Quotes from:

Anna Yurgelonis, Resident. Union Beach, NJ
Lisa Cordova, Resident. Union Beach, NJ.
Deborah Whitcraft, Former Mayor. Beach Haven, NJ.
Jonathan Oldham, Mayor. Harvey Cedars, NJ.
Jon Coen, LBI Resident. Surfing Journalist.
Jay Mann, LBI Resident. Editor, The Sandpaper
Margaret Buchholz, Historian and Resident. Harvey Cedars, NJ.
Norbert Psuty, Professor Emeritus of Coastal Geomorphology. Rutgers University.
Jim Titus, EPA Project Manager for Sea Level Rise. LBI Homeowner.
Keith Watson, Coastal Engineer. US Army Corps of Engineers.
Rob Young, Director. Center for the Study of the Developed Shoreline.
Stan Riggs, Distinguished Research Professor of Coastal & Marine Geology
Harry Simmons, Mayor. Caswell Beach, NC
Tracy Skrabal, Coastal Scientist. North Carolina Coastal Federation.
Carolyn Justice - Legislature (former), R
John Weber, Mid-Atlantic Regional Manager, Surfrider Foundation. Long Beach Island, NJ.
Chris Manthey, Surfrider Foundation
Kate Sweeny, Artist and LBI Resident.
Stewart Farrell, Director. Coastal Research Center of New Jersey.
Dillingham, Executive Director. American Littoral Society.
Ben Horton, Professor of Earth and Environmental Sciences. Rutgers University.
Tancred Miller, Coastal Policy Analyst. Department of Coastal Management.
Tommy G. Thompson, Chairman. NC-20
David Rouzer, State Senator. North Carolina
Rob Jackson, Professor of Global Environmental Change. Duke University.
Howard Marlowe, Marlowe & Company. Lobbyist for Beach Replenishment Projects.
Hurricane Sandy Aftermath & Cleanup. Union Beach, New Jersey.

01:22 Text: “Union Beach, New Jersy. 26 Days after Superstorm Sandy

02:10 Annay Yurgelonis: “One day, you know, everything’s normal. You’re cooking, you’re cleaning, you’re schooling, you’re shopping. And the next day it’s… it’s gone.”

05:21 There’s 300 million Americans and more than half of them live in coastal counties. And that’s only 20% of our nation’s total geography.

05:20 “We’re a coastal country. What happens here affects everybody.”

07:02 “It’s hard to imagine telling people their homes are going to fall into the sea.”

07:22 “There are limits to growth on a pile of sand.”

07:35 Text: “Greetings from Long Beach Island”


08:30 Deborah Whitcraft, Former Mayor. Beach Haven, NJ.

08:55 Jonathan Oldham, Mayor. Harvey Cedars, NJ.


14:08 Norbert Psuty, Professor Emeritus of Coastal Geomorphology. Rutgers University.

“New Jersey in general loses about a half a foot of shoreline per year. It is being eroded.”

14:30 Kathleen White, Senior Lead for Global Climate Change. US Army Corps of Engineers.

We’ve been trying to keep our islands in one location, but in fact, they are constantly moving.

14:38 Norbert Psuty on formation of and impermanence of barrier islands.

“The house that one time was sufficiently inland begins to get closer and closer and closer, and finally the shoreline is interacting with that structure. …That construction line is now in the beach, in the dunes; and even though we have these lines on maps that kind of tell us it’s permitted to build, indeed the natural system has caught up with those lines and it’s not wise to be in some of these locations.”


Margaret Buchholz, Historian and Resident. Harvey Cedars, NJ.

“The first tide washed away the beach. The second tide washed down the dunes.

After the beach and dunes were gone, the third high tide started knocking the houses down.”

20:50 Margaret Buchholz: “There were just broken up pieces of houses everywhere. Tops of houses. There were houses floating out in the bay.”

21:45 Margaret Buchholz: “Lots of people after the ’62 Northeaster said, ‘I’m getting out of here. I’m not going to live like this. And they left and they sold off. But, twenty years later, there’s a whole new generation coming down. Twenty years after that and you can look at the ocean front houses here.”

22:10 Norbert Psuty: Barrier islands transform from natural environment to developed communities beginning in the 1950s.


By the ‘60s almost the entire island was development. Then after that big houses started getting built. Rich people started coming here. Up to that point it seemed mostly middle class, then rich people started building houses.”


23:55 Jonathan Oldham: “It’s pretty difficult to fight mother nature, I mean, God kind of set it up in a regular way to work that way.”

“Society has made a decision to inhabit the coastal regions. It’s not a pretty picture of the future if beach nourishment isn’t continued.”

26:55 Deborah Whitcraft: “I’ve always said beach nourishment is like putting a band aid on a hemorrhage. Ultimately it will fail.”

28:40 Welcome to North Carolina. ‘The Outer Banks.

150 miles of NC coastline undeveloped. NC recognized early one the harmful effects of coastal engineering structures.

29:05 Rob Young, Director. Center for the Study of the Developed Shoreline. “We banned groins, jetties, sea walls from the state.”

29:20 Stan Riggs, Distinguished Research Professor of Coastal & Marine Geology. Eastern Carolina University. “They looked around at some of the earlier states that had been developed in the earlier part of the 20th century and said, ‘We don’t want that to happen here.’”
Rob Young: “That forward looking perspective served us for a long time. The problem is today, it’s 25 years later, coastal erosion has continued, development has continued, so there’s a lot more properties at risk now, and there is a movement afoot in the state to turn back some of our protections and restrictions to protect that development.”

Text: “In 2011, beachfront property owners in North Carolina lobbied the State Legislature to allow several ‘terminal groins’ to be built at the ends of barrier islands to stem erosion problems.

Harry Simmons, Mayor. Caswell Beach, NC. “Strong supporter of terminal groin legislation in North Carolina.”


“For many years the environmental community and science to some extent has felt strongly that building terminal groins out into the ocean causes what they call ‘down beach erosion.’”

Harry Simmons: “I think the fear is unfortunate. I don’t see this as a slippery slope.”

Orrin Pilke, Professor Emeritus of Earth Sciences. Duke University. Concern about potential “New Jersey-ization” of terminal groins as far as the eye can see.

Tracy Skrabal, Coastal Scientist. North Carolina Coastal Federation. “If you allow a terminal groin to protect a first mile of beach and you experience erosion in the second mile or the third mile, those property owners are going to make a legal claim that they have been discriminated against. So we see that this is going to turn into a precedent setting problem for the state, because how they are going to say, ‘No.’”

Rob Young, Harry Simmons, Tracy Skrabal.

Stan Riggs: “We’ve gone back to salvage and save things that shouldn’t have been built where they’re built in the first place.”

Carolyn Justice

Stan Riggs: “We try to engineer this barrier island into something that is like a status quo. We don’t want it to change. Well, it’s going to change. It always has changed.”


Jon Coen: “Harvey Cedars was one of the best breaks in New Jersey. Army Corps of Engineers killed that wave. Since replenishment, it’s not what it used to be. They have protected those oceanfront homes, so if that’s how you’re measuring these projects, then it is a success.”

Chris Manthey: “They’re using one criteria: it’s protection of structures. The value in these homes isn’t in the structure; it’s where it is. If you ruin the swimming and the surfing and the fishing by putting sand here to protect those structures, you’ve taken away the reason you’re here in the first place.”
Kate Sweeny, Artist and LBI Resident. “The romance of that wild dune barrier island feel that I came for and loved is gone.”

Norbert Psuty: There’s a fantastic natural attraction to these places but there’s also an impact associated with being there. You can’t have all this development and maintain all of the qualities. There’s a tradeoff, and we’ve been going through this tradeoff for some time.”

Norbert Psuty: “It’s been the history of the USACE this constant – I’ll call it battle – of the engineers working to stabilize the shoreline of the United States of America, and what it is really doing is forming a line. It says this line is where I’m defending my barrier island and I will defend the position by putting in groins, I will throw sand in front of it, I will do all sorts of things to prevent loss, of buildings and infrastructure. All those hard lines eventually will succumb.”

Hurricane Sandy. News clips.


Jonathan Oldham: “I believe that beach replenishment is the reason we’re still standing here today.”

Jonathan Oldham: “We’re all here because the beach is here. Our economy is driven by the people who come here and vacation here. … If there’s no beach here, or we’re washed away, there is no town, there is no island here. One of the things that’s always been important to me is beach replenishment because it’s about the infrastructure protecting our homes, but it’s also about the tourism and dollars that are involved with people coming here for vacation.”

Howard Marlowe, Lobbyist for Beach Replenishment Projects. Marlowe & Company

Stewart Farrell, Director. Coastal Research Center of New Jersey. Explaining share of federal, state and local tax burdens to support beach replenishment.

Keith Watson, USACE. “That is a fairly good deal for the local municipalities to participate in these projects.”

Rob Young: “If beach nourishment is so incredibly valuable to the local municipality, and if this coastal economic engine is so vital you’d think they ought to be able to pay their own way.

Stewart Farrell: “New Jersey has one-half of one percent of the nation’s coastal shoreline and has garnered over 37% of all the money that the Feds have spent on beach nourishment projects in the nation since they started doing this.”

Rob Young: “The vast majority of that oceanfront property is investment property. Why should everybody be paying to protect oceanfront investment property?”
Deborah Witcraft: “So follow the money and it’s clear that the priority is to preserve what these individuals have at the expense of the majority of the people.”

Chris Manthey: “Replenishment doesn’t only protect existing structures, it’s encouraging more of it because they’re confident they can get their money back even in the single worst place on the island. I don’t know that they’d be building here if they weren’t confident that someone else was going to be helping them pay for this sand.”

Steve Ellis, Vice President. Taxpayers for Common Sense. “The more valuable the homes are, the more likely you’re going to get a beach replenishment project.”

Tim Dillingham, Executive Director. American Littoral Society. “The value of the community and the structures behind the project needs to equal or exceed the cost of the project itself. As the projects become more expensive, that means you need more dollar value on the other side.”

Norbert Psuty: “That has happened in New Jersey, where they changed the equation with the replacement of the smaller, single family summer house to this multi-million dollar mansion. Now there is enough value of the properties being protected, and now they’re putting sand on the beach.”

Jonathan Oldham: “Yeah, there’s a whole lot more money involved now. Money changes everything as they say.”

John Weber: “There’s this endless cycle: They replenish, then they build more, that hastens the call for more replenishment, and then more unwise coastal development seems to follow right behind these beach replenishment projects.”

Chris Manthey: “It’s one of the great ironies that a project that’s intended to prevent flooding would encourage putting more development at risk of flooding. And in the end, because the projects aren’t designed to a certain size of storm, that next one-step-higher, bigger storm is going to come along and simply erase that value.”

John Weber: “It’s almost like Sisyphus rolling that rock up a hill. We are pumping sand on the beach to watch it wash out to sea – to watch our tax dollars wash out to sea – only to pump sand on the beach again.

John Weber: “In an ideal world this could be stopped or it wouldn’t have happened in the first place but we’re all here now, so you can’t just tell these people to give up their assets and, whatever. That’s why this is a difficult problem. It’s not an easy one to solve.”

Stewart Farrell


Ben Horton, Professor of Earth and Environmental Sciences. Rutgers University. “We are very confident sea levels will rise at an increasing rate in the 21st century.”

Norbert Psuty

Kathleen White: “If you’re considering a beach renourishment project as your primary risk reduction measure for investments, public investments, private investments in homes and land and businesses, and you’re in an area where you’re projected to have a lot of sea level change that could be causing erosion, then you’re in an unsustainable position.”

Norbert Psuty, Ben Horton


The Coastal Resources Commission (CRC) establishes coastal management policy in North Carolina. To plan for the impacts of rising sea levels, the CRC asked its science panel to summarize the best available scientific information on the topic.”

Stan Riggs, Rob Young

Tancred Miller, Coastal Policy Analyst. Department of Coastal Management.

Text, quoting members of CRC: “It seems like some of the wording maybe could be softened a little bit more.”

Text, quoting members of CRC: “There are several instances in here that I look at here and I say, ‘What scientist? What authority? Who’s going to project this sea level rise? And I know that many of our local governmental organizations have great concerns with how this goes out.’”

Tommy G. Thompson, Chairman. NC-20: “Our concern is, if sea level rise is projected at too high a level, it could have serious economic consequences.

Rob Young

Tommy G. Thompson: “Sea level rise is linear. That means if you go back a hundred years, some of the tide gauges go back farther than that, it shows a straight line. Now that straight line is increasing, it shows an upward slope but over the next 88 years, that upward slope is about 8 inches.”

Rob Young: “The scientific consensus is that sea level is likely to accelerate its rate of rise over the next one-hundred years and it could rise as much as one meter, or a little bit more than three feet.

Tommy G. Thompson: “So where is the acceleration argument coming from? It’s coming from those who are using computer models and then introducing assumptions into the computer models about global warming and the rate of global warming and the melting of the ice caps and all of that.”

Rob Young: “The standard that we use is that you can only use studies that have been vetted, that have been cleared, that have been published in peer reviewed journals – journals where the science has been examined. That’s sort of the gold standard of understanding what science is good and what isn’t.”

Tommy G. Thompson: “We’re willing to take whatever the evidence shows. We are not willing to use computer models based on somebody’s assumption about what’s going to happen. When we see
regulations that essentially try to stop everything based on hypothetical assumptions or something, we tend to get involved.”

63:36  Text: “Meanwhile, back at the CRC meeting…”

63:37  Series of texts quoting members of the CRC.

“You can begin to hear, I think, the sentiment of the Commissioners.”

“Please let the other members know that I am against taking any action on sea level rise.”

“I can’t vote to send this to the public hearing at this point in time. I need to see it softened more.”

“I’m not sure we’re ready as a state and a Commission to deal with sea level rise right now. That’s the real issue we’re dealing with right now, and I would suggest we make a motion that we table it”

64:06  Text: “Two months later, at the urging of NC-20 and other groups, revisions regarding sea level rise policy were inserted into North Carolina House Bill 819.”

64:15  Clip from The Colbert Report


64:33  David Rouzer, State Senator. North Carolina

64:50  Clip from The Colbert Report

64:57  Rob Jackson, Professor of Global Environmental Change. Duke University. Give testimony at Senate. “To those of us in the scientific community the language of this bill is thoroughly confusing. So let me give you a couple of examples. The mandate of the use of historic sea level rise is inconsistent with the historical record itself and with the best science. Every major scientific organization in the country, including the National Academy of Sciences, the American Geophysical Union, the American Meteorological Society, the Geological Society of America, have position statements, consensus documents that say sea level rise is accelerating, it will be faster, much faster than it was last century.”

65:32  David Rouzer: “But the economic value of coastal property in those counties is $1.6 billion, you’ve got 8,000 oceanfront structures along North Carolina’s beaches, so when you’re talking about sea level rise and the implications of this you’re talking about affecting land use, you’re talking about affecting property values, and you’re talking about insurance rates and everything else.”

65:52  Clip from The Colbert Report


66:20  Stan Riggs, Orrin Pilke, Ben Horton, Rob Young
Anna Yurgelonis, Lisa Cordova, Residents. Union Beach, NJ “You hear, ‘Things like this happen and they don’t happen here. And they do, they happen everywhere. When you live by the water you have to be careful. Whether my family can rebuild, wants to rebuild, I think that takes time. Is it safe? Probably not. They probably need to be protected by a sea wall or something – I don’t know, but they need to be protected.”

Text: “Union Beach, NJ, a community of 6,245 permanent residents has never received a federal beach replenishment project. The 339 residents of Harvey Cedars, on Long Beach Island, received a $23,000,000 federal beach replenishment project in 2010.”


Steve Ellis, Taxpayers for Common Sense: “Anyway you look at it the federal government is backstopping and subsidizing coastal development backwards and forwards. Flood insurance really helped fuel the coastal development boom because it made it safer, at least financially, to your wallet, to build on the coast. … These coastal states and these coastal communities come running to Uncle Sam to get subsidies and they talk about all these economic benefits, but in reality the lion’s share of the economic benefit actually goes to the state and locality, and the lion’s share of the cost ends up going to Uncle Sam and the Federal Treasury. You subsidize what you want more of, and so do we want more development on the coast? Do we want to do more of this?”

Tim Dillingham: “We are absolutely paying people to live in very risky places and we don’t do a very good job of letting people know what those risks are so they can make an informed judgment. And because there won’t be enough money to go around, we are going to be faced with tougher choices particularly in blue collar communities where the properties are generational. And those are actually the ones that are most vulnerable because they don’t have as many options to get themselves out of that situation. At the end of the day, the danger will be, ‘Oh my gosh we forgot these folks.’”

Jonathan Oldham, Mayor. Harvey Cedars, NJ. “For storms, what you need is time. And sand gives you time to protect you from that ocean rolling down. I don’t know that there was any other option that we really had. You know what, not everyone loves this project. People have a hard time with change. I have a hard time with change. But I also know that I’ve protected the town. And I sleep very well at night when the storms come.”

Howard Marlowe, Lobbyist for Beach Replenishment Projects: “At some point, it seems to me that the federal government has to realize that it needs to encourage very strongly to local communities to adopt solutions.”
Kathleen White: “When the storm hits people’s response is to rebuild. They feel that this was their primary investment. It may have been damaged heavily but now is the time to rebuild here. Because they’re actually afraid to walk away.”

Howard Marlowe: “We have to provide local citizens and states with all of the planning assistance that you possibly can.”

Kathleen White: “And we need to come up with a creative way to ensure that, if they have to walk away, that they’re not walking away with nothing.”

Howard Marlowe: “As long as we’re in the kind of antagonistic political situation we’re in, where nothing happens, then how can you deal with a problem like sea level rise? We can’t move a piece of legislation with policy in it because it’s either Republican or Democrat, and it needs to be American. Right now there’s no give and take, and if you have no give and take then you have no action.”

New York Governor Andrew Cuomo

End credits.