

# Coastal Armoring Explained



*Hard armoring structures protect property from coastal hazards—but can permanently reshape beaches, ecosystems, and public access.*

## What is coastal armoring?

Coastal armoring refers to **hard structures built along the shoreline** to protect land and development from erosion, waves, and storm surge.

Common examples include seawalls, revetments, riprap (rock armor), and bulkheads.



*A coastal seawall in Solana Beach, California, shields homes from waves and other coastal hazards (Los Angeles Times).*

## The hidden costs of armoring



### Prevents beach migration over time

Armored shorelines block beach migration, causing narrowing and loss as sea levels rise.



### Leads to beach loss

Can block beach-building sand and erode sand from areas at their base through wave reflection.



### Reduces public & environmental benefits

Can result in loss of beach access, coastal habitat, and public trust resources.



### Creates cumulative coastal impacts

Piece-by-piece armoring can permanently alter shoreline processes at a regional scale.

## How shoreline armoring leads to coastal squeeze

### Shoreline without seawall



### Shoreline with seawall



## Looking forward

As sea levels rise, decisions about shoreline protection will shape the future of California's coast. While the Coastal Act allows coastal armoring in limited cases, the Coastal Commission emphasizes proactive planning that reduces risk and preserves beaches, public access, and ecosystems.

Nature-based adaptation strategies (NBAS)—such as dunes, wetlands, and restored beaches—can help manage coastal hazards while allowing shorelines to adapt over time. To learn more about planning for sea level rise, refer to the Commission's [Sea Level Rise Policy Guidance](#) and [Nature-Based Adaptation Strategies Guidance](#).

*Photo: Surfer's Point Dune Restoration Project in Ventura County.*



Mary Matella