Delaware River Basin Commission

Advisory Committee on Climate Change

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Deputy Executive Director

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Photo: David B. Soete

Photo courtesy of the U.S. Army Corps of Engineers

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Introducing ACCC ("AC3")

* Established by Resolution 2019-8 in December 2019
* Currently recruiting eighteen (18) members
  * Individuals actively working on climate change impacts in the Basin
  * Reserved members (9)
    * Appointed by each of signatory states, Federal government (2), PWD, PDE, and NYCDEP
  * Non-reserved members (9)
    * Nominations solicited from stakeholder groups
      * Academic or research institutions
      * Environmental or watershed organizations
      * Businesses or industry
      * Water or wastewater utilities
    * Two-year terms
    * Nominations due February 28th – submit letter of interest and resume/CV
* Kick-off meeting in Spring 2020

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Purpose of ACCC

* Provide scientifically-based information and recommendations to DRBC to identify and prioritize
  * Threats and vulnerabilities to water resources
  * Science based future climate scenarios for water resources planning
  * Planning, monitoring, research and regulations to support mitigation, adaptation, and resiliency
* Serve as coordinating body for climate-related Basin water resource and watershed studies

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Why is there a need for the ACCC?

* DRBC is responsible for managing, protecting, and improving water resources in the Basin
* DRBC has recognized potentially significant impacts and threats to the Basin's water resources posed by climate change
  * Observed changes
  * Future changes

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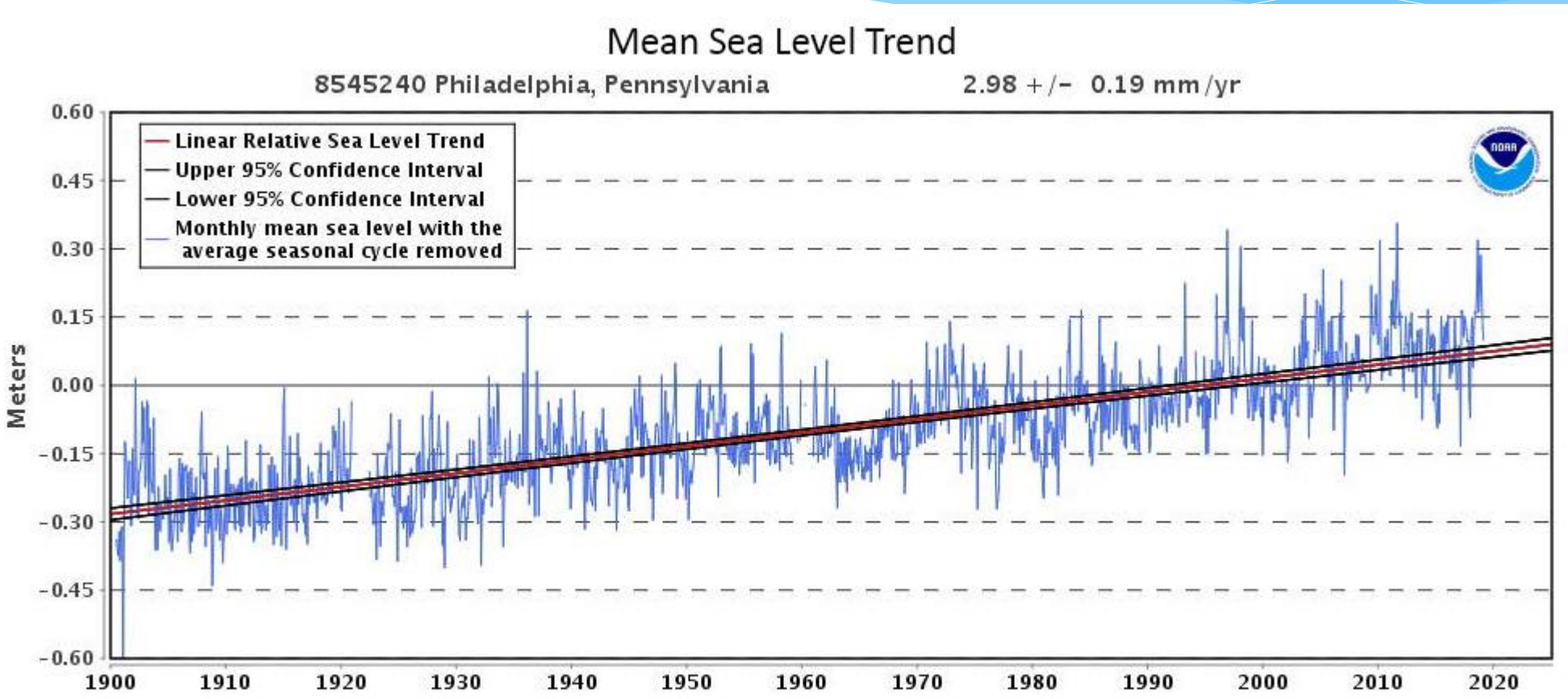
Observed Sea Level Rise (SLR)



https://tidesandcurrents.noaa.gov/sltrends/plots/8545240_meantrend.png 1/

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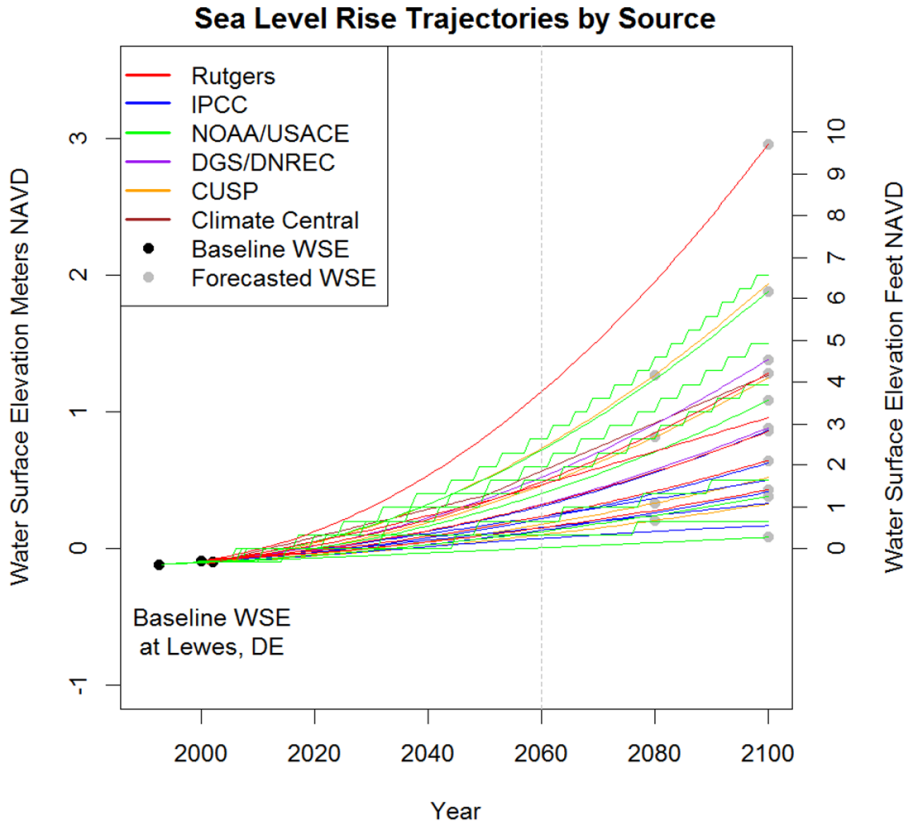
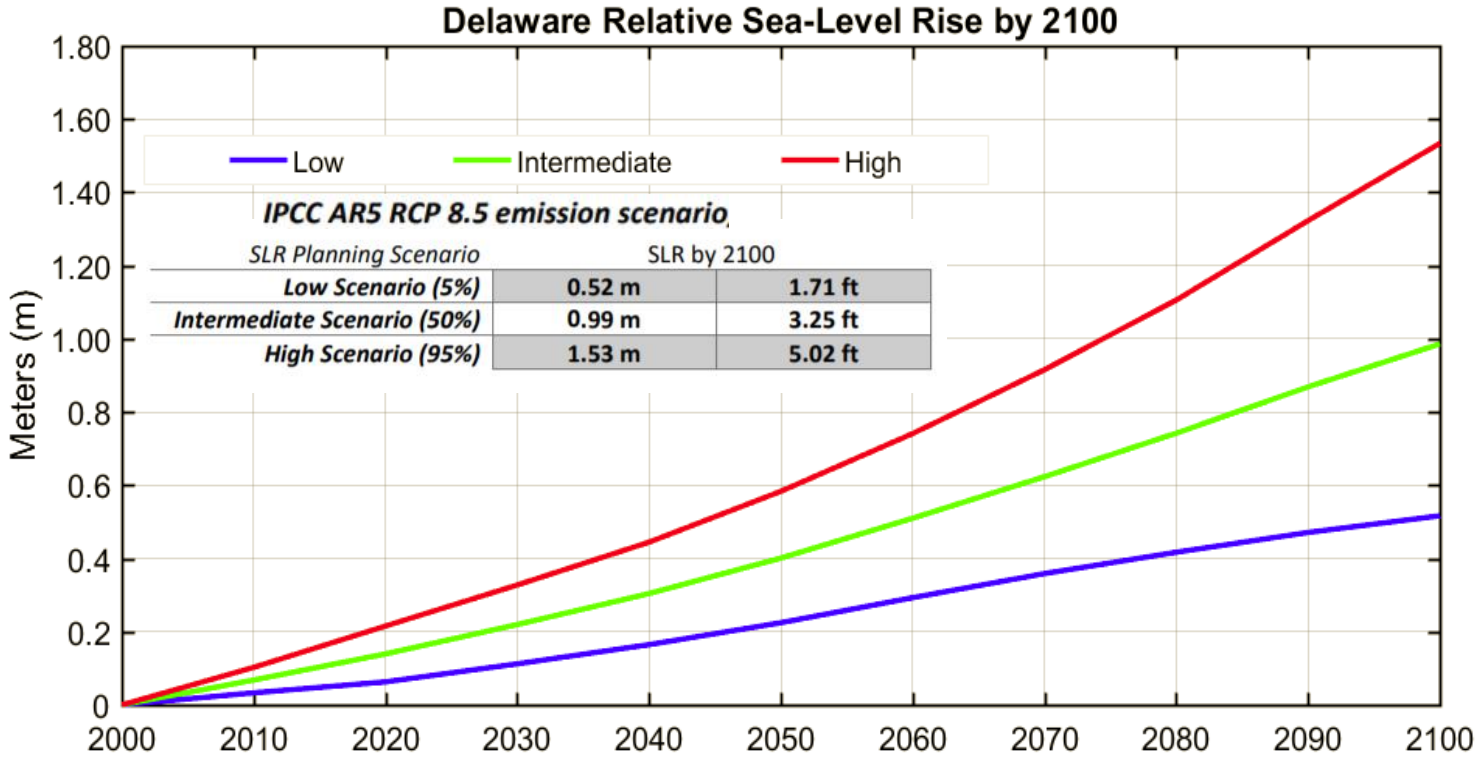
Predicted Future Sea Level Rise

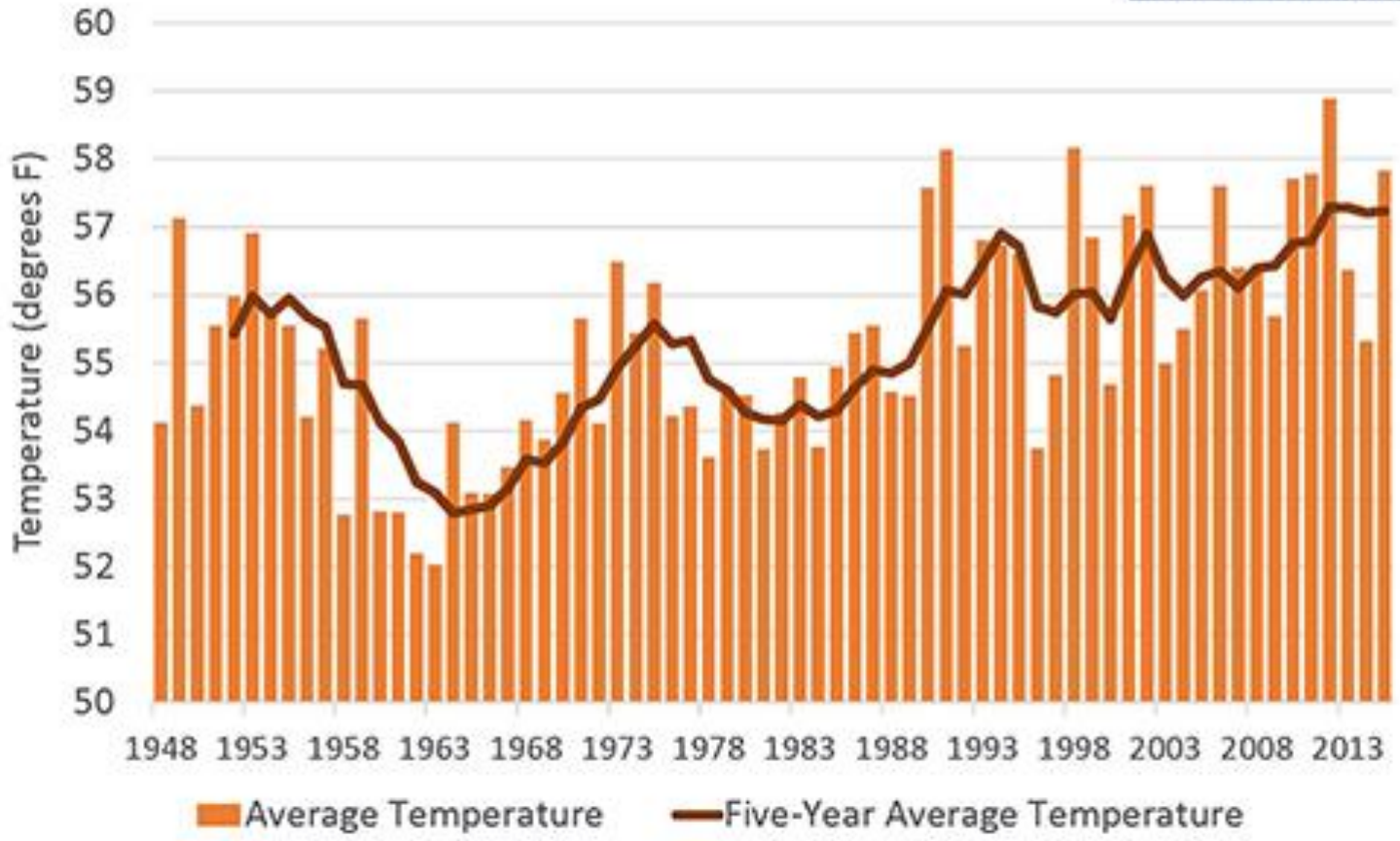


Compiled by DRBC, 2017



Recommendation of Sea-Level Rise Planning Scenarios for Delaware: Technical Report November 2017. Developed by Delaware Sea-Level Rise Technical Committee, Delaware Geological Survey (see also Kopp et al. 2014)

Observed Changes in Climate: Air Temperature



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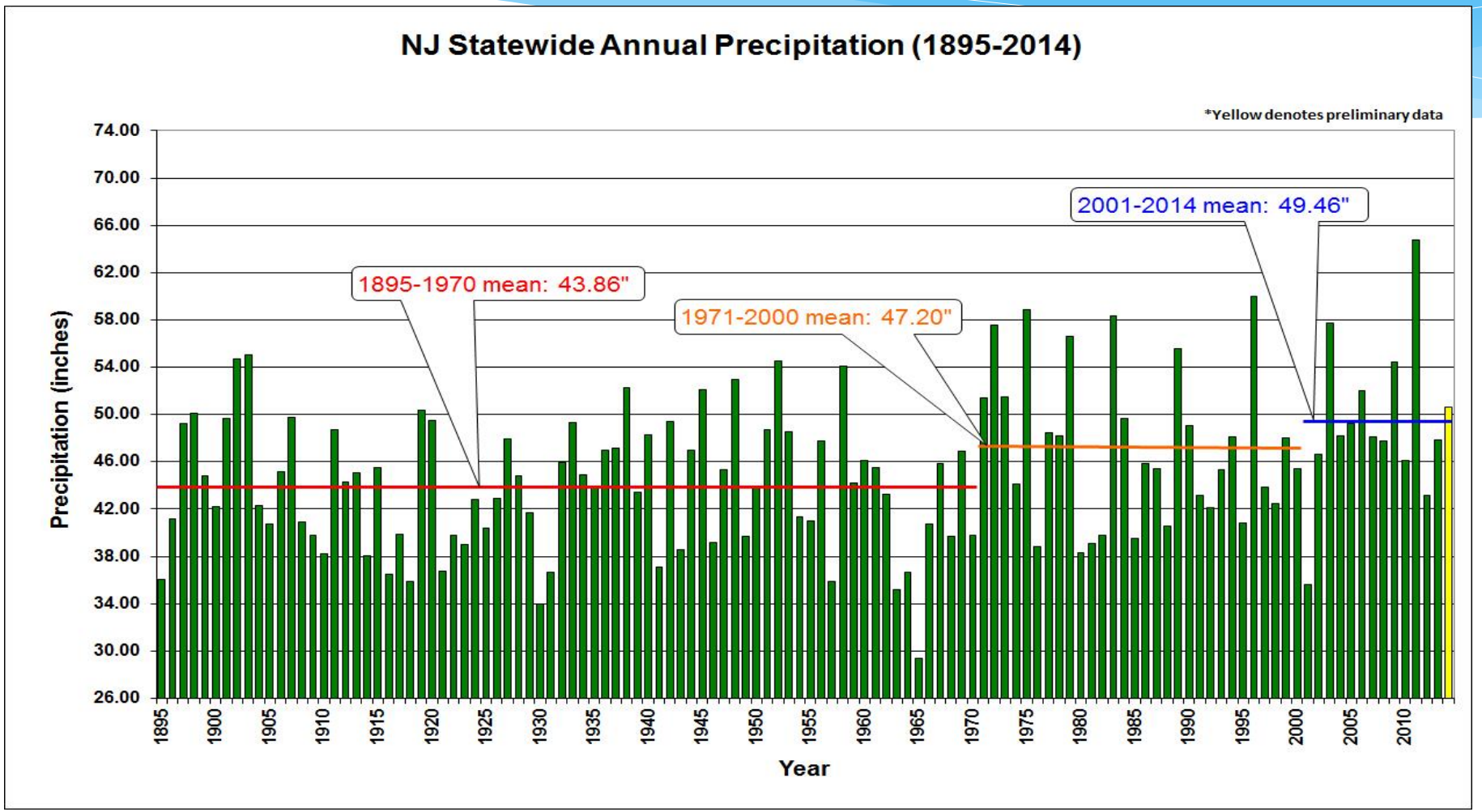
Observed Changes in Climate: Precipitation



Office of the NJ State Climatologist

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Predicted Future Climate Change

RUTGERS
Climate Institute

- More warm extremes and fewer cold extremes
- Heavy rains become more intense
- More frequent dry spells
- Rising sea level with increased frequency and intensity of coastal flooding

*From RCI Co-Director **Tony Broccoli** featured at September 27, 2017 statewide conference Climate Change Policy in New Jersey: Advancing Opportunities to make New Jersey Safer, Greener, Healthier and More Prosperous , sponsored by the New Jersey Climate Adaptation Alliance.*

How will the work of the ACCC benefit the DRBC Water Resources Program?

* Inform climate change analyses and model inputs
  * Flood and drought management
  * Flow management and salinity intrusion
  * Water supply planning
  * Adequacy of available storage
  * Water quality – dissolved oxygen (DO), chlorides

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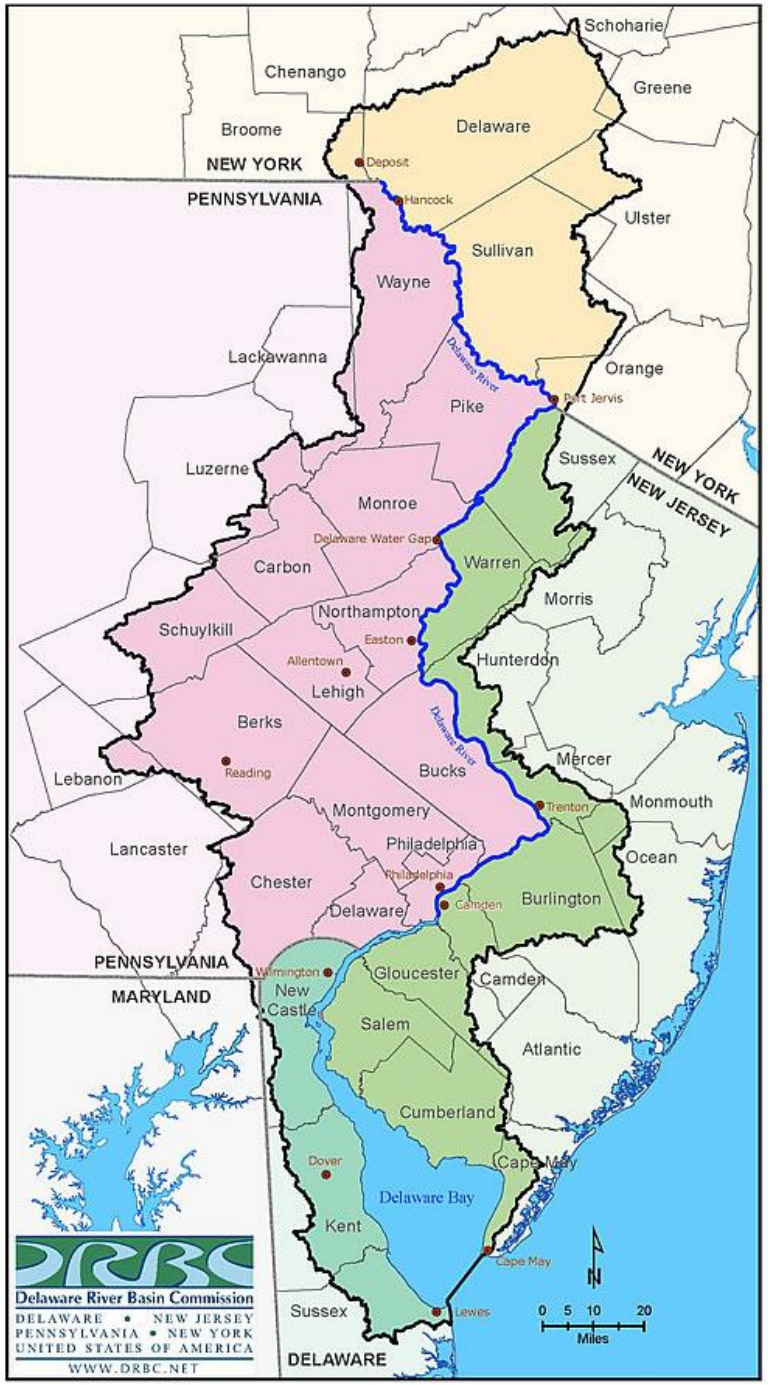
Flow Management



Freshwater Hydrologic Climate Considerations:

- Precipitation
  - Flow
- Temperature
  - Evapotranspiration
  - Snowpack

Salt Water Climate Considerations:

- Sea Level Rise

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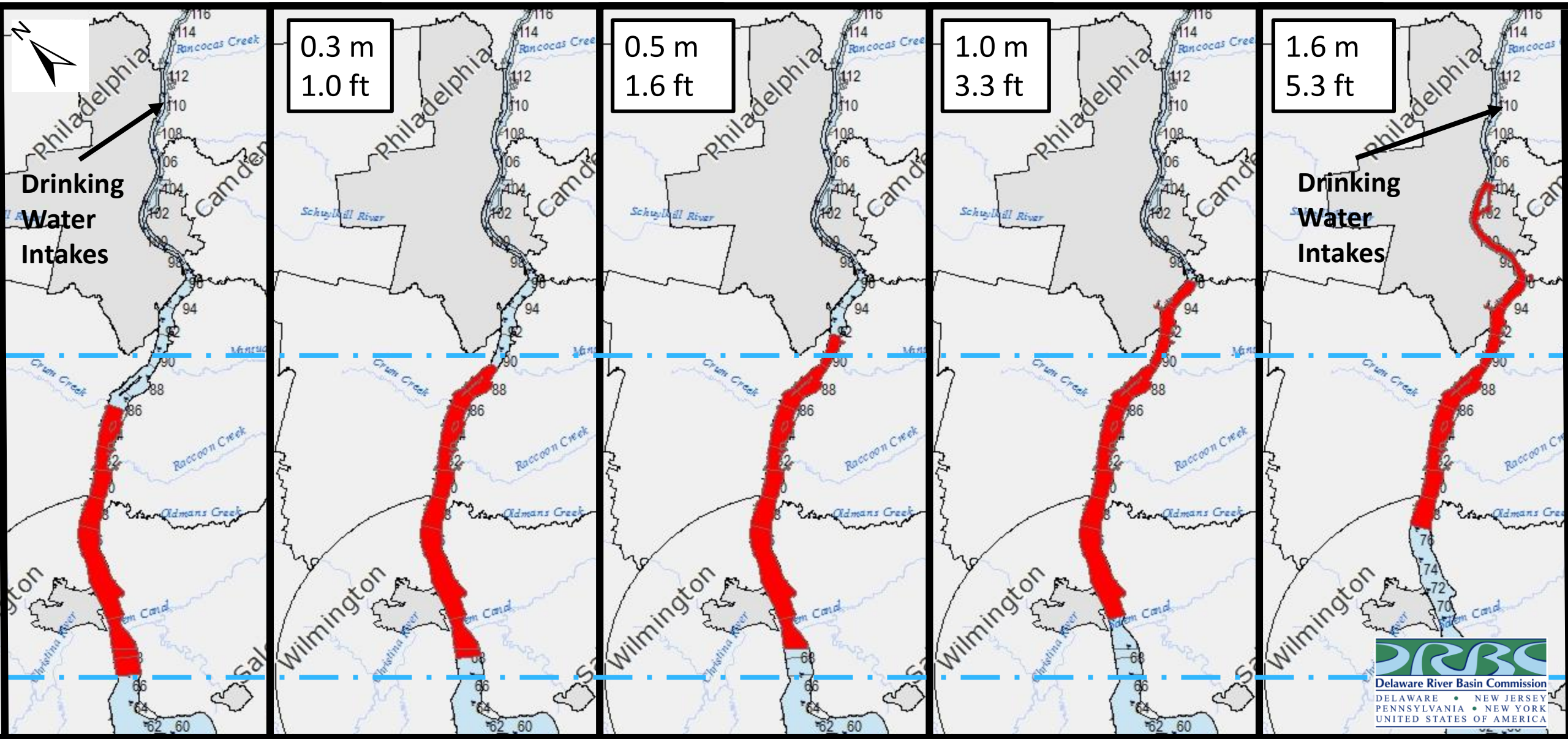
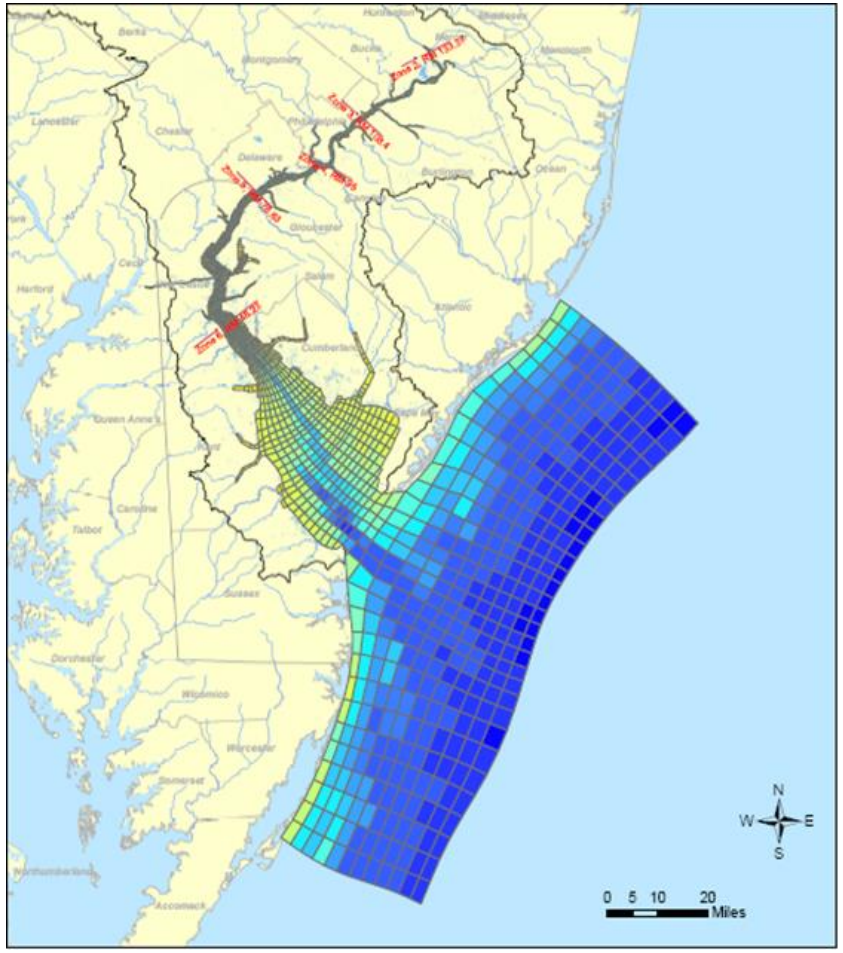
Salt Front Range at Different Sea Level Rise Predictions

Repeat of 2001-2003 Hydrology



DRBC 3-D Hydrodynamics Modeling Study

with Designated Use Study 3-D Hydrodynamic Model (EFDC)



* Salinity dynamics/physics – transport and movement
* Proof of concept simulations
  * Sea level rise
  * Impacts of future hydrology on Delaware River flow rates

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https://www.nj.gov/drbc/about/advisory/
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Courtesy: Chad Pindar