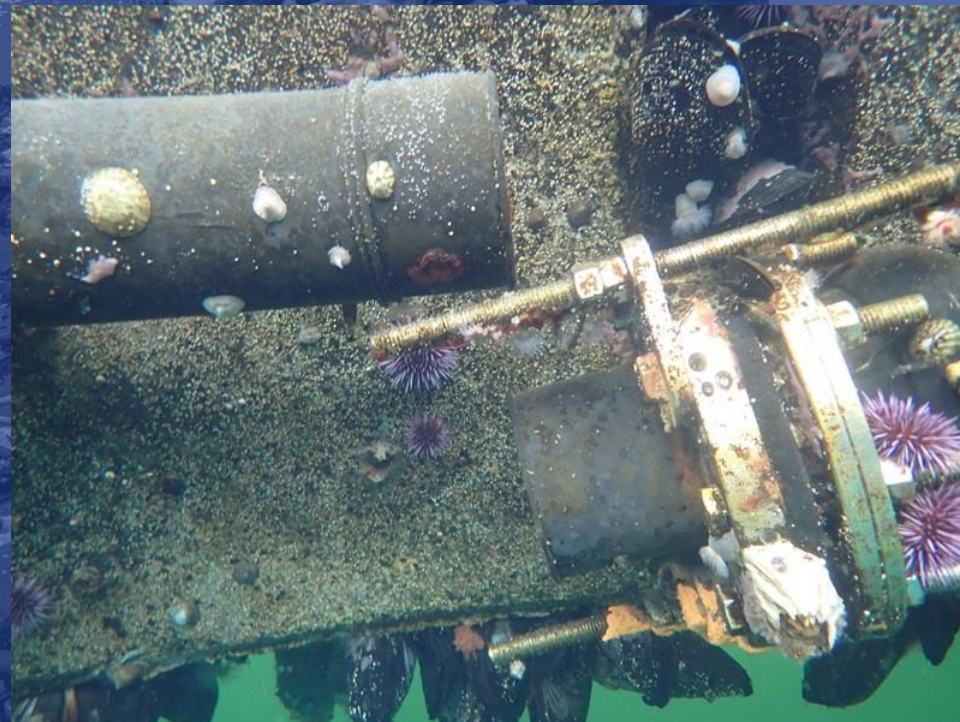


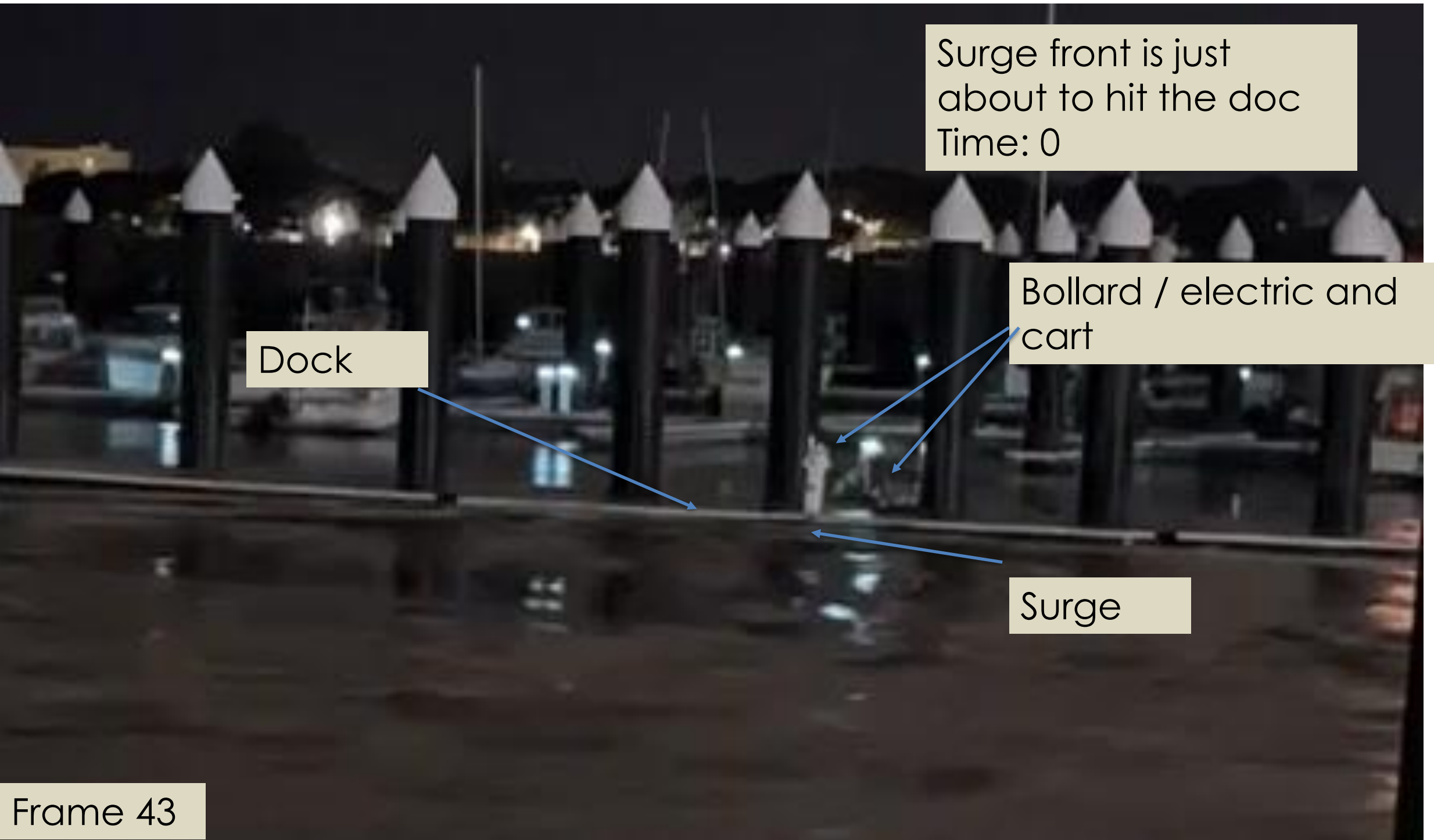
The sacrificial "H" Dock

Detached
potable water
line



Detached
fire suppression
line





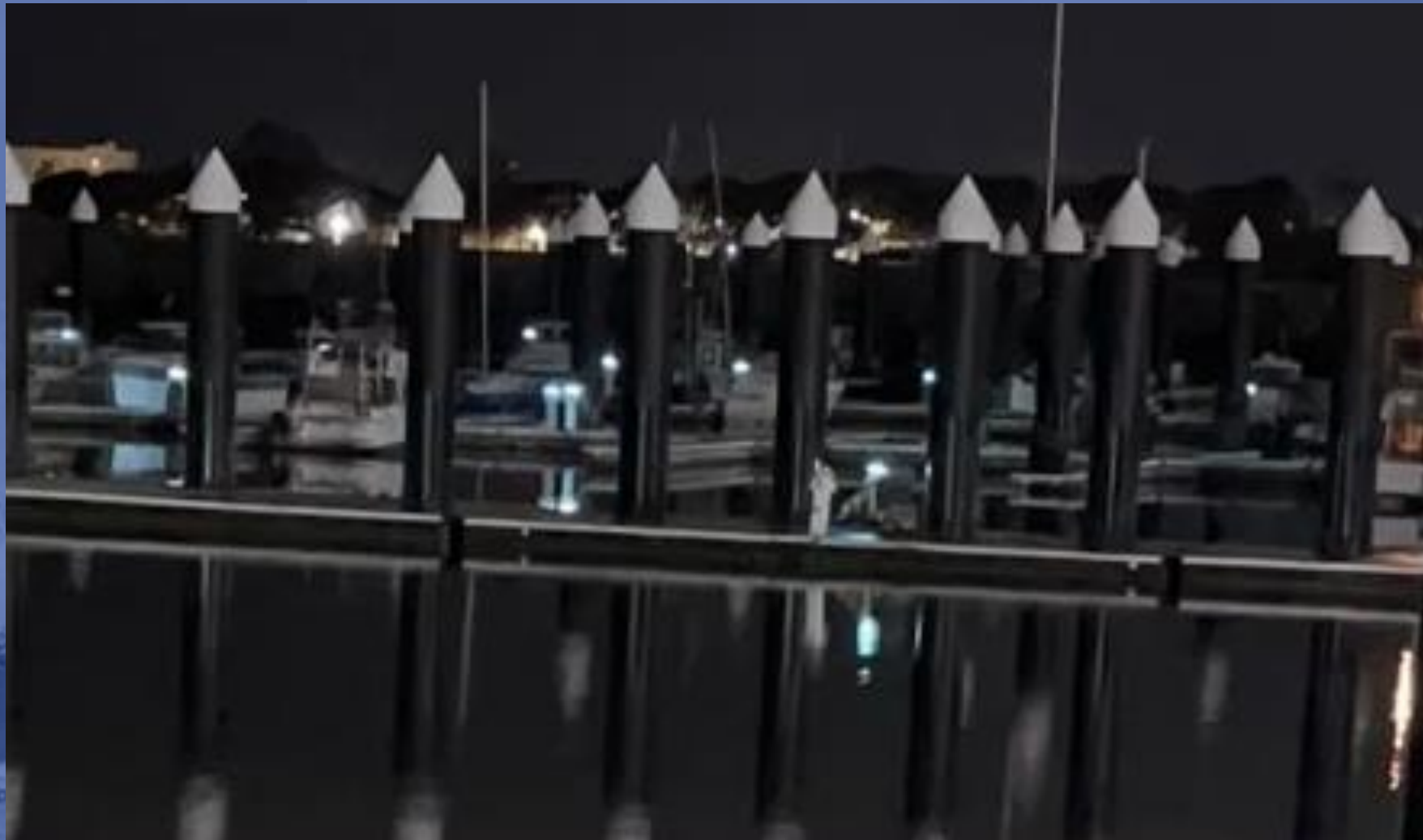
Surge front is just about to hit the doc
Time: 0

Dock

Bollard / electric and cart

Surge

Frame 43



Watch the small white bollard in the center of the frame. You will notice the dock moves downward before it rises at the end.



The harbor is...



building.

PIDP Seawall Grant

AWARD AMOUNT:

\$15 Million

U.S. Maritime Administration



Construction of a
new Seawall



Repair and renovate
the seafood packing
and trucking area



Replace the aged
hoists atop the
Seawall

New Citizens Dock Planning

AWARD AMOUNT:

\$927,000.00

CALIFORNIA COASTAL CONSERVANCY



Expand Commercial
Fishing



Harbor revitalization

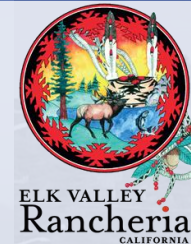


Public Amenities

South Beach Climate Resilience Plan



AWARD AMOUNT:
\$268,000
CALTRANS



Identify climate mitigation projects along US 101 and Anchor Way



Prepare for storm surges and sea level rise



Partner with DNLTC & Elk Valley Rancheria to prevent road closures

Hazard Mitigation Study

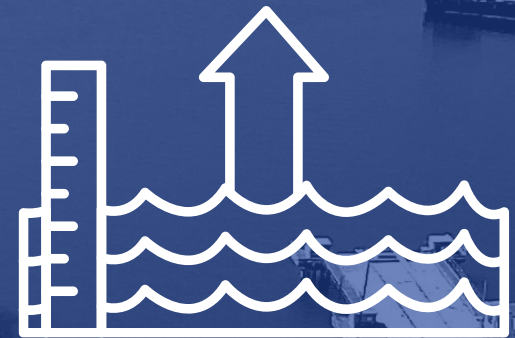
AWARD AMOUNT:
\$1.35 MILLION
FEMA



Tsunami and storm
protection



Economic
Opportunities



Sea level rise
preparedness

Thinking Big!



Expand
Commercial
Fishing



Harbor
revitalization



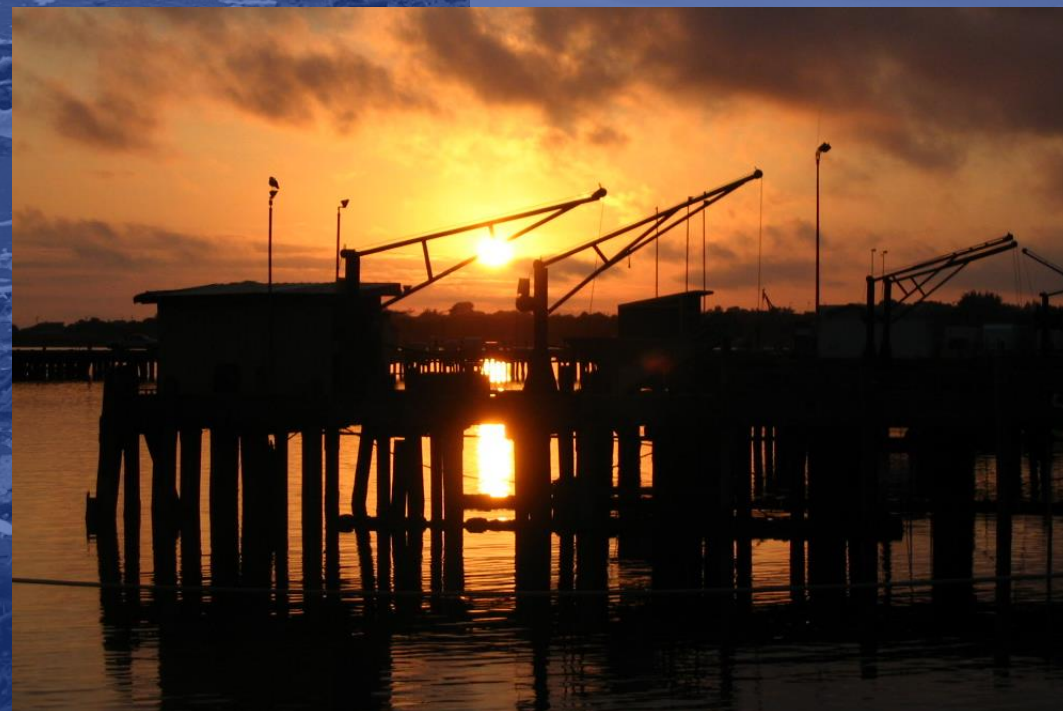
Public
Amenities



**CRESCENT CITY
HARBOR DISTRICT**



**CRAB CITY
USA**





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