



AIR & WASTE MANAGEMENT  
ASSOCIATION

Northern and Central New Jersey Chapter

Welcome to the  
20<sup>th</sup> Annual NJDEP/A&WMA  
Regulatory Update Conference  
**November 19, 2021**

# Annual Regulatory Update Conference

- ▶ Joint venture between NJDEP and the Northern and Central New Jersey Chapter of Air & Waste Management Association
- ▶ Opportunity for regulated community to hear directly from NJDEP staff on the latest Department initiatives in environmental regulations
- ▶ 20<sup>th</sup> Year! Virtual for the second year due to the pandemic
- ▶ Honored to have Commissioner Shawn LaTourette provide the opening remarks on the “State of the Department”
- ▶ Speakers include NJDEP leadership in major program areas (Air Quality, Site Remediation, Solid Waste, Land Use, and Water Resources)

# Welcome!

Mike Schaffer

A&WMA-NCNJ

[Michael.Schaffer@terraphase.com](mailto:Michael.Schaffer@terraphase.com)

Joann Held

A&WMA-NCNJ

[joannheld@comcast.net](mailto:joannheld@comcast.net)

# About the Air & Waste Management Association (AWMA)

- ▶ Founded in 1907,
- ▶ Nonprofit, nonpartisan professional organization
- ▶ More than 5,000 environmental professionals in 65 countries
- ▶ Two Monthly Publications
- ▶ **Mission:** To assist in the professional development and critical environmental decision-making of our members to benefit society.
- ▶ **Core Purpose:** To improve environmental knowledge & decisions by providing a neutral forum for exchanging information.
- ▶ 34 Sections and 65 Chapters worldwide
  - ▶ Mid Atlantic States Section: NJ, DE, Eastern PA, Eastern NY
  - ▶ Northern & Central NJ Chapter

# AWMA- NCNJ Leadership Team

## Chapter Chair

**Michael Schaffer**

Terraphase Engineering



## Program Chair

**Sunila Gupta**

Haley & Aldrich, Inc.



## Past Chair

**Joann Held**

Site Remediation Professional  
Licensing Board



## Program Committee

**Ron Poustchi**

NJDEP



## Director

**Mary Hewitt Daly**

Surrey Environmental Consulting



**Paul Eisen**

Proactive Environmental  
Solutions, LLC.



## Secretary

**Gabi Carrasco**

Haley & Aldrich, Inc.



## Website Coordinator

**Chris Whitehead**

Enviro-Sciences  
(of Delaware), Inc.



## Treasurer

**Fran Lindsley-Matthews**

Buckeye Partners

## Student Liaison Committee

**Jyoti Agarwal**, Covanta

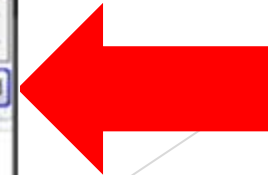
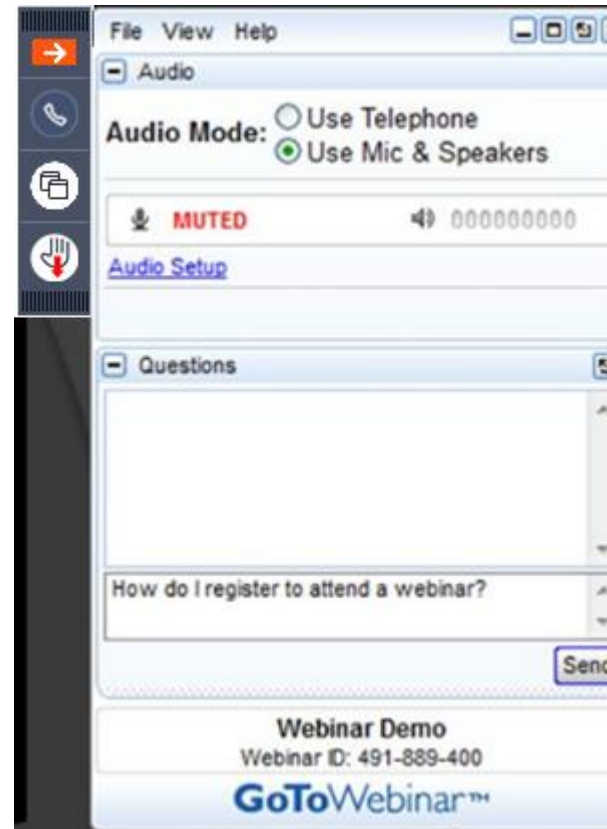
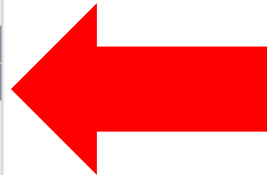
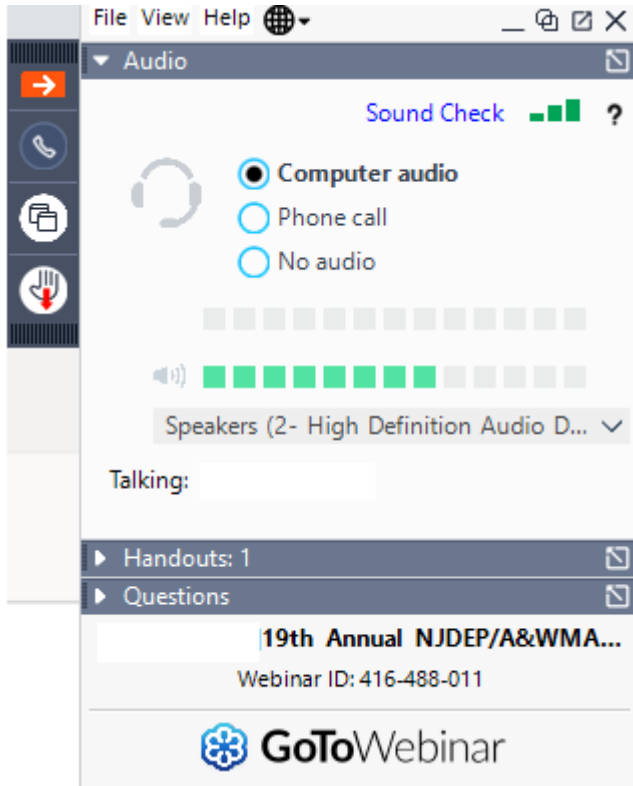
**Gabi Carrasco**, Haley & Aldrich, Inc.

# Conference Agenda (available as handout)

9:00 – 9:10 am	<i>Morning Session Moderators: Mike Schaffer and Joann Held – Welcoming Remarks</i>
9:10 – 9:45 am	Commissioner Shawn LaTourette – Opening Remarks, “State of the Department”
9:45 – 10:20 am	Assistant Commissioner Mark Pedersen – Update on Site Remediation and Waste Management Program
10:20 – 10:55 am	Assistant Commissioner Paul Baldauf – Update on Air Quality, Energy, Sustainability Program
<b>10:55 – 11:05 am</b>	<b>Morning Break</b>
11:05 – 11:40 am	Deputy Commissioner Sean Moriarty, Director Richelle Wormley and Director Mike Hastry – Compliance and Enforcement Updates and Initiatives
11:40 – 12:15 pm	Dr. Gary Buchanan, Director, Division of Science & Research - Update on Current and Recently Completed Research Projects
<b>12:15 – 1:00 pm</b>	<b>Lunch Break</b>
1:00 – 1:05 pm	<i>Afternoon Session Moderators: Chris Whitehead and Dr. Ron Poustchi</i>
1:05 pm – 1:40 pm	Deputy Commissioner Sean Moriarty, Environmental Justice and Equity Program Updates and Initiatives
1:40 – 2:15 pm	Dr. Nick Procopio, Bureau Chief, Division of Science & Research – Climate Change Updates
<b>2:15 – 2:25 pm</b>	<b>Afternoon Break</b>
2:25 – 3:00 pm	Bureau Chief Kim Cenno – Water Monitoring and Standards Updates and Initiatives
3:00 – 3:55 pm	Air Program Panel Presentations <ul style="list-style-type: none"><li>• Observed Air Quality During Pandemic and Potential Benefits – Director Frank Steitz</li><li>• Whole of Government Approach to Electric Vehicles – Assistant Director Peg Hanna</li><li>• Enhanced Community Outreach<ul style="list-style-type: none"><li>○ Updates to What’s in My Community App – Brad Bollen</li><li>○ Social media mobile source campaign – Mara Starr, Colleen Oropeza, Gaby Pintauro</li></ul></li></ul>
3:55 – 4:00 pm	Closing Remarks

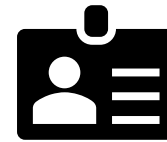
# In-House Rules Friendly Reminder

- ▶ Attendees may only ask questions by typing in the Questions panel.



# Reminders

- ▶ Use question feature to type in your question
- ▶ Add your name and affiliation to the questions
- ▶ Moderators will try to get as many question as we can within the allotted session





## Commissioner Shawn LaTourette

- ▶ Opening Remarks “State of the Department”

The background features abstract, overlapping green geometric shapes in various shades of green, primarily concentrated on the right side of the slide. The word "Questions?" is centered in a green, sans-serif font.

# Questions?



## Assistant Commissioner Mark Pedersen

- ▶ Site Remediation and Waste Management Program
- ▶ Update on Site Remediation and Waste Management Program



NJDEP/A&WMA Regulatory Update Conference

# Site Remediation and Waste Management Program Update

November 19, 2021

**Mark J. Pedersen, Assistant Commissioner  
New Jersey Department of Environmental Protection  
Site Remediation and Waste Management Program**





# Topics

- Division of Waste & UST Compliance and Enforcement
- Site Remediation Program Metrics
- PFAS
- Solid and Hazardous Waste Update
- Regulatory update



# Division of Waste & UST Compliance and Enforcement



- Manages underground storage tank compliance and enforces requirements for Regulated Underground Storage Tank systems
- Ensures solid and hazardous waste, and recyclables are properly managed through compliance inspections, investigation and enforcement
- Licensing of those in the Solid and Hazardous waste industries and UST contractors.



# Active, New, and Closed Cases

(2012-2020)



Year	Total Active	Total New	Total Closed
CY 2012	14,369	9,612	4,735
CY 2013	14,577	5,287	4,236
CY 2014	13,795	4,928	5,036
CY 2015	14,245	5,390	4,638
CY 2016	14,357	5,129	4,540
CY 2017	14,223	4,975	5,003
CY 2018	13,707	4,862	5,061
CY 2019	13,531	4,918	4,791
CY 2020	13,841	4,228	3,645





# IECs and VCs Report

	As of November 03, 2021
<b>Active IECs/VCs Cases (Total)</b>	<b>583</b>
Active LSRP Cases	258
Active PF Cases	290
Active Traditional Oversight Cases	35
<b>Closed IECs/VCs Cases (Total)</b>	<b>639</b>
Closed LSRP Cases	495
Closed PF Cases	143
Closed Traditional Oversight Cases	1



# Per- and polyfluoroalkyl substances (PFAS)



- PFAS have been used in a wide variety of industrial and commercial processes.
- Remediations must include an evaluation of potential spills and releases through air, water, and waste discharges, if PFAS was manufactured, stored, handled, or used.



# Next Gen: Reimagining our Solid Waste and Recycling Program



- Evaluation of innovative solid waste and recycling developments
- Development of new reduce/reuse/recycle concepts, including zero waste initiatives
- Reconstitution of the Solid Waste Advisory Committee





# Reduce, Reuse, Recycle

- Recycle Coach – download it today!

- Recycle Right NJ!

<https://www.nj.gov/dep/dshw/recycling/promotools.html>





# Food Waste Reduction

- P.L. 2017, c. 136 (S3027) established a goal of reducing food waste by 50%, based on 2017 food waste estimates, by the year 2030.
- Tips for reducing food waste:  
<https://www.nj.gov/dep/dshw/food-waste/>





# P.L. 2020, c. 117 (Plastics law)

- Prohibits provision or sale of single-use plastic carryout bags, single-use paper carryout bags
- Limits provision of single-use plastic straws
- Limits polystyrene foam food service products
- [https://www.nj.gov/dep/dshw/plastic-ban-law/nj\\_plastics\\_ban.pdf](https://www.nj.gov/dep/dshw/plastic-ban-law/nj_plastics_ban.pdf)





# Regulatory Update

- Electronic Waste (E-Waste) Management – N.J.A.C. 7:26A-13
- Recycling Rule Exemptions – N.J.A.C. 7:26A-1.4
- Dirty Dirt and A-901 – N.J.A.C. 7:26 & 26A



# Regulatory Update



- NEW Rules Related to Recycling:
  - Food Waste (P.L.2020, c.24)
  - Plastic Bag Ban (P.L. 2020, c.117)
- Environmental Justice – EJ Law P.L.2020, c. 92





# Regulatory Update

- Regulations of the Site Remediation Professional Licensing Board – N.J.A.C. 7:26I
- SRRA 2.0 Rulemaking – N.J.A.C. 7:26C and 7:26E





Questions?





## Assistant Commissioner Paul Baldauf

- ▶ Air Quality, Energy, Sustainability Program
- ▶ Update on Air Quality, Energy, Sustainability Program

# Questions?

# Morning Break

# 2019 IN-PERSON ANNUAL REGULATORY UPDATE



The 2020 Conference  
was virtual with over 400  
Attendees!

## **Top 10 reasons to join A&WMA now:**

10. Information access
9. Conferences
8. Webinars
7. Networking
6. Leading publications
5. Leadership opportunities
4. Career advancement
3. Global perspective
2. Recognition

1. And the number one reason to join A&WMA . . .

**To be a part of the solutions driving the industry.**

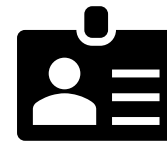
## **Membership benefits include:**

- Discounts of \$100 or more off of conference registration fees and \$50+ for Webinars.
- EM and the Journal exclusive online access
- Continuing Education Certificates to apply for PE, CEU, and CLE credits
- Free membership in your local chapter or section
- Free access to the Career Center
- Leadership and volunteer opportunities
- Discounts on publications, products, and subscriptions

**AWMA.ORG/JOIN**

# Reminders

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- ▶ Add your name and affiliation to the questions
- ▶ Moderators will try to get as many question as we can within the allotted session





## Deputy Commissioner Sean Moriarty

- Compliance and Enforcement  
Updates and Initiatives

# **20th Annual Joint Venture NJDEP/A&WMA Regulatory Update Conference**

## **Compliance and Enforcement Updates and Initiatives**

**Sean Moriarty, Deputy Commissioner**

**Richelle Wormley, Director, Division of Air Enforcement**

**Michael Hastry, Director, Division of Waste & UST Compliance and  
Enforcement**



# Compliance & Enforcement Reorganization

## Goals:

- Organizational change to move forward Department's major long-term priorities
- Facilitate protection of resources and public health through better alignment that compels compliance with environmental laws
- Promote a unified policy vision across all media areas through the integration of planning, permitting, compliance and enforcement initiatives within media areas

## Outcomes:

- Realignment of compliance and enforcement (C&E) units and staff to media areas with their existing planning and permitting counterparts in underlying Assistant Commissioner program areas
- Creation of the Office of Enforcement Policy to ensure cross-programmatic alignment and consistency



# NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION



**SHAWN M. LATOURETTE**  
COMMISSIONER



**JANE ROSENBLATT**  
Chief of Staff



**OLIVIA C. GLENN**  
Deputy Commissioner  
Environmental Justice  
& Equity



**KATHERINE PERRY**  
Director  
Office of Environmental Justice



**ROBERT GANDHI**  
Director, Equal Opportunity &  
Public Complaint Assistance



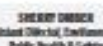
**MATTHEW ROSS**  
Chief Diversity Officer  
Diversity, Inclusion & Outreach



**KATRINA AMGARONE**  
Associate Commissioner  
Science & Policy



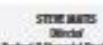
**GARY BUCHANAN**  
Director  
Division of Science & Research



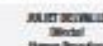
**SHERY ORSINI**  
Assistant Director, Environmental  
Public Health & Safety



**ADRIENNE KREIPKE**  
Associate Commissioner  
Management & Budget



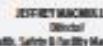
**STEVE WATTS**  
Director  
Budget & Financial Operations



**JULIET DEWILLE**  
Director  
Human Resources



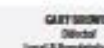
**PETER TEMMERMAN**  
Director  
Information Technology



**JEFFREY MACMILLAN**  
Director  
Health, Safety & Facility Management



**SEAN D. MORIARTY**  
Deputy Commissioner  
Legal, Regulatory &  
Legislative Affairs



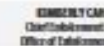
**GARY BROWNE**  
Director  
Legal & Regulatory Affairs



**KATHRYN DECARIE**  
Director  
Legislative Affairs



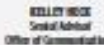
**LINDA TAYLOR**  
Manager, Office of Administrative  
Hearings & Dispute Resolution



**KENNETH CANALE**  
Chief Enforcement Officer  
Office of Enforcement Policy



**ROBERT VAN POYCK**  
Director  
Office of Emergency Management



**KELLY WADE**  
Senior Advisor  
Office of Governmental Relations



**CRAG DORSETT**  
Acting Assistant Commissioner  
Natural & Historic  
Resources



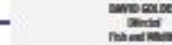
**JOHN CIOLE**  
Director  
Parks and Forestry



**AMANDA SMITH**  
Chief  
State Parks Police



**GREGORY MCLAUGHLIN**  
Chief  
Forest Fire Service



**DAVID GOLDEN**  
Director  
Fish and Wildlife



**SEAN CONROY**  
Chief  
Conservation Police



**MARTINA SAPP**  
Director  
Grassroots & Outreach



**KATE MACCOPP**  
Assistant Director  
Habitat Restoration



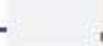
**DAVID ROSENBLATT**  
Chief Resilience Officer  
Assistant Commissioner  
Climate & Flood  
Resilience



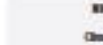
**WILLIAM DOON**  
Director  
Division of Coastal Engineering



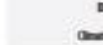
**JOHN BOYLE**  
Director  
Coast Safety & Flood Engineering



**KRISTY TALLONE**  
Director  
Program Operations



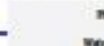
**NICHOLAS AMGARONE**  
Business Chief  
Climate Resilience Planning



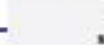
**DENNIS BERNHARDT**  
Business Chief  
Climate Resilience Engineering



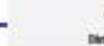
**PATRICIA GARDNER**  
Assistant Commissioner  
Water Resources  
Management



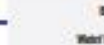
**PATRICIA INCALUSO**  
Director  
Water Supply & Groundwater



**JEFF HOFFMAN**  
State Geologist  
NJ Geological Survey



**JANICE BROGLE**  
Director  
Division of Water Quality



**BRUCE FRIEDMAN**  
Director  
Water Wastewater & Standards



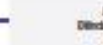
**VINCENT**  
Director  
Water & Land Use Enforcement



**VINCENT MAZZEI**  
Assistant Commissioner  
Watershed & Land  
Resource Protection



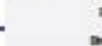
**JENNIFER MORIARTY**  
Director  
Land Resource Protection



**ANNA ANDREWS**  
Director, Watershed Protection  
and Restoration



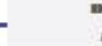
**PAUL BALDAUF**  
Assistant Commissioner  
Air Quality, Energy  
& Sustainability



**FRANCIS STUTE**  
Director  
Division of Air Quality



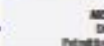
**PAUL ORLANDO**  
Director, Climate, Clean Energy  
and Radiation Protection



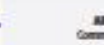
**ROCHELLE WOROBY**  
Director  
Air Enforcement



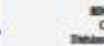
**ELIZABETH DRAGON**  
Assistant Commissioner  
Community & Economic  
Revitalization



**MEGAN BIRNBAUM**  
Director, Office of  
Planning & Project Navigation



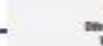
**ARTHUR ZAMPINI**  
Community Development



**MICHAEL RUSSELL**  
Chief Economist  
Division of Economic Analysis



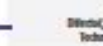
**MARK PEDERSEN**  
Assistant Commissioner  
Site Remediation &  
Waste Management



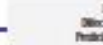
**MARY JO AIELLO**  
Director, Solid Waste Division  
Waste Management



**KEN KIDO**  
Director  
Remediation Management



**DAVID HAYNES**  
Director, Remediation Enforcement  
Technical & Financial Support



**MICHAEL BASCOTI**  
Director, Waste Enforcement,  
Provision & Resource Planning

# Office of Enforcement Policy

- Lead by the Department's first Chief Enforcement Officer
- Develop Department's affirmative compliance and enforcement agenda in conjunction with media-specific programs (environmental justice, resource protection, public access, dirty dirt and air permitting)
- Update and improve upon existing policies and procedures – prioritize highest value enforcement propositions
- Assist with seeing through our litigation priorities to achieve timely and meaningful compliance

A photograph of a forest with sunlight filtering through the trees, creating a dappled light effect on the forest floor. The trees are tall and thin, with green foliage. The ground is covered in ferns and other low-lying plants.

**Richelle Wormley,  
Air Quality, Energy,  
and Sustainability**

**Division of Air Enforcement, Director**



Paul Baldauf  
Assistant Commissioner  
AQES

Frank Steitz  
Director  
DAQ

Paul Orlando  
Director  
CCERP

Elizabeth Dragon  
Assistant Commissioner  
C&E

Richelle Wormley  
Director  
DAE

Rich Paul  
Director  
WLUE

Michael Hastry  
Director  
WEPRP

Knute Jensen  
Director  
COC

Paul Baldauf  
Assistant Commissioner  
AQES

Frank Steitz  
Director  
DAQ

Paul Orlando  
Director  
CCERP

Richelle Wormley  
Director  
DAE

Elizabeth Dragon  
Assistant Commissioner  
C&E

Rich Paul  
Director  
WLUE

Michael Hastry  
Director  
WEPRP

Knute Jensen  
Director  
COC

# FY2020-2023 EPA National Compliance Initiatives

(include Air, Water, Hazardous Waste)

- 1) Creating Cleaner Air for Communities by Reducing Excess Emissions of Harmful Pollutants from Stationary Sources
  - Next Generation Technology
    - Forward Looking Infrared Camera
    - GMAP (Geospatial Measurement of Air Pollution)
- 2) Reducing Hazardous Air Emissions from Hazardous Waste Facilities
- 3) Stopping Aftermarket Defeat Devices for Vehicles and Engines

# TAMPERING

- **REGULATORY CITATION – N.J.A.C. 7:27-14.3 (e)(2)**

No person shall cause, suffer, allow, or permit the sale, lease, or offer for sale or lease, of any motor vehicle with a certified configuration or motor vehicle engine with a certified configuration in which any element of design installed on such vehicle has been disconnected, detached, deactivated, or in any other way altered or modified from the design of the original vehicle manufacturer.

- **Non-Compliance Rate 26-33%**

- **Consistent with EPA's Priorities**



# WHAT ARE THE COMPLIANCE ISSUES DEP AIR ENFORCEMENT IS FINDING ??

- SUBSCRIBE TO COMPLIANCE ADVISORIES

<https://www.nj.gov/dep/enforcement/advisories.html>

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# DAE's COVID -19 Compliance Advisories

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November 2020

- Christmas Tree Burning and Disposal
- Issued 11/6/2020

February 2021

- Sunset Provision for Extension of Monitoring and Emission Reports Requirements
  - Issued 2/3/2021
- Scrap Metal Handling and Recycling
  - Issued 2/17/2021

June 2021

- Air Permits That Starts with PCP96 or PCP97
  - Issued 6/30/2021

August 2021

- Air Permits With a 3-hour Rolling Average on 1-hour Blocks? You May Not Be Reporting Exceedances Correctly.
  - Issued 8/25/2021

# Air Enforcement Contacts

**Northern Field Office** (Bergen, Essex, Hudson, Hunterdon, Morris, Passaic, Somerset, Sussex, Warren, and Union Counties)

**973-656-4444** or [AirCE-Northern@dep.nj.gov](mailto:AirCE-Northern@dep.nj.gov)

**Central Field Office** (Burlington, Mercer, Middlesex, Monmouth, and Ocean Counties)

**609-292-3187** or [AirCE-Central@dep.nj.gov](mailto:AirCE-Central@dep.nj.gov)

**Southern Field Office** (Atlantic, Camden, Cape May, Cumberland, Gloucester, and Salem Counties)

**856-614-3601** or [AirCE-Southern@dep.nj.gov](mailto:AirCE-Southern@dep.nj.gov)

**Emission Measurement Section** (Stack Test, CEMS/COMS and related emissions monitoring activities)

**609-984-3443** or [BTS@dep.nj.gov](mailto:BTS@dep.nj.gov)

**Diesel Enforcement Program (Idling and Tampering)**

**609-433-3634** or [idling@dep.nj.gov](mailto:idling@dep.nj.gov) (for Idling); [tampering@dep.nj.gov](mailto:tampering@dep.nj.gov) (for Tampering)

# Resources



**Idling and Environmental Incidents:**

**Call the DEP 24-hour Hotline:**

**1-877-WARN-DEP (1-877-927-6337)**

**NJ Air Compliance and Enforcement Contacts:**

<https://www.nj.gov/dep/easyaccess/compenf.htm#aircompenf-north>

A photograph of a forest with sunlight filtering through the trees, creating a dappled light effect on the ground covered with ferns.

**Michael Hastry**  
**Site Remediation & Waste**  
**Management**

**Waste and UST Compliance and**  
**Enforcement, Director**



## [A-901 Licensing/Disclosure Program \(N.J.S.A. 13:1E-126 et seq.\)](#)

- Enacted to preclude from participation in the solid and hazardous waste industries persons with known criminal records, habits, or associations, and to exclude or remove from positions of authority or responsibility in those industries any person known to be so deficient in reliability, expertise or competence that his or her participation would create or enhance the danger of unsound, unfair or illegal practices, methods or activities in the business of those industries.
- On January 21, 2020, the A-901 Law was expanded to include the soil and fill recycling industries in addition to the solid and hazardous waste industries. Persons involved in collection, transportation, processing, brokering, storage, purchase, sale, or disposition of soil and fill recyclable materials are now required to be licensed.
- Also tightened up the definitions of key employee, family member, broker, consultant and salesperson, as well as secured additional access to tax status data with Dept. of Treasury.



## Why the addition of Soil and Fill Recycling Industries

### **New Jersey State Commission of Investigation**

#### ➤ **March 2017 REPORT - CORRUPT RECYCLING OF TAINTED DIRT AND DEBRIS**

- “unscrupulous operators profit by covertly dumping contaminated soil and construction debris at inappropriate and unregulated sites that now pose serious environmental and public-health threats. Pending action on this broader reform measure, the SCI called for immediate enactment of some form of background check as a condition of entering the recycling industry” –

#### ➤ **Follow up Report June 2019 - DIRTY DIRT II – Bogus Recycling of Tainted Soil and Debris**

- “Under current laws and regulations, New Jersey lacks the authority to properly oversee elements of its recycling industry. As the findings of this and previous inquiries have amply demonstrated, the consequences of this breach in the State’s regulatory framework are particularly serious ..... where unscrupulous individuals with criminal records and/or ties to organized crime have been able to gain a profitable foothold to the detriment of New Jersey’s health and environment and in ways that undermine the business interests of legitimate recycling enterprises that are trying to do the right thing.”-



## Soil and Fill Recyclable Materials

- Are - Non-putrescible aggregate substitute, including, but not limited to,
  - i. broken or crushed brick, block, concrete, or other similar manufactured materials;
  - ii. soil or soil that may contain aggregate substitute or other debris or material, generated from land clearing, excavation, demolition, or redevelopment activities that would otherwise be managed as solid waste, and that may be returned to the economic mainstream in the form of raw materials for further processing or for use as fill material.
  
- Are not –
  - 1) Source separated Class A recyclable material;
  - 2) Source separated Class B recyclable material shipped to a NJDEP-approved Class B recycling center for receipt, storage, processing, or transfer;
  - 3) Beneficial Use material for which the generator has obtained prior approval from the NJDEP pursuant to N.J.A.C. 7:26-1.7(g) to transport to an approved and designated destination;
  - 4) Virgin quarry products including, but not limited to, rock, stone, gravel, sand, clay, and other mined products.



## Rulemaking /Potential Additional Exemptions /Stakeholder Meetings

- Rule committee working on rule amendment concepts and issues and planning stakeholder outreach.
- Potential exemptions for landscapers, contractors, pool companies, home remodeling companies, and other similar low soil volume businesses as long as the below conditions are met.
  - a. Is utilizing trucks and trailers less than 15 cubic yards of soil and/or soil and fill recyclable materials.
  - b. Has less than 100 cubic yards at their site of business.
  - c. If required, possesses a Division of Consumer Affairs Home Improvement Contractor license or other similar license.
- Possibly soil processing facilities, including Class B or Class C recycling facilities soil blending and manufacturing facilities, “topsoil manufacturers,” or other soil processors because they are involved in the processing of soil as a raw material provided soils become regulated as a Class B recyclable material.
- Clean, uncontaminated, undisturbed virgin soil.



## Rulemaking /Potential Additional Exemptions /Stakeholder Meetings (cont.)

- The Department will be holding several stakeholder meetings in the coming months to ensure wide and representative input from all affected parties in the rulemaking process. These will likely be organized around specific topics within the Dirty Dirt Law, including topics addressed in the Department's FAQ documents, found here:

[https://www.nj.gov/dep/dshw/a901/soil\\_fill\\_dirty\\_dirt\\_faq.pdf?2021](https://www.nj.gov/dep/dshw/a901/soil_fill_dirty_dirt_faq.pdf?2021) .

- Should you be interested in participating in the stakeholder process, or know of anyone who would like to participate, please email [soilandfill@dep.nj.gov](mailto:soilandfill@dep.nj.gov) with your name, including company/affiliation, with a request to be included in the stakeholder process, and the Department will send you a response with more information.



## **WHO SHOULD I CONTACT WITH QUESTIONS?**

**NJDEP - Division of Solid and Hazardous Waste** (609) 984-4250 A-901 Unit  
[soilandfill@dep.nj.gov](mailto:soilandfill@dep.nj.gov)

**NJDEP - Division of Waste Enforcement, Pesticides and Release Prevention**  
Transportation Oversight Unit (609) 943-3019

**Office of the Attorney General - Division of Law** A-901 Unit (609) 376-3270

## **WHERE CAN I GET MORE INFORMATION?**













The following websites can be accessed for additional information:

<https://www.nj.gov/dep/dshw/a901/a901frms.htm> (A-901 Registration forms and info)

<https://www.nj.gov/dep/enforcement/advisories-sw.htm> (Compliance Advisories)



State of New Jersey  
Division of Law Environmental Enforcement  
A-901 Unit - Phone (609) 376-3270  
**Electronic copies of Registration Forms**

Acrobat Reader is required to view and print these files: <b>You may download a freeware version of Adobe Acrobat here:.</b>			
You may order NJ Division of Law Environmental Enforcement Finger print cards online here: <b>IMPORTANT MESSAGE: Finger print cards should only be requested for individuals who work or reside outside the state of New Jersey. <u>Those who work or reside in the state of New Jersey do not need to request finger print cards.</u></b>			
<b>A901 DEBARMENT LIST</b>			
<b>Form Name</b>	<b>MS Word</b>	<b>PDF</b>	
Notice of Surrender	N/A		
<b>SOIL AND FILL RECYCLING INFORMATION</b>			
NEW DEADLINES ESTABLISHED FOR PL 2019 C 397 (DIRTY DIRT LAW)	N/A		
PL 2019 C 397 (DIRTY DIRT LAW)	N/A		
SOIL AND FILL RECYCLING - GUIDANCE DOCUMENT	N/A		
SOIL AND FILL RECYCLING - FREQUENTLY ASKED QUESTIONS (FAQ) - October 7, 2021	N/A		
<b>A-901 INFORMATION AND FORMS</b>			
INSTRUCTIONS AND EXPLANATION (READ FIRST) - IMPORTANT INFORMATION REGARDING THE A-901 APPLICATION	N/A		
FINGERPRINT INSTRUCTIONS	N/A		
BUSINESS CONCERN DISCLOSURE STATEMENT	N/A		
PERSONAL HISTORY DISCLOSURE STATEMENT	N/A		



## New Law – Requires Registration and Licensing for Soil and Fill Recycling Services

### Who is affected by this new Law?

On January 21, 2020, Governor Phil Murphy signed S-1683/A-4267 which expands New Jersey Department of Environmental Protection's ("NJDEP") oversight of business concerns that engage in, or provide, soil and fill recycling services. A business concern includes any corporation, association, firm, partnership, sole proprietorship, trust, limited liability company, or other commercial organization providing services for the collection, transportation, processing, brokering, storage, purchase, sale, or disposition of soil and fill recyclable materials.

"Soil and fill recyclable materials" are non-putrescible aggregate substitute, including, but not limited to, broken or crushed brick, block, concrete, or other similar manufactured materials; soil or soil that may contain aggregate substitute or other debris or material, generated from land clearing, excavation, demolition, or redevelopment activities that would otherwise be managed as solid waste, and that may be returned to the economic mainstream in the form of raw materials for further processing or for use as fill material.

The following items are not considered "Soil and fill recyclable materials" under this new law:

- (1) Source separated Class A source separated recyclable material
- (2) Source separated Class B recyclable material shipped to a NJDEP approved Class B recycling center for receipt, storage, processing, or transfer
- (3) Beneficial use material for which the generator has obtained prior approval from the DEP to transport to an approved and designated destination
- (4) Virgin quarry products including, but not limited to, rock, stone, gravel, sand, clay, and other mined products.

### What should I do?

Any business concern that does not hold a valid, permanent A-901 license and is currently engaged in soil and fill recycling services must first register with the DEP on or before **April 20, 2020**, and thereafter submit a full disclosure application for a Soil and Fill Recycling License (commonly referred to as an A-901 License) on or before October 19, 2020.

To register with the DEP you must complete and submit a Soil and Fill Recycling Registration Form, found at <https://www.nj.gov/dep/dshw/a901/a901forms.htm>. There is no cost to register. This website also contains guidance and frequently asked questions (FAQs) documents for more information.



## Compliance Advisory

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 Compliance & Enforcement    #2021-11    Issued: 09/10/2021

## Dirty Dirt Law (Law) – Updated Schedules for Compliance Registration and Licensing Requirements for Business Concerns Engaged in Soil and Fill Recycling Services N.J.S.A. 13:1E-127.1 et seq.

### WHO IS AFFECTED BY THIS NEW LAW?

On January 21, 2020, Governor Phil Murphy signed S-1683/A-4267 which expands the New Jersey Department of Environmental Protection's ("NJDEP") oversight of business concerns that engage in or provide soil and fill recycling services that do not already possess a valid A-901 License. As defined in the Law, "business concern" includes any corporation, association, firm, partnership, sole proprietorship, trust, limited liability company, or other commercial organization providing services for the collection, transportation, processing, brokering, storage, purchase, sale, or disposition of soil and fill recyclable materials as defined in the Law<sup>1</sup>.

"Soil and fill recyclable materials" are non-putrescible aggregate substitute, including, but not limited to, broken or crushed brick, block, concrete, or other similar manufactured materials; soil or soil that may contain aggregate substitute or other debris or material, generated from land clearing, excavation, demolition, or redevelopment activities that would otherwise be managed as solid waste, and that may be returned to the economic mainstream in the form of raw materials for further processing or for use as fill material.

The following are not considered "Soil and fill recyclable materials" under the Law:

- (1) Source separated Class A recyclable material;
- (2) Source separated Class B recyclable material shipped to a NJDEP-approved Class B recycling center for receipt, storage, processing, or transfer;
- (3) Beneficial Use material for which the generator has obtained prior approval from the NJDEP pursuant to N.J.A.C. 7:26-1.7(g) to transport to an approved and designated destination;
- (4) Virgin quarry products including, but not limited to, rock, stone, gravel, sand, clay, and other mined products.

### UPDATED DEADLINES

On June 4, 2021, Governor Murphy signed Executive Order 244 (EO 244)<sup>2</sup> ending the Public Health Emergency that was declared on March 9, 2020, which tolled all original deadlines in relation to P.L. 2019 c.397 (Dirty Dirt Law). Pursuant to this Order, the new deadlines for the

<sup>1</sup> See N.J.S.A. 13:1E-126 et. seq at [https://www.nj.gov/dep/dshw/a901/pl\\_2019\\_c\\_397.pdf](https://www.nj.gov/dep/dshw/a901/pl_2019_c_397.pdf)

<sup>2</sup> EO 244: <https://nj.gov/infobank/eo/056murphy/pdf/EO-244.pdf>



# Questions?



## Dr. Gary Buchanan

- ▶ Division of Science & Research
- ▶ Update on Current and Recently Completed Research Projects

# Division of Science and Research

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## 2021 Update on Current and Recent Research

Gary A. Buchanan, Ph.D.

Director

Division of Science and Research

NJDEP

November 19, 2021

DEP/A&WMA Conference



# DSR Goals:

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- × Provide the department with, and access to, **expertise and information** that supports its technical, program and policy needs.
- × Act as liaisons to the **Science Advisory Board** and Standing Committees that will help provide the DEP with outside expertise on scientific issues.
- × Perform **research** to meet the information and problem-solving needs of the department, and to identify and understand **emerging issues** that require the department's attention and response.
- × Advocate and integrate the **multi-disciplinary perspective** into the department's identification, analysis and resolution of environmental issues.

# Staff Expertise

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- **Climate Change**
- **Toxicologists/Risk Assessment**
- **Biologists/Ecologists – wetlands, fisheries**
- **Air Quality/Modeling Specialist**
- **Water Quality Specialists**
- **GIS**
- **Chemist**
- **Statistician**
- **Microbiologist**
- **Environmental Scientists**

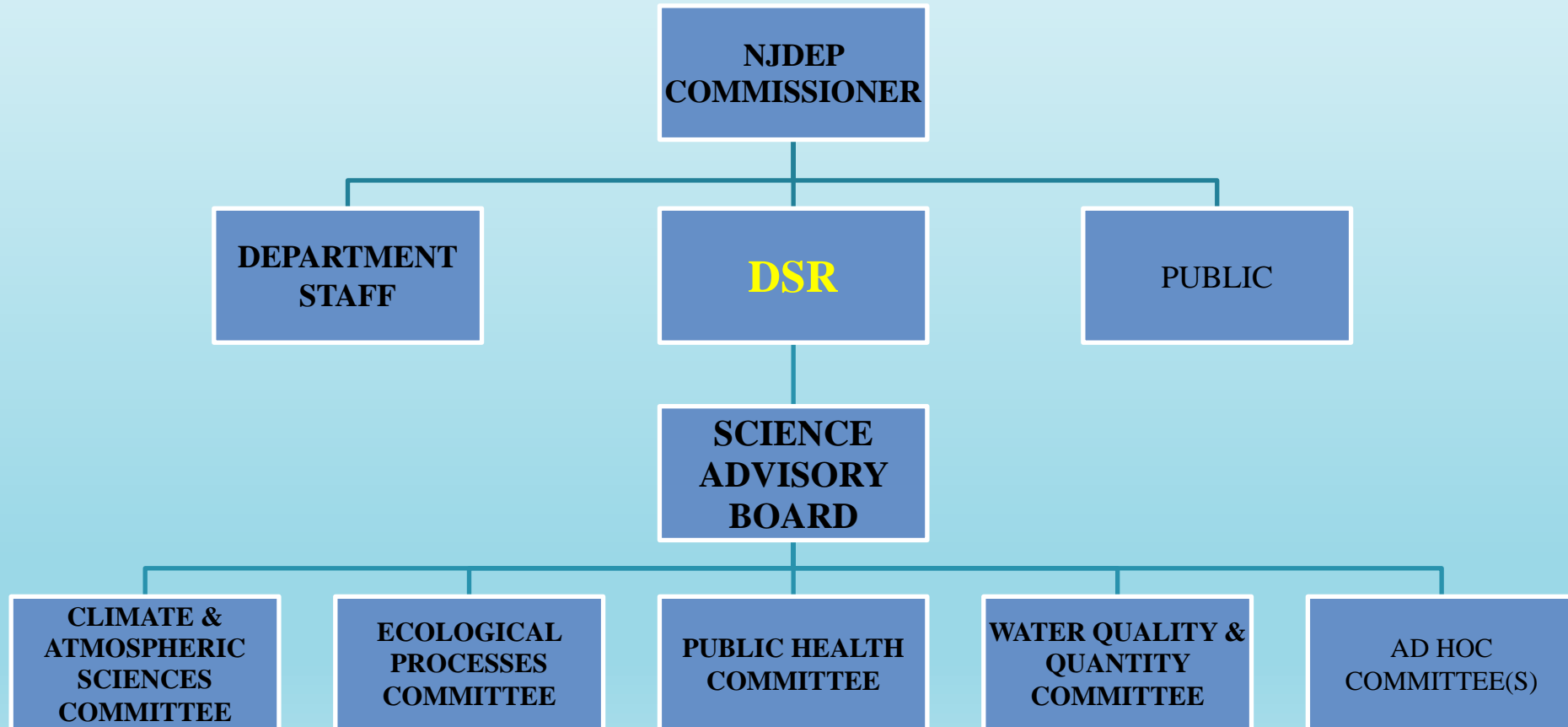
# Science Based Support

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- Air Monitoring/Modeling
- Fish Monitoring & Consumption Advisories
- Human Health Risk Assessment
- Standards Development
- Data Analysis & Interpretation
- Analytical Chemistry
- Field Investigations and Sample Collection
- Literature Reviews

# Science Advisory Board

<http://www.state.nj.us/dep/sab/>



# SCIENCE ADVISORY BOARD

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## Completed Reports in 2021:

- ❖ Vernal Pool: Review of Mitigation Approaches
- ❖ Submerged Aquatic Vegetation and Habitat: Survey and Mapping Methodologies Review
- ❖ Horizontal Directional Drilling
- ❖ Peer review: “Changes in Hourly and Daily Extreme Rainfall Amounts in NJ since the Publication of NOAA Atlas 14 Volume” and “Projected Changes in Extreme Rainfall in New Jersey based on an Ensemble of Downscaled Climate Model Projections”

# SCIENCE ADVISORY BOARD – ONGOING WORK

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- Microplastics Impacts on NJ Ecosystems
- Human Health Impacts of Estrogens and Pharmaceutical in NJ Waters
- Evaluating Biofuels and Recommendations for NJ
- Carbon Storage Capacity of Forest Soils

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# **DSR - Completed Research Highlights**

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# NUTRIENT AND CARBON FLUXES TO BARNEGAT BAY FROM MARGINAL SALINE WETLANDS (USGS AND ANS-DU)

## Goals and Objectives

- Measure nutrient and carbon exchange between the tidal stream (Westecunk Creek) flowing through marginal saline wetlands of Barnegat Bay to support WQ model.
- Nitrate was significantly reduced across the marsh complex during the growing season, indicating marshes act as a sink for nitrate.
  - Other nutrients such as organic nitrogen and phosphorus are important components of the total dissolved nutrient burden.
- Marshes are important “bio-reactors” that sequester and release nutrients seasonally.
  - Additional processes (e.g., microbial transformation or algal uptake) drive these processes and are not well understood in the marsh complex.



# WETLANDS

New Reports and tools can be found on DSR's Wetlands Webpage:

<https://www.nj.gov/dep/dsr/wetlands/>

## **The Beneficial Use of Dredged Material to Enhance Salt Marshes**

Documents project development, implementation, and lessons learned to inform future projects that used dredged material to enhance salt marshes.

## **The New Jersey Reference Wetland Tool by Riparia at Penn State and NJDEP**

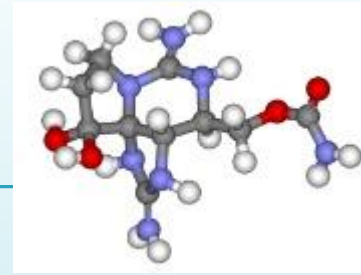
Data from extensive wetland monitoring and assessment conducted within New Jersey are summarized in a public facing tool intended to help set appropriate goals for restoration projects.

## **Developing a Watershed-Scale Baseline for Tidal Wetlands**

This study in the Wading River Estuary addresses two key factors: the specific structural and functional traits of coastal wetlands that make them conducive to supporting the secondary production of nekton and how individual components of the marsh are inter-connected to form a functional whole.



# SAXITOXIN GUIDANCE VALUES



- ✖ Saxitoxin is produced by cyanobacteria (blue green algae) in freshwater and by dinoflagellates (phytoplankton) in marine environments.
- ✖ During cyanoHAB events (i.e., harmful algal blooms), humans can be exposed to saxitoxin and its analogues through **recreational activities** (incidental ingestion of water during swimming).
- ✖ Neurotoxicity is the major health effect in humans and laboratory animals, particularly following acute (one-time) oral exposure.
- ✖ Division of Science and Research (DSR) derived a short-term Reference Dose of 0.0037 µg/kg/day based on paralytic shellfish poisoning (neurotoxicity from ingestion of saxitoxin-contaminated shellfish) in humans.
  - + This derivation underwent external peer-review by experts in human health risk assessment and/or cyanotoxins.
- ✖ Based on this short-term Reference Dose and appropriate exposure factors, DSR derived:
  - + A **recreational value of 0.6 µg/L** with the intent “to be protective for exposure on multiple days of swimming during the swimming season, for the more sensitive sub-population of children.”

# DRINKING WATER QUALITY INSTITUTE (DWQI) MCL RECOMMENDATION FOR 1,4-DIOXANE

- The DWQI was asked to recommend an MCL for 1,4-dioxane in December 2018.
- 1,4-Dioxane causes tumors in multiple organs in laboratory animals, and it is classified as a likely human carcinogen by USEPA.
- The **Health-based MCL of 0.33 µg/L** is based on the USEPA Integrated Risk Information System (IRIS) cancer slope factor of  $0.10 \text{ (mg/kg/day)}^{-1}$  for liver tumors in female mice and a one in one million cancer risk level.
- The NJDEP **Ground Water Quality Standard of 0.4 ug/L** (rounded to 1 significant figure) is also based on the USEPA slope factor of  $0.10 \text{ (mg/kg/day)}^{-1}$ .
- The DWQI determined that achievement of the Health-based MCL is not limited by analytical or treatment removal considerations.
- After considering and responding to comments on draft documents that were received during a public comment period, the DWQI voted unanimously to recommend an MCL of 0.33 ug/L in August 2021.

# PEER-REVIEWED PUBLICATIONS (2021)

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Douglas, W. S., **M. M. Yepsen**, S. Flanigan. (2021) Beneficial Use of Dredged Material for Marsh, Dune and Beach Enhancement in a Coastal New Jersey Wildlife Refuge. *WEDA Journal of Dredging*. V19:3.

Weis, J. S., E. B. Watson, B. Ravit, C. Harman, **M. M. Yepsen**. (2021) The Status and Future of Tidal Marshes in New Jersey Faced with Sea Level Rise. *Anthropocene Coasts*. 4: 168–192.

## Submitted or In Press

A. Seliga, S.E. Spayd, **N.A. Procopio** , S.V. Flanagan, J.A. Gleason. Evaluating the Impact of Free Private Well Testing Outreach on Participants' Private Well Stewardship in New Jersey. *Journal of Water and Health* – Submitted February 9, 2021: In Production

Rovero, M., Cutt, D., Griffiths, R., Filipowicz, U., Mishkin, K., White, B., **Goodrow, S.** and Wilkin, R.T. (2021), Limitations of Current Approaches for Predicting Groundwater Vulnerability from PFAS Contamination in the Vadose Zone. Groundwater Monit R. Accepted Author Manuscript.

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# **DSR - Active Research**

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# ENVIRONMENTAL TRENDS

- ✓ 39 chapters on the status of key environmental parameters
- ✓ Updated as new data become available
- ✓ Provides a summary of a major environmental issue
- ✓ Each chapter includes references, DEP contacts, and sources of additional information
- ✓ 11 reports updated and posted since last November.

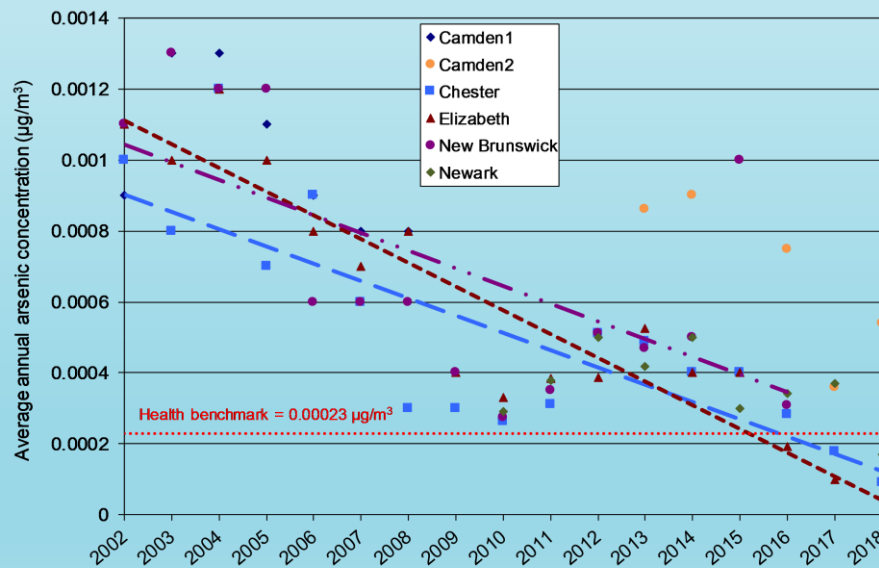


Figure 1: Average annual concentrations of arsenic in particulate matter at five air monitoring stations between 2002–2018 with health benchmark shown in red. Significant trend lines (Kendall Tau P-value  $\leq 0.05$ ) are shown.

Governor Chris Christie • Lt. Governor Kim Guadagno  
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STATE OF NEW JERSEY  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION

Division of Science, Research and

<https://www.nj.gov/dep/dsr/trends>

[Return to Division of Science, Research and Environmental Health Home](#)

**ENVIRONMENTAL TRENDS**

The New Jersey Department of Environmental Protection (DEP) is charged with protecting the natural environment and those aspects of human health directly related to environmental factors. Historically this has meant controlling discharges to air, water and land, and working to both minimize and remedy the pollution of these media. Regulation of releases to the environment from point sources like waste discharge pipes and smokestacks, and the management of wastes themselves, have been particular focus areas. It has become increasingly clear that protection of the environment and human health requires a more comprehensive approach. Today, the DEP strives to protect and manage uses of land and other resources to ensure that not only future generations of people can thrive so can wild plants, animals and their critical habitats. The DEP continues its efforts to preserve environmental resources including air, water, land, and healthy ecosystems.

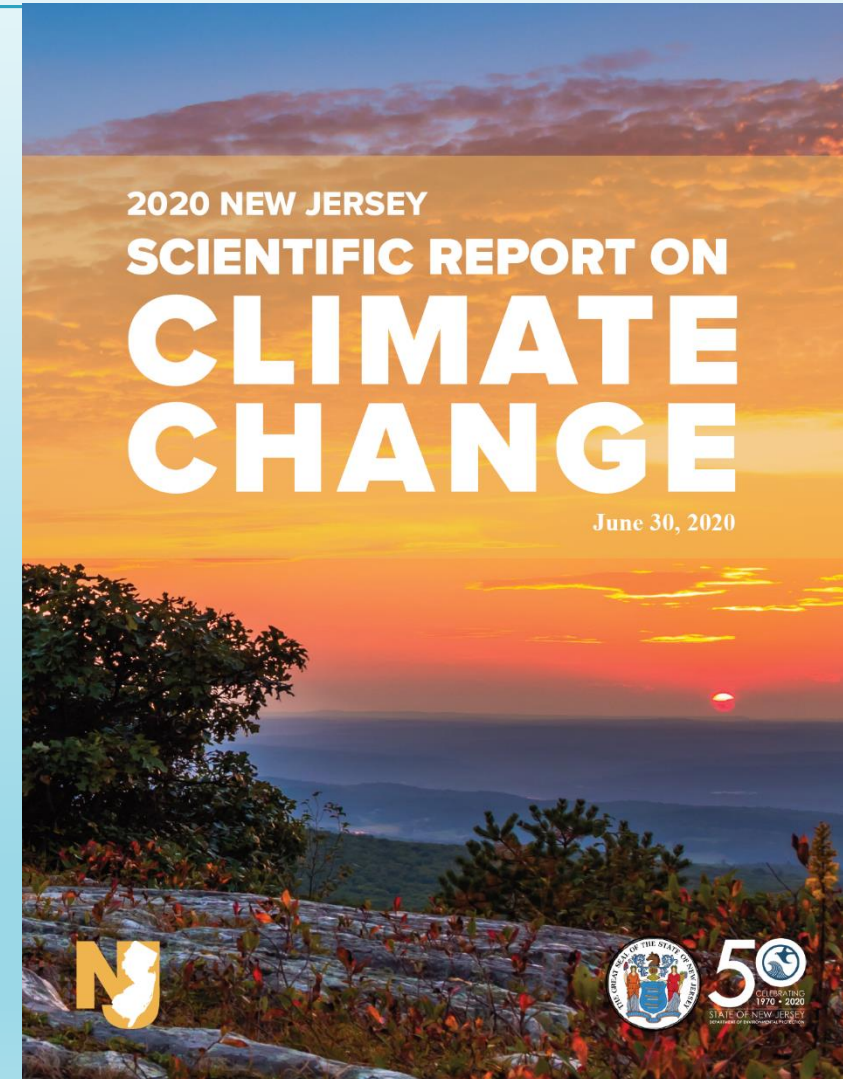
Periodic assessments of environmental conditions can provide insight into the effectiveness of the DEP's current efforts and offer guidance for future efforts. In monitoring and reporting on environmental conditions, it is useful to focus on measures, or indicators, of environmental health.

Report Chapters (all in PDF)	Updated
<b>Air</b>	
▶ <a href="#">Air Toxics</a>	April 2013
▶ <a href="#">Atmospheric Deposition: Acidity and Nutrients</a>	November 2015
▶ <a href="#">Greenhouse Gas Emissions</a>	October 2017
▶ <a href="#">Mercury Emissions</a>	August 2017
▶ <a href="#">NOx and VOCs</a>	March 2018
▶ <a href="#">Ozone</a>	March 2018
▶ <a href="#">PM2.5</a>	March 2018
▶ <a href="#">Vehicle Miles Traveled</a>	March 2018
<b>Climate/Energy</b>	
▶ <a href="#">Climate Change in NJ: Trends in Temperature &amp; Sea Level</a>	August 2017

# SCIENTIFIC REPORT ON CLIMATE CHANGE

[www.nj.gov/dep/climatechange](http://www.nj.gov/dep/climatechange)

- Greenhouse Gases & Climate Pollutants
  - Temperature
  - Precipitation
  - Sea-Level Rise
  - Ocean Acidification
  - Resources and Ecosystem Impacts
  - Research and Data Gaps
- An addendum to the report entitled "Climate Change Impacts on Human Health & Communities" is currently under review.
  - Version 2 of the report is under development and will be released in 2022.



# WATER QUALITY TRENDS IN NUTRIENTS IN NEW JERSEY STREAMS, WATER YEARS 1971-2016

**28 stations located throughout the state**

- Five new years of data are available (2016-2021)
- Report will be updated once data are reviewed

**Nitrate plus nitrite as nitrogen**



**Total nitrogen**



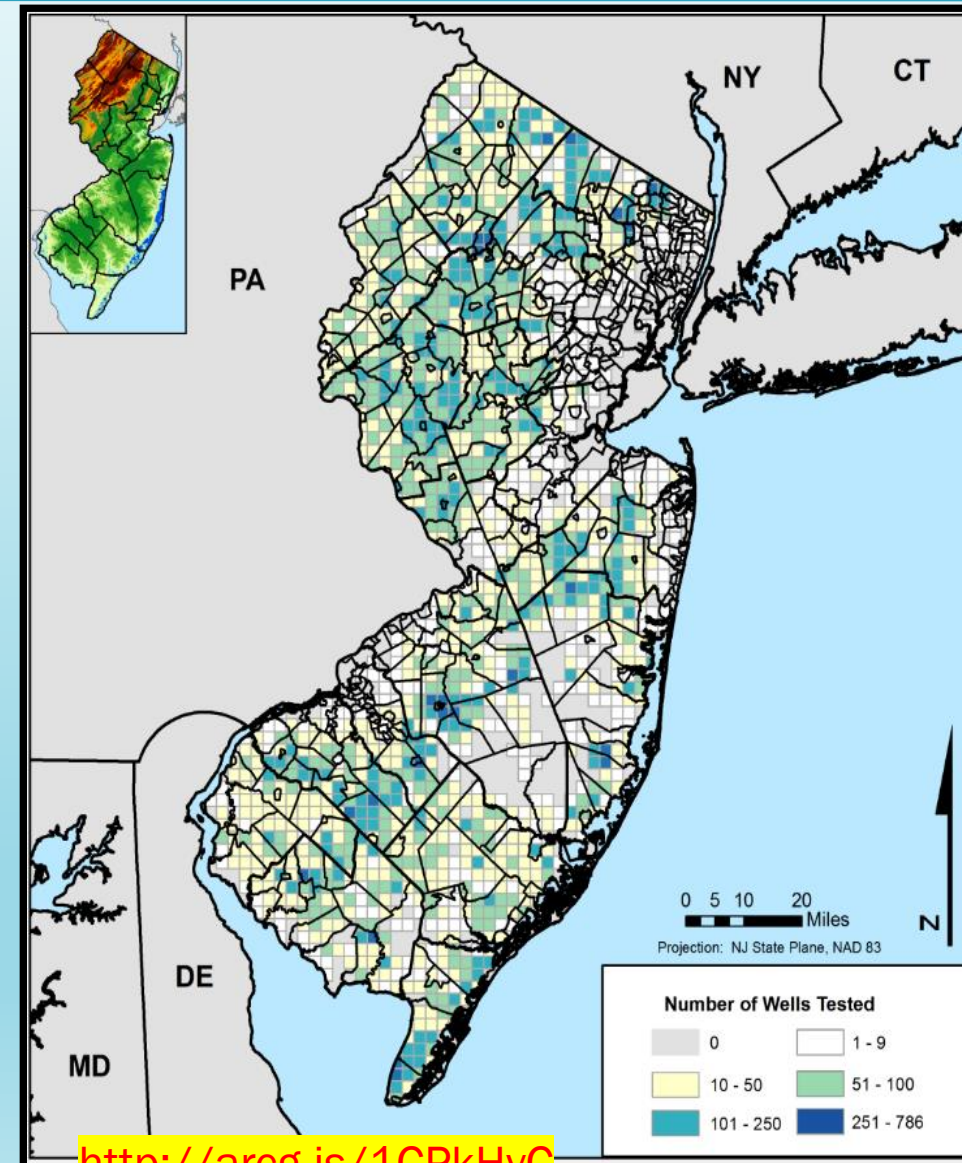
**Total phosphorus**



# NEW JERSEY PRIVATE WELL TESTING

**Will be adding PFOA, PFOS, and PFNA on December 1, 2021**

- ✓ Approximately 400,000 private wells (13 % of residents) in NJ.
- ✓ Wells are required to be tested for bacteria, nitrates, 29 volatile organic compounds, lead, pH, arsenic, gross alpha (radionuclides), iron, and manganese. Mercury and uranium are only required in certain counties.
- ✓ Analysis of data show the variability in the concentration of each parameter to state standards.
- ✓ Data from the PWTA can be used to identify vulnerable communities and direct outreach efforts.
- ✓ Data is also used by SDW, SRP, and NJGS.



# MONITORING AND TARGETED RESEARCH OF SELECTED CHEMICAL CONTAMINANTS IN NEW JERSEY FISH

<http://FishSmartEatSmartNJ.org/>

## ✓ Task 1 - Routine Monitoring of Toxics in Fish

- + Includes the monitoring of fish tissue statewide, evaluating multiple target contaminants, fish species and water bodies;
- + Informs the appropriateness of current fish consumption advisories and need for modifications;
- + Examine new species, contaminants, and waterbodies; and
- + Support education and outreach efforts in protecting the public.



# MONITORING AND TARGETED RESEARCH OF SELECTED CHEMICAL CONTAMINANTS IN NEW JERSEY FISH

- ✓ **Task 2 - Investigate Levels of Perfluoroalkyl Substances (PFAS) in NJ Fish Species, sediment and water**
  - + As an emerging compound, PFAS, particularly PFOS, have been found to accumulate in fish tissue if a source is present.
  - + Contamination has been identified in public and private drinking water wells, and potential sources have been identified, NJ fish and consumers may be impacted.
  - + Concentrations in fish tissue will be quantified and evaluated along with health criteria.



# Harmful Algal Blooms

Harmful cyanobacteria blooms are increasing in both frequency and duration on inland waters. Some blooms are producing toxins not typically monitored while other blooms with similar species composition produce common toxins. Factors determining which toxins are produced remain unknown.

## Research Objective:

- + Increase understanding of drivers behind both non-toxic and toxigenic blooms.
- + Build out a rapid and accurate field assessment kit to determine bloom composition and toxin capacity.
- + Build a risk assessment model for NJ waterbodies to help assess their ability to support either a toxigenic bloom or non-toxic bloom.



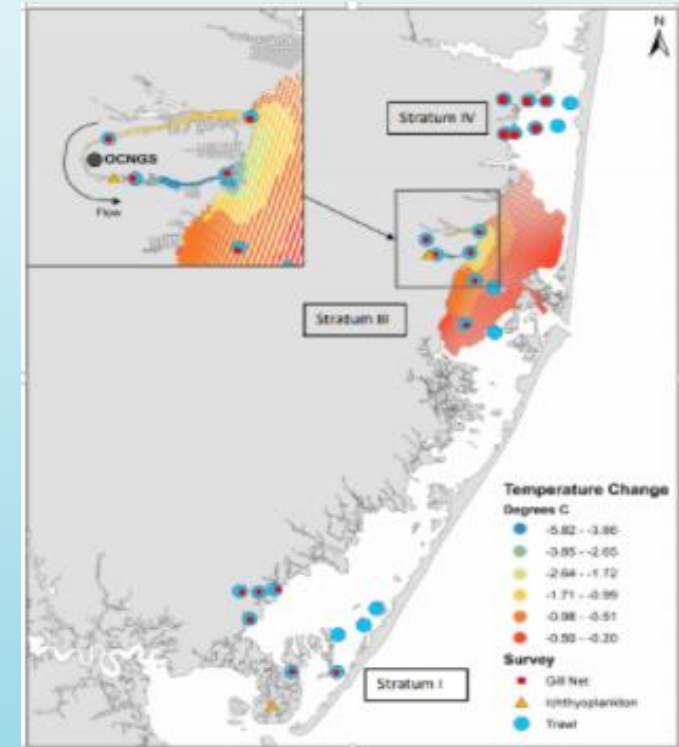
# SONIC TREATMENT FOR HARMFUL ALGAL BLOOMS



- ✕ Picture of sonic buoy which were deployed in the City of Newark reservoirs (Echo Lake, Canistear, and Charlotteburg). The research project is investigating the effectiveness of sonic treatment that disrupts the buoyancy of hazardous algae and photosynthesis.

# ECOSYSTEM MONITORING OF PRE- AND POST-CLOSURE OF OYSTER CREEK NUCLEAR GENERATING STATION (YEAR 3)

- ✖ Assessment of the impacts of the OCNGS on gelatinous zooplankton and planktonic community structure (Montclair State Univ.)
- ✖ Assessment of the effect of cooling water effluent on fish, crab, and benthic invertebrates (Rutgers and Rider Univ.)
- ✖ Study of zooplankton for monitoring and assessment of the closure Oyster Creek Nuclear Plant (Monmouth Univ.)
- ✖ Characterization of phytoplankton community changes in Barnegat Bay related to the closure of Oyster Creek Nuclear Generating Station, combining next generation sequencing and microscopy analyses (George Mason Univ.)



# CLINGING JELLYFISH – INVASIVE SPECIES

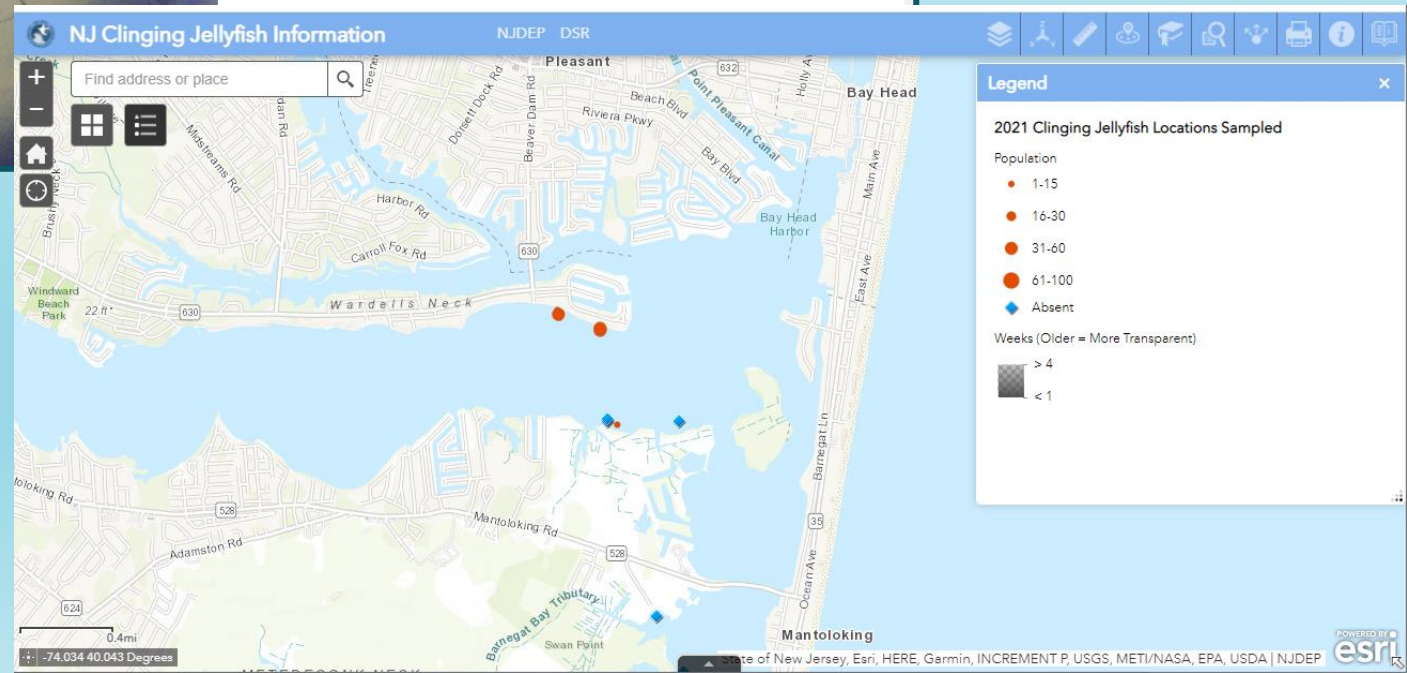
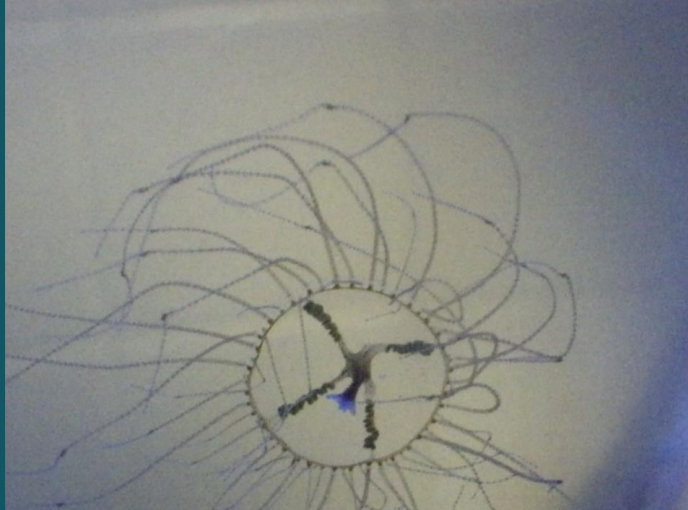
New Jersey Jellyfish Information

Background Bay Nettles Clinging Jellyfish Portuguese Man-of-War Seabather's Eruption Salps Contact Information & Additional Resources

**New Jersey Jellyfish Information**

New Jersey Department of Environmental Protection,  
Division of Science and Research

February 25, 2020



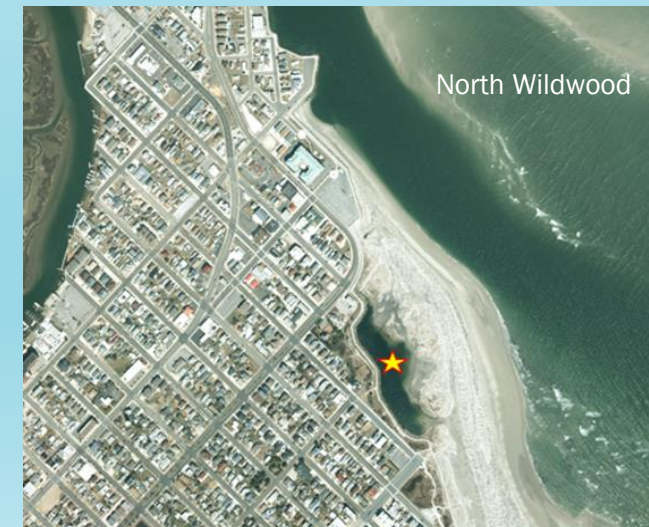
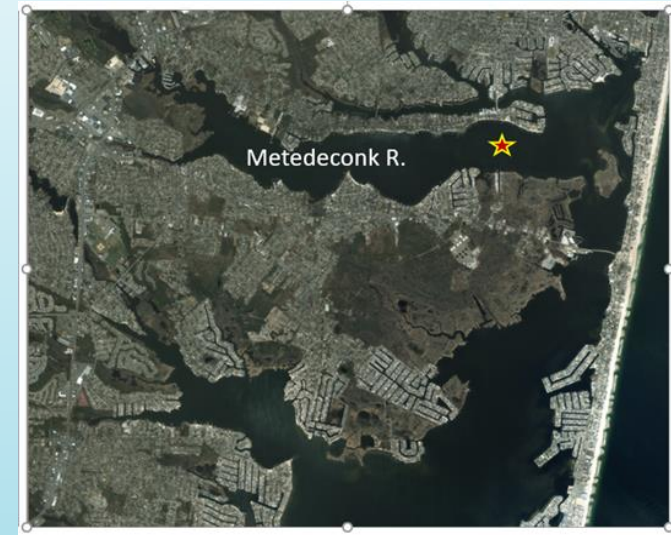
# CLINGING JELLYFISH - ONGOING MONITORING

## Objectives:

Characterization of presence, habitat preferences and full seasonal life cycle.

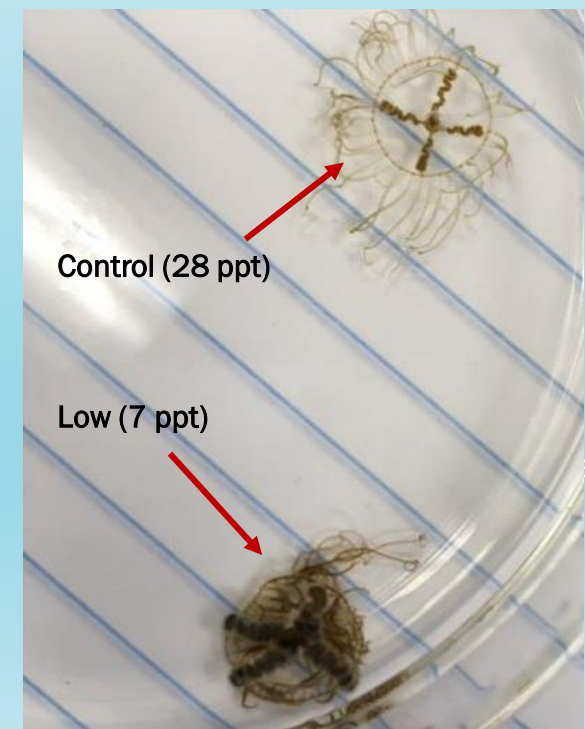
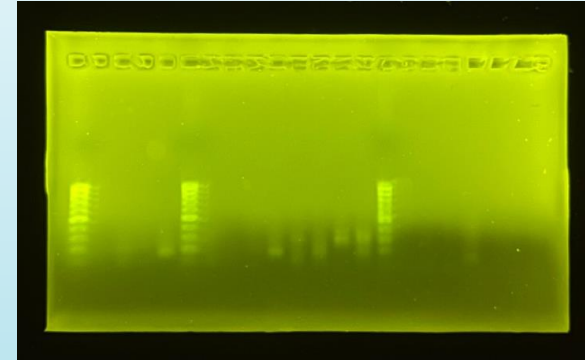
## Focused Sampling:

- ✖ Metedeconk River
- ✖ North Wildwood
- ✖ Barnegat Bay off IBSP
- ✖ Shrewsbury River



# CLINGING JELLYFISH RESEARCH OBJECTIVES 2021-2022

- ✖ Development and optimization of a **Molecular monitoring protocol** for detecting CJ's and other non-native, marine/aquatic invasives in New Jersey
- ✖ **Collaboration w/Rutgers U.** - Build **bioinformatics library** of associated cnidarian and ctenophore spp.
- ✖ **Salinity Tolerance:** Compare different populations (physiological & behavioral response) to salinity extremes



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# **EPA Wetland Development Grant-funded Research**

# Development of a Coastal Ecological Restoration and Adaptation Plan Informed by Current Tidal Wetland Trends



- ✓ Investigation of current elevation and sea-level rise trends of tidal wetlands by analyzing long-term monitoring data collected by the New Jersey Tidal Wetland Monitoring Network (NJTWMN)
- ✓ Research Objectives:
  - + To estimate elevation and sea-level rise rates in tidal wetlands throughout the State
  - + To design a website for the NJTWMN that includes web-based applications displaying current wetland trends
  - + To establish and/or continue Site Specific Intensive Monitoring (SSIM) in the Raritan and Tuckahoe Rivers

# Improving Marsh Restoration

- ✓ Continued monitoring of three pilot projects that used dredged material to enhance salt marshes and dissemination of lessons learned.
- ✓ 2021 Research Objectives:
  - ✓ Summarize and interpret monitoring data collected between 2014 and 2021



# ON THE HORIZON...

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- × Off-shore Wind Power Development
  - + Research and Monitoring Initiative (RMI) for natural resources and ecological systems
- × PFAS: determine BAFs; presence in various media; treatment
- × Invasive Species Management Strategy
- × Natural and Working Lands Strategy
- × Networked Plan for Wetlands

# Division of Science and Research

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Acknowledgements: DSR Scientists, DEP Programs,  
Principal Investigators and their Universities

Director: [Gary.Buchanan@dep.nj.gov](mailto:Gary.Buchanan@dep.nj.gov)

Bureau Chief: [Nick.Procopio@dep.nj.gov](mailto:Nick.Procopio@dep.nj.gov)

Information and Publications:  
[www.nj.gov/dep/dsr/](http://www.nj.gov/dep/dsr/)

Check for new reports!

The background features abstract, overlapping green geometric shapes in various shades of green, primarily concentrated on the right side of the slide. The word "Questions?" is centered in a green, sans-serif font.

# Questions?

# Lunch Break

# Reminders

- ▶ We will start promptly at 1 p.m. following the lunch break.
- ▶ Please continue to stay on mute while taking the lunch break.
- ▶ Please download handouts, including conference agenda, speaker bios, and survey.
- ▶ Please complete the survey form and e-mail your responses to [sgupta@haleyaldrich.com](mailto:sgupta@haleyaldrich.com). You can also just send an e-mail with the following input:
  - ▶ Feedback on the conference
  - ▶ Topic(s) of interest for future programs
  - ▶ Please indicate your preference for future NJDEP Regulatory Conference: in-person or virtual.
  - ▶ Thank you for your input and feedback!

# Afternoon Session

Chris Whitehead

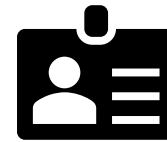
A&WMA - NCNJ

Dr. Ron Poustchi,

New Jersey Department of Environmental Protection

# Reminders

- ▶ Use question feature to type in your question
- ▶ Add your name and affiliation to the questions
- ▶ Moderators will try to get as many question as we can within the allotted session



# Conference Agenda (available as handout)

9:00 – 9:10 am	<i>Morning Session Moderators: Mike Schaffer and Joann Held – Welcoming Remarks</i>
9:10 – 9:45 am	Commissioner Shawn LaTourette – Opening Remarks, “State of the Department”
9:45 – 10:20 am	Assistant Commissioner Mark Pedersen – Update on Site Remediation and Waste Management Program
10:20 – 10:55 am	Assistant Commissioner Paul Baldauf – Update on Air Quality, Energy, Sustainability Program
<b>10:55 – 11:05 am</b>	<b>Morning Break</b>
11:05 – 11:40 am	Deputy Commissioner Sean Moriarty, Director Richelle Wormley and Director Mike Hastry – Compliance and Enforcement Updates and Initiatives
11:40 – 12:15 pm	Dr. Gary Buchanan, Director, Division of Science & Research - Update on Current and Recently Completed Research Projects
<b>12:15 – 1:00 pm</b>	<b>Lunch Break</b>
1:00 – 1:05 pm	<i>Afternoon Session Moderators: Chris Whitehead and Dr. Ron Poustchi</i>
1:05 pm – 1:40 pm	Deputy Commissioner Sean Moriarty, Environmental Justice and Equity Program Updates and Initiatives
1:40 – 2:15 pm	Dr. Nick Procopio, Bureau Chief, Division of Science & Research – Climate Change Updates
<b>2:15 – 2:25 pm</b>	<b>Afternoon Break</b>
2:25 – 3:00 pm	Bureau Chief Kim Cenno – Water Monitoring and Standards Updates and Initiatives
3:00 – 3:55 pm	Air Program Panel Presentations <ul style="list-style-type: none"><li>• Observed Air Quality During Pandemic and Potential Benefits – Director Frank Steitz</li><li>• Whole of Government Approach to Electric Vehicles – Assistant Director Peg Hanna</li><li>• Enhanced Community Outreach<ul style="list-style-type: none"><li>○ Updates to What’s in My Community App – Brad Bollen</li><li>○ Social media mobile source campaign – Mara Starr, Colleen Oropeza, Gaby Pintauro</li></ul></li></ul>
3:55 – 4:00 pm	Closing Remarks



## Deputy Commissioner Sean Moriarty

- Environmental Justice and Equity  
Program Updates and Initiatives

# **20th Annual Joint Venture NJDEP/A&WMA Regulatory Update Conference**

## **Environmental Justice and Equity Program Updates and Initiatives**

**Sean Moriarty, Deputy Commissioner**





**Olivia Glenn**  
**Deputy Commissioner**  
**for Environmental**  
**Justice & Equity**

# Furthering the Promise of Environmental Justice

Looking inward: Furthering the Promise: A Guidance Document for Advancing Environmental Justice Across State Government

Looking outward: the nation's most empowering and first-of-its-kind environmental justice law (Sept. 18, 2020)



# Stakeholder Process Recap

- **10/22/20** – Initial EJ Rulemaking Public Information Session
- **01/20/21** – Geographic Points of Comparison / Facility & Permit Definitions
- **03/11/21** – Environmental & Public Health Stressors
- **04/07/21** – Compelling Public Interest / Renewal Conditions
- **05/20/21** – Environmental Justice Impact Statement
- **06/24/21** – Review Meeting

# N.J.S.A. 13:1D-157 - Overview

- Environmental standards are often formulated based on the effect pollution has upon general populations spread over wide geographic areas;
- Existing environmental laws fail to fully consider localized impacts; which
- Creates pockets of high pollution and concentration of pollution-generating facilities in predominantly minority and low-income communities and disproportionate impacts to their public health and environment.

# The Environmental Justice Law (1/2)

The Legislature finds and declares...

- All New Jersey residents, regardless of income, race, ethnicity, color, or national origin, have a right to live, work, and recreate in a clean and healthy environment.
- Historically, New Jersey's low-income communities and communities of color have been subject to a disproportionately high number of environmental and public health stressors, including pollution from numerous industrial, commercial, and governmental facilities located in those communities.
- The legacy of siting sources of pollution in overburdened communities continues to pose a threat to the health, well-being, and economic success of the State's most vulnerable residents and that it is past time for the State to correct this historical injustice.

# The Environmental Justice Law (2/2)

The Legislature finds and declares...

- No community should bear a disproportionate share of the adverse environmental and public health consequences that accompany the State's economic growth.
- The State's overburdened communities must have a meaningful opportunity to participate in any decision to allow facilities which, by the nature of their activity, have the potential to increase environmental and public health stressors.
- It is in the public interest for the State, where appropriate, to limit the future placement and expansion of such facilities in overburdened communities.

# Covered Facilities

- One of eight (8) types of facilities:
  1. Major sources of air pollution;
  2. Resource recovery facilities or incinerators;
  3. Sludge processing facilities, combustors, or incinerators;
  4. Sewage treatment plants with a capacity of more than 50 million gallons per day;
  5. Transfer stations or solid waste facilities, or recycling facilities intending to receive at least 100 tons of recyclable material per day;
  6. Scrap metal facilities;
  7. Landfills; or
  8. Medical waste incinerators, except those attendant to hospital and universities.
- Potential Approach: Define as set forth in underlying environmental regulations (with certain modifications) to meet statutory intent

# Covered Permits

- **Adopt and incorporate regulatory definitions and thresholds**
- **Air Quality, Energy & Sustainability Permits**
  - N.J.S.A. 26:2C-1 (Air Pollution Control Act)
- **Solid Waste Permits**
  - N.J.S.A. 13:1E-1, 13:1E-26 (Solid Waste Management Act)
  - N.J.S.A. 13:1E-99.11 (New Jersey Statewide Mandatory Source Separation and Recycling Act)
- **Water Resources Management Permits**
  - N.J.S.A. 58:1A-1, 58:4A-5 (Water Supply Management Act)
  - N.J.S.A. 58:10A-1, 58:10A-21 (Water Pollution Control Act)
- **Watershed & Land Management Permits**
  - N.J.S.A. 12:5-1 (Waterfront Development)
  - N.J.S.A. 13:1D-29 (Construction Permits)
  - N.J.S.A. 13:9B-1 (Freshwater Wetlands Protection Act)
  - N.J.S.A. 13:19-1 (Coastal Area Facility Review Act)
  - N.J.S.A. 13:20-1 (Highlands Water Protection and Planning Act)
  - N.J.S.A. 58:16A-50 (Flood Hazard Control Act)
  - N.J.S.A. 13:9A-1 (The Wetlands Act of 1970)
- **Other Permits**
  - N.J.S.A. 13:1F-1 (Pesticide Control Act of 1971)
  - N.J.S.A. 13:1E-48.1, 13:1E-99.21a (Comprehensive Regulated Medical Waste Management Act)

Potential Approach: Define as set forth in underlying environmental regulations

# Overburdened Community

**“Overburdened community”** means any census block group, as determined in accordance with the most recent United States Census, in which: (1) at least 35 percent of the households qualify as low-income households; (2) at least 40 percent of the residents identify as minority or as members of a State recognized tribal community; or (3) at least 40 percent of the households have limited English proficiency.

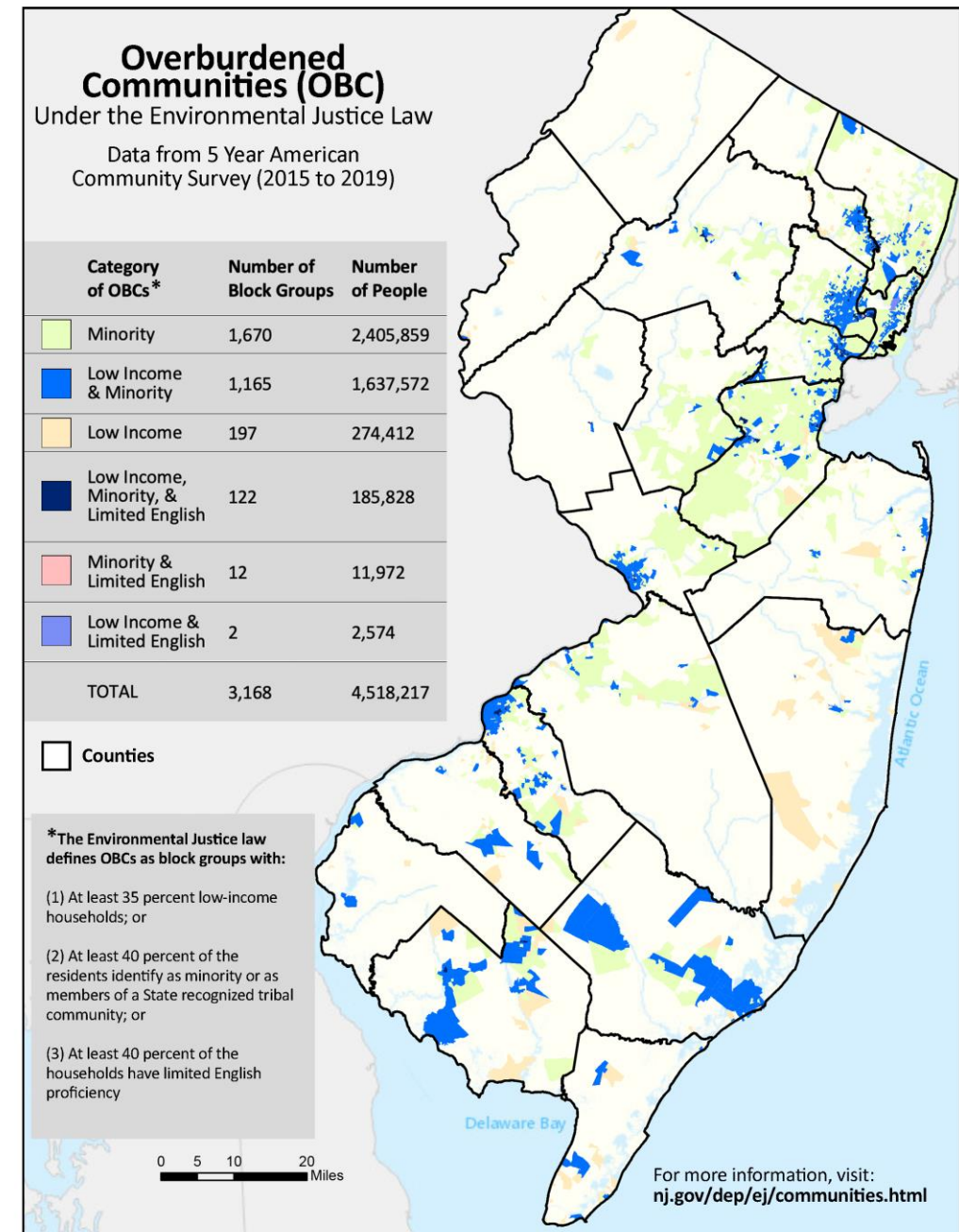
Potential Approach: Define as in statute.

# Definition of Overburdened Community for 2019

5-year American Community Survey Data, 2015-2019

- This is “new” analysis, based on data made available 12/10/2020
- Updated from that used in the in EJ Guidance Document (which was 2018 ACS data for 2014 to 2018)
- Information can be found on the NJDEP Environmental Justice [website](https://www.nj.gov/dep/ej/)
  - Excel Spreadsheet listing Overburdened Communities (OBCs) block groups with town names
  - PDF maps
  - GIS file and simple GIS Tool

Overburdened Community Criteria	# Block Groups	Population
Minority	1,670	2,405,859
Low Income and Minority	1,165	1,637,572
Low Income	197	274,412
Low Income, Minority, and Limited English	122	185,828
Minority and Limited English	12	11,972
Low Income and Limited English	2	2,574
	<b>3,168</b>	<b>4,518,217</b>



# Environmental & Public Health Stressors

- “Environmental or public health stressors” means sources of environmental pollution, including, but not limited to,
  1. concentrated areas of air pollution,
  2. mobile sources of air pollution,
  3. contaminated sites,
  4. transfer stations or other solid waste facilities, recycling facilities, scrap yards, and
  5. point-sources of water pollution including, but not limited to, water pollution from facilities or combined sewer overflows;
- or conditions that may cause potential public health impacts, including, but not limited to
  1. asthma,
  2. cancer,
  3. elevated blood lead levels,
  4. cardiovascular disease, and
  5. developmental problems in the overburdened community.

# Environmental & Public Health Stressors

- After considering data availability, data quality, appropriate geographic scale, quantifiability, and marginal value, we are now considering 31 stressors.



# Concentrated Areas of Air Pollution (potential direction)

	Stressor	Description	Data Source & Scale	EJScreen	CalEnviroScreen
1	Ozone	Days above National Ambient Air Quality Standard (NAAQS)	<ul style="list-style-type: none"> <li>NJ monitoring data</li> <li>Points (monitors)</li> </ul>	✓	✓
2	PM 2.5	Days above National Ambient Air Quality Standard (NAAQS)	<ul style="list-style-type: none"> <li>NJ monitoring data</li> <li>Points (monitors)</li> </ul>	✓	✓
3	Cancer Risk from Diesel	Estimated cancer risk	<ul style="list-style-type: none"> <li>NATA data</li> <li>Census Tract</li> </ul>	✓	✓
4	Cancer Risk Excluding Diesel	Estimated cancer risk	<ul style="list-style-type: none"> <li>NATA data</li> <li>Census Tract</li> </ul>	✓	✓
5	NATA Non-Cancer Risk	Estimated noncancer risk	<ul style="list-style-type: none"> <li>NATA</li> <li>Census Tract</li> </ul>	✓	
6	Permitted Air Sites	Number of sites per square mile	<ul style="list-style-type: none"> <li>NJ Air Permitting data</li> <li>Points (facility locations)</li> </ul>		

# Mobile Sources of Air Pollution (potential direction)

	Stressor	Description	Data Source & Scale	EJScreen	CalEnviroScreen
7	Traffic, Major Roadways	Vehicle density for all vehicles near road	<ul style="list-style-type: none"> <li>• USDOT FHA</li> <li>• Highway Performance Monitoring System (HPMS)</li> </ul>	✓	✓
8	Truck Traffic	Vehicle density for single and combined trucks only near road	<ul style="list-style-type: none"> <li>• USDOT FHA</li> <li>• Highway Performance Monitoring System (HPMS)</li> </ul>		
9	Railways	Rail miles near railroad	<ul style="list-style-type: none"> <li>• ArcGIS Railroad Layer</li> <li>• Line segments</li> </ul>		
10	Warehouses, Goods Movement/ Storage	Number of sites per square mile	<ul style="list-style-type: none"> <li>• NJ Labor and Workforce Development Employer Database</li> <li>• Points (facility locations)</li> </ul>		

# Point Sources of Water Pollution (potential direction)

	Stressor	Description	Data Source & Scale	EJScreen	CalEnviroScreen
11	Surface Water Quality	Non-attainment of designated uses for the Integrated Report	<ul style="list-style-type: none"> <li>Integrated Report</li> <li>Block Group</li> </ul>		✓
12	Combined Sewer Overflows	Number of CSOs in block group	<ul style="list-style-type: none"> <li>NJPDES Permitting Database</li> <li>Points (CSO locations)</li> </ul>		
13	All NJPDES Sites	Number of sites per square mile	<ul style="list-style-type: none"> <li>NJPDES Permitting Database</li> <li>Points (facility locations)</li> </ul>		

# Solid Waste & Scrap Yards (potential direction)

	Stressor	Description	Data Source & Scale	EJScreen	CalEnviroScreen
14	Solid Waste Facilities	Number of transfer stations, solid waste and recycling facilities, and incinerators per square mile weighted by permitted tons per day of material	<ul style="list-style-type: none"> <li>NJDEP Division of Solid and Hazardous Waste Database</li> <li>Points (facility locations)</li> </ul>		✓
15	Scrap Yards	Number of sites per square mile	<ul style="list-style-type: none"> <li>NJ Environmental Management System</li> <li>Points (facility locations)</li> </ul>		✓

# Contaminated Sites (potential direction)

	Stressor	Description	Data Source & Scale	EJScreen	CalEnviroScreen
16	Contaminated Sites	Density of Known Contaminated Sites (KCSL)	<ul style="list-style-type: none"> <li>NJDEP Site Remediation Database</li> <li>Points (facility locations)</li> </ul>	✓	✓
17	Soil Contamination	Percent acres of the block group with Deed Notice restrictions	<ul style="list-style-type: none"> <li>NJDEP Site Remediation Database</li> <li>Polygons</li> </ul>		
18	Groundwater Restricted Areas	Percent acres of block group with Classification Exception Area (CEA) or Currently Known Extent (CKE) notice restrictions	<ul style="list-style-type: none"> <li>NJDEP Site Remediation Database</li> <li>Polygons</li> </ul>		

# May Cause Public Health Issues (Environmental, 1/2) (potential direction)

	Stressor	Description	Data Source & Scale	EJScreen	CalEnviroScreen
19	Total Regulated Facilities under the EJ Law	Density of facilities (e.g., major air sources, solid waste facilities, sludge incinerators)	<ul style="list-style-type: none"> <li>NJ Environmental Management System</li> <li>Points (facility locations)</li> </ul>		
20	Drinking Water Quality	Number of Maximum Concentration Level (MCL), Treatment Technique (TT), and Action Level Exceedance (ALE) violations	<ul style="list-style-type: none"> <li>Public Violations Reports for MCL, TT, and ALE</li> <li>Purveyor Areas</li> </ul>		✓
21	Extraordinarily Hazardous Facilities	Density of facilities	<ul style="list-style-type: none"> <li>FACITS, NJEMS, NJDEP databases</li> <li>Points (facility locations)</li> </ul>	✓	
22	Age of Housing	Percent of pre-1950 housing	<ul style="list-style-type: none"> <li>US Census Data</li> <li>Block Group</li> </ul>	✓	✓

# May Cause Public Health Issues (Environmental, 2/2) (potential direction)

	Stressor	Description	Data Source & Scale	EJScreen	CalEnviroScreen
23	Lack of Recreational Open Space	Population living greater than a ten-minute walk (¼ mile) from Public Recreational Open Space	<ul style="list-style-type: none"> <li>ArcGIS Dataset</li> <li>Polygons of open space</li> </ul>		
24	Lack of Tree Canopy	Spatially weighted mean tree canopy cover	<ul style="list-style-type: none"> <li>USDA Tree Cover Data</li> <li>Raster, 100 ft. grids</li> </ul>		
25	Impervious Cover	Percent impervious surface in a block group	<ul style="list-style-type: none"> <li>ArcGIS Data Layer</li> <li>Polygons</li> </ul>		
26	Flooding	Percent of land in the 500-year flood zone	<ul style="list-style-type: none"> <li>FEMA Maps/NJDEP Flood Hazard Standards</li> <li>Polygons</li> </ul>		

# May Cause Public Health Issues (Social) (potential direction)

	Stressor	Description	Data Source & Scale	EJScreen	CalEnviroScreen
27	Poverty	Percent of population with households falling below 2x the Federal Poverty Level	<ul style="list-style-type: none"> <li>US Census Data</li> <li>Block Group</li> </ul>	✓	✓
28	Unemployment	Percent of an adult population that is unemployed	<ul style="list-style-type: none"> <li>US Census Data</li> <li>Block Group</li> </ul>		✓
29	Education	Percent of an older population that has less than a high school diploma	<ul style="list-style-type: none"> <li>US Census Data</li> <li>Block Group</li> </ul>	✓	✓
30	Minority	Percent of population classified as a minority (total population – non-Hispanic, white only)	<ul style="list-style-type: none"> <li>US Census Data</li> <li>Block Group</li> </ul>	✓	
31	Limited English Proficiency	Percent of population that has limited English proficiency	<ul style="list-style-type: none"> <li>US Census Data</li> <li>Block Group</li> </ul>	✓	✓

# Geographic Point of Comparison

- **Statutory Context**

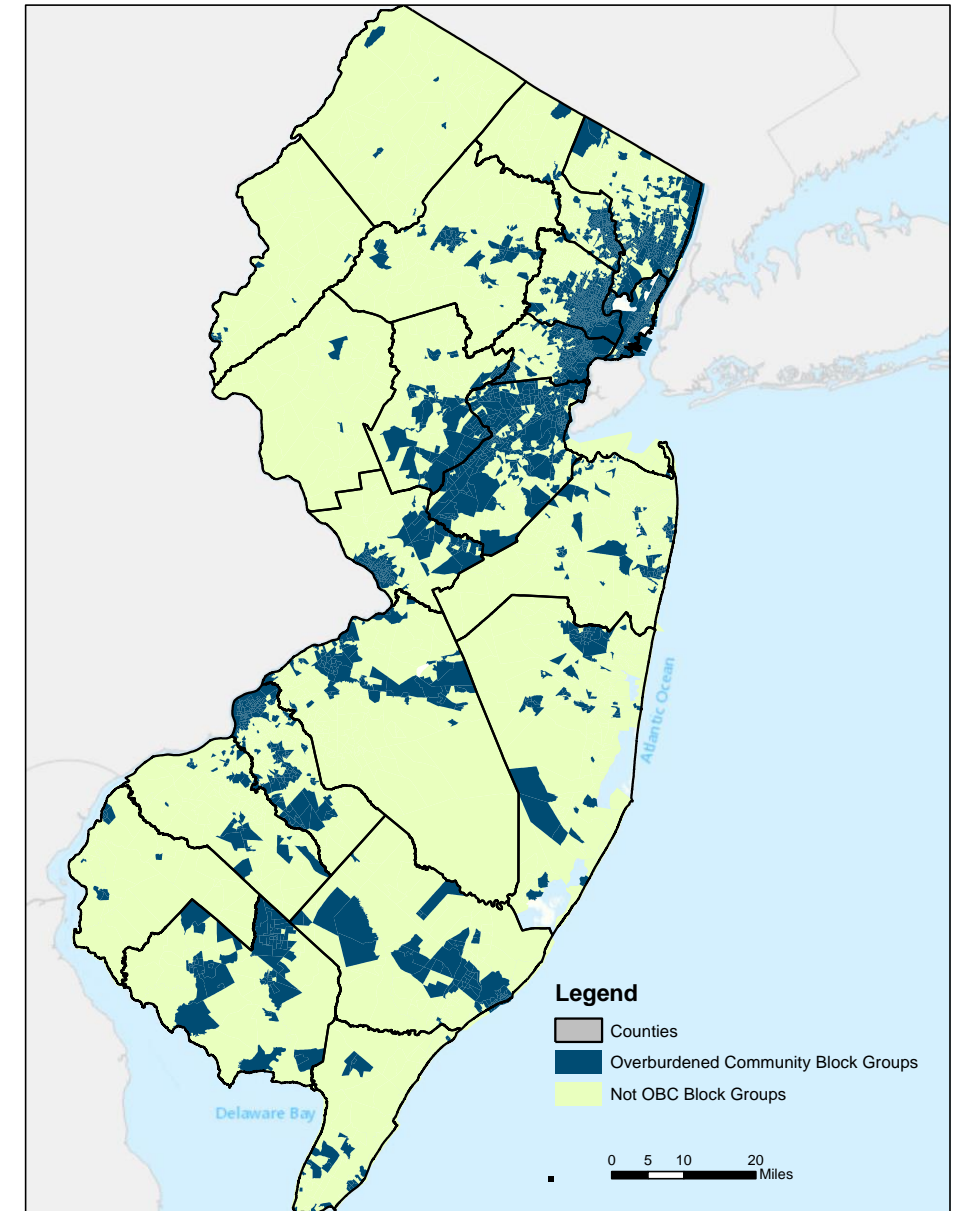
- The Bill requires the Department to determine whether environmental or public health stressors are “higher than” those borne by other communities within the State, county, or other geographic unit of analysis as determined by the department.

- **Options Considered**

- State
- State Non-Overburdened Areas
- County
- County Non-Overburdened Areas
- Hybrid of above approaches (most like USEPA, who uses multiple geographic areas)

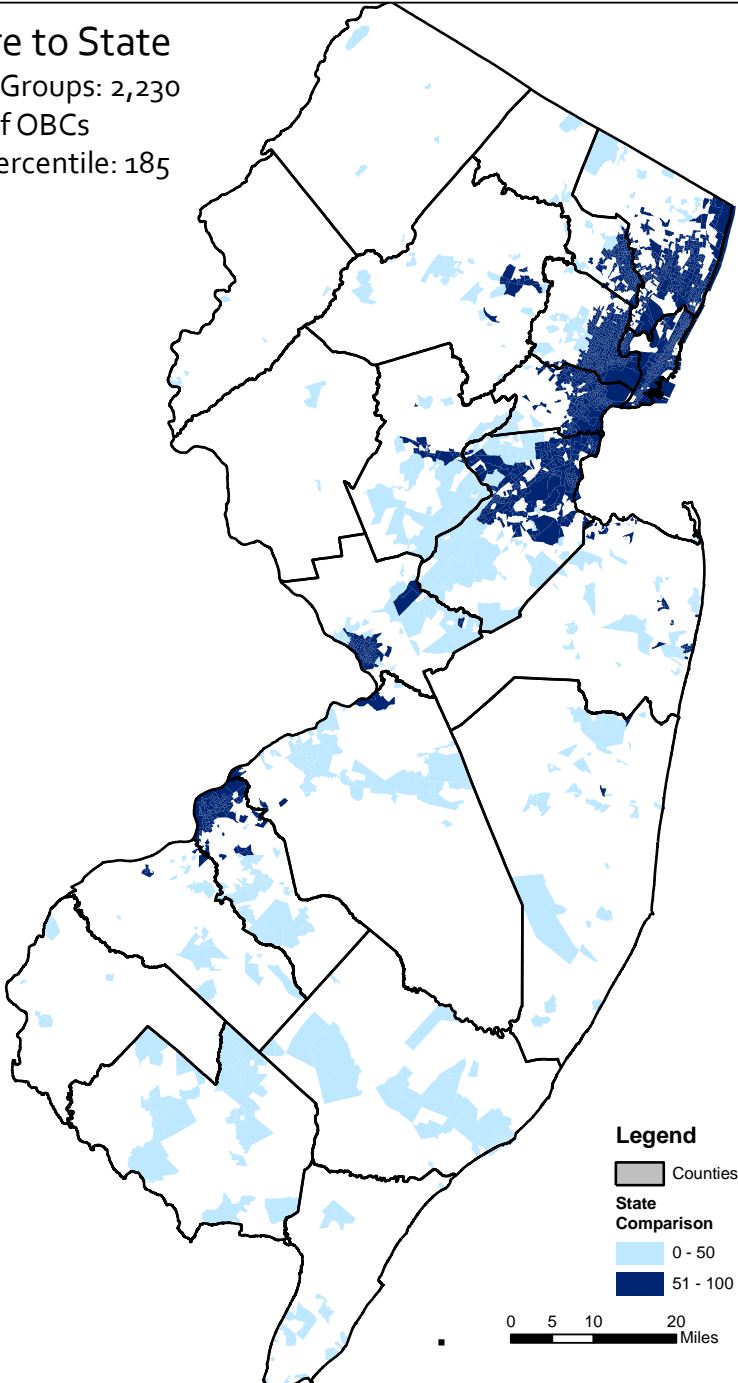
- **Proper Comparison Percentile**

- 50<sup>th</sup> (higher than)
- 80<sup>th</sup> (USEPA uses as a flag for initial screening)



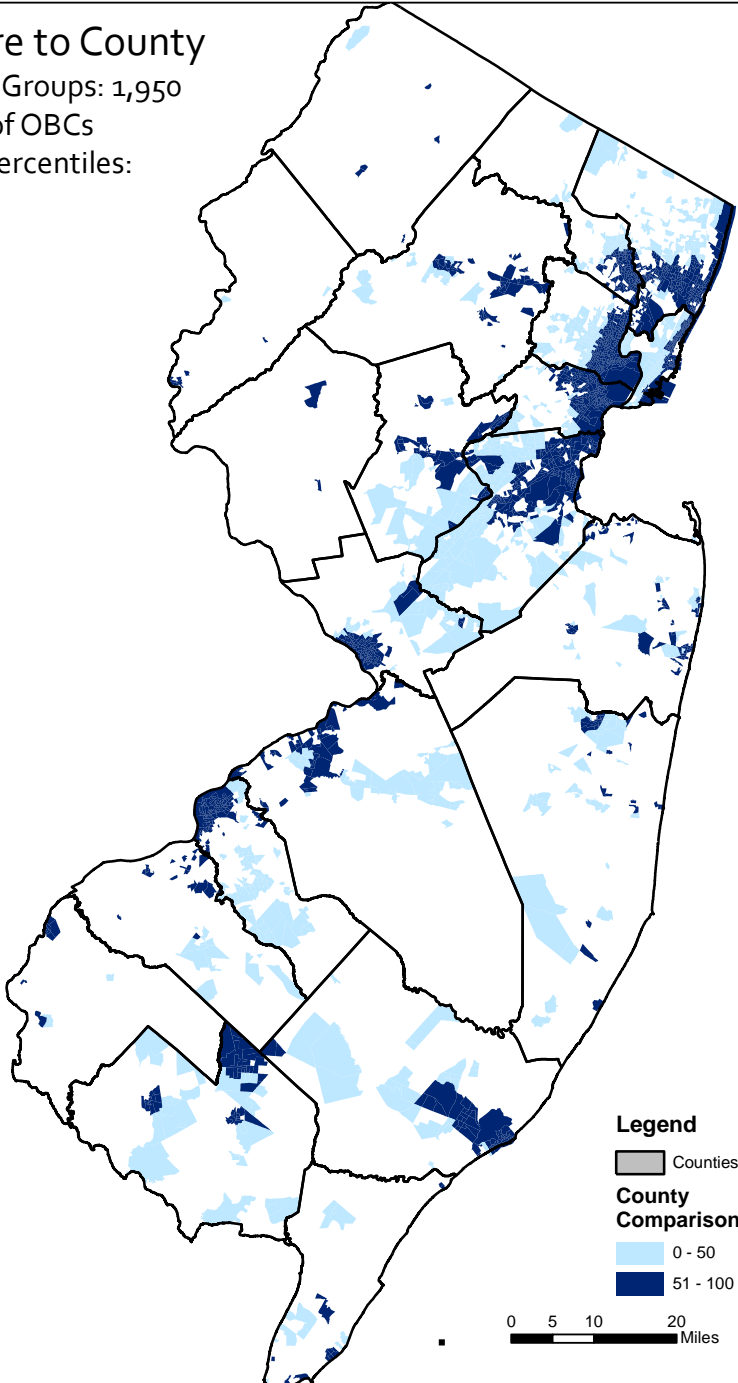
Compare to State

- Block Groups: 2,230
- 70% of OBCs
- 50<sup>th</sup> Percentile: 185



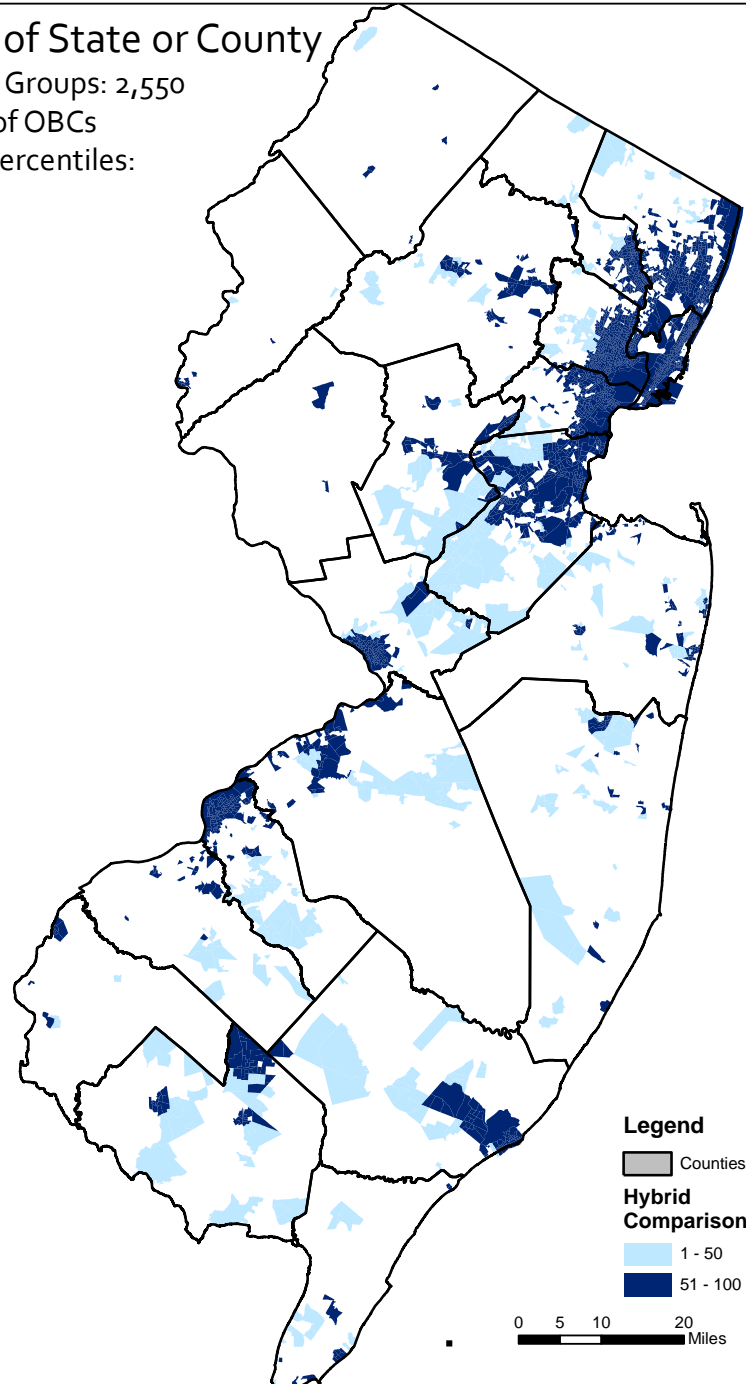
Compare to County

- Block Groups: 1,950
- 62% of OBCs
- 50<sup>th</sup> Percentiles:



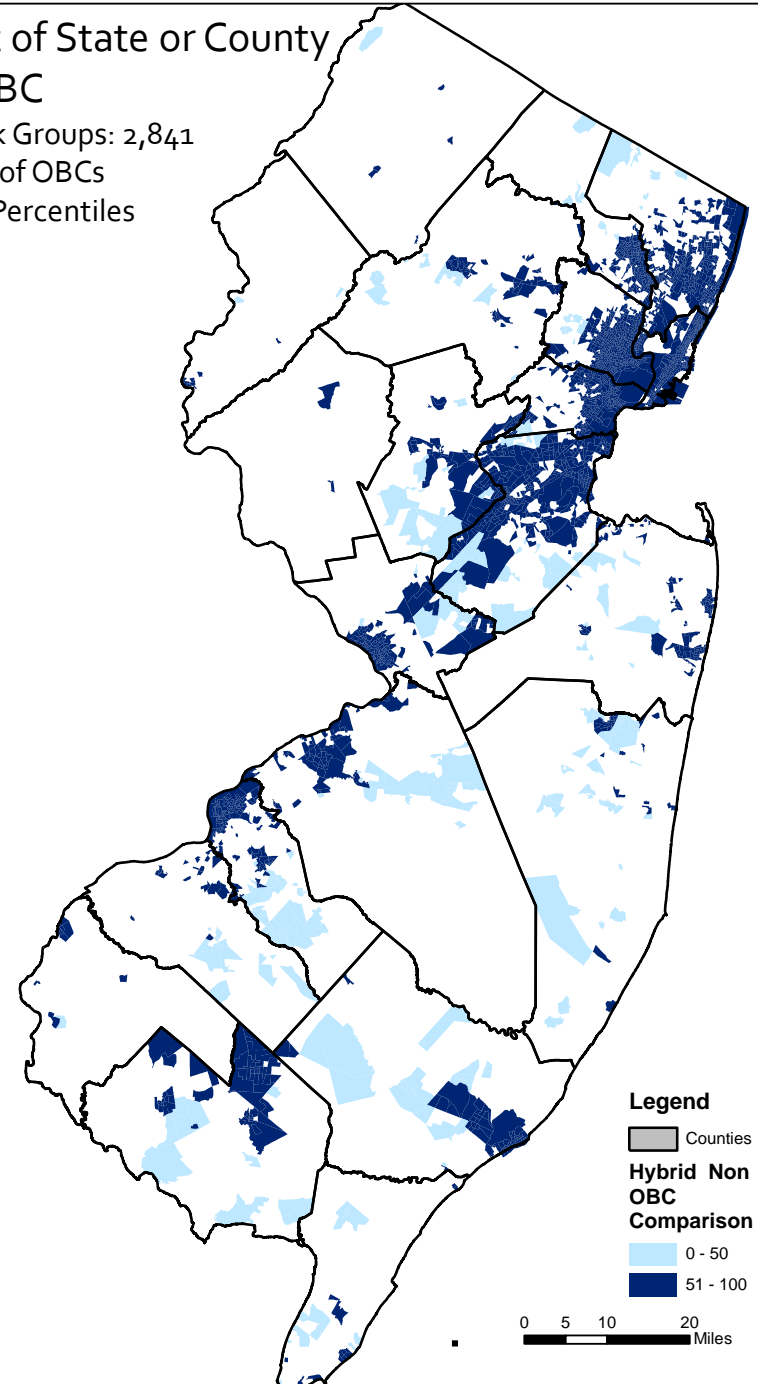
### Lowest of State or County

- Block Groups: 2,550
- 80% of OBCs
- 50<sup>th</sup> Percentiles:



### Lowest of State or County Non-OBC

- Block Groups: 2,841
- 90% of OBCs
- 50<sup>th</sup> Percentiles



# Environmental Justice Impact Statement

The Statute provides that an applicant must prepare:

“...an environmental justice impact statement that assesses the **potential environmental and public health stressors associated with** the proposed new or expanded facility, or with the existing major source, as applicable, including **any adverse environmental or public health stressors that cannot be avoided** if the permit is granted, and **the environmental or public health stressors already borne by the overburdened community** as a result of existing conditions located in or affecting the overburdened community”

# Step 1: Initial Screen (potential direction)

## Determine Combined Stressor Total (CST):

- Determine if each stressor in an OBC is higher than the most protective geographic point of comparison (State or County Non-OBC).
  - “Higher than” means greater than the 50<sup>th</sup> percentile.
- Sum the number of stressors higher than geographic comparison for an OBC for the CST.
  - E.g.: If 18 of the 31 stressors in an OBC are higher than the geographic comparison result, the total for that OBC is 18. The Combined Stressor Total for that OBC is 18.

## Determine if Combined Stressor Total is higher than Geographic Point of Comparison

- Determine if OBC’s CST is higher than the most protective geographic point of comparison (State or County Non-OBC) at the 50<sup>th</sup> percentile (second level of statistical analysis)
  - E.g.: If an OBC’s CST is 18 and its geographic point of comparison is 15, that OBC is subject to “adverse cumulative environmental or public health stressors that are higher than” the geographic point of comparison.

## Step 2: EJIS Process (potential direction)

### Where CST is lower than geographic point of comparison:

- Applicant prepares an EJIS, conducts a public comment period, and holds a public hearing in the Overburdened Community to assess whether a facility will contribute to existing environmental and public health stressors such that it creates stressor levels that are higher than the appropriate geographic point of comparison.
  - If no: Avoids a disproportionate impact, and Applicant is authorized to move forward with environmental permitting without additional conditions.
  - If yes: Applicant must complete supplemental materials.

### Where CST is or will be made higher than the geographic point of comparison:

- Applicant prepares an EJIS *plus supplemental materials*, conducts a public comment period, and holds a public hearing in the Overburdened Community to assess how the facility will contribute to existing environmental and public health stressors in the Overburdened Community. Applicant assesses contributions to stressor levels that are already higher than the geographic point of comparison and ensures that the facility will not create new stressor levels that are higher than the geographic point of comparison.

## Step 2: EJIS + Supplemental Materials (potential direction)

- Steps the applicant will implement at the project site to avoid causing or contributing to stressors already borne by the Overburdened Community, and
- Relevant elements/points of analysis from other existing “impact analyses” such as:
  - Executive summary (including comprehensive demographic, economic, and physical descriptions)
  - Facility description (including relevant maps)
  - Environmental Summary and Assessment
  - Health Summary and Assessment
  - Alternatives Analysis (reasonable design, siting, and operational alternatives)
  - Statement of Environmental Justice Issues (justification and conclusion)

# Denial & Permit Conditions

New Facility: where a disproportionate impact exists:

“... the department shall ... deny a permit for a new facility .... except that where the department determines that a new facility will serve a compelling public interest in the community where it is to be located, the department may grant a permit that imposes conditions on the construction and operation of the facility to protect public health...”

Facility Expansion/Title V Renewal

“...the department may.... apply conditions to a permit for the expansion of an existing facility, or the renewal of an existing facility’s major source permit, concerning the construction and operation of the facility to protect public health...”

# New v. Expansion v. Renewal (potential direction)

- **New:** Newly sited facility or change in use of existing facility
- **Expansion:** Expansion of footprint or increase in stressor contributions of existing facility but continuing ongoing operations
  - Would not include changes to operations strictly to reduce stressor contributions
- **Renewal:** Continuation of existing operations without increase
  - Statutory Exemption: Minor modifications to major source permit for activities/improvements that do not increase emissions

# Step 3: Departmental Review (potential direction)

## New Facilities:

- Propose measures to avoid facility contributions to individual stressors in the OBC that are higher than the geographic point of comparison
- If cannot avoid, denial unless compelling public interest.
- If compelling public interest, apply conditions.

## Renewals:

- Propose measures to avoid facility contributions to individual stressors in the OBC that are higher than the geographic point of comparison
- Where avoidance is not feasible, minimize facility contributions to individual stressors in the OBC that are higher than the geographic point of comparison
  - Will include objective measures for minimization, i.e. BACT/SOTA

## Expansions:

- Propose measures to avoid facility contributions to individual stressors in the OBC that are higher than the geographic point of comparison
- Where avoidance is not feasible, minimize facility contributions to individual stressors in the OBC that are higher than the geographic point of comparison
- Propose additional feasible conditions that will (in order):
  - Reduce like stressors from offsite sources within the overburdened community
  - Reduce of other stressors from offsite sources in the overburdened community (preference for highest to lowest stressor levels)
  - Provide a net environmental benefit that improves baseline environmental and public health stressors in the overburdened community

# Compelling Public Interest (potential direction)

- Focus on specific types of facilities and public works-type projects that serve a Compelling Public Interest in an overburdened community.
  - Examples: appropriately-scaled food waste facilities, public water infrastructure, renewable energy facilities,
  - Considering other facilities that meet essential health and safety needs of the overburdened community or specifically reduce stressors, i.e., CSO reductions
  - Does not allow for economic benefits as justification for Compelling Public Interest
- Considers whether there is a significant degree of public interest in the overburdened community in favor of or in opposition to the facility.

# Compelling Public Interest (potential direction)

- Measures to avoid facility contributions to individual stressors in the OBC that are higher than the geographic point of comparison.
- Where avoidance is not feasible:
  - Minimize facility contributions to individual stressors in the OBC that are higher than the geographic point of comparison.
- Propose additional feasible conditions that will (in order)
  - Reduce like stressors from offsite sources within the overburdened community,
  - Reduce of other stressors from offsite sources in the overburdened community (preference for highest to lowest stressor levels), or
  - Provide a net environmental benefit that improves baseline environmental and public health stressors in the overburdened community.

[nj.gov/dep/ej/](https://nj.gov/dep/ej/)



STATE OF NEW JERSEY  
DEPARTMENT OF ENVIRONMENTAL PROTECTION




The background features abstract, overlapping green geometric shapes, primarily triangles and polygons, in various shades of green, ranging from light lime to dark forest green. These shapes are concentrated on the right side of the slide, creating a modern, layered effect. The rest of the slide is a plain, light gray.

# Questions?



## Bureau Chief Dr. Nick Procopio

- ▶ Division of Science and Research
- ▶ Climate Change Updates

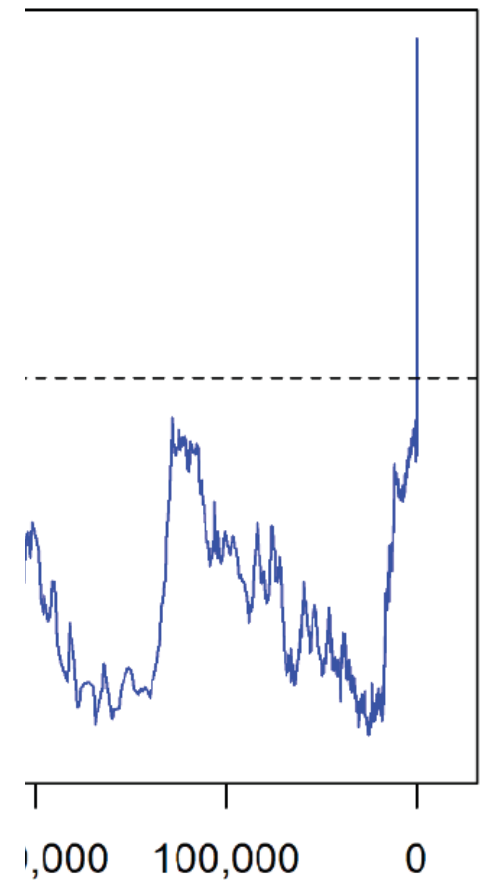
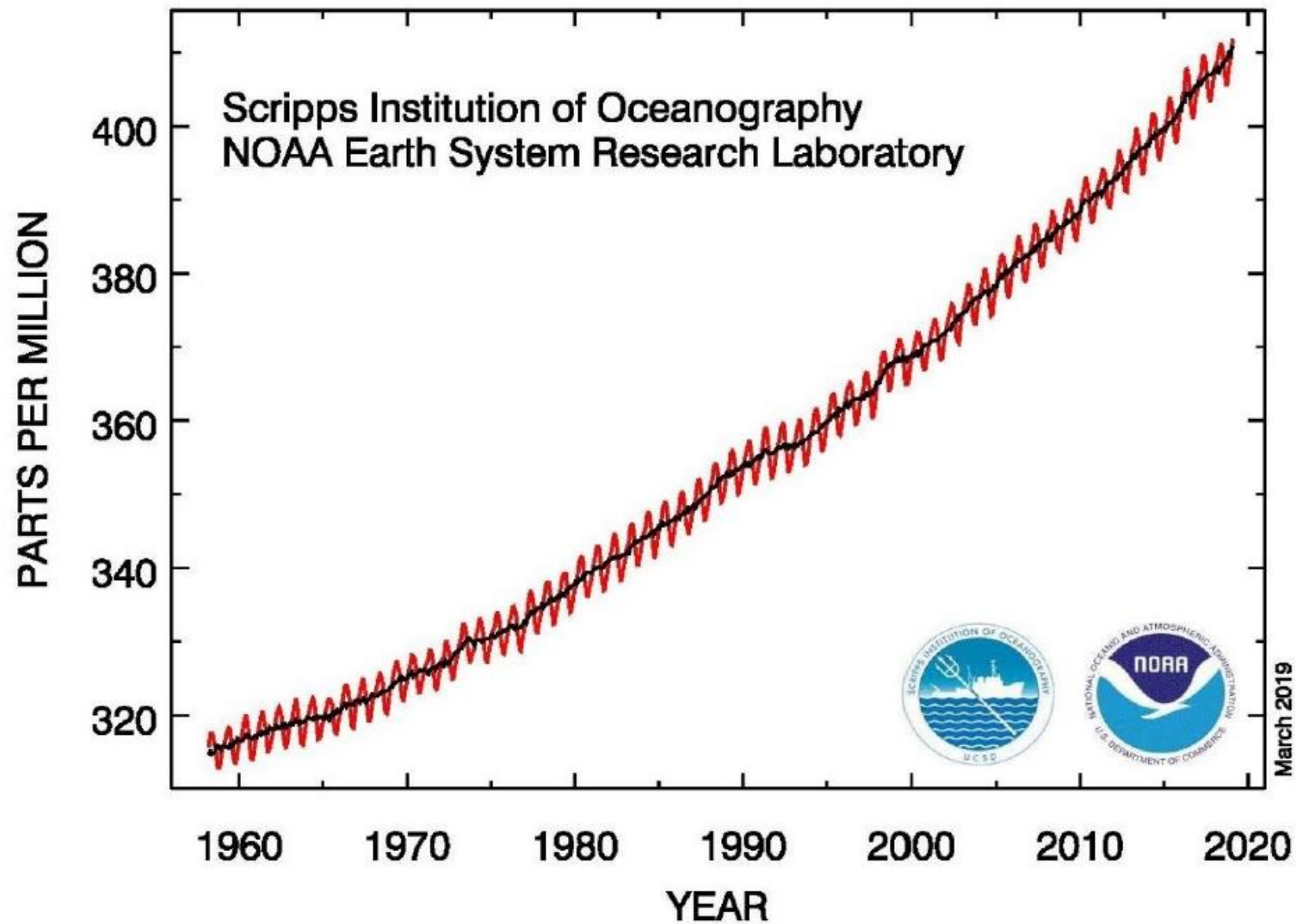


# NJ Climate Science and Highlights of the 2021 IPCC Assessment Report

*“Let me explain. No, there is too much. Let me sum up.”*

Nicholas A. Procopio, Ph.D., GISP  
Chief, Bureau of Environmental Assessment  
Division of Science and Research

November 19, 2021



**Figure 3.2. Keeling Curve - Carbon Dioxide Concentration.** The figure shows the average monthly carbon dioxide concentration (in red), with a moving average of seven adjacent seasonal cycles (in black) that removes the season cycle. Figure and data available from the NOAA Earth System Research Laboratories; <https://www.esrl.noaa.gov/gmd/ccgg/trends/mlo.html> (Tans and Keeling 2020).

**Over 800,000 Years.** The figure shows present warm interglacial periods and low CO<sub>2</sub> concentration of 411 ppm occurred during cold glacial periods. CO<sub>2</sub> concentrations are reconstructed from ice core levels reported from the Mauna Loa Observatory (Bereiter et al. 2015). <sup>131</sup> [mlo.html](https://www.esrl.noaa.gov/gmd/ccgg/trends/mlo.html) (Tans and Keeling 2020).

The [Intergovernmental Panel on Climate Change](#) (IPCC) released their 6<sup>th</sup> Assessment Report (AR6) on August 9<sup>th</sup>. This report presents findings on the physical science basis of *global* climate change.

**The report builds upon:**

- the 2013 contributions of the IPCC's Fifth Assessment Report
- 3 IPCC special reports released between 2018–2019
- and incorporates subsequent new evidence from scientific literature accepted for publication through January 2021.

## Where to start:

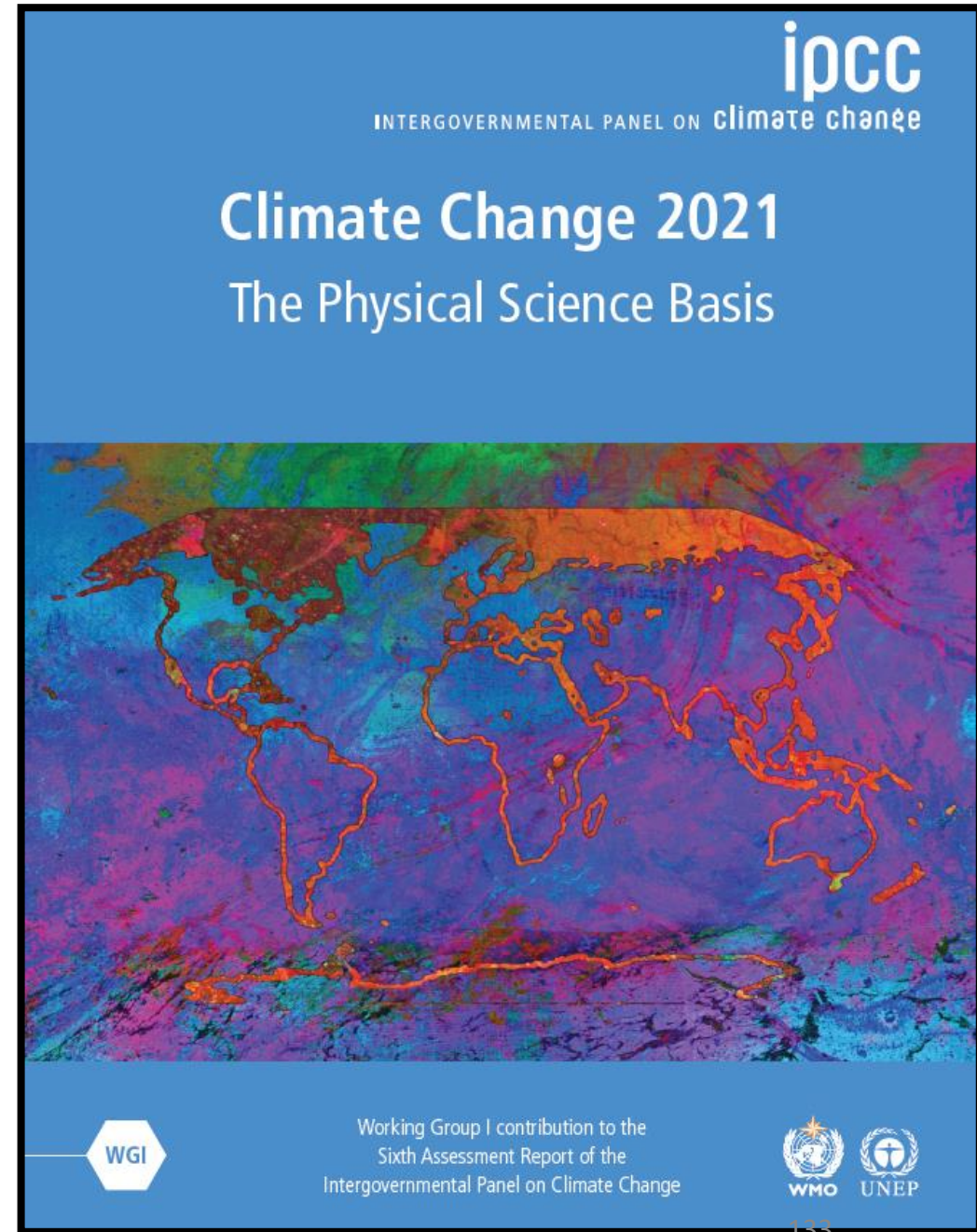
A Summary for Policymakers document highlights the nearly 4,000 page technical report and calls out the expectations for increasing global temperatures, prolonged dry spells, increased storm intensity, increased sea-level rise, and continued warming and acidification of the oceans.

## “It is unequivocal”:

It is clear that the effects of climate change are already happening and those effects will worsen over the coming decades. The authors show that even with immediate and significant reductions in greenhouse gasses, increases in average global temperature are essentially baked-in in the near term (through 2040).

## Call to action:

The report is the strongest call to action from this impressive collection of scientific experts to date.



The report states: “It is **unequivocal** that human influence has warmed the atmosphere, ocean and land” and that “(w)idespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have occurred.”

# Essential Take-aways

**Human influence has unequivocally warmed the planet.**

- “It is unequivocal that human influence has warmed the atmosphere, ocean and land.”

**Climate science is getting better and more precise.**

- More observational data reduces uncertainty
- Computer models and computing power have improved

**We are locked into 20 years of worsening climate impacts no matter what the world does.**

- The globe has already warmed 1.1°C (~2°F) since beginning of industrial era (1850)
- We are “baked in” through about 2040
- Under all scenarios, Earth reaches 1.5°C (2.7°F) by 2040 or sooner.  
1.5°C is Paris Agreement target

# Essential Take-aways

**Changes to the climate are happening and happening fast.**

- CO<sub>2</sub> higher than any point in last 2,000,000 years
- Sea-ice at lowest levels in last 1,000 years
- *Rate* of sea-level rise has roughly doubled since 2006
- Heat waves are hotter since 1950
- Ocean heat waves have doubled in last 40 years

**Greenhouse gas emissions have spurred changes that are irreversible for centuries to millennia.**

- These include changes to the ocean, ice sheets and global sea level.

**The good news?**

Aggressive, rapid and widespread emissions cuts, beginning now, could limit the warming beyond 2050. In the most optimistic scenario, reaching “net zero” emissions could even bring warming back slightly under 1.5 degrees Celsius in the second half of the century.

# AR6 Temperature Projections

	Near term, 2021–2040		Mid-term, 2041–2060		Long term, 2081–2100	
Scenario	Best estimate (°C)	<i>Very likely</i> range (°C)	Best estimate (°C)	<i>Very likely</i> range (°C)	Best estimate (°C)	<i>Very likely</i> range (°C)
SSP1-1.9	1.5	1.2 to 1.7	1.6	1.2 to 2.0	1.4	1.0 to 1.8
SSP1-2.6	1.5	1.2 to 1.8	1.7	1.3 to 2.2	1.8	1.3 to 2.4
SSP2-4.5	1.5	1.2 to 1.8	2.0	1.6 to 2.5	2.7	2.1 to 3.5
SSP3-7.0	1.5	1.2 to 1.8	2.1	1.7 to 2.6	3.6	2.8 to 4.6
SSP5-8.5	1.6	1.3 to 1.9	2.4	1.9 to 3.0	4.4	3.3 to 5.7

# d) Global mean sea level change relative to 1900

meters

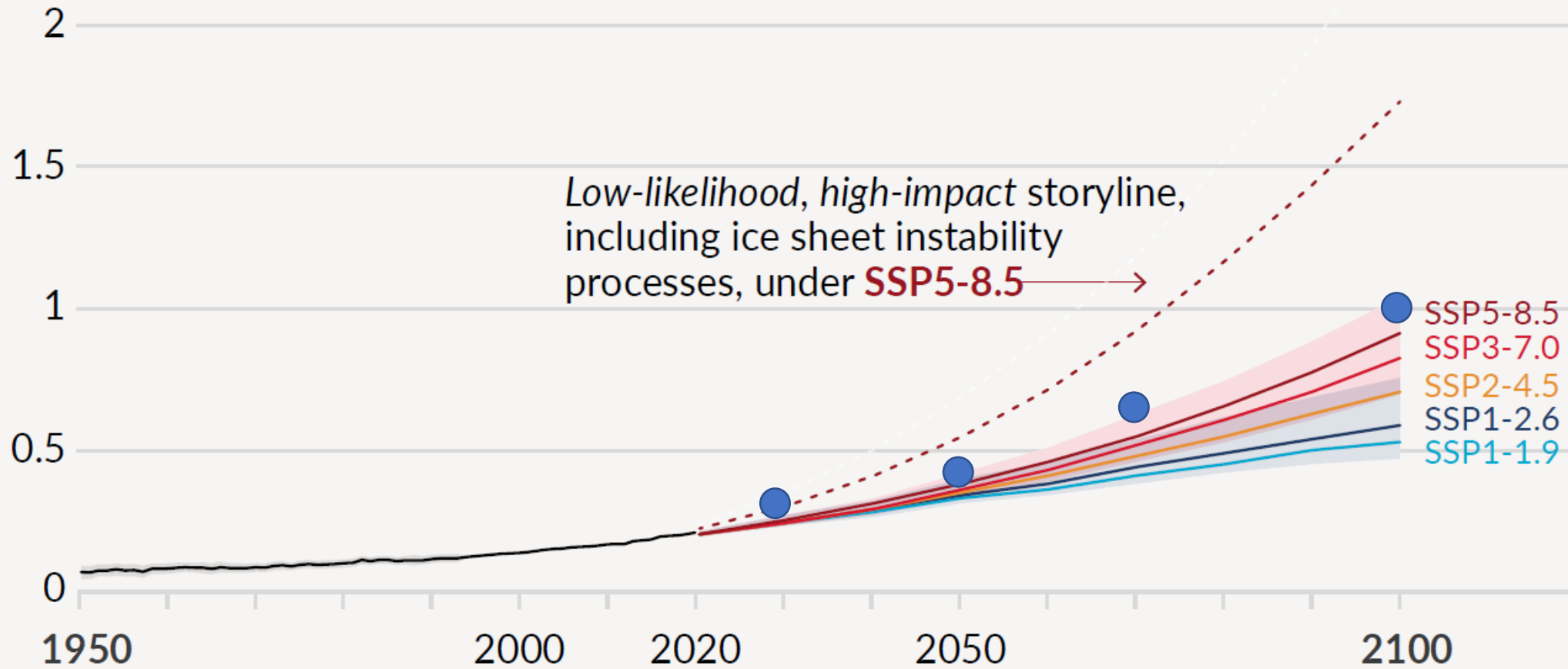


Figure II: The Global Risks Landscape 2020  
World Economic Forum WEF; The Global Risks Report 2020 15th Edition

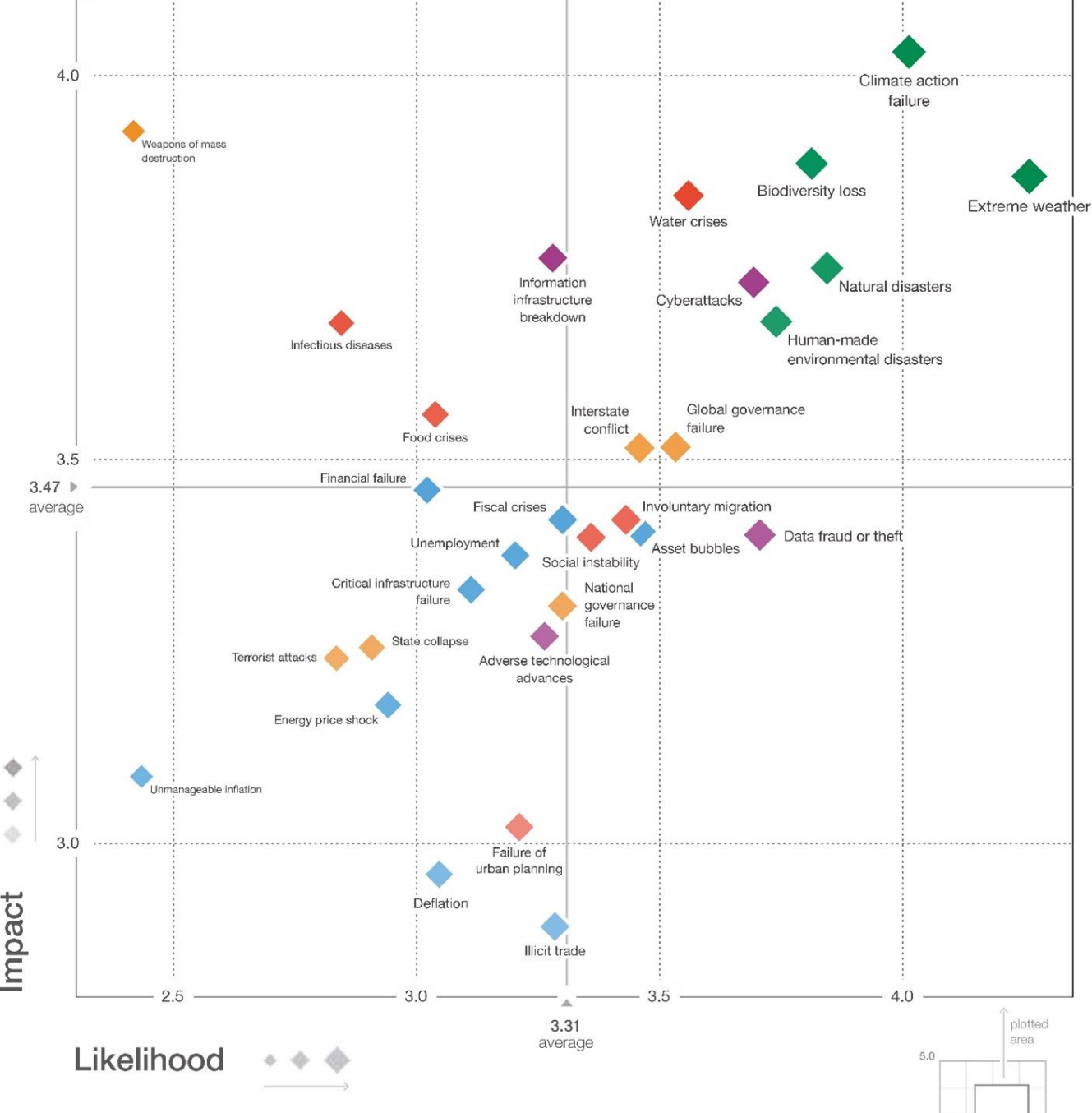


Figure II: The Global Risks Landscape 2020

World Economic Forum WEF; The Global Risks Report 2020 15th Edition



2020 NEW JERSEY

SCIENTIFIC REPORT ON

# CLIMATE CHANGE

June 30, 2020



1895

NEW JERSEY

2020

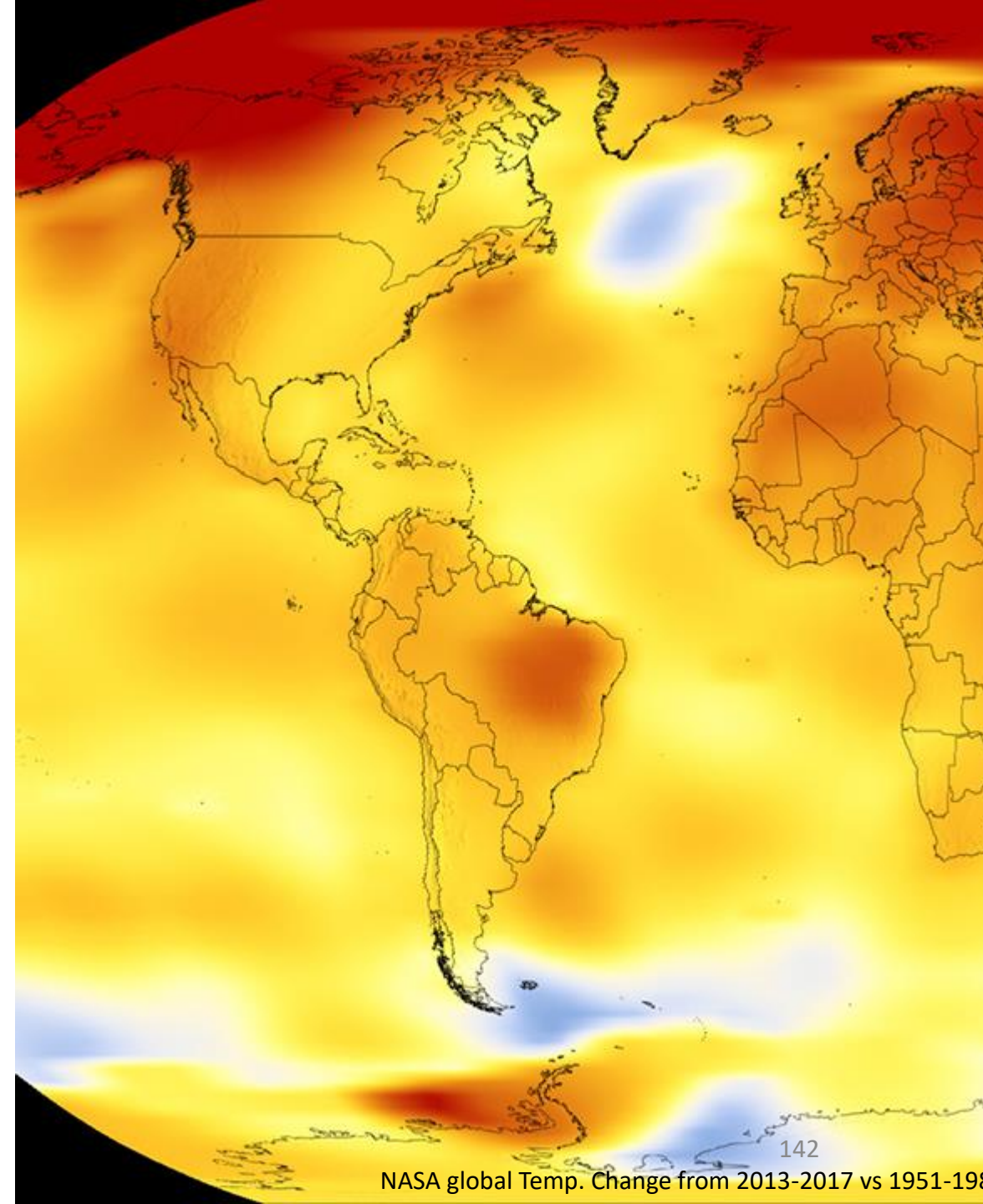
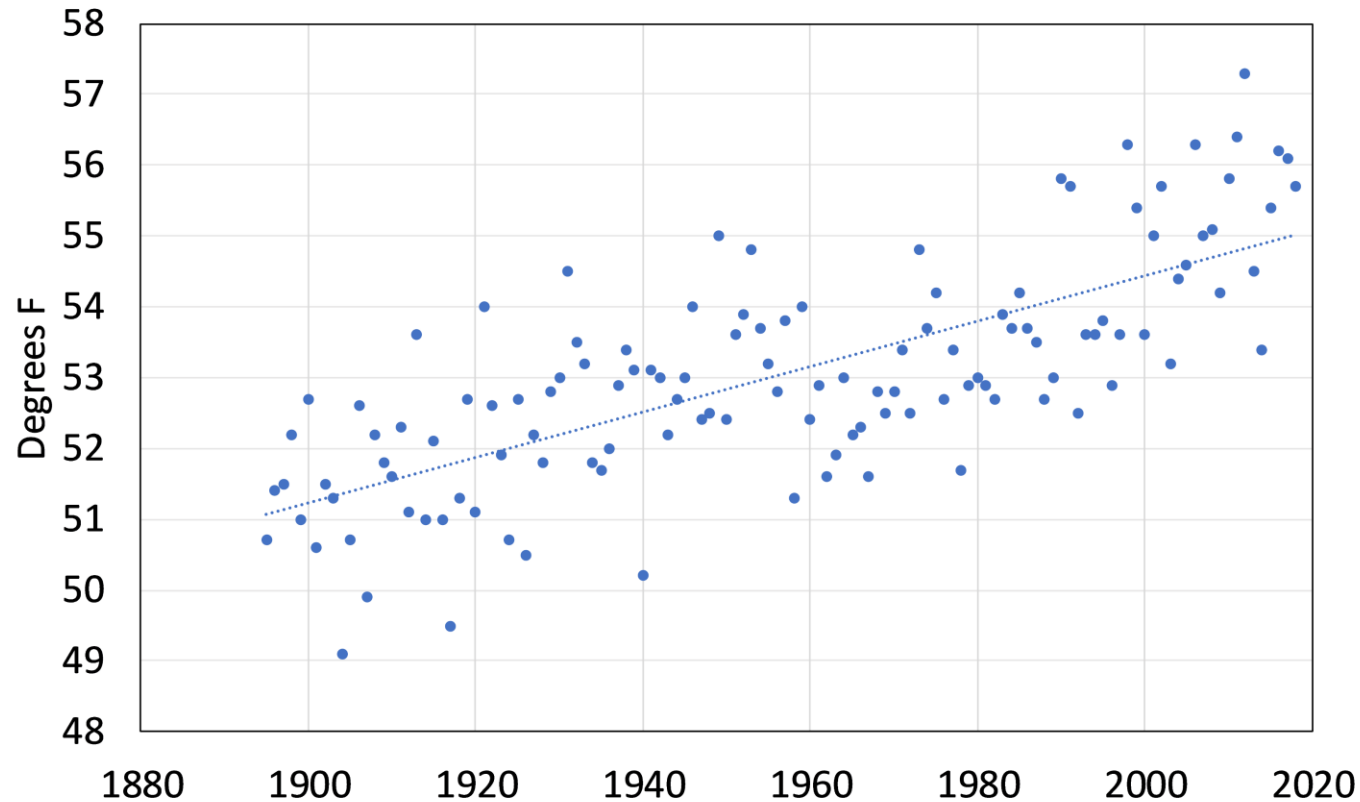
Based on Ed Hawkins "Warming Stripes".  
Source: NOAA/NCEI Climate at a Glance

CLIMATE  CENTRAL

1.5+°F – Rise in average global temperature since the industrial era driven primarily by greenhouse gas emissions.

3.5°F – Rise in average temperature in NJ since 1895

NJ Average Annual Temperature

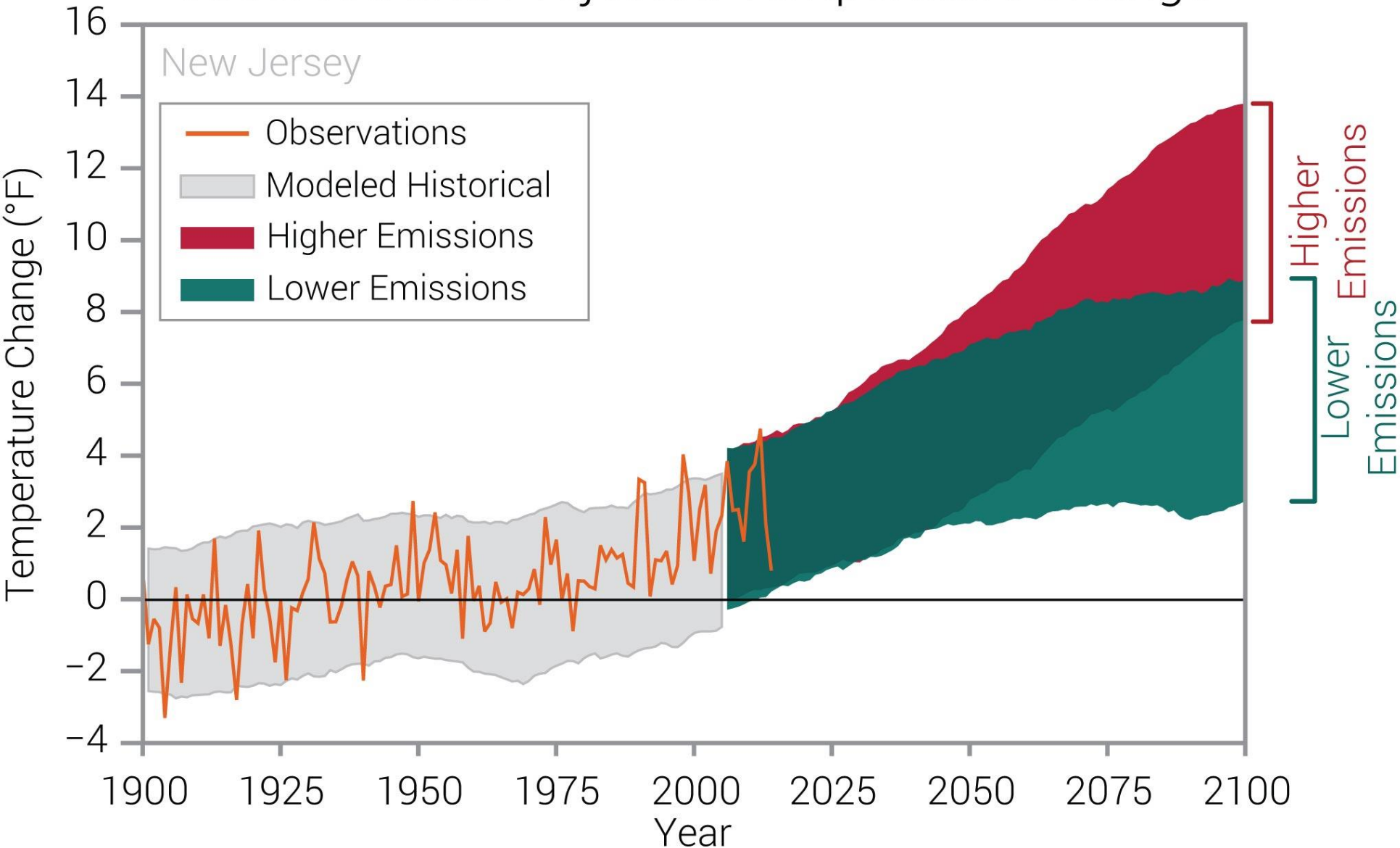


# New Jersey: Temperatures

	Increase in NJ Air Temperature from 1895 to 2019 (°F)				
	Annual	Winter	Spring	Summer	Fall
Statewide	3.5	4.8	3.0	3.1	3.0
North	3.6	5.1	3.1	3.0	3.1
South	3.4	4.6	2.9	3.1	2.8
Coast	4.0	5.0	3.6	3.6	3.5

# New Jersey: Temperatures

## Observed and Projected Temperature Change



Observed and projected changes (compared to the 1901–1960 average) in near-surface air temp for New Jersey, averaged over 5-year periods.

### By 2050:

1°F to 6°F warmer by 2050

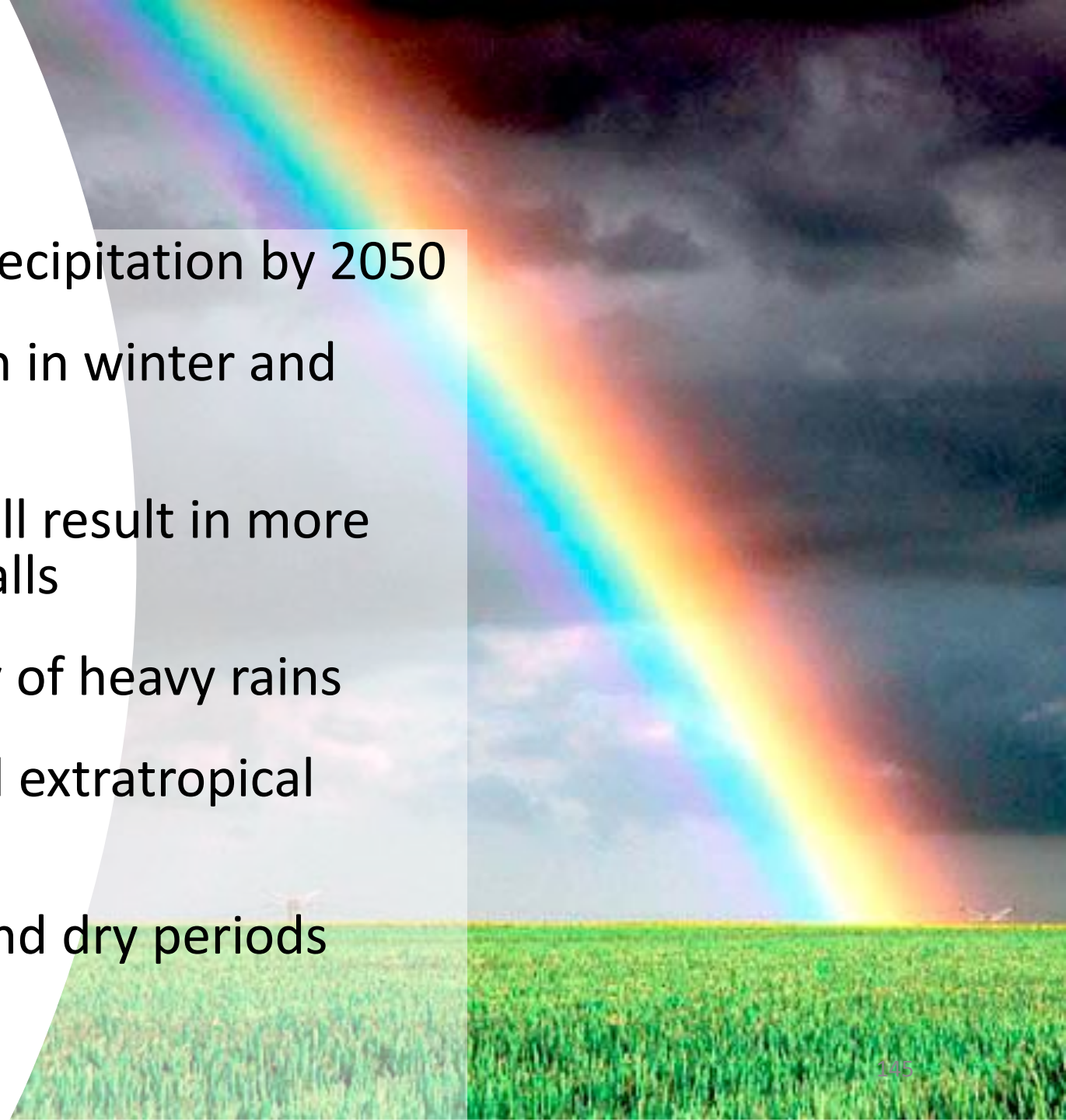
### By 2100:

3°F to 9°F by 2100 (lower)

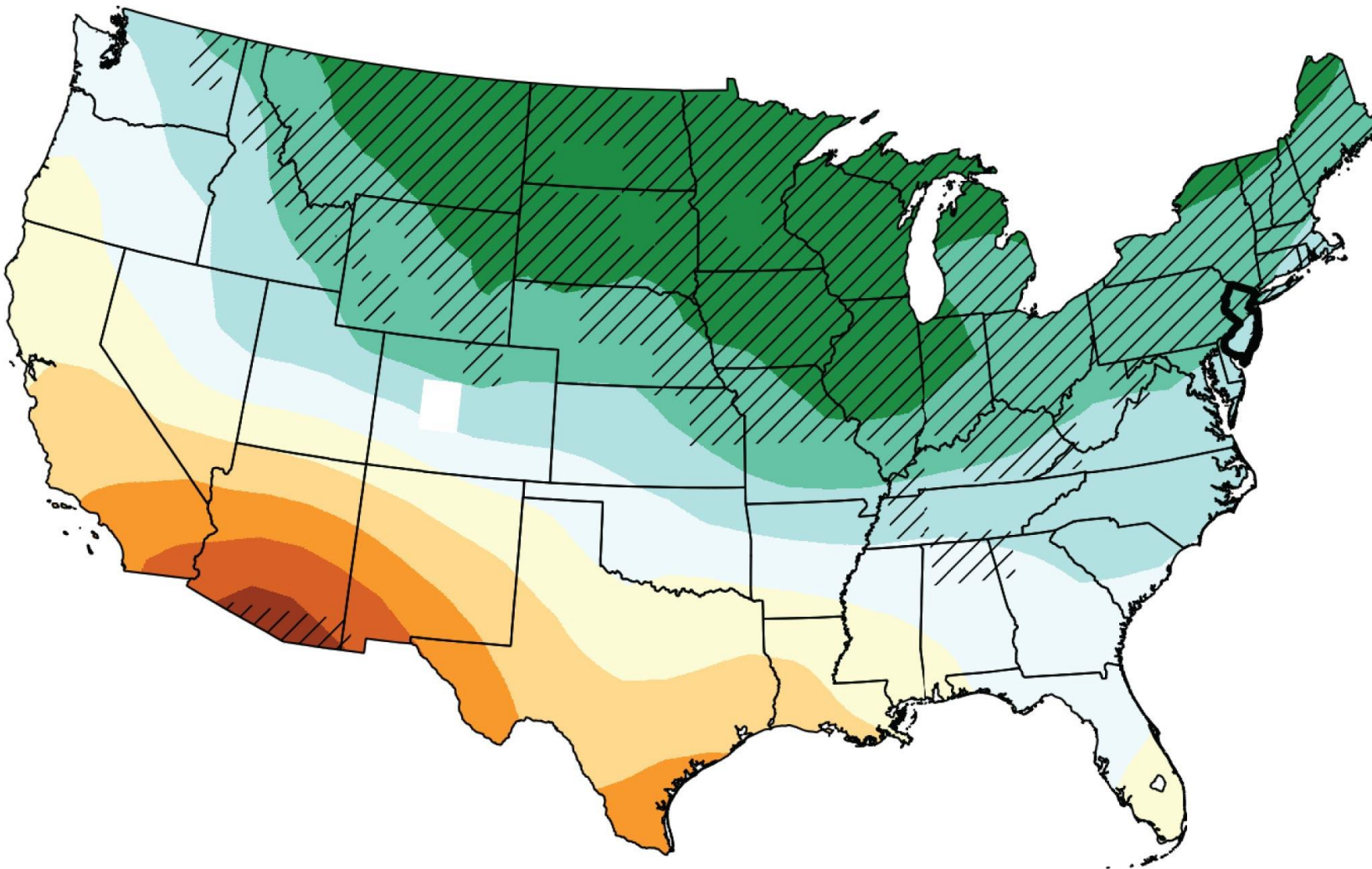
6°F to 13°F by 2100 (high)

# Precipitation changes:

- 5% and 10% increase in annual precipitation by 2050
- seasonal increases in precipitation in winter and spring
- Increased winter temperatures will result in more rain, and as a result, fewer snowfalls
- Increased frequency and intensity of heavy rains
- Increased intensity of tropical and extratropical storms
- longer and more persistent wet and dry periods throughout the Northeast

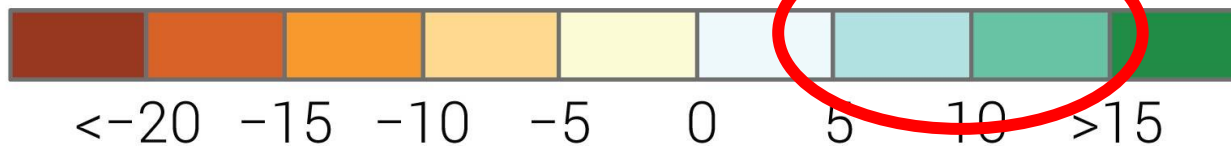


# Projected Change in Spring Precipitation



Projected changes in spring precipitation for 2041-2070 compared to 1971-2000 under a higher emissions pathway. Hatching represents areas where the majority of climate models indicate a statistically significant change.

Change in Spring Precipitation (%)



# Changes to storm intensity

The Department as two ongoing studies to looking into this important issue.

Changes in Hourly and Daily Extreme Rainfall Amounts in NJ since the Publication of NOAA Atlas 14 Volume (NOAA/NERCC)

Projected Changes in Extreme Rainfall in New Jersey based on an Ensemble of Downscaled Climate Model Projections (NOAA/NERCC)

Art DeGaetano, Ph.D.  
Northeast Regional Climate Center  
Department of Earth and Atmospheric Science  
Cornell University, Ithaca NY

# Changes in Hourly and Daily Extreme Rainfall Amounts in since Publication of NOAA Atlas 14

Design standards and regulations in New Jersey rely on climate data from NOAA Atlas 14 (2006).

- The data used in this publication end in 2000.

Several locations in New Jersey and surrounding states have experienced record rainfall events since 2000, or at least rainfall events among the highest in the pre-2000 record.

Given the observed trends in extreme rainfall, particularly across the Northeastern United States, it is unclear how the inclusion of 19 additional years of rainfall data has affected rainfall extremes.

It is likely that the Atlas 14 values underestimate the rainfall extremes given the additional years of available data.

# Projected Changes in Extreme Rainfall

This study will summarize results of multiple climate models and develop projections of changes to storm intensity by mid and late century.

The study will focus on projections under a moderate (RCP4.5) emissions future and a high emissions scenario (RCP8.5).

The study will detail projected changes for the 2, 10, and 100yr 24hr storm.

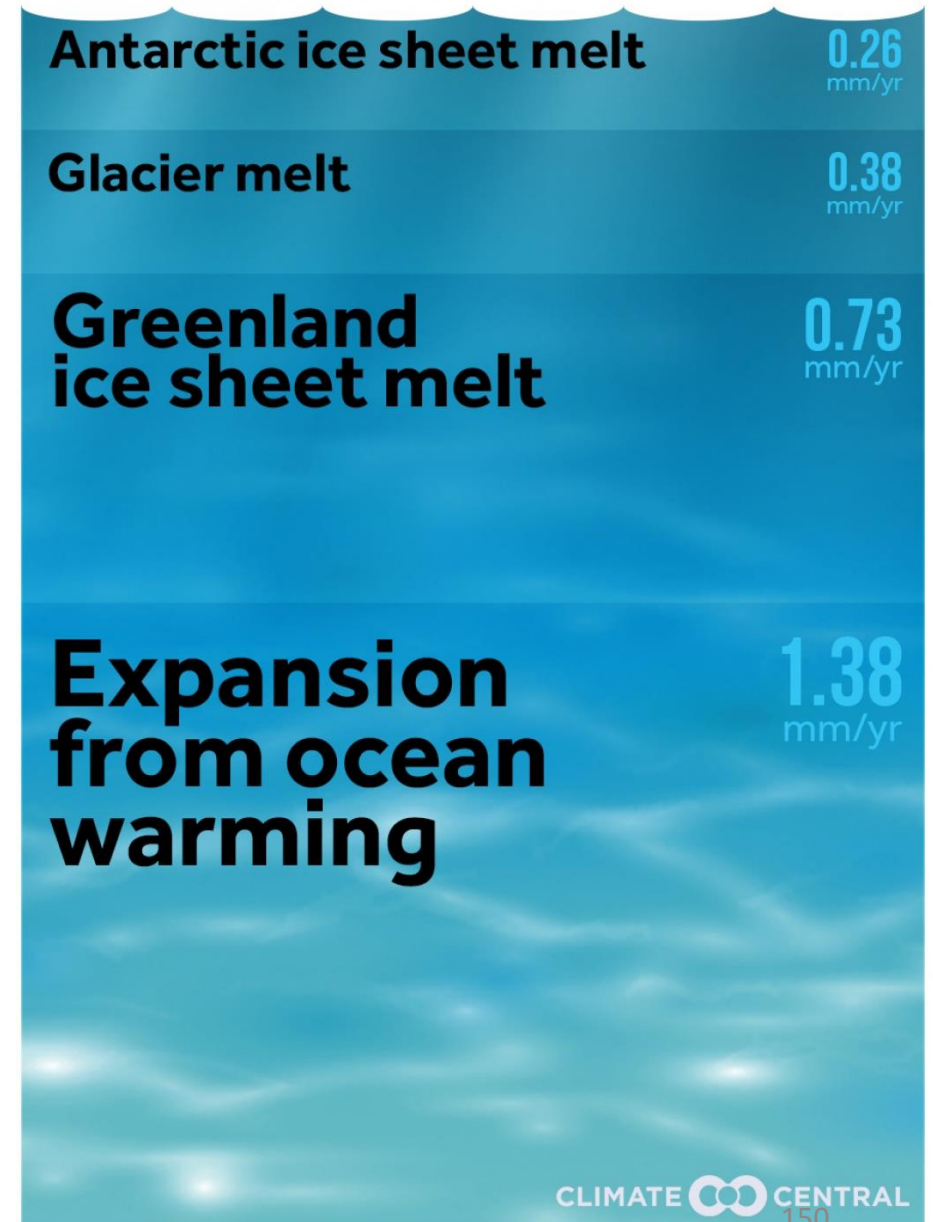
- 5yr, 25yr and 50yr 24hr storm projections are also tabulated

# Global SLR and contributing factors

1.1 to 1.9 mm/yr. – Rate of global SLR since the 20<sup>th</sup> century

The recent rate of sea-level rise in the Northeast is more rapid than the global rate and is expected to continue to be amplified.

## MAIN CAUSES OF SEA LEVEL RISE 2002 - 2014

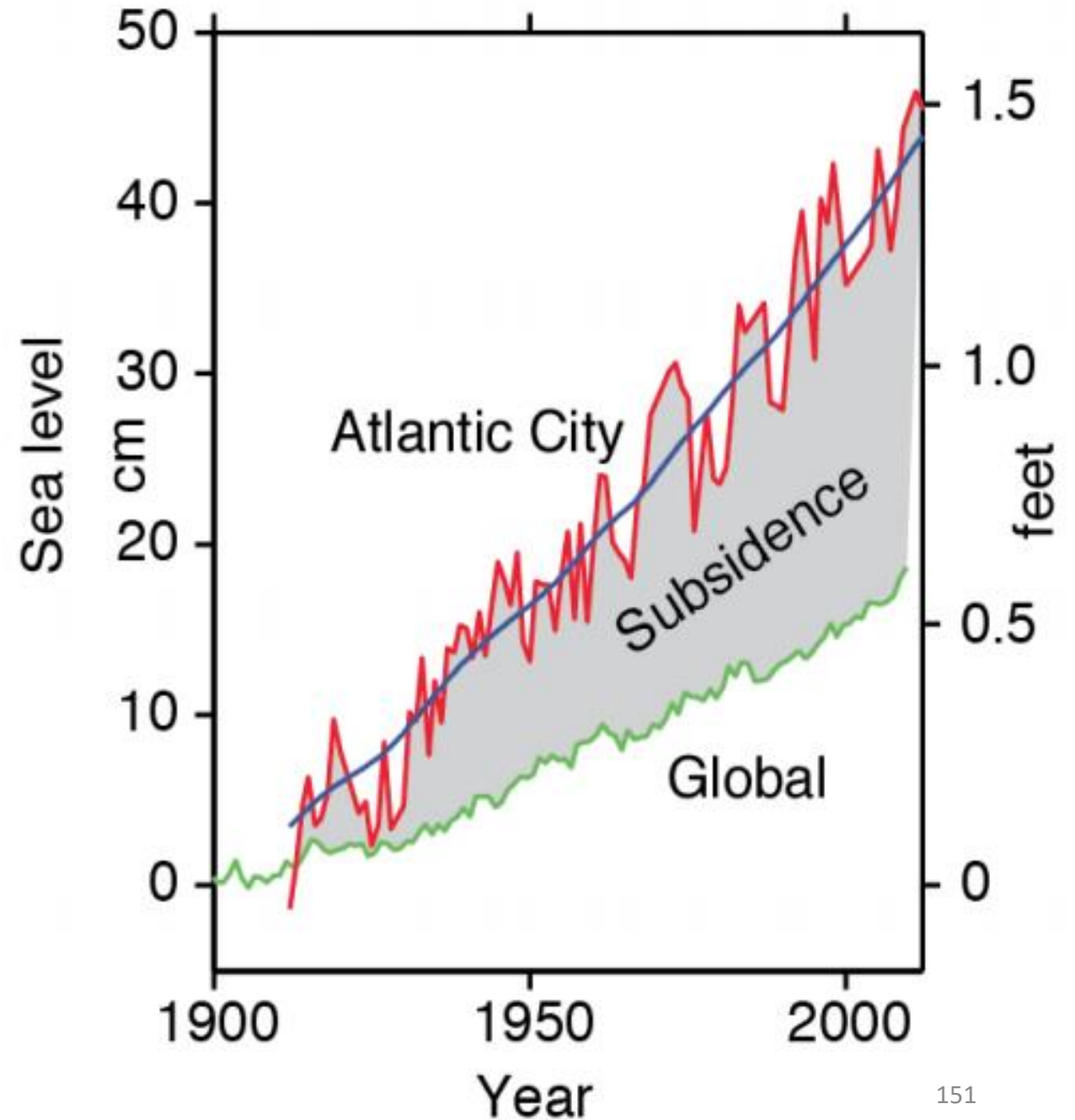


Source: Rietbroek et al., Revisiting the contemporary sea level budget on global and regional scales, PNAS

# Local SLR and contributing factors

- Adjustment of land surface to the loss of ice sheets at the end of the last ice age (Isostatic rebound)
- Vertical land movement (subsidence due to natural sediment compaction and groundwater withdrawals)
- Changes in ocean circulation
- Local coastal morphology

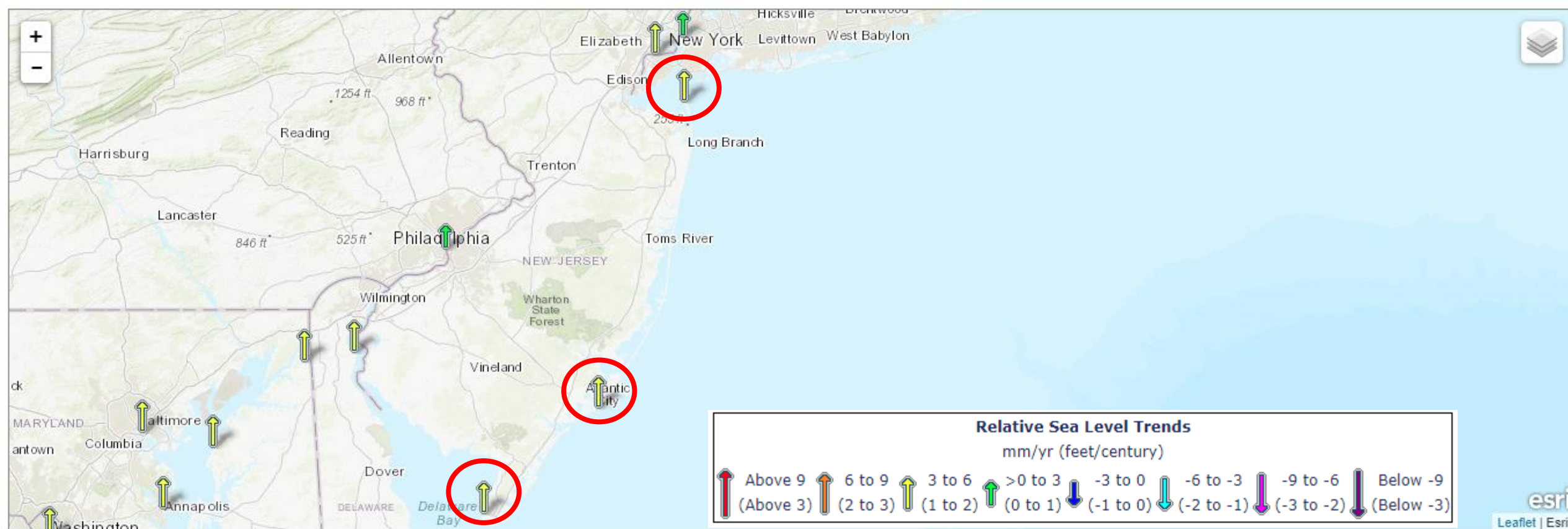
A combination of these factors will dictate local rates and magnitudes of sea-level rise.



# Sea-level Rise in NJ

2 mm/yr (0.08 in/yr) – Historic rate of SLR along the NJ coast (background rate).

4 mm/yr (0.16 in/yr) – Recent rate of SLR along the NJ coast (since the beginning of the 20<sup>th</sup> C.)



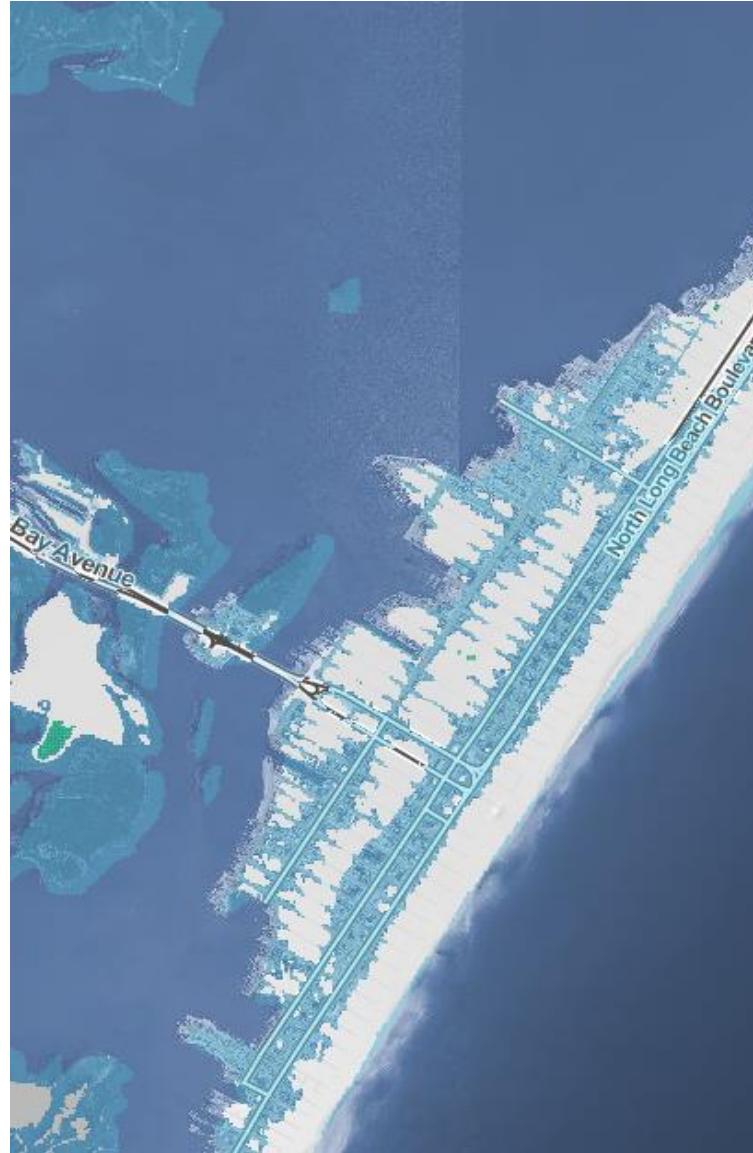
Year		2010	2030	2050	2070			2100			2150		
		Obs.			Emissions			Emissions			Emissions		
Chance SLR Exceeds					Low	Mod.	High	Low	Mod.	High	Low	Mod.	High
Low End	> 95% chance		0.3	0.7	0.9	1.0	1.1	1.0	1.3	1.6	1.3	2.1	2.9
Likely Range	> 83% chance		0.5	0.9	1.3	1.4	1.5	1.7	2.0	2.3	2.3	3.1	3.8
	~50 % chance	0.2	0.8	1.4	1.9	2.2	2.4	2.8	3.4	4.0	4.2	5.2	6.2
	<17% chance		1.1	2.1	2.7	3.1	3.5	4.0	5.2	6.3	6.3	8.3	10.3
High End	< 5% chance		1.3	2.6	3.2	3.8	4.4	5.0	6.9	8.8	8.0	13.8	19.6

*Notes: All values are 19-year means and are measured with respect to a 1991-2009 baseline. Projections are 19-year averages based on Kopp et al. (2014), Rasmussen et al. (2018), and Bamber et al. (2019). Moderate (Mod.) emissions are interpolated between the high and low emissions scenarios. Rows correspond to different projection probabilities. For example, the 'Likely Range' rows correspond to at least a 2-in-3 (66-100% chance) chance of sea-level rise from the relevant projections considered, consistent with the terms used by the Intergovernmental Panel on Climate Change (Mastrandrea et al., 2010). Note alternative methods may yield higher or lower estimates of the chances of low-end and high-end outcomes.*

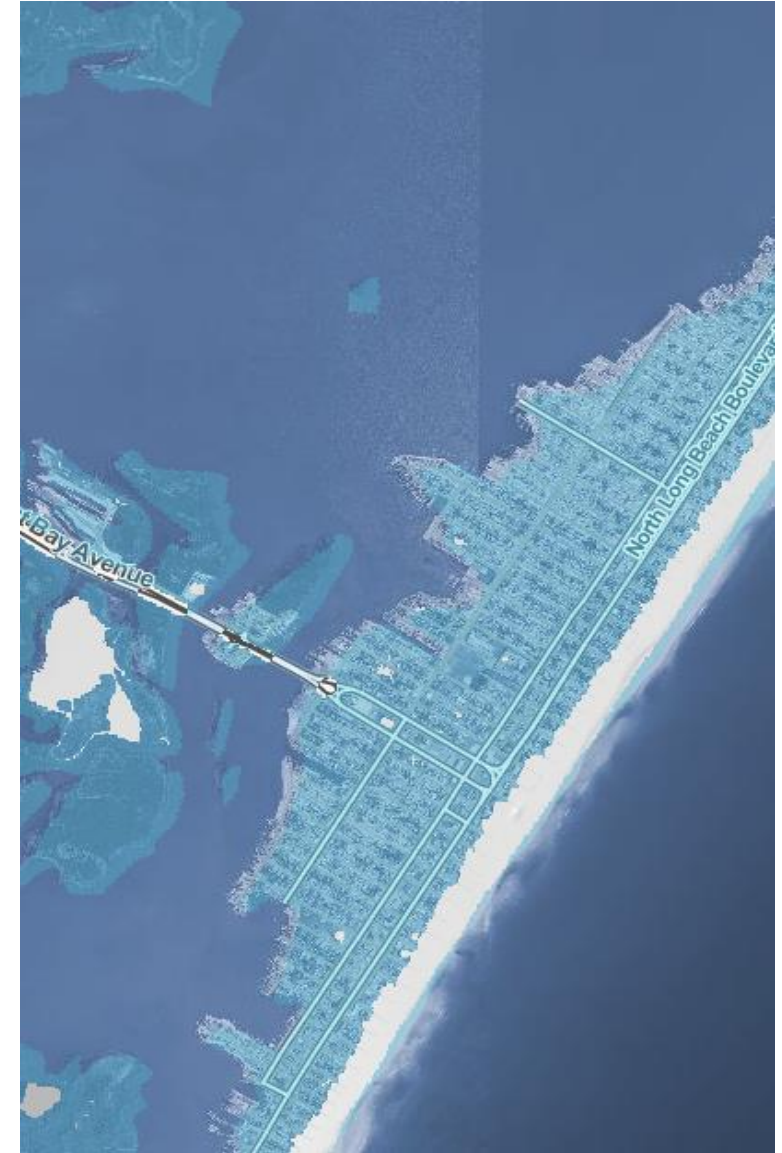
# Projected Sea-level Rise at Ship Bottom, NJ



**1 ft SLR**  
**Likely by 2040**



**3 ft SLR**  
**Likely by 2100**



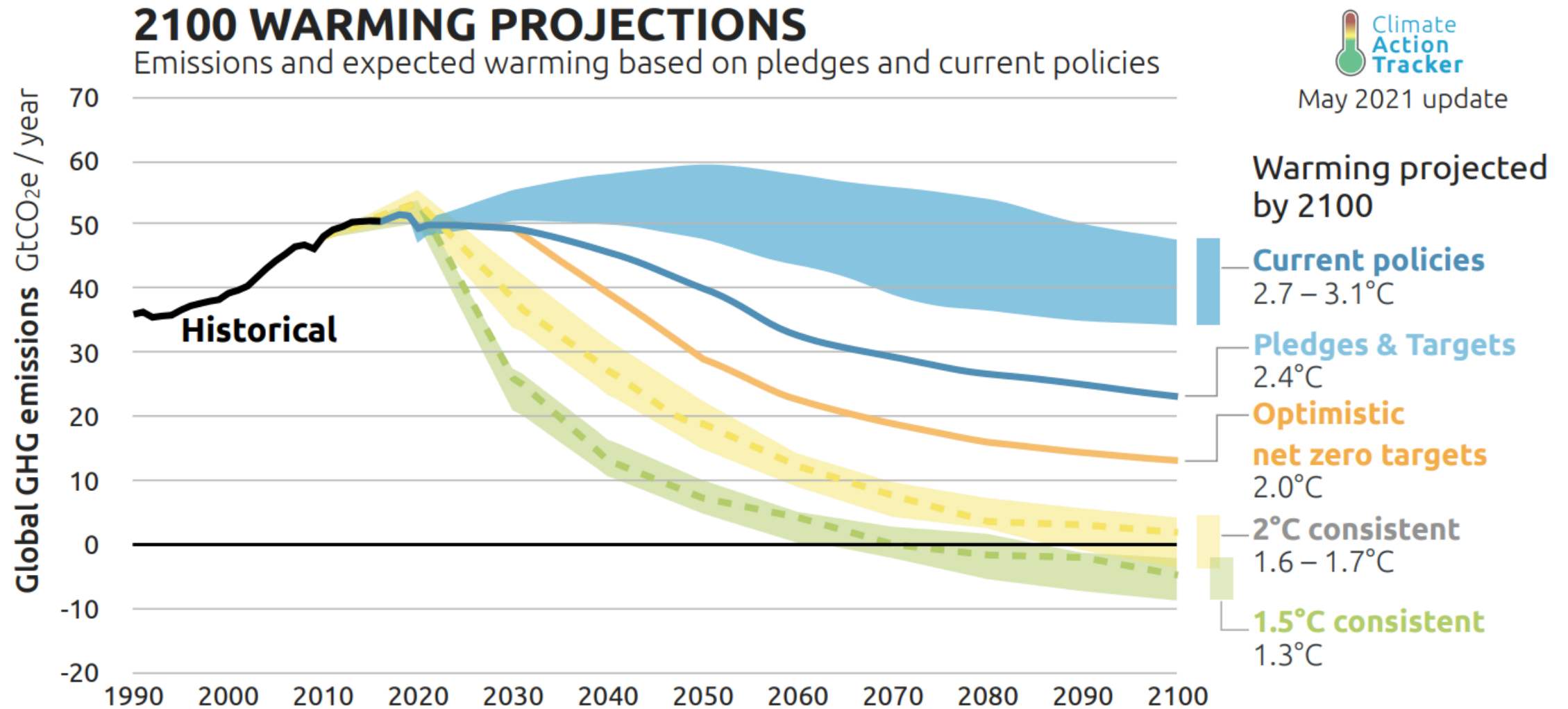
**5 ft SLR**  
**5% Chance by 2100**

**Table 5. Expected high-tide flooding days in Atlantic City, NJ, through 2150 for a Moderate Emissions projection**

Year	Low End > 95% Chance	Likely Range			High End < 5% chance
		>83% Chance	~50% chance	< 17% chance	
2000			5 days		
2010			7 days		
2020	6 days	9 days	17 days	30 days	45 days
2030	10 days	17 days	35 days	75 days	110 days
2040	17 days	30 days	70 days	150 days	220 days
2050	24 days	45 days	120 days	255 days	325 days
2060	40 days	85 days	190 days	315 days	350 days
2070	55 days	120 days	265 days	350 days	**
2080	75 days	165 days	320 days	**	**
2090	85 days	200 days	345 days	**	**
2100	95 days	240 days	355 days	**	**
2110	150 days	285 days	360 days	**	**
2120	155 days	305 days	**	**	**
2130	175 days	325 days	**	**	**
2140	220 days	340 days	**	**	**
2150	255 days	350 days	**	**	**

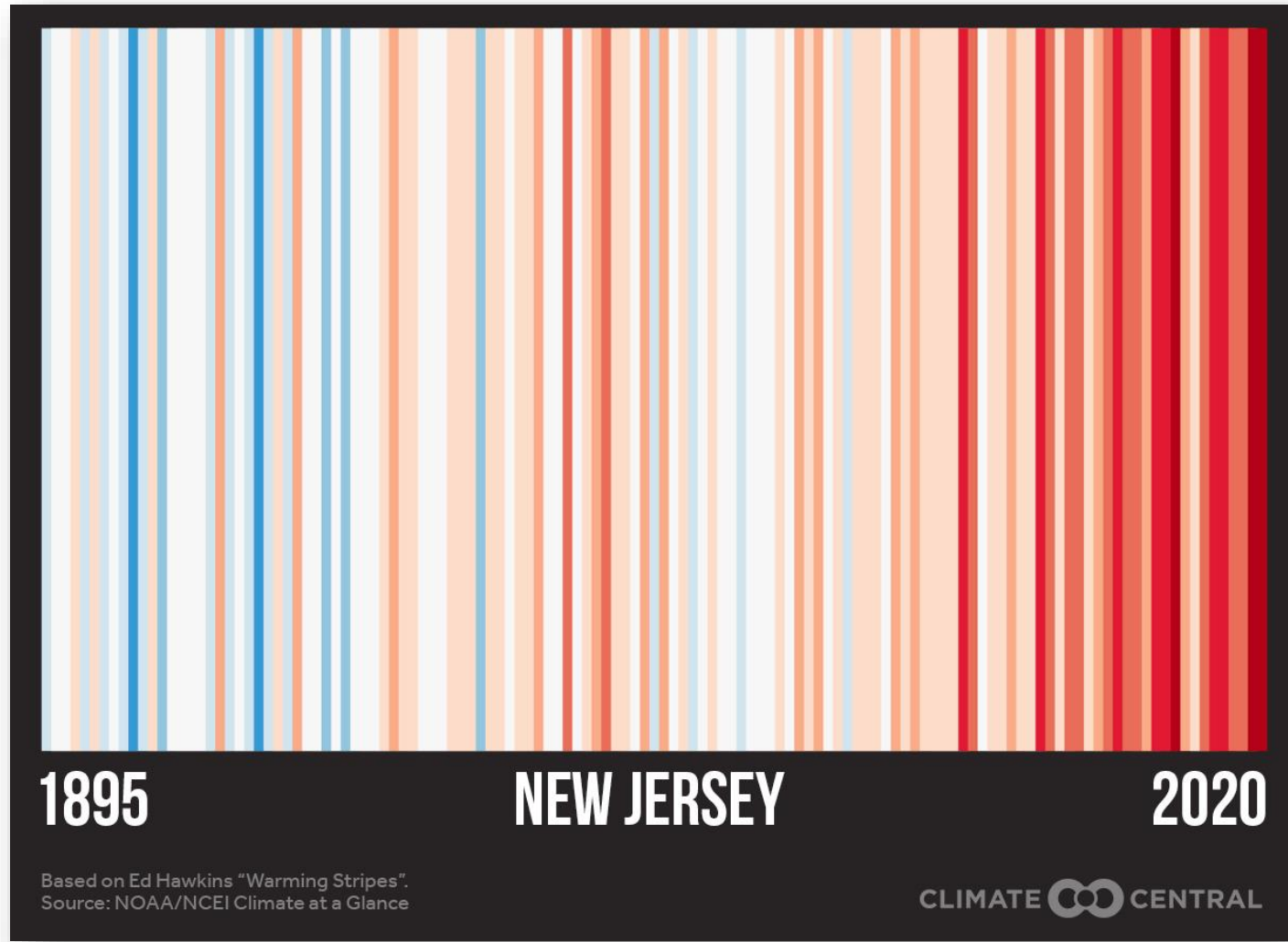
Notes: \*\* indicates high-tide flooding expected every day of the year. Note that expected number of days of flooding per year will differ from the actual number experienced in a specific year; the expected number reflects the average that would be seen were sea-level stable at the projected level for a given year.

# So where are we?



# 2020 NEW JERSEY SCIENTIFIC REPORT ON CLIMATE CHANGE

June 30, 2020



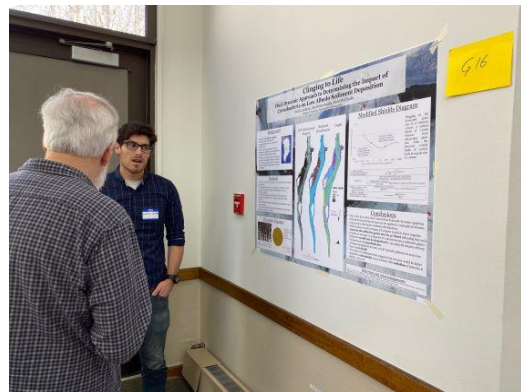
Nicholas A. Procopio, Ph.D., GISP  
Chief, Bureau of Environmental Assessment  
Division of Science and Research

[nick.procopio@dep.nj.gov](mailto:nick.procopio@dep.nj.gov)

# Questions?

# Afternoon Break

# AWMA-NCNJ and Rutgers Poster Competition and Career Panel *March 4, 2020*



# Bureau Chief Kim Cenno

- ▶ Environmental Analysis, Restoration & Standards,  
Division of Water Monitoring and Standards
- ▶ Water Monitoring Standards Updates and Initiatives



**UPDATES TO  
DIVISION OF WATER MONITORING & STANDARDS  
NOVEMBER 19, 2021**

**ANNUAL REGULATORY UPDATE CONFERENCE**

KIMBERLY CENNO, BUREAU CHIEF

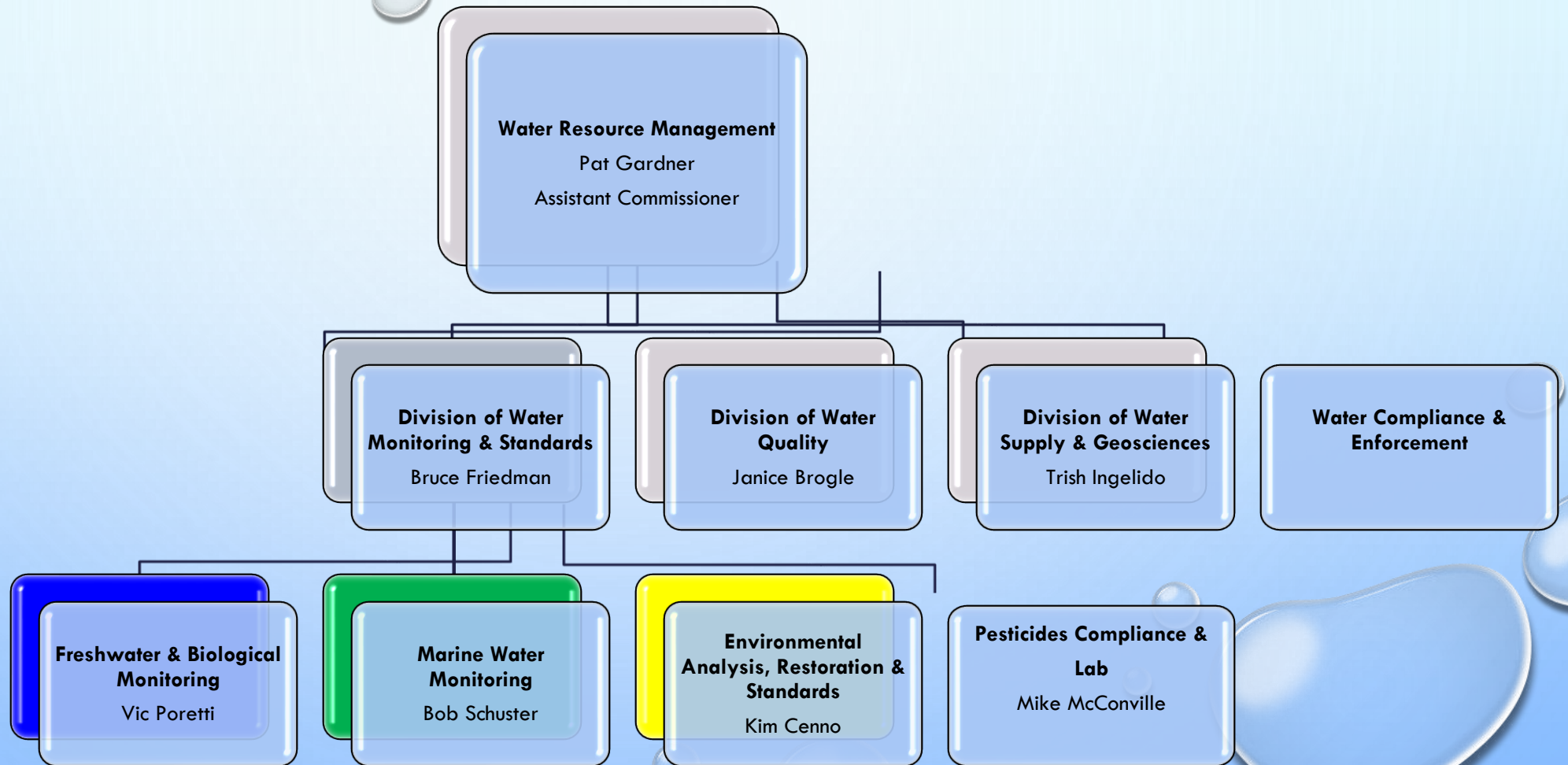
BUREAU OF ENVIRONMENTAL ANALYSIS, RESTORATION AND STANDARDS (BEARS)

DIVISION OF WATER MONITORING AND STANDARDS (WMS)

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION



# WATER RESOURCE MANAGEMENT



# WHO WE ARE AND WHAT WE DO

- FRESHWATER & BIOLOGICAL MONITORING:

MONITORS THE FRESHWATERS OF THE STATE; CHEMICAL AND PHYSICAL, BIOLOGICAL AND FISH TISSUE, AND HAB MONITORING

- MARINE WATER & MONITORING:

MONITORS THE MARINE WATERS OF THE STATE; COMPLIANCE W/THE NATIONAL SHELLFISH SANITATION PROGRAM AND SOURCE TRACK DOWN

- ENVIRONMENTAL ANALYSIS, RESTORATION & STANDARDS:

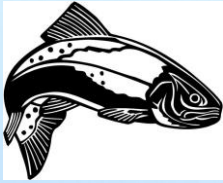
GWQS, SWQS, TMDLS, 303(D) LIST, AMERICORPS NJ WATERSHED AMBASSADORS PROGRAM, COMMUNITY WATER MONITORING, COASTAL BEACH MONITORING AND CLEAN SHORES

- PESTICIDE COMPLIANCE AND LAB: ENFORCE THE STATE CODE AND FEDERAL INSECTICIDE, FUNGICIDE AND RODENTICIDE ACT (FIFRA), INSPECTIONS, AND LAB ANALYSIS



# SURFACE WATER QUALITY STANDARDS

(<https://www.nj.gov/dep/wms/bears/swqs.htm>)



## Designated Uses

- Aquatic life, drinking water after conventional treatment
- Agricultural and industrial supplies
- Navigation, recreation



## Stream Classifications

- Freshwaters: FW1, FW2 (TP, TM, NT)
- Saline Waters (SE1, SE2, SE3, SC)
- PL



## Water quality criteria necessary to protect the designated uses

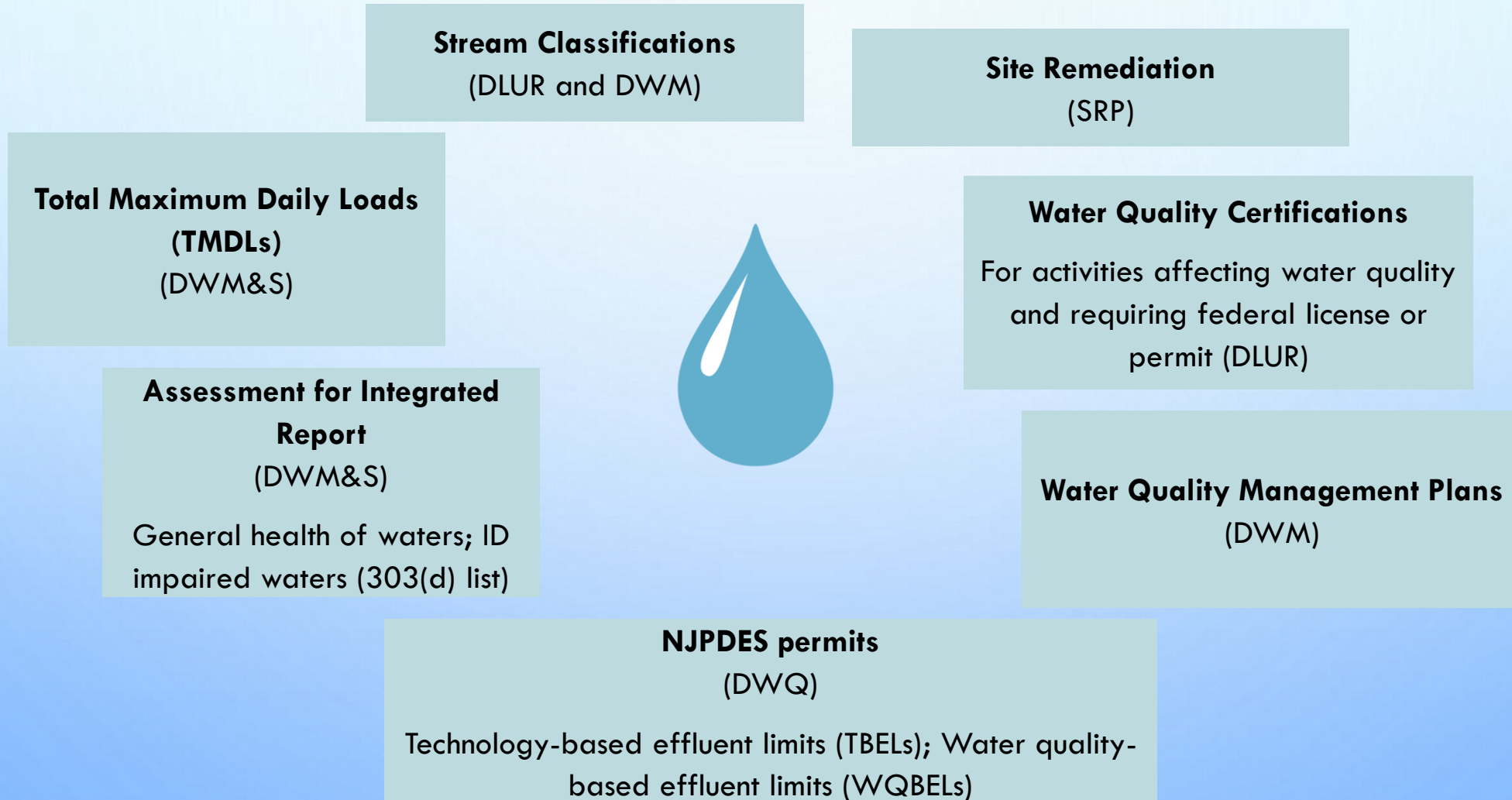
- Aquatic life (based on toxicity studies in aquatic life)
- Human health (based on drinking water and fish consumption)
- Does not consider economic or technological feasibility or detectability to implement.



## Policies affecting implementation

- General and Technical
- Antidegradation
- Mixing Zone
- Variances

# SWQS IMPLEMENTATION



# SWQS REQUIREMENTS

- MUST BE REVIEWED EVERY THREE YEARS (TRIENNIAL REVIEW)
- MUST BE RENEWED EVERY SEVEN YEARS – EXPIRES IN 2023 (NEW JERSEY ADMINISTRATIVE PROCEDURE ACT (NJAPA) AT N.J.S.A. 52:14B-1 ET SEQ.)

## Statutory Authority

- Federal:
  - Clean Water Act (§101(a), §303(a-c))
  - Federal Regulations (40 C.F.R. 131.11)
- State:
  - NJ Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.)
  - Water Quality Planning Act (N.J.S.A. 58:11A-1 et seq.)



# SWQS ANTIDEGRADATION POLICY

## OUTSTANDING NATIONAL RESOURCE WATERS (ONRW)

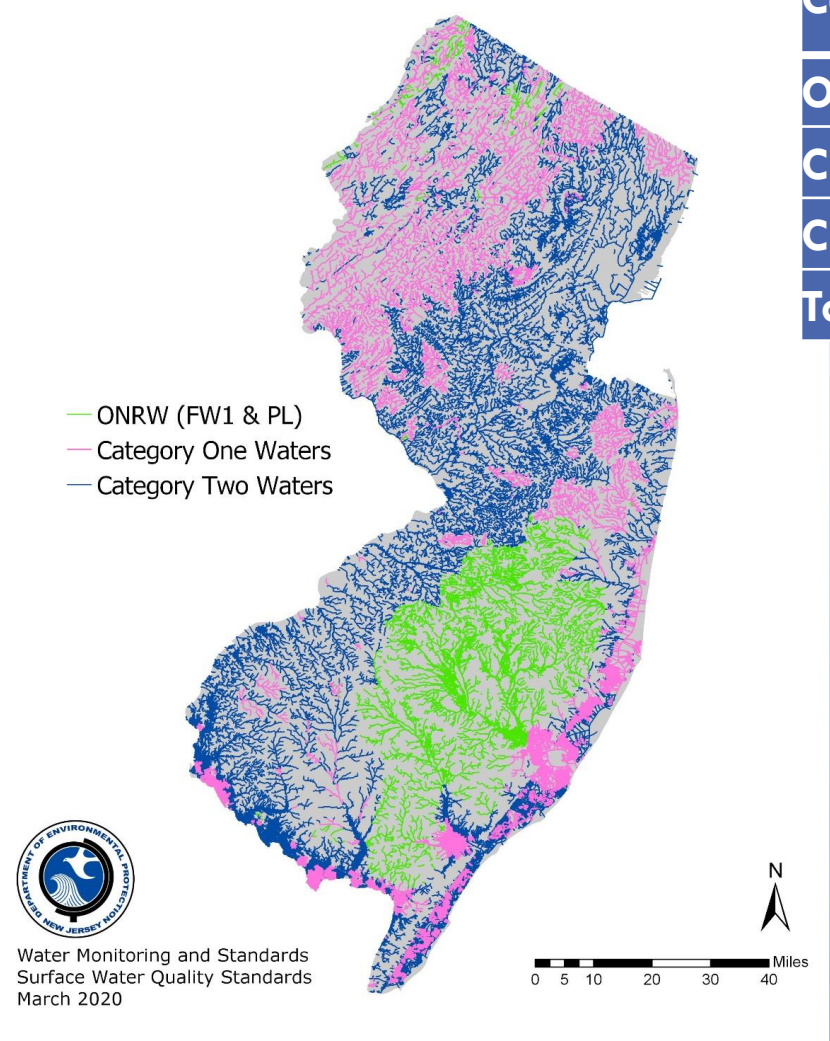
- WATERS WITHIN STATE AND FEDERAL PARKS
- NO MANMADE WASTEWATER DISCHARGERS ARE ALLOWED
- NO ACTIVITIES WHICH WOULD CAUSE A MEASURABLE CHANGE IN WATER QUALITY, EXCEPT TOWARD NATURAL CONDITIONS

## Category One Waters

- Wastewater dischargers are required to maintain the current level of water quality
- C1 designation provides additional protection to waterbodies to discourage development (300-ft riparian zone)
- Waters shall be protected from measurable changes in water quality

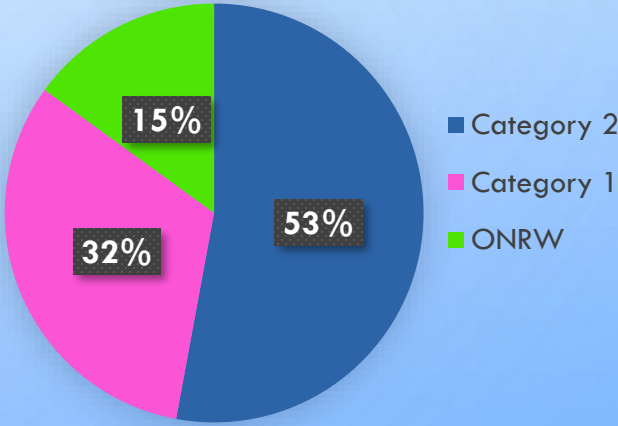
## Category Two Waters

- All streams that are not ONRW or C1
- Existing water quality is maintained
- Some degradation may be allowed to accommodate important economic and social development
- Must continue to meet SWQS criteria
- Review done on a pollutant-by-pollutant basis



Categories	River miles	Percent (%)
ONRW	3,527	15
C1	7413	32
C2	12581	53
Total	23,521	100

NJ Surface Water Antidegradation Designations



# Surface Water Standards Development

## DRIVERS:

New (or revised) federal guidance

Data sufficient to develop state-specific criteria without federal guidance

Petition for rulemaking

## CRITERIA DEVELOPMENT:

Aquatic life-based criteria (acute and chronic exposure)

Fresh

Saline

Human health-based criteria

Fresh

Saline

Carcinogens

Non-carcinogens

Conventional Pollutants

Fresh

Saline

## FINAL STANDARD:

Criteria automatically becomes the implemented **Surface Water Quality Standard.**

# SWQS – UPCOMING RULES

## "Triennial" Rule Update

- Includes revised standards for ammonia (freshwater, aquatic life) based on USEPA 2013 recommendations, and revised recreational standards for fecal contamination indicators E. coli and enterococcus in fresh and saline waters based on USEPA 2012 recommendations.
- Includes new SWQS variance provisions based on USEPA 2015 guidance.

# SWQS – UPCOMING RULES

## Human Health Criteria Rule

- Revisions to 87 fresh water and 86 saline human health criteria for toxic substances based on USEPA 2015 recommendations;
- Criteria for seven new substances.
- Criteria (new) for 1,4-Dioxane, and three PFAS (PFNA, PFOA, and PFOS) based on Drinking Water Maximum Contaminant Level (MCL).
- Impact analysis - ongoing

# ONGOING RESEARCH AND COLLABORATIVE EFFORTS

Nutrient Criteria Enhancement Plan – Multiple projects

Project in collaboration with Division of Science and Research to determine NJ specific bioaccumulation factor for the PFOA, PFNA and PFOS.

- Targeted sampling of fish tissue, sediment and water column
- Derivation of bioaccumulation factor (Academy of Natural Sciences, Drexel University)

Bench-scale study to determine main factors influencing arsenic removal from municipal wastewater (Stevens University)

# ONGOING RESEARCH AND COLLABORATIVE EFFORTS

## Estuary programs

- Delaware River Basin Commission
- Barnegat Bay
- NY/NJ Harbor Estuary Program

Multi-program effort led by Division of Science and Research to develop the workplan for PFAS substances.

## Science advisory Board – charge question topics

- Human health impacts of synthetic and bio-equivalent estrogens and pharmaceuticals in NJ waters
- Human health effects of microplastics

# INTEGRATED WATER QUALITY REPORT

- 2018/2020 Statewide Water Quality Web-Based Report
- StoryMap
- Clean Water Act 305(b) and 303(d)
- Impaired Waters (parameter/HUC14)
- Water Quality Trends

# SUITE OF PARAMETERS

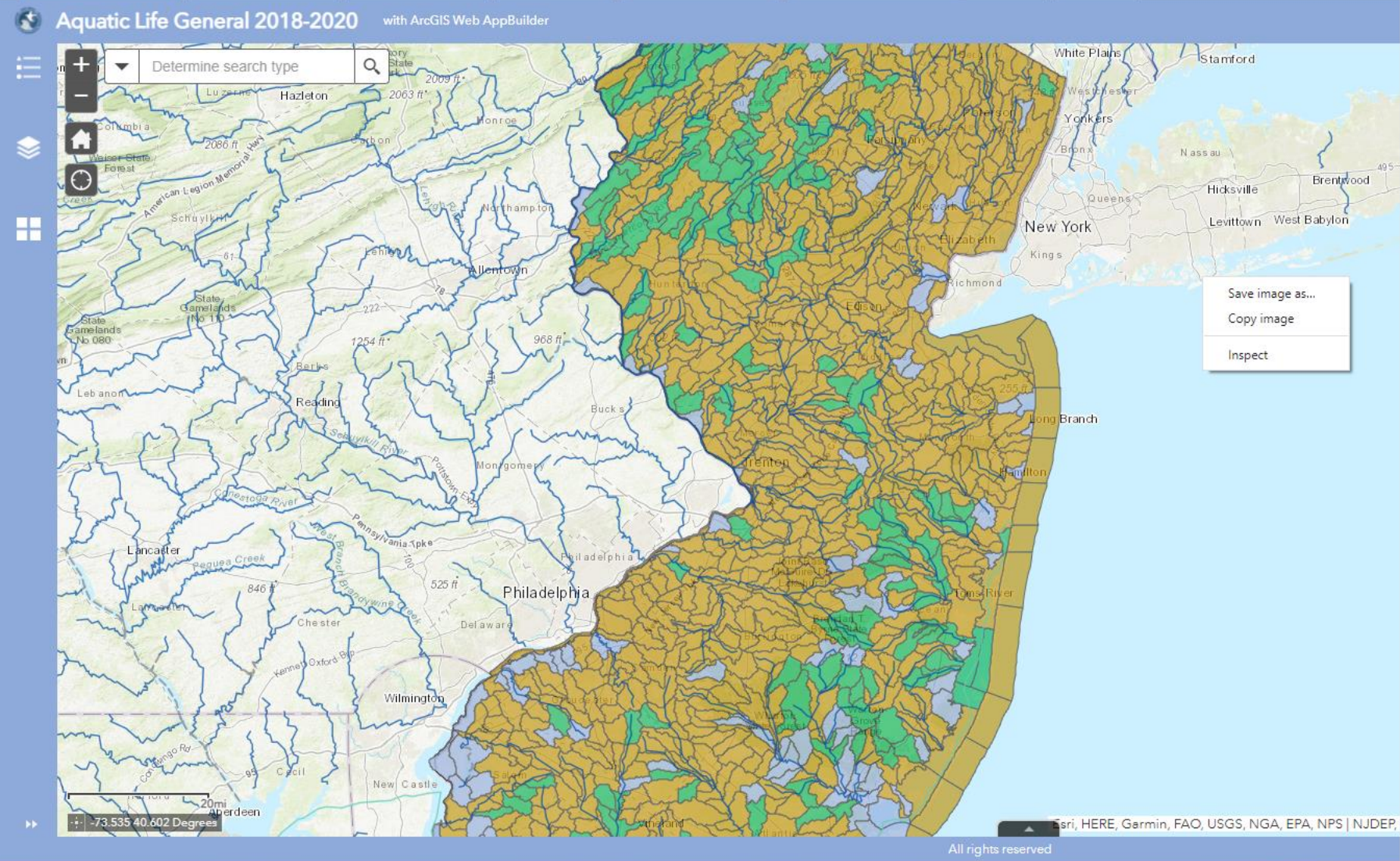
<b>Aquatic Life General</b>	<b>22 parameters:</b> <u>Biology</u> , nutrients, DO, pH, temperature, TSS, turbidity, metals, toxics
<b>Aquatic Life Trout</b>	Same as Aquatic Life General, including <u>Biology, DO, temperature</u>
<b>Recreation</b>	<b>3 parameters:</b> <u>Enterococcus, fecal coliform, or E. coli</u>
<b>Public Water Supply</b>	<b>65 parameters:</b> <u>Nitrate</u> , TDS, chloride, sulfate, metals, toxics
<b>Fish Consumption</b>	<b>20 parameters:</b> mercury, PCB, DDX, chlordanes, dioxin, metals, toxics
<b>Shellfish Harvesting</b>	Shellfish Classification

Underlined parameters are required for full assessment

# 2018-2020 Integrated Report: State

A Story Map    

- Aquatic Life General**
- Aquatic Life Trout
- Fish Consumption
- Water Supply
- Primary Recreation
- Secondary Recreation
- Shellfish
- Tutorial






Description	Waterbodies Assessed	Number of AUs
Can these waters support a healthy ecosystem?	All waters	958

Required Parameters	Other Parameters
Biological Data	DO, TP, Temperature, pH, TSS, Turbidity, Ammonia, Chloride, Metals, Chlorpyrifos, Malathion

#### Zoom to View Stations

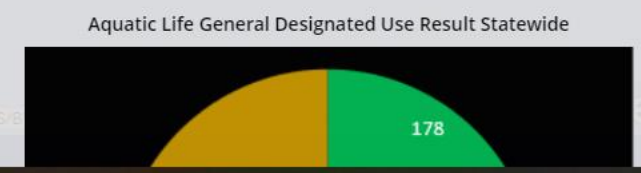
Some Insufficient Data (light blue) AUs contain multiple Full Support (green) stations. This is because these stations lack the required biological data.

 Non Support    Insufficient Data    Full Support

All charts based on counts of assessment units.

Language Note: "Attain" and "Support" in the assessment results are used interchangeably.

Station Disclaimer: Stations represent the approximate sampling location.



# GROUND WATER QUALITY STANDARDS

N.J.A.C. 7:9C



## Designated Uses

- Maintenance of special ecological resources
- Potable water after conventional treatment
- Agricultural water and industrial water



## Ground Water Classifications

- Class I Ground Water of Special Ecological Significance (Class I-A, PL)
- Class II Ground Water for Potable Water Supply (Class II-A, II-B)
- Class III Ground Water With Uses Other Than Potable Water Supply (Class III-A, III-B)



## Water quality criteria necessary to protect the designated uses

- Human health (based on drinking water consumption)
- Considers detectability (PQL); the higher of the specific criterion and the PQL becomes the Constituent Standard.



## Policies affecting implementation

- Antidegradation

# GWQS REQUIREMENTS

- MUST BE RENEWED EVERY SEVEN YEARS – EXPIRES IN 2028 (NEW JERSEY ADMINISTRATIVE PROCEDURE ACT (NJAPA) AT N.J.S.A. 52:14B-1 ET SEQ.)

## GWQS Statutory Authority

- The Clean Water Act does not have authority over ground waters, so the NJDEP's authority for the GWQS is derived from state statutes:
  - NJ Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.)
  - Water Quality Planning Act (N.J.S.A. 58:11A-1 et seq.)



# GWQS Implementation

NJPDES permits (DWQ)

Site Remediation (SRP)

# Ground Water Standards Development

## DRIVERS:

New data or scientific information (e.g. emerging contaminant, new toxicity factors, analytic methods)

Need for remediation standard (SRP)

New (or revised) federal guidance

Readoption/petition for rulemaking

## CRITERIA DEVELOPMENT:

Derives human health-based MCLs and PQLs for:

Carcinogens

Non-carcinogens

## FINAL STANDARD:

Whichever is **higher** between the derived **Specific Ground Water Quality Criterion** and **PQL** becomes the implemented **Constituent Ground Water Quality Standard.**

# PRACTICAL FACTORS CONSIDERED IN STANDARDS DEVELOPMENT

<b>Standard</b>	<b>Practical Quantitation Level (PQL)</b>	<b>Treatment (Removal of Substance)</b>
<b>Drinking Water (MCLs)</b>	<b>X</b>	<b>X</b>
<b>Ground Water Quality</b>	<b>X</b>	
<b>Surface Water Quality</b>	<b>Not considered.</b>	

# GWQS – UPCOMING RULES

## Human Health Criteria Rule

- Includes revisions to ground water quality criteria and/or PQLs for 66 toxic substances based on USEPA 2015 recommendations.
- For 51 constituents, the revised GWQS will become more stringent, 13 **will become less stringent**, and eight will remain the same.

## CIPFPECAs Interim Specific Ground Water Quality Criterion

- Establishes an interim specific ground water quality criterion of 0.002 µg/L for chloroperfluoropolyether carboxylates via public notice.

# NJ Beach Monitoring Program

## Cooperative Coastal Monitoring Program

Weekly Water Quality Monitoring at Public Recreational Beaches

Public Notification of Beach Actions via **NJBeaches.org**

Partnership with NJDOH and Local Health Authorities

## Clean Shores

MOA with DOC to Conduct Year-Round Cleanups

Available to Municipalities with Tidally Influenced Waterways

Funded by the **"Shore To Please"** License Plate Sales

## Aerial Surveillance

MOU with FFS to Conduct Flights 6 Days a Week

**Hyperspectral Remote Sensor for Early Detection of HABs**

Observers Look for Anything Potential Harmful to Bathers

## Environmental Monitoring

**Locations Do Not Qualify as PRBs but Are Where Primary Recreation is Known to Occur**

Weekly Monitoring on a Rotating Basis (3 Regions)

Public Notification of Advisories at: **NJBeaches.org**

## Source Tracking

Performed at Beaches with Persistent Water Quality Issues

Conduct Additional Monitoring Studies and Advanced Microbiological Analysis

Current Projects Include Beachwood Beach West and 25th Street Bay Front Beach

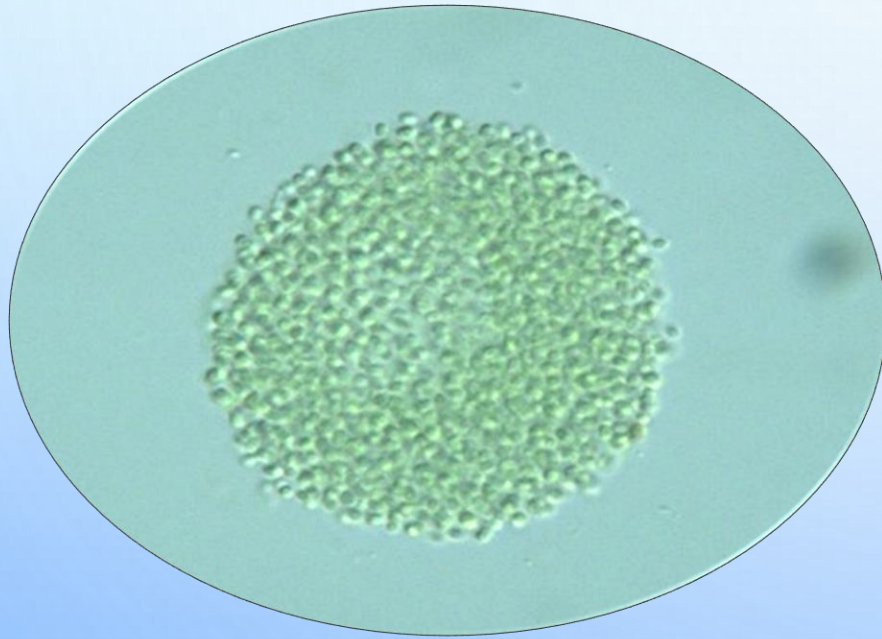
## CYANOBACTERIAL HARMFUL ALGAL BLOOMS (HABS) FRESHWATER RECREATIONAL RESPONSE STRATEGY

- UNIFIED APPROACH FOR HAB RESPONSE IN RECREATIONAL WATERS & SOURCES OF DRINKING WATER
- DEFINES RESPONSE ACTIONS OF DEPARTMENTS AND PROGRAMS



- DEP, DOH (LICENSED BATHING BEACHES) AND DEPT AG
- COORDINATED BY DEP'S BUREAU OF FRESHWATER & BIOLOGICAL MONITORING
- DEP PROGRAMS INCLUDE: BMWM, DSR, DWSG, DPF & DFW





### **Toxin Risk Thresholds for Advisory/Beach Closure**

- Microcystins (as total including microcystin –LR and other detectable congeners): 2 µg/L
- Cylindrospermopsin: 5 µg/L
- Anatoxin-a: 15 µg/L
- Saxitoxin: 0.6 µg/L

### **Cell Count Risk Thresholds for Advisory/Beach Closure**

- 80,000 cells/ml

# HAB INTERACTIVE MAPPING AND COMMUNICATION SYSTEM

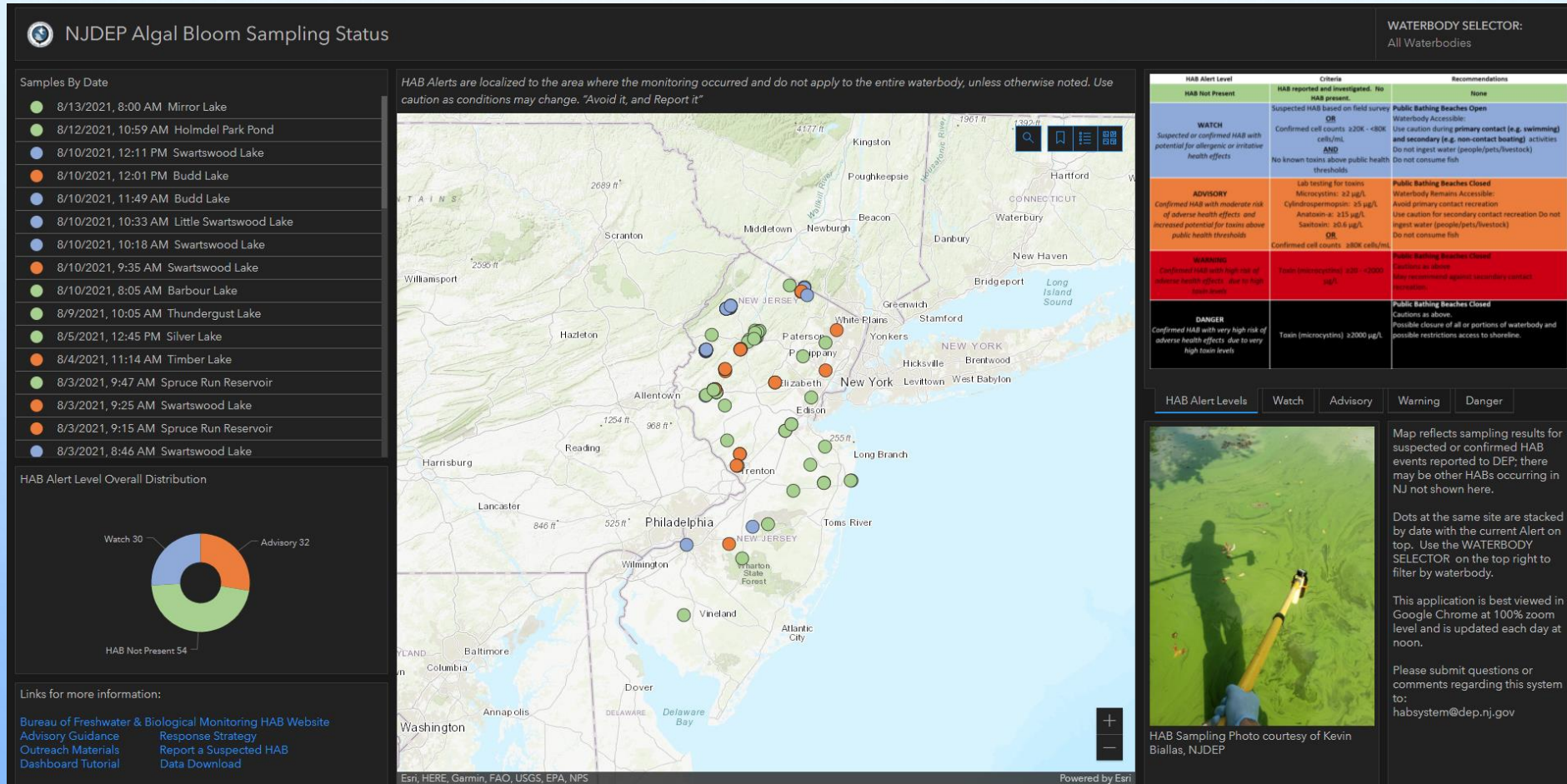
## Reporting a Suspected HAB

- Phone or PC reporting
- Pinpoints site
- Provides example photos of HABs
- Photo uploads
- Observations and field data

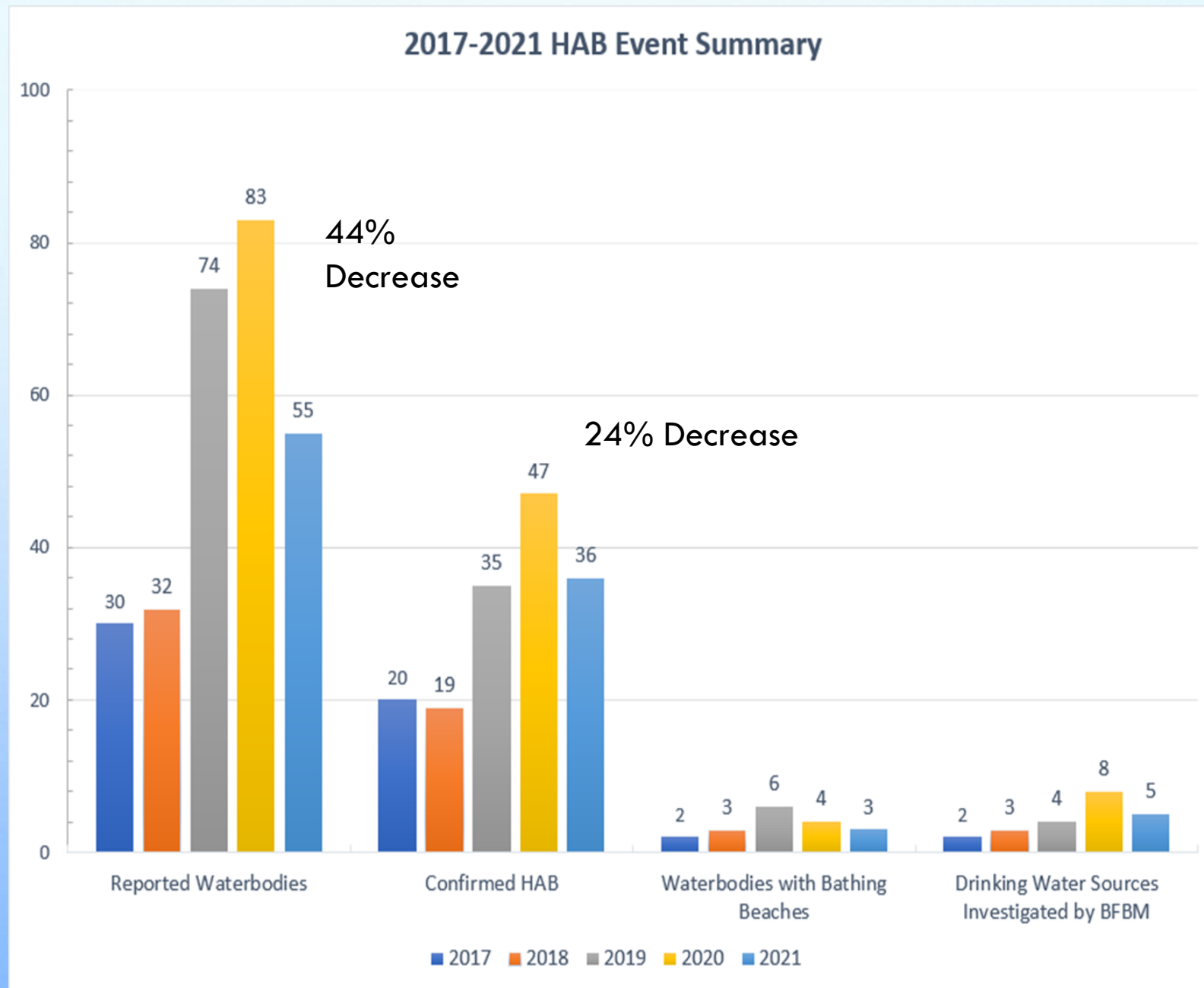
The collage illustrates the HAB Interactive Mapping and Communication System across different platforms:

- Desktop Website:** Shows the State of New Jersey Department of Environmental Protection (NJDEP) website. The "Report a HAB" button is highlighted with a red circle and an arrow pointing to the mobile app interface.
- Mobile App:** Displays the "NJDEP HAB Sampling Form". It includes fields for "Site Visit Date and Time" (Friday, March 13, 2020, 9:53 AM), "What group visited the site (pick one)" (DEP-BFBM), and "Add Location" (40.246°N 74.758°W ± 11.8 m). A red arrow points from the "Report a HAB" button on the desktop site to the "Report a HAB" button on the mobile app.
- Map:** A map of New Jersey showing various locations marked with green dots, indicating suspected HAB sites. A red arrow points from the "Report a HAB" button on the mobile app to the map.
- Additional Screens:** Includes a "Bloom Sampling Status" screen with a list of locations and dates, and a "HAB Alert Level Overall Distribution" pie chart showing the distribution of alert levels (Watch 75, Advisory 50, Warning 4, HAB Not Present 15).

# HAB INTERACTIVE MAPPING AND COMMUNICATION SYSTEM ([SEARCHABLE MAP](#), [DATA DOWNLOAD TUTORIAL](#))



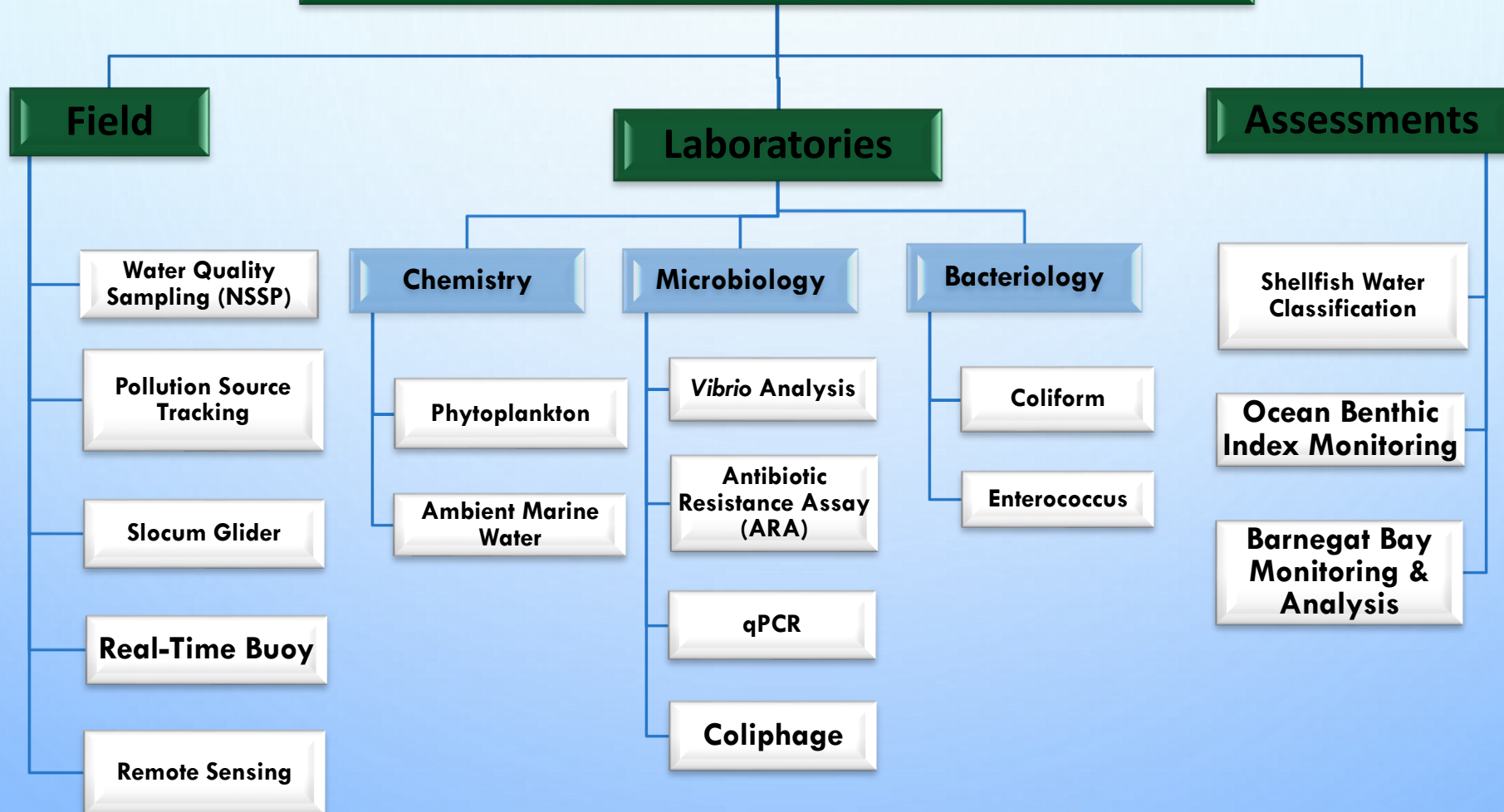
## HAB Season Summary (to date)





# Bureau of Marine Water Monitoring

Robert Schuster, Chief  
Robert.Schuster@dep.nj.gov



# MARINE WATER MONITORING

- Collects and analyzes more than 12,000 samples per year for pathogens from all estuarine and State coastal waters from Raritan Bay to Delaware Bay, including near shore ocean waters, for classification of shellfish growing waters as required under the National Shellfish Sanitation Program (NSSP).
- Issue 150 - 200 Permits annually for Shellfish related activities, primarily Depuration harvester and Aquaculture.
- Phytoplankton Monitoring for toxin producing algae includes aircraft remote sensing for chlorophyll.
- Operate continuous water quality monitoring buoys, data posted to the web, 8 units.
- Perform Special pollution source trackdown projects, include stormwater monitoring, done for pathogens and other chemical pollutants. Also automatic sample collection techniques.
- Advanced microbiological methods, qPCR, Whole Genome Sequencing, Male Specific Coliphage, Antibiotic Resistance.
- Nutrient Lab used for special Projects and Ambient Nutrient Monitoring Network in Marine Waters.
- Collect samples for USEPA National Aquatic Resource Survey, Coastal.

# Questions?

# Director Frank Steitz

- ▶ Division of Air Quality
- ▶ Observed Air Quality During Pandemic and Potential Benefits

# Preliminary Analysis of the Covid-19 Impact on Air Quality in New Jersey

NJDEP Division of Air Quality

11/19/2021

# Contents

- Covid 19 timeline
- Energy Use & Traffic Counts (Sources of Air Pollution)
- Long term trends in air quality
- Projected emissions trend

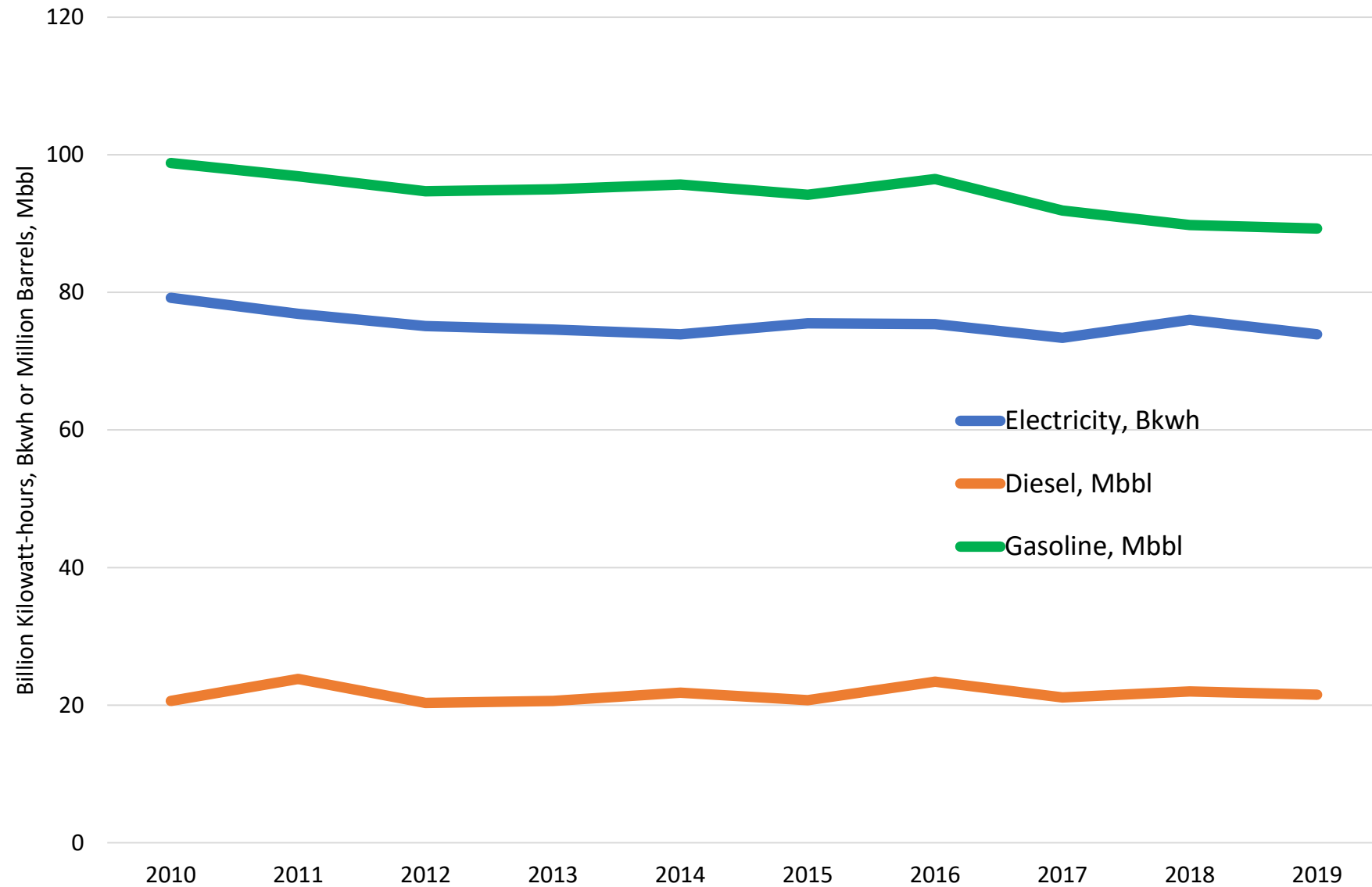
# Covid-19 Timeline

- 3/21/20 Stay-at-home directive
- 6/9/20 Stay-at-home lifted
- 7/2/20 Casinos re-open
- 8/13/20 Schools re-open
- 9/4/20 Indoor dining resumes
- 12/11/20 1<sup>st</sup> Covid-19 vaccine approved for emergency use
- 12/18/20 2<sup>nd</sup> Covid-19 vaccine approved for emergency use
- 2/5/21 Bars re-open
- 2/27/21 3rd Covid-19 vaccine approved for emergency use
- 5/19/21 Outdoor gathering limit removed
- 6/4/21 Public Health Emergency lifted

# NJ Energy Consumption and Traffic Counts

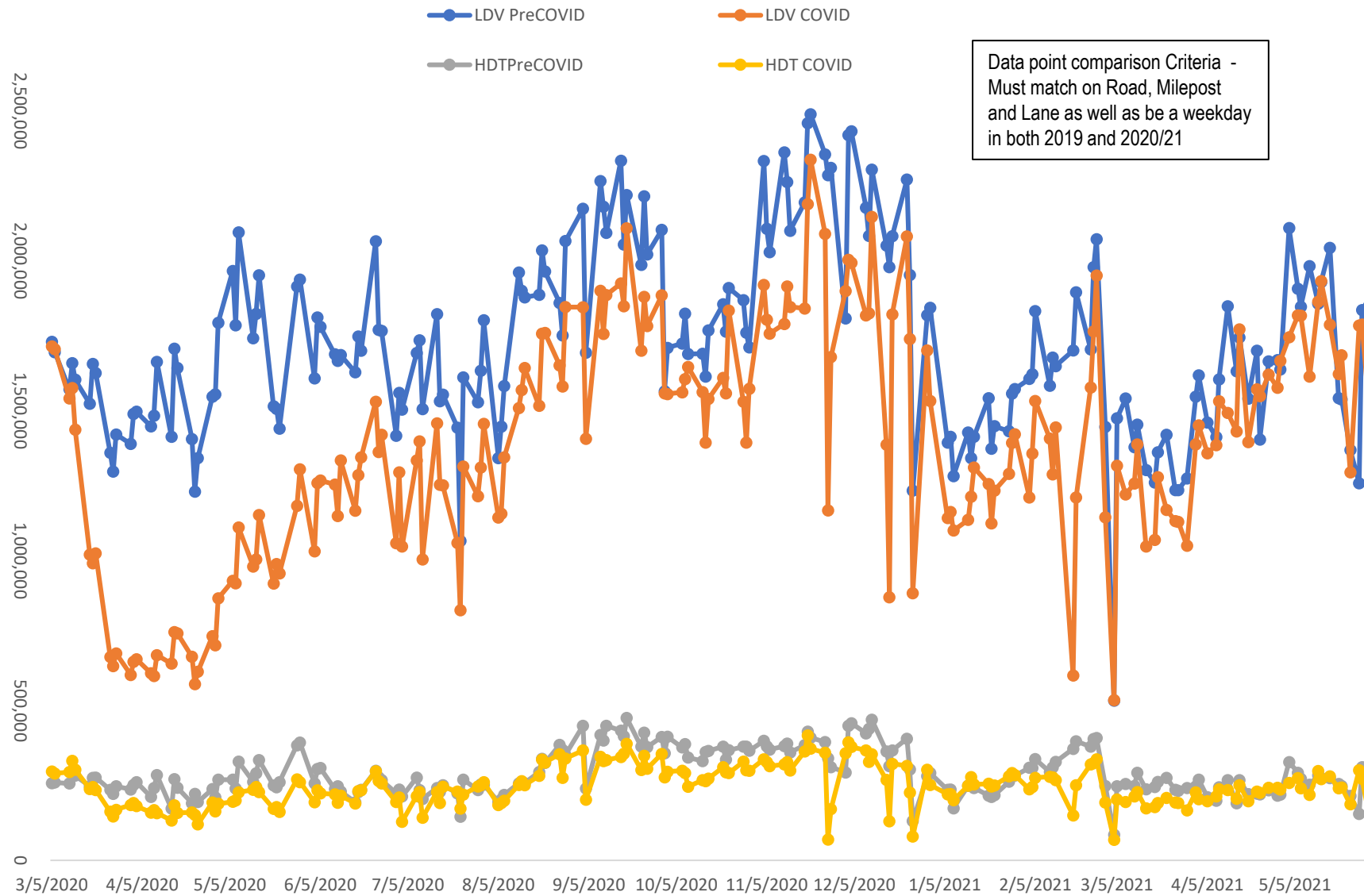
- Electricity Retail Sales in New Jersey, 2010-2019
  - Source: US Energy Information Agency, [www.eia.gov](http://www.eia.gov)
- Transportation Petroleum Consumption Estimates in New Jersey, 2010-2019
  - Diesel
  - Motor Gasoline
  - Source: US Energy Information Agency, [www.eia.gov](http://www.eia.gov)
- Traffic counts for light-duty and heavy-duty vehicles
  - Source: NJDOT

## Trend in Electricity and Transportation Fuel Consumption in New Jersey, 2010-2019



7:30

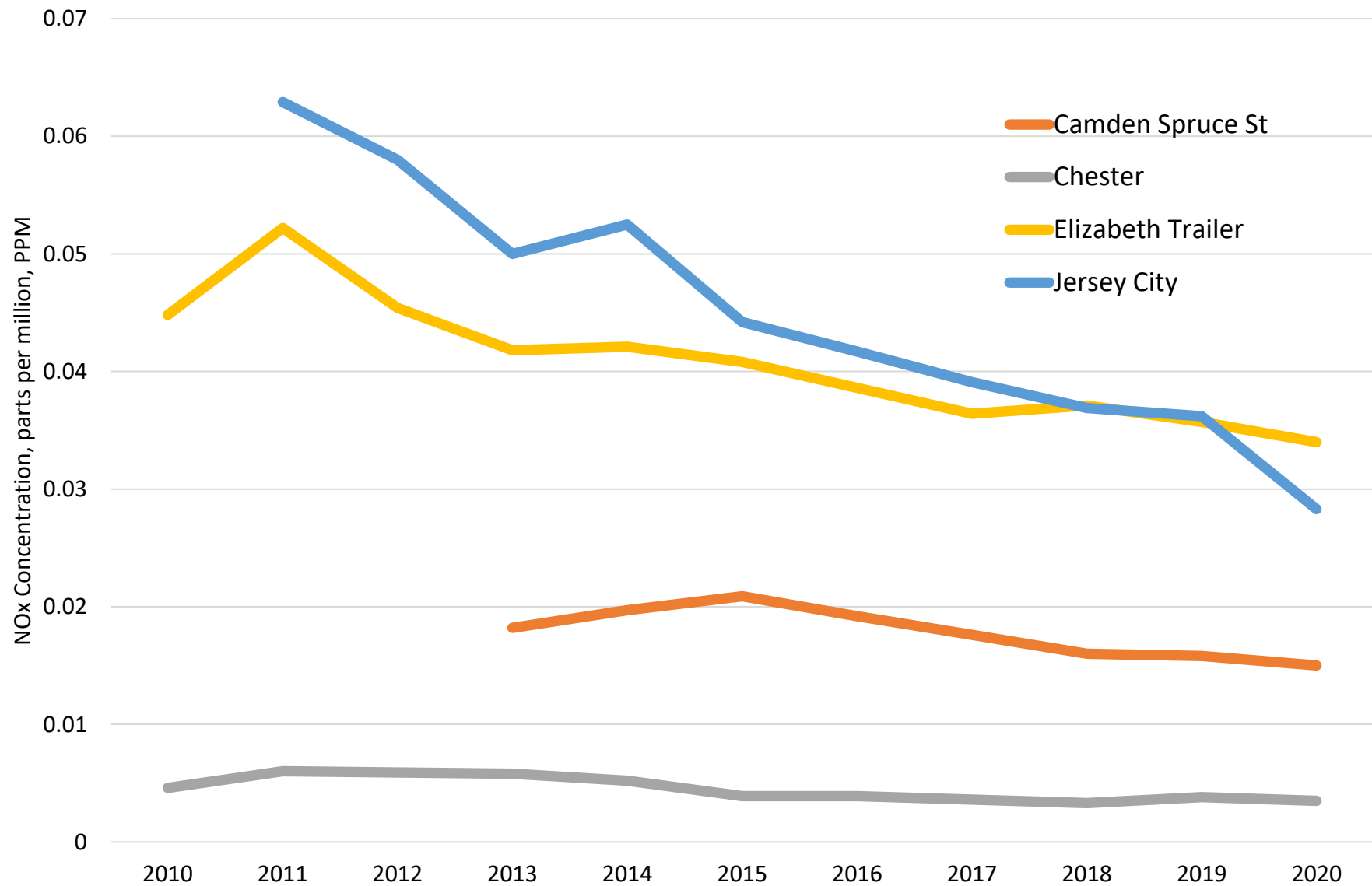
# Traffic Volumes NJDOT Sites Summary PreCOVID vs COVID



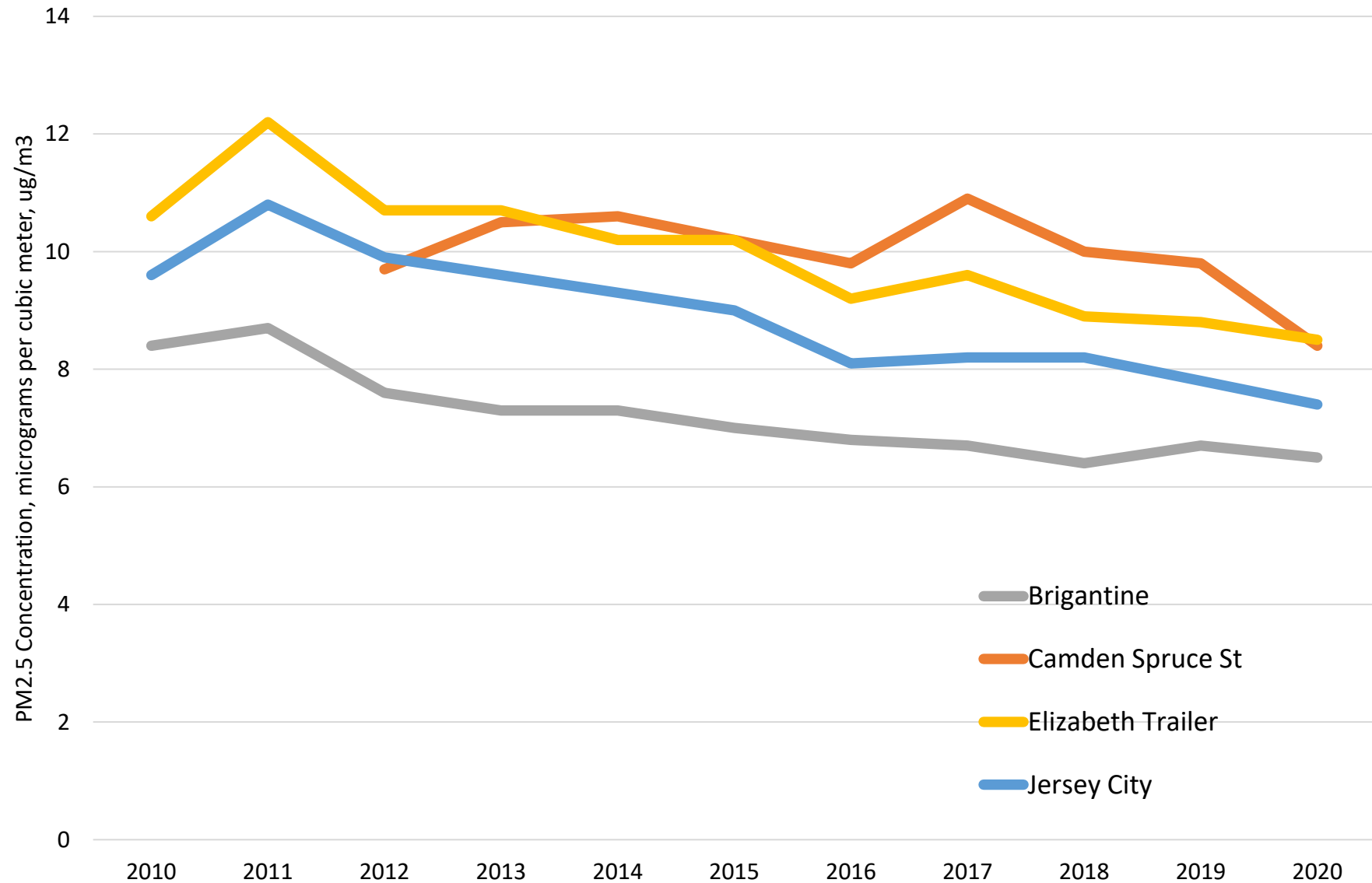
# Long-term Trends in Air Quality

- Nitrogen oxides (NO<sub>x</sub>)
- Fine Particles (PM<sub>2.5</sub>)
- Benzene
- Ozone

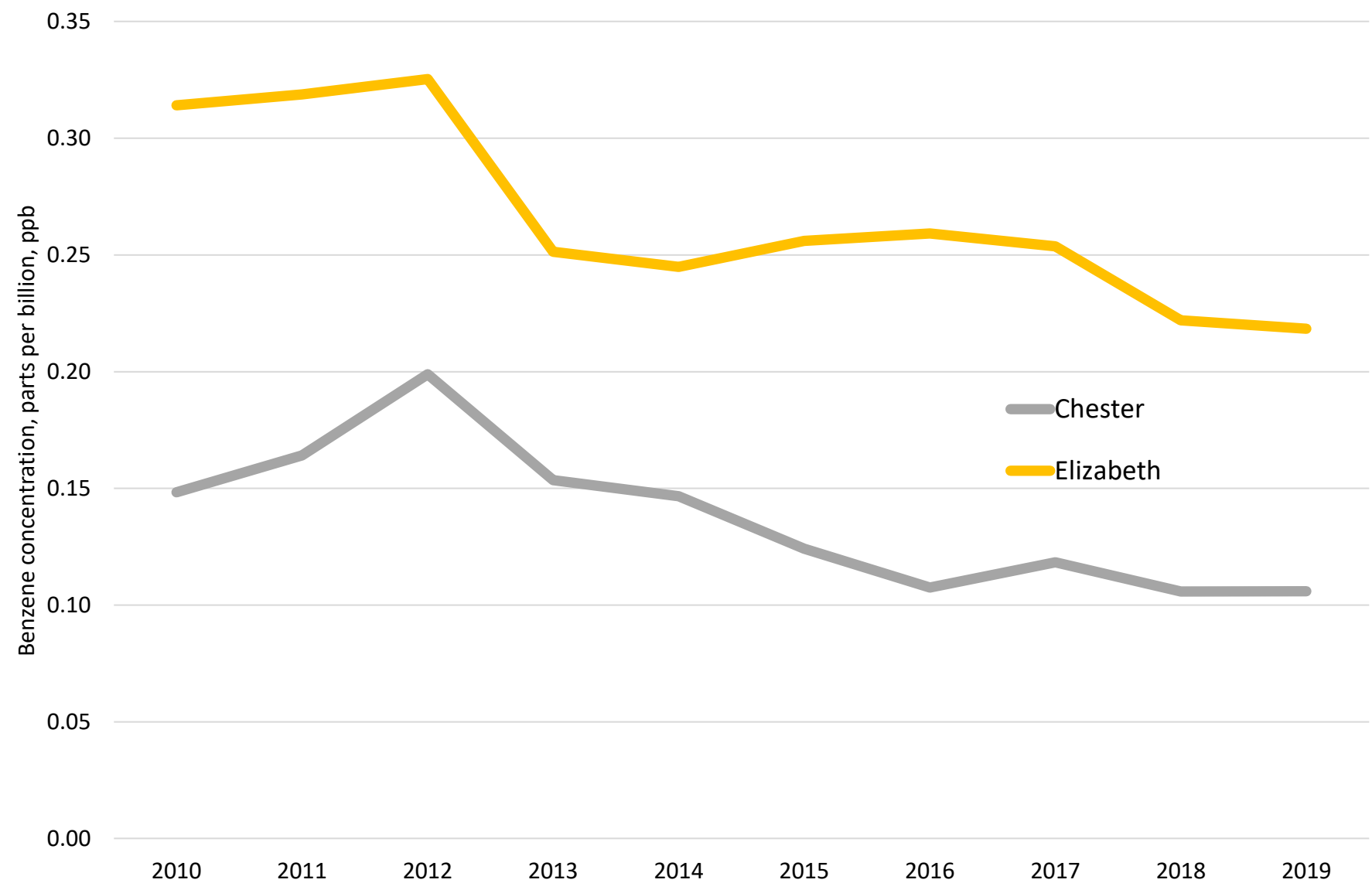
Trend of Annual Average Nitrogen Oxides (NOx) Concentrations at  
4 New Jersey Sites, 2010-2020, PPM



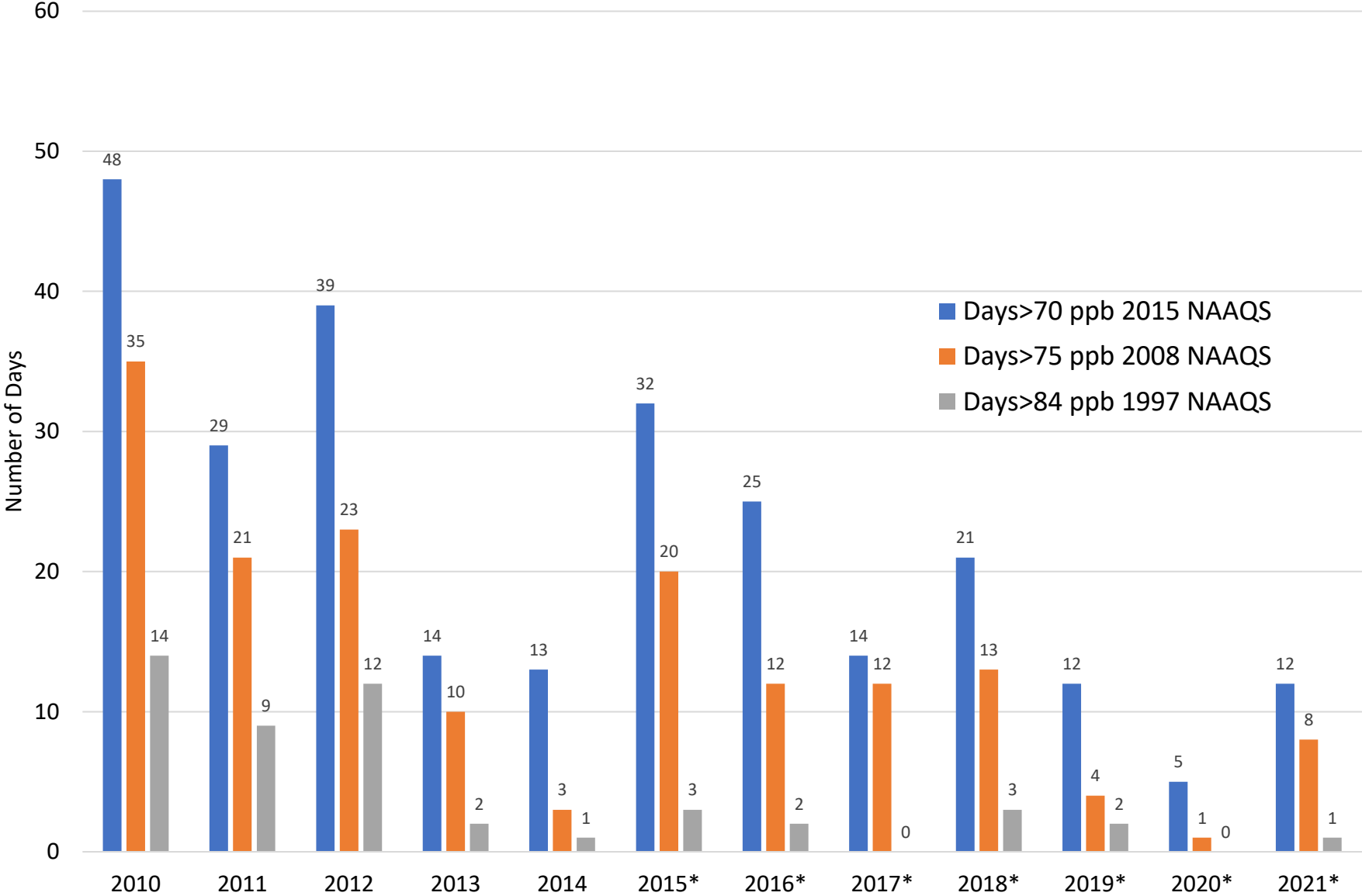
Trend in Annual Average Fine Particulate (PM2.5) Concentrations  
at 4 New Jersey Sites, 2010-2020, micrograms per cubic meter



Trend in Annual Average Benzene Concentrations (24-Hr Samples Analyzed by TO-15) at Chester and Elizabeth, 2010-2019, ppb



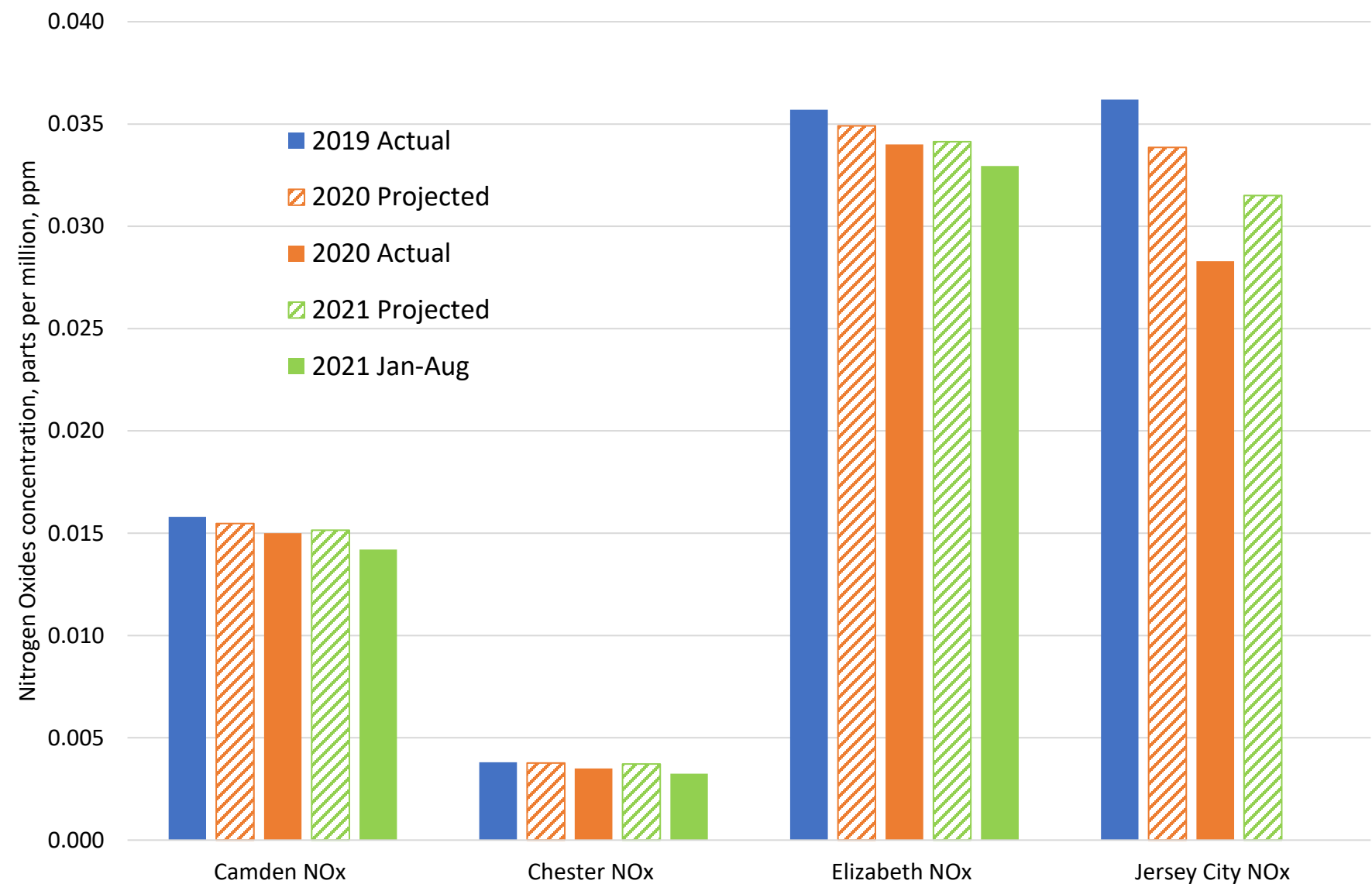
Ozone (O3) Exceedance Days, 2010-2021 of 1997, 2008 and 2015 NAAQS  
(\*includes data from Washington Crossing, EPA CASTNET station)



# Nitrogen Oxides(NO<sub>x</sub>)

- Chester: background site
- Urban stations
  - Camden Spruce Street
  - Elizabeth Lab (NJ Turnpike Exit 13)
  - Jersey City
- Compared projected and actual concentrations in 2020 with projected and actual levels from January – August 2021
- Projections are based of average % change over 10 years

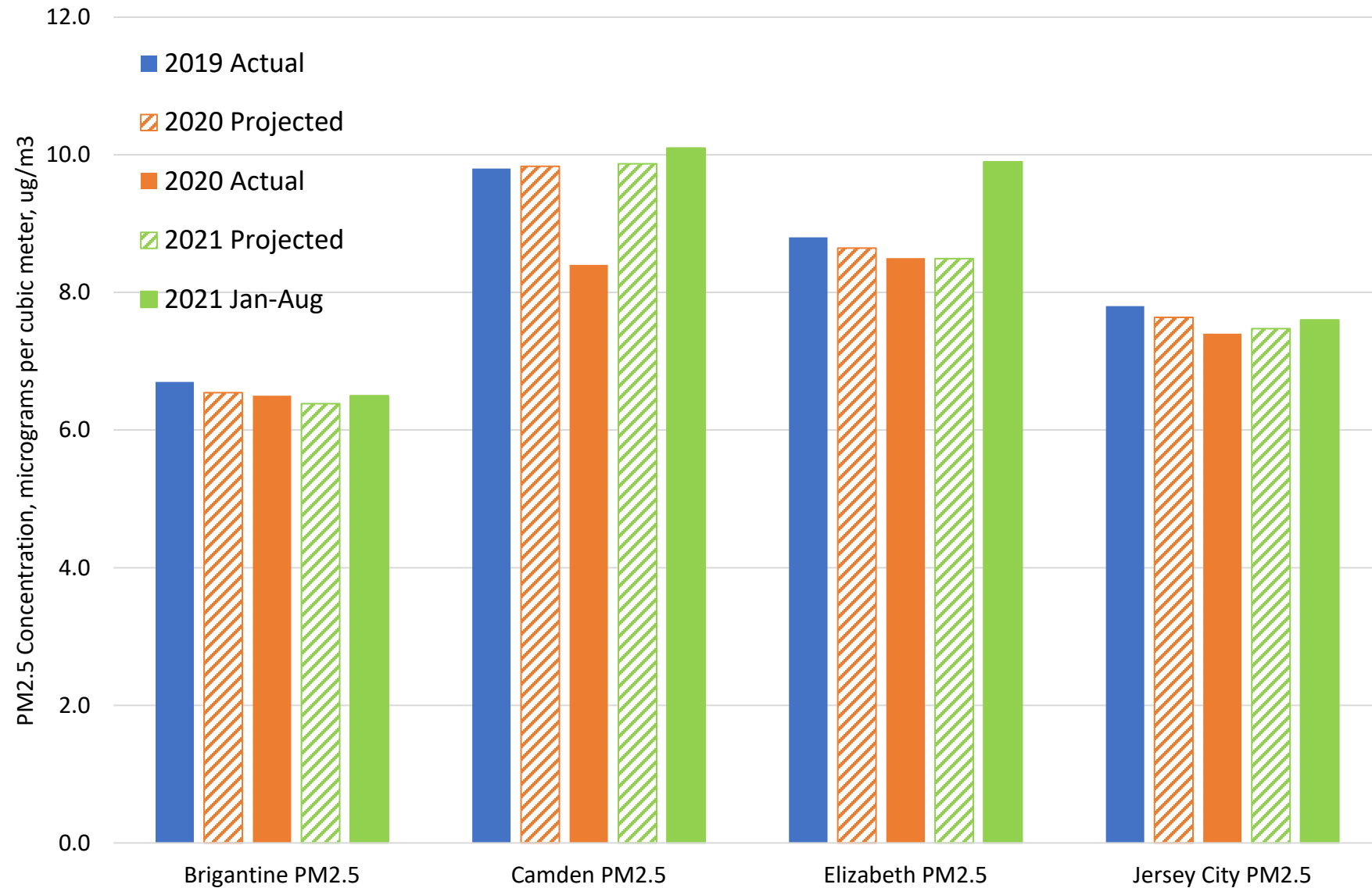
Comparison of Actual Nitrogen Oxides Concentrations in 2019  
with Projected and Actual Concentrations in 2020 and 2021, ppm



# Fine Particulates (PM<sub>2.5</sub>)

- Brigantine: background site
- Urban stations
  - Camden Spruce Street
  - Elizabeth Lab (NJ Turnpike Exit 13)
  - Jersey City
- Compared projected and actual concentrations in 2020 with projected and actual levels from January – August 2021
- Projections are based of average % change over 10 years

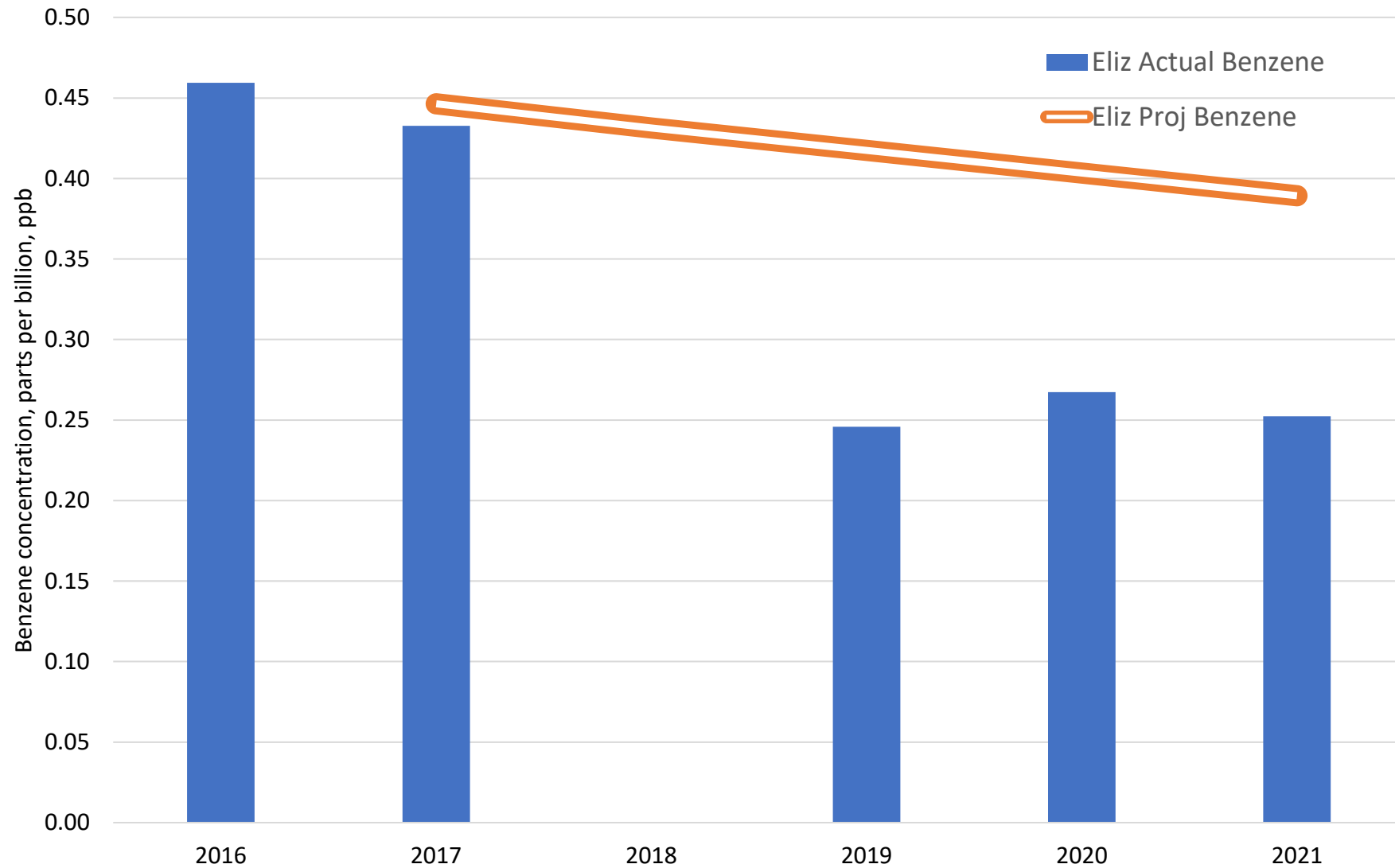
## Comparison of Actual PM2.5 Concentrations in 2019 with Projected and Actual Concentrations in 2020 and 2021, ug/m3



# Benzene

- Chester: background site
- Urban station: Elizabeth Lab (NJ Turnpike Exit 13)
- Compared projected and actual concentrations in 2020 with projected and actual levels from January – August 2021
- Projections are based of average % change over 10 years

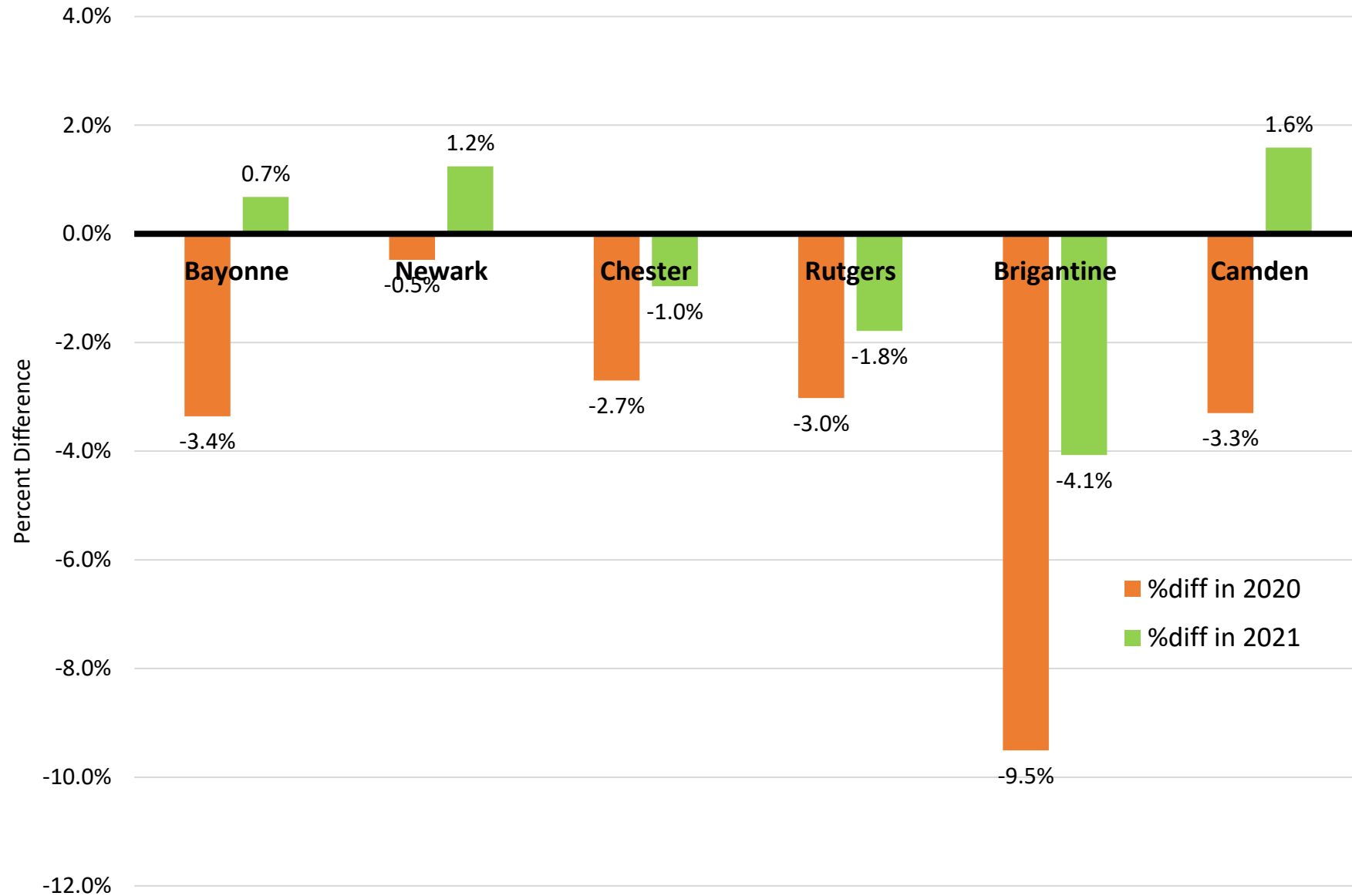
Comparison of Actual Benzene Concentrations (from hourly GC-PID monitor) at Elizabeth in 2016 with Actual and Projected Concentrations, 2017-2021, ppb



# Ozone (O<sub>3</sub>)

- Northeast Metropolitan NJ
  - Bayonne
  - Newark
- Central New Jersey
  - Chester
  - Rutgers (New Brunswick)
- Southern New Jersey
  - Brigantine
  - Camden

Percent Difference of 1-Year (2020 and 2021) Average of Daily Maximum 8-Hour  
Average Ozone (O<sub>3</sub>) Concentrations Versus 3-Year (2017-19) Average



# AQ Impacts from Covid-19 in 2020

- 50% reduction in light duty traffic in April 2020
- 30% reduction in heavy duty traffic in April 2020
- >40% reduction in monthly NO<sub>x</sub> concentrations at urban air monitoring stations, April-May 2020
- >30% reduction in monthly PM<sub>2.5</sub> concentrations at urban air monitoring stations, April-May 2020
- >20% reduction in monthly benzene concentrations at urban air monitoring stations, March-May 2020
- Ozone 1-Year average daily maximum 8-hour average ozone concentrations in 2020 were lower than 3-Year average (2017-19) at 6 stations
  - Decrease ranges from -0.5% to -9.5%
  - Biggest decrease at Brigantine, smallest decrease at Newark

# Is Covid-19 continuing to impact air quality in 2021?

- Are actual levels in 2021 lower than projected levels?
  - NOx: Yes, actual levels in 2021 are 4-14% lower than projected NOx levels
  - PM2.5: No, because of outside forces (wildfires)
  - Benzene: Not conclusive because benzene levels in 2019 were also low
  - Ozone: impact less in 2021
    - 10-month average daily maximum 8-hour average ozone concentrations in 2021 (January – October) are within  $\pm 2\%$  of 3-Year average ozone concentrations, except for Brigantine
    - Brigantine average concentrations are -4.1%
- Traffic counts for light-duty and heavy-duty vehicles NJ are back to pre-Covid-19 levels
- 2021 has not ended

# Questions

[www.nj.gov/dep/daq](http://www.nj.gov/dep/daq)

Frank Steitz, Director, Division of Air  
Air Quality Energy & Sustainability  
New Jersey Department of Environmental Protection  
francis.Steitz@dep.nj.gov



# Assistant Director Peg Hanna

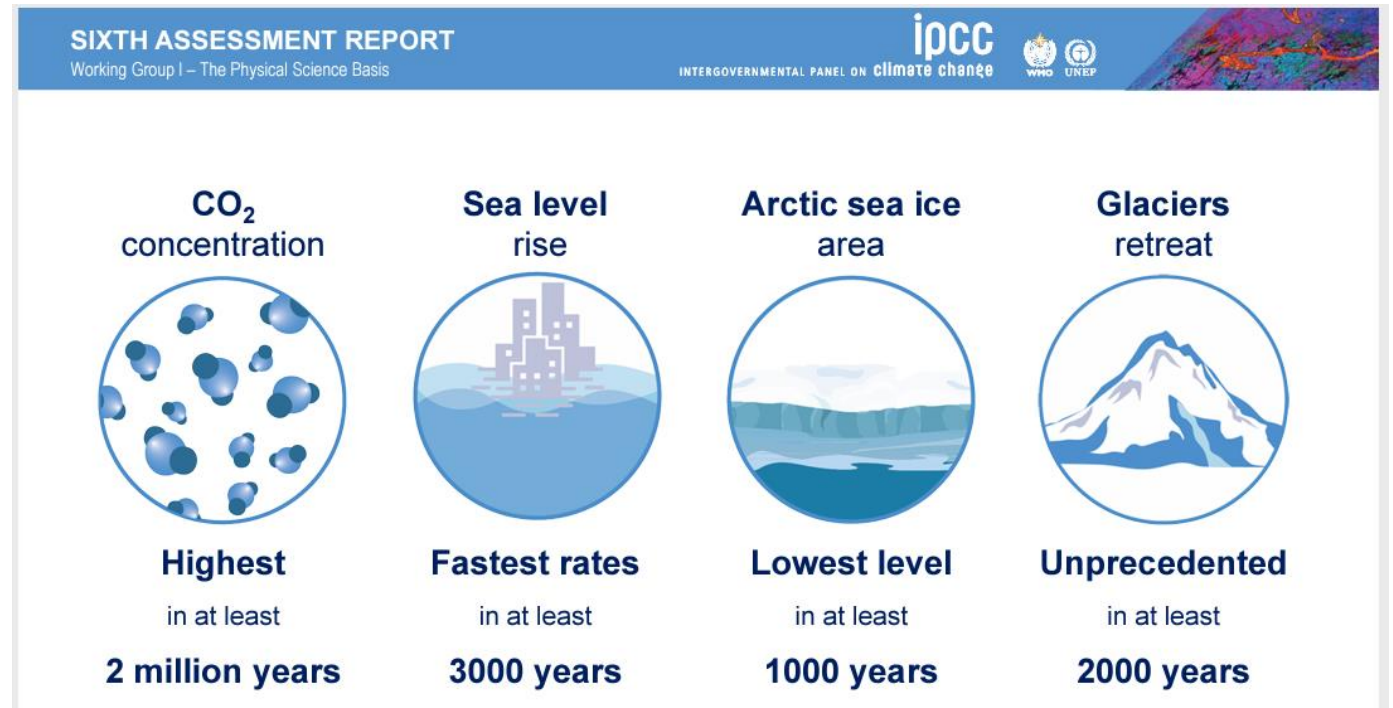
- ▶ Air Monitoring and Mobile Source, Division of Air Quality
- ▶ Whole of Government Approach to Electric Vehicles



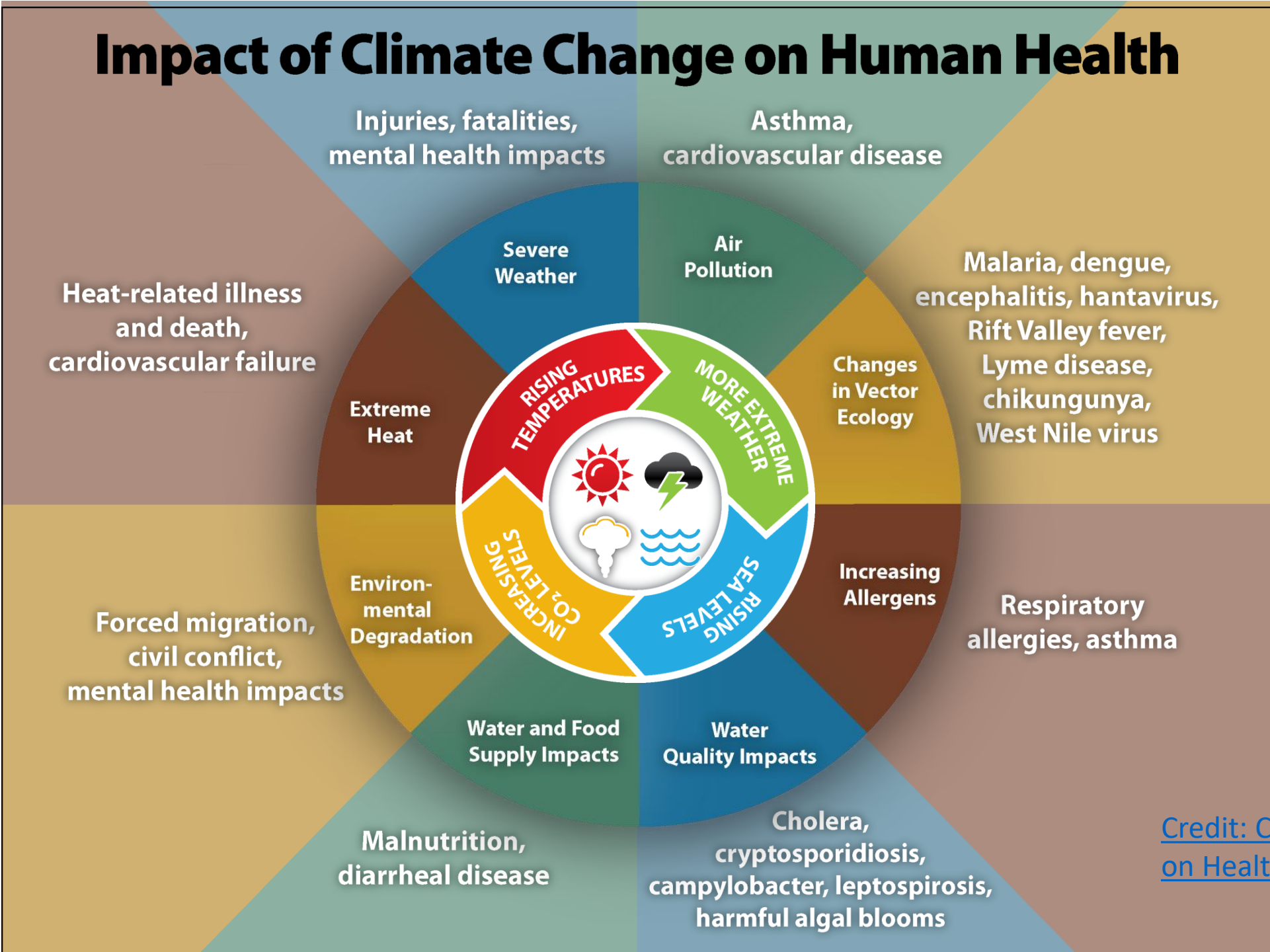
# Innovation in Transportation Electrification: Getting to 2050

Peg Hanna, Assistant Director  
Division of Air Quality  
NJDEP

“It is unequivocal that human influence has warmed the atmosphere, ocean and land...at a rate that is unprecedented in at least the last 2000 years.”

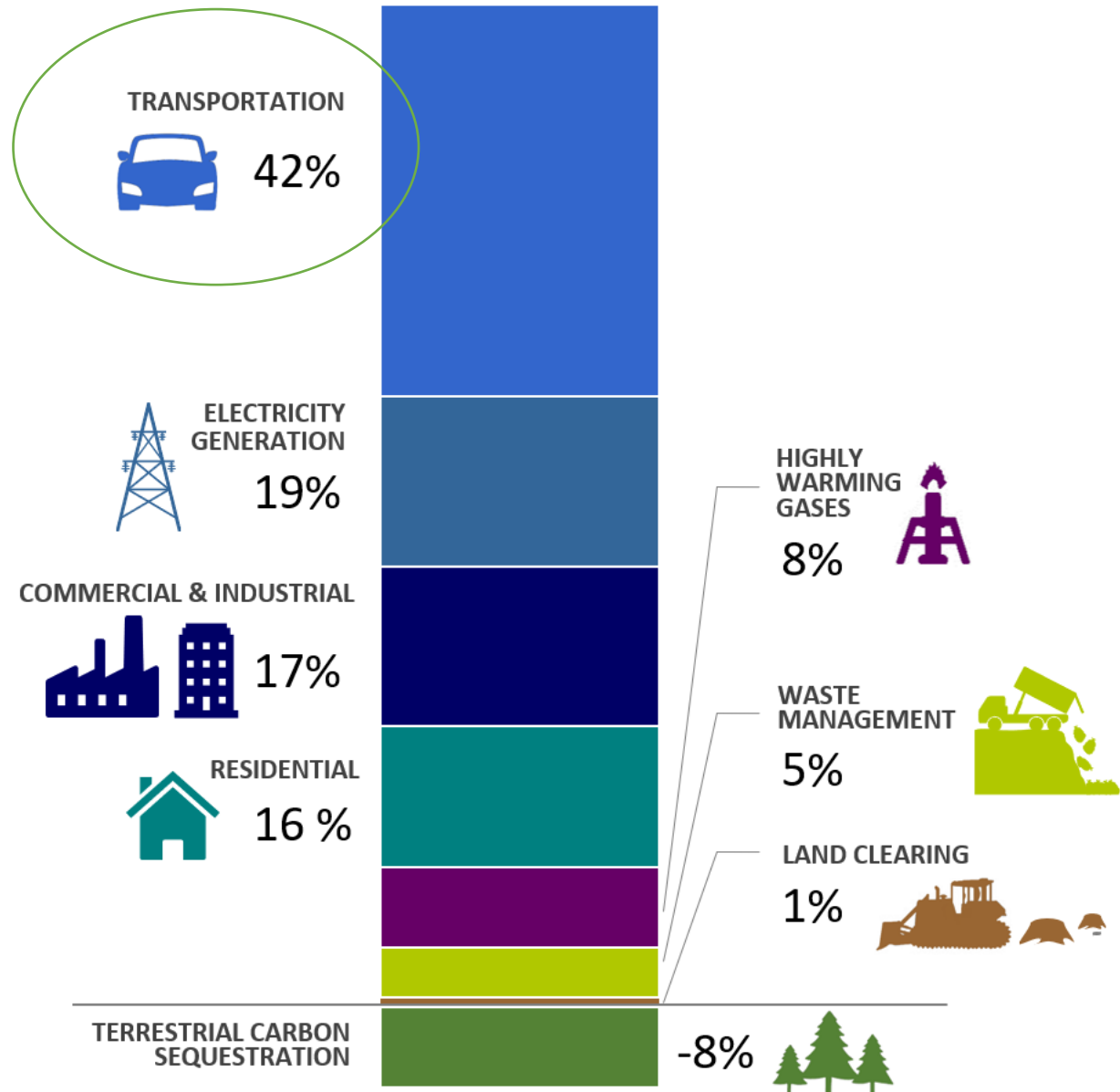


# Impact of Climate Change on Human Health



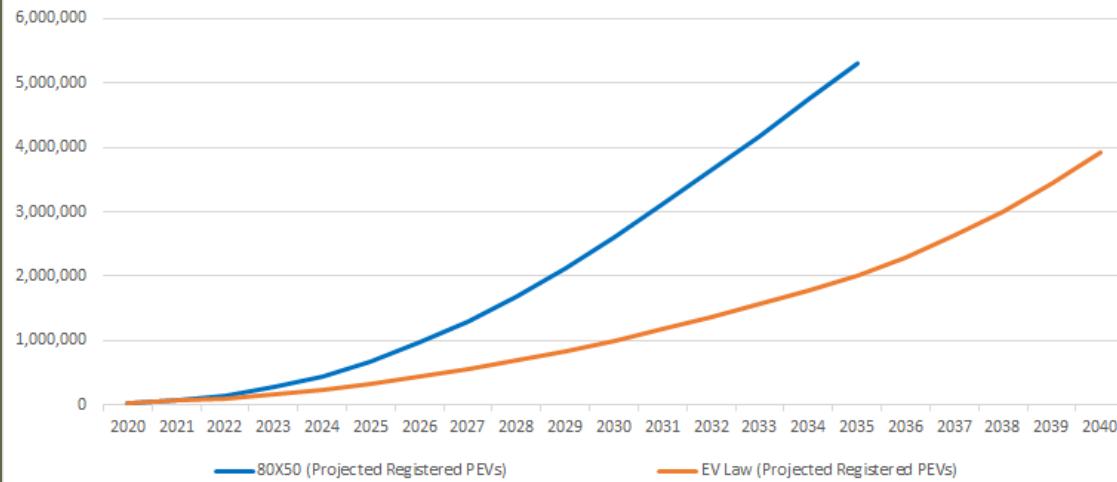
[Credit: Climate Effects on Health | CDC](#)

“Limiting human-induced global warming to a specific level requires limiting cumulative CO2 emissions, reaching at least net zero CO2 emissions, along with strong reductions in other greenhouse gas emissions.”



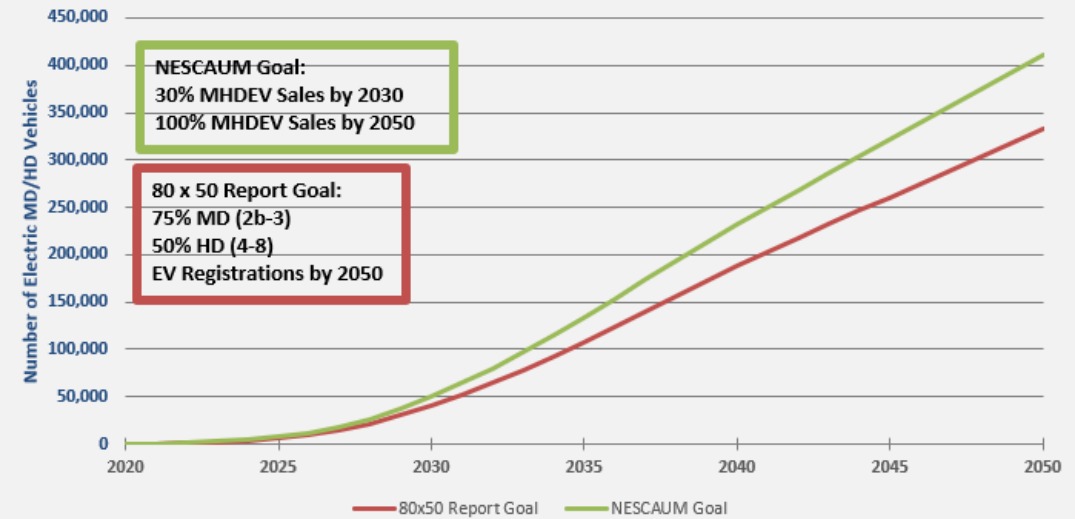
**New Jersey Greenhouse Gas  
Sources & Sinks 2018**

### Light-Duty EV Registrations



Disclaimer: Draft estimate based on currently available data and achieving all targets/goals for each program or regulation

### Medium & Heavy Duty Electrification Goals



# Transportation Pathways



LAWS



REGULATIONS



POLICY



FUNDING



INTERAGENCY  
COORDINATION:  
PARTNERSHIP TO  
PLUG IN



INTERSTATE  
COORDINATION:  
NESCAUM, CARB





# Innovation in State government

# NJ ZIP: Zero-emission Incentive Program



**Pilot funding:** \$15M (with option to increase to \$25M)  
\$5M set aside for small and microbusinesses

**Time horizon:** First come, first serve with rolling approvals, open until all funds committed.

**Eligible participants:** Businesses or institutions operating or registering/domiciling zero-emission medium duty vehicles in greater Newark or greater Camden areas  
Anticipating 100 – 300 vehicles will receive funding

## Voucher amounts:

Vehicle Class	Voucher \$
Class 2b	\$25,000
Class 3	\$55,000
Class 4	\$75,000
Class 5	\$85,000
Class 6	\$100,000

## Bonus criteria:

- Minority-, women-, or veteran-owned business
- Small business
- Small business scrappage
- 25% NJ-manufactured
- Public access for driver readiness and education

## Basic funding requirements:

- New ZE vehicle
- 3 years NJ operation/registration:
  - 75% in NJ
  - 50% in EJ
- Scrappage (if 2009 MY or earlier)
- Comply with audit requirements
- Bumper sticker / placard



BPU framing role for utilities in truck & bus electrification.

Stakeholder document issued June 30, 2021

- What will charging look like?
- What role will energy storage and renewable energy play?
- How should rates be set?

# EV Charging Law – P.L. 2021, c. 171

- Requirements for chargers and make-ready parking places at new construction
- Zoning and permitting provisions for new construction
- Model ordinance



# Sustainability is here to stay or we may not be.

Niall FitzGerald



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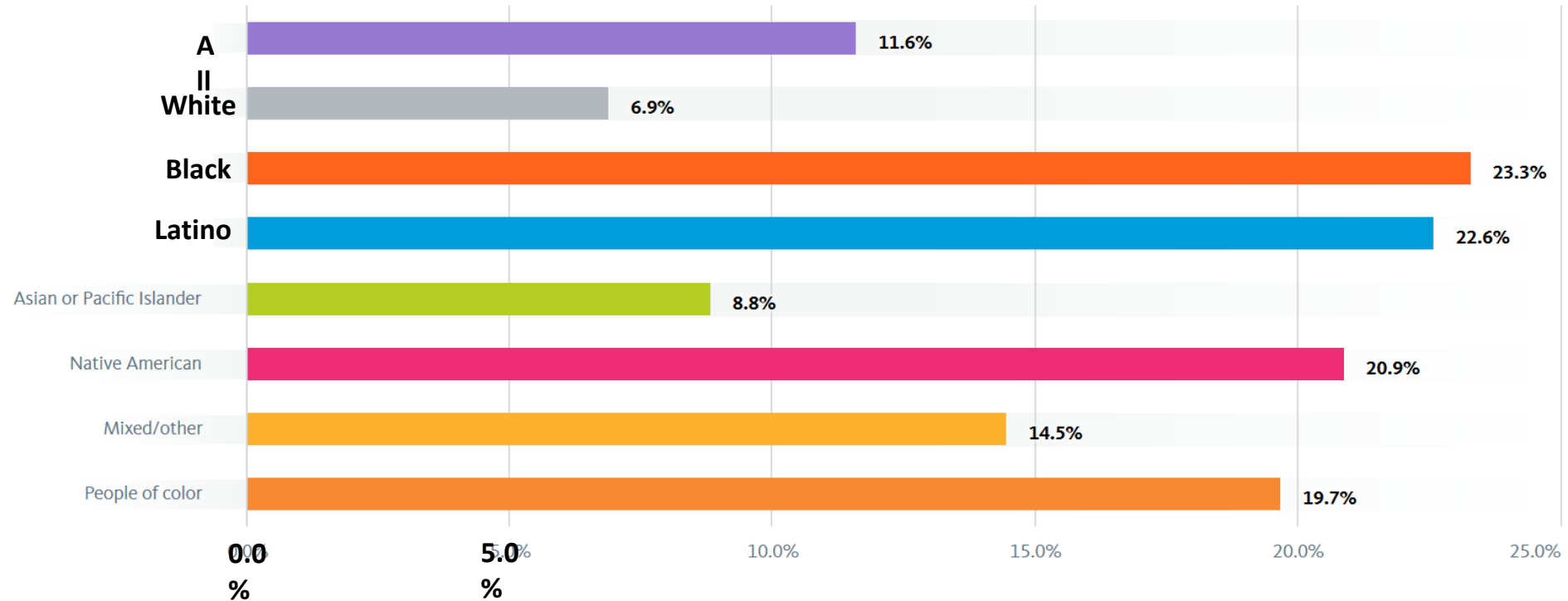
[This Photo](#) by Unknown Author is licensed under [CC BY-SA](#)



# Innovation to close the equity gap



*Percent of household without a vehicle by race/ethnicity: New Jersey, 2015*



# Electric Shared Mobility Program Grants

**Funding for electric shared mobility projects like electric car sharing and ride hailing services.**

Programs that benefit overburdened communities will be prioritized.

*Competitive solicitation.  
Stay tuned for future  
funding rounds.*



Jersey City's new public ride-share service with VIA hits the road  
One of 15 vehicles part of the City's new public ride-share service.

# Visit our website for more EV info



[www.drivegreen.nj.gov](http://www.drivegreen.nj.gov)

# Follow us on social media



**Instagram** drivecleannj



**Facebook** NJDEPAQES



**Twitter** @NewJerseyDEP

**Join our listserv for updates and funding announcements**

**[www.state.nj.us/dep/stopthesoot/sts-listserv.htm](http://www.state.nj.us/dep/stopthesoot/sts-listserv.htm)**



# Thank you!

Peg Hanna, Assistant Director  
Division of Air Quality, NJDEP

[Peg.hanna@dep.nj.gov](mailto:Peg.hanna@dep.nj.gov)

# Brad Bollen

- ▶ Bureau of Planning and Evaluation, Division of Air Quality
- ▶ Updates to *What's in My Community App*



Bureau of Stationary  
Sources Home

[AQES Home](#)

[DAQ Home](#)

[Air Permit Information](#)

[Applications and Forms](#)

[Email Notifications for Air  
Permitting Updates](#)

[General Permits](#)

[Online Permitting Help](#)

[Permitting Guidance](#)

[Enhanced Public  
Notification](#)

[Public Notices](#)

[RADIUS Information](#)



The Bureau of Stationary Sources is responsible for permitting stationary sources of air pollution (e.g., factories, power plants, etc.) - both old sources (those already constructed) and newer facilities - to ensure they do not adversely affect air quality in your neighborhood or anywhere in the state.

To accomplish this, the staff of BoSS reviews air pollution control permit applications, evaluates air quality impact and health risks.

#### Community Corner

#### What's in My Community

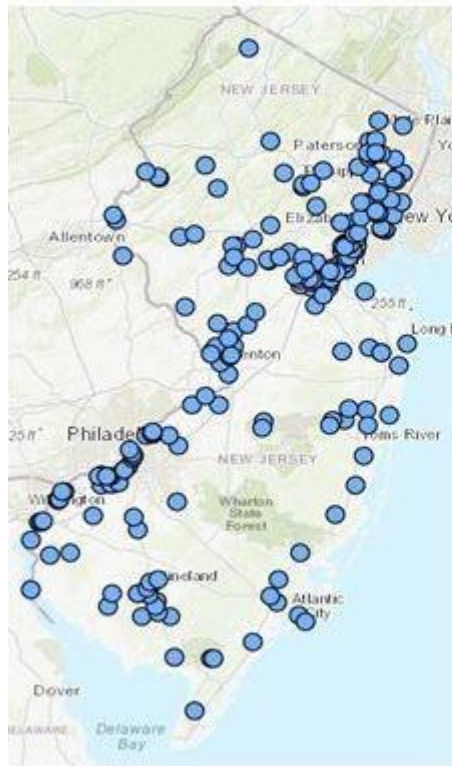


The site can be accessed by clicking on the icon on the right at the Bureau of Stationary  
Sources website. <https://www.state.nj.us/dep/aqpp/>



## What's In My Community?

**Did You Know?** There are 20,000+ permitted facilities in the state of New Jersey, of which 250 or so are major emitters. It is not unreasonable for someone to ask, "What is allowed to be emitted in my neighborhood?" or "Is that facility meeting its environmental responsibilities?" The DEP has databases that can help answer these questions but may seem too hard to access or mine to get the answers.



The Division of Air Quality is pleased to announce that it has created an interactive map for the public to better understand and obtain information about the regulated entities in their neighborhood. The easy to use, GIS-based mapping application allows the public to access a facility's air permits, reported air emissions and air enforcement records just by clicking on a chosen facility located on their community in the map. Users of the web site application can also isolate a radius of up to 5 miles, sort the data and generate reports for any part of New Jersey. The site was designed for easy navigation with minimal clicks and simple to understand guidance.

Air permits and applications that are available electronically will be made accessible for review, along with emission statements for large facilities, and access to enforcement actions taken at a given location. The permits and emission statements have information on criteria air pollutants, such as ozone (O<sub>3</sub>), sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>) and particulate matter (PM), some air toxics and some greenhouse gases. Exposure to these air pollutants at certain levels can have adverse human health impacts including respiratory diseases, cardiovascular diseases and premature death, as well as adverse environmental impacts.

As members of the community, you have the right to understand what is being permitted, what is being released and what actions the Department has undertaken to address challenging air related issues.

**So, be Informed and take control of concerns regarding the air quality in your neighborhood.**

- Use DEP's mapping application to know the facilities in your neighborhood, their emissions and how DEP controls their emissions.

**For more information, visit the Division of Air Quality's Bureau of Stationary Sources webpage at <https://www.state.nj.us/dep/agpp/>**



## Colleen Oropeza Gabrielle Pintauro Mara Starr

- ▶ Bureau of Mobile Sources,  
Division of Air Quality
- ▶ Social media mobile source campaign

# Bureau of Mobile Source's Presents: Education and Outreach using Social Media

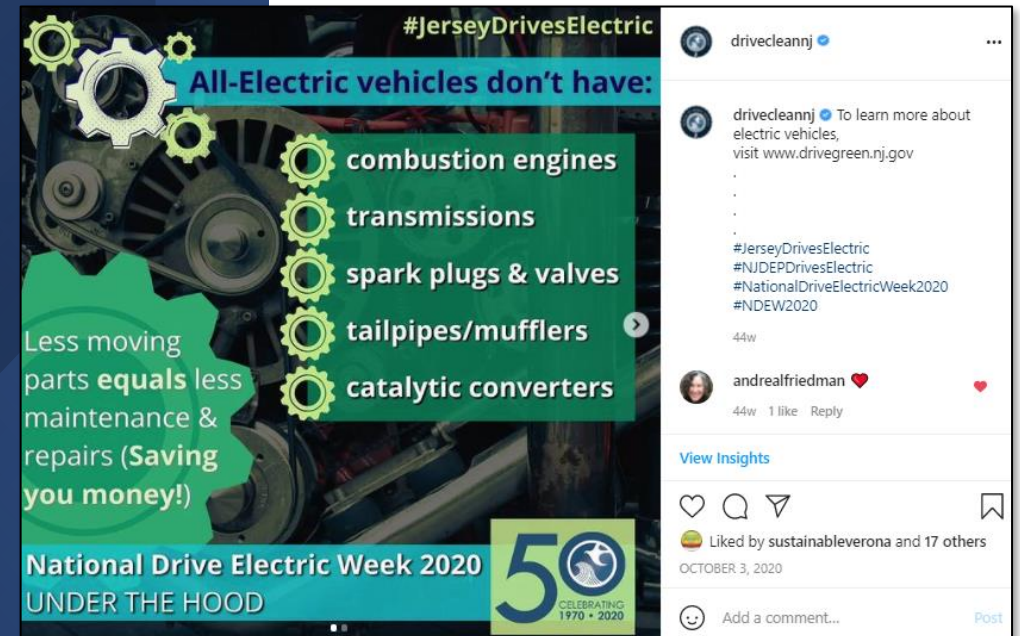
Colleen Oropeza  
Gaby Pintauro  
Mara Starr

November 19, 2021




# Using Social Media to Promote EVs







- Rebates, grants and incentives
- Amplify DEP press releases
- Promote webinars (especially when our staff is presenting!)
- EV awareness & education
- Highlight EV-friendly businesses & towns
- Important industry news



# Engage the Audience with Prizes



 drivecleannj





 drivecleannj    CONTEST   
 (Win free stuff !!)


We're so excited about Climate Week (9/21-9/27) & National Drive Electric Week aka NDEW (9/26-10/4) being back-to-back that we want to give away some free stuff... so we decided to hold a "Find an EV Charger Challenge" (it's really not that hard since they're all over!). 🏆 Enter for a chance to win a DriveGreen swag bag filled with our best goodies

How to play:


1 Find an EV charger in NJ – follow the links in our bio to the EV Charging

[View Insights](#)






 Liked by transoptions and 27 others


SEPTEMBER 21, 2020

 Add a comment... [Post](#)




Instagram




Search

 #evchargerchallenge  
12 posts

[Following](#)

# Outreach: Getting the Community Involved

## Destination Electric

- **Showcases** local businesses, venues, and attractions with convenient public charging stations nearby.
  - Princeton: 31 participating businesses
  - Jersey City: 33 participating businesses
  - Red Bank: Newly Launched with 14+ participating businesses

Participating business display  
Destination Electric decals in  
their storefronts



Red Bank, NJ

# Keeping up with Trends



Liked by gabrielle\_r0se\_ and 18 others

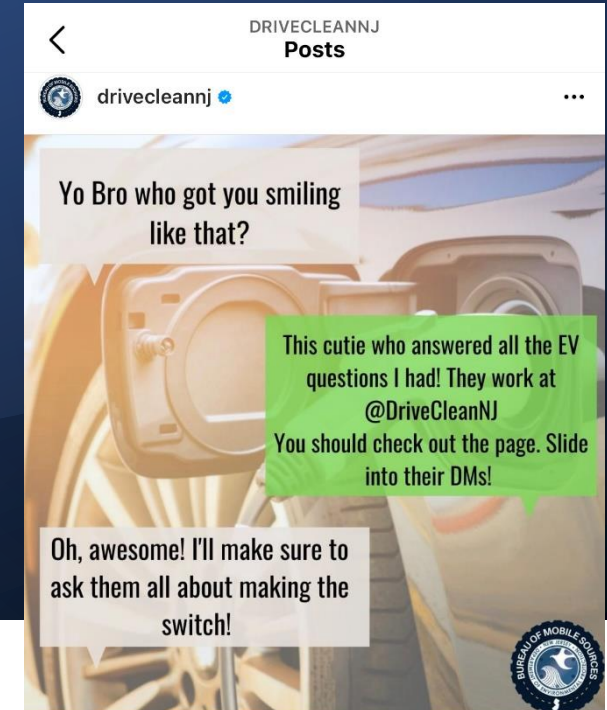
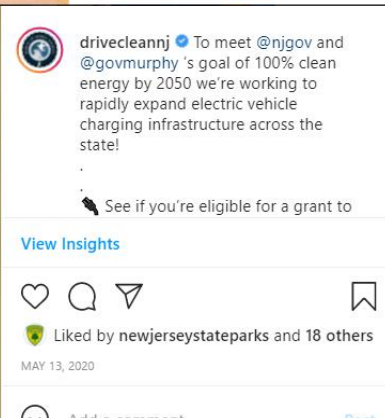
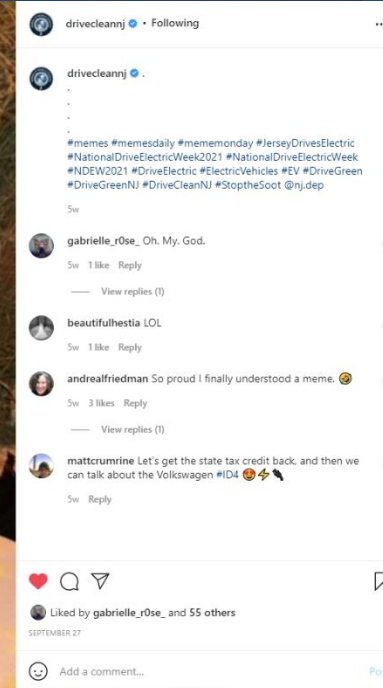
drivecleannj 🦇🦇 Signaling ALL (well, almost all) CERTIFIED EMISSION REPAIR TECHNICIANS (ERTs)! 🦇🦇 Don't forget to recertify your ERT certification as soon as possible & don't wait until you get that last renewal email notice!

#ERT #StopTheSoot #EmissionRepairTechnician #Emissions #DriveCleanNJ #NJ #Cars #CarRepair

October 5



Instagram

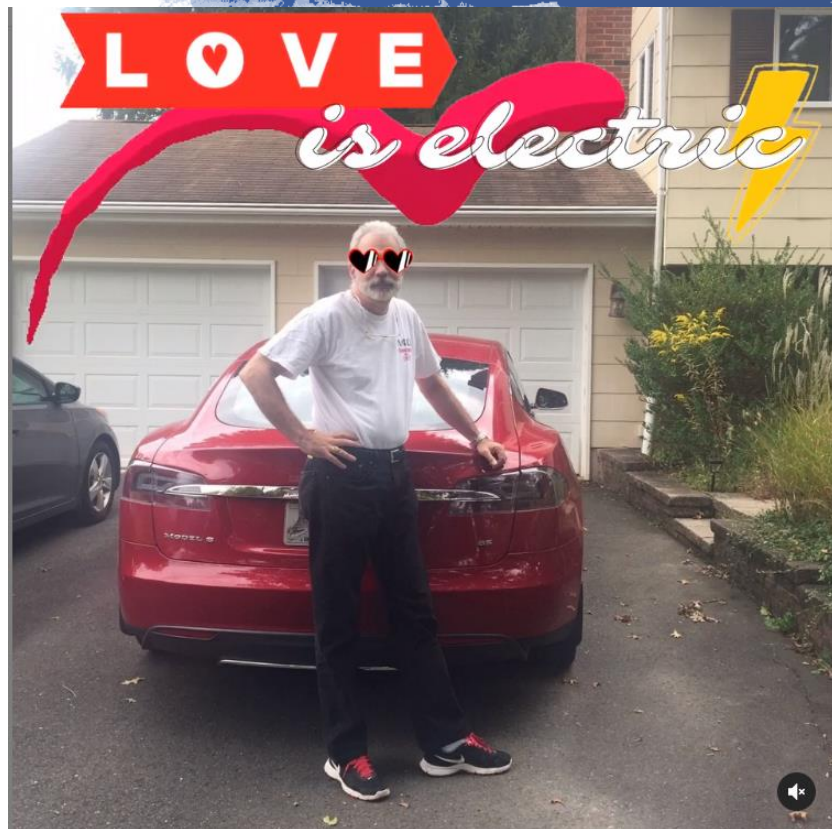


Liked by gabrielle\_r0se\_ and 28 others

drivecleannj Not able to make it to a National Drive Electric Week event this year? We are always available to answer your questions. Comment down below 📩📩📩 or send us a DM with a question that you have been burning to ask. There are no dumb questions, only dumb charging stations! 🤪 (just a little EV humor). Let us hear and we can share some of the more common questions and answers throughout the week!

#JerseyDrivesElectric #NationalDriveElectricWeek2021 #NationalDriveElectricWeek #NDEW2021 #DriveElectric #ElectricVehicles #EV #DriveGreen #DriveGreenNJ #DriveCleanNJ #StooptheSoot

# Colleagues Lending a Hand...



drivecleannj • Following

drivecleannj This Valentines Day we wanted to show our love for Electric Vehicles

There really is one out there for everyone. #LovesElectric #JeffLovesHisTesla #Tesla #EV #DriveCleanNJ #DriveGreen #ElectricVehicle #love #ValentinesDay2021

gabrielle\_r0se Absolute

75 views  
FEBRUARY 14

Add a comment...



drivecleannj

drivecleannj Stayin' cool without the "ICE" (get it, ICE...internal combustion engines...?)

OK so maybe we aren't cut out for comedy, but we can give you some insight into how EVs have made us look cool AND changed our lives.

You know who IS cut out for comedy? Comedian @TomPapa, who is funny & drives electric! See him answer all of your EV questions: @driveelectricus

View Insights

Liked by driveelectricus and 18 others

OCTOBER 1, 2020

Add a comment...

# General Social Media Best Practices

1

Post interactive content and BE interactive

2

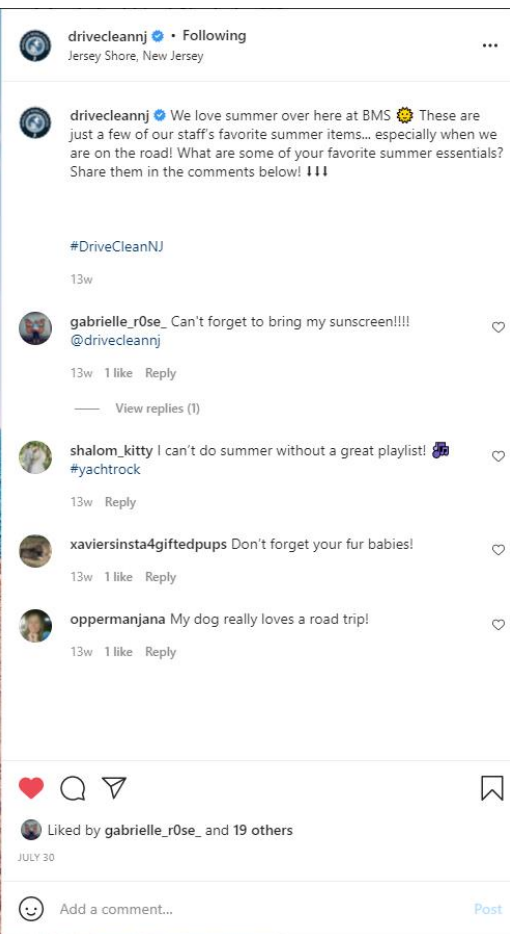
Make the account personable, giving a face to the Bureau

3

Support other accounts by sharing, liking, commenting and they are likely to do the same for your account

4

Use other platforms: Twitter, YouTube, Linked in, DEP Facebook and coordinate closely with DEP comms; for bigger announcements we reach out to our environmental partners and enthusiasts and ask them to amplify



1

Post interactive content and BE interactive

2

Make the account  
personable




drivecleannj



drivecleannj  #TBT . . . We figured we'd use the 2nd to last #ThrowbackThursday to give thanks & reflect. This has been a beyond challenging year for many, and we had to learn how to adapt and push through whatever 2020 threw at us, but we are GRATEFUL. We are grateful to be able to work for the resilient, strong STATE OF NEW JERSEY and serve the greatest citizens in the world. The Bureau of Mobile Sources wishes everyone a Happy Holiday season. Here is to serving you for

[View Insights](#)



 Liked by transoptions and 30 others

DECEMBER 24, 2020



Add a comment...

[Post](#)

3

Support other accounts



### ELECTRIC VEHICLE CHARGING STATIONS

Learn how you can host a EV Charging Station at your facility

**Wednesday, May 20, 2020**  
**10:30 AM - 11:30 AM**

Hosted by Keep Middlesex Moving.  
Featuring presentations by:

**Mark Warner**  
Vice President  
Gabel Associates

**Andrea Friedman**  
Supervisor, Electric Vehicle Programs,  
NJ Department Environmental Protection

 drivecleannj

 drivecleannj Electric cars are coming ⚡, but New Jersey needs more public charging stations. Register for the @keepmiddlesexmoving webinar to learn from two of the industry's leading experts:

1

Why public charging is important

2

Goals for public charging set by the new law

3

Potential role for municipalities in hosting public charging locations

View Insights



 Liked by keepmiddlesexmoving and 10 others

MAY 14, 2020

# 4

## Use other platforms

- Coordinate closely with DEP communications
- Reach out to our environmental partners and enthusiasts



New Jersey Department of Environmental Protection ✓  
@NewJerseyDEP

- ✓ Talk about it
- ✓ Be about it

NJDEP has very recently acquired 6 new all-electric cars for their fleet. ⚡ 🚗

#DriveElectric



1:16 PM · Oct 5, 2020 · Twitter Web App

4 Retweets 17 Likes



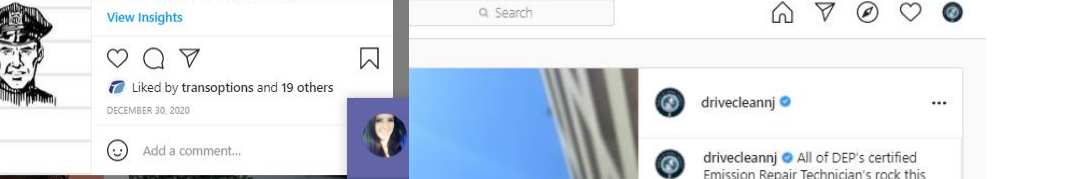
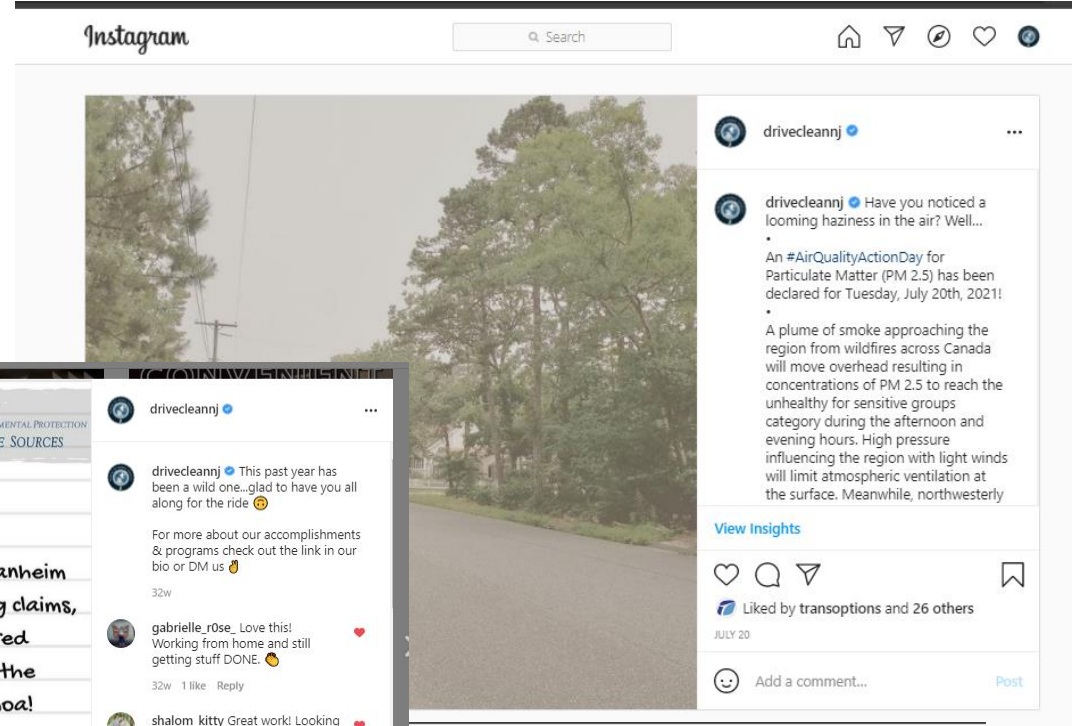
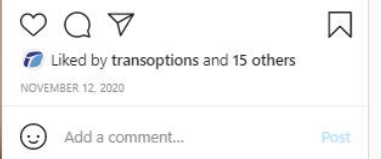
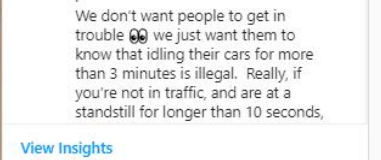
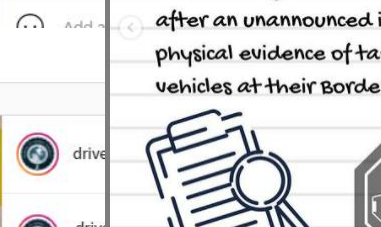
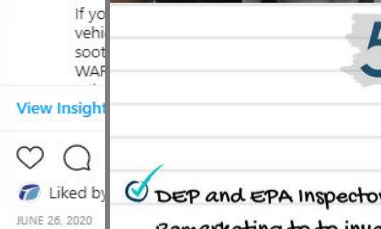
# Bureau of Mobile Sources is NOT just EVs

- We have a variety of content, including but not limited to:
  - ❖ Anti-Idling Education
  - ❖ Vehicle Inspection and Maintenance
  - ❖ General Air Quality
  - ❖ Equipment Modernization
  - ❖ Anti-Tampering Efforts



Instagram

Search



Please support us by  
following our  
Instagram!  
**@DriveCleanNJ**



# Thank you!



Please feel free to reach out to the BMS  
Social Media Team:

**Colleen.Oropeza@dep.nj.gov**

**Gabrielle.Pintauro@dep.nj.gov**

**Mara.Starr@dep.nj.gov**



# Questions?

# Final Notes

- ▶ Copies of the slides will be available on NJDEP's website (<https://www.nj.gov/dep/srp/srra/training/>). Slides will also be posted on AWMA-NCNJ website [www.mass-awma.net/nj-events.html](http://www.mass-awma.net/nj-events.html)
- ▶ Please complete the survey form and e-mail your responses to [sgupta@haleyaldrich.com](mailto:sgupta@haleyaldrich.com).  
Or, you can also just send an e-mail with the following input:
  - Feedback on the conference
  - Topic(s) of interest for future programs
  - Please indicate your preference for future NJDEP Regulatory Conference: in-person or virtual.
  - Thank you for your input and feedback!
- ▶ If you are not an AWMA member, please consider becoming one. [Join A&WMA \(awma.org\)](http://awma.org)



AIR & WASTE MANAGEMENT  
ASSOCIATION

Northern and Central New Jersey Chapter

**Thank you for joining us!**