

Video Discussion Guide - *Marine Field Station: The Retreat*

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Janice McDonnell



Award ICER-2103754



MACH
Megalopolitan Coastal
Transformation Hub



Activity Outline

01 | Global Context about
Sea Level Rise

02 | New Jersey's
Relationship with Sea
Level Rise

03 | Background: *Marine
Field Station: The
Retreat*

04 | Before You Watch:
Student Discussion
Questions

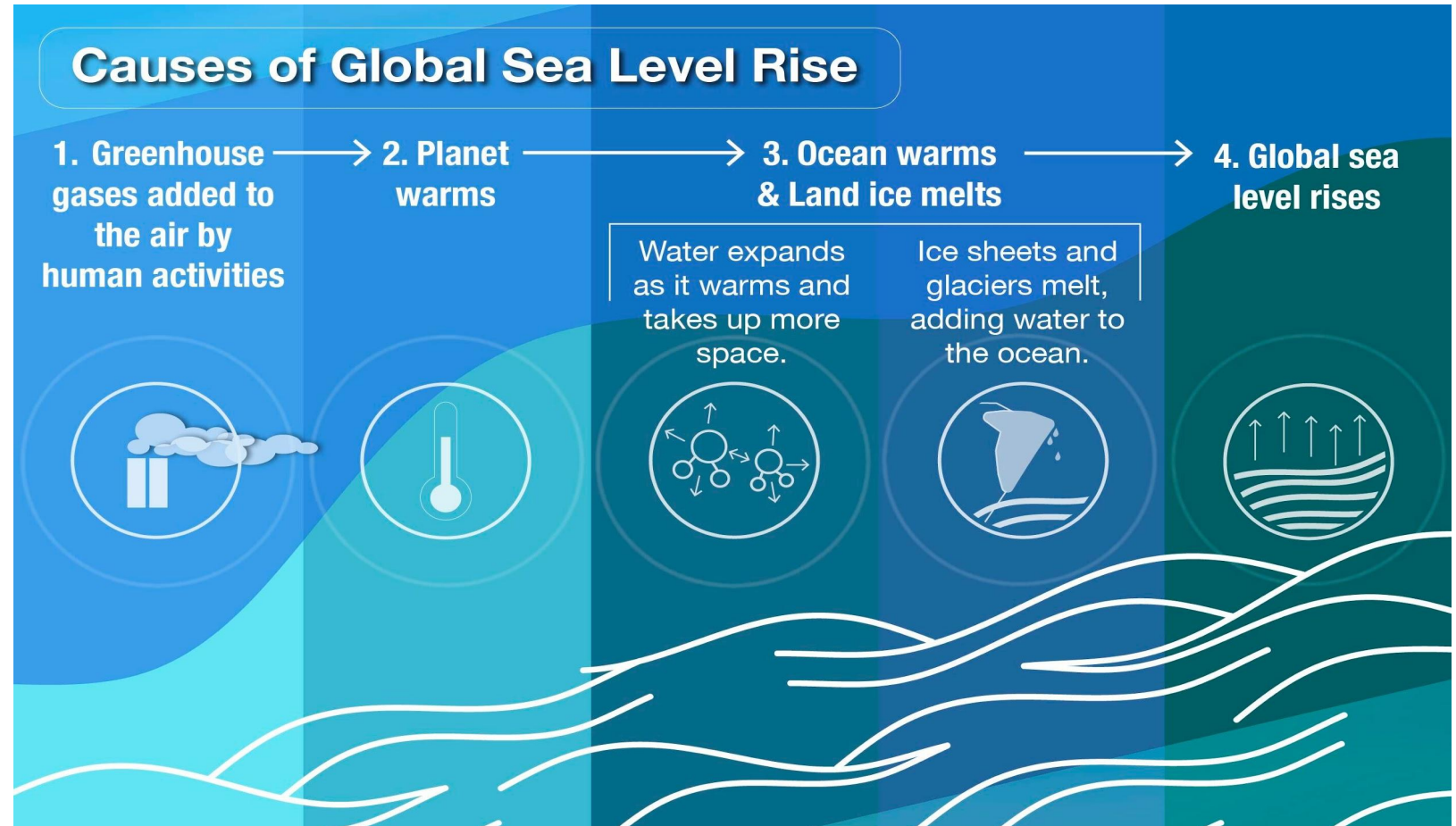
05 | Watch the film (10:54
minute run time)

06 | After You Watch:
Student Discussion
Questions

Background: Global Context about Sea Level Rise

- Greenhouse gases added to the atmosphere by human activities are warming the planet.
- Global sea level is rising mainly from ocean warming and melting land ice due to climate change.

Credit: Allie Braun, NASA JP

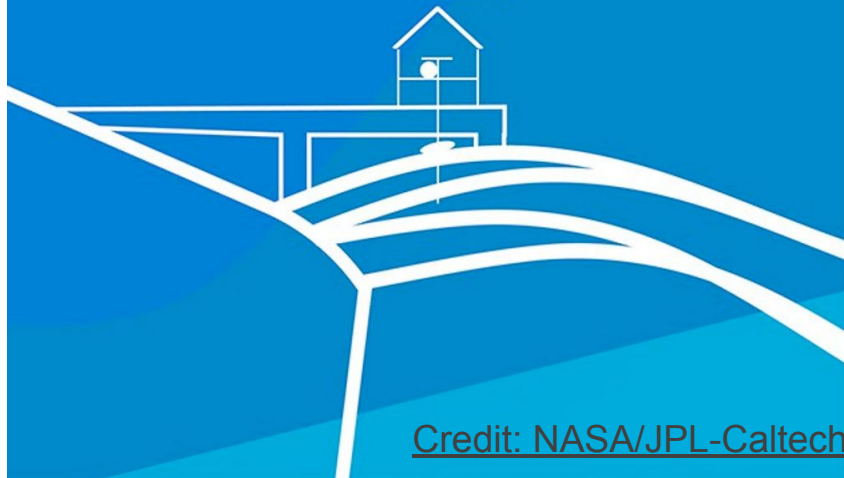


How do scientists measure sea level?

Local Sea Level

Sea height compared to land height at one location

Tide Gauge



Credit: NASA/JPL-Caltech

Global Sea Level

Satellite



Average sea height from measurements taken across the planet

How do scientists measure sea level?

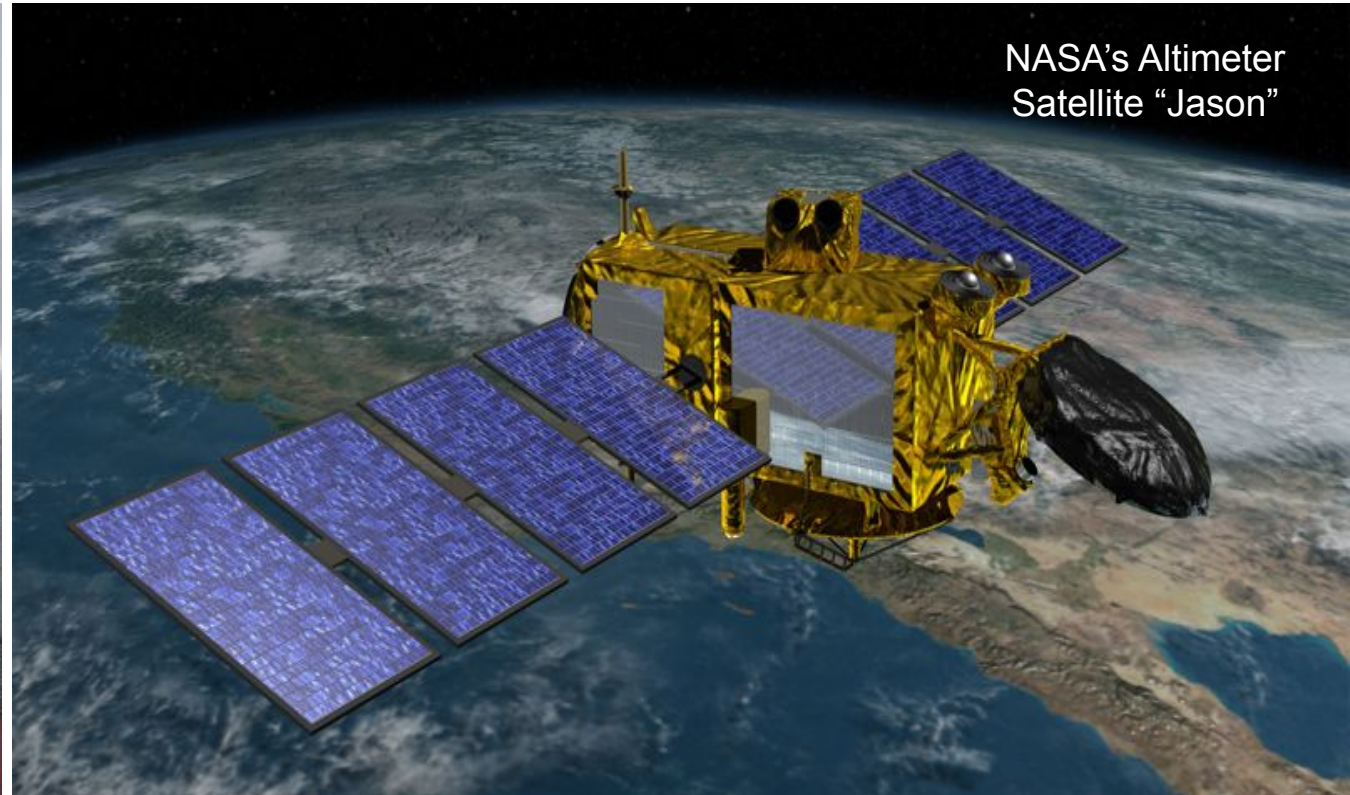
Local Sea Level



NOAA's Tide gauge
in Atlantic City, NJ

Credit: NOAA

Global Sea Level



NASA's Altimeter
Satellite "Jason"

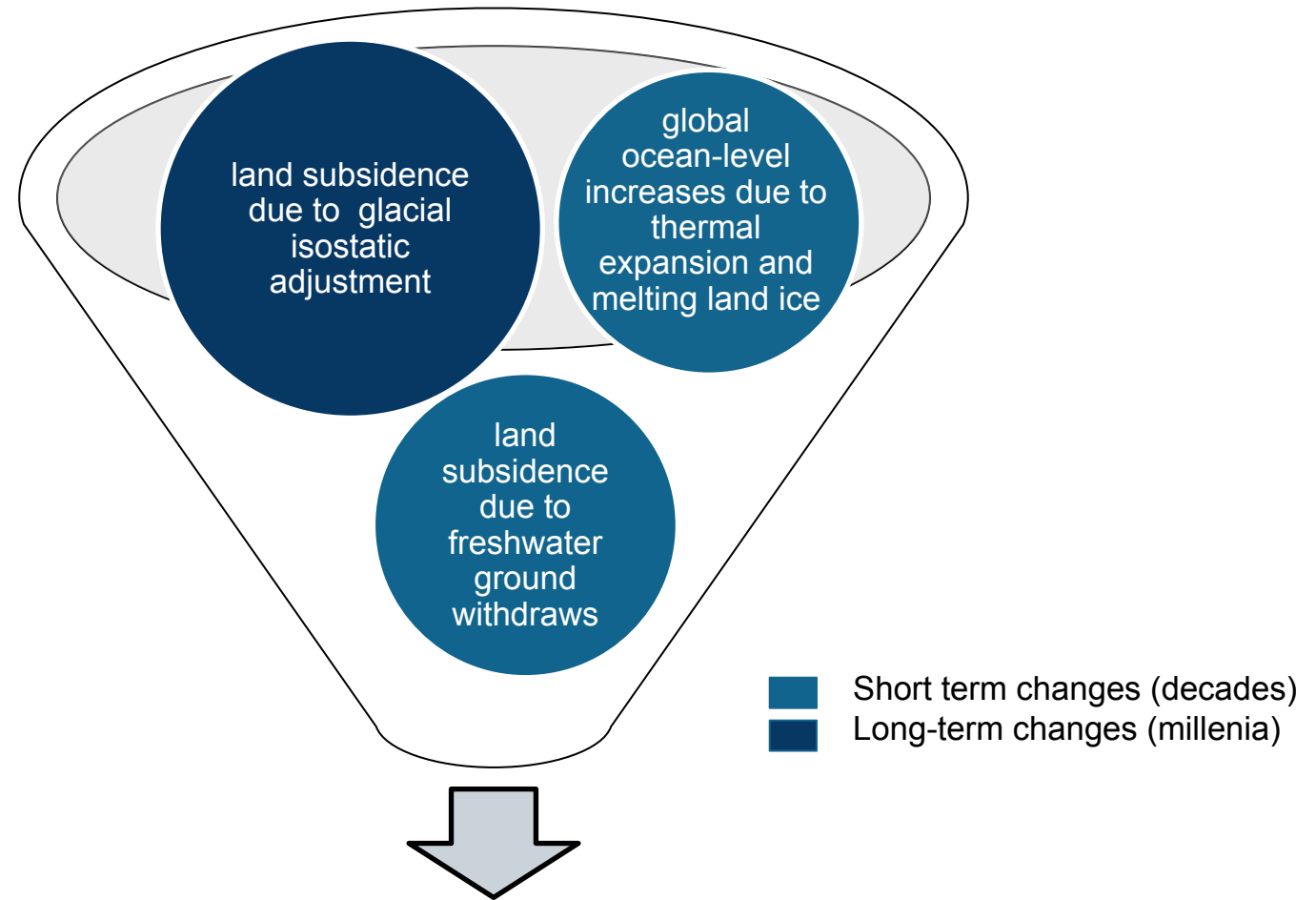
Credit: NASA/JPL-Caltech

Background: Global Context about Sea Level Rise



- **Global sea level is rising faster today than it was 100 years ago!**
- The global sea level has been rising since the 19th century, when modern record keeping began. And, it has been rising faster in recent years. It took 90 years (1902 – 1992) for the global sea level to rise by around 10 cm. In just the last 30 years (1993 - 2023), that same amount of rise, around 10 cm, happened again . (Source: [NASA](#))

New Jersey's Level with Sea Level Rise



Sea level rise in New Jersey is occurring at a faster rate than most places on the planet.

Background: New Jersey's Level with Sea Level Rise



Atlantic City, NJ

18.0 ± 0.9 inches



1912 to 2021

Average rate of 1.7
inches/decade

Global Average

6.4 ± 0.9 inches

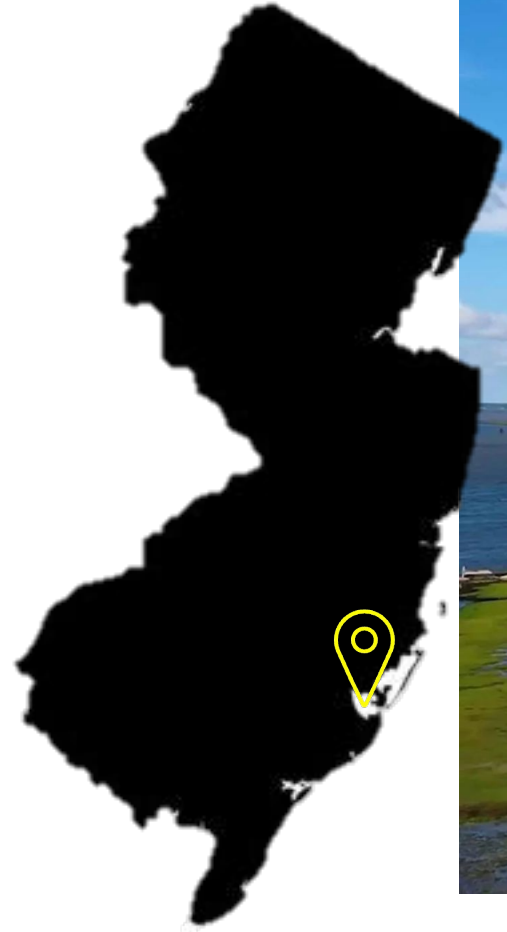
On average, how
much has sea
level risen across
the globe in 109
years, from 1912
to 2021?



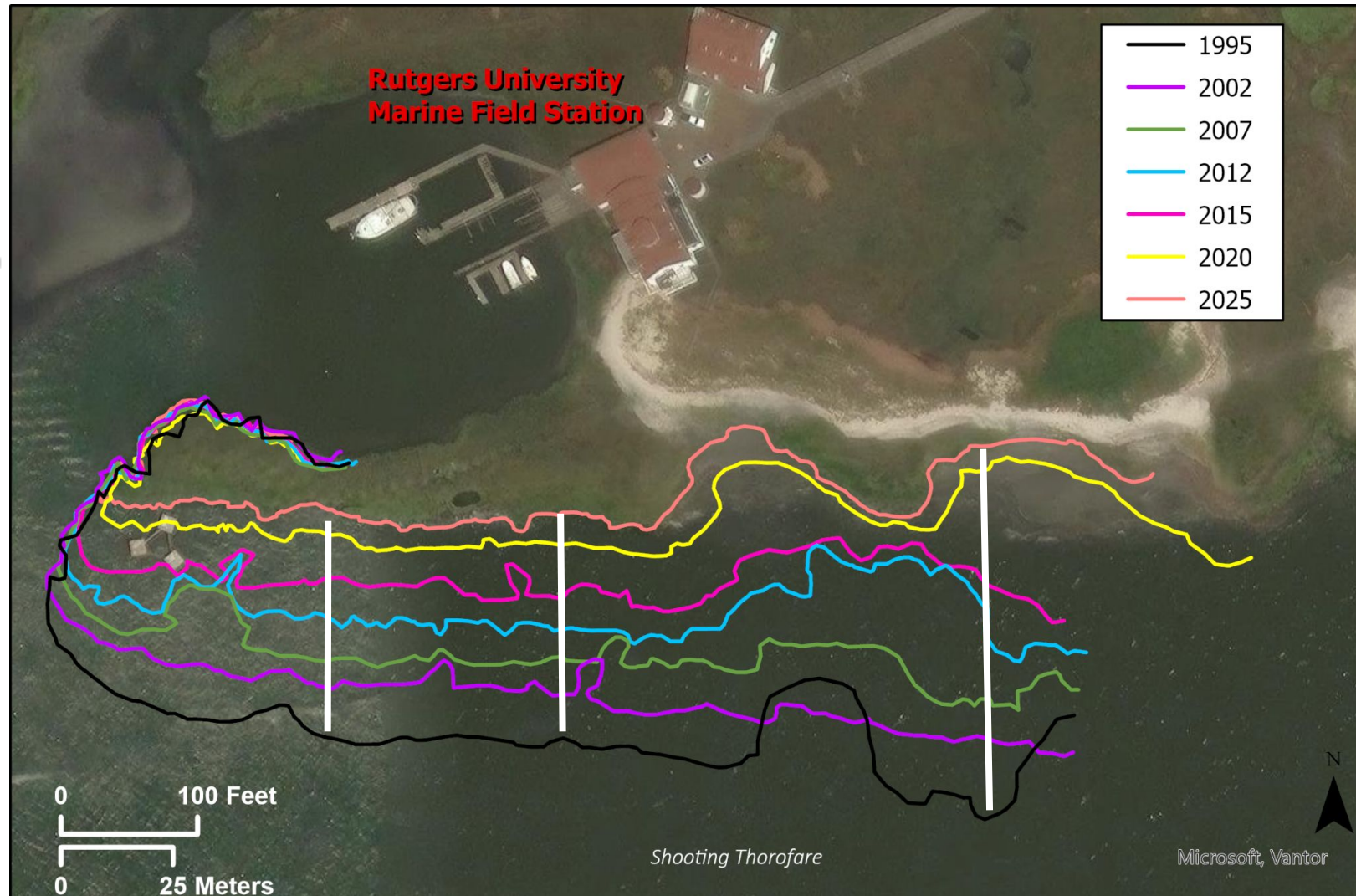
1912 to 2021

Average rate of 0.6
inches/decade

Background: *Marine Field Station: The Retreat*



Background: *Marine Field Station: The Retreat*



From 1995 to 2025, how far has the shoreline moved back or retreated?

Before we watch the film...

1

We have all experienced storms. Has anyone experienced flooding?



Before we watch the film...

2

**What do you
already know about
sea level rise?**



Before we watch the film...

3

Why might some scientists focus their work on specific locations like New Jersey's coast?

Gandy's Beach, NJ
Photo credit: Jenny Shinn



Before we watch the film...

4

How can sea level rise affect people's lives? Especially people who live in coastal areas?



Before we watch the film...

5

What are the choices that people living in coastal areas can make about their homes when the effects of sea level rise are causing risk and potential harm?







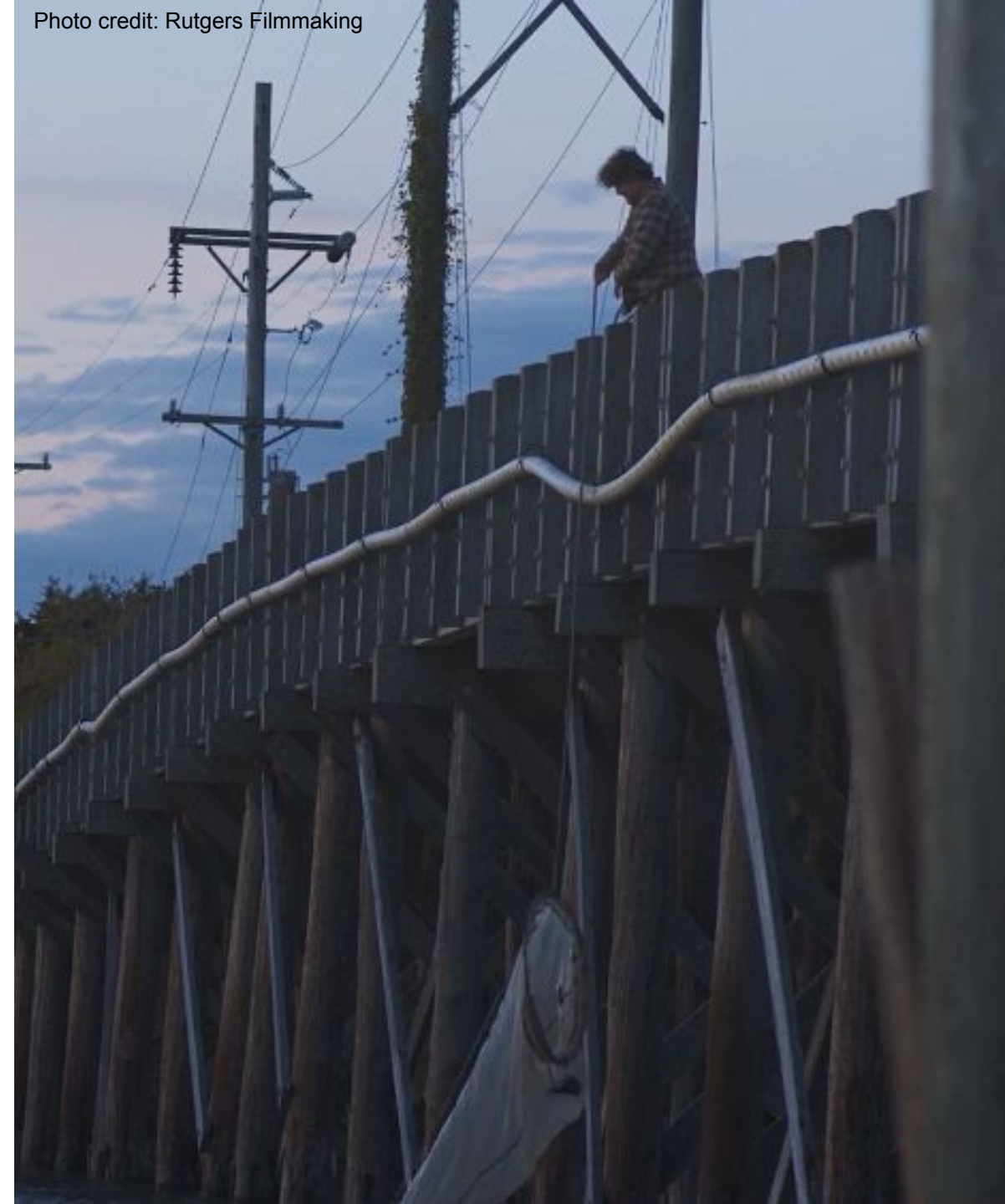
Let's share our
thoughts.

After we watched the film...

1

**What surprised you
while watching the
film?**

Photo credit: Rutgers Filmmaking



After we watched the film...

Vineland, NJ
Photo credit: Jenny Shinn

2

Do you have a place (or thing) near and dear to you that might be at risk of being changed or impacted due to the effects of climate change?

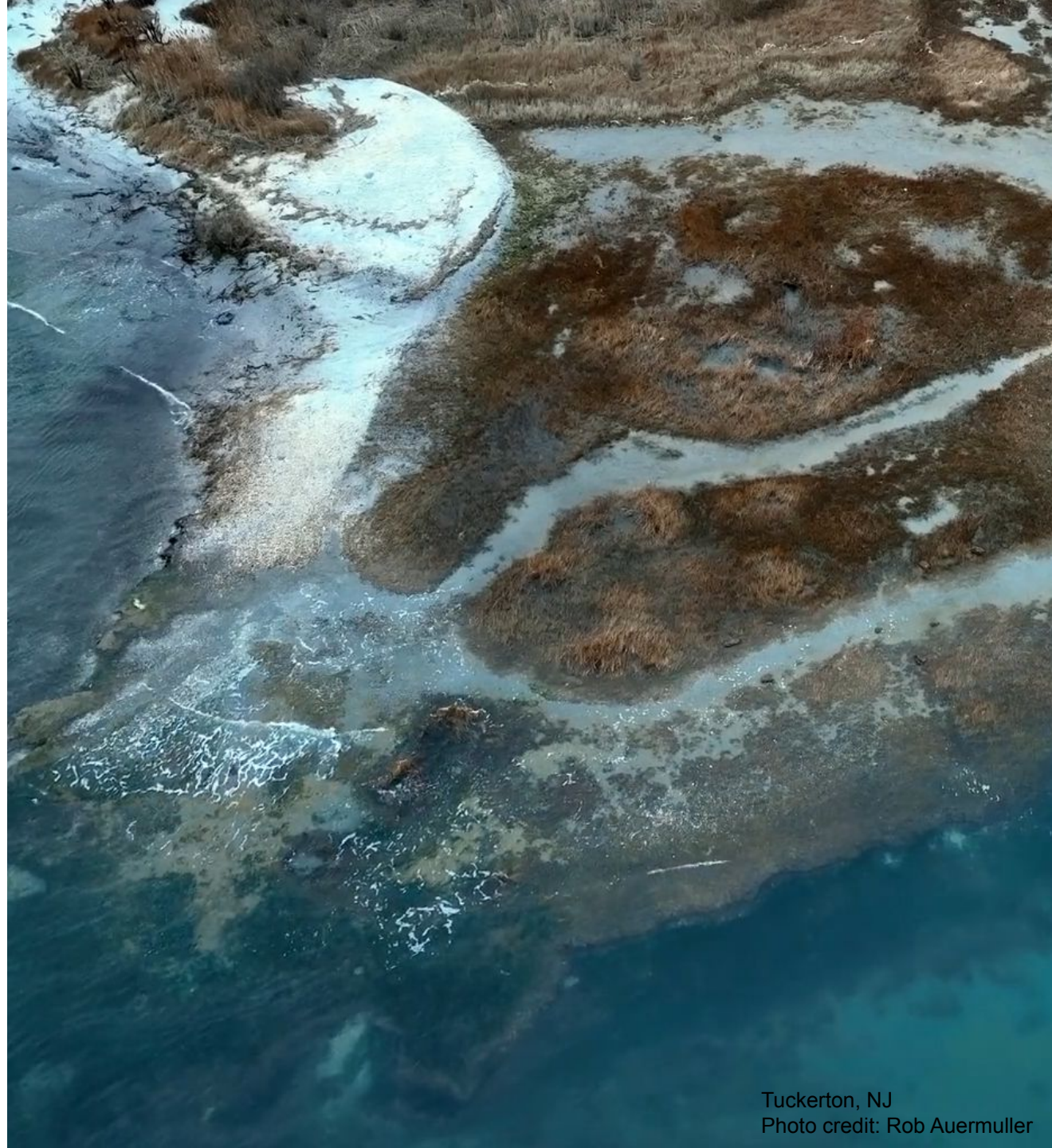


After we watched the film...

3

Do you relate to any of the feelings, emotions or values shared in the film?

If so, how and why?



After we watched the film...

4

What do the Rutgers Marine Field Station scientists gain, and what do they risk?



After we watched the film...

5

How can the experiences of the researchers at the field station help others along the coast?

Strathmere, NJ
Photo credit: AP Photo/Wayne Parry



If knowledge is power. What power do you have?

Personal	School or Community	Future
Learn about how climate change affects your region.	Start or join an environmental organization (e.g. participate in citizen science with MyCoastNJ by taking photos in your community)	Consider careers in: Marine/climate science, Engineering, Urban planning, Public health, Policy or communications
Talk to family about flooding risks or emergency preparedness. (e.g. <i>Be Tide Smart</i> and sign up for local flood alerts)	Advocate for recycling or energy efficiency at school (e.g. participate in National Wildlife Federation's Eco-Schools program).	Consider where you live and how SLR might affect your town now and in the future.
Reduce waste or energy use where possible.	Volunteer for a local beach, river, or park cleanup.	Reduce waste or energy use where possible.

Choose one of these sentences to complete.

One thing I care about protecting is _____.

One skill I have that could help in the future is _____.

One small action I could realistically take is _____.



Thank you

The Activity was conceptualized by Lisa Auermuller, developed by Jenny P. Shinn and edited by Lisa Auermuller, Moira Scheeler, Janine Barr and Janice McDonnell.

Marine Field Station: The Retreat was produced and directed by Thomas Lennon, co-produced by Evan DesRosiers, and edited by Margot Maxwell. Please see the full credits at the end of the film that acknowledge the work of all the participating students in the Rutgers Film Lab.

