Coastal Zone Management Act

Then (1972)

Coastal Zone Management Act

Now (2022)

34 CZM Programs

30 Research Reserves

Future

Continued State and Federal Partnerships

Coastal Development – National

Then

53,834 sq miles
7.8%

Now

61,245 sq miles
8.8%

Future

?

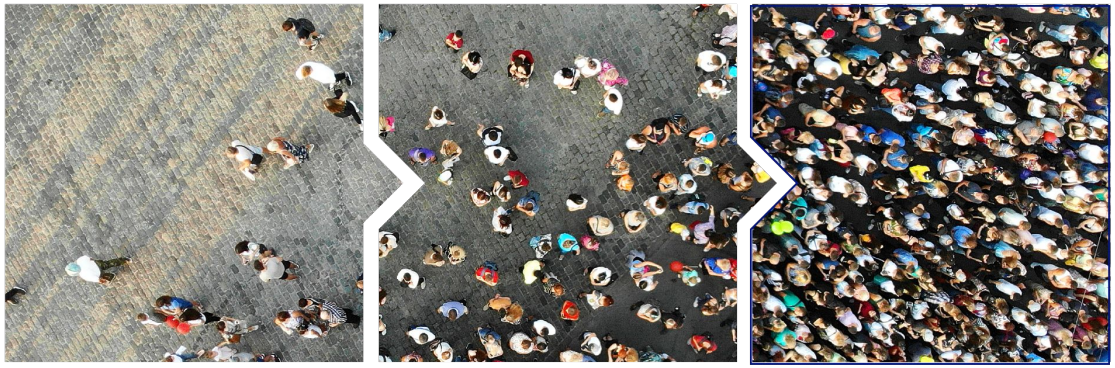
- New development = size of New Jersey (7,411 sq miles).
- Growth rate = 13.8%, or 114 houses for every 100 previously.
- Based on 1996 to 2019 data (23 years); contiguous coastal U.S. only.

Coastal Development – Jobs

Then	Now	Future
30,586,906	53,883,104	?

- Based on latest data – 1975, 2020 (45 years).
- Total coastal increase: 23,296,198 jobs.
- 39% of the nation's jobs are in shore-adjacent counties.

Coastal Development – Population



Then

86,334,398

Now

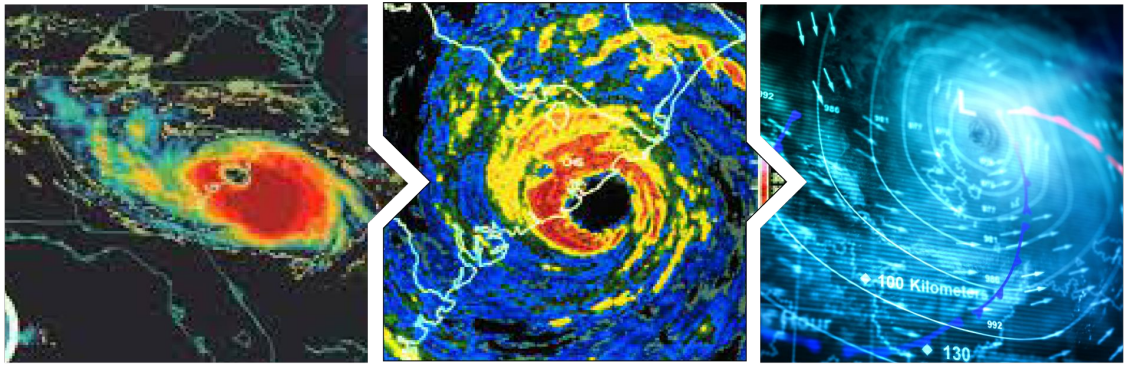
126,409,440

Future

?

- Based on latest data – 1970, 2019 (49 years).
- Population increase – 40,075,042 (roughly the size of Canada).
- Shore-adjacent counties in the contiguous U.S. – 10% of the landmass, but 39% of the population.

Coastal Weather – Billion-Dollar Hurricanes



Then

1980 to 1985
5 tropical cyclones
$20 billion total

Now

2015 to 2020
15 tropical cyclones
$408.4 billion total

Future

?

*Costs adjusted for inflation

- 52 billion-dollar hurricanes between 1980 and 2020.
- 2020 – only second time the Atlantic storm name list was exhausted and the Greek alphabet used to name storms.

Coastal Technology – Land Cover Mapping

Then

30-meter Imagery
Covers Coastal Zone

Now

1-meter Imagery
Growing Availability

Future

?

- The more precise the data, the more useful for local and site-level decision making.
- Machine learning and artificial intelligence brings down costs and improves speed, accuracy, and scale.

National Sea Level Rise

Then
1920

2020 (Now)
10-12 inches higher

2050 (Future)
additional 10-12 inches

- Projections vary by location.
- 10-12 inch rise in last 100 years; same amount of rise projected in next 30 years.
- Results: profound shift in coastal flooding over next 30 years.
- Results: damaging floods projected 10+ times as often.

High Tide Flooding Averages

Then (2000)

2 days

Now (2020)

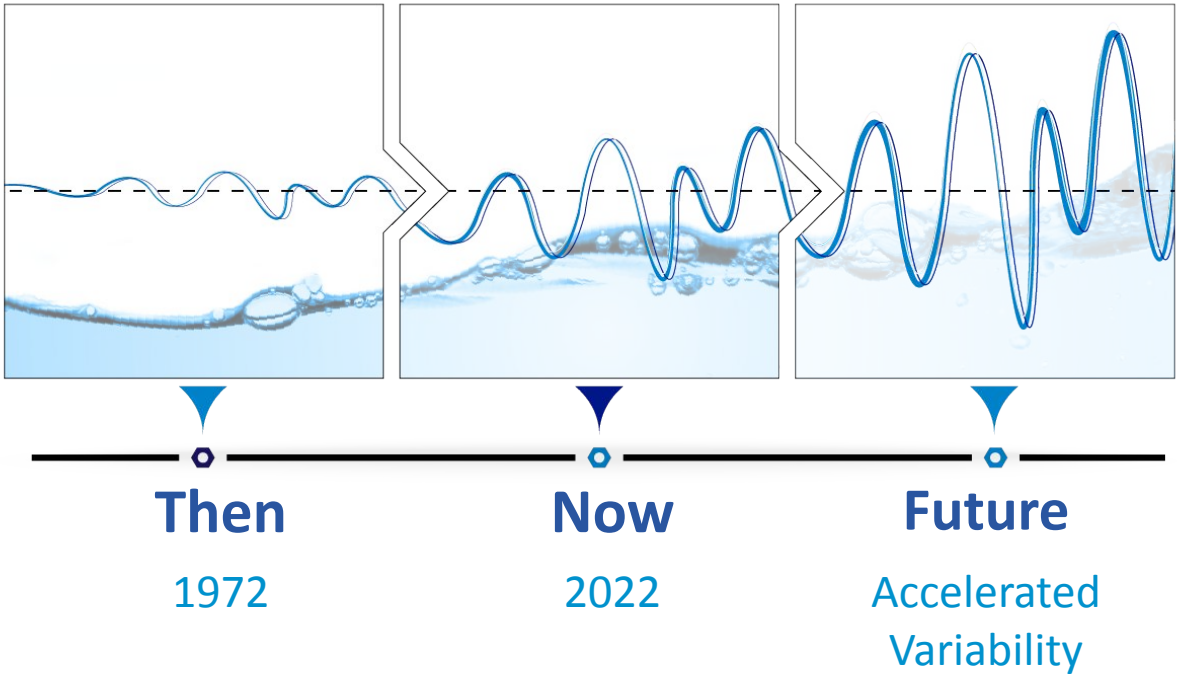
4 days – twice as frequent as in 2000

Future (2050)

25 to 75 days – up to 19 times as frequent as in 2020

- Some regions have 400 - 1,100% increase in frequency.
- Acceleration is seen at 80% of East and Gulf Coast locations.
- By 2050, minor high tide flooding is normal occurrence at most locations.

Changing Water Levels – The Great Lakes



- Rising water levels: increased flooding and erosion.
- Decreasing water levels: wider beaches, better public access.
- Both scenarios result in wetland migration.

Preparation Saves Lives, Property, and Infrastructure.