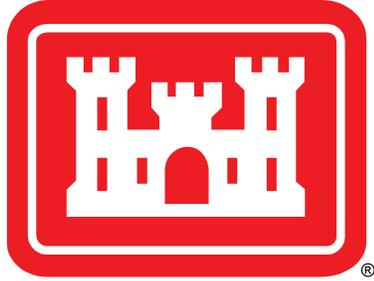


USACE

ATLAS OF OBSERVED SEA LEVEL CHANGE



March 2019

EXECUTIVE SUMMARY

Local relative sea level around the United States is changing, and has been changing since tide gauges have been recording data (see figure on the following page). The U.S. Army Corps of Engineers (USACE) developed a Sea Level Tracker tool to help technical users better understand the changes that have already occurred, assess how variability may impact a particular location, and support comparisons to the USACE sea level scenarios (see [Engineer Regulation 1100-2-8162](#)).

This Atlas was created to make basic data and information in the Sea Level Tracker accessible to nontechnical users and is not intended to replace detailed analysis by coastal climate experts. This Atlas presents three standard visualizations for each of the National Oceanic and Atmospheric Administration (NOAA) tide gauges included in the Sea Level Tracker tool arranged by state within general regions. These visualizations include the following information:

- The observed 19-year midpoint moving average of mean sea level (MSL), where 19 years is related to the metonic cycle, and the midpoint moving average smooths the MSL data without biasing it toward the data closer or farther in time. By definition, this information ends 9.5 years prior to the date of publication of the Atlas.
- The observed 5-year midpoint moving average MSL, which generally exhibits more variability, such as the influence of annual or decadal cycles. This ends 2.5 years prior to the date of publication.
- The monthly average MSL, which shows the seasonal variation in mean sea level and provides some indication of the spread of the tide gauge data.
- The three sea level scenarios used by the USACE in its consideration of future mean sea level.

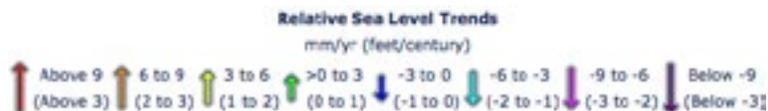
Elevations are referenced to the North American Vertical Datum of 1988 (NAVD88) except where noted. Tide gauges with missing periods of data are denoted as having interrupted records (e.g., Reedy Point, DE). The missing data may cause sharp changes, and caution should be taken when interpreting this data. Some Pacific Northwest tide gauges may show local relative sea level falling rather than the familiar rise of most other tide gauges. This is because the local ground surface is rising as a result of long term geologic changes (e.g., Kodiak Island, AK) or seismic events (e.g., Seward, AK). In parts of the Gulf, tide gauge records may reflect changes in the rate that the land is sinking (e.g., Freeport, TX).

EXECUTIVE SUMMARY

<https://tidesandcurrents.noaa.gov/sltrends/sltrends.html>



NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION SEA LEVEL TRENDS



ATLAS OF OBSERVED SEA LEVEL CHANGE

There is no question today that local relative sea level around the United States is changing, and has been changing since tide gauges have been recording data. The U.S. Army Corps of Engineers (USACE) developed a Sea Level Tracker Tool to help technical users better understand the changes that have already occurred, assess how variability may impact a particular location, and support comparisons to the USACE sea level scenarios ([see Engineer Regulation 1100-2-8162](#)). This Atlas allows nontechnical users to easily view these changes through 3 different visuals shown below, arranged by state within general regions. More detailed information can be found on the [Climate Preparedness and Resilience](#) website.

1

The top visual of each page plots:

The 19-year mean sea level (MSL) midpoint moving average and 5-year MSL midpoint moving average for the selected tide gauge.

2

The middle visual of each page is the same as #1 above but adds monthly mean values to the plot.

3

Finally, the bottom visual on each page zooms in on the information shown in #2 above to show the date range from *January 1980 To January 2030.

*or earliest year following 1980 available

NOTE

Please note red shaded boxes like this intended to draw your attention to one or more of the following important information: (1) when a datum other than NAVD88 is used, (2) when a gauge is an interrupted record, and/or (3) when a gauge is a short record.

Jan 1995

◆ High SLC: -0.396 ft
■ Intermediate SLC: -0.398 ft
▲ Low SLC: -0.398 ft
▼ MSL Monthly Average: -0.705 ft
● 19-Year MSL Moving Average: -0.409 ft
◆ 5-Year MSL Moving Average: -0.411 ft

Each of the 3 visuals described above displays ¹data available for the selected tide gauge for the same date – January 1995.

Please note that colors/symbols might differ based on data available

¹Data used in calculations for Sea Level Change are pulled from the NOAA Center for Operational Oceanographic Products and Services Application Programming Interface (CO-OPS API). When gaps in the tool appear they are a result of gaps in this NOAA dataset.

Note: The tool offers smoothed historic sea level behavior and the measured trends at a user selected gauge. The tool allows the user to explore other tide gauge statistics, such as mean higher high water (MHHW), mean high water (MHW), mean low water (MLW), and mean lower low water (MLLW), among others. Only MSL is shown in this atlas.

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*Gauge does not use NAVD88 and/or is an interrupted record and/or is a short record.

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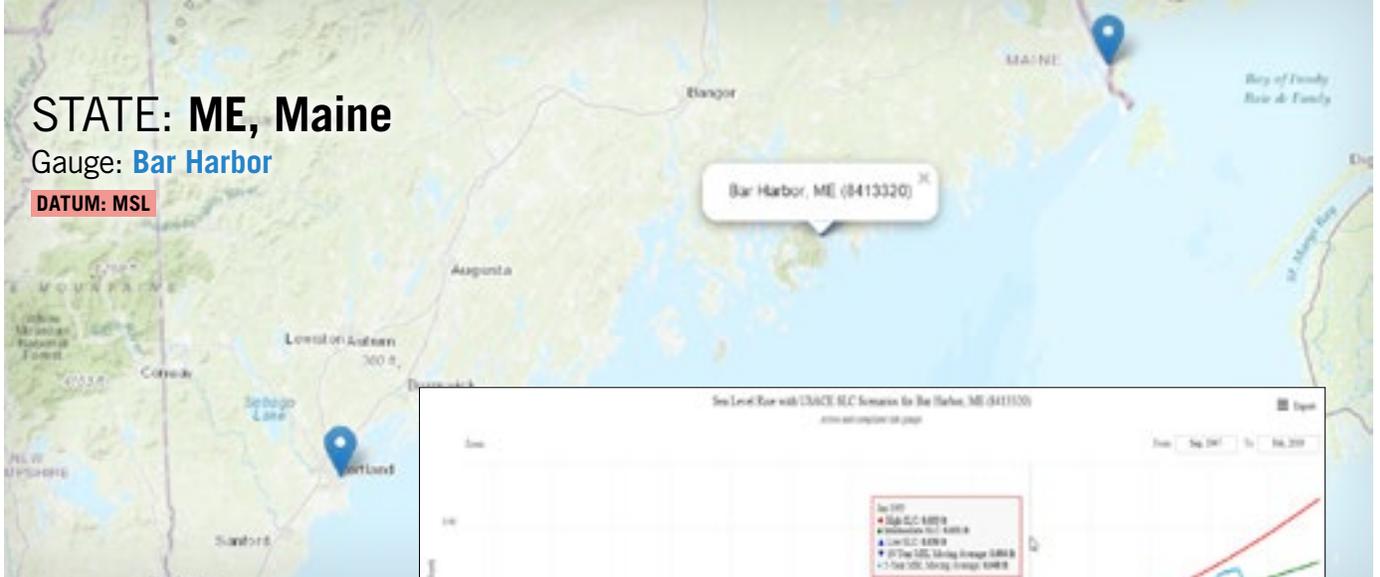
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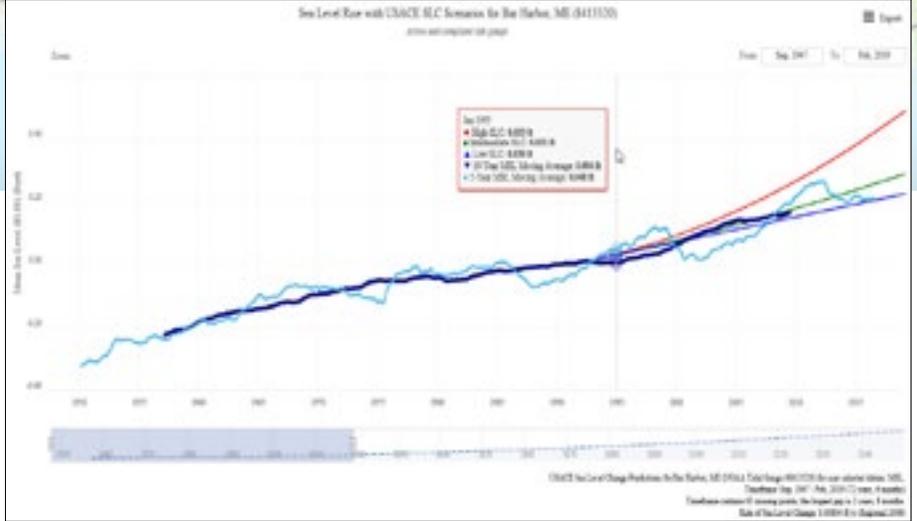
STATE: ME, Maine

Gauge: **Bar Harbor**

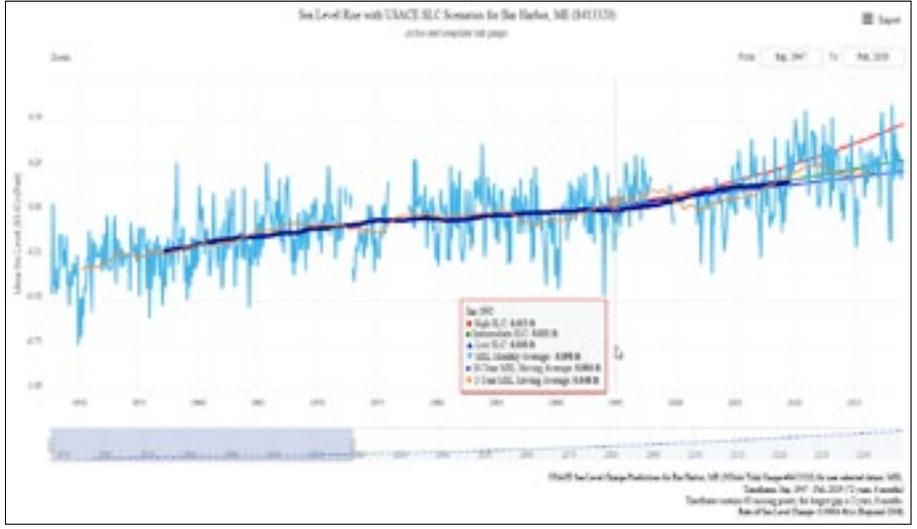
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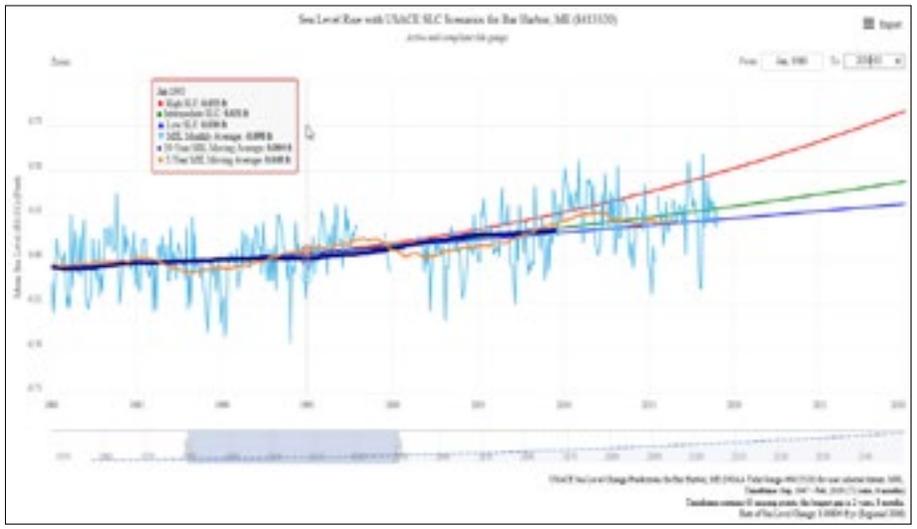
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5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



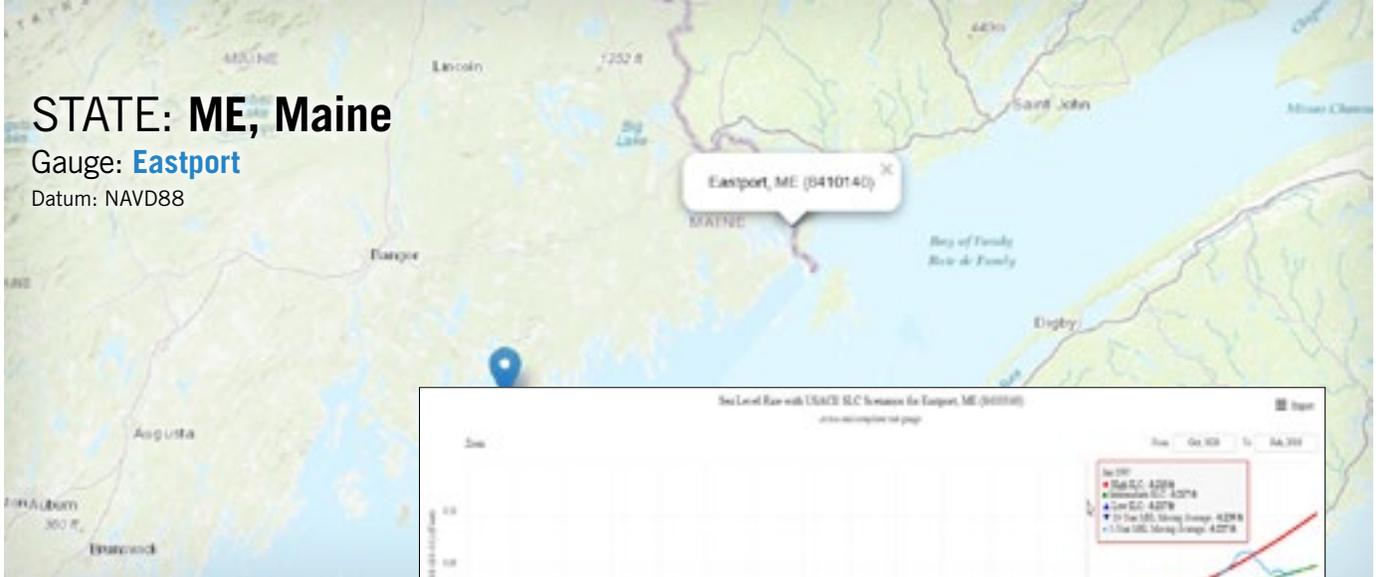
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5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



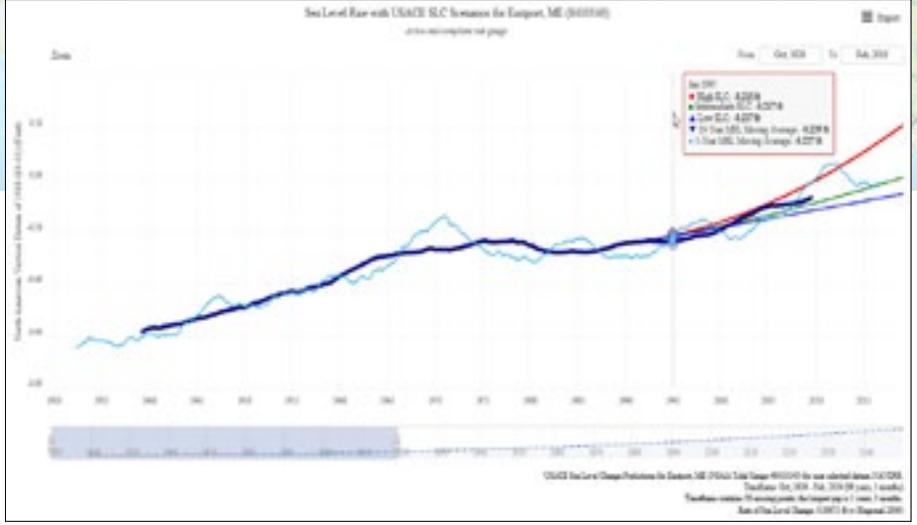
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Gauge: **Eastport**

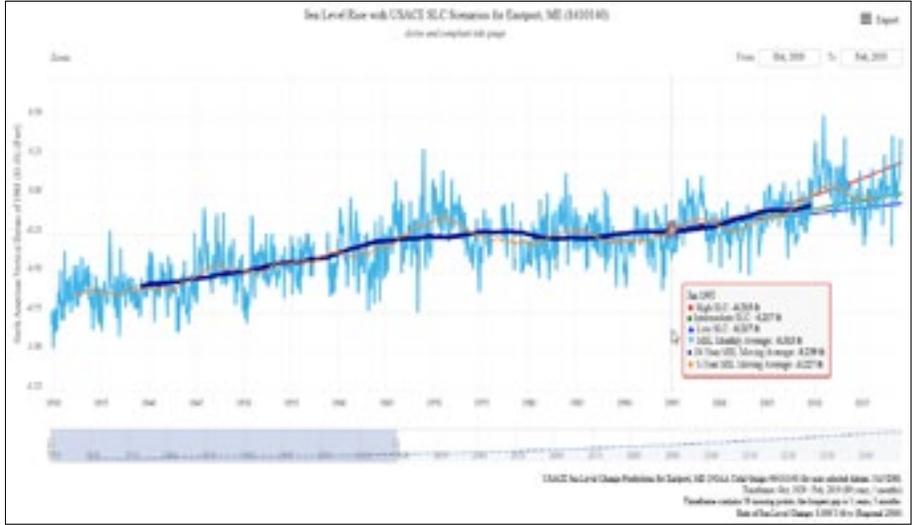
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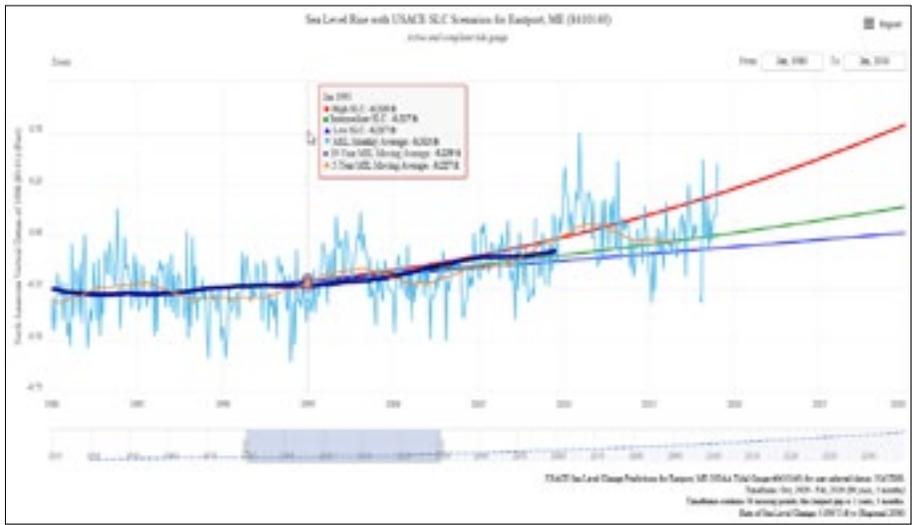
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+Monthly Mean Values



3
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5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

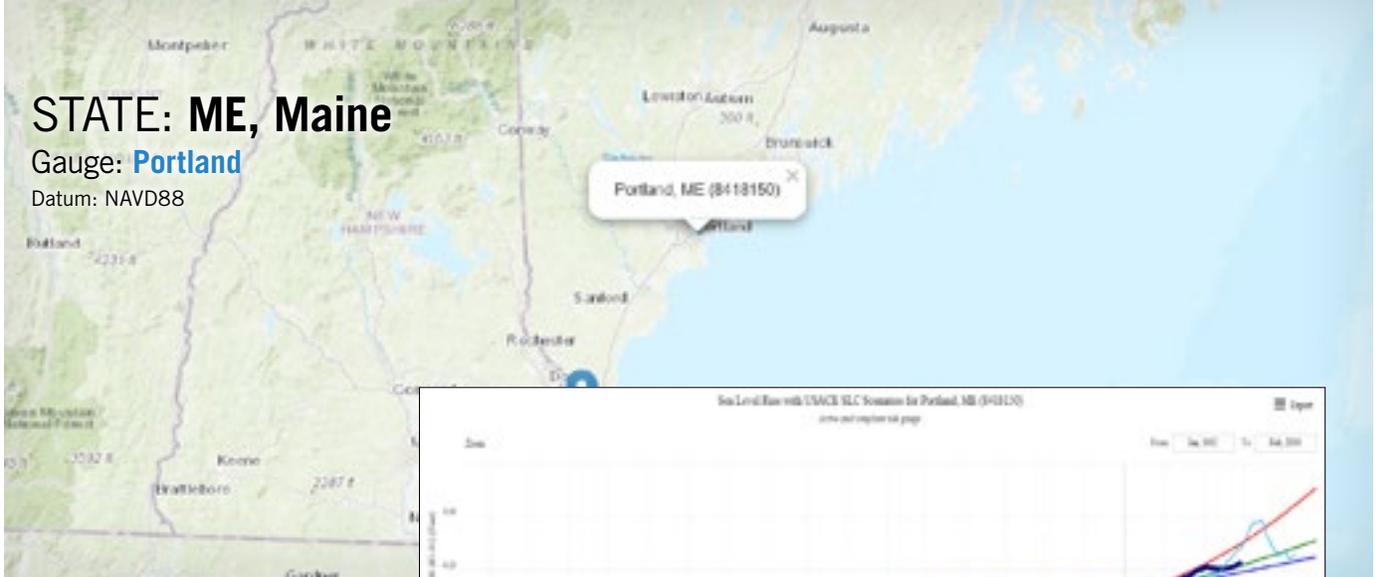


MAINE

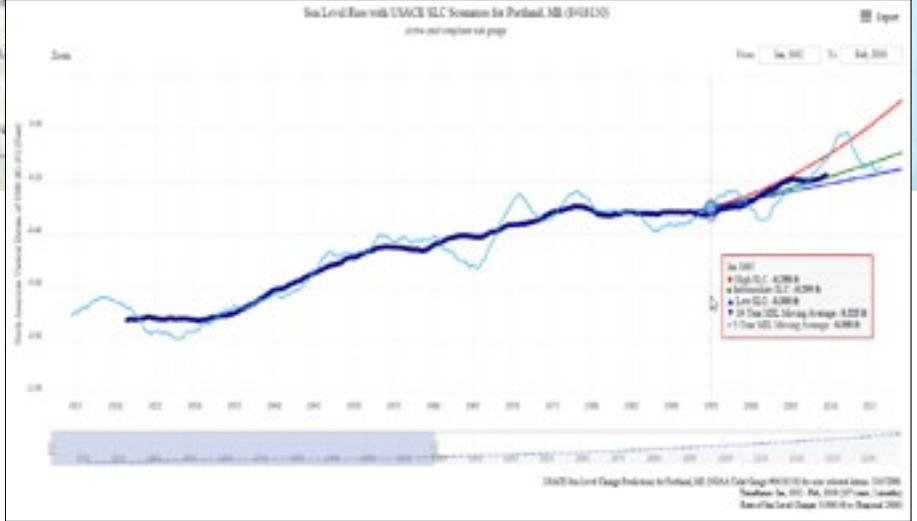
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Gauge: **Portland**

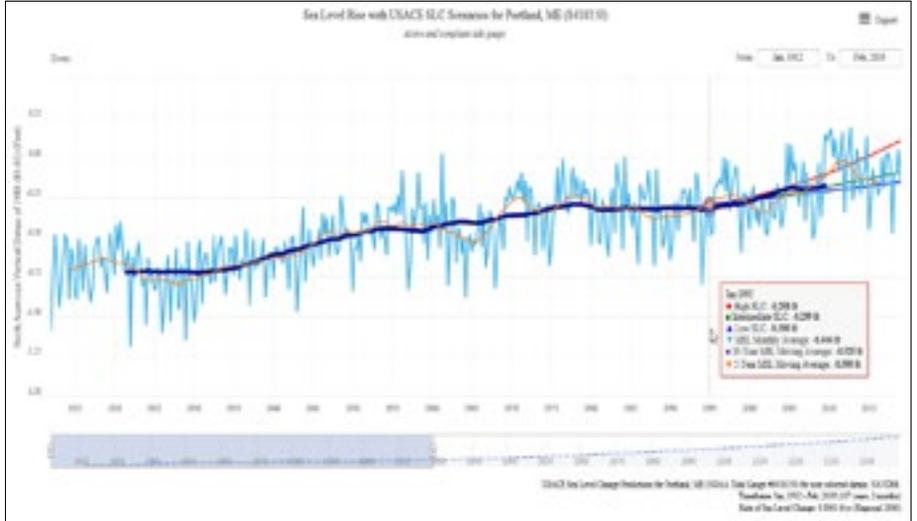
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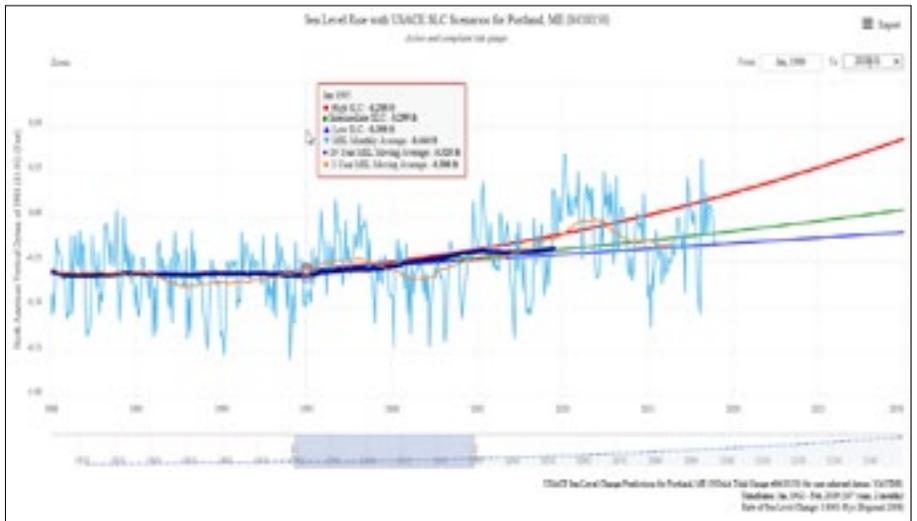
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19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
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5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

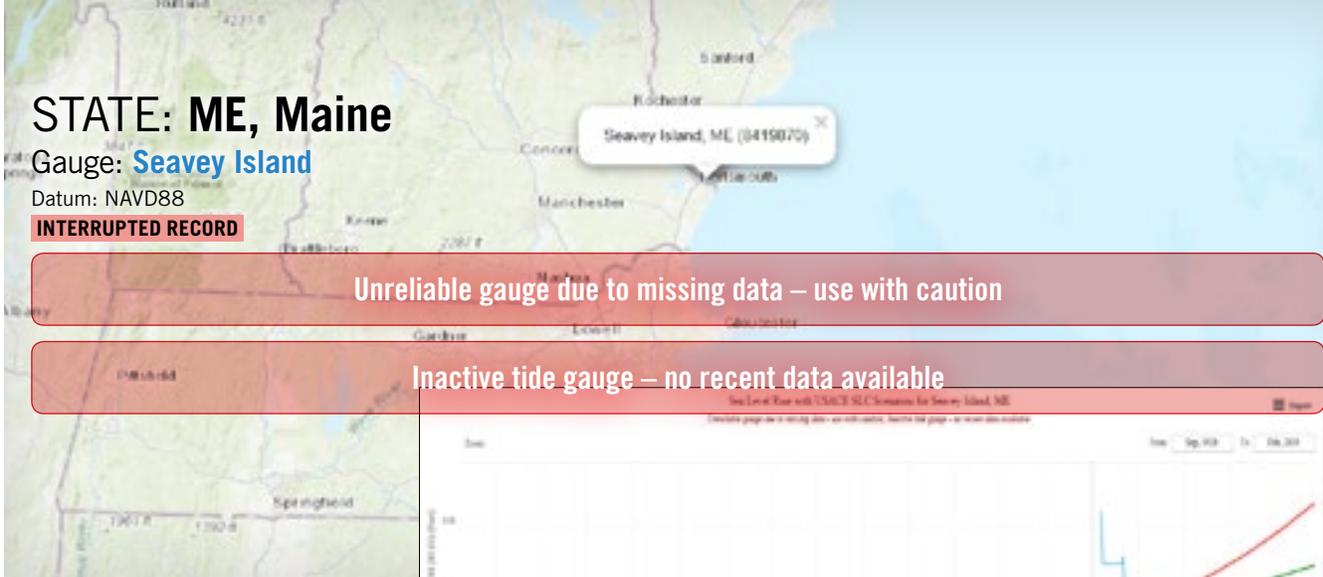


STATE: ME, Maine

Gauge: **Seavey Island**

Datum: NAVD88

INTERRUPTED RECORD



Unreliable gauge due to missing data – use with caution

Inactive tide gauge – no recent data available

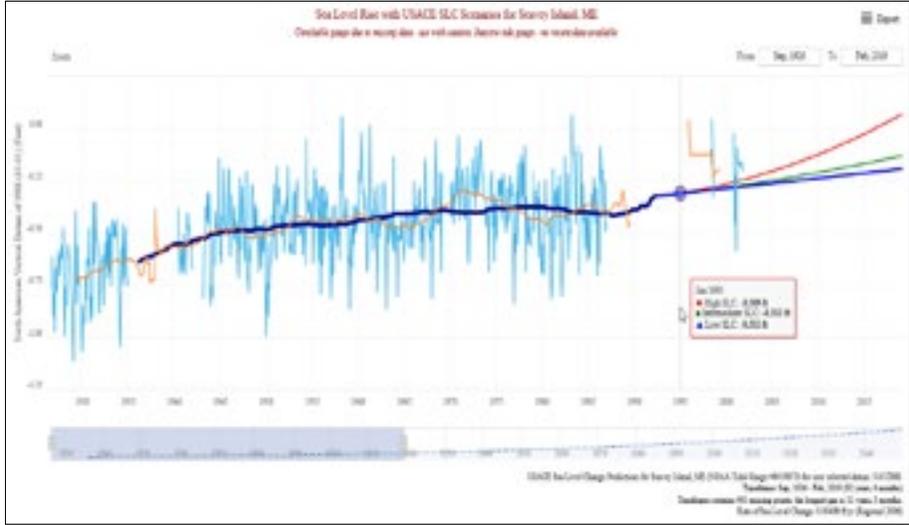
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5-year MSL midpoint moving average



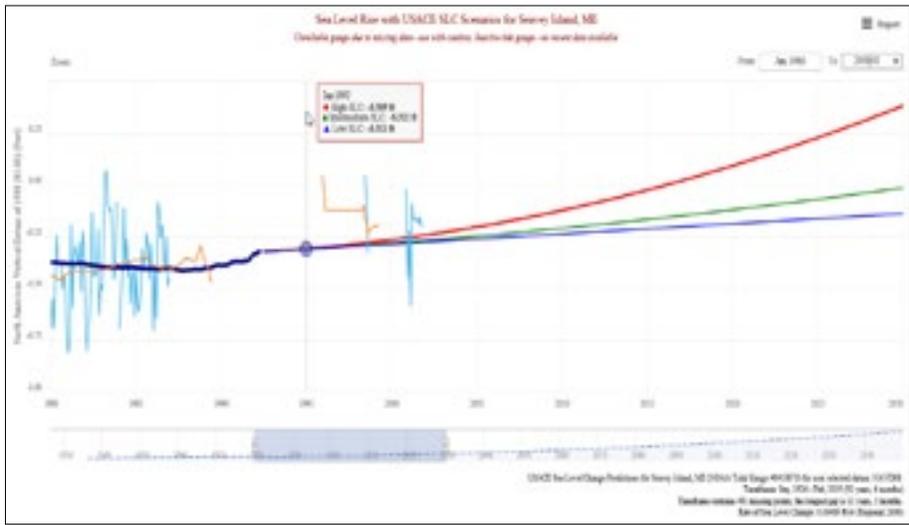
2

19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3

19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



MASSACHUSETTS

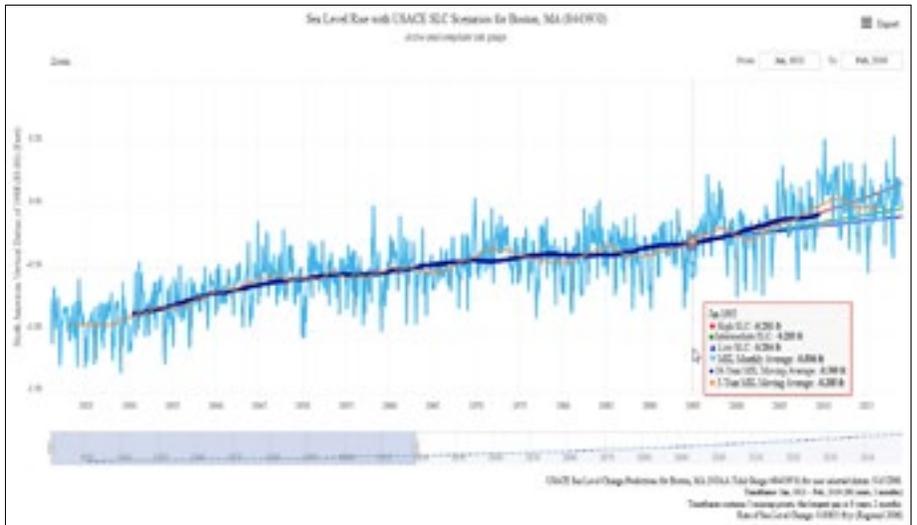
STATE: MA, Massachusetts

Gauge: **Boston**

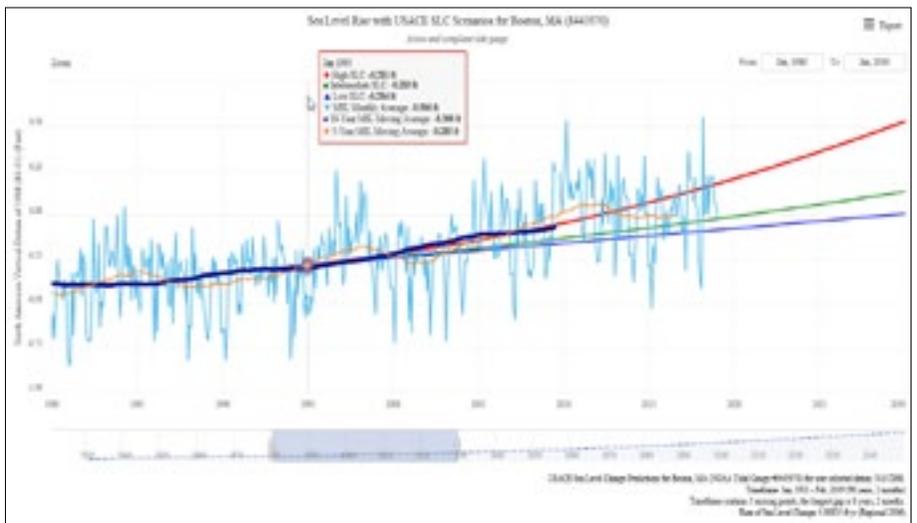
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2
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5-year MSL midpoint moving average
+Monthly Mean Values

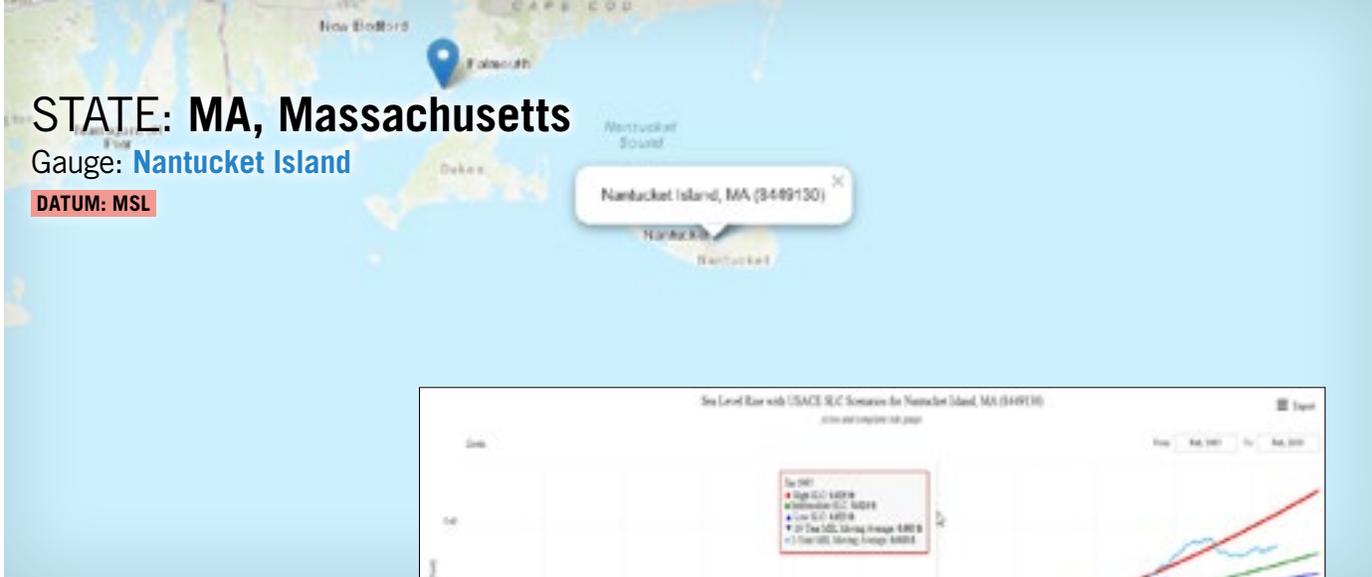


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+Monthly Mean Values
From January 1980 To January 2030

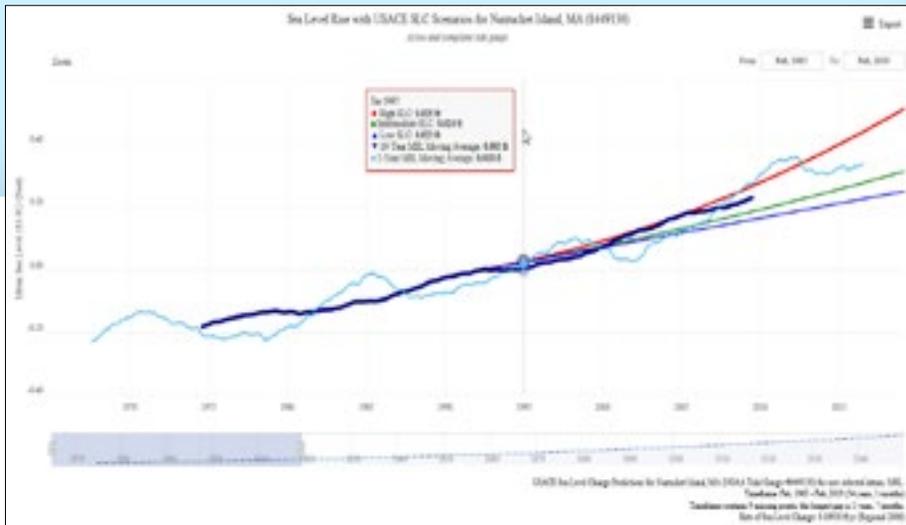
STATE: MA, Massachusetts

Gauge: **Nantucket Island**

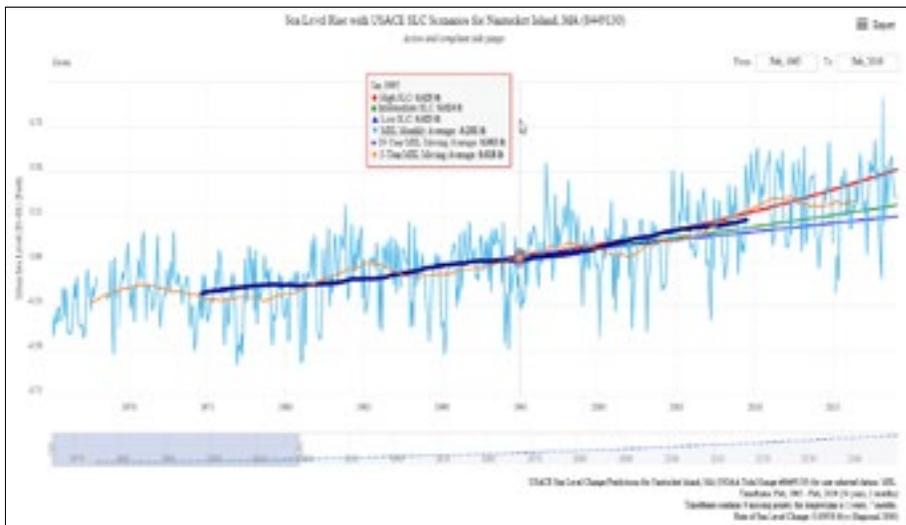
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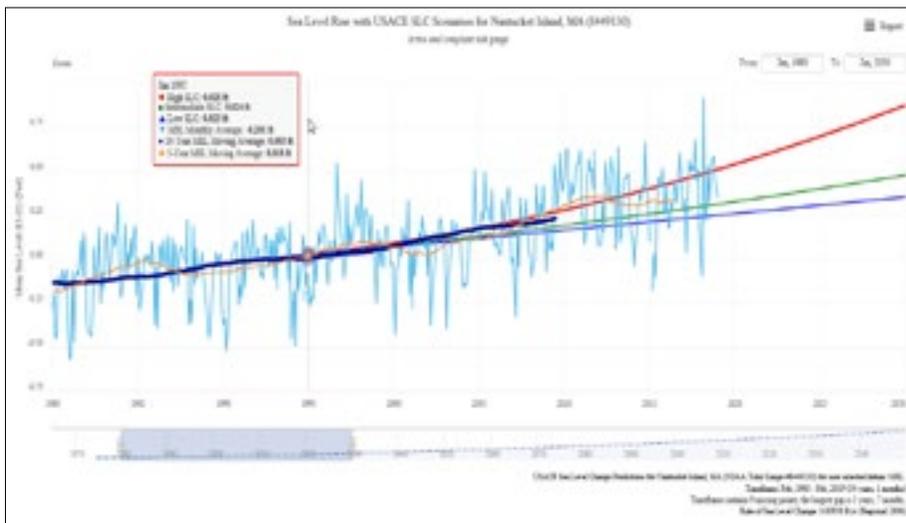
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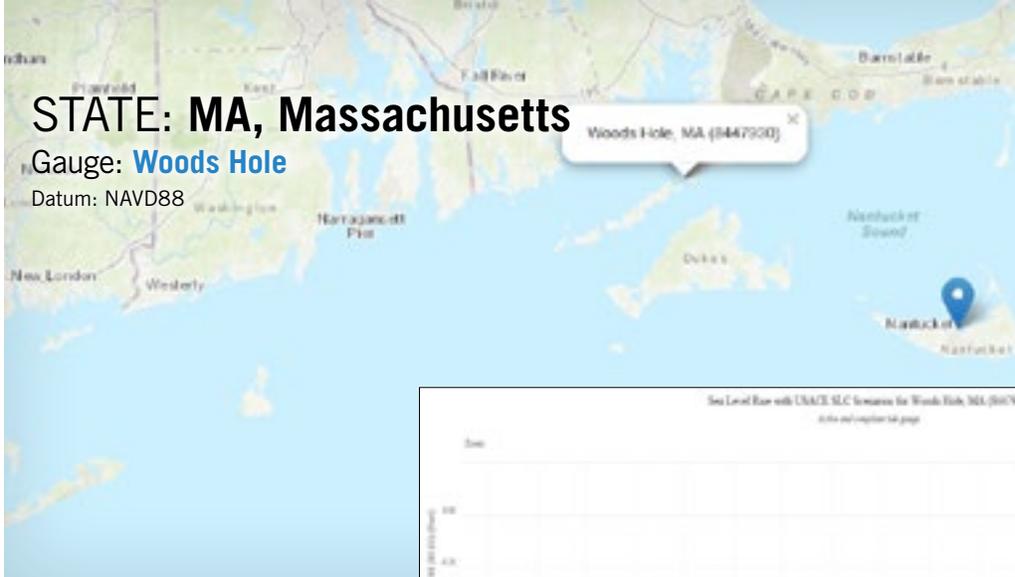


2
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5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
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From January 1980 To January 2030





STATE: MA, Massachusetts

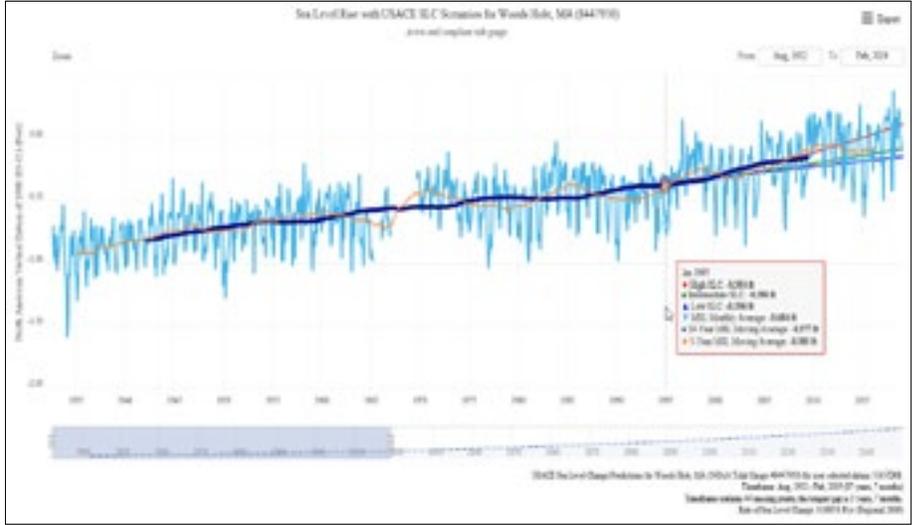
Gauge: **Woods Hole**

Datum: NAVD88

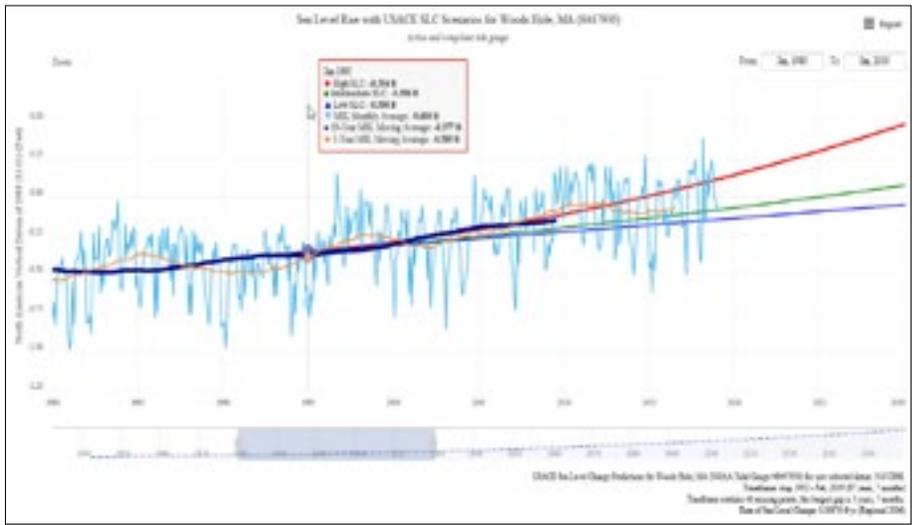
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 +Monthly Mean Values



3
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 5-year MSL midpoint moving average
 +Monthly Mean Values
 From January 1980 To January 2030

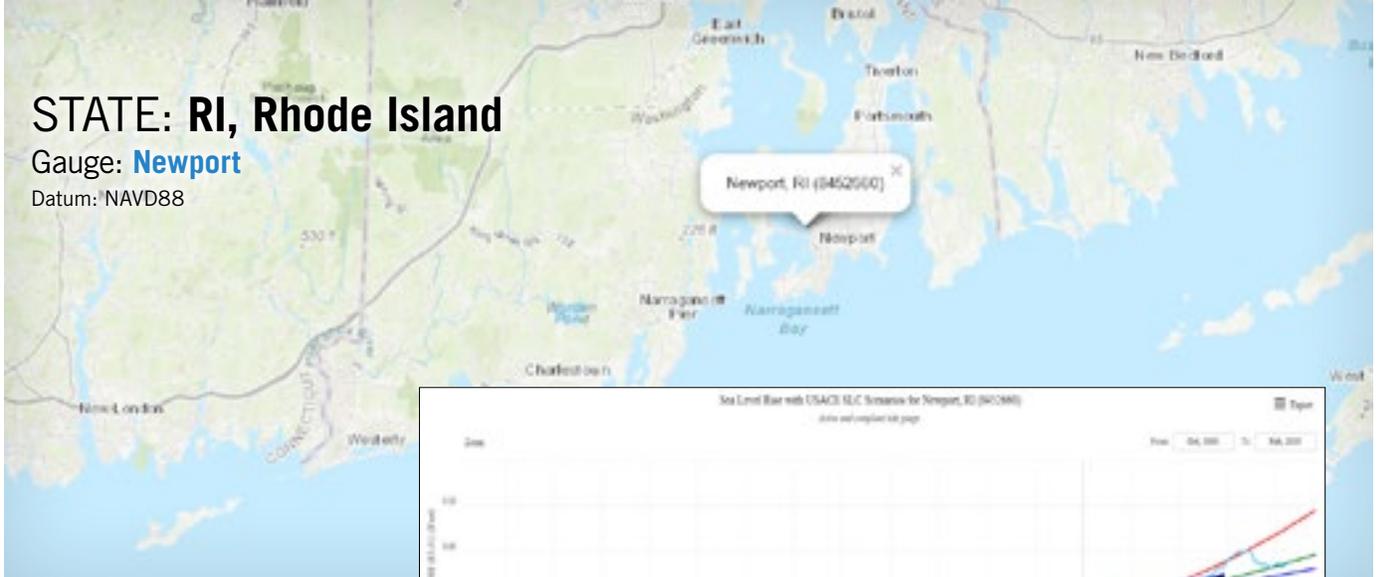


RHODE ISLAND

STATE: RI, Rhode Island

Gauge: **Newport**

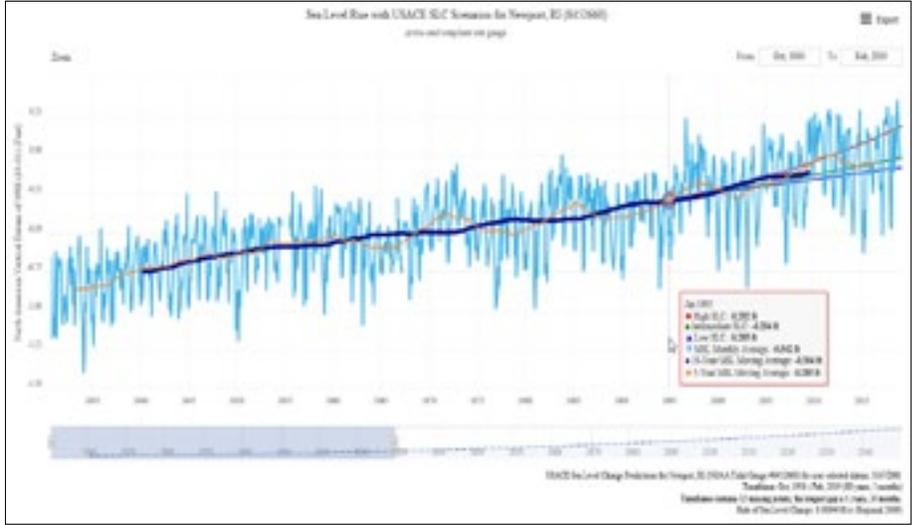
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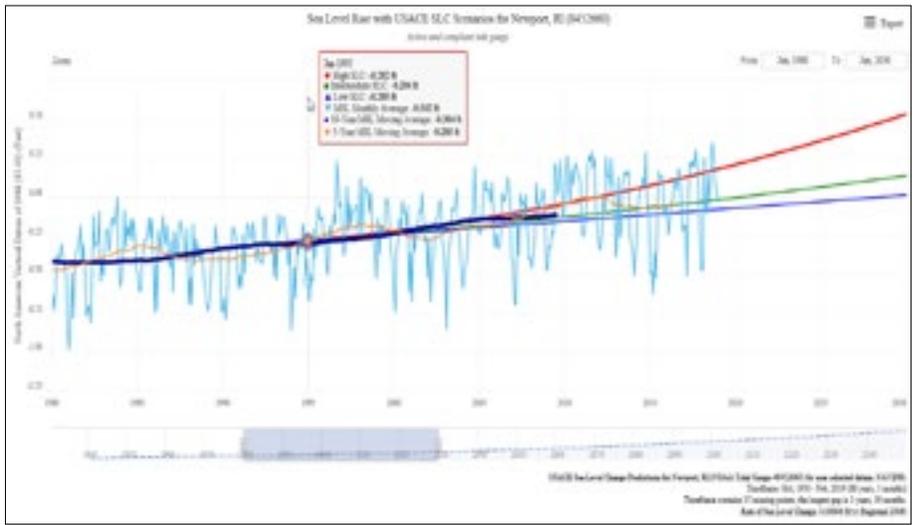
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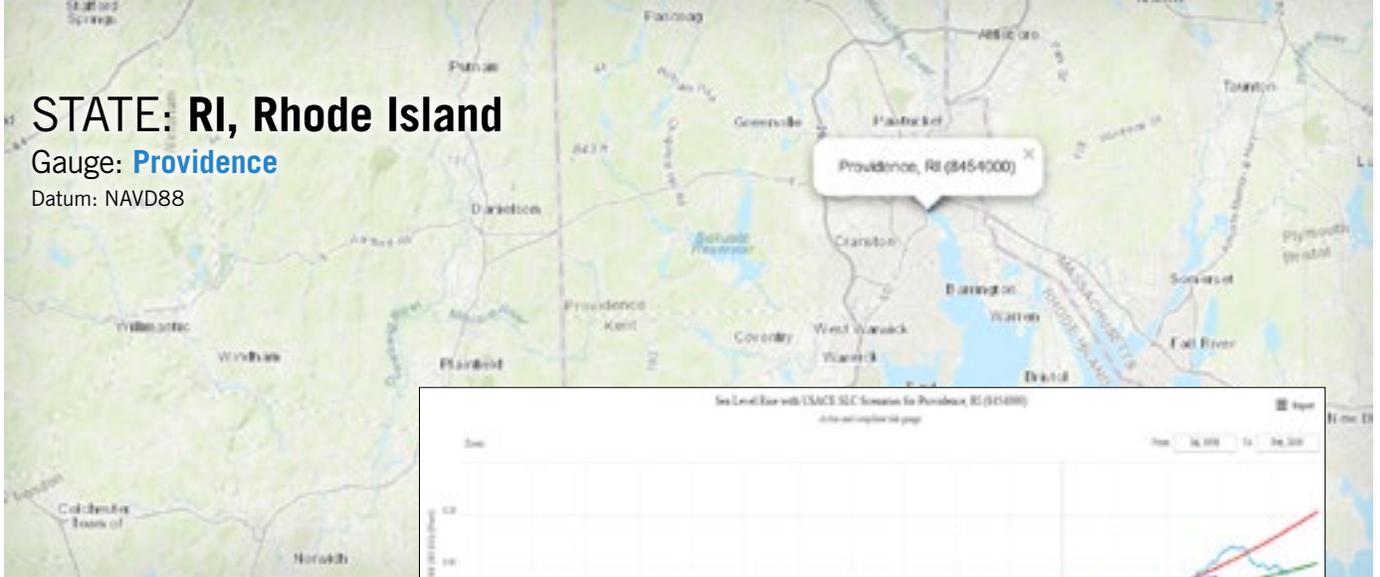
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19-year midpoint moving average
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From January 1980 To January 2030



STATE: RI, Rhode Island

Gauge: **Providence**

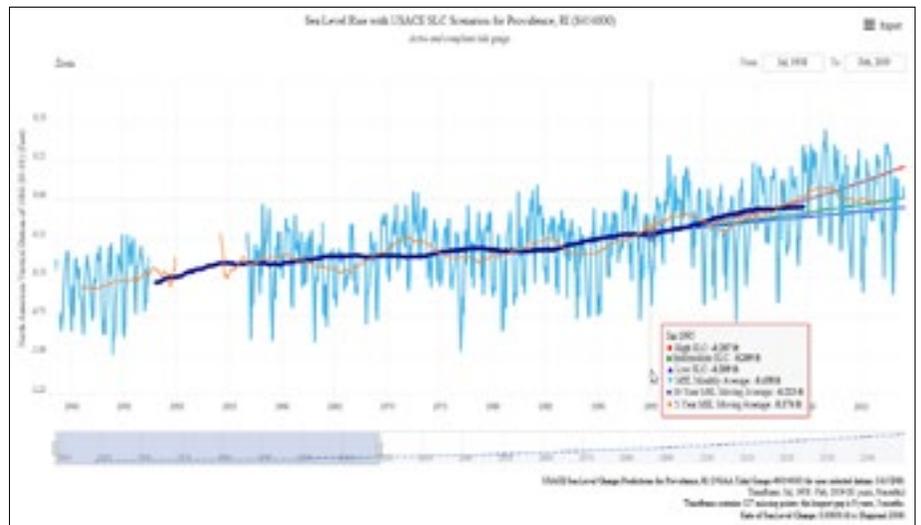
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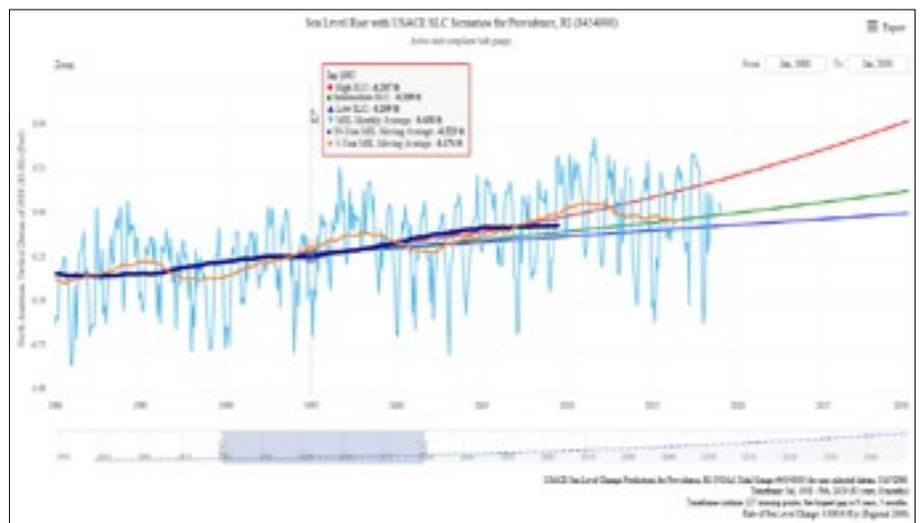
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+Monthly Mean Values



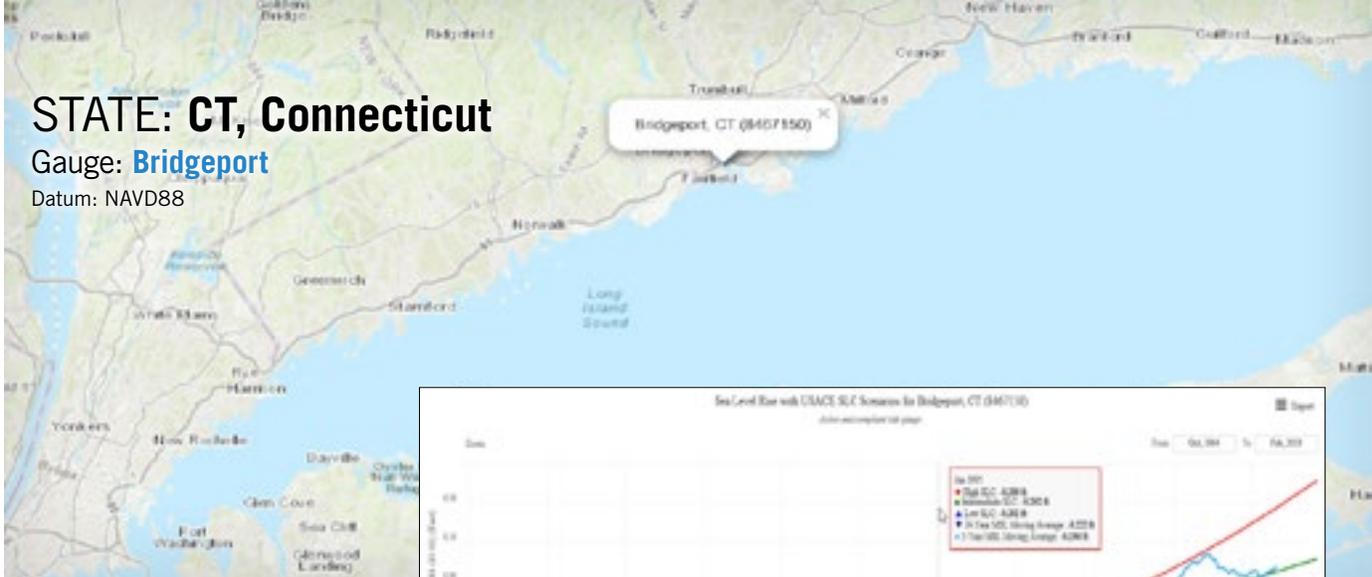
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From January 1980 To January 2030



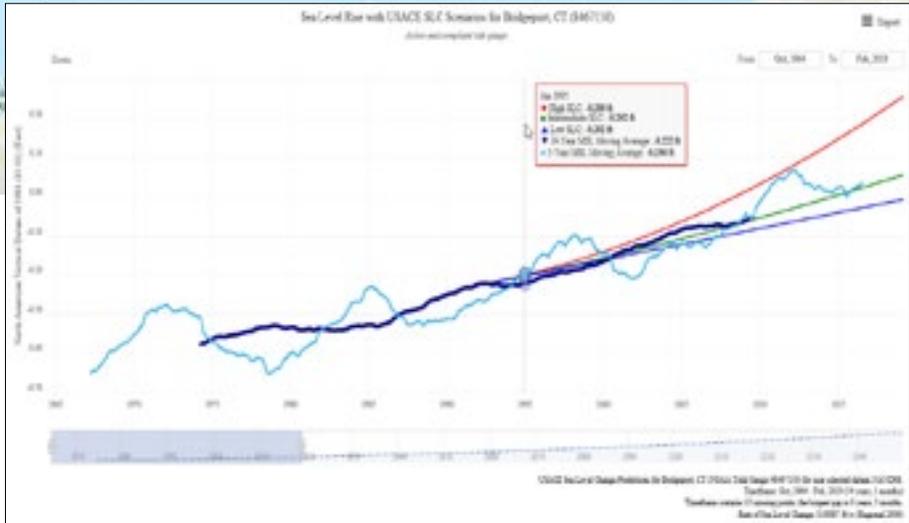
STATE: CT, Connecticut

Gauge: **Bridgeport**

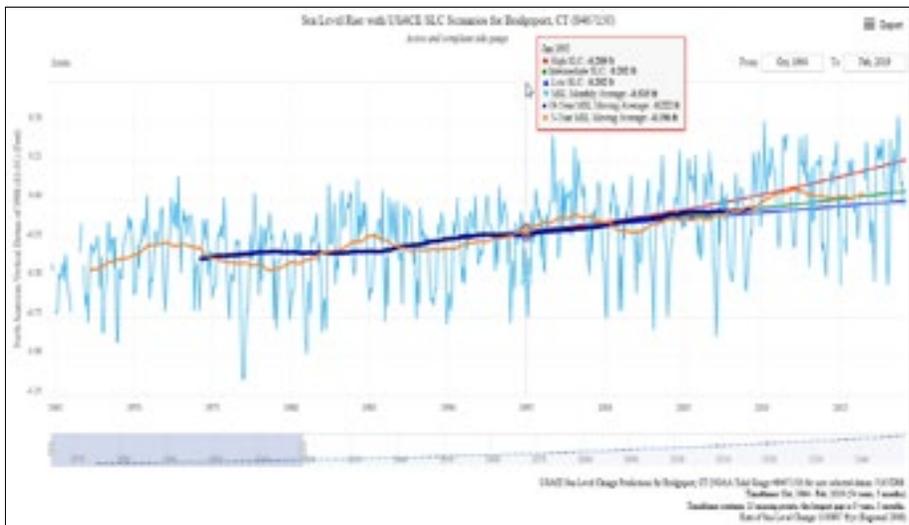
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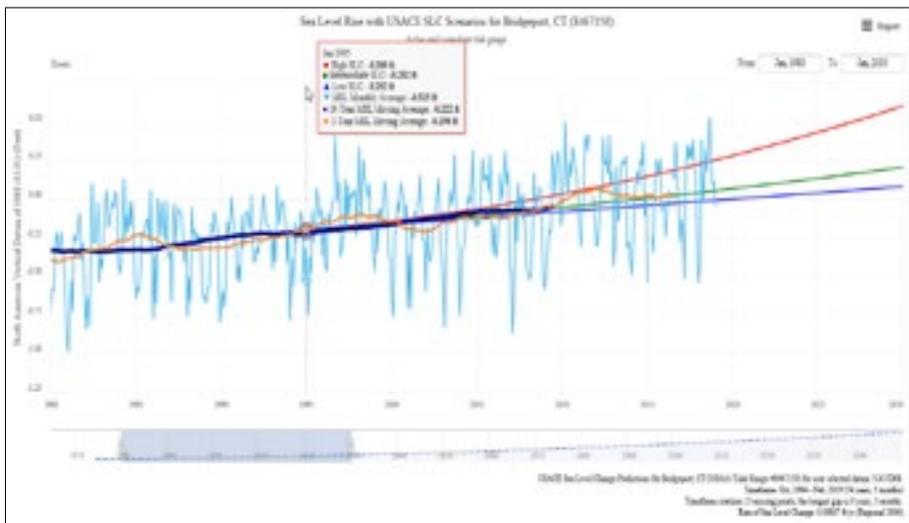
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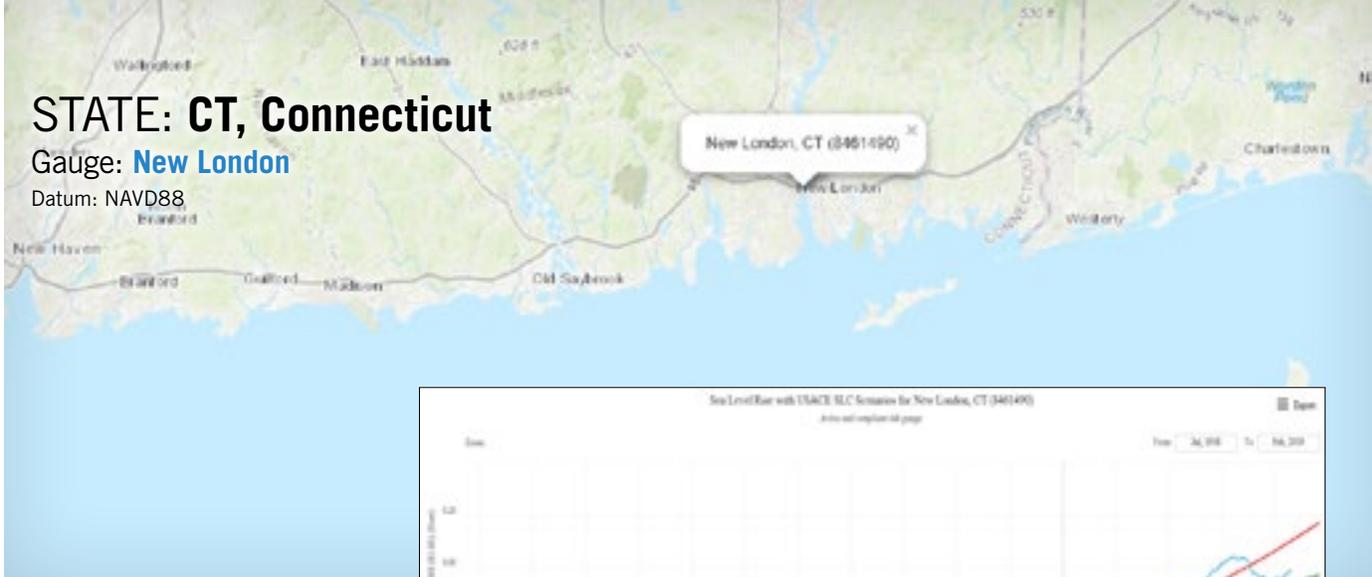
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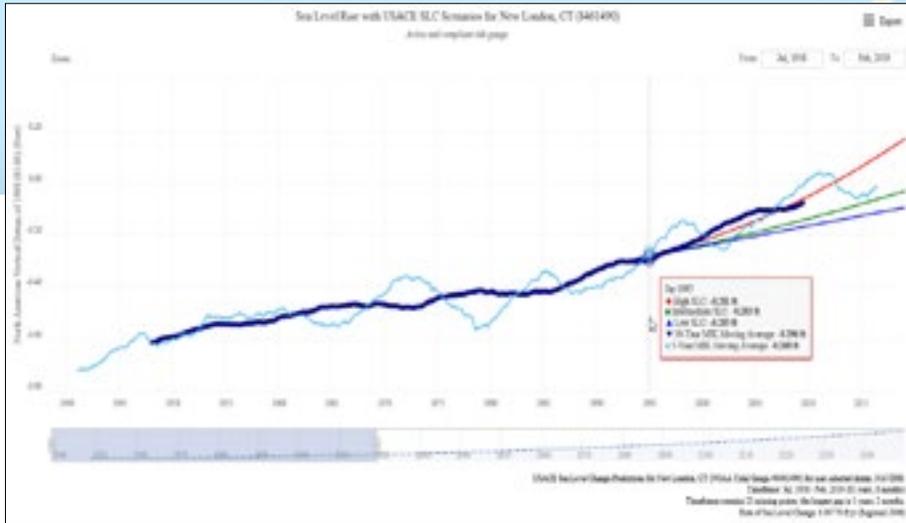
STATE: CT, Connecticut

Gauge: **New London**

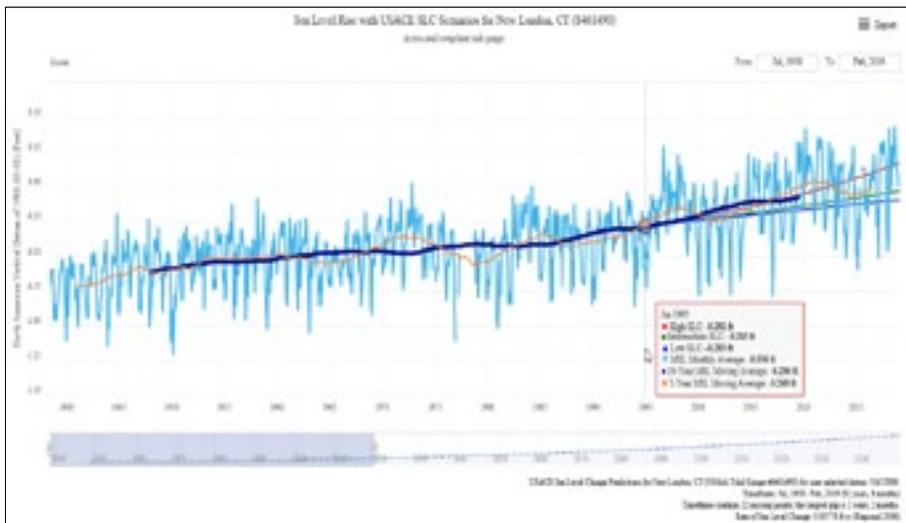
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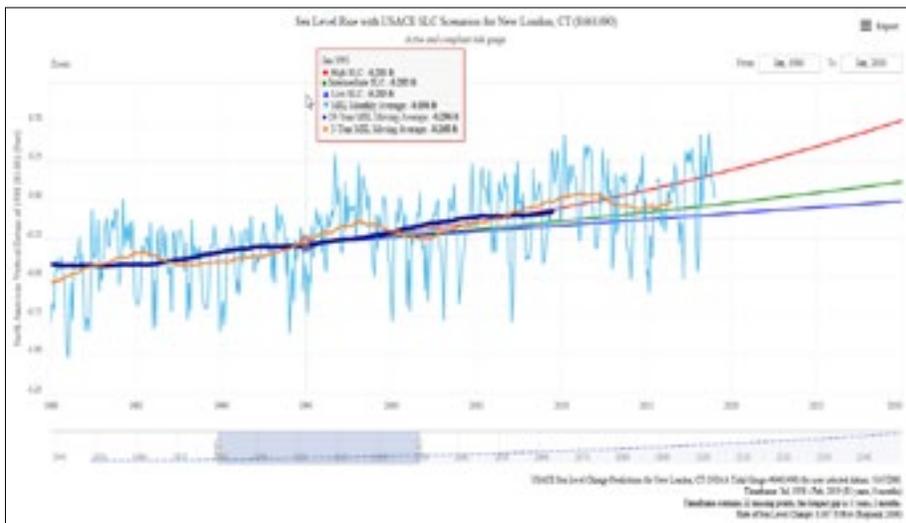
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5-year MSL midpoint moving average
+Monthly Mean Values



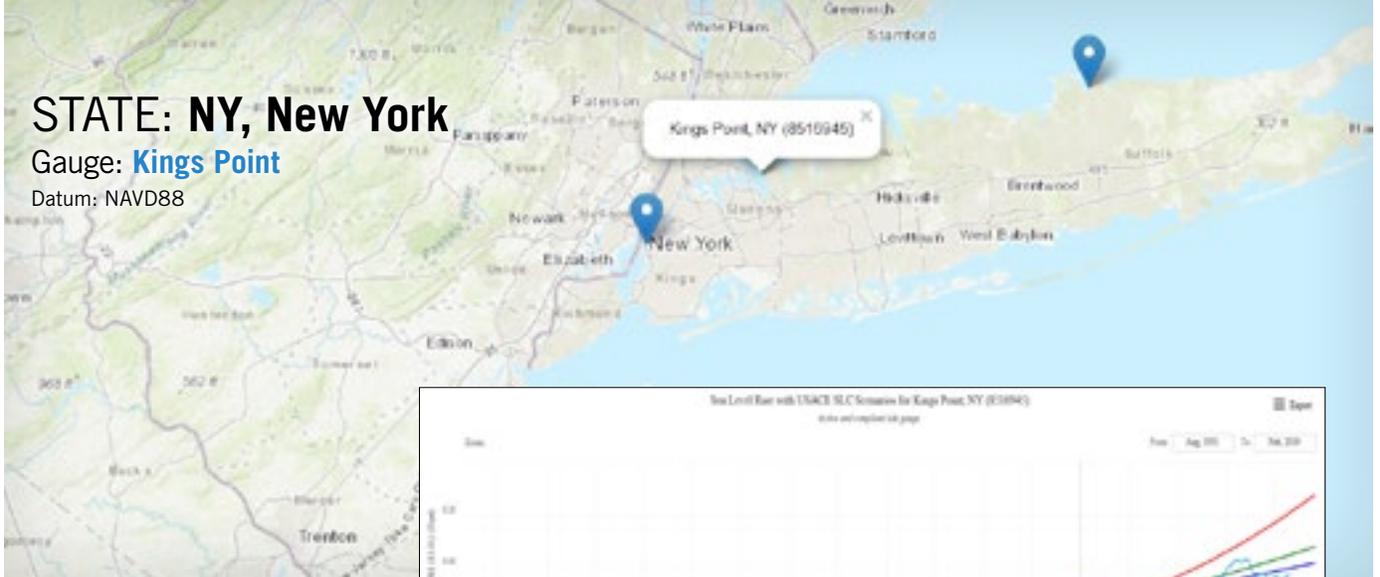
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19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



STATE: NY, New York

Gauge: **Kings Point**

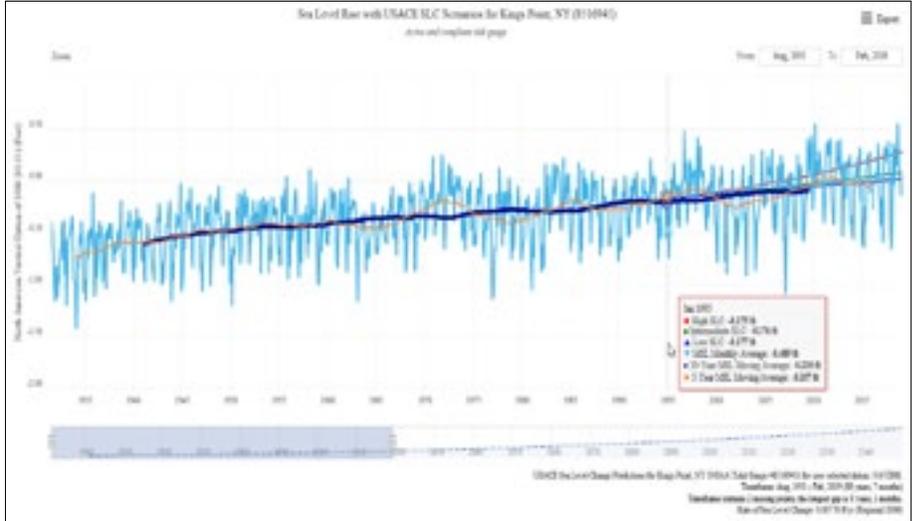
Datum: NAVD88



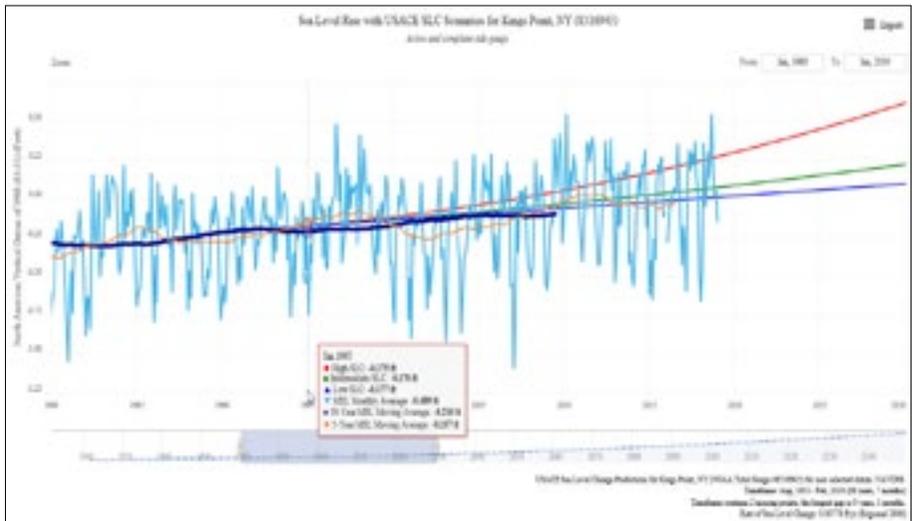
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



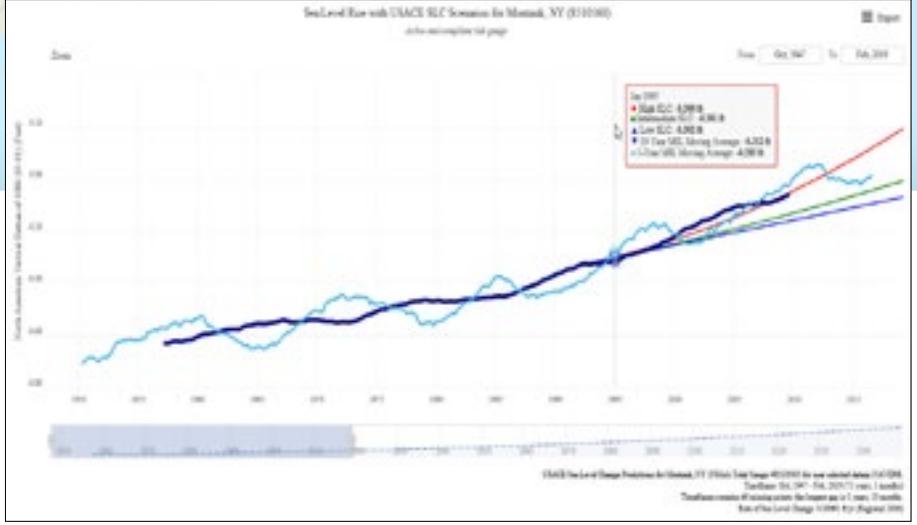
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



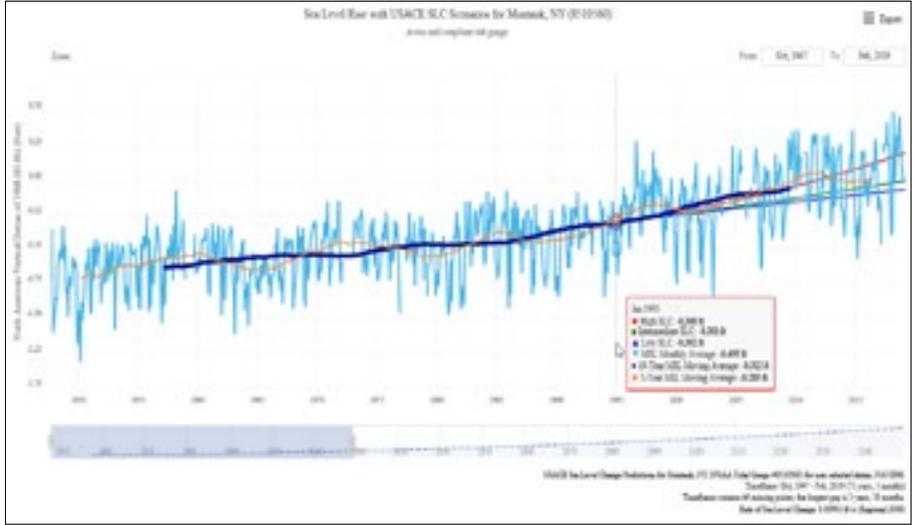
STATE: NY, New York

Gauge: **Montauk**

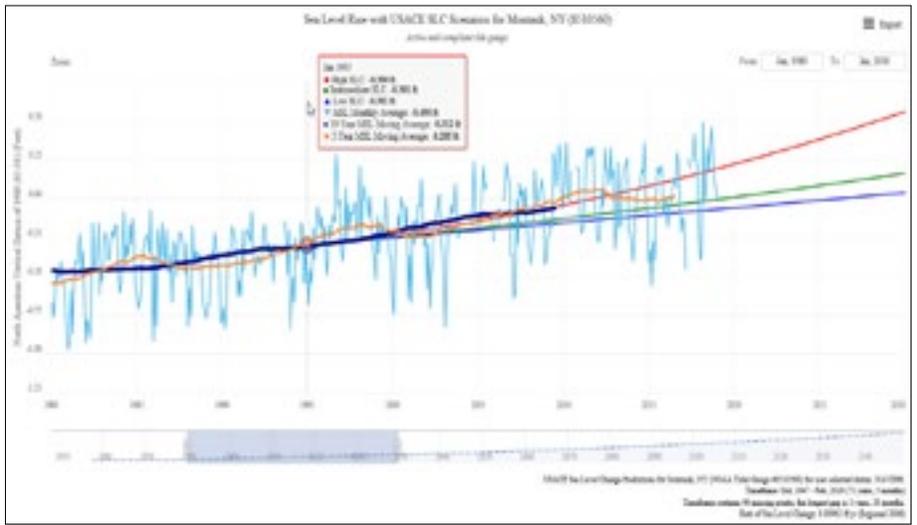
Datum: NAVD88



1
 19-year midpoint moving average
 5-year MSL midpoint moving average



2
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values

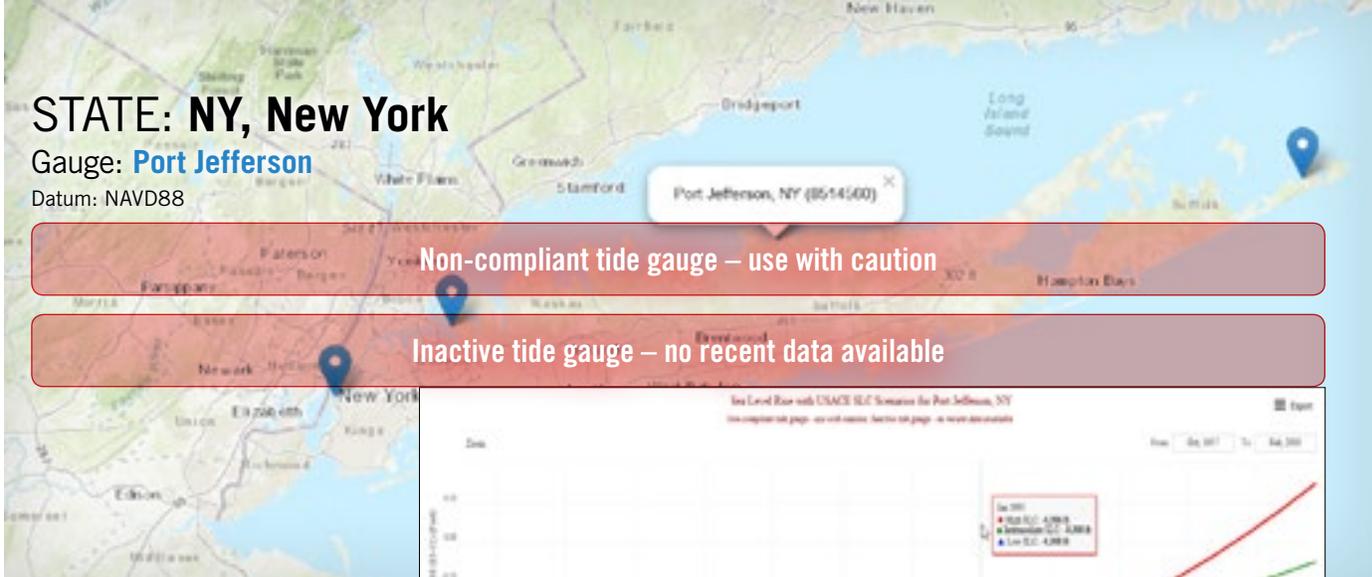


3
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values
 From January 1980 To January 2030

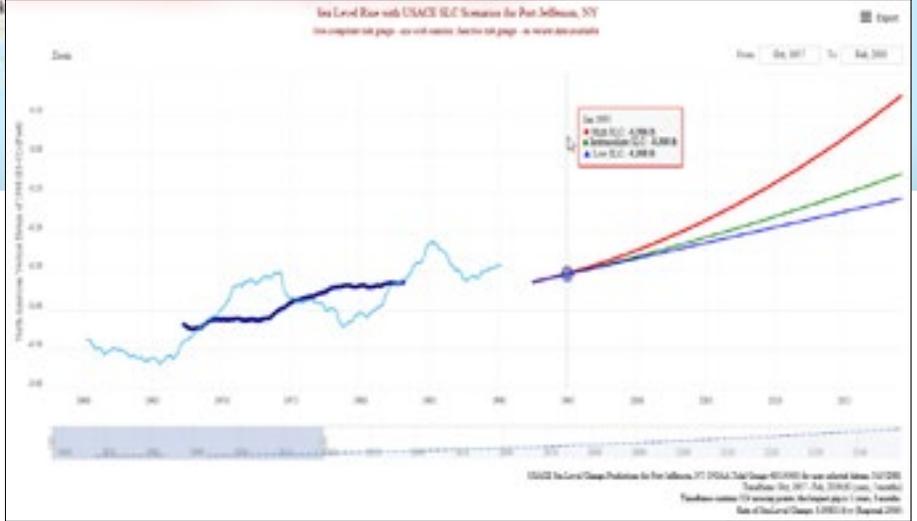
STATE: NY, New York

Gauge: **Port Jefferson**

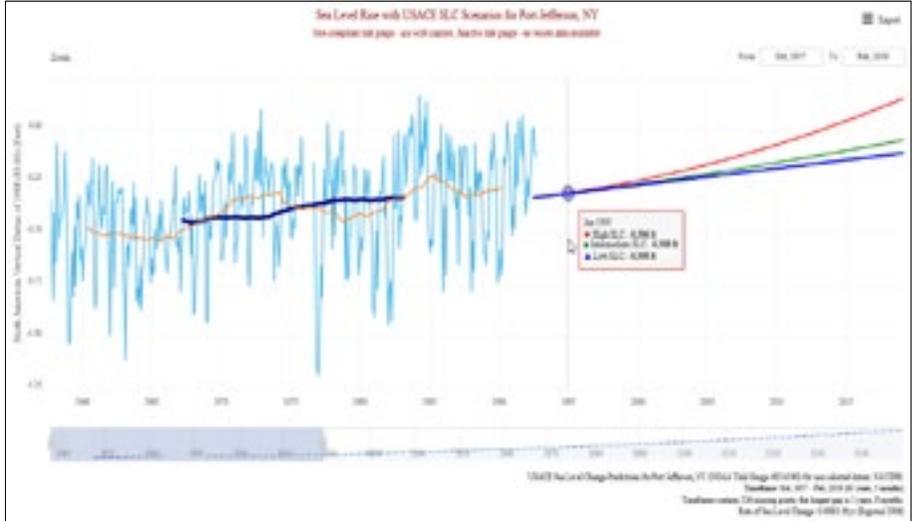
Datum: NAVD88



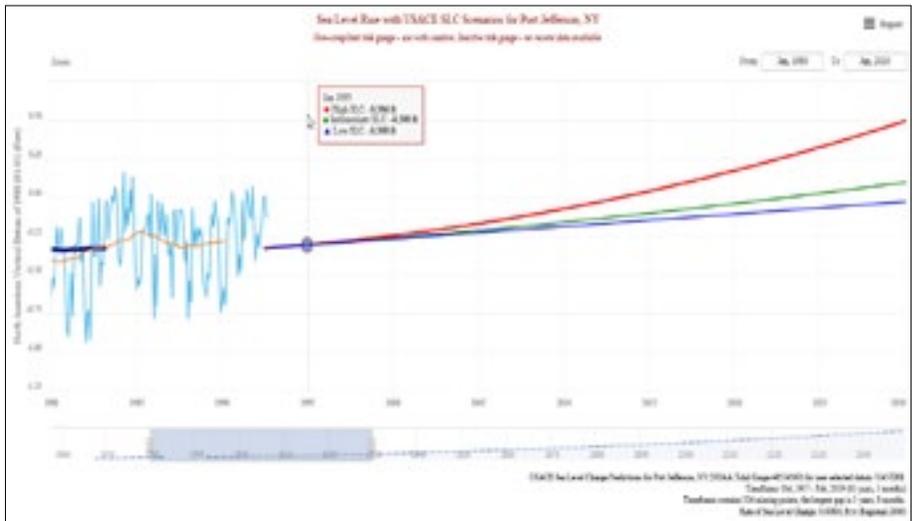
1
 19-year midpoint moving average
 5-year MSL midpoint moving average

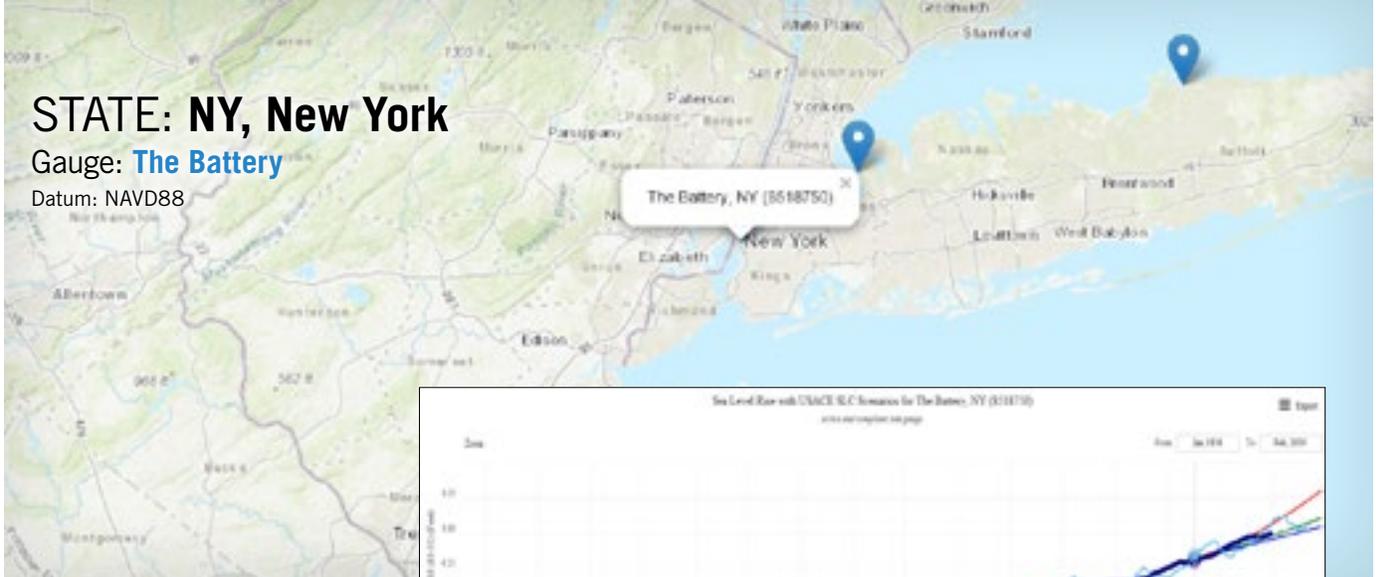


2
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values



3
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values
 From January 1980 To January 2030





STATE: NY, New York

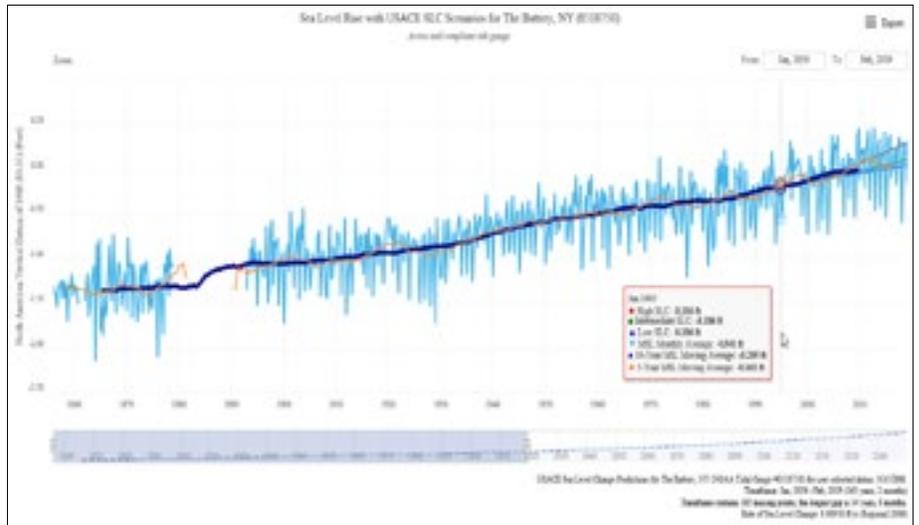
Gauge: **The Battery**

Datum: NAVD88

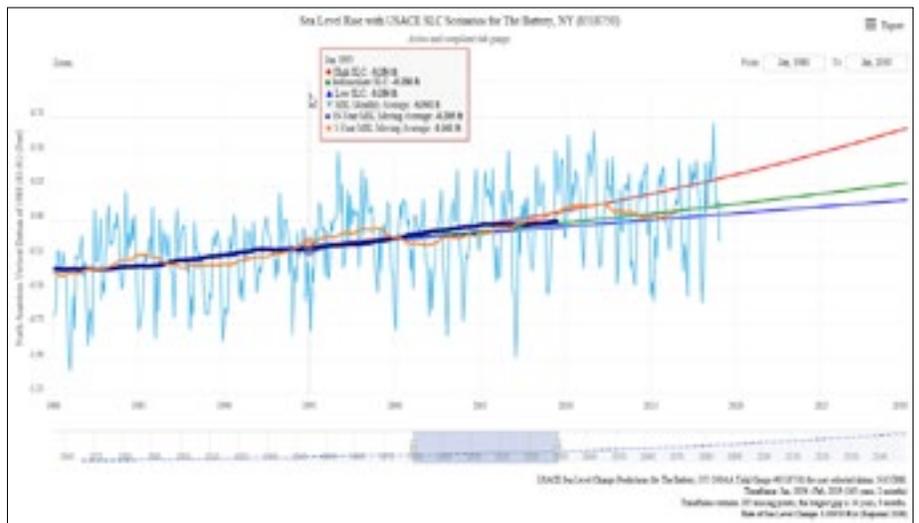
1
 19-year midpoint moving average
 5-year MSL midpoint moving average

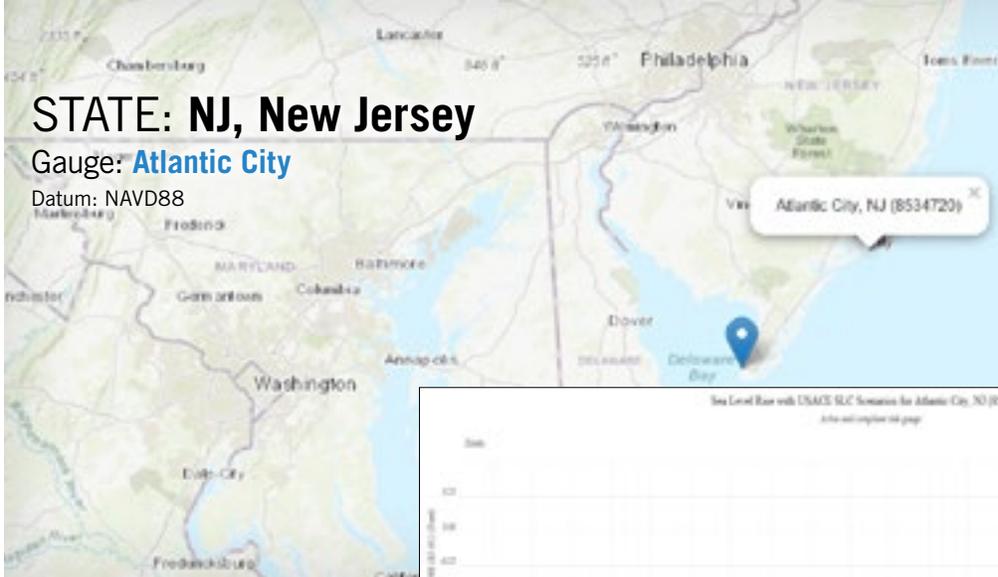


2
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values



3
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values
 From January 1980 To January 2030



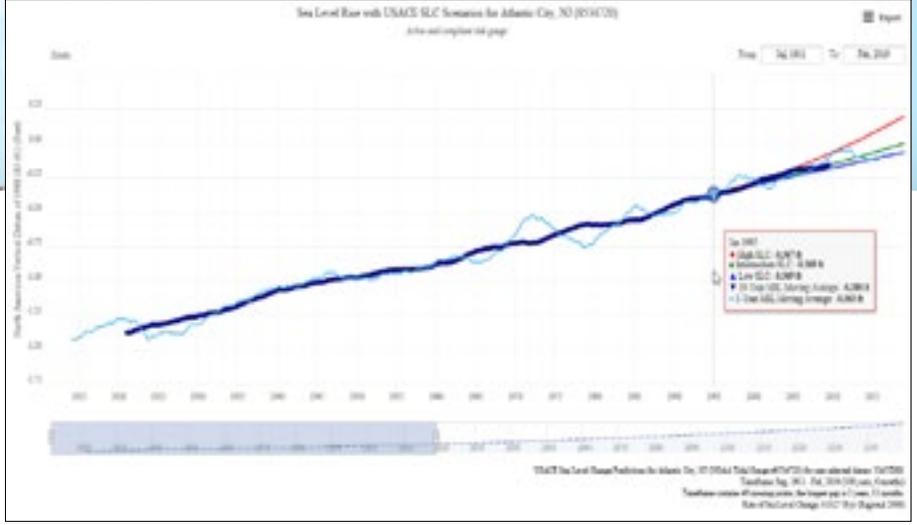


STATE: NJ, New Jersey

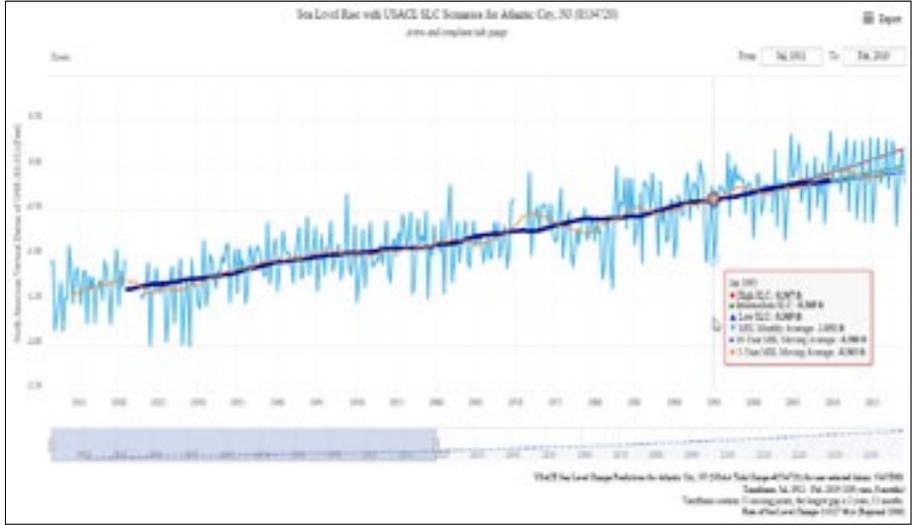
Gauge: **Atlantic City**

Datum: NAVD88

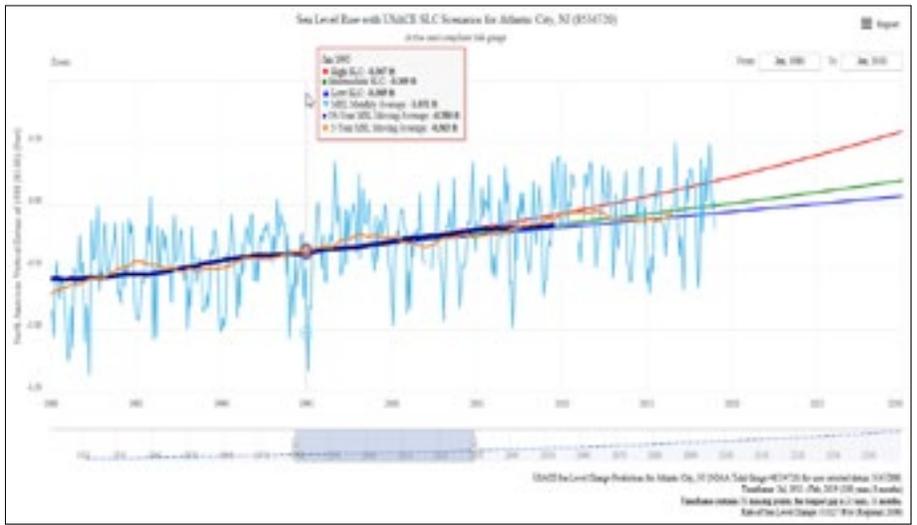
1
 19-year midpoint moving average
 5-year MSL midpoint moving average



2
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values



3
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values
 From January 1980 To January 2030

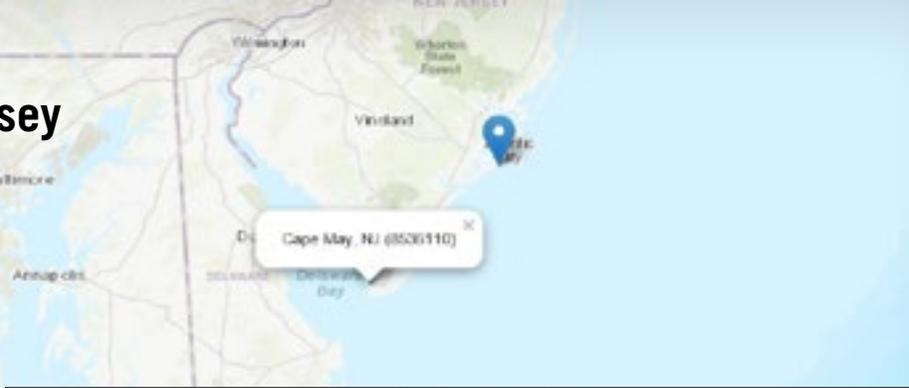




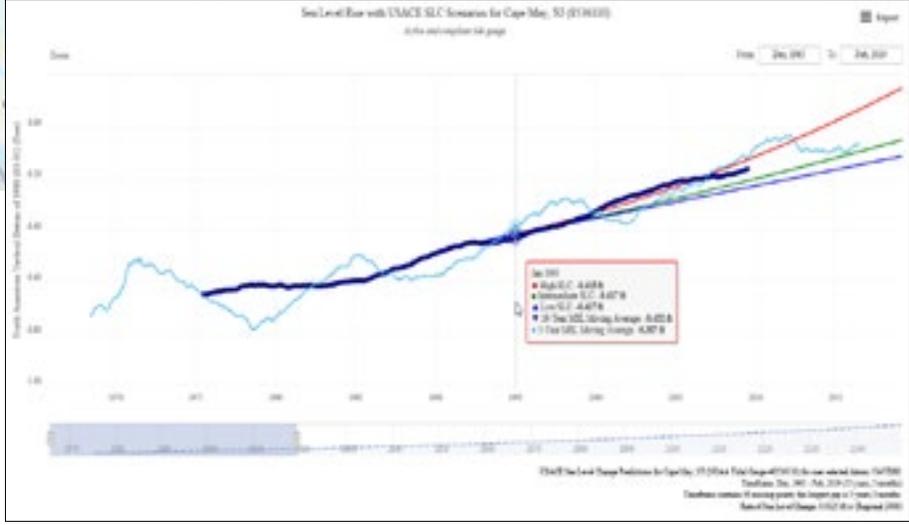
STATE: NJ, New Jersey

Gauge: **Cape May**

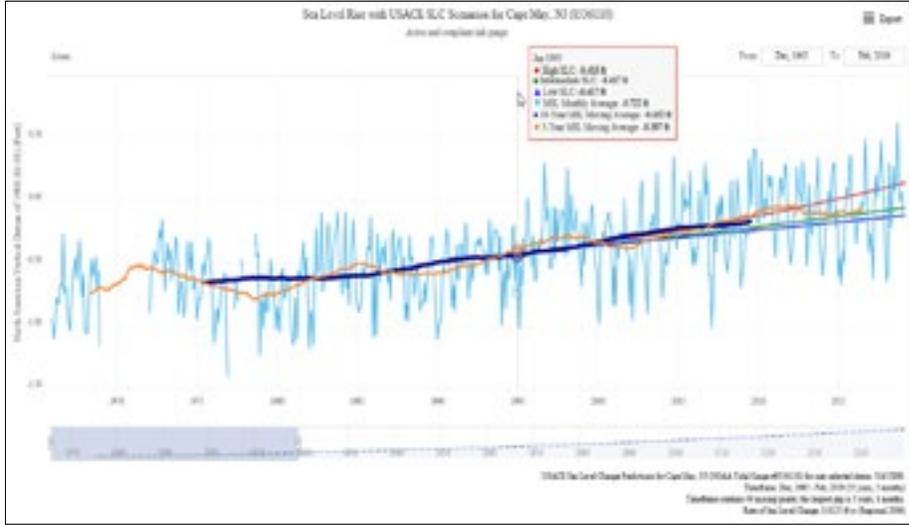
Datum: NAVD88



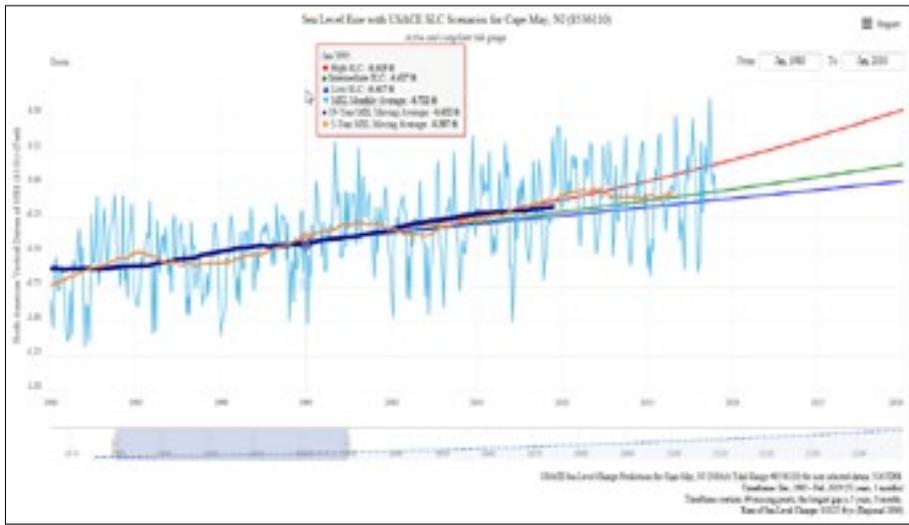
1
 19-year midpoint moving average
 5-year MSL midpoint moving average



2
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values



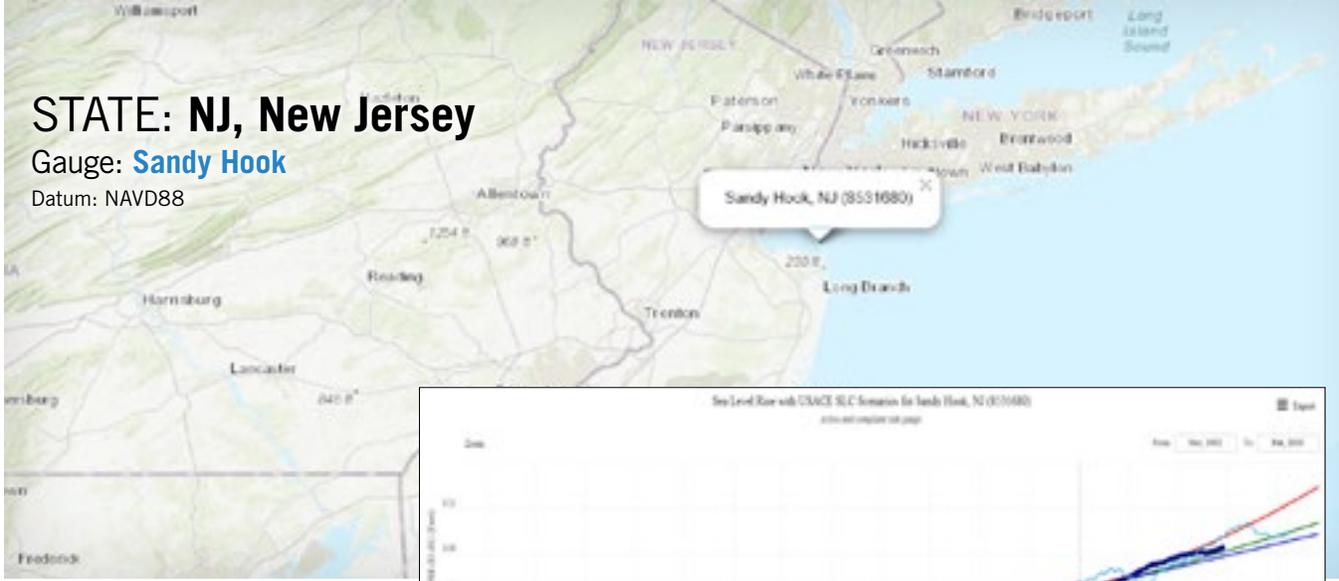
3
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values
 From January 1980 To January 2030



STATE: NJ, New Jersey

Gauge: **Sandy Hook**

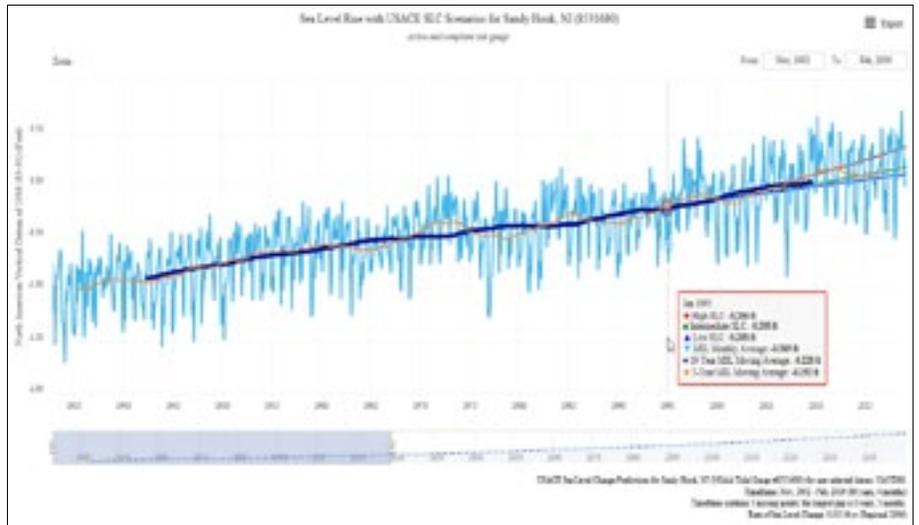
Datum: NAVD88



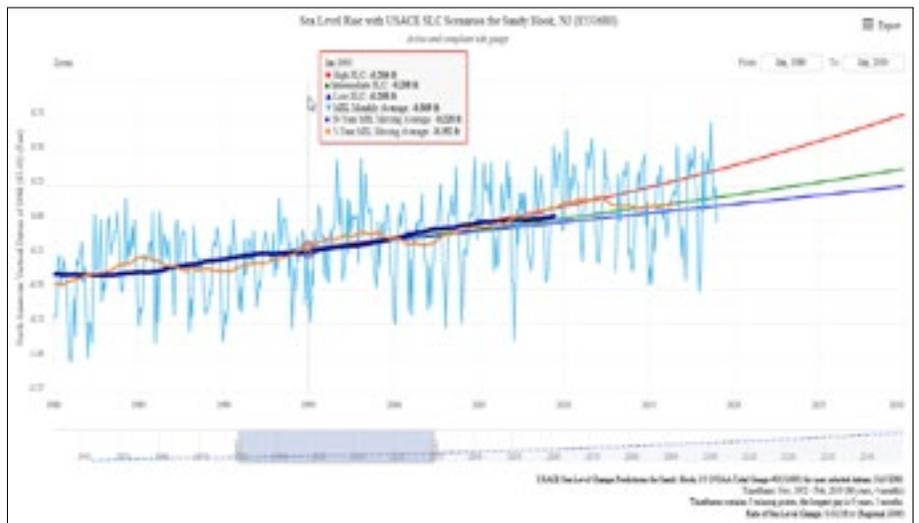
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



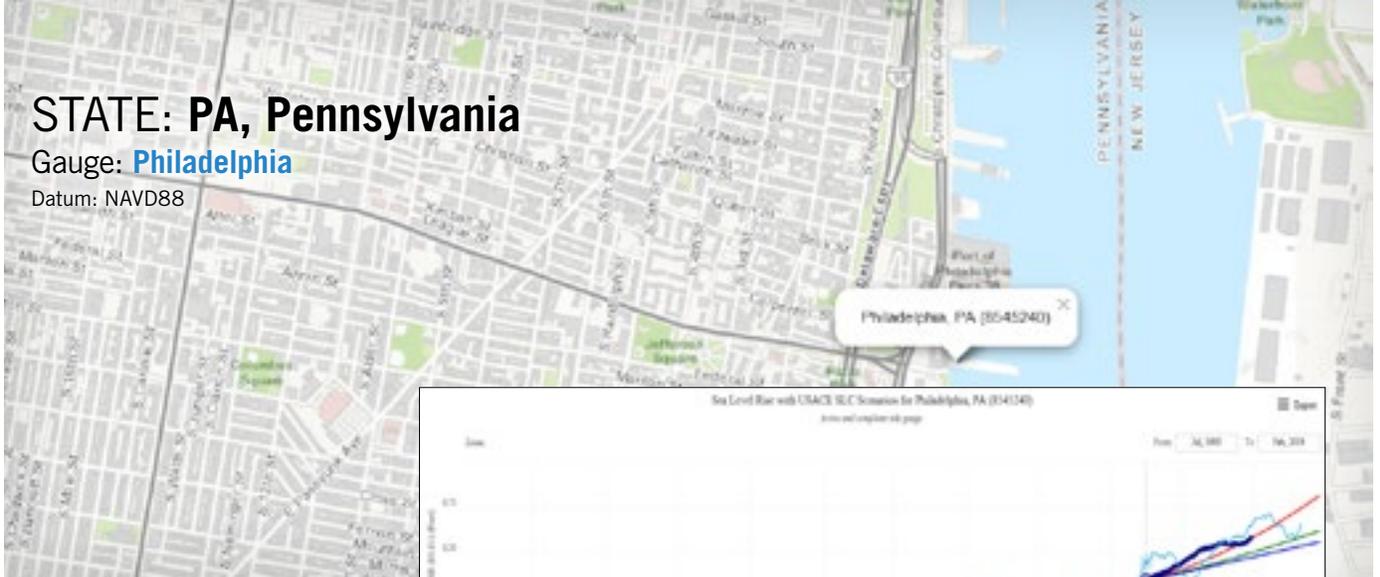
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



STATE: PA, Pennsylvania

Gauge: **Philadelphia**

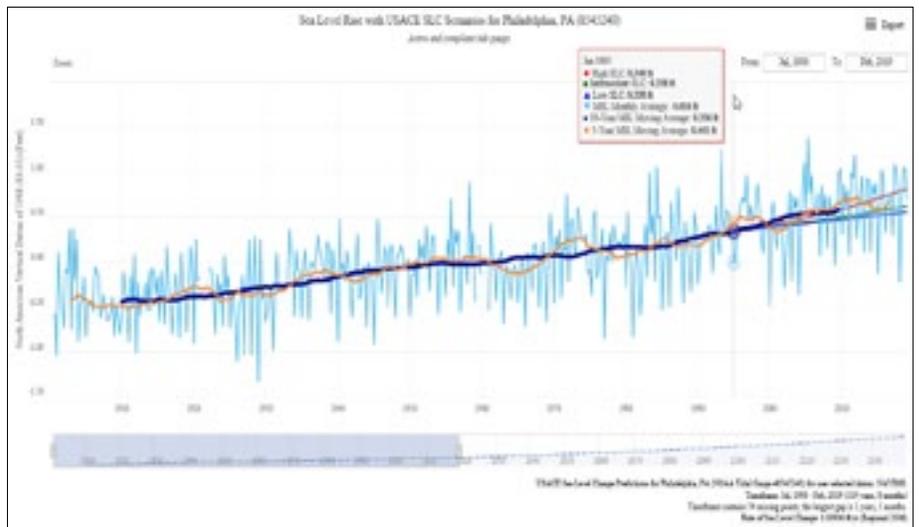
Datum: NAVD88



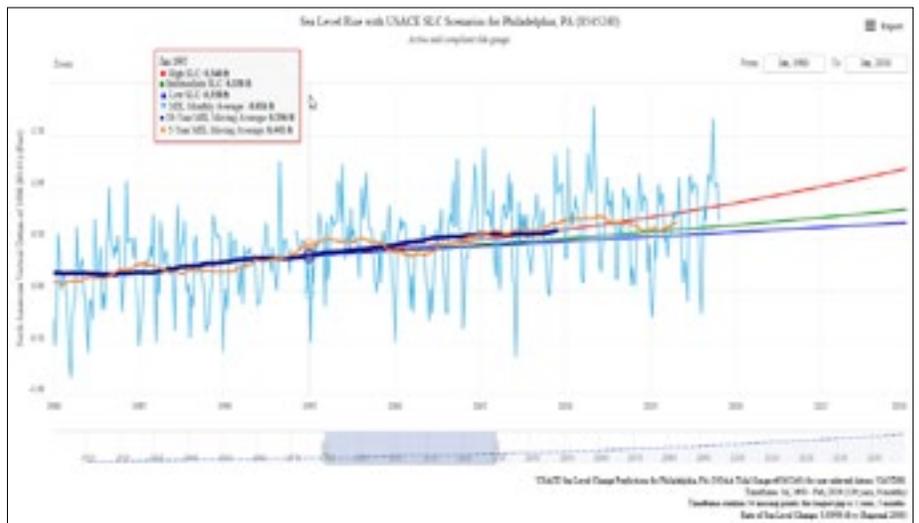
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



DELAWARE



STATE: **DE, Delaware**

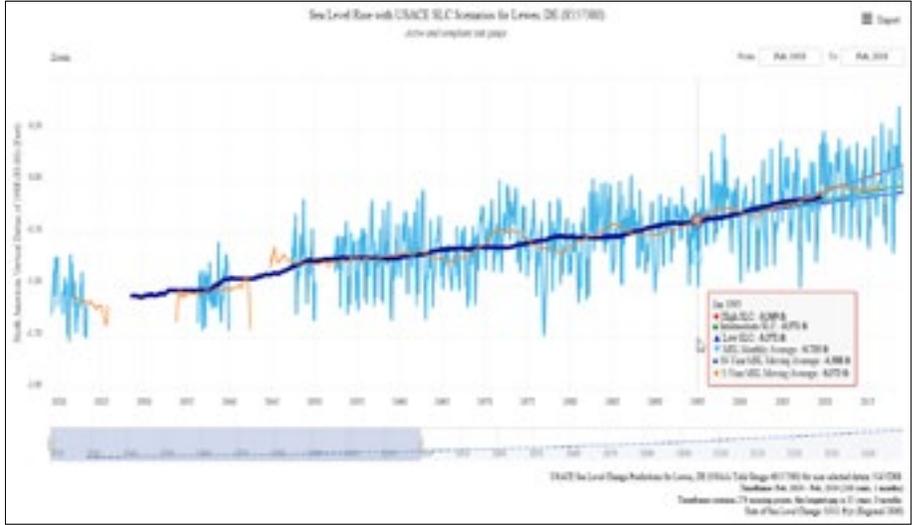
Gauge: **Lewes**

Datum: NAVD88

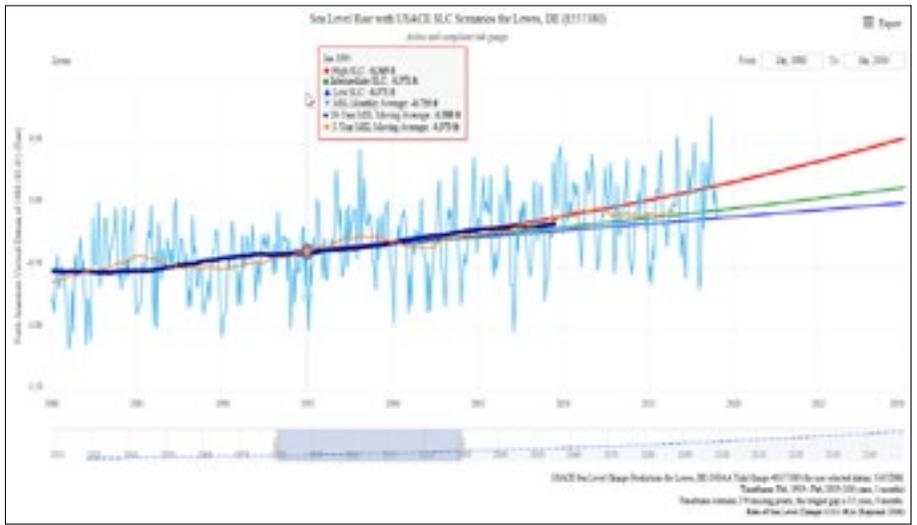
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



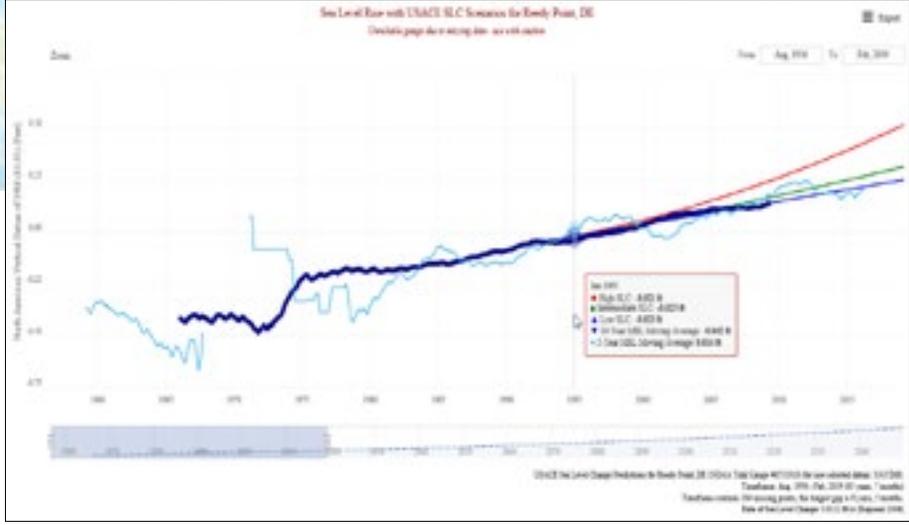
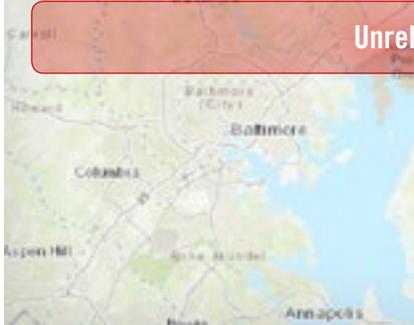
STATE: DE, Delaware

Gauge: **Reedy Point**

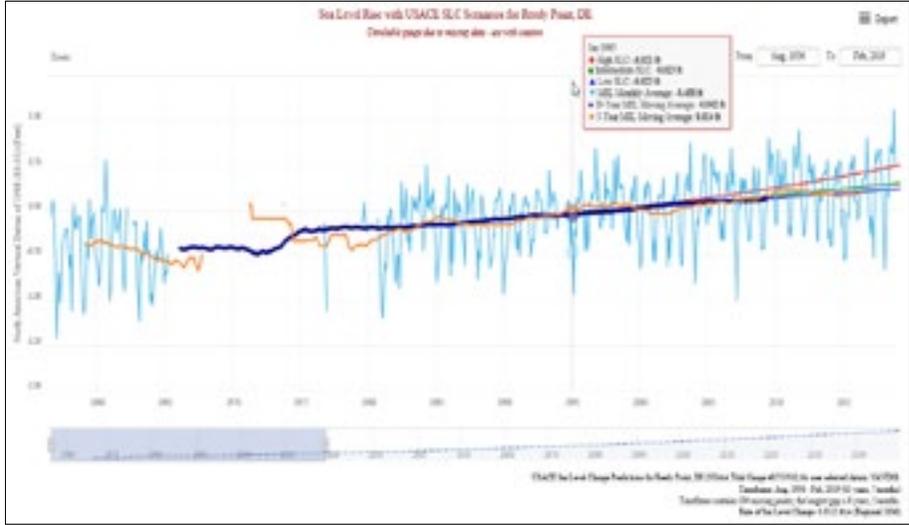
Datum: NAVD88

INTERRUPTED RECORD

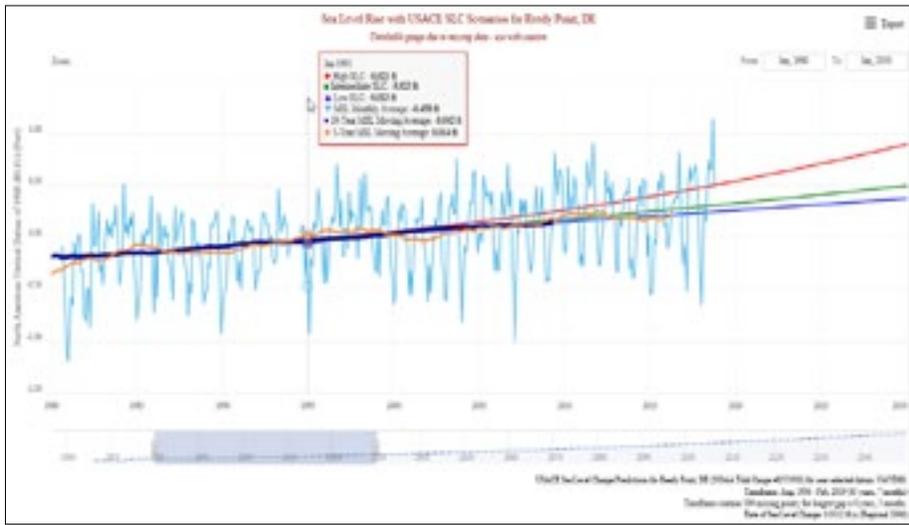
Unreliable gauge due to missing data – use with caution



1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values

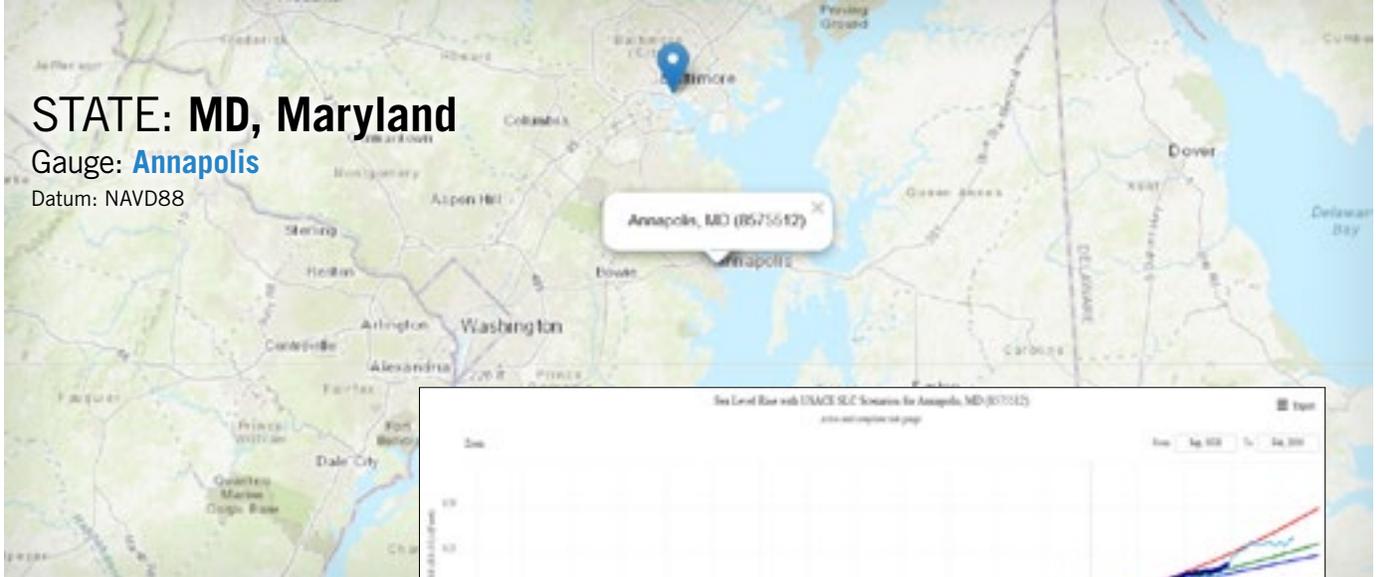


3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

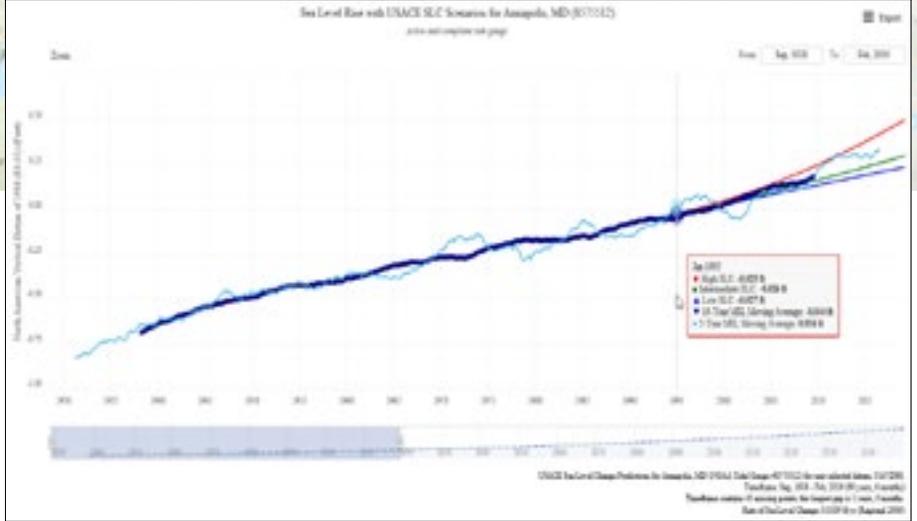
STATE: MD, Maryland

Gauge: **Annapolis**

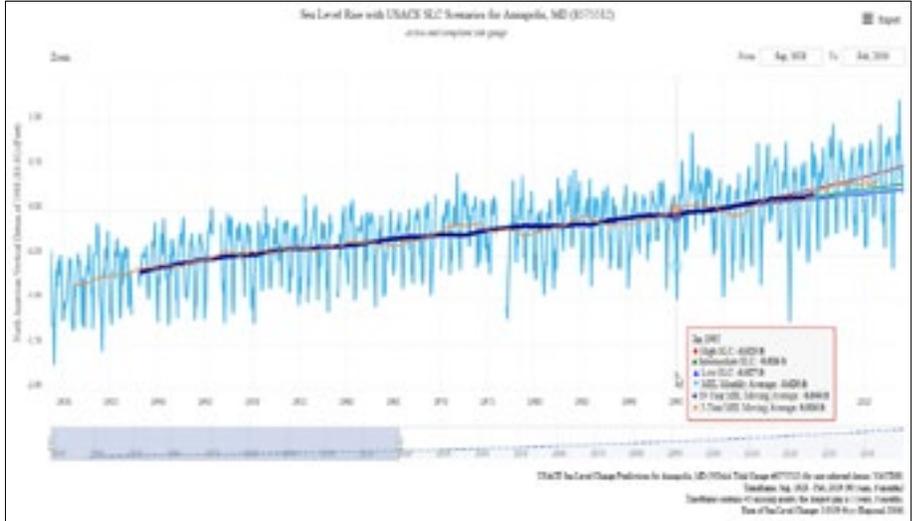
Datum: NAVD88



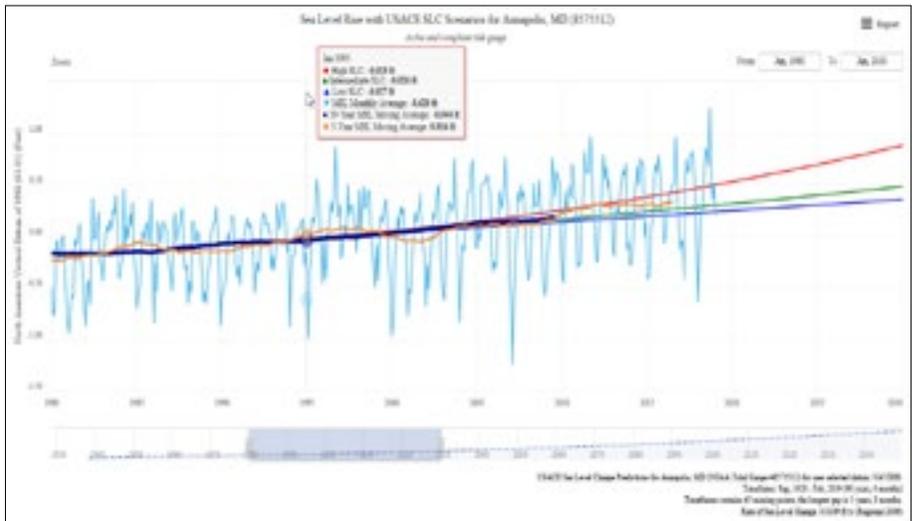
1
 19-year midpoint moving average
 5-year MSL midpoint moving average



2
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values



3
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values
 From January 1980 To January 2030

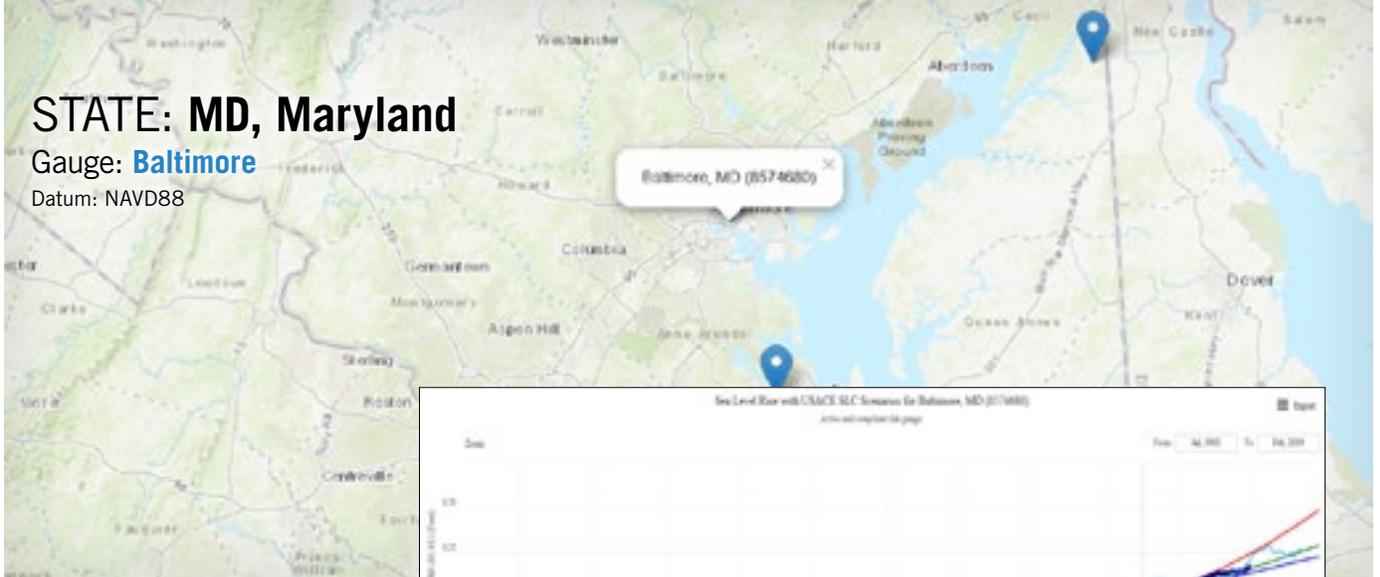


MARYLAND

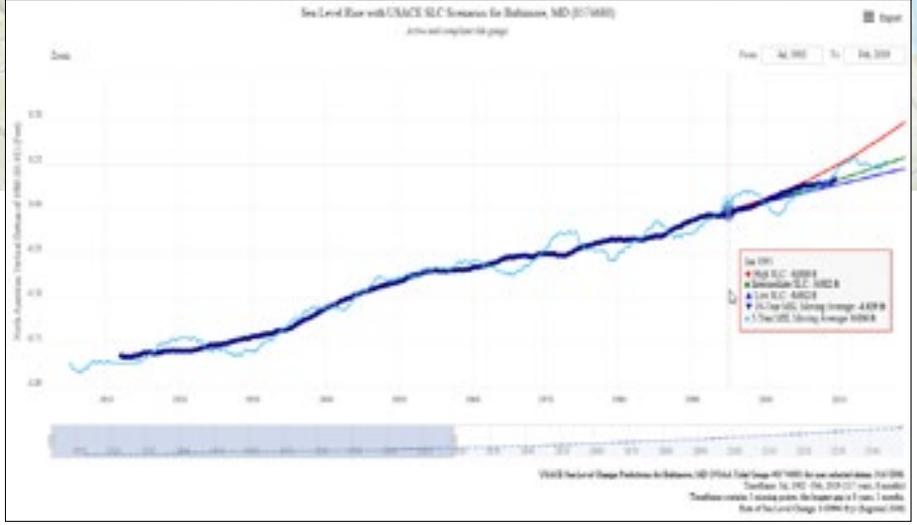
STATE: **MD, Maryland**

Gauge: **Baltimore**

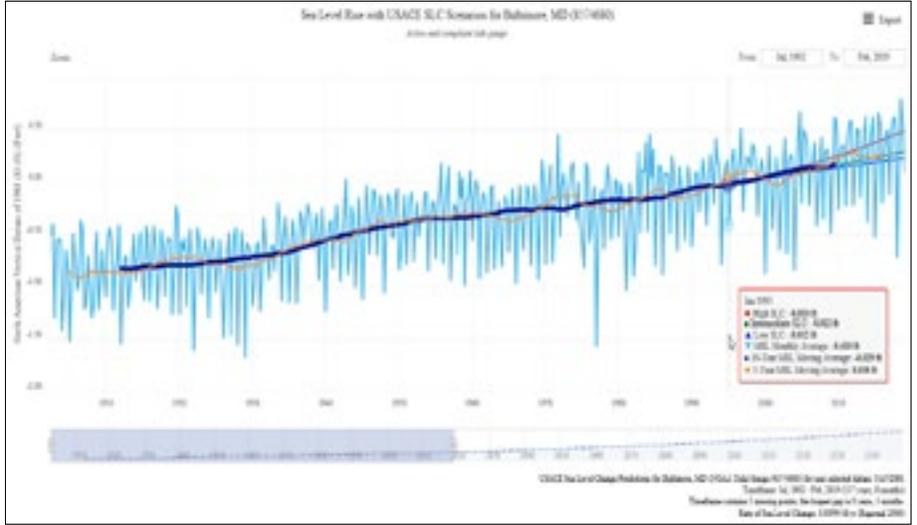
Datum: NAVD88



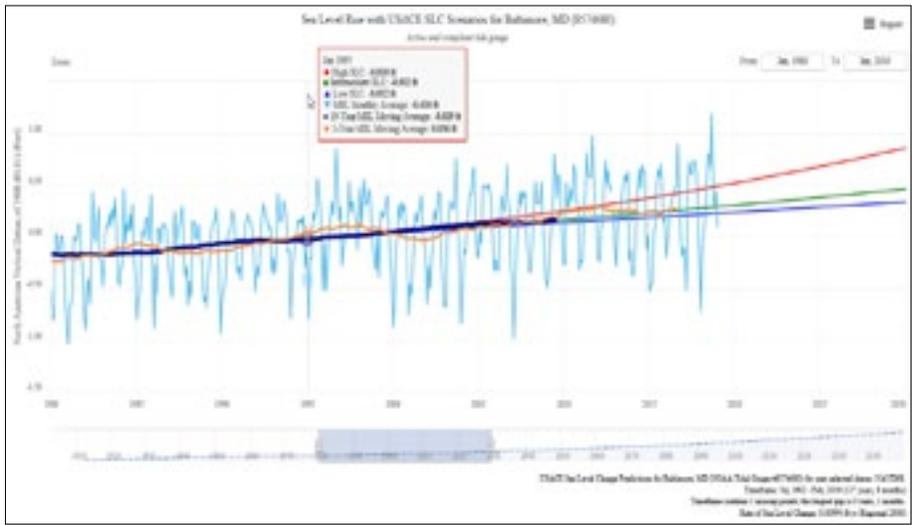
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



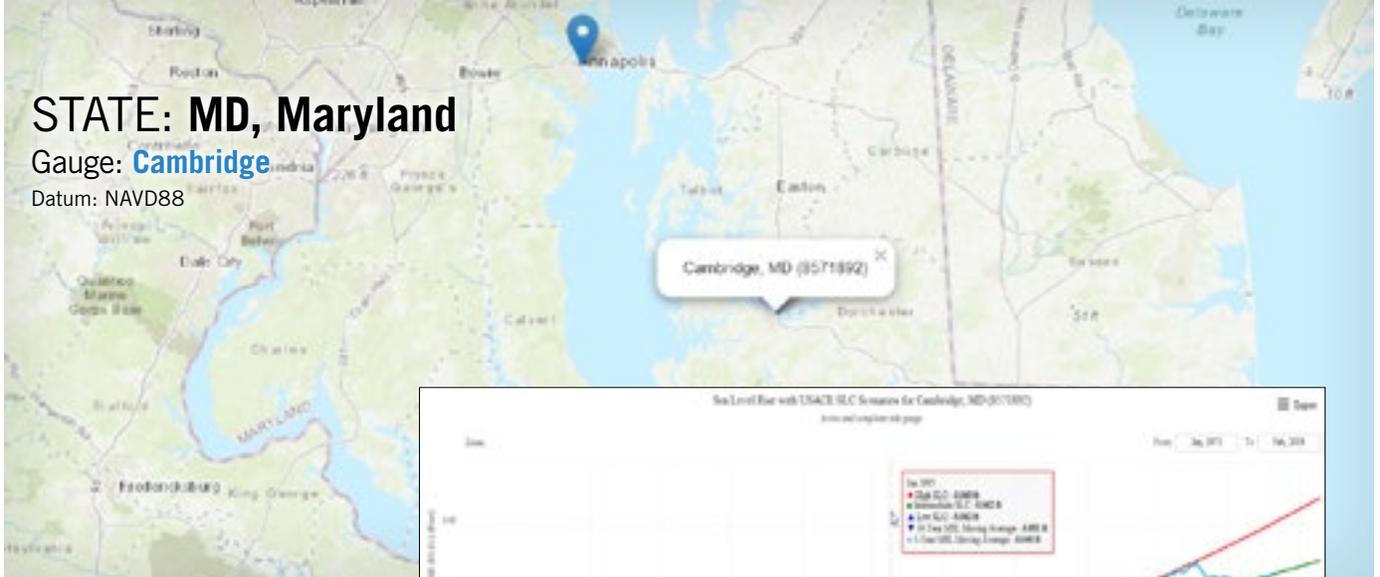
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



STATE: **MD, Maryland**

Gauge: **Cambridge**

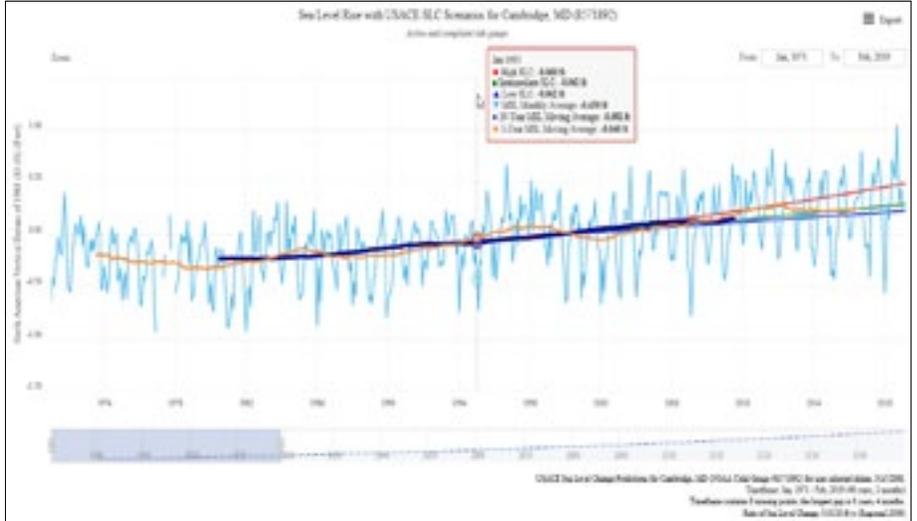
Datum: NAVD88



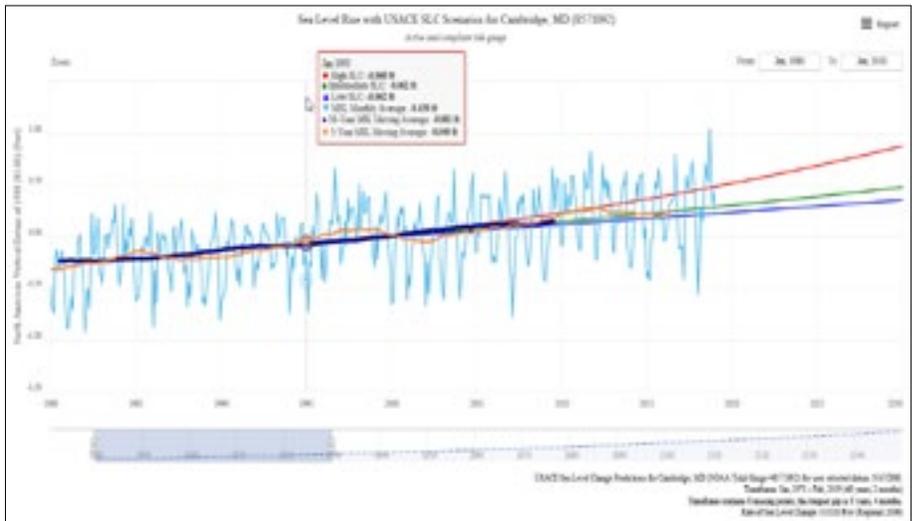
1
 19-year midpoint moving average
 5-year MSL midpoint moving average



2
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values



3
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values
 From January 1980 To January 2030



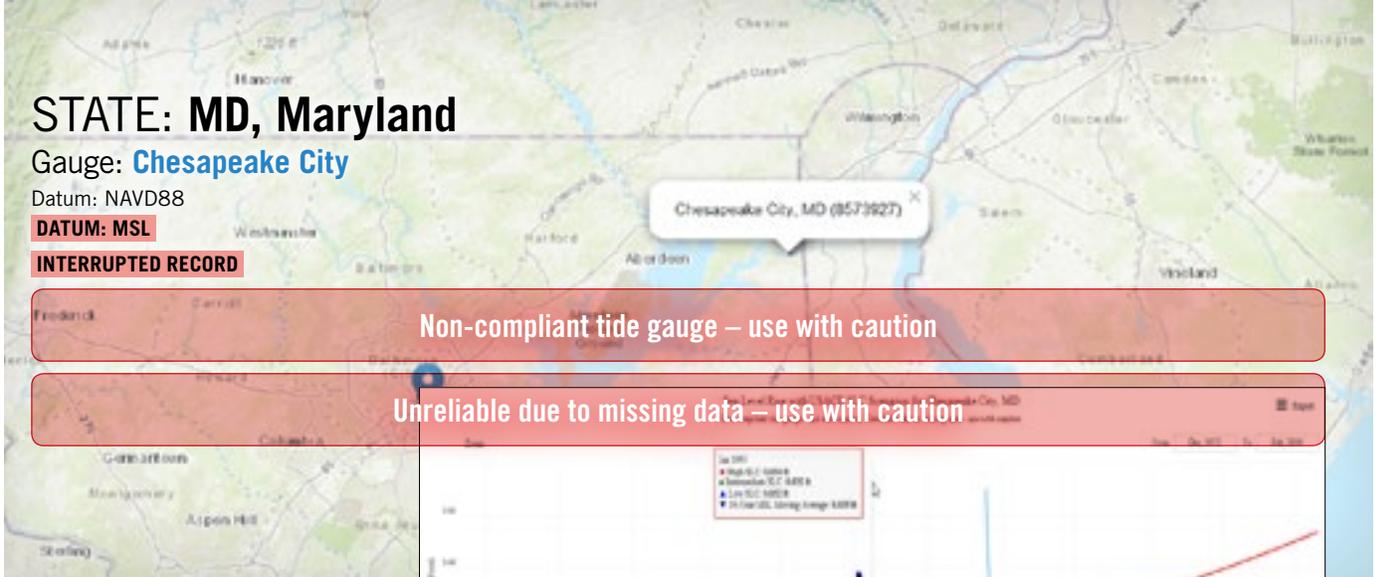
STATE: MD, Maryland

Gauge: **Chesapeake City**

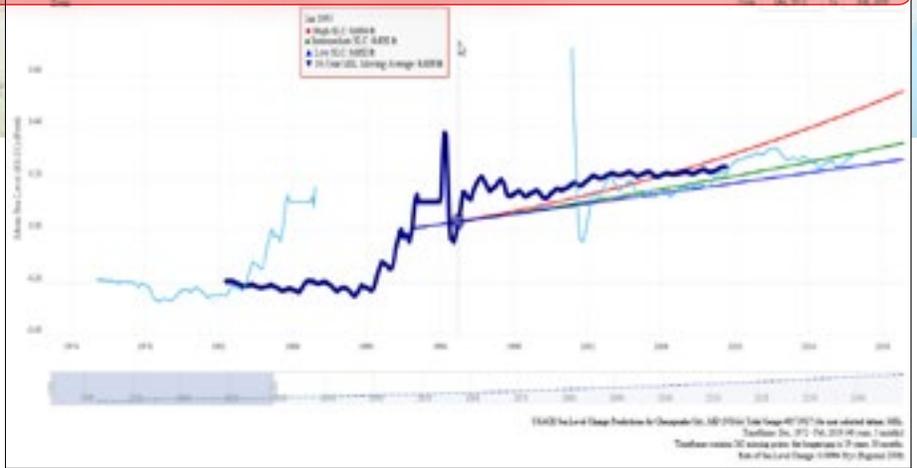
Datum: NAVD88

DATUM: MSL

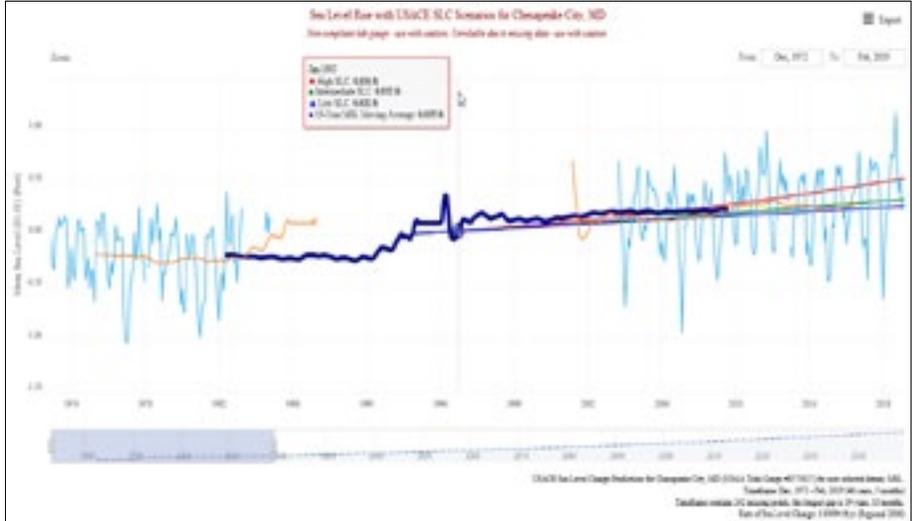
INTERRUPTED RECORD



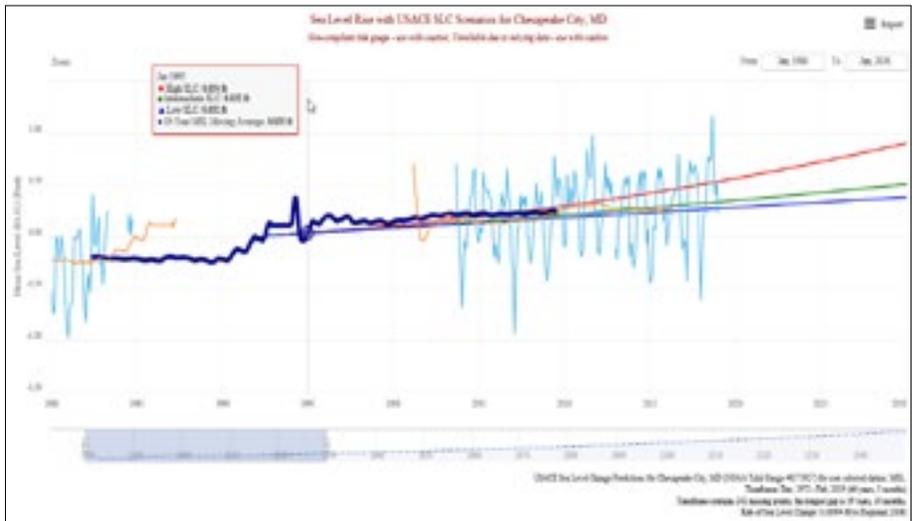
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

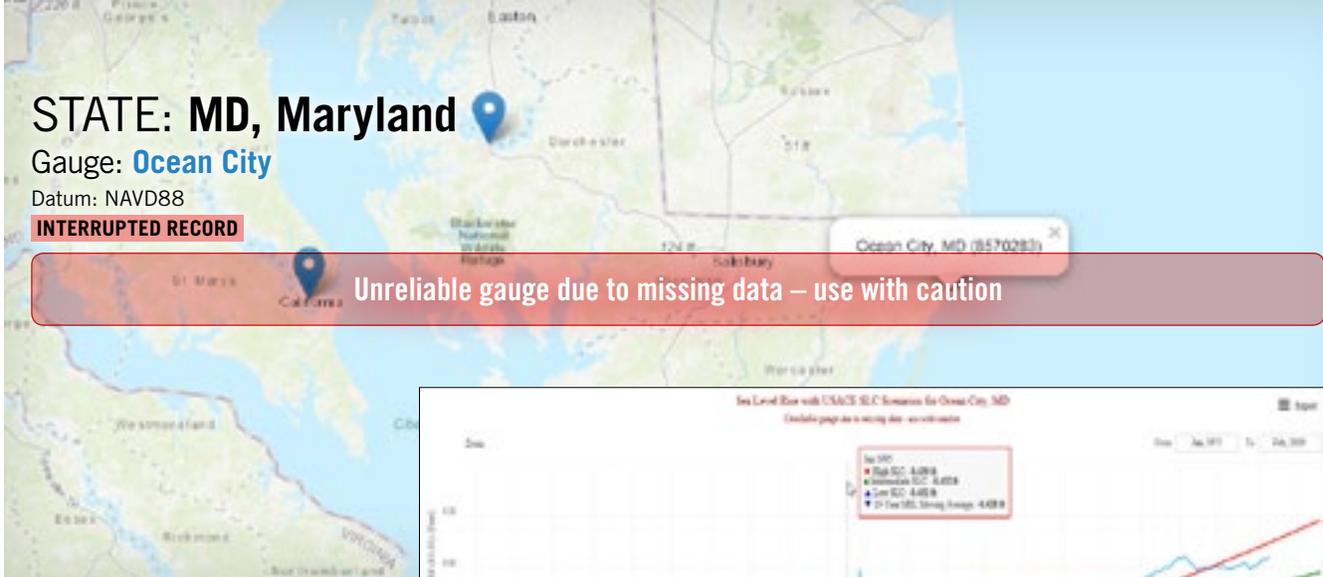


STATE: MD, Maryland

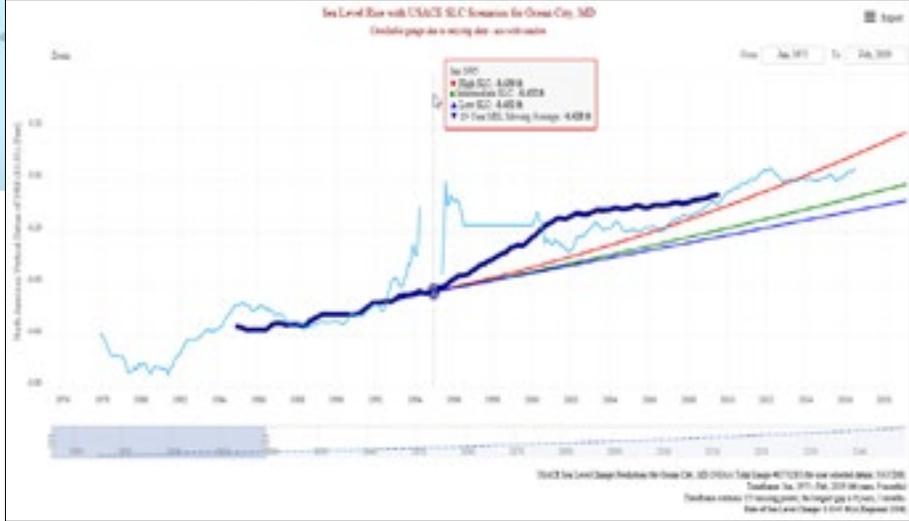
Gauge: Ocean City

Datum: NAVD88

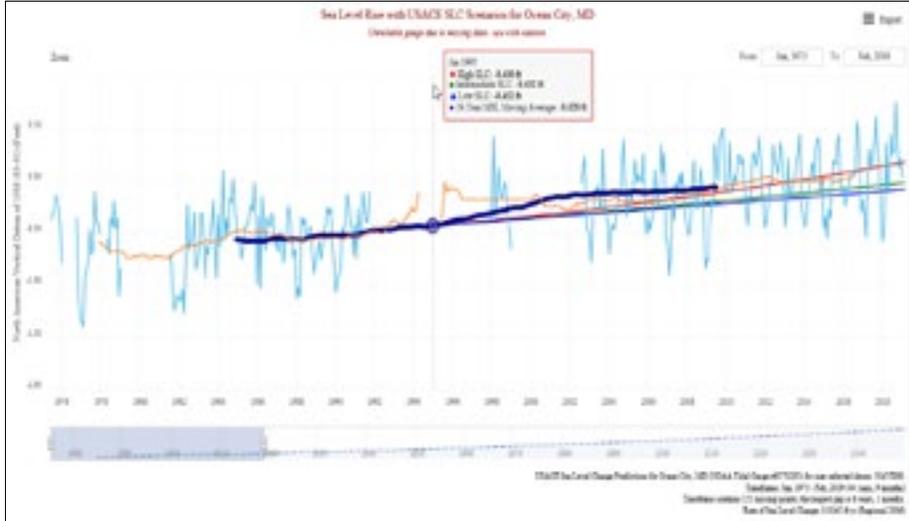
INTERRUPTED RECORD



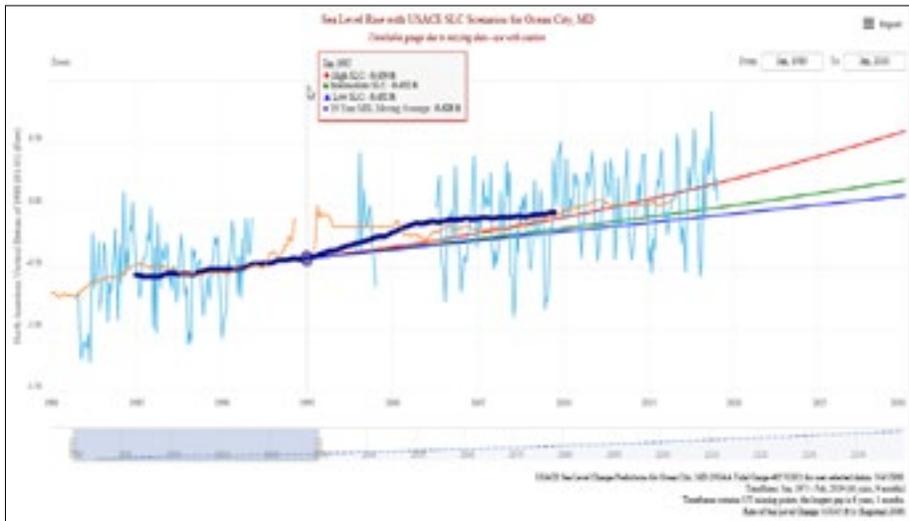
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



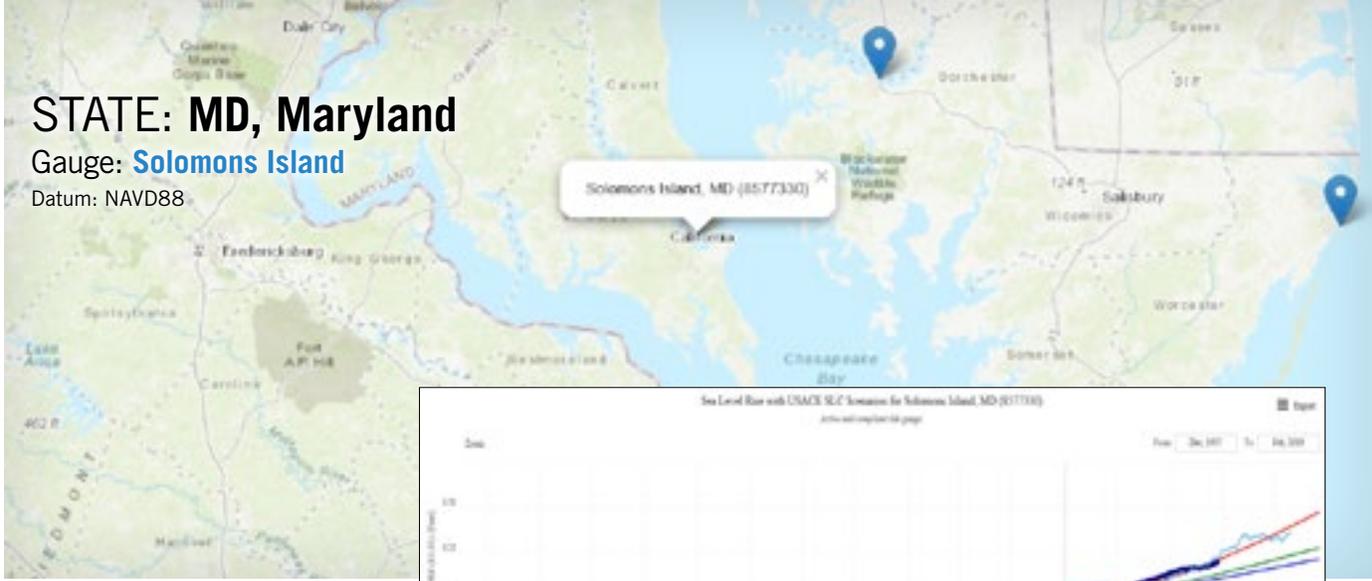
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



STATE: MD, Maryland

Gauge: **Solomons Island**

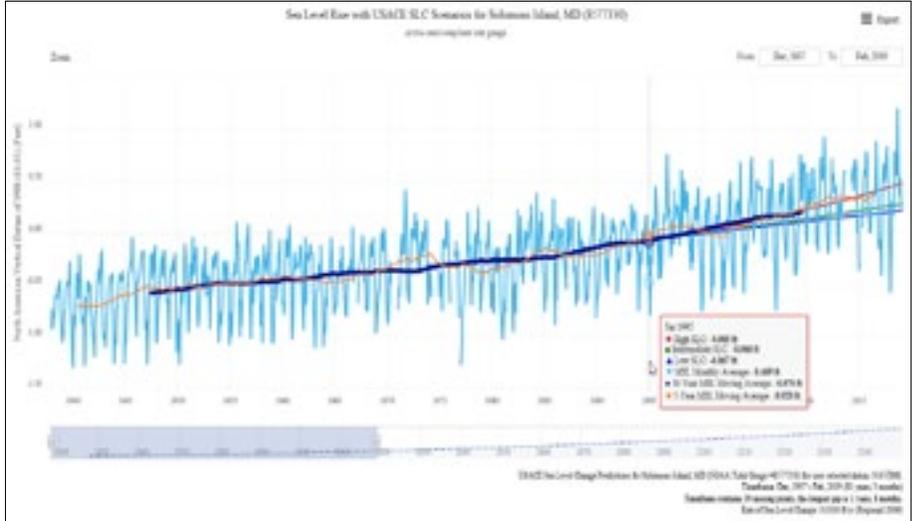
Datum: NAVD88



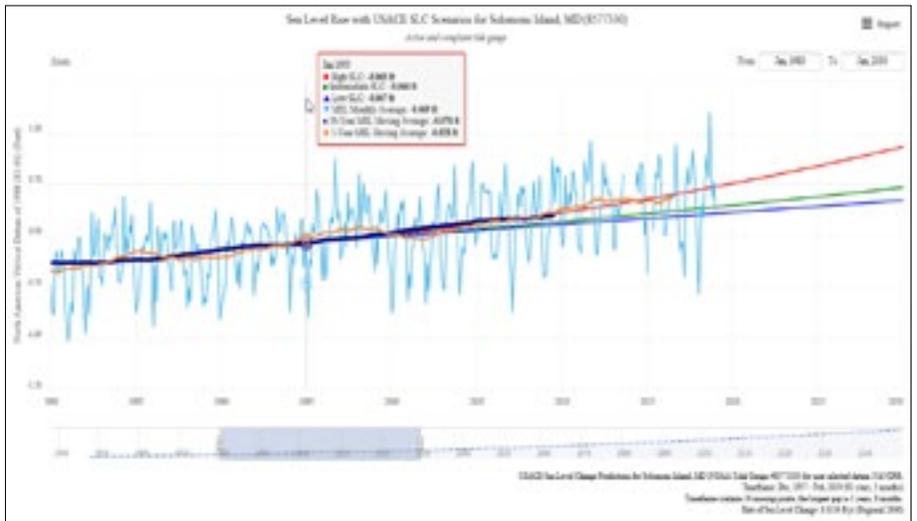
1
 19-year midpoint moving average
 5-year MSL midpoint moving average



2
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values



3
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values
 From January 1980 To January 2030

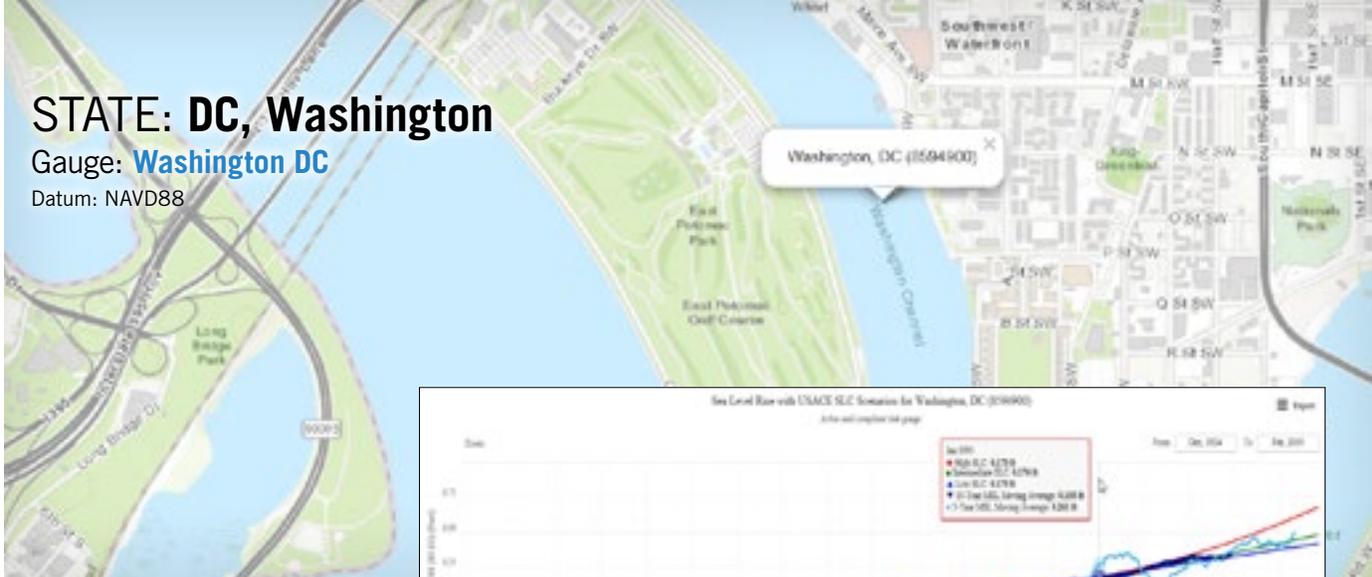


WASHINGTON DC

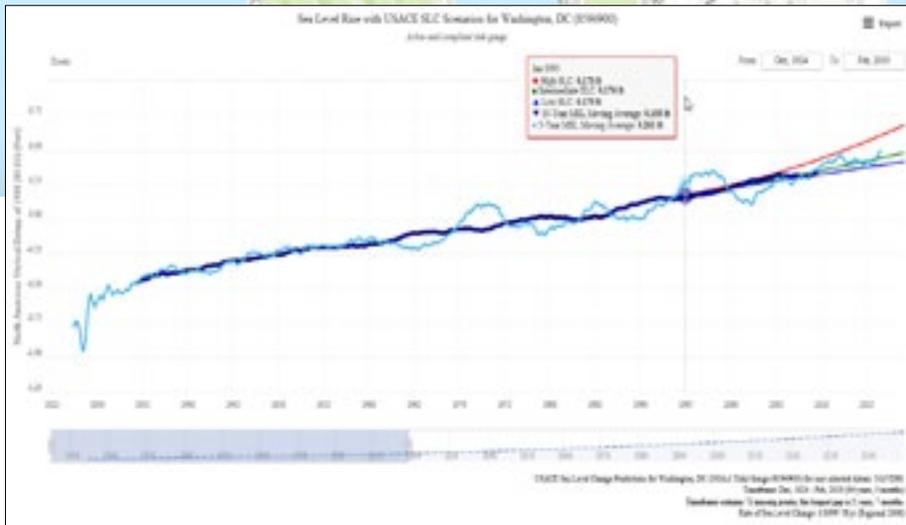
STATE: **DC, Washington**

Gauge: **Washington DC**

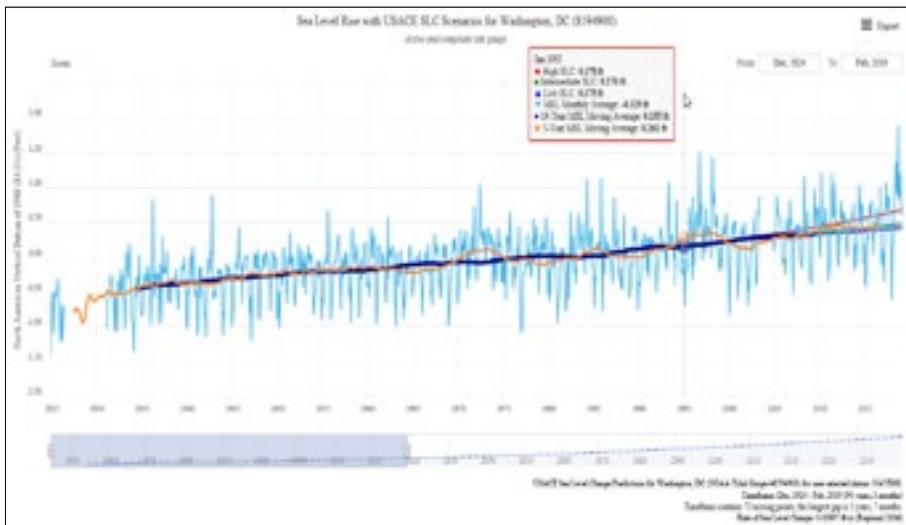
Datum: NAVD88



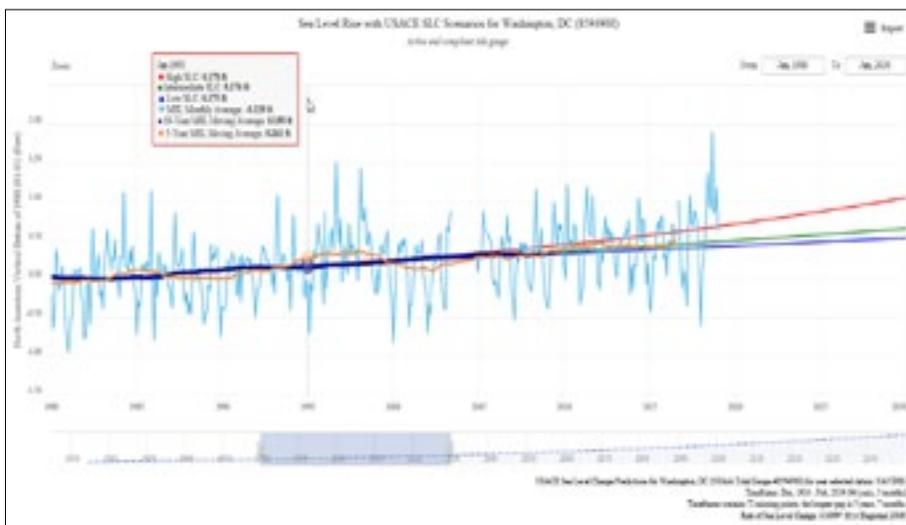
1
19-year midpoint moving average
5-year MSL midpoint moving average



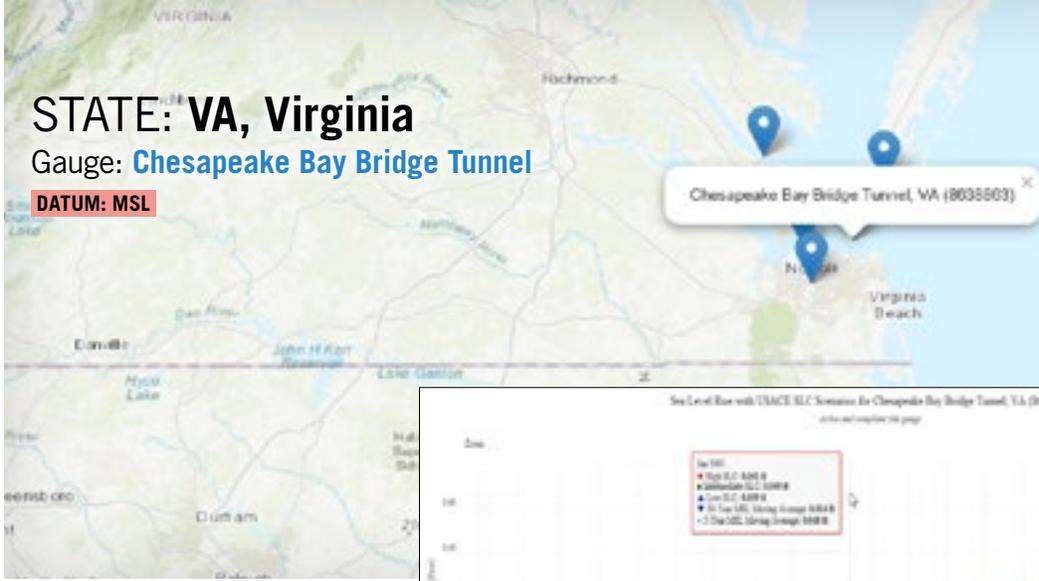
2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



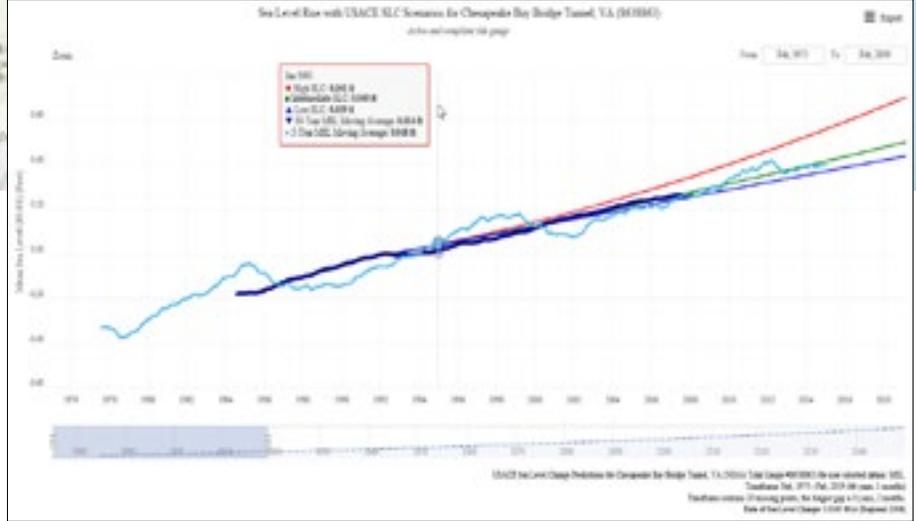
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



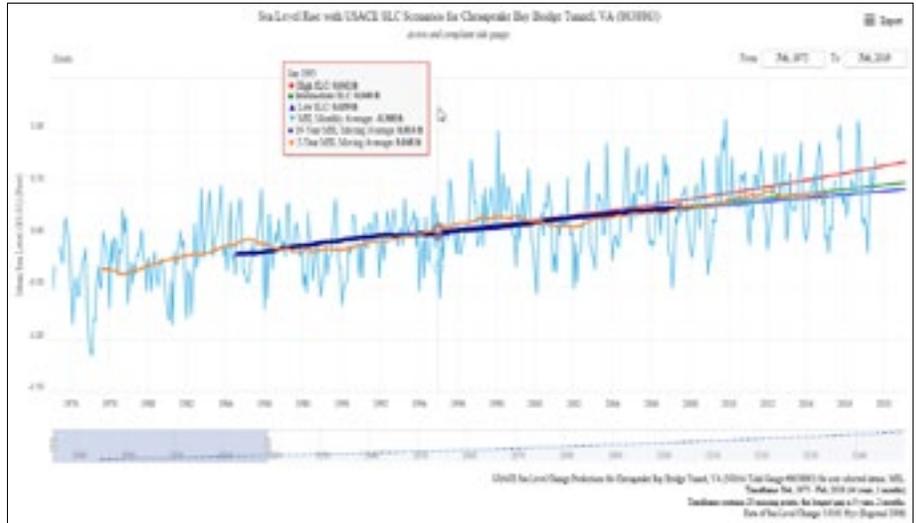
STATE: **VA, Virginia**
 Gauge: **Chesapeake Bay Bridge Tunnel**
 DATUM: **MSL**



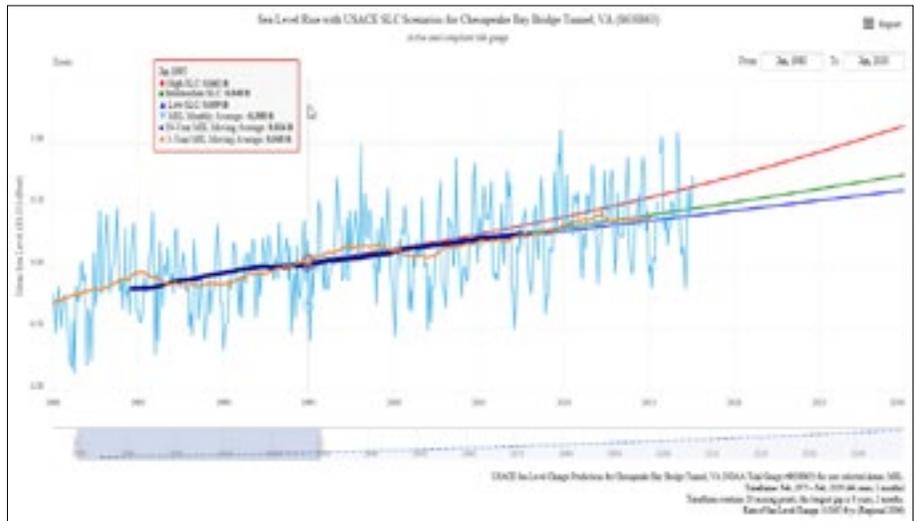
1
 19-year midpoint moving average
 5-year MSL midpoint moving average



2
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values



3
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values
 From January 1980 To January 2030

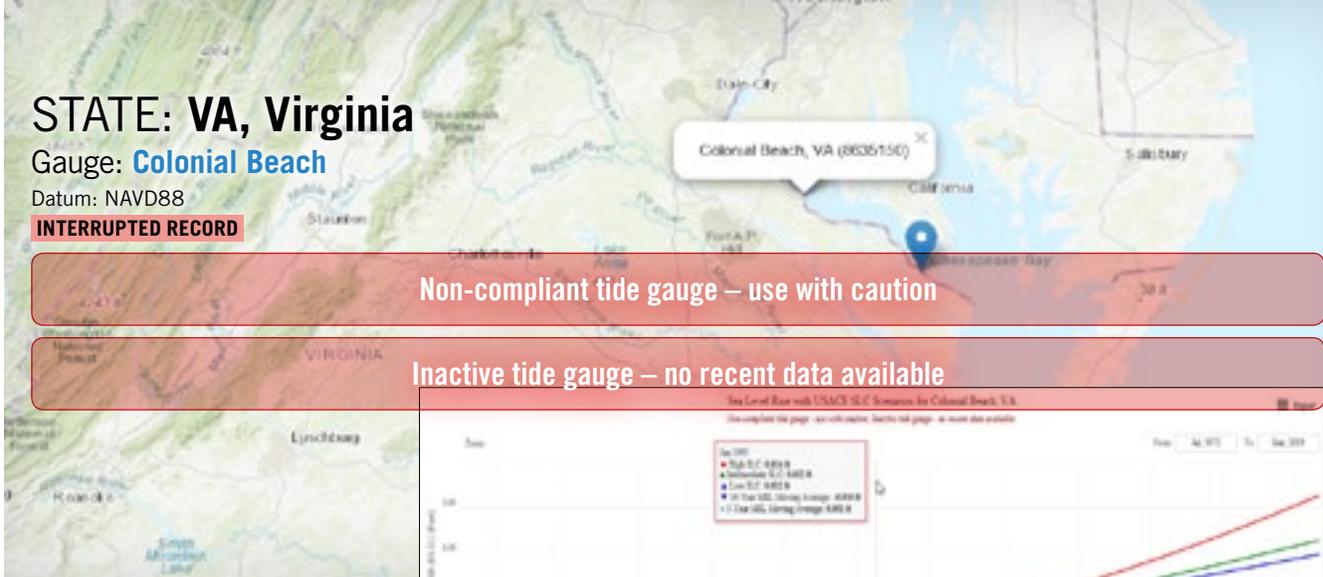


STATE: VA, Virginia

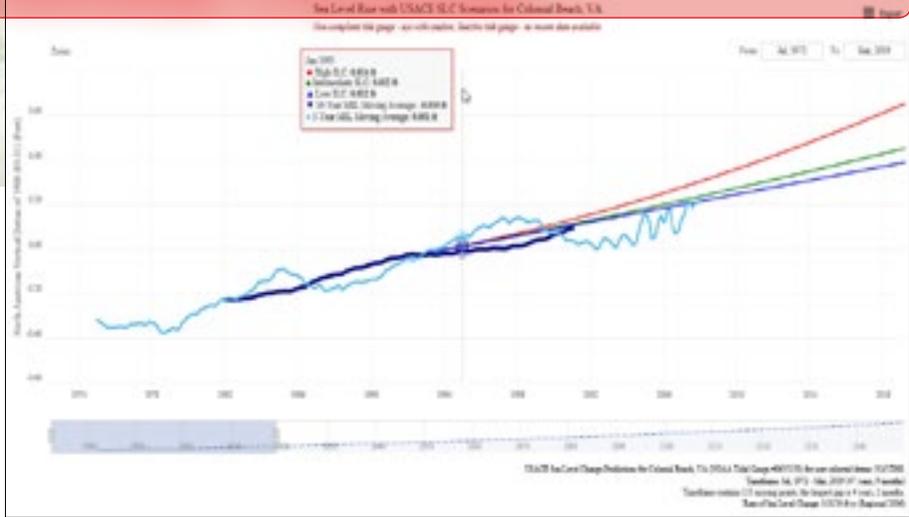
Gauge: **Colonial Beach**

Datum: NAVD88

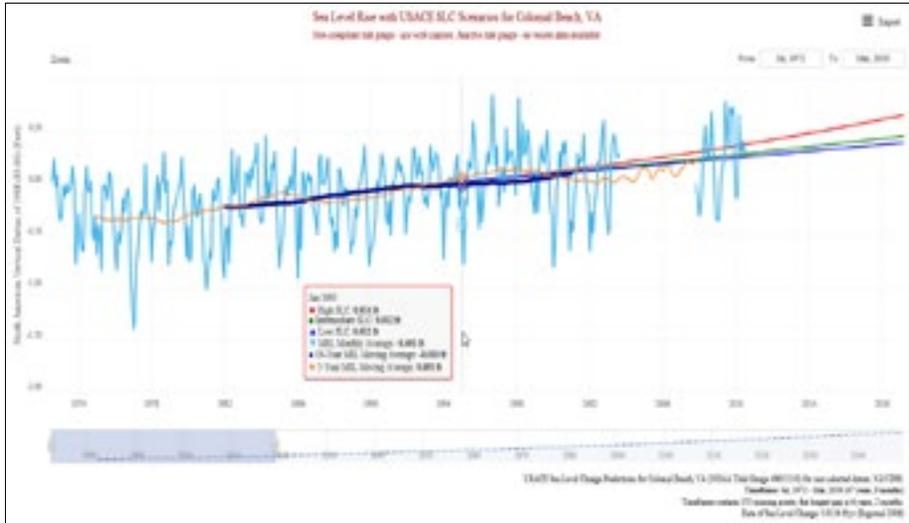
INTERRUPTED RECORD



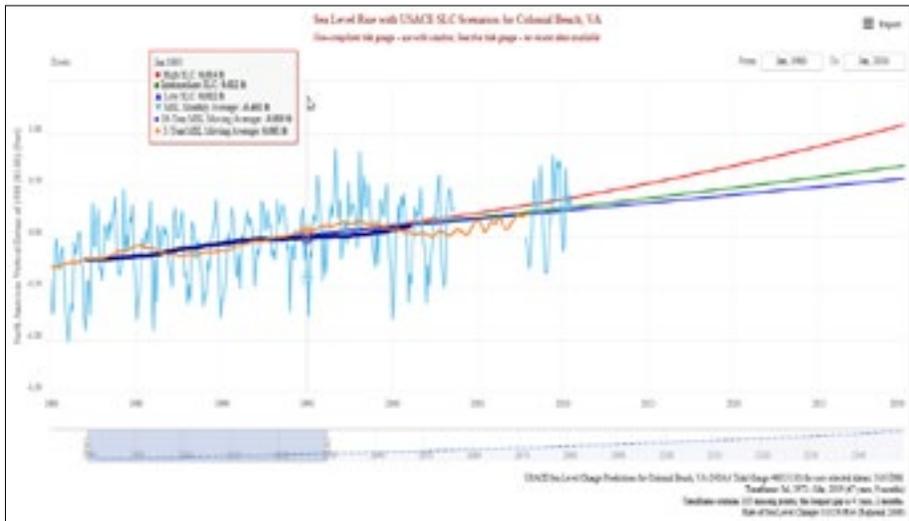
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



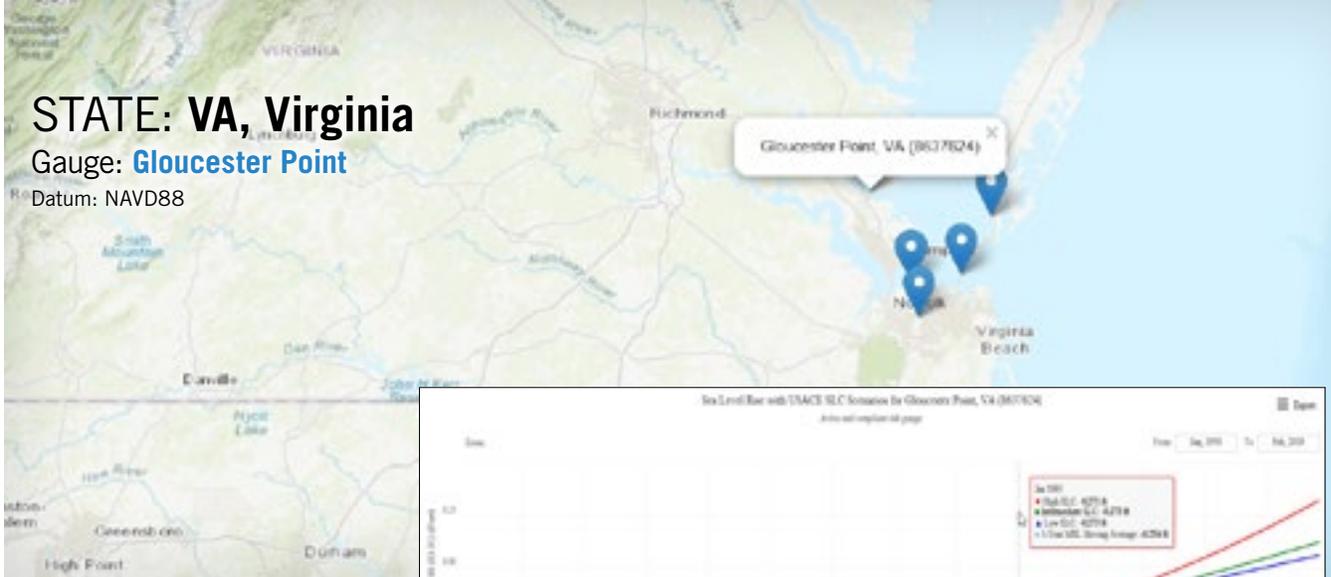
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



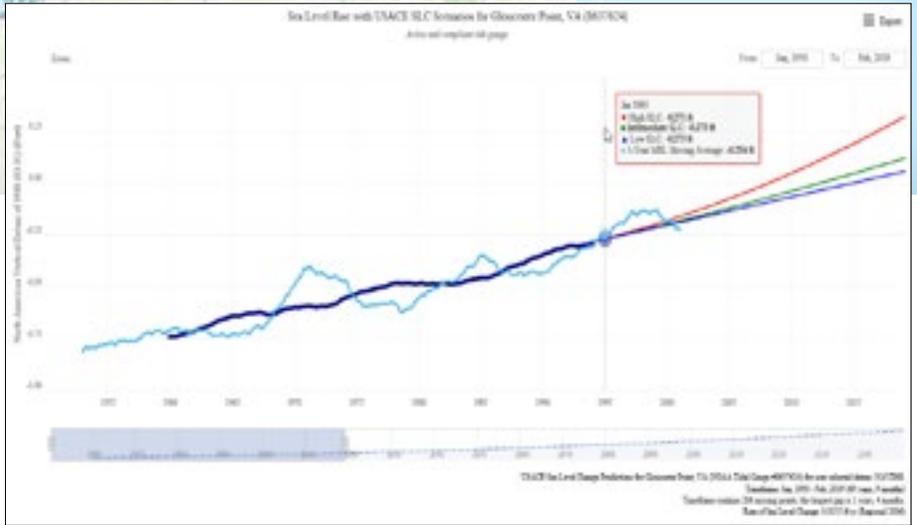
STATE: VA, Virginia

Gauge: **Gloucester Point**

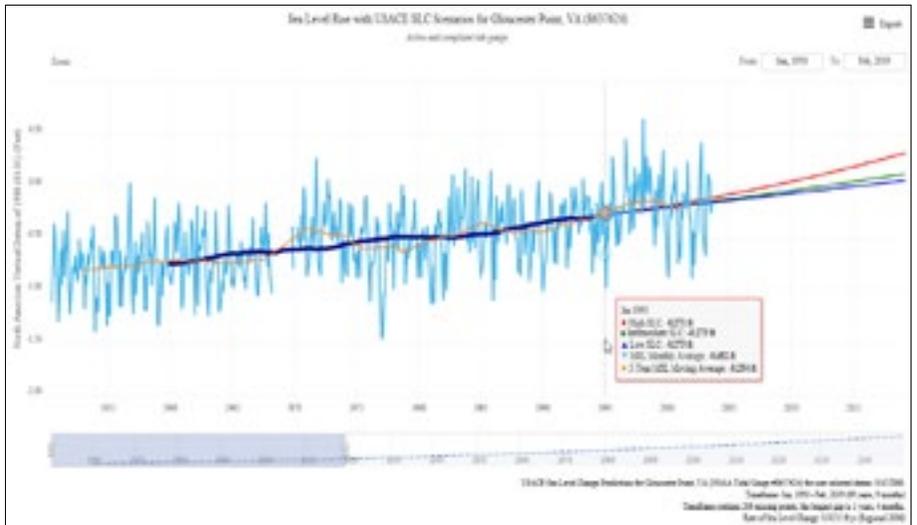
Datum: NAVD88



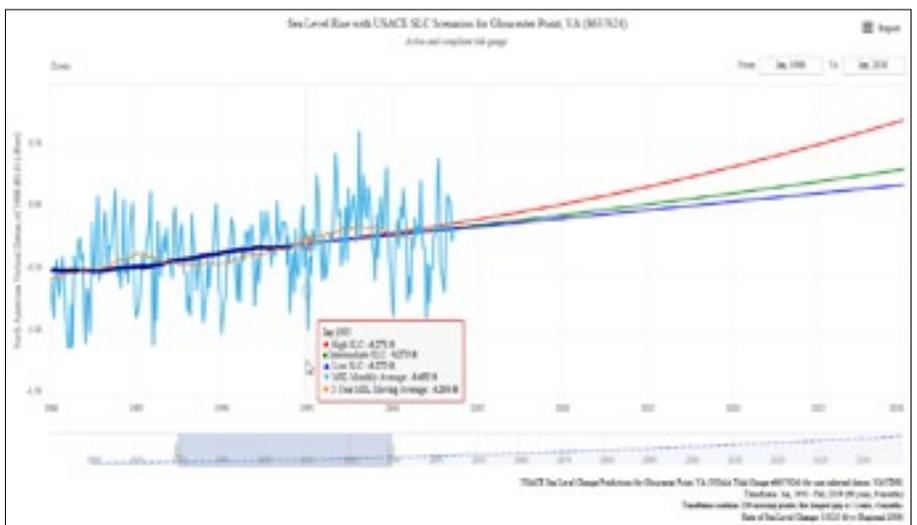
1
 19-year midpoint moving average
 5-year MSL midpoint moving average



2
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values



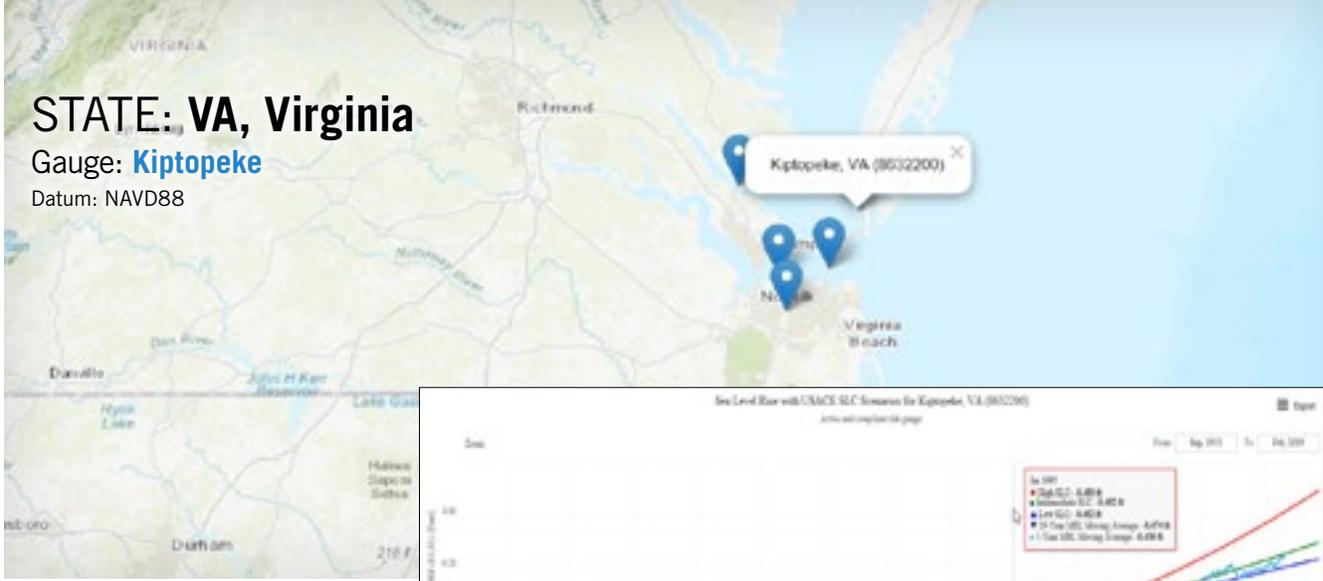
3
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values
 From January 1980 To January 2030



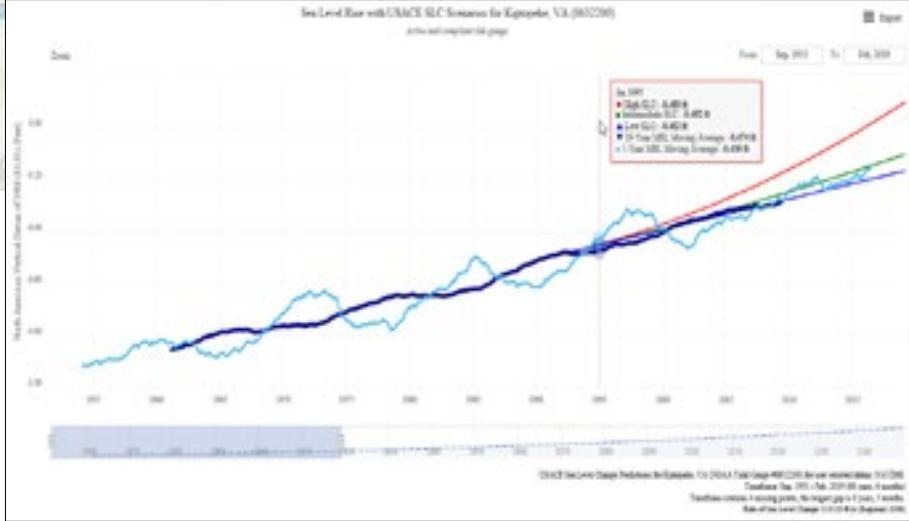
STATE: VA, Virginia

Gauge: **Kiptopeke**

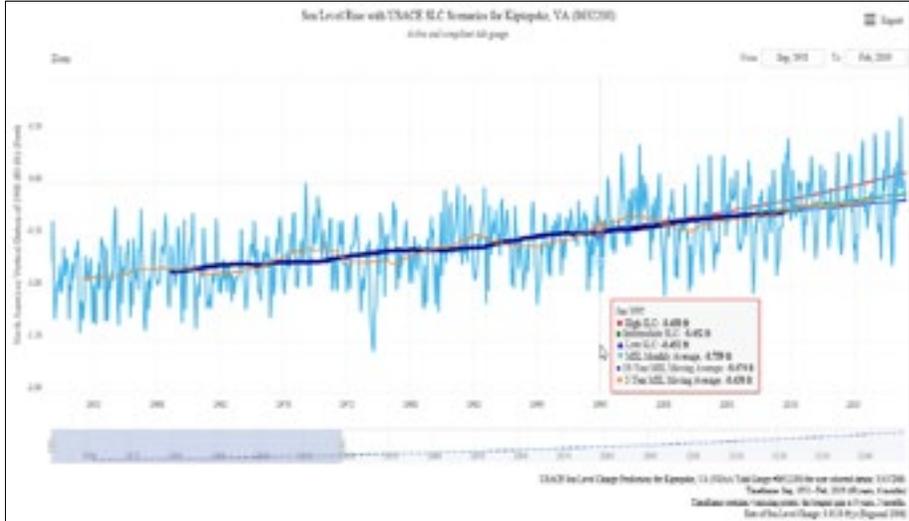
Datum: NAVD88



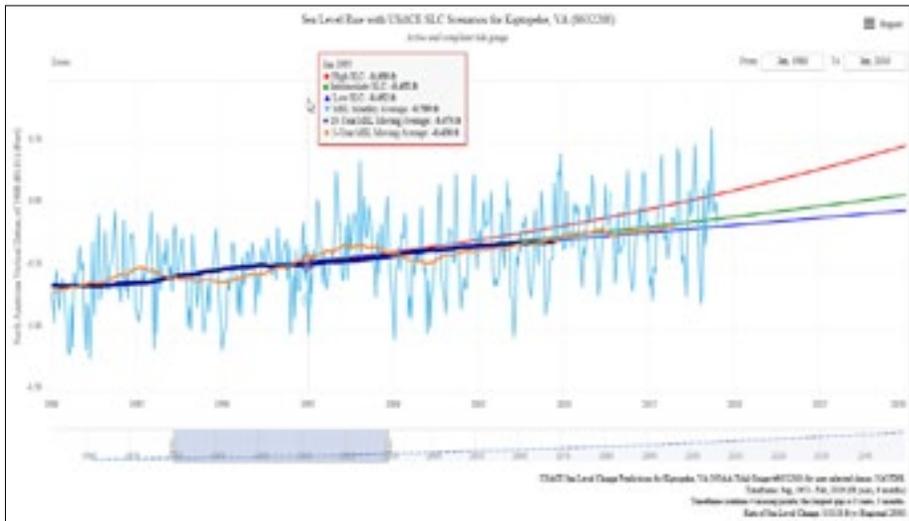
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



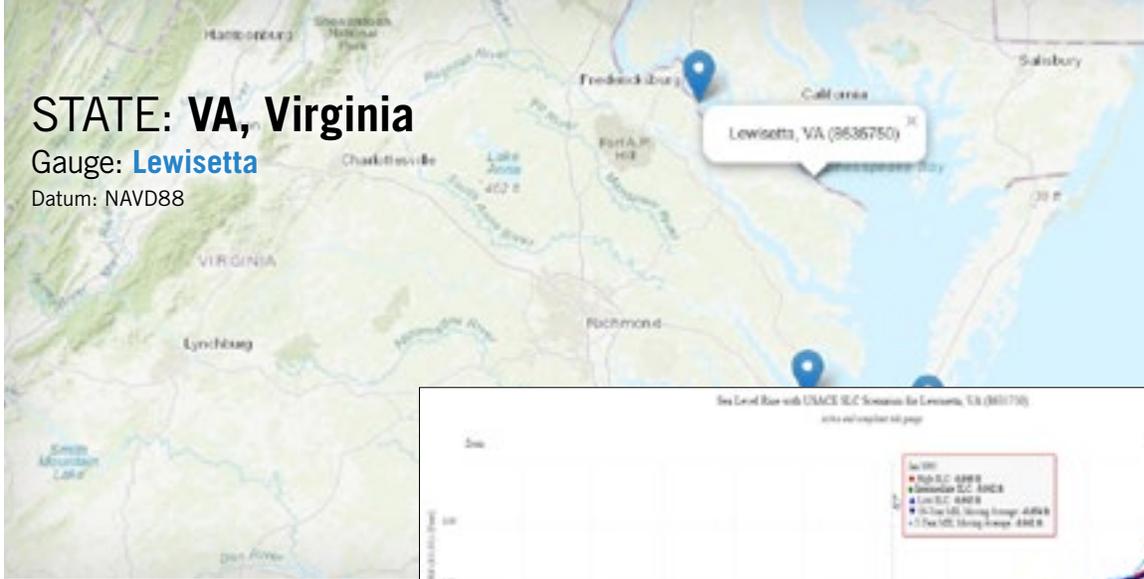
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



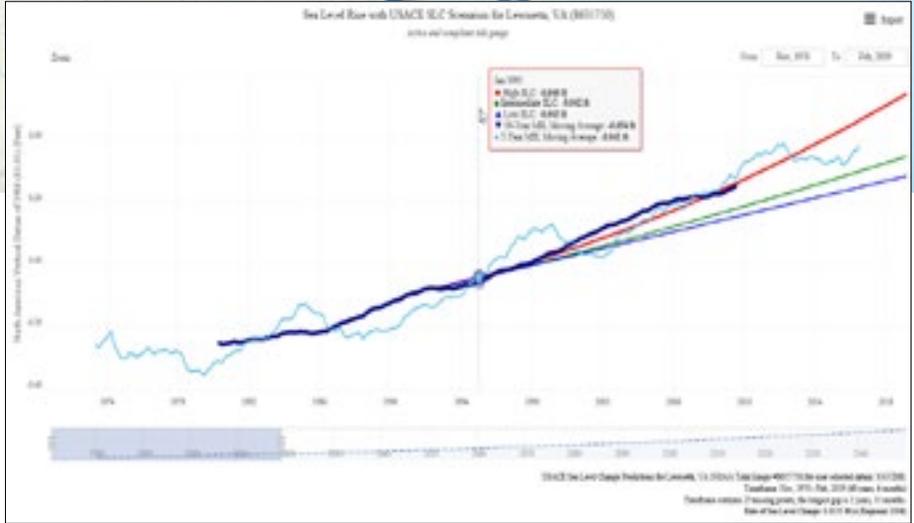
STATE: VA, Virginia

Gauge: **Lewisetta**

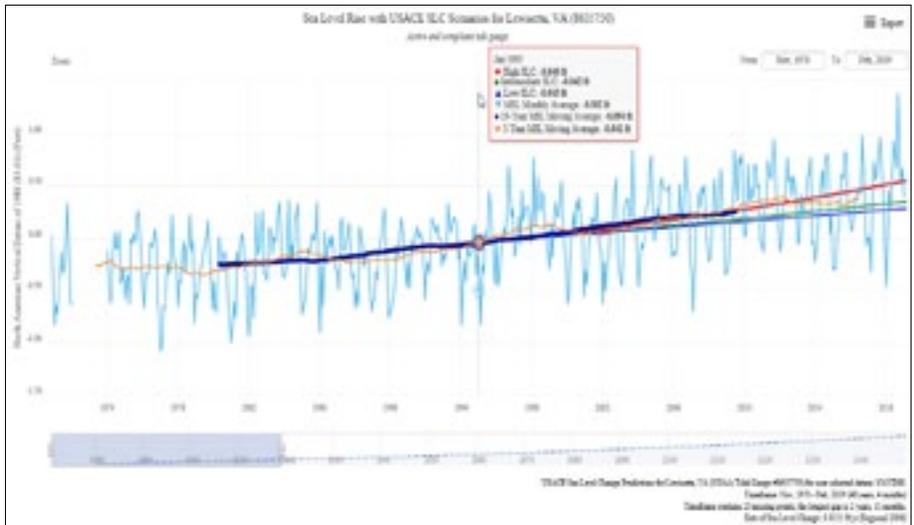
Datum: NAVD88



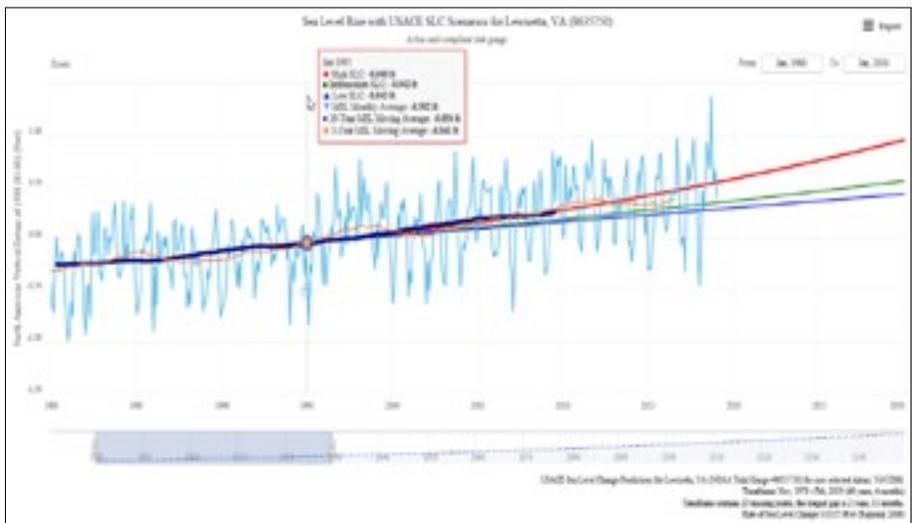
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

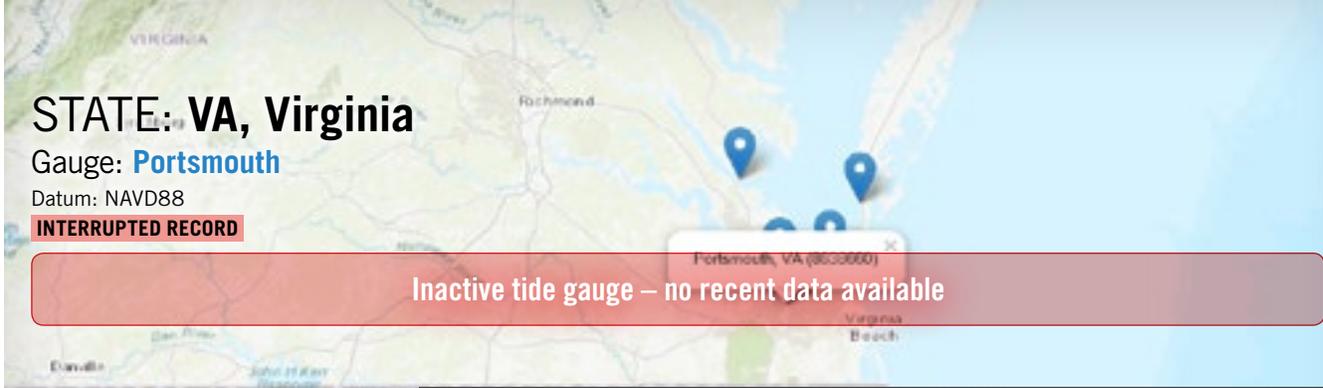


STATE: VA, Virginia

Gauge: **Portsmouth**

Datum: NAVD88

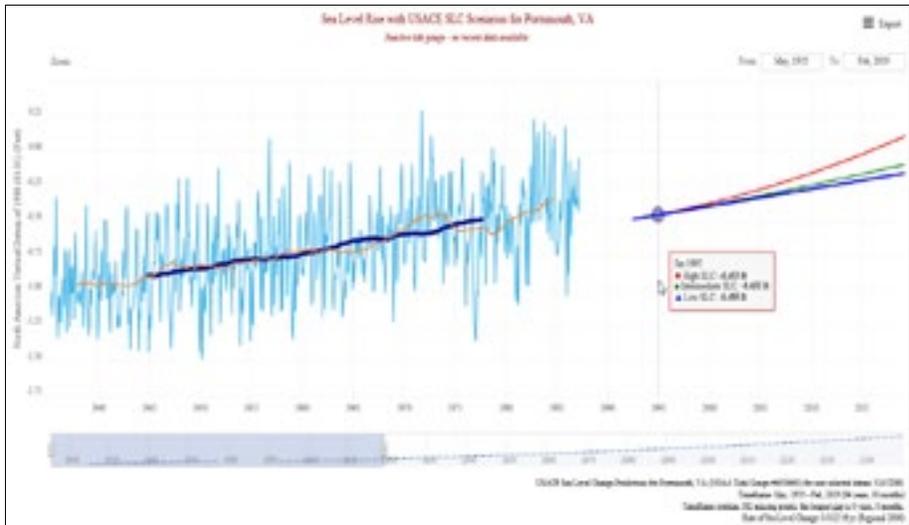
INTERRUPTED RECORD



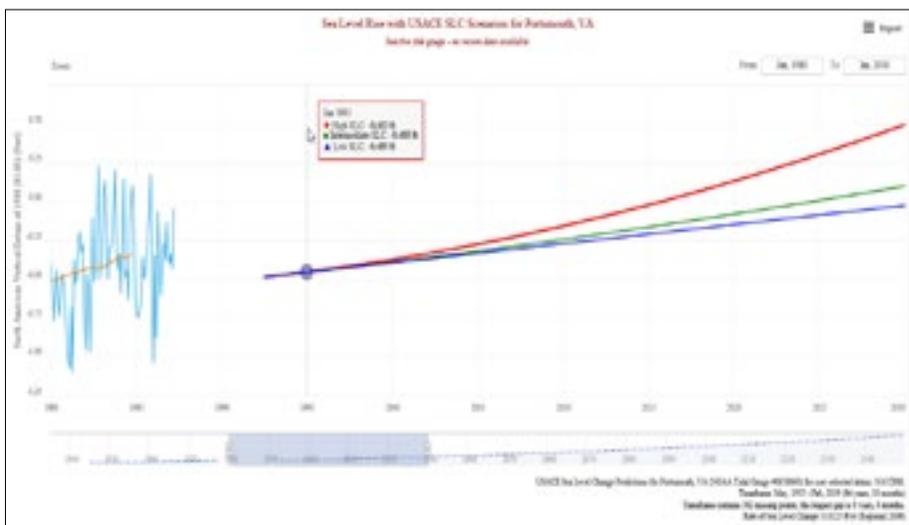
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



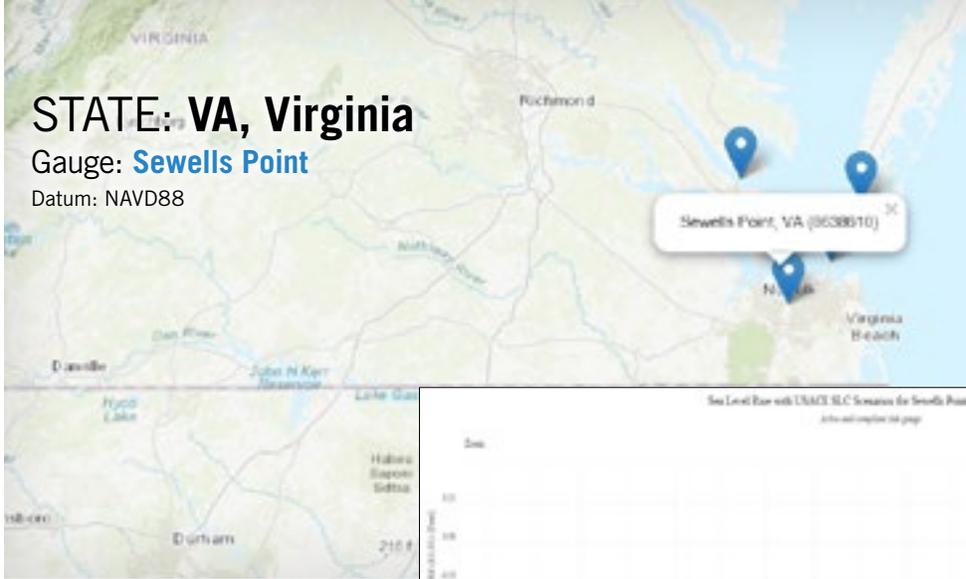
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



STATE: VA, Virginia

Gauge: **Sewells Point**

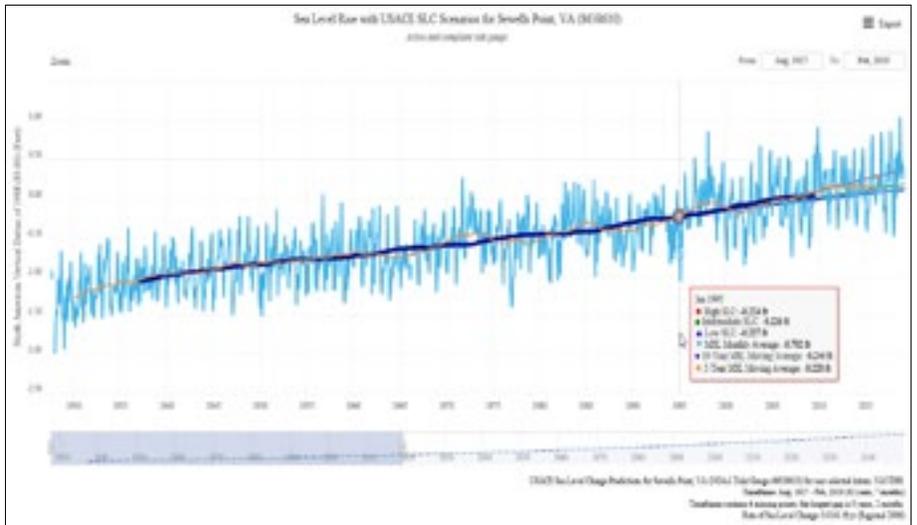
Datum: NAVD88



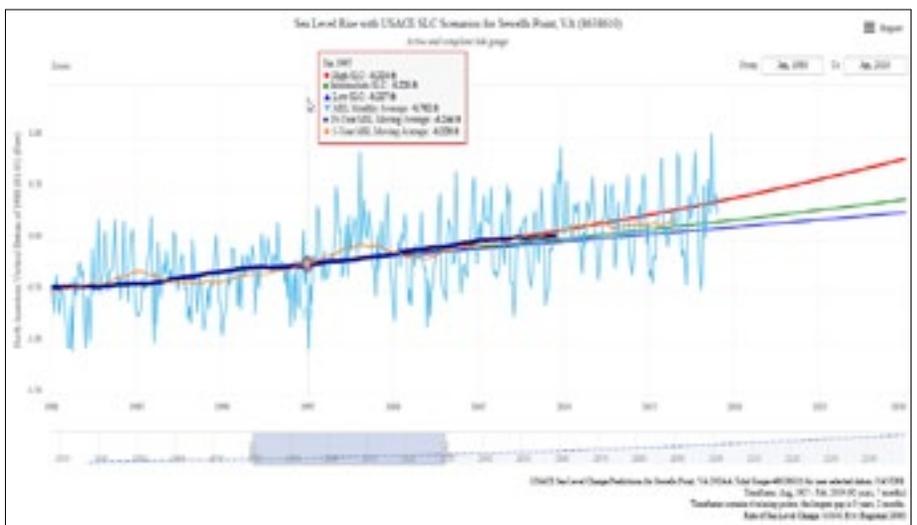
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

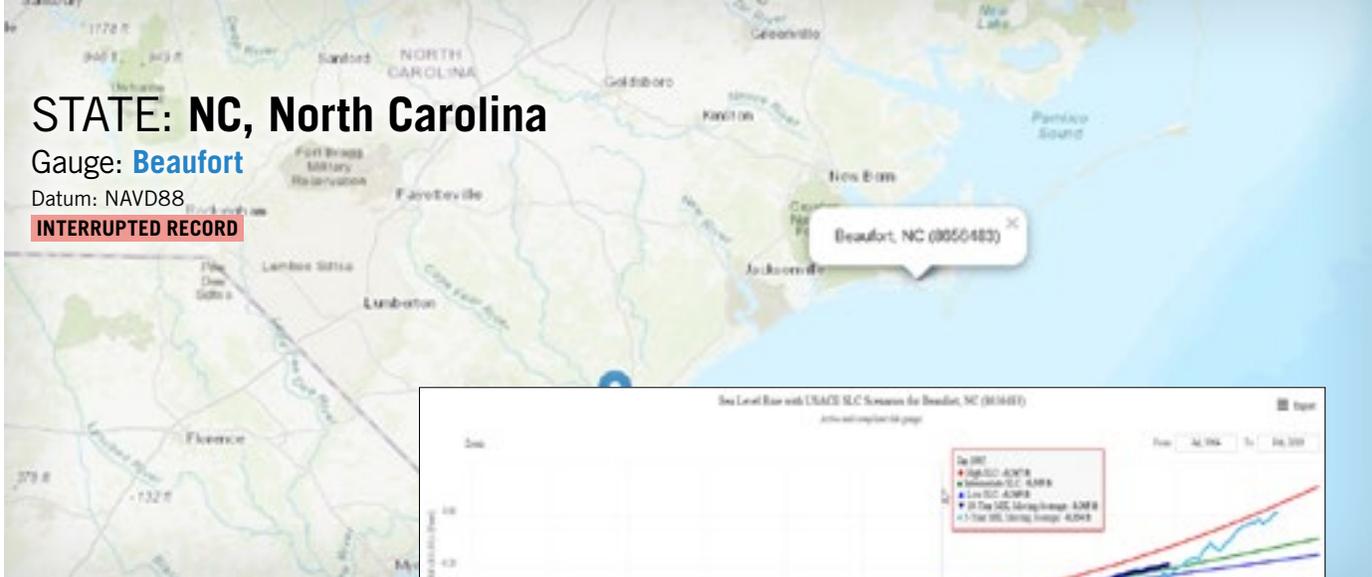


STATE: NC, North Carolina

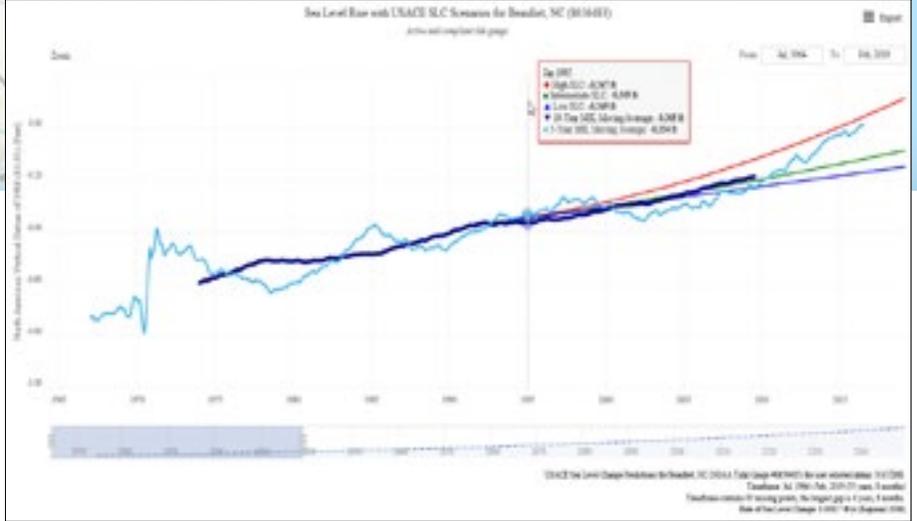
Gauge: **Beaufort**

Datum: NAVD88

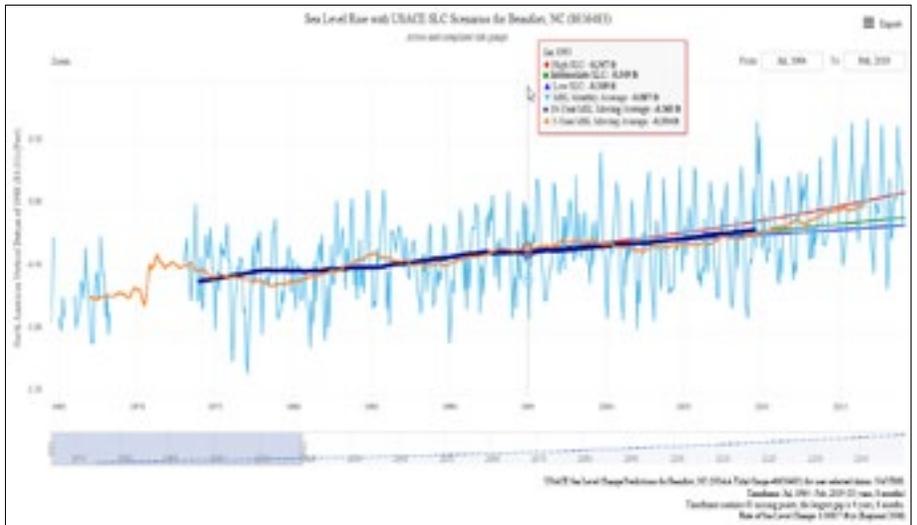
INTERRUPTED RECORD



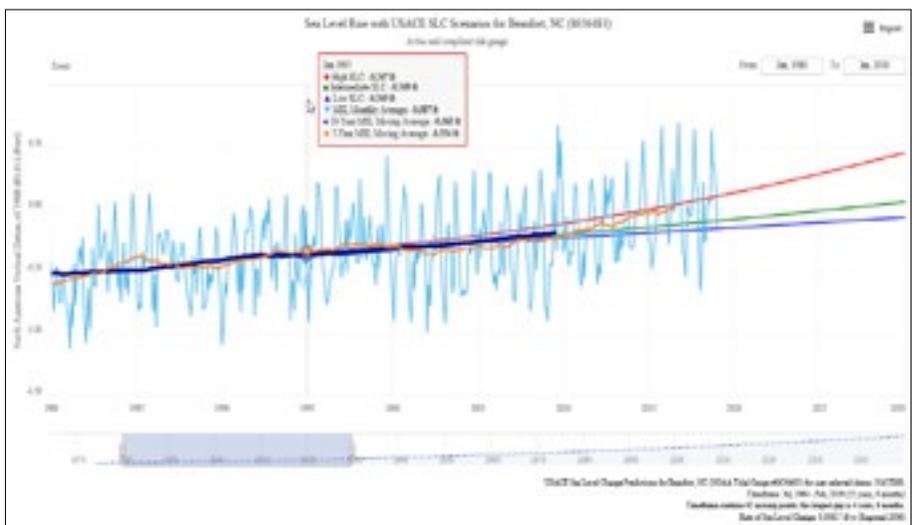
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



STATE: **NC, North Carolina**

Gauge: **Oregon Inlet Marina**

Datum: NAVD88

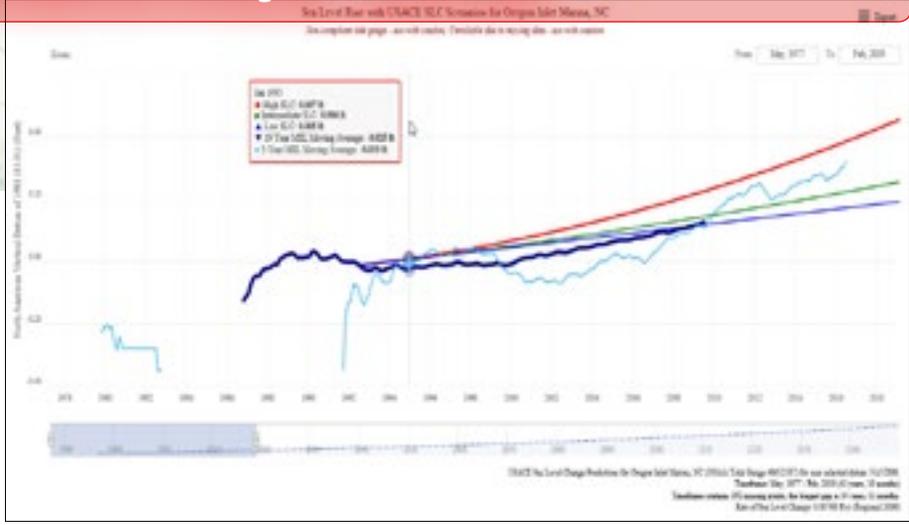
INTERRUPTED RECORD

Oregon Inlet Marina, NC (8052587)

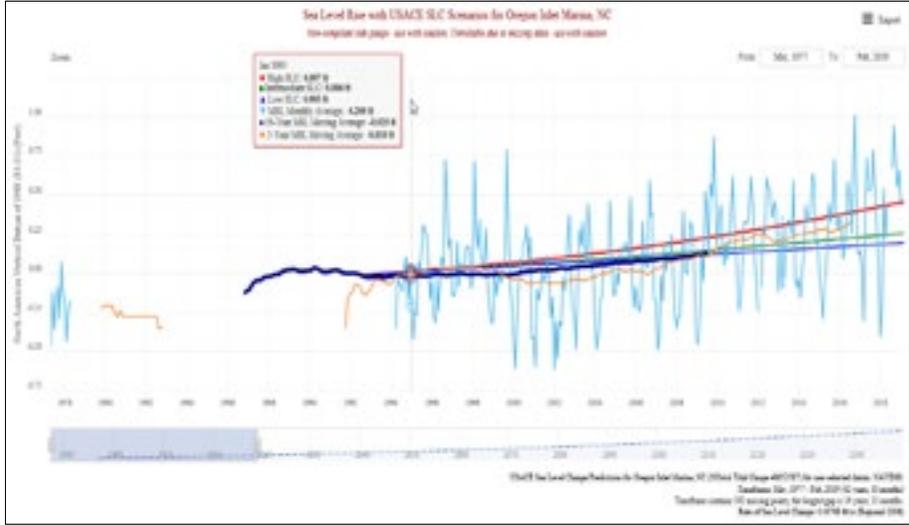
Non-compliant tide gauge – use with caution

Unreliable due to missing data – use with caution

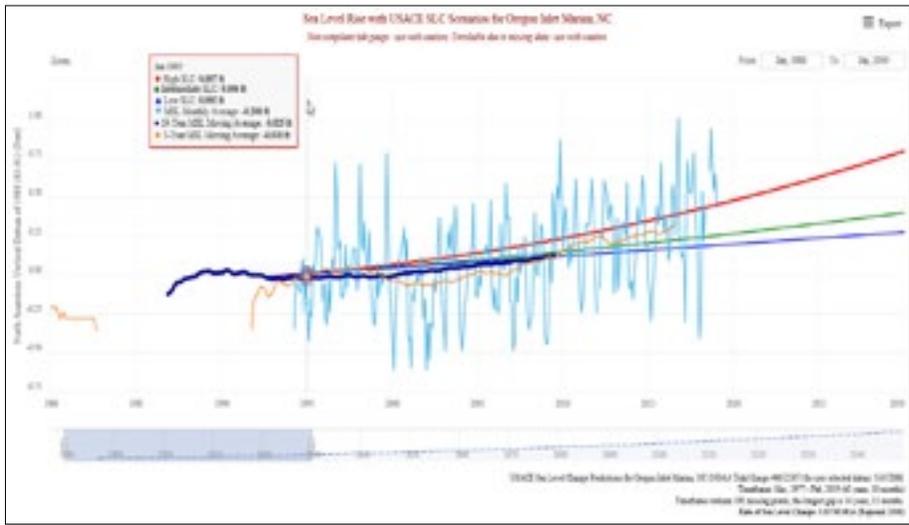
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

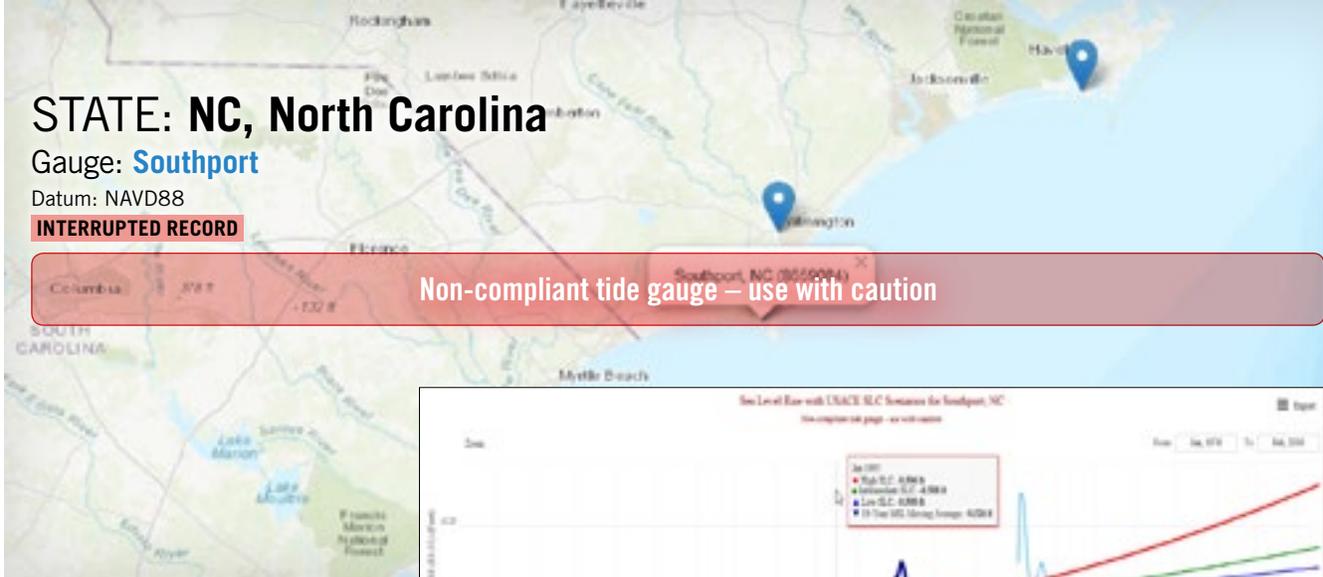


STATE: NC, North Carolina

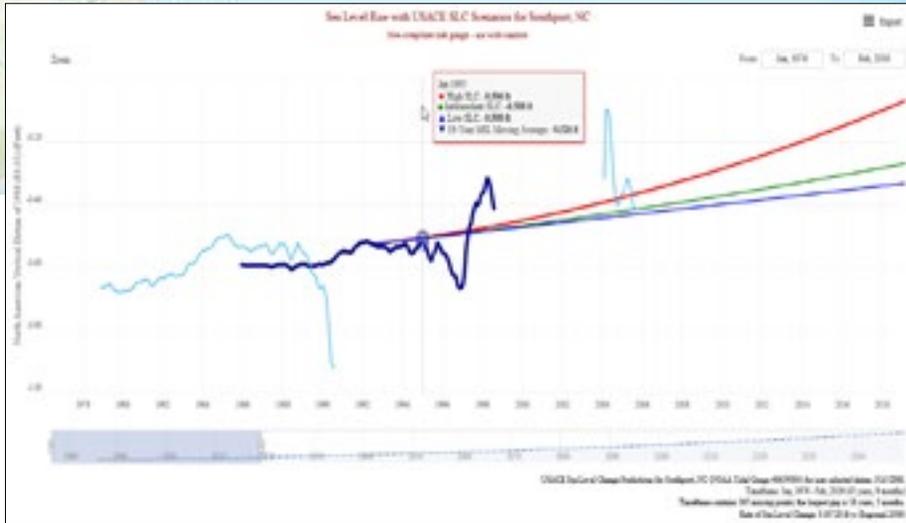
Gauge: **Southport**

Datum: NAVD88

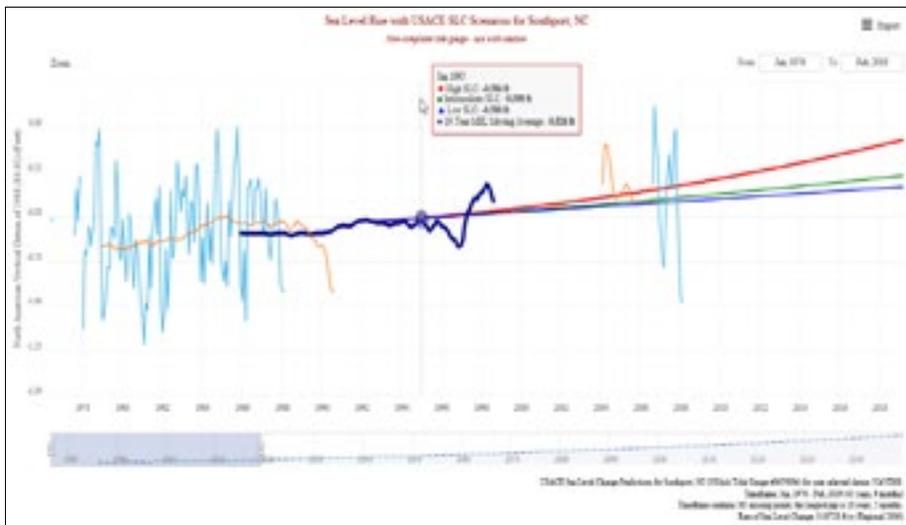
INTERRUPTED RECORD



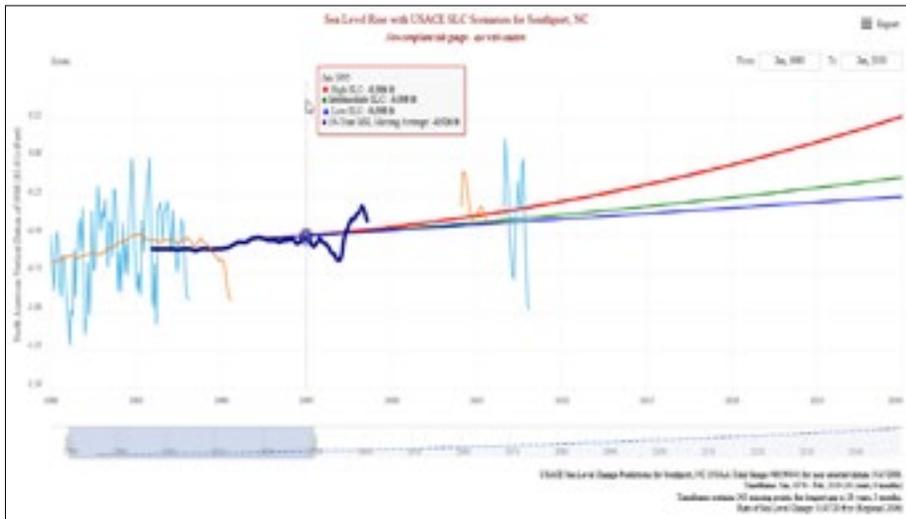
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



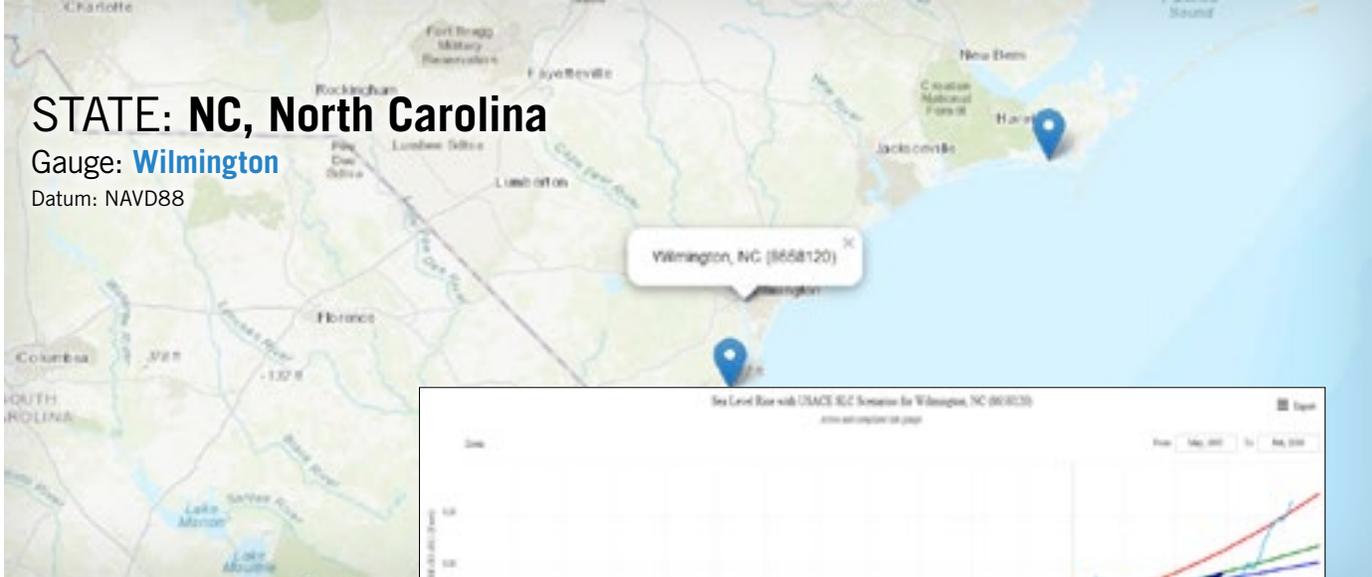
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



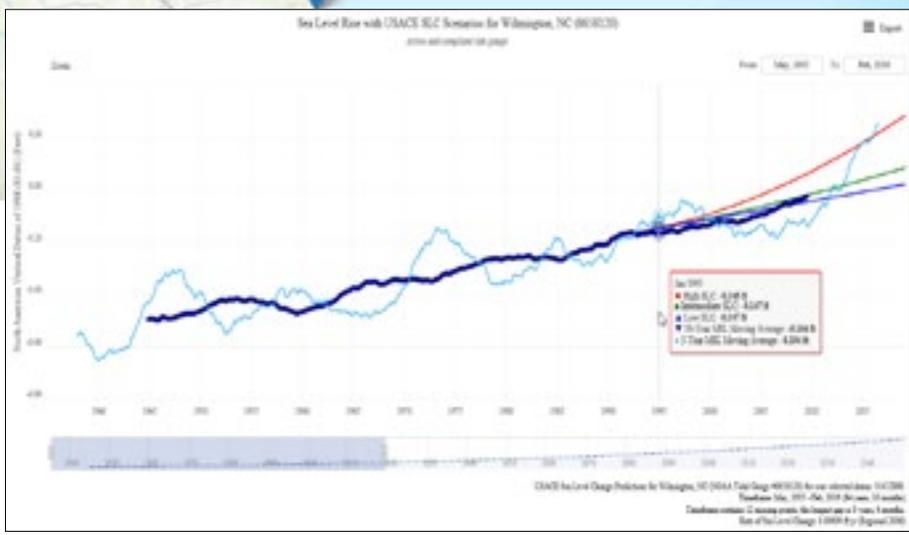
STATE: NC, North Carolina

Gauge: **Wilmington**

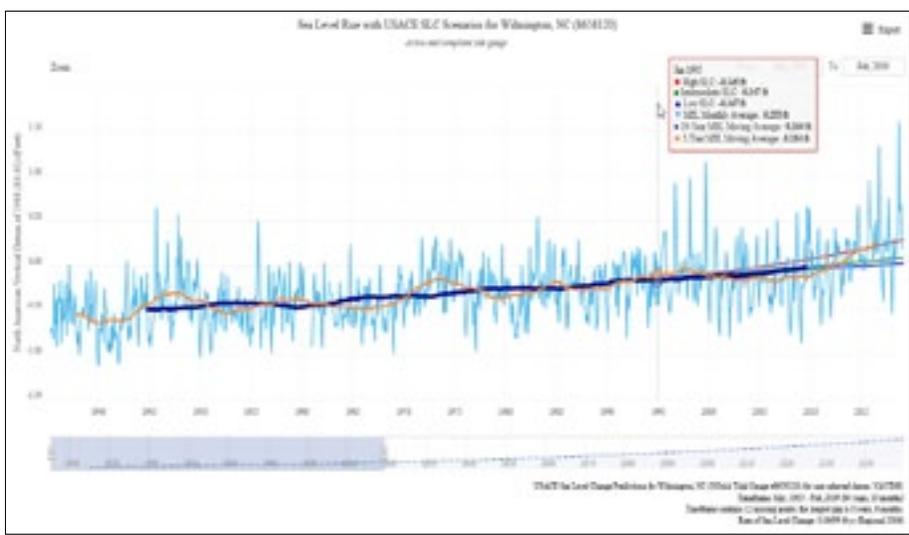
Datum: NAVD88



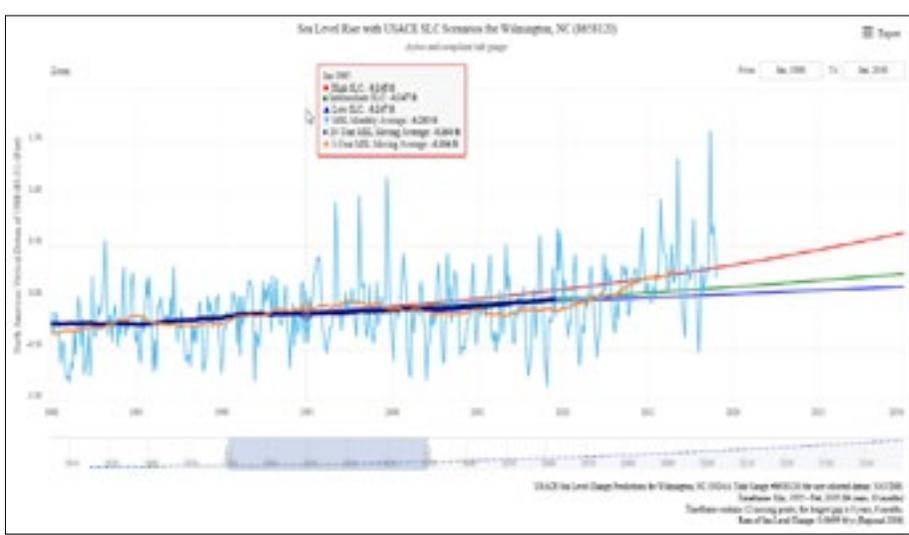
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



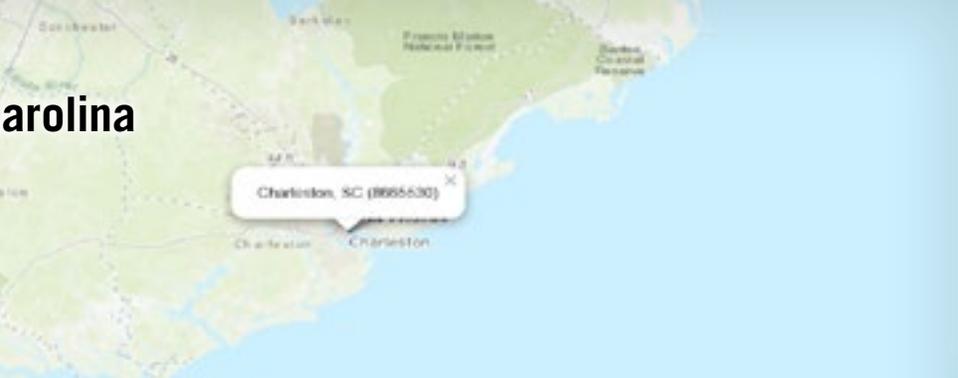
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



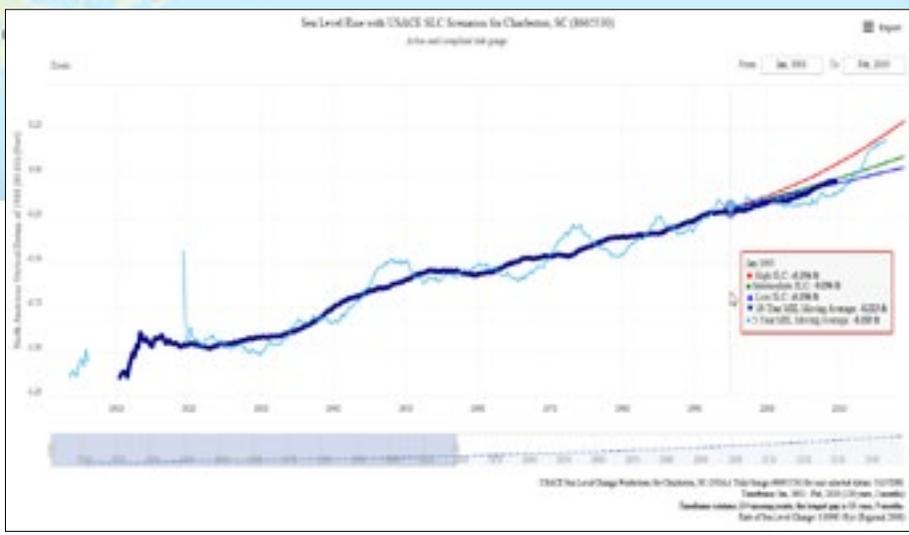
STATE: SC, South Carolina

Gauge: **Charleston**

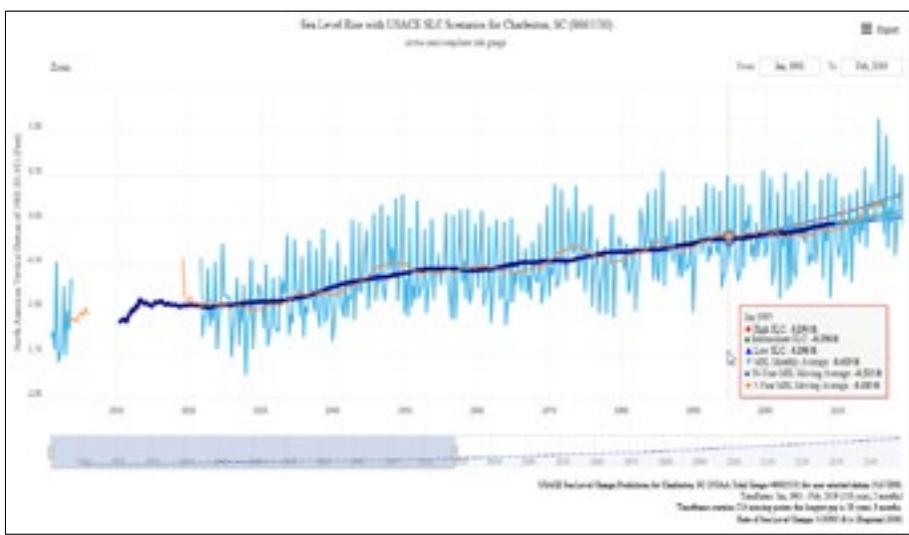
Datum: NAVD88



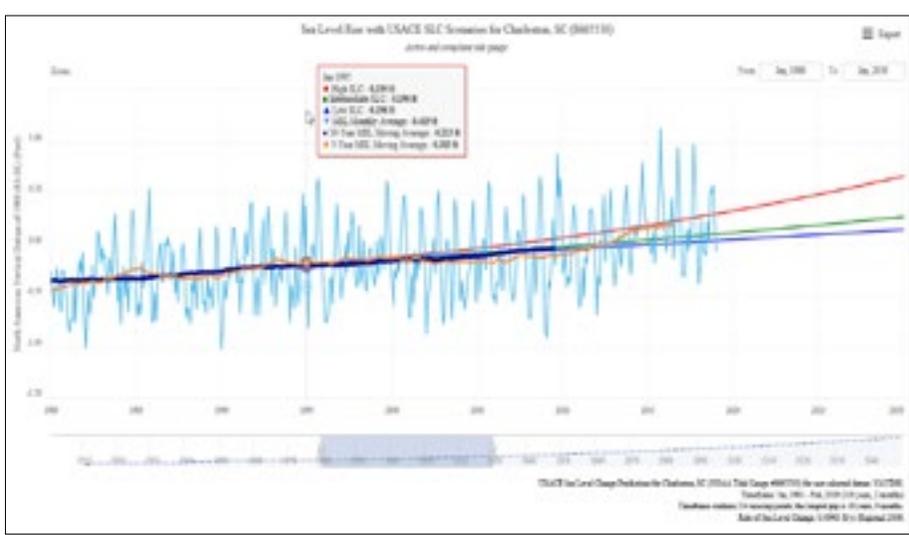
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



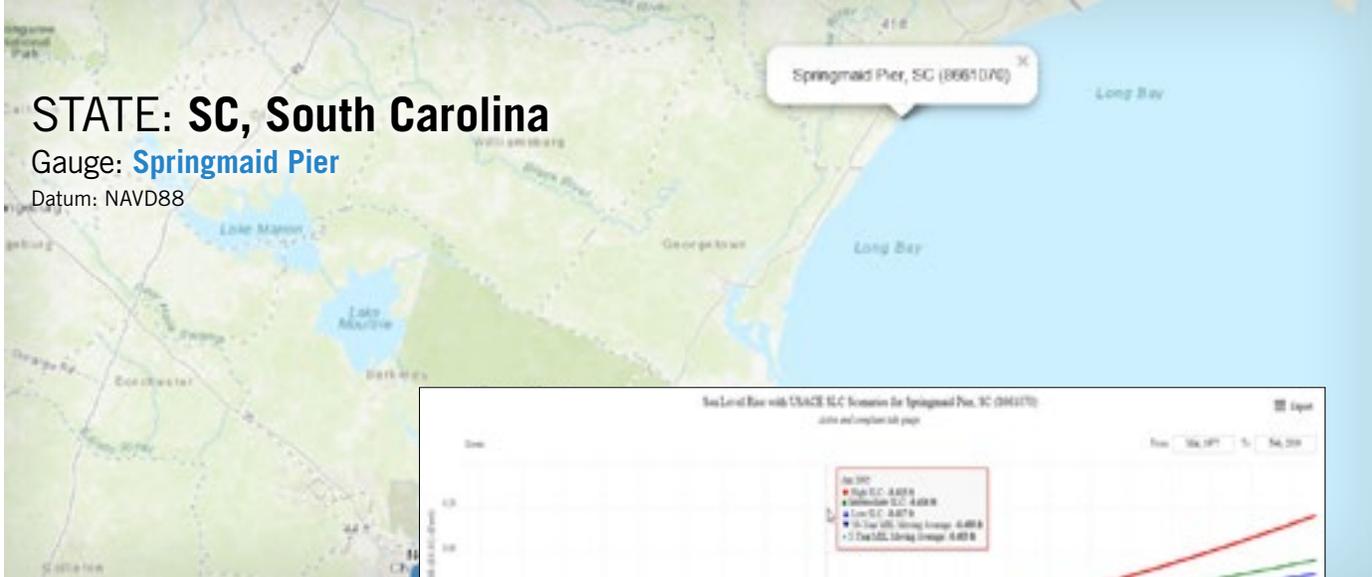
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



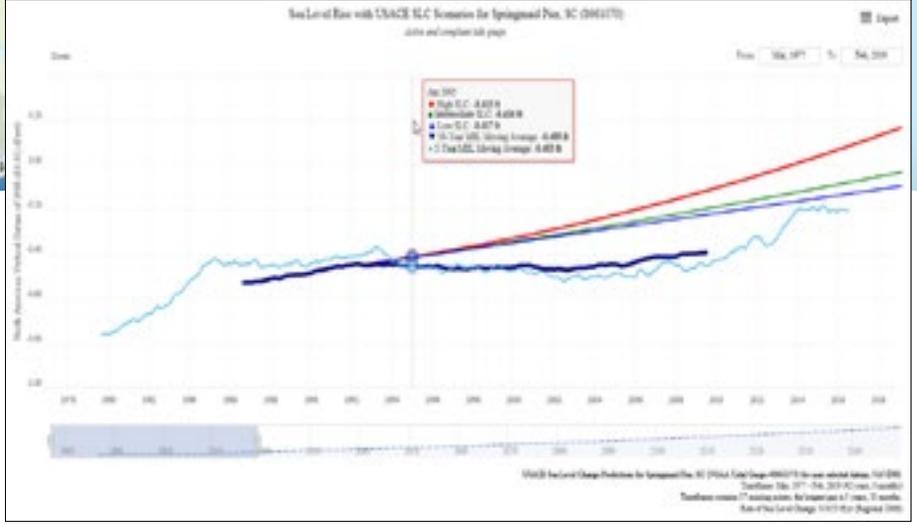
STATE: SC, South Carolina

Gauge: **Springmaid Pier**

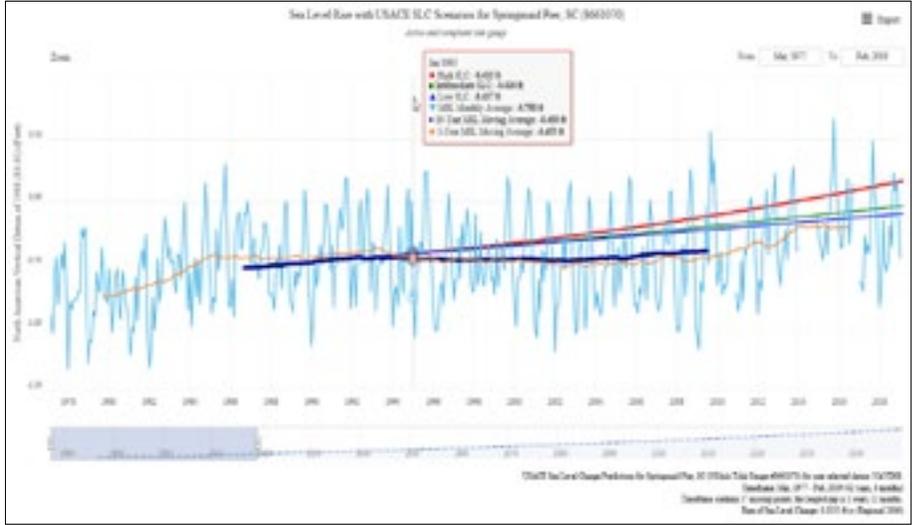
Datum: NAVD88



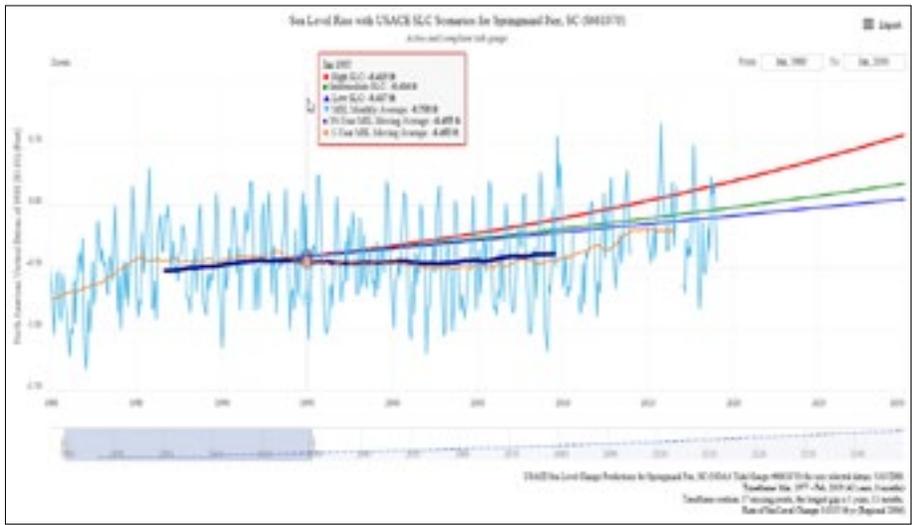
1
 19-year midpoint moving average
 5-year MSL midpoint moving average



2
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values



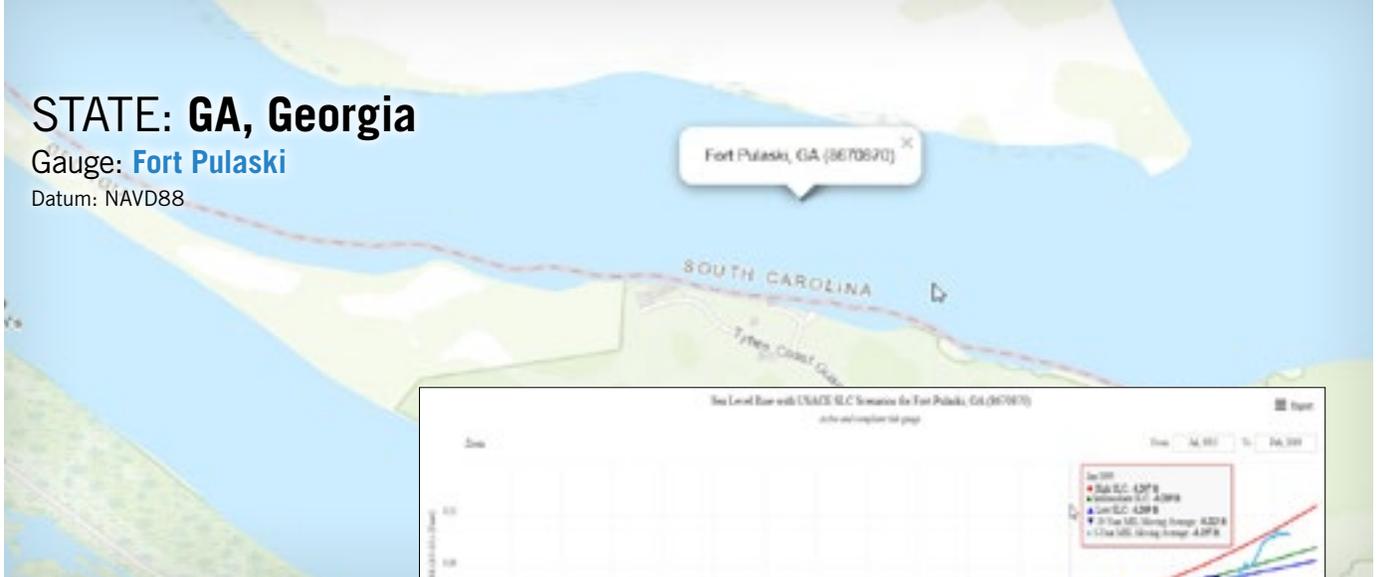
3
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values
 From January 1980 To January 2030



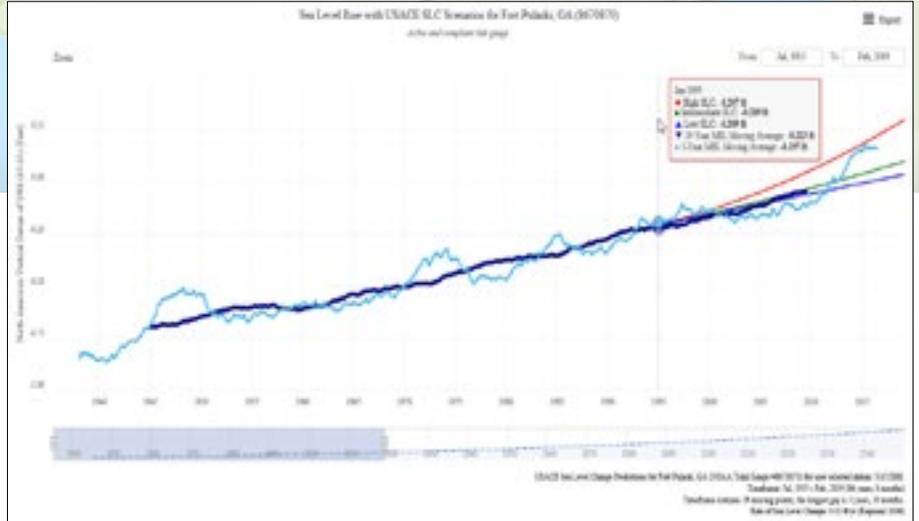
STATE: **GA, Georgia**

Gauge: **Fort Pulaski**

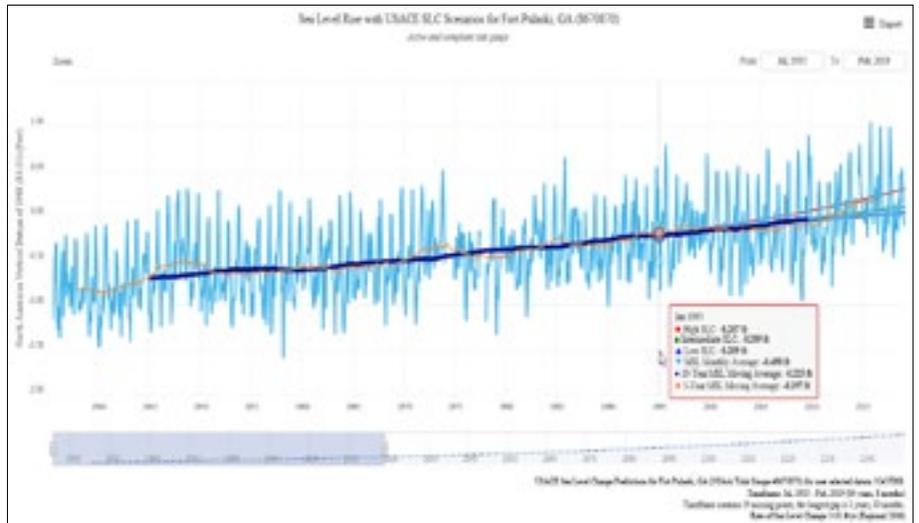
Datum: NAVD88



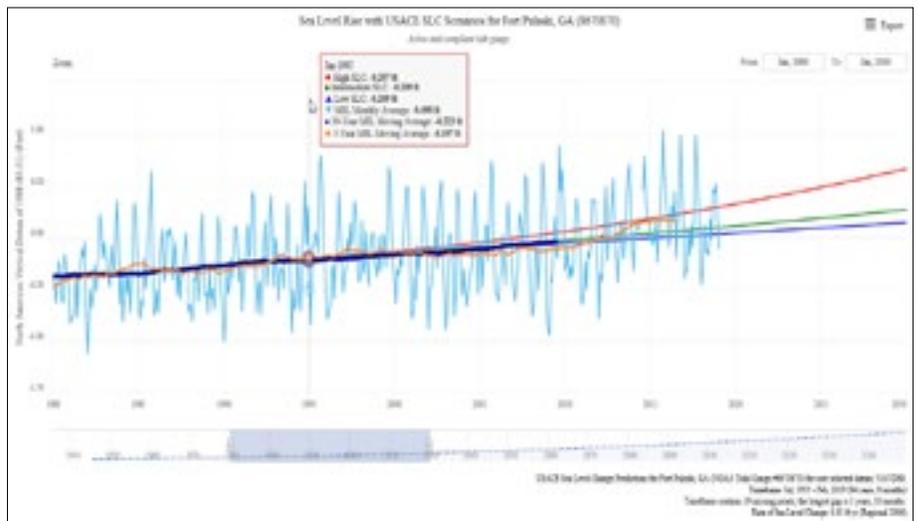
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

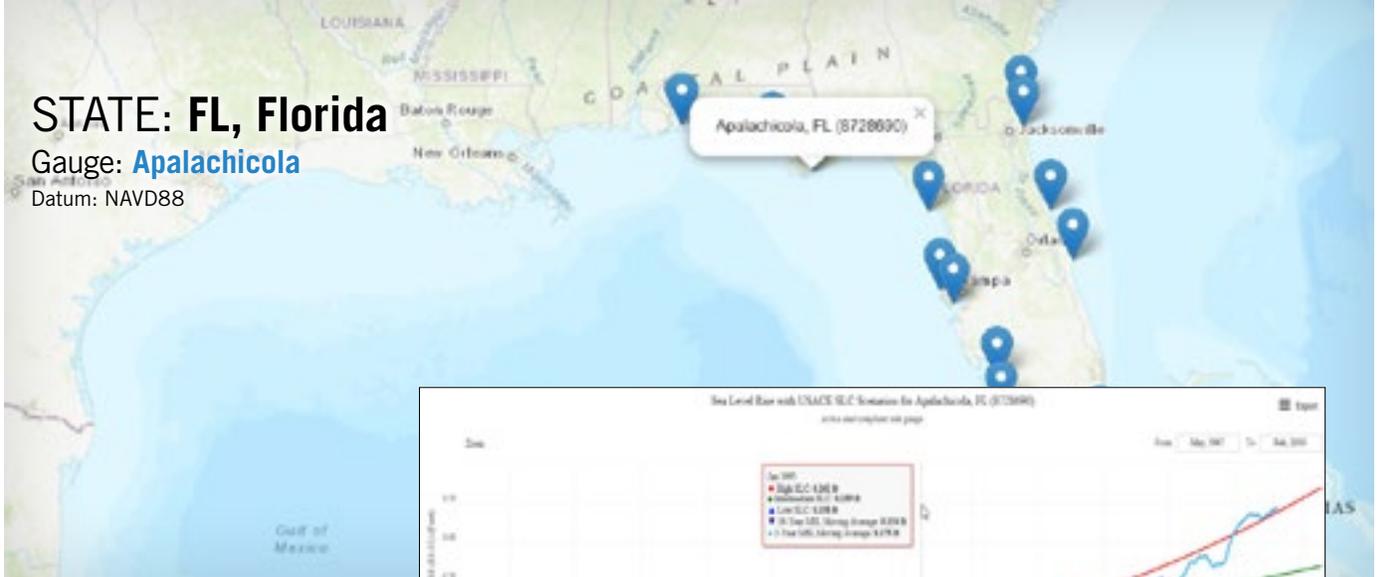


FLORIDA

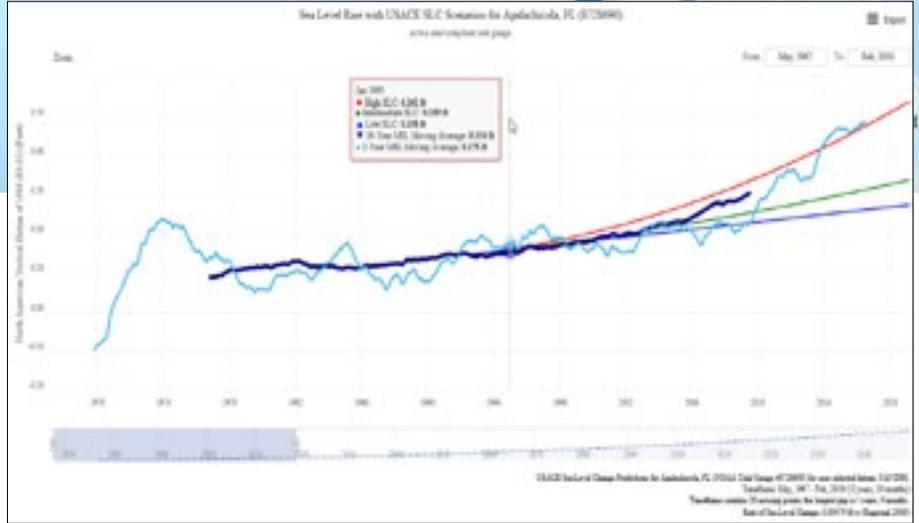
STATE: **FL, Florida**

Gauge: **Apalachicola**

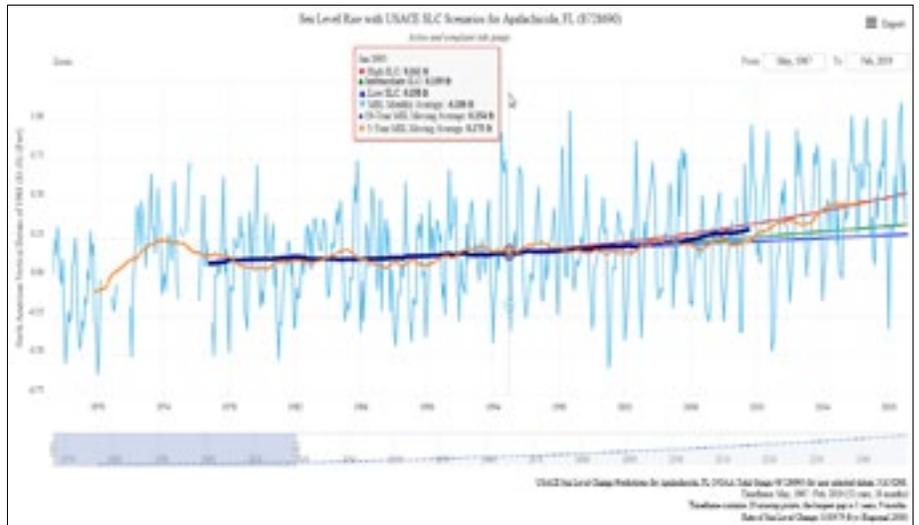
Datum: NAVD88



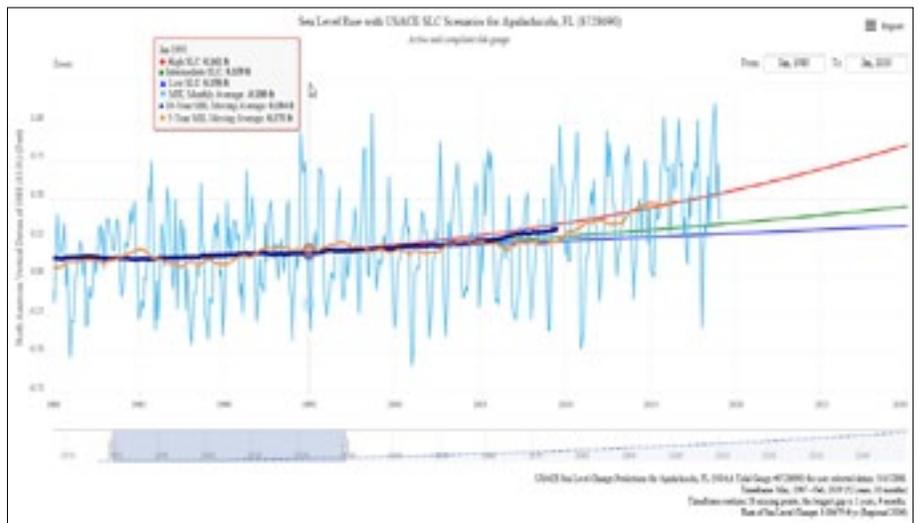
1
19-year midpoint moving average
5-year MSL midpoint moving average



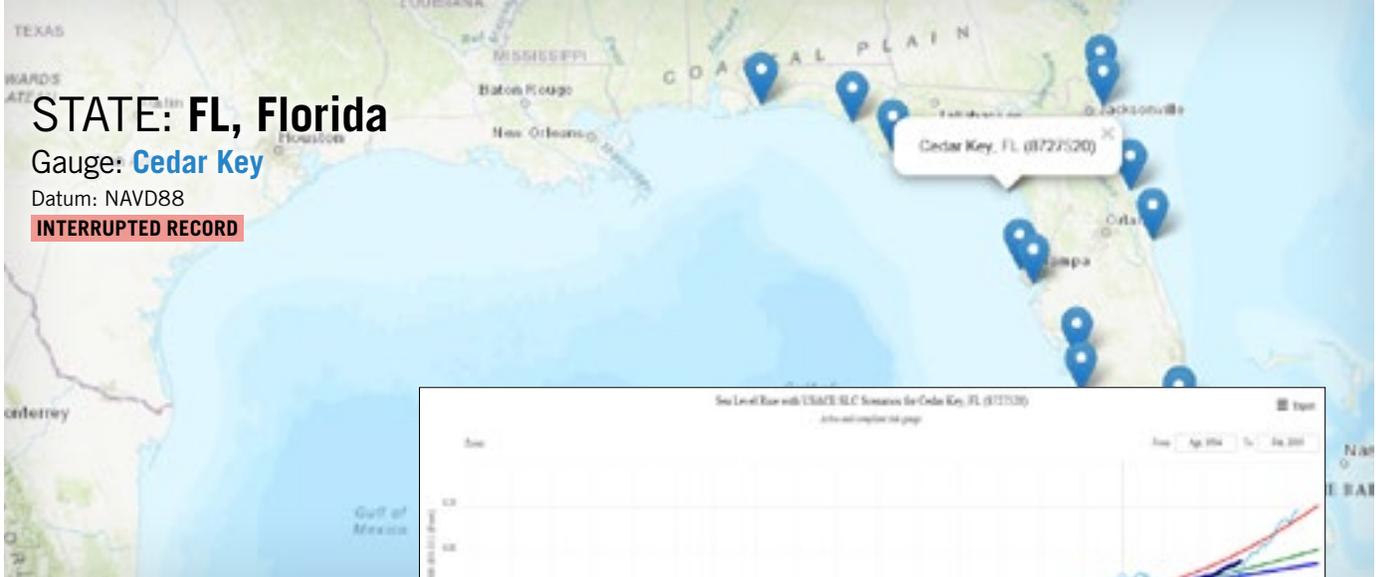
2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



FLORIDA



STATE: **FL, Florida**

Gauge: **Cedar Key**

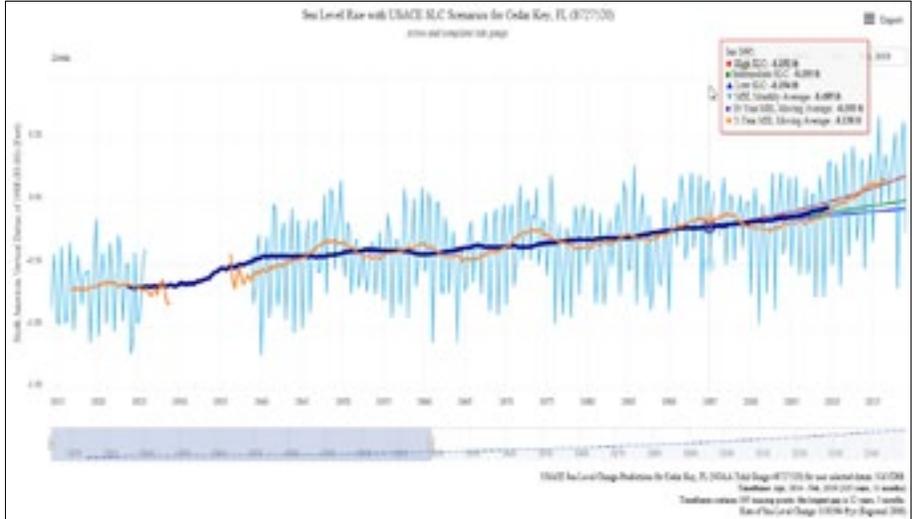
Datum: NAVD88

INTERRUPTED RECORD

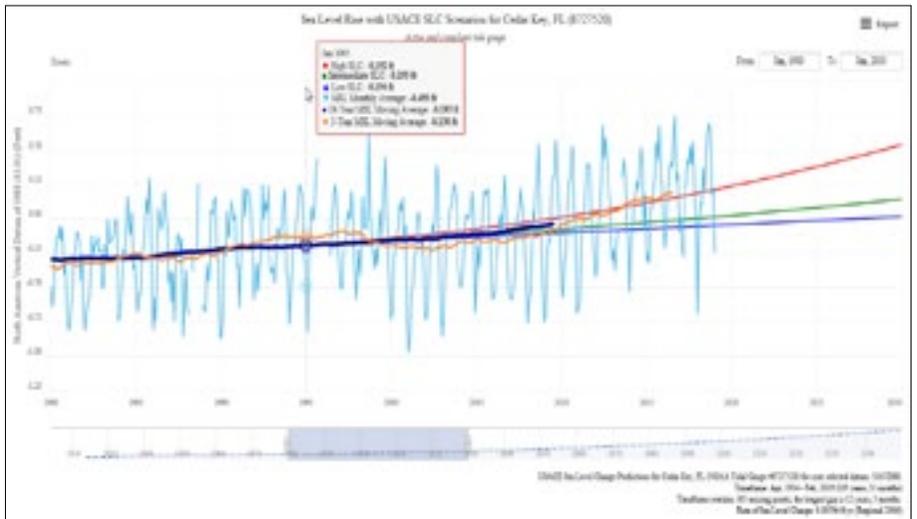
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



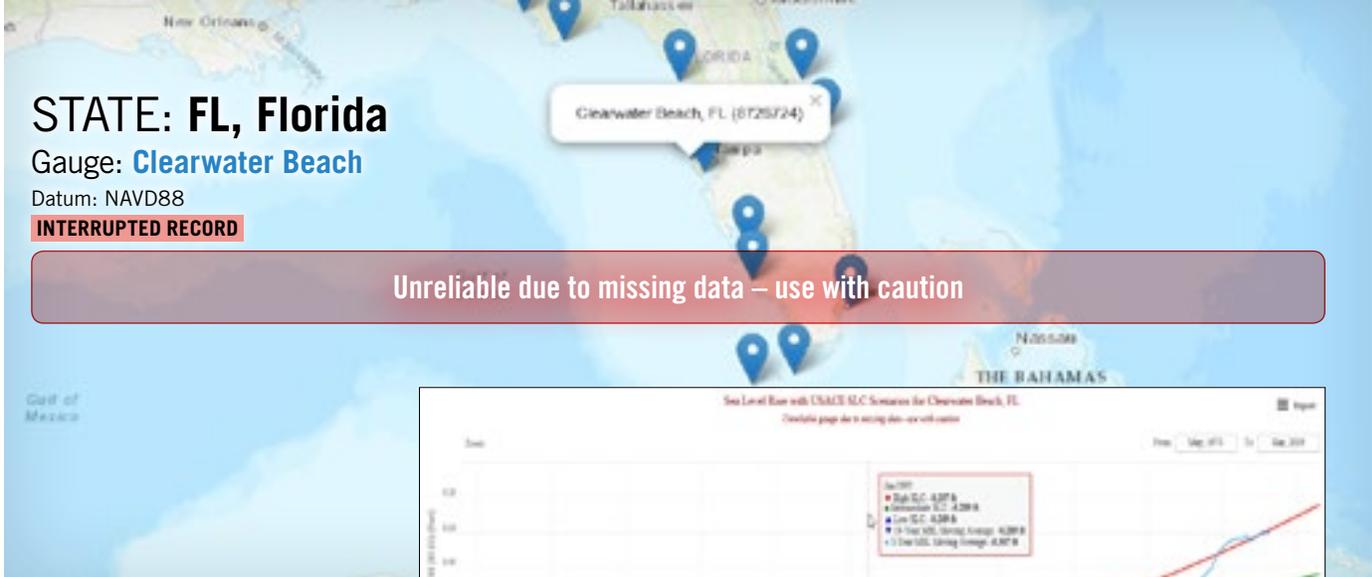
FLORIDA

STATE: **FL, Florida**

Gauge: **Clearwater Beach**

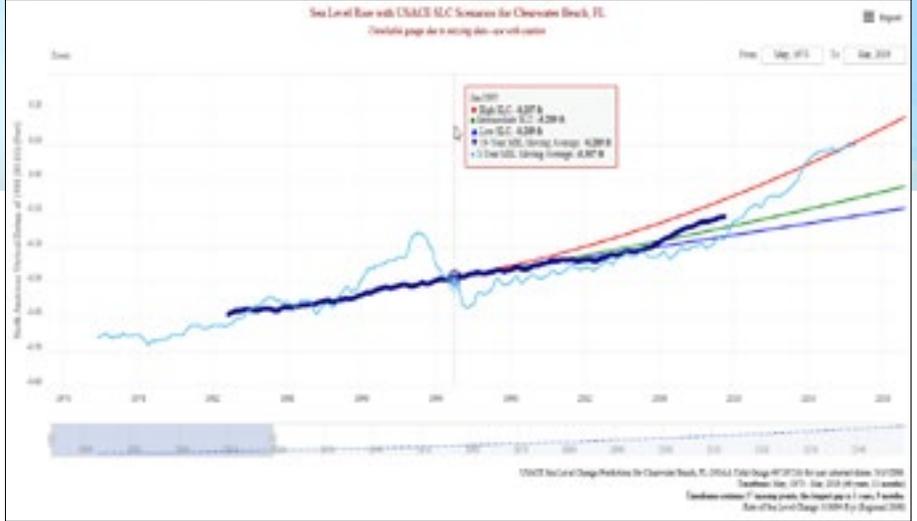
Datum: NAVD88

INTERRUPTED RECORD

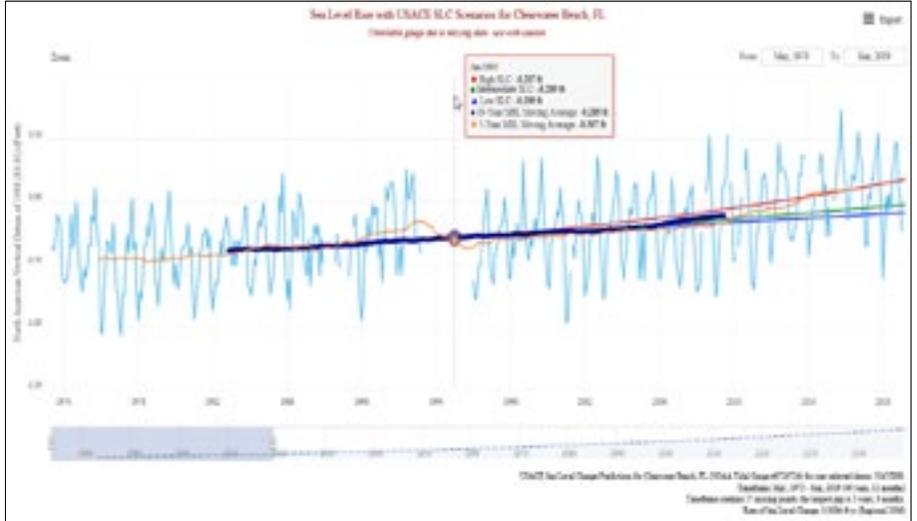


Unreliable due to missing data – use with caution

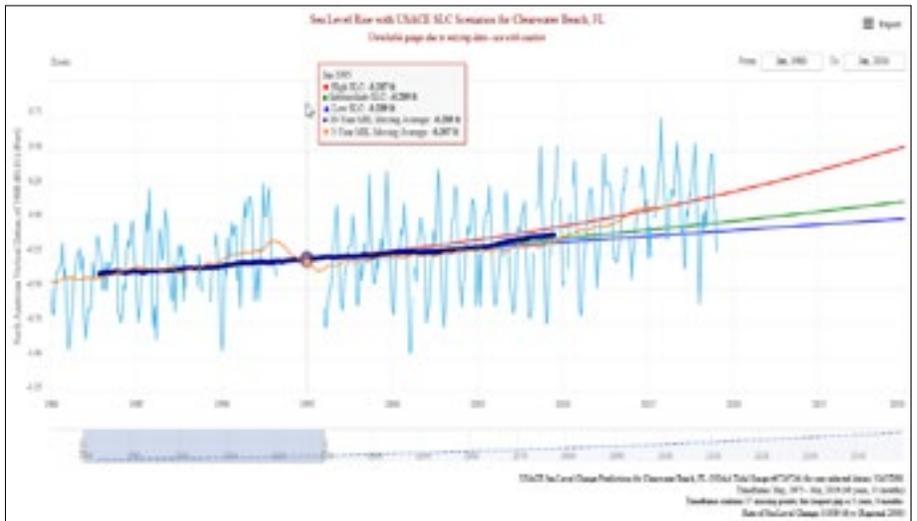
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



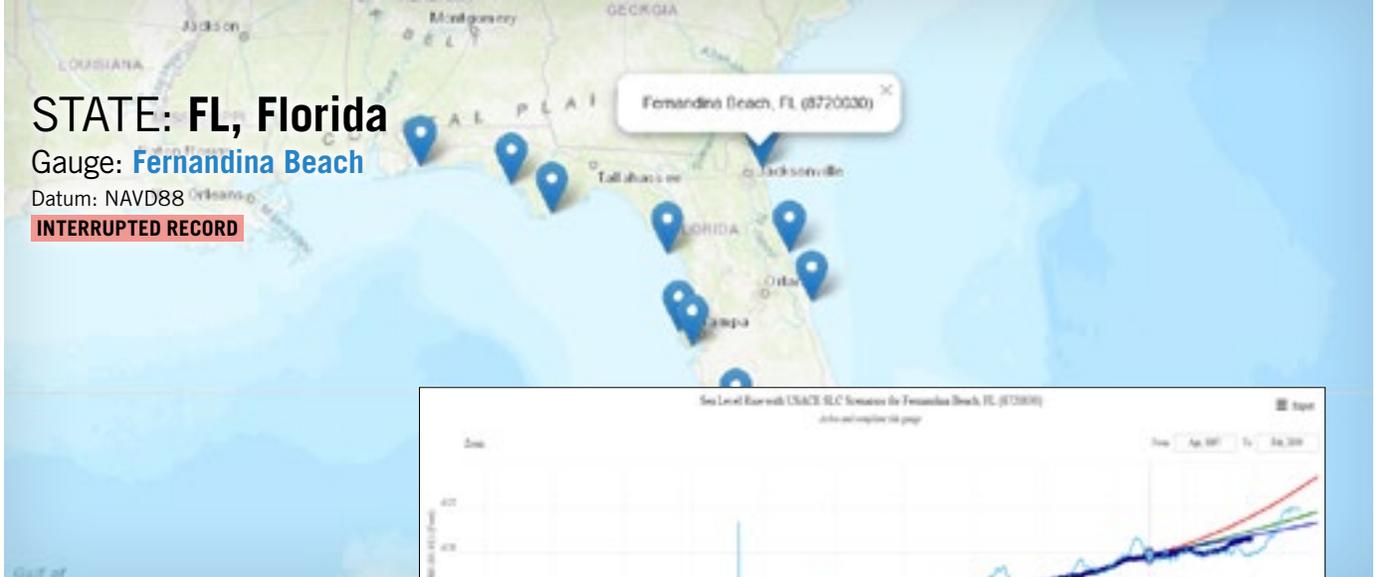
FLORIDA

STATE: **FL, Florida**

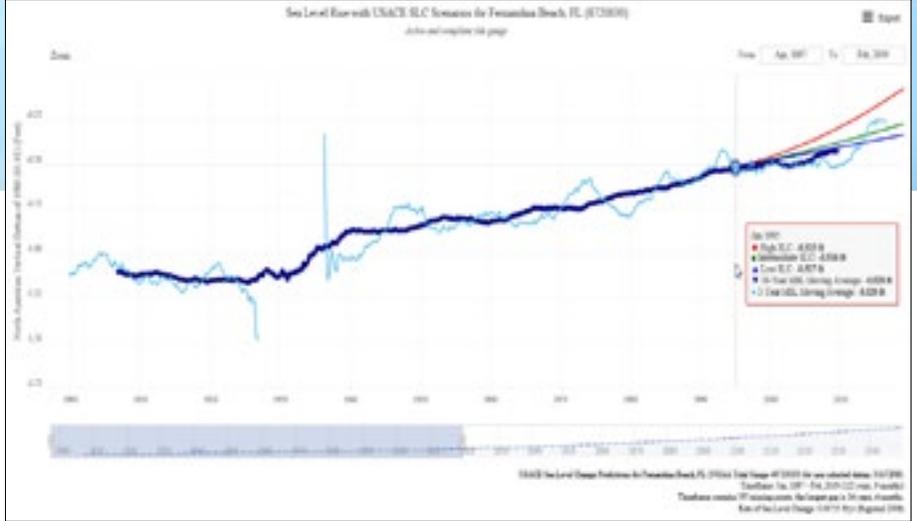
Gauge: **Fernandina Beach**

Datum: NAVD88

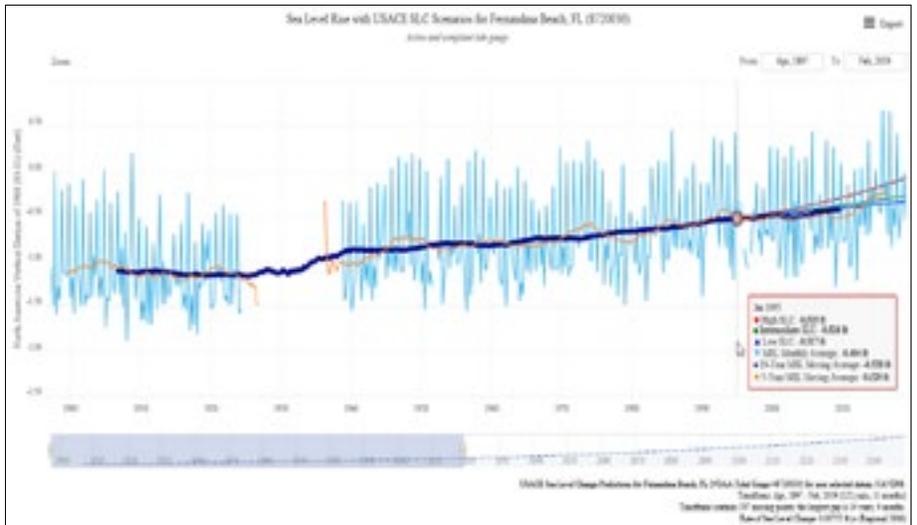
INTERRUPTED RECORD



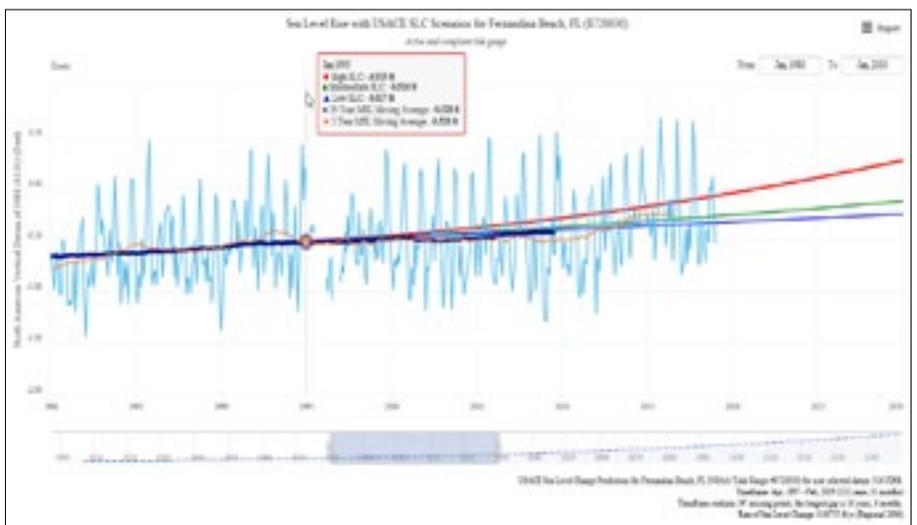
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

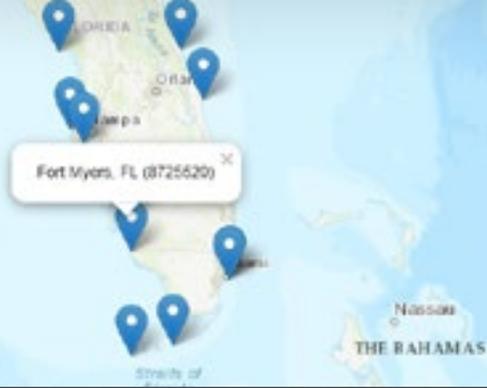


FLORIDA

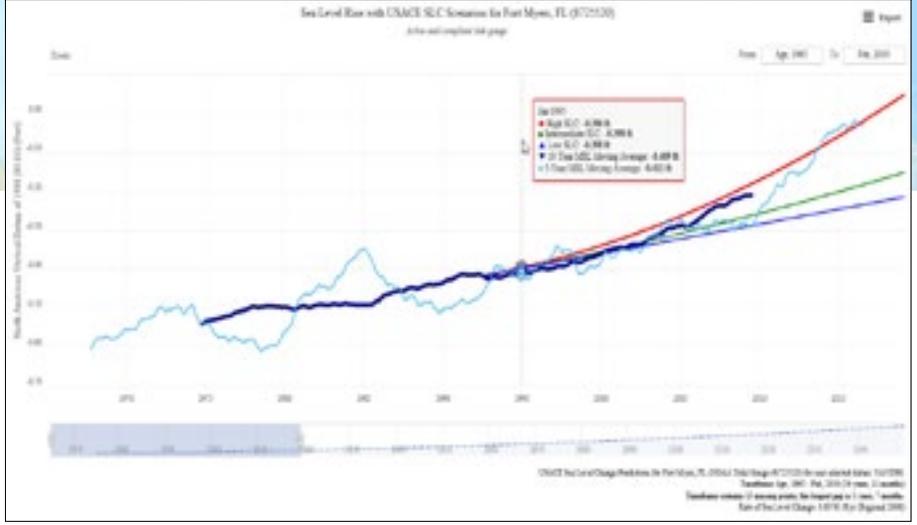
STATE: **FL, Florida**

Gauge: **Fort Myers**

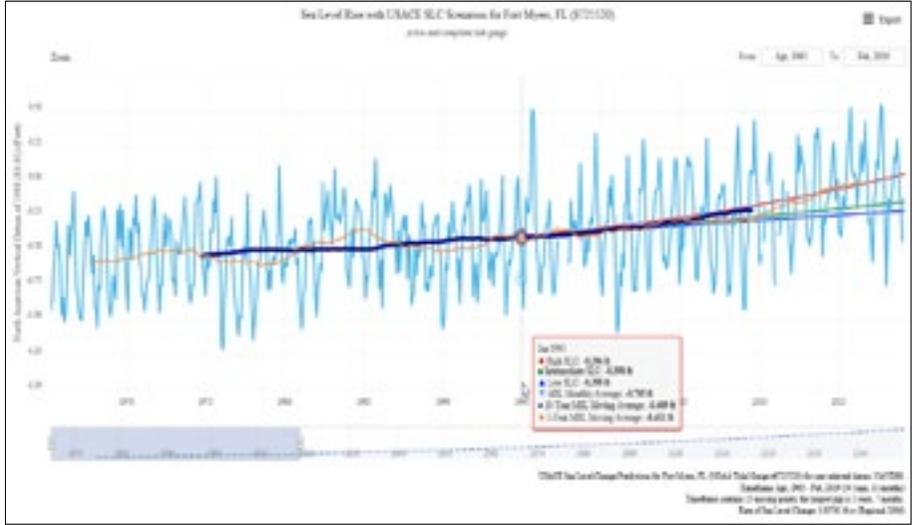
Datum: NAVD88



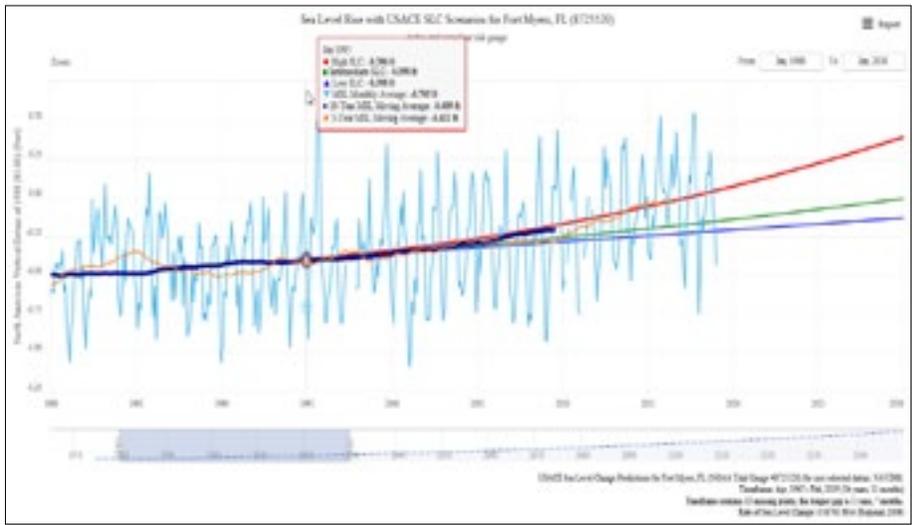
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

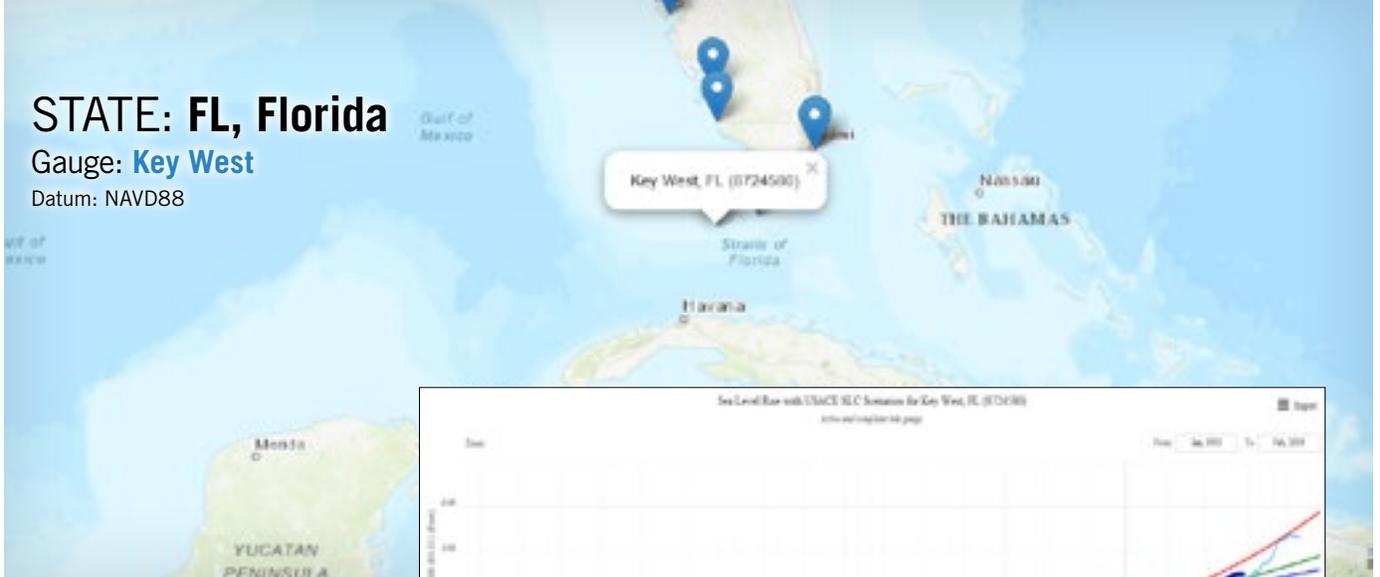


FLORIDA

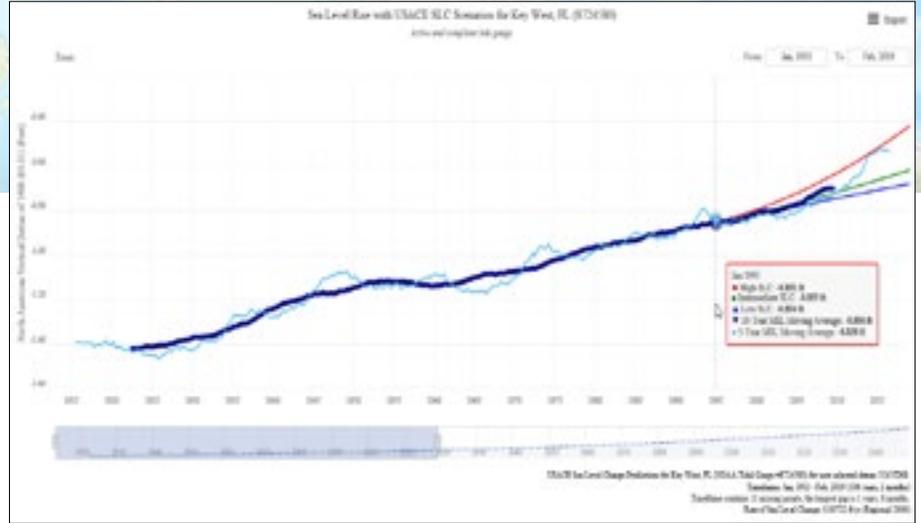
STATE: **FL, Florida**

Gauge: **Key West**

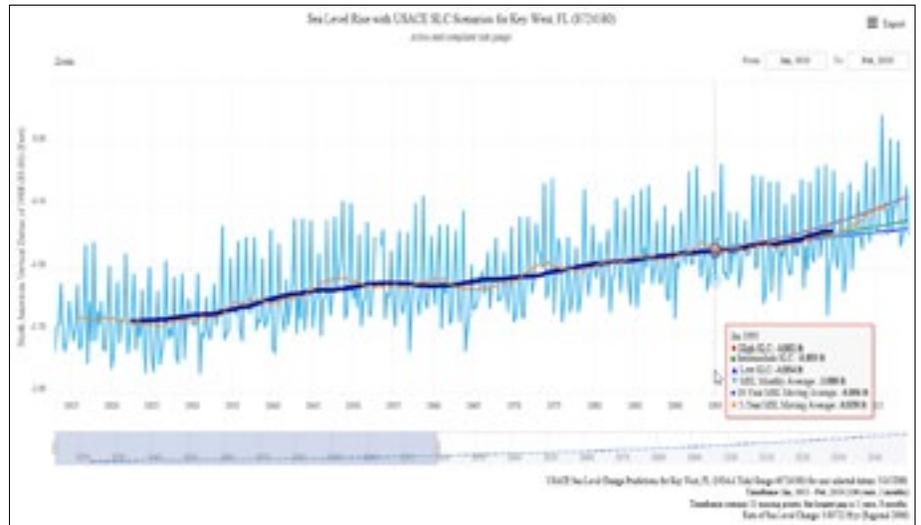
Datum: NAVD88



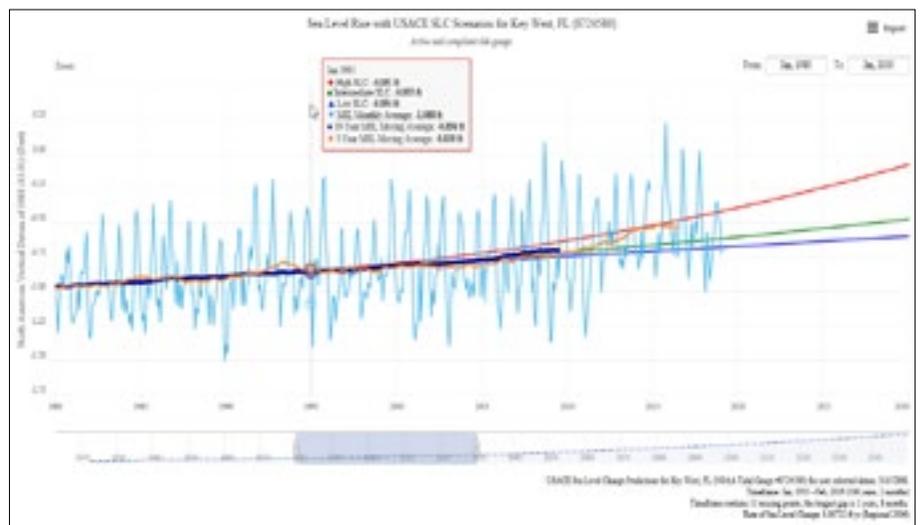
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

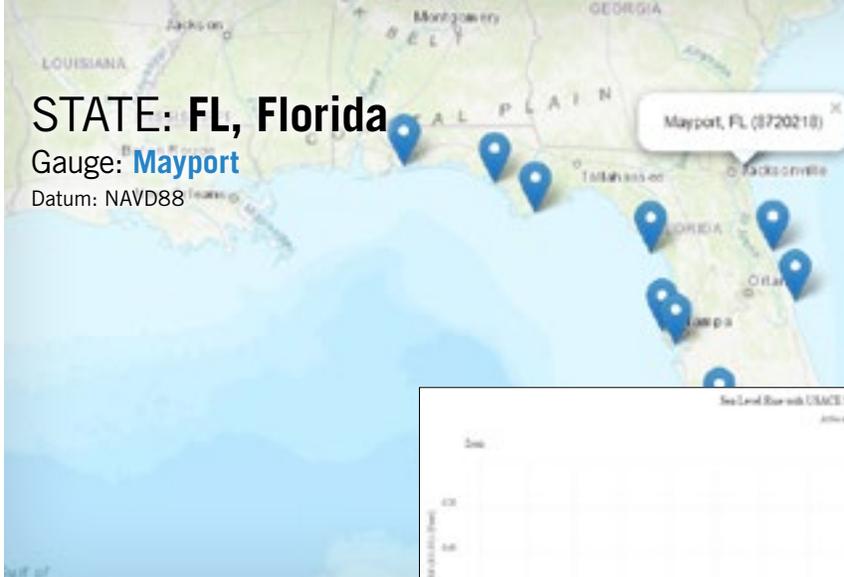


FLORIDA

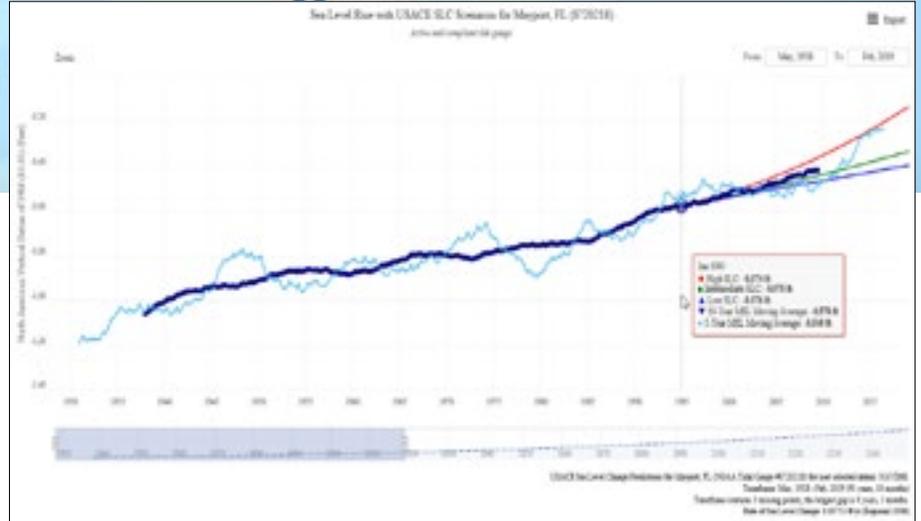
STATE: **FL, Florida**

Gauge: **Mayport**

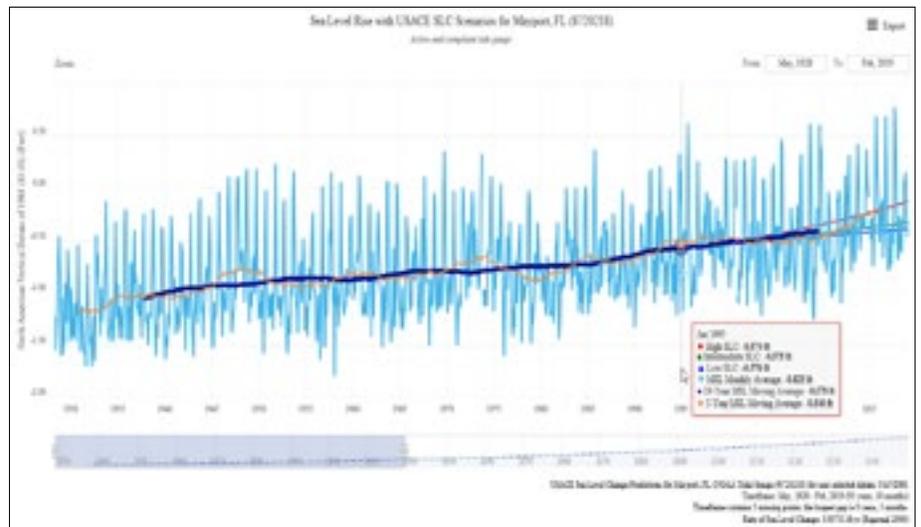
Datum: NAVD88



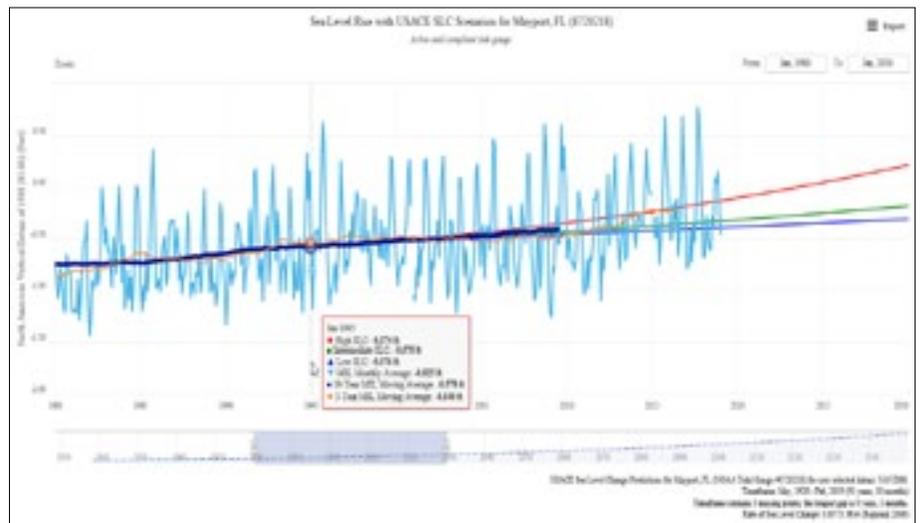
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

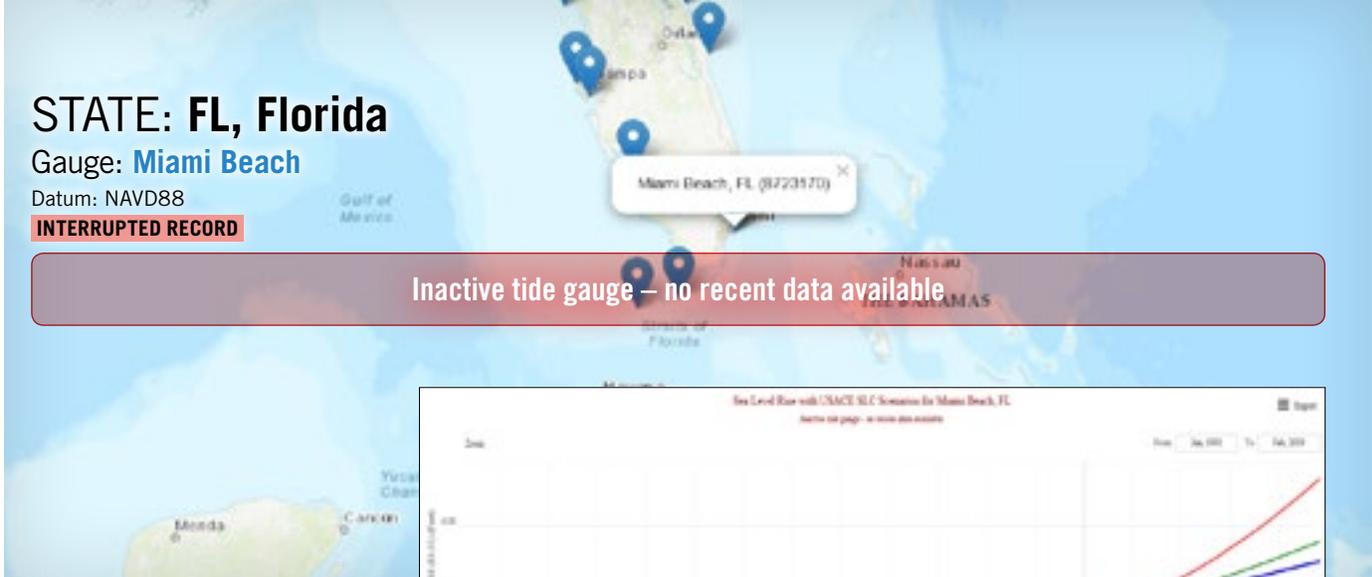


STATE: FL, Florida

Gauge: **Miami Beach**

Datum: NAVD88

INTERRUPTED RECORD

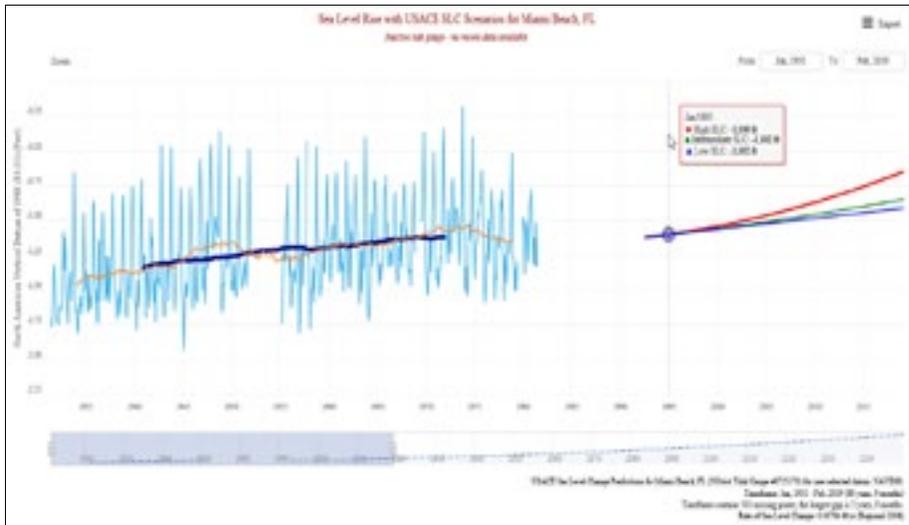


Inactive tide gauge – no recent data available

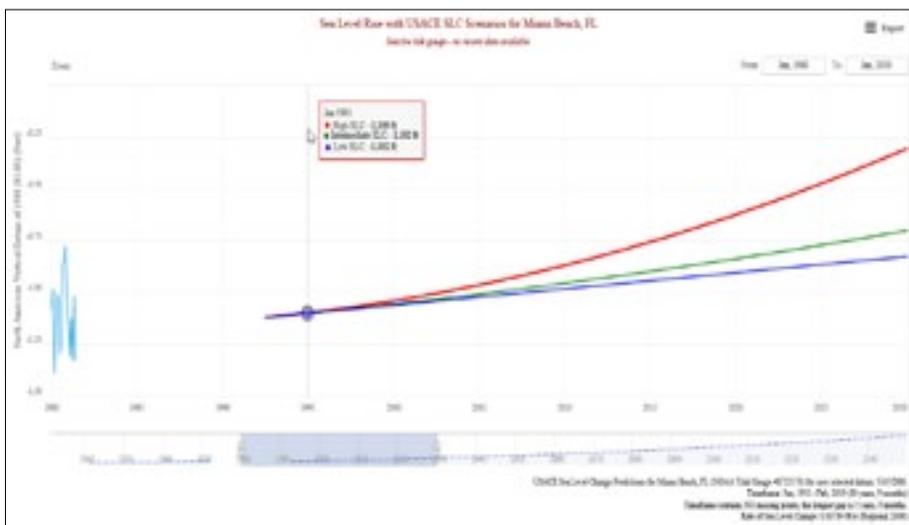
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

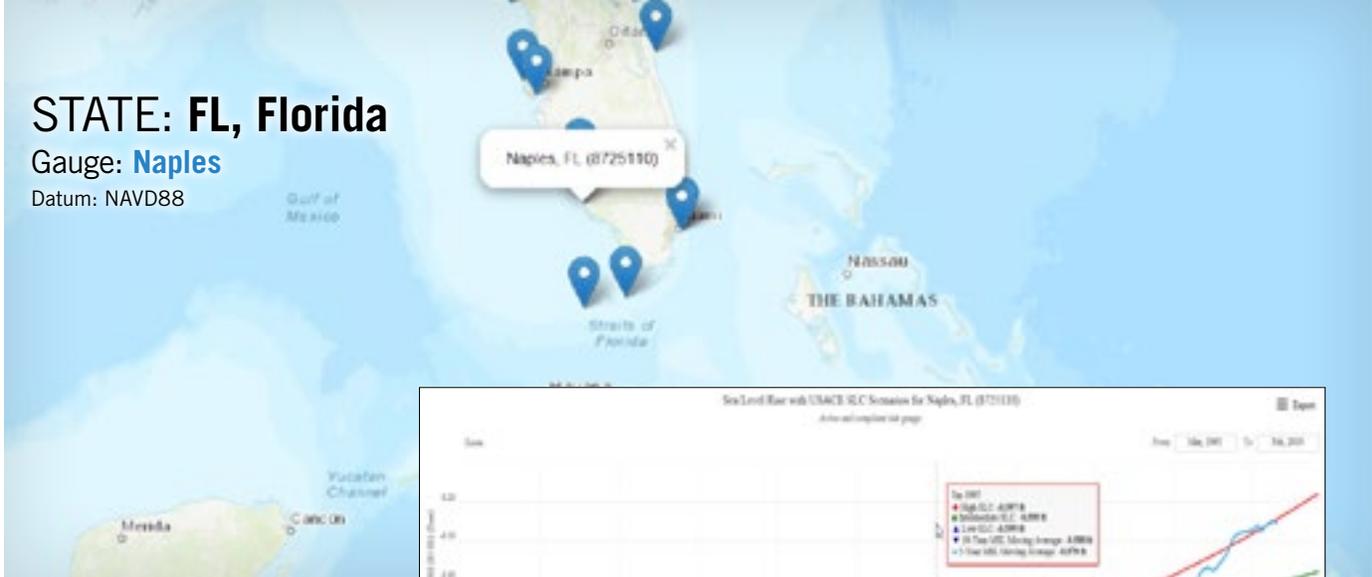


FLORIDA

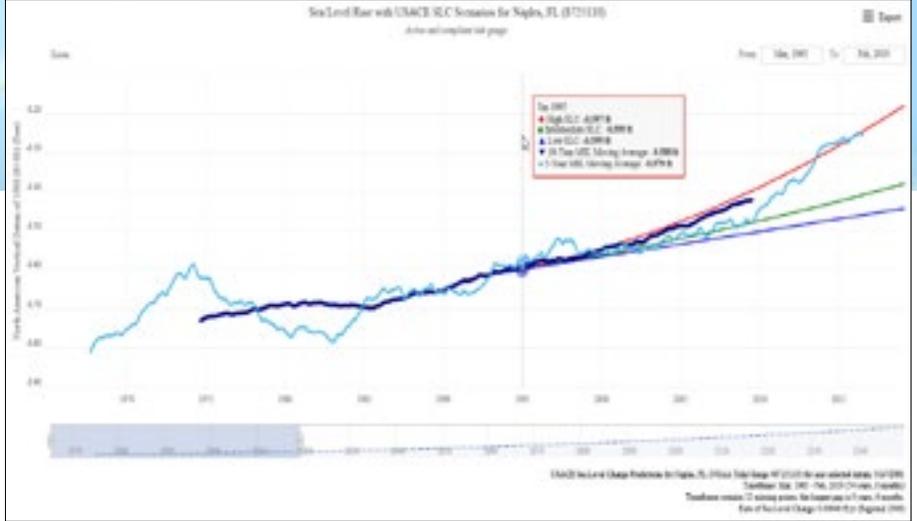
STATE: **FL, Florida**

Gauge: **Naples**

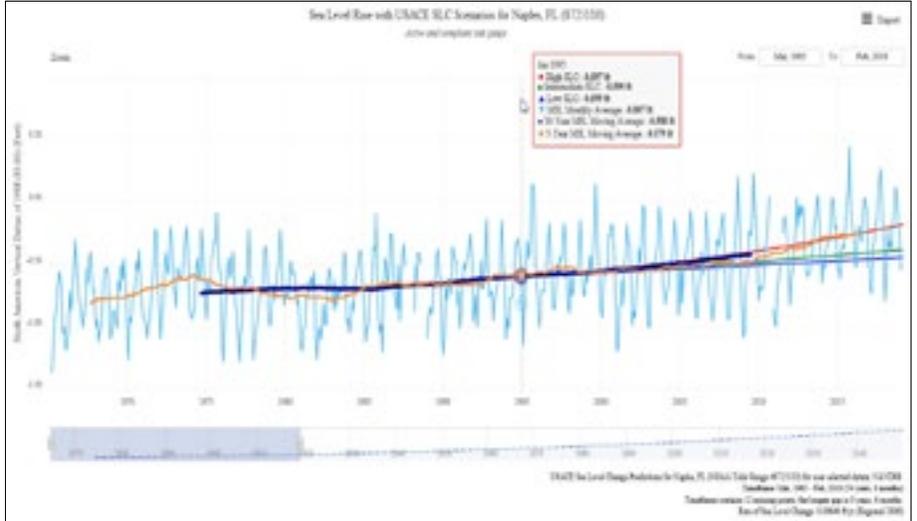
Datum: NAVD88



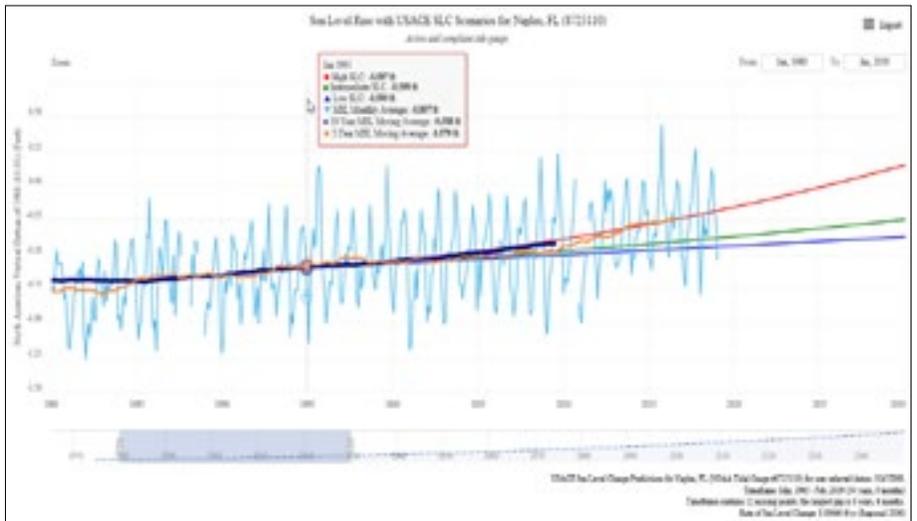
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

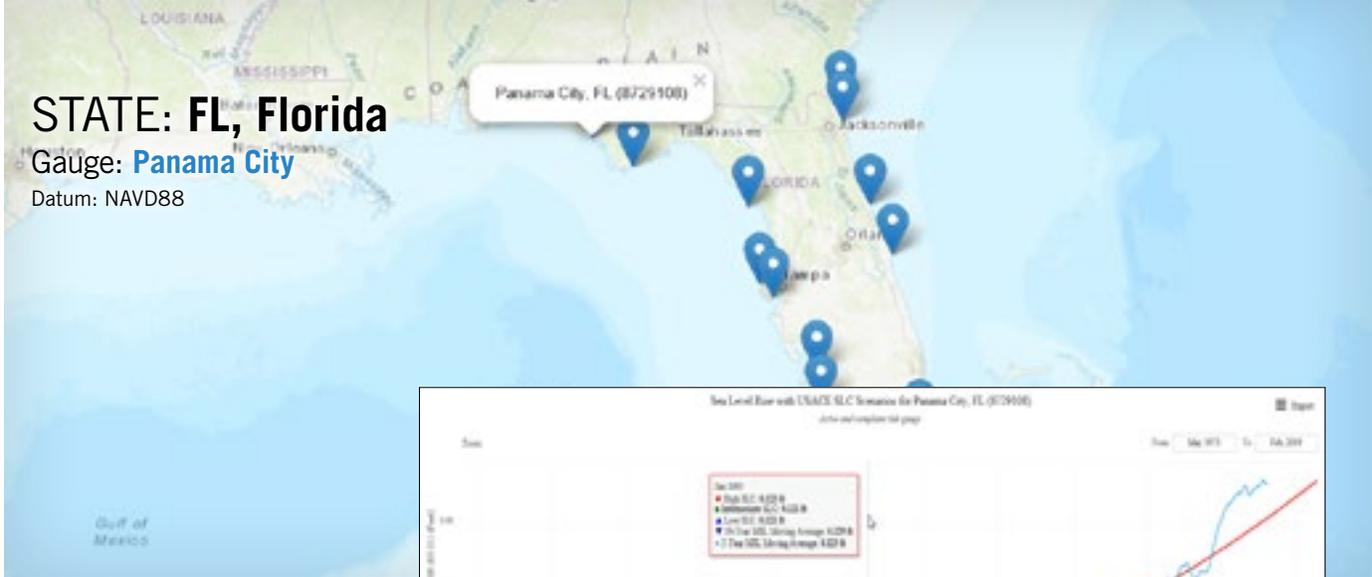


FLORIDA

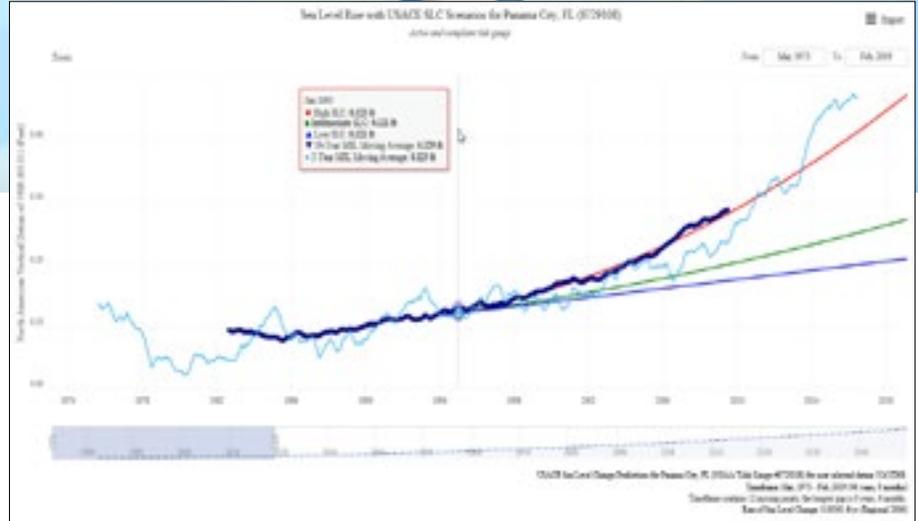
STATE: **FL, Florida**

Gauge: **Panama City**

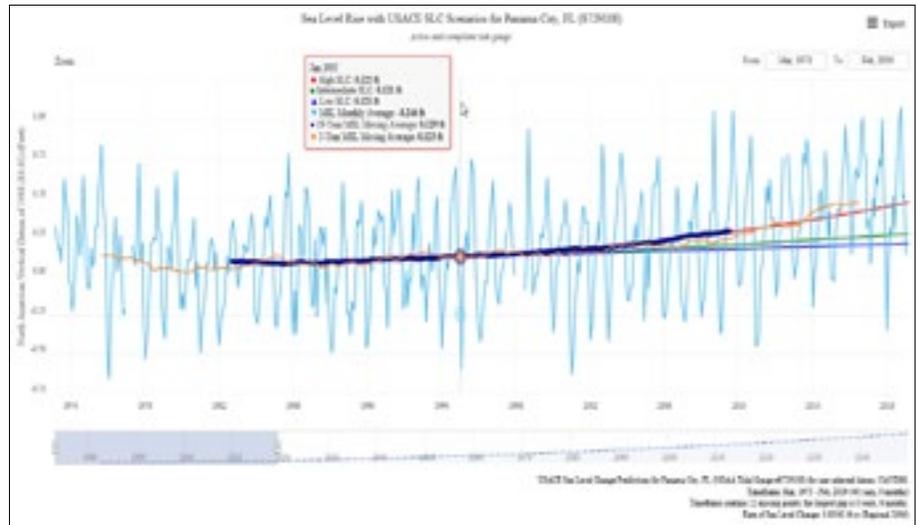
Datum: NAVD88



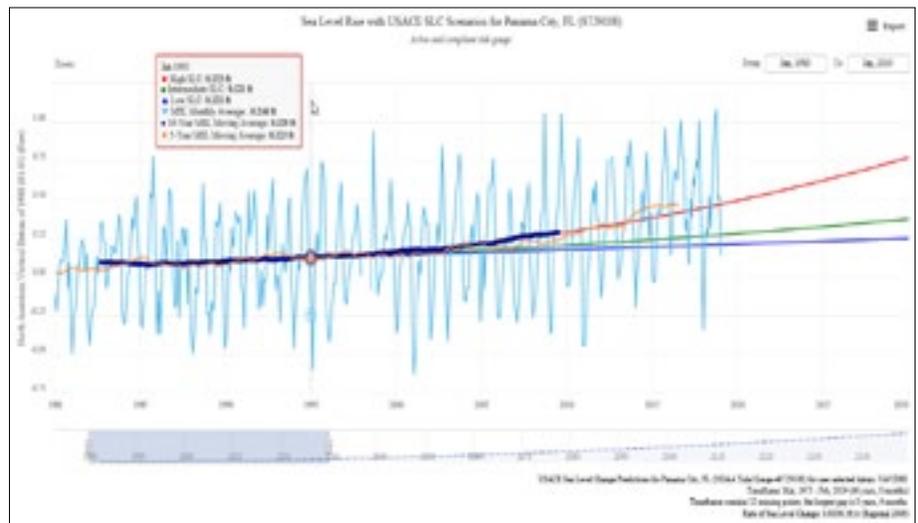
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

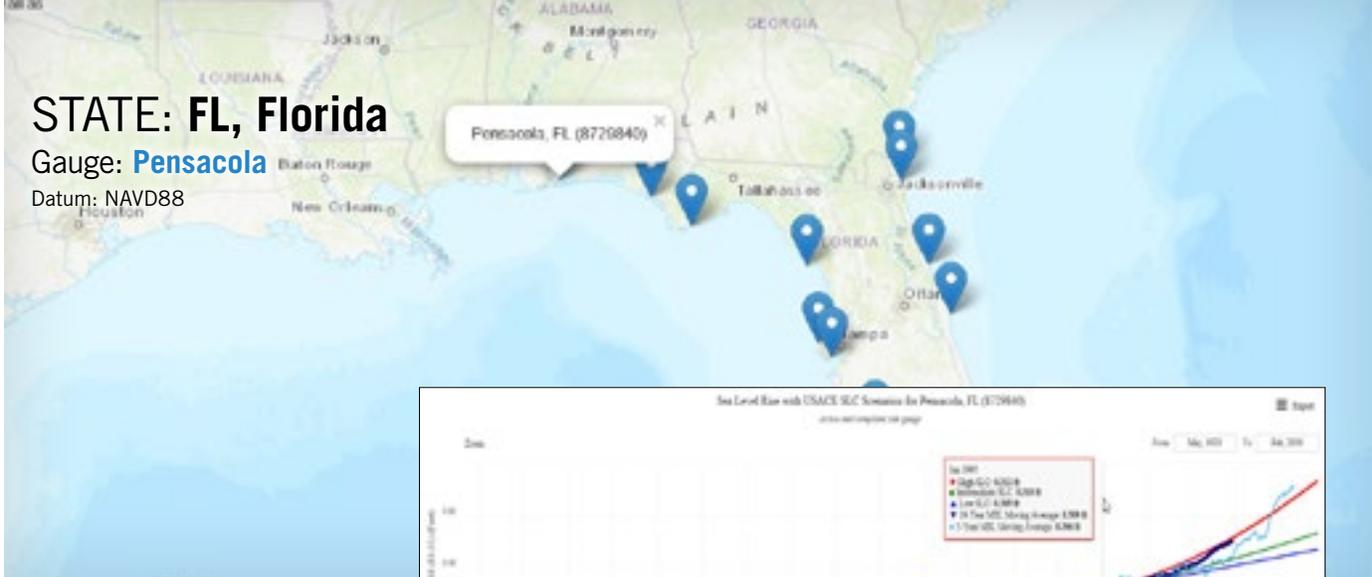


FLORIDA

STATE: **FL, Florida**

Gauge: **Pensacola**

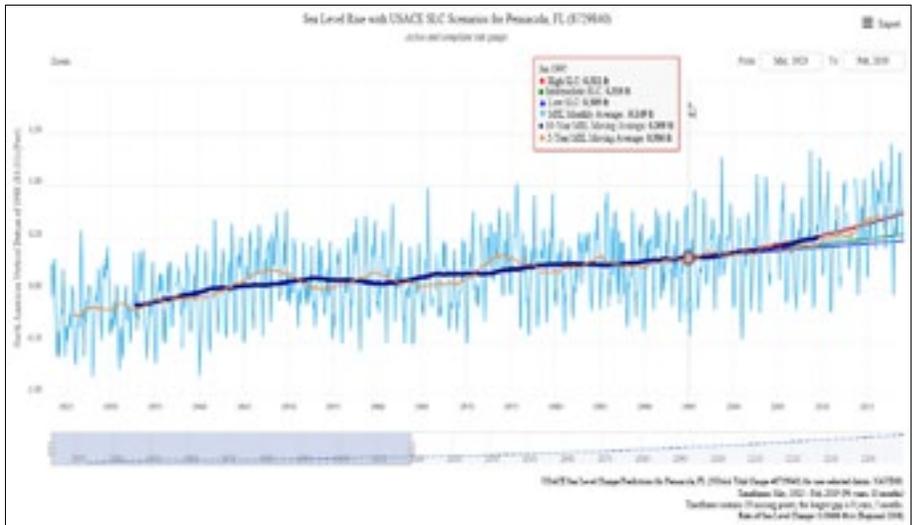
Datum: NAVD88



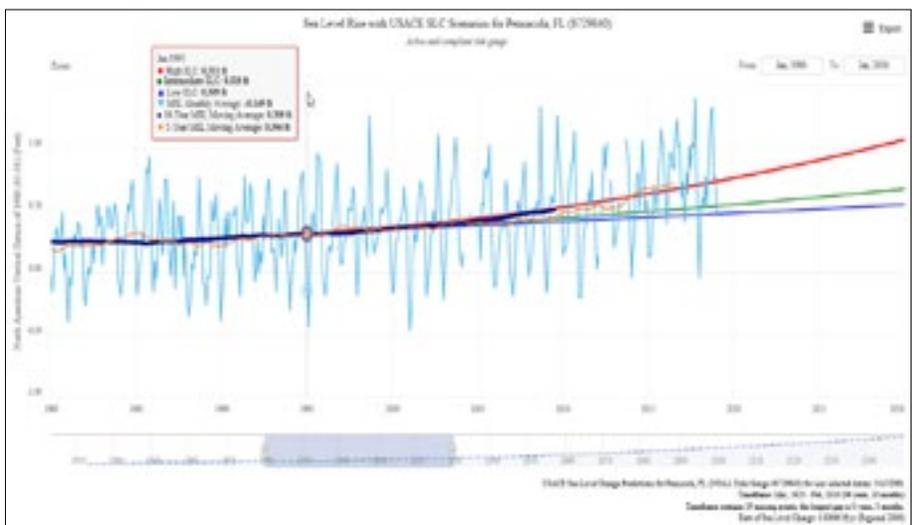
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

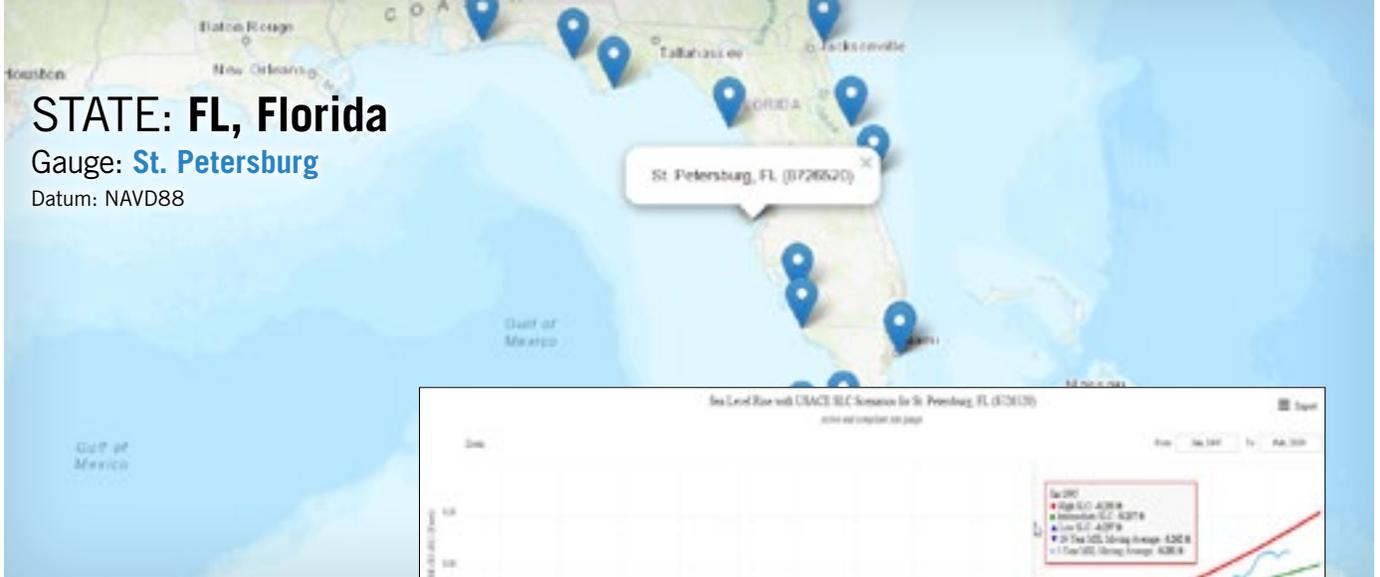


FLORIDA

STATE: **FL, Florida**

Gauge: **St. Petersburg**

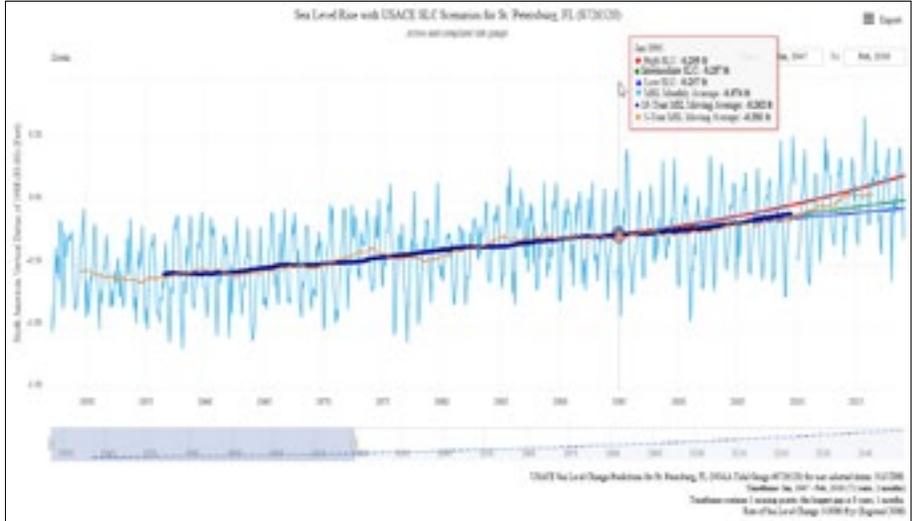
Datum: NAVD88



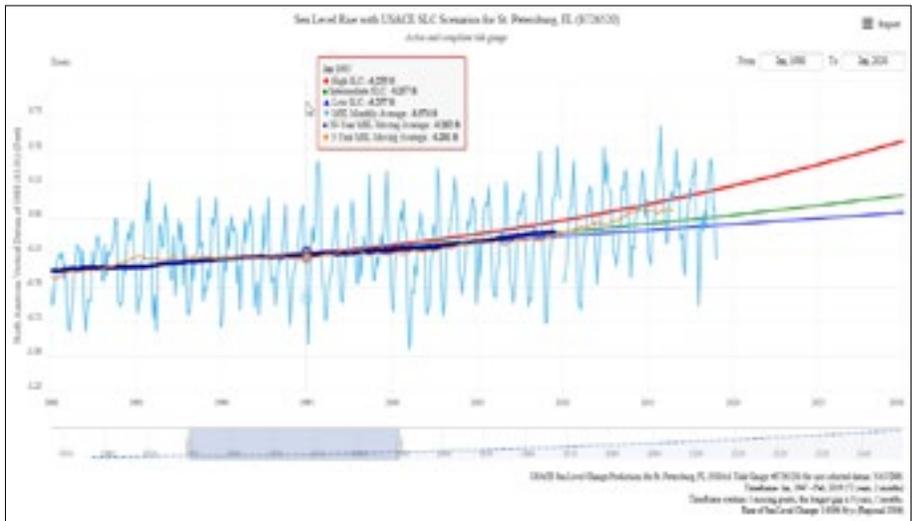
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



FLORIDA

STATE: **FL, Florida**

Gauge: **Trident Pier**

Datum: NAVD88

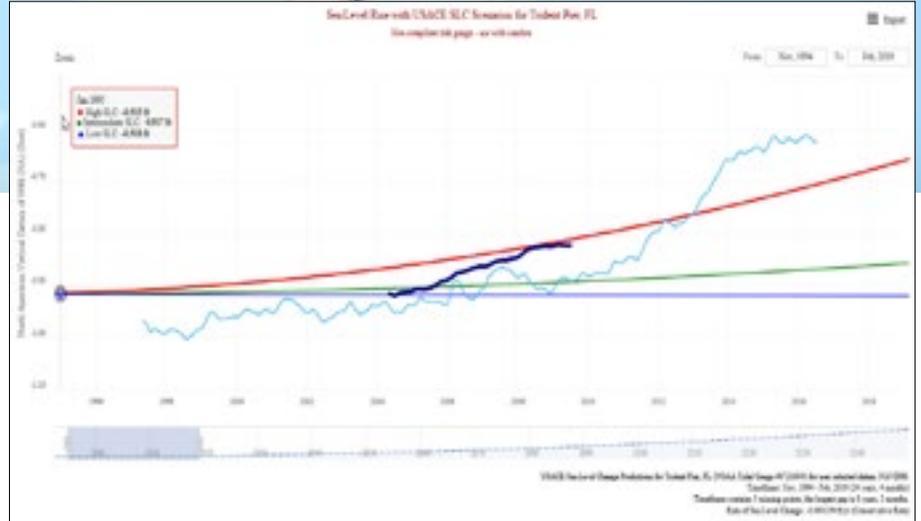
SHORT RECORD

INTERRUPTED RECORD

Non-compliant tide gauge – use with caution

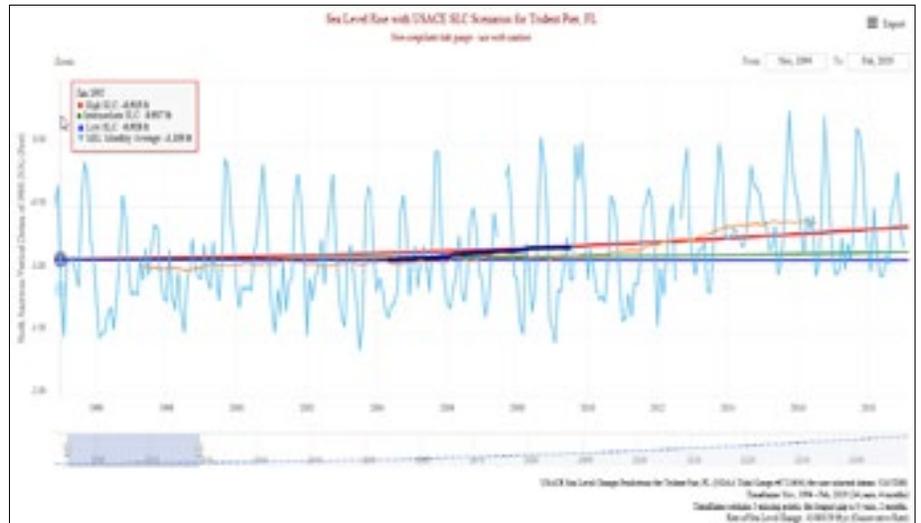
1

19-year midpoint moving average
5-year MSL midpoint moving average



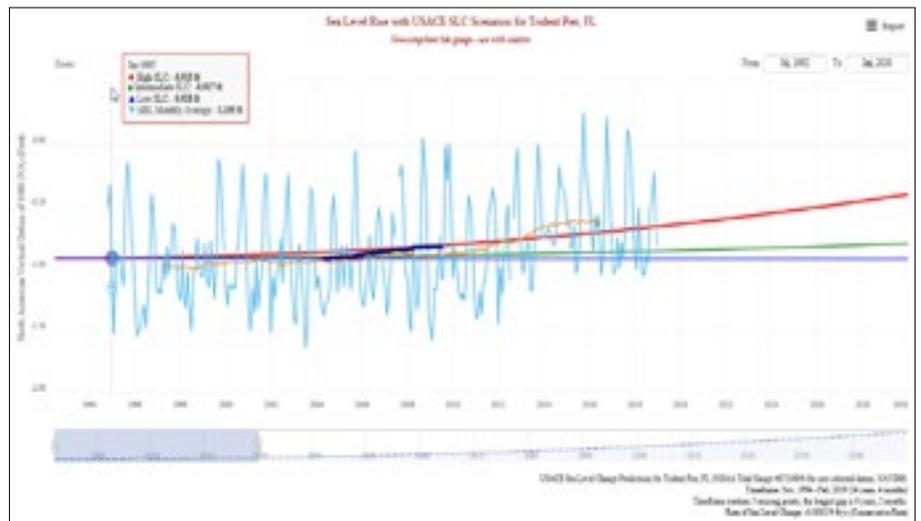
2

19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3

19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

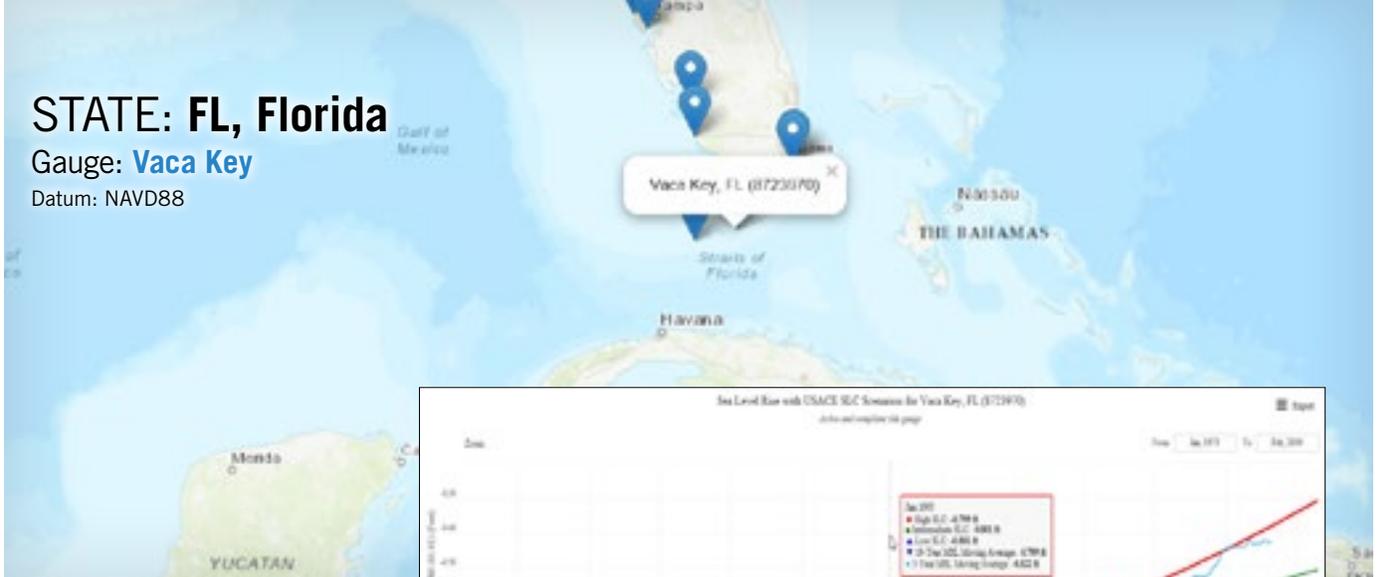


FLORIDA

STATE: **FL, Florida**

Gauge: **Vaca Key**

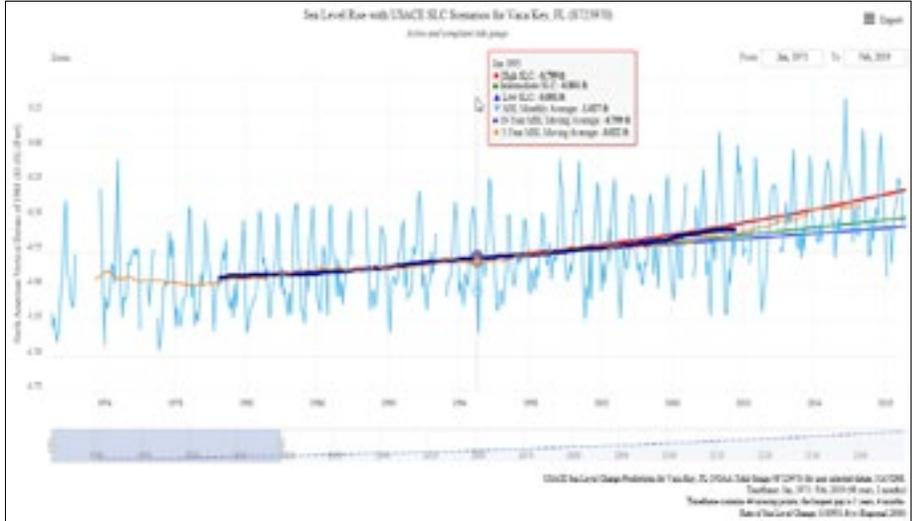
Datum: NAVD88



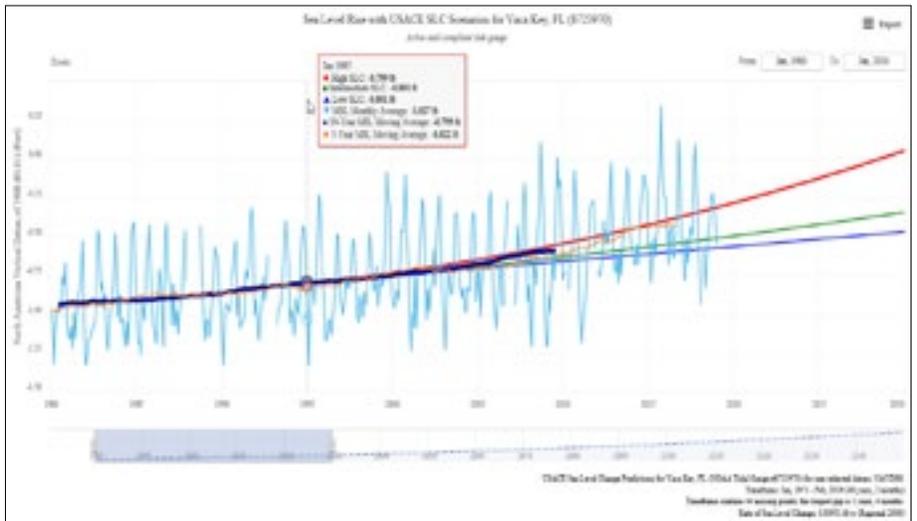
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



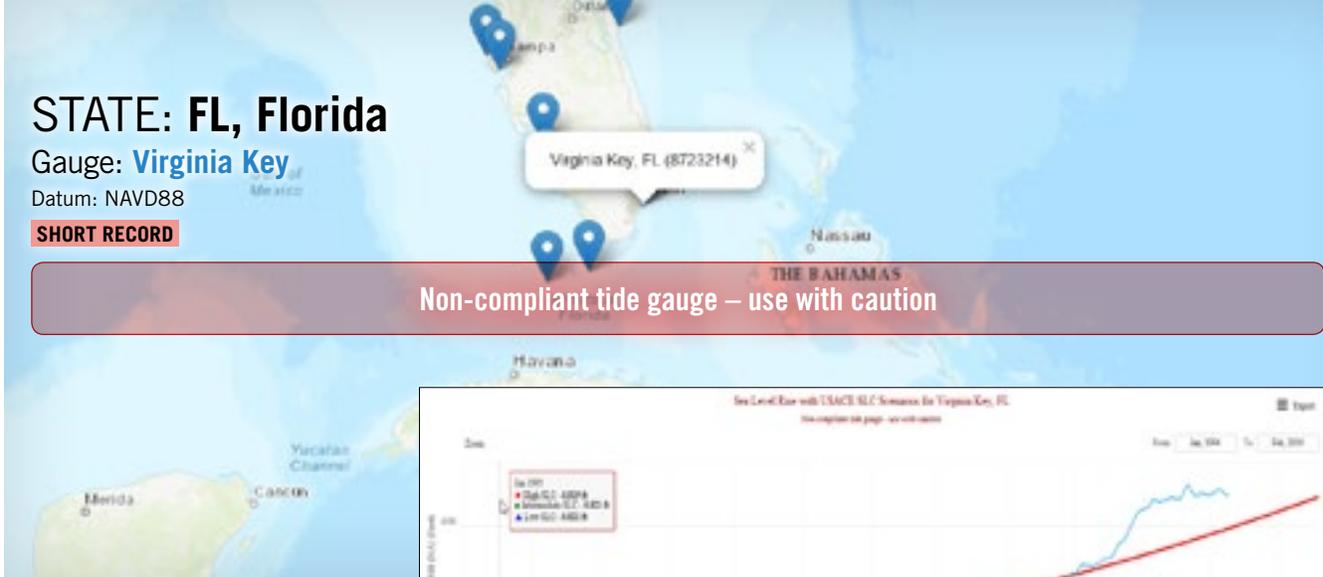
STATE: FL, Florida

Gauge: **Virginia Key**

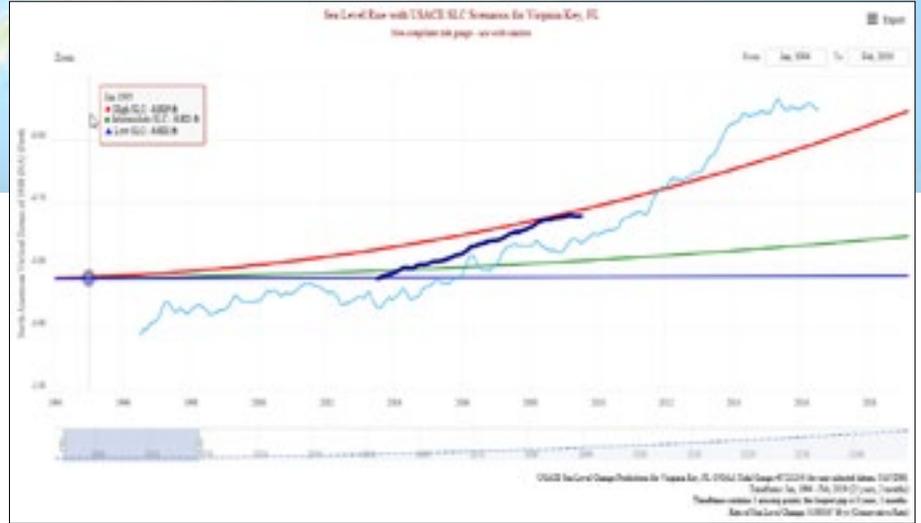
Datum: NAVD88

SHORT RECORD

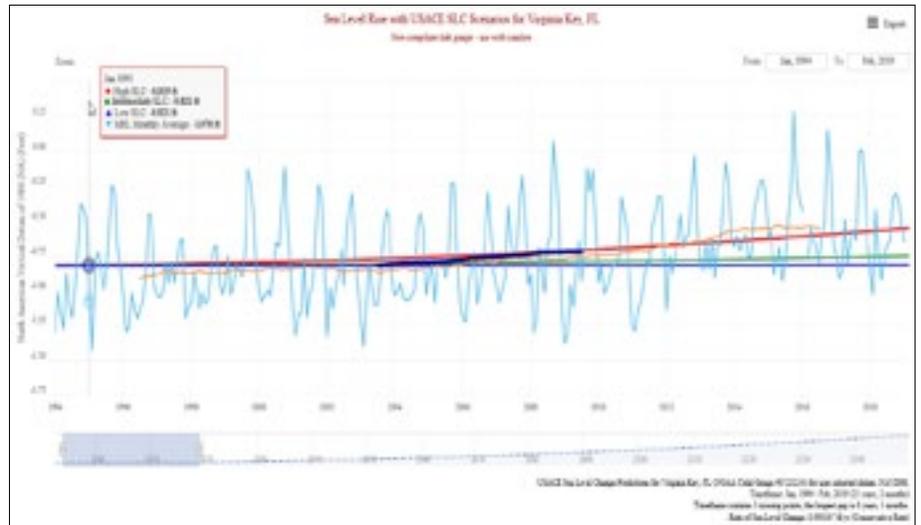
Non-compliant tide gauge – use with caution



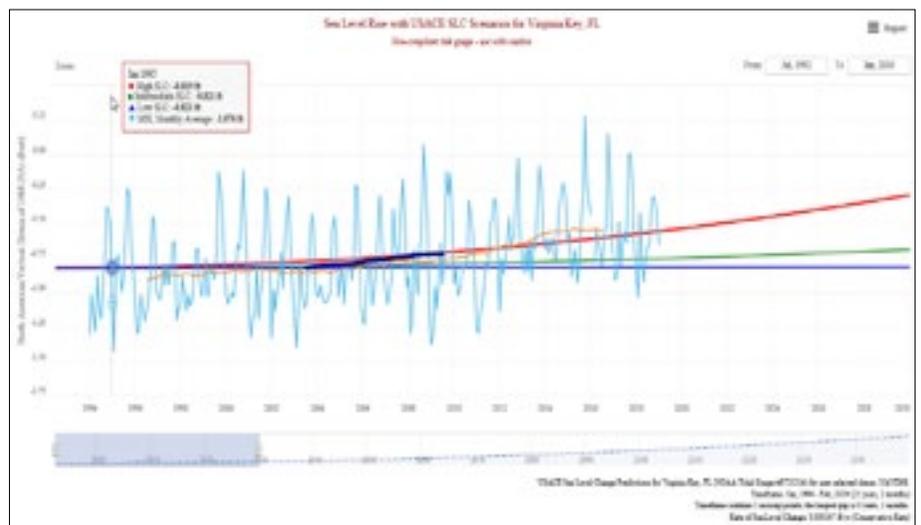
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

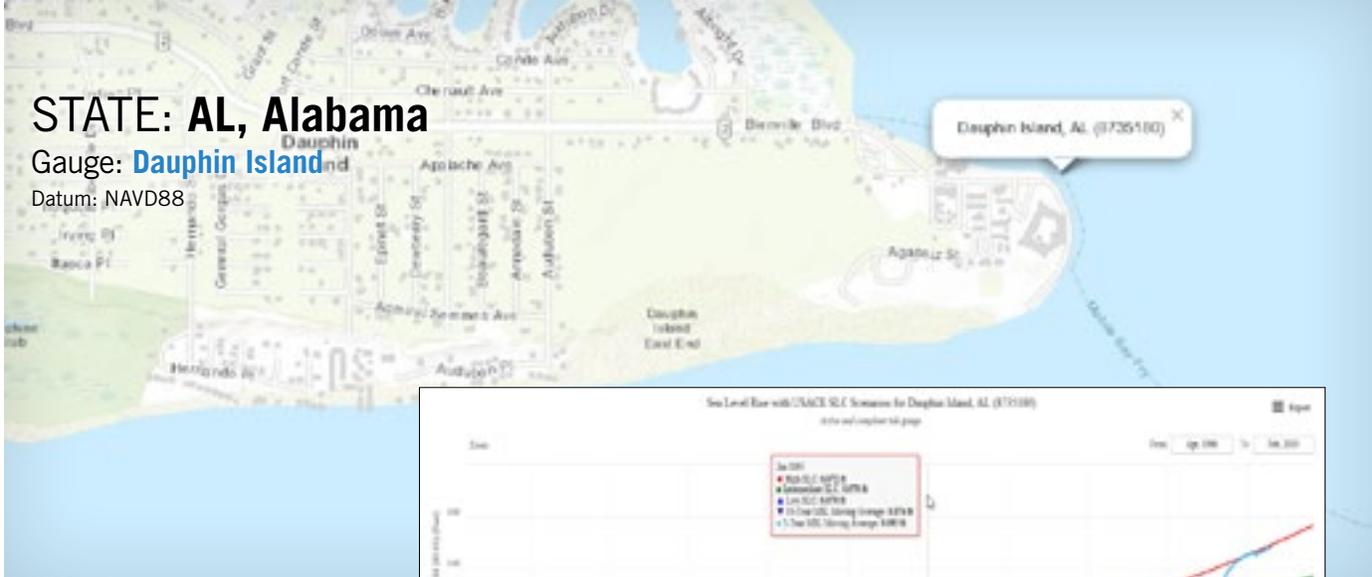


ALABAMA

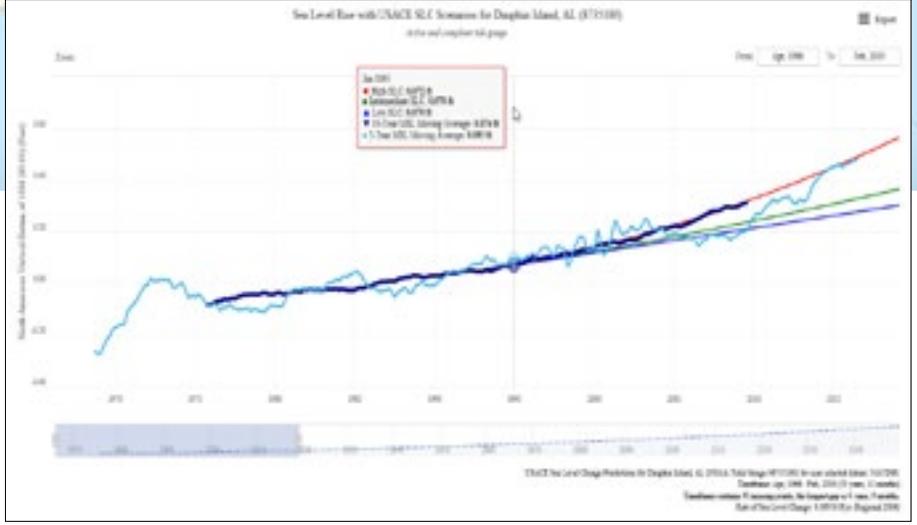
STATE: **AL, Alabama**

Gauge: **Dauphin Island**

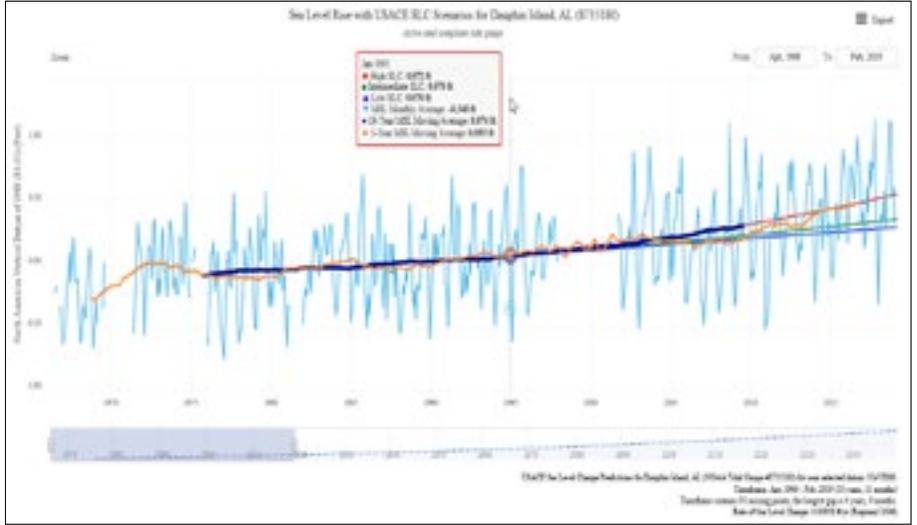
Datum: NAVD88



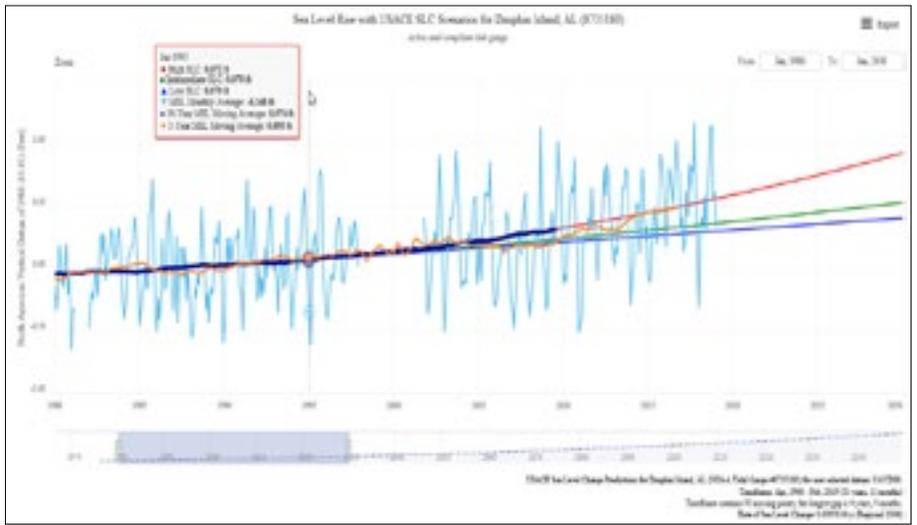
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



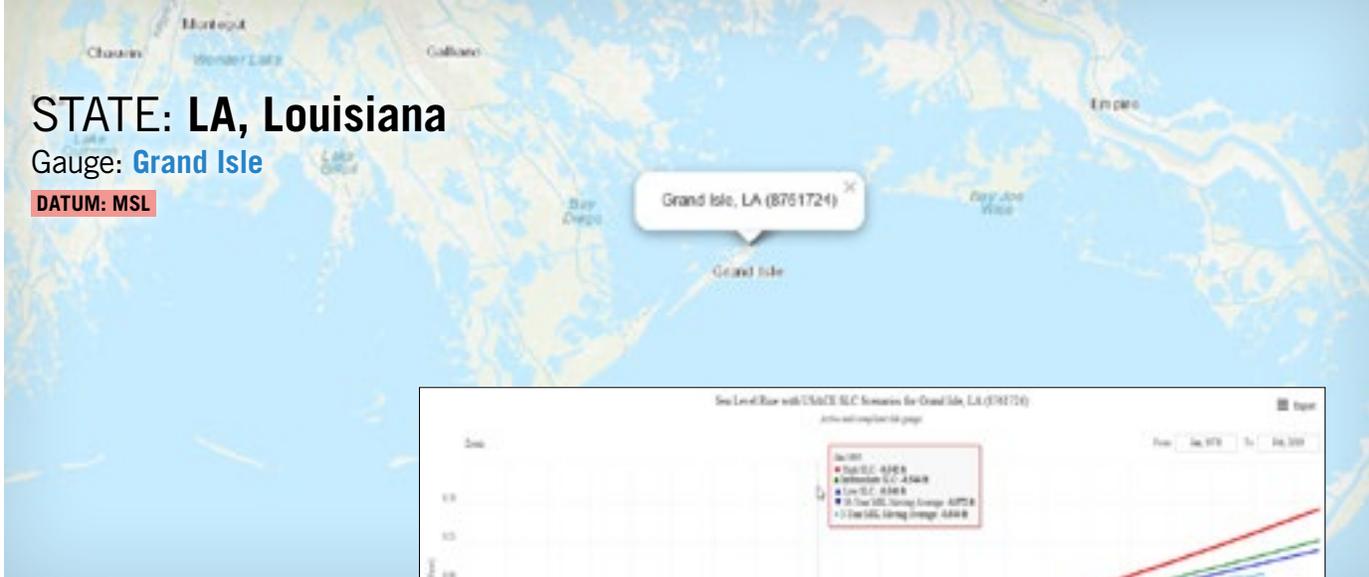
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



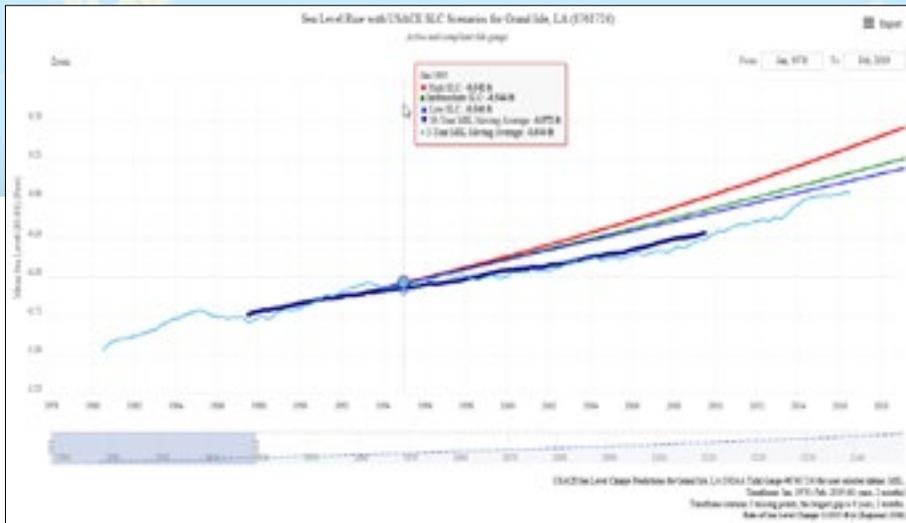
STATE: LA, Louisiana

Gauge: **Grand Isle**

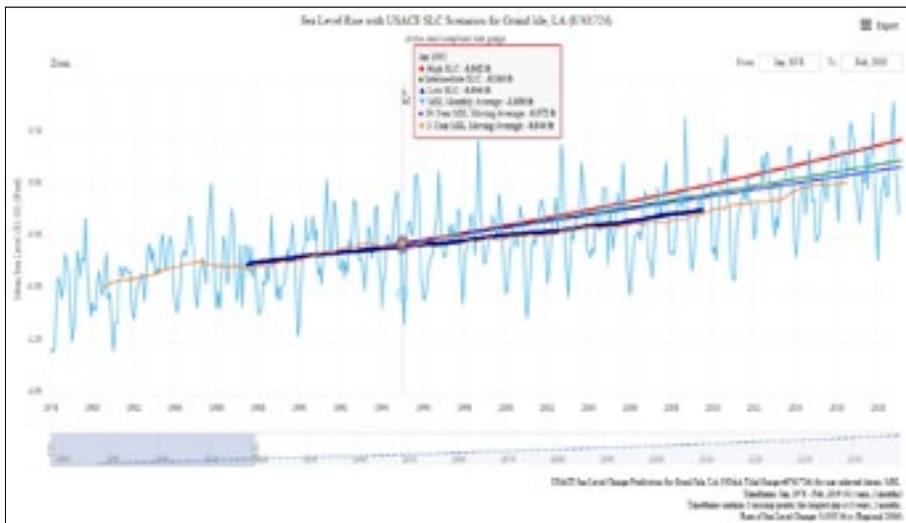
DATUM: **MSL**



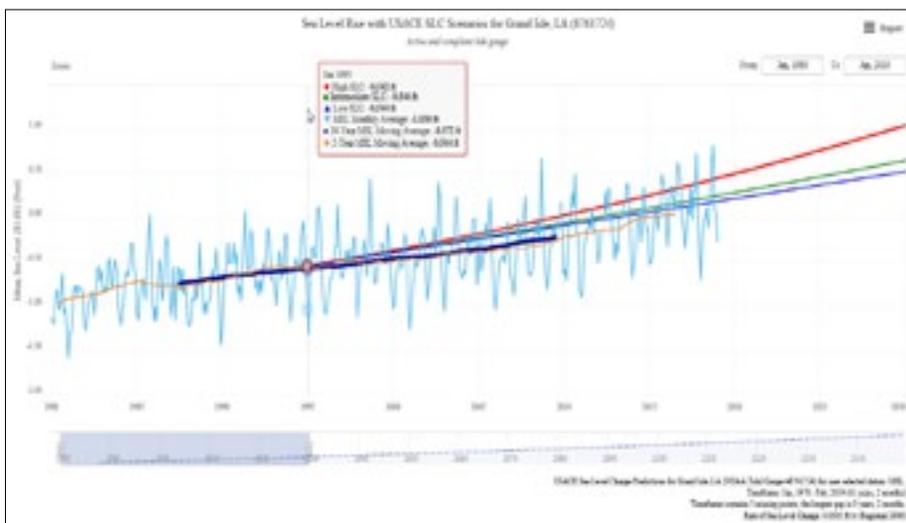
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



STATE: TX, Texas

Gauge: **Freeport**

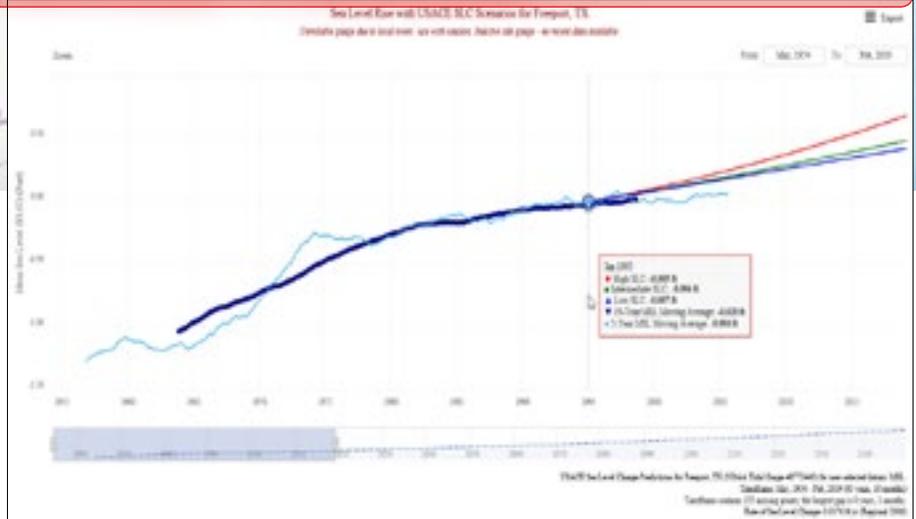
DATUM: **MSL**

Unreliable gauge due to local event – use with caution

Inactive tide gauge – no recent data available

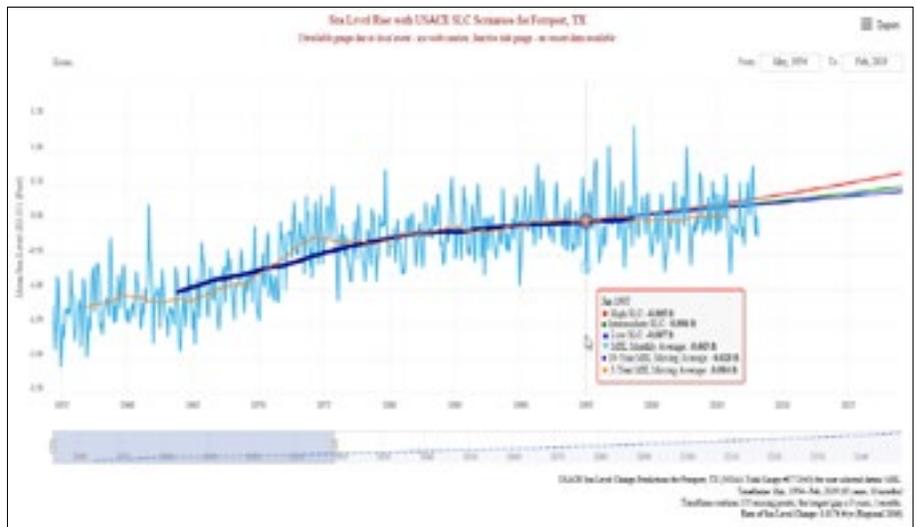
1

19-year midpoint moving average
5-year MSL midpoint moving average



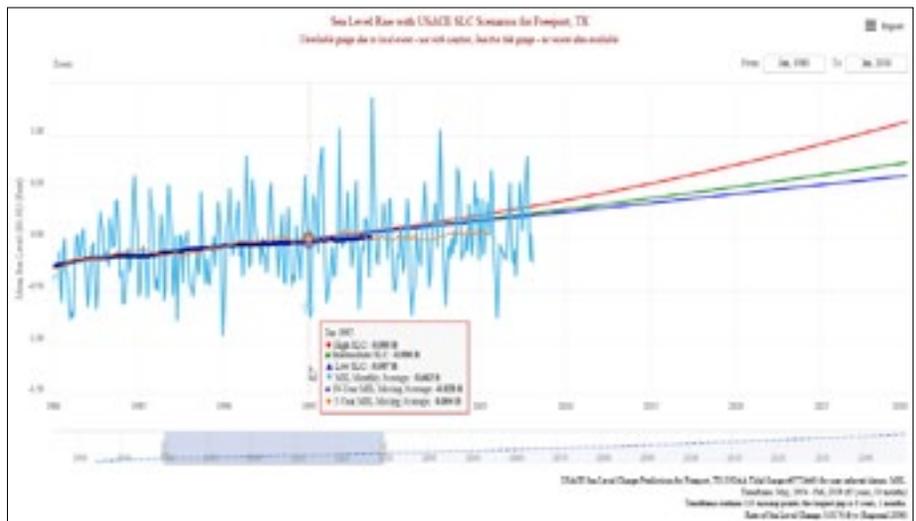
2

19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3

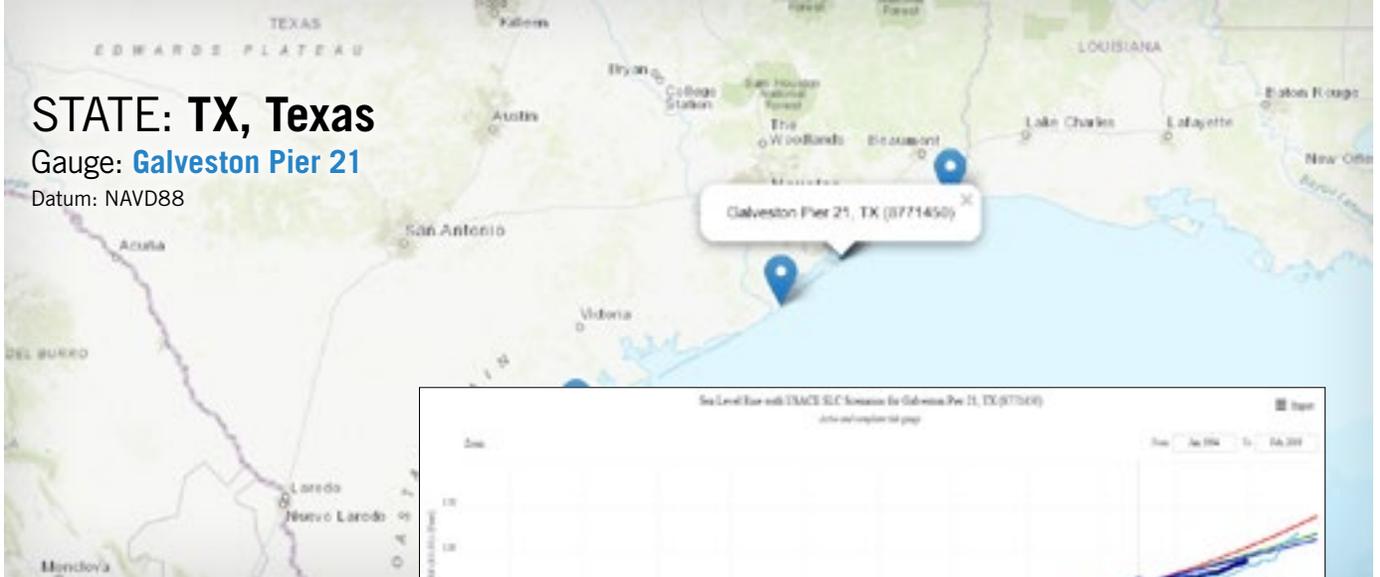
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



STATE: TX, Texas

Gauge: **Galveston Pier 21**

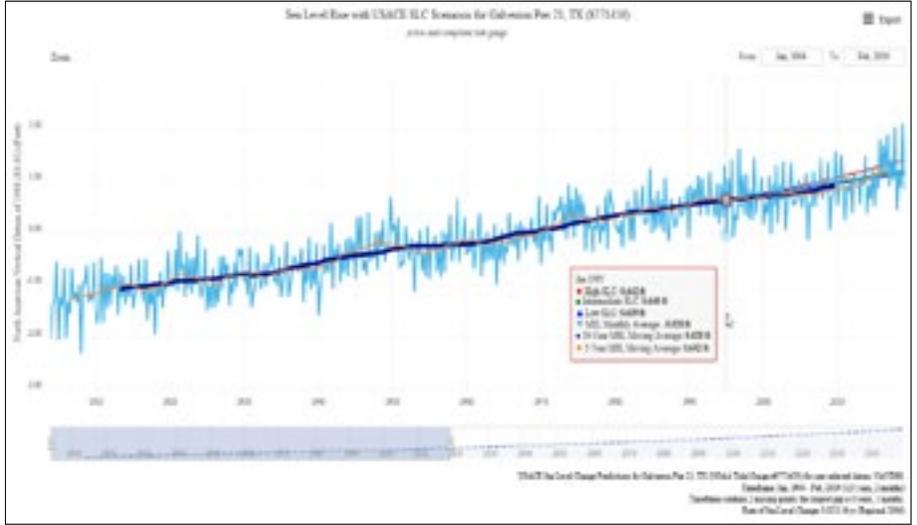
Datum: NAVD88



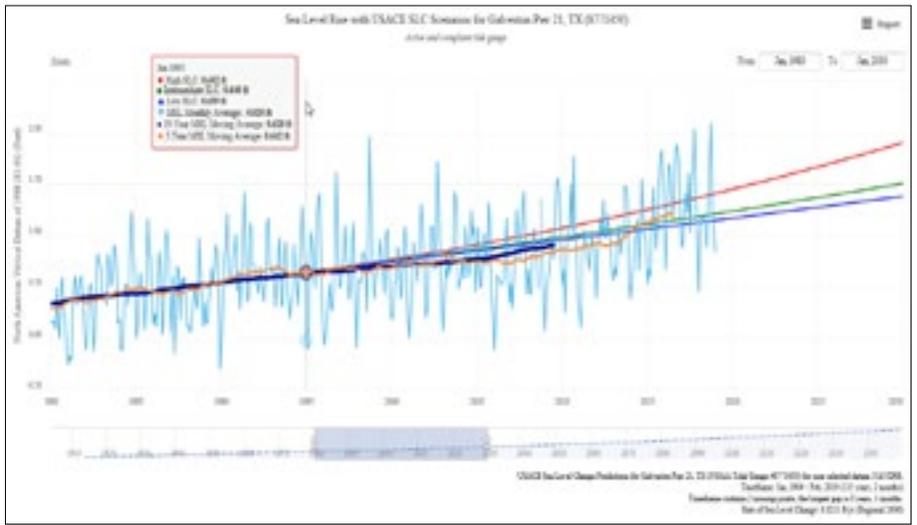
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

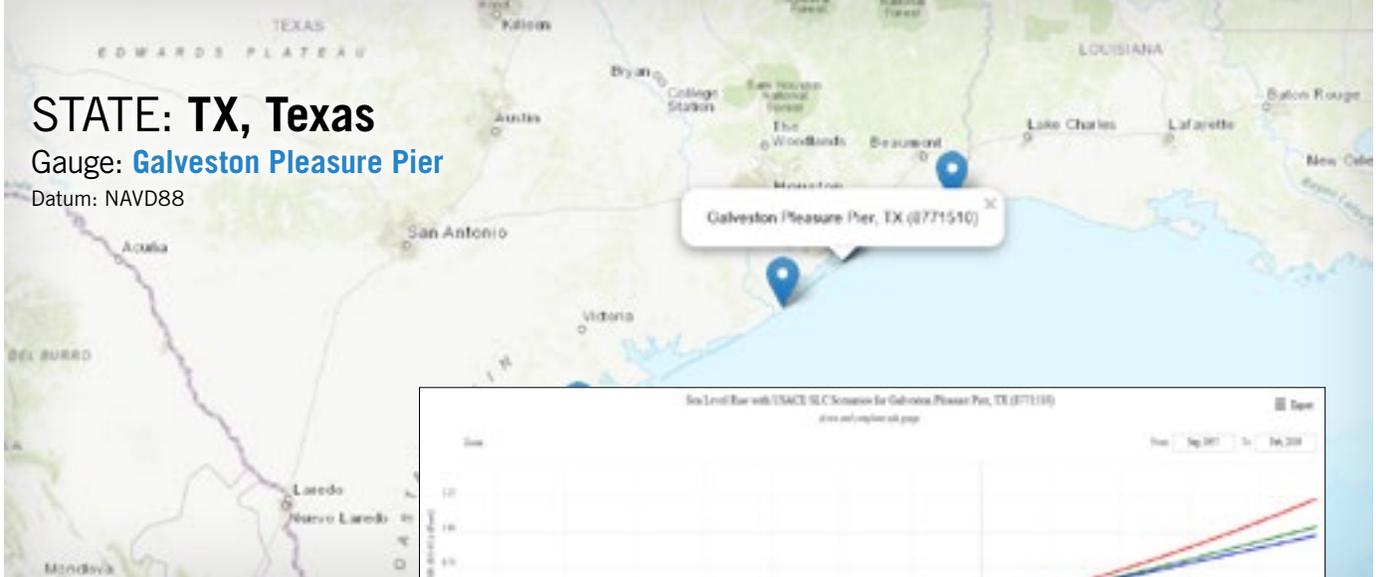


TEXAS

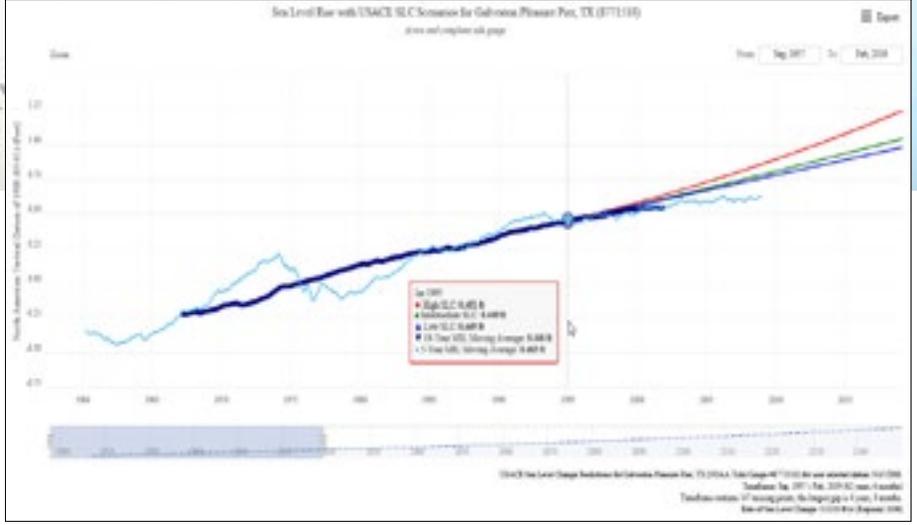
STATE: TX, Texas

Gauge: **Galveston Pleasure Pier**

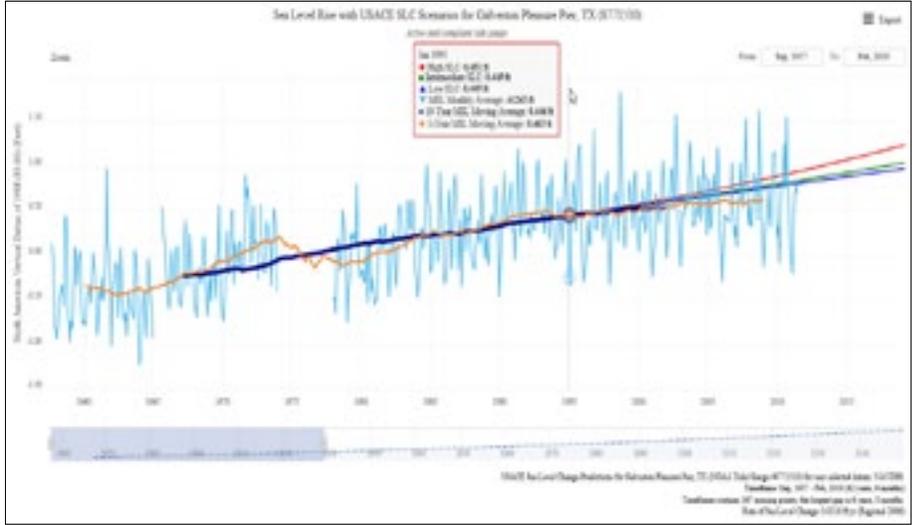
Datum: NAVD88



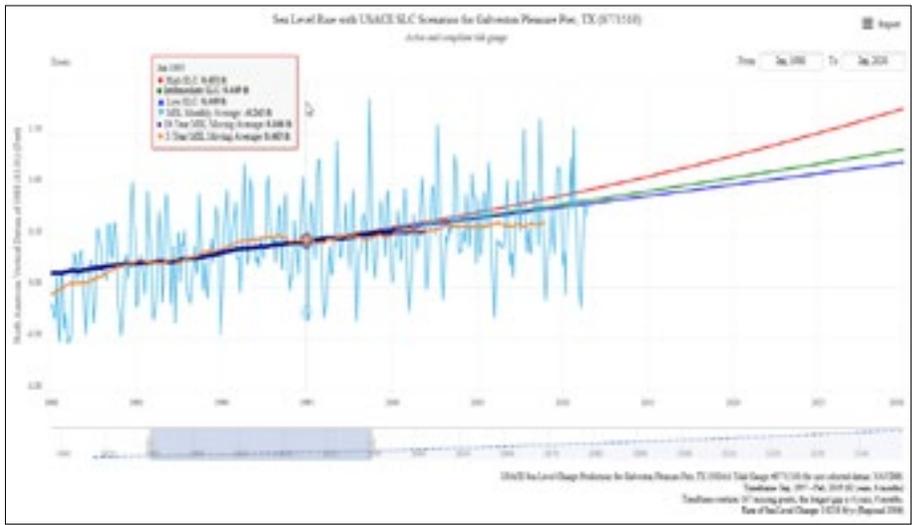
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



STATE: TX, Texas

Gauge: Padre Island

Datum: NAVD88

INTERRUPTED RECORD

Non-compliant tide gauge – use with caution

Inactive tide gauge – no recent data available

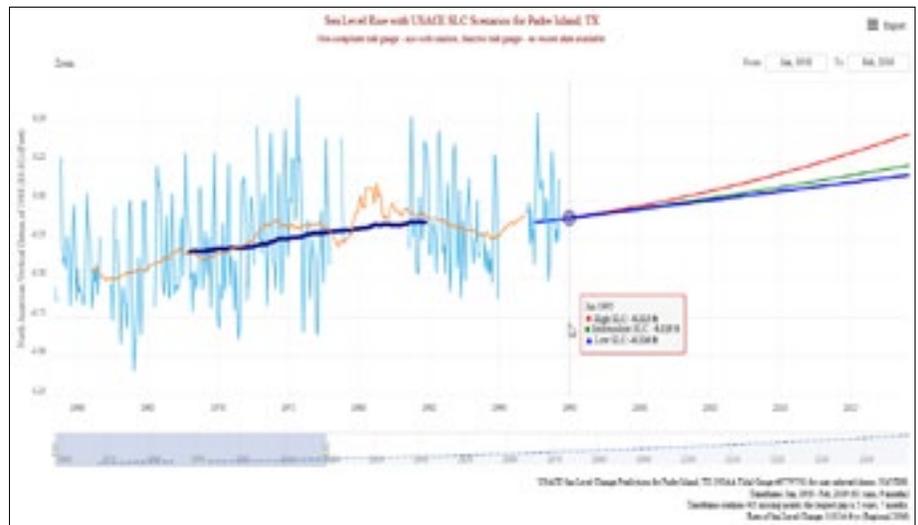
1

19-year midpoint moving average
5-year MSL midpoint moving average



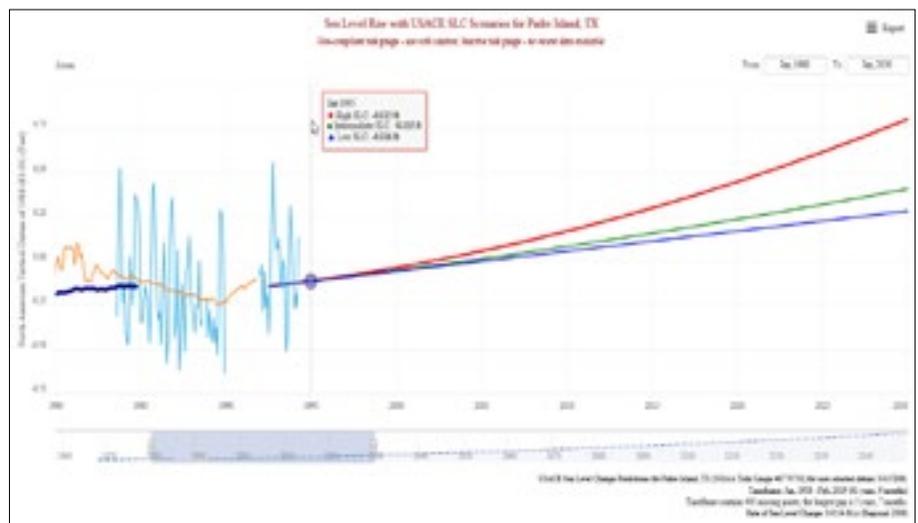
2

19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3

19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

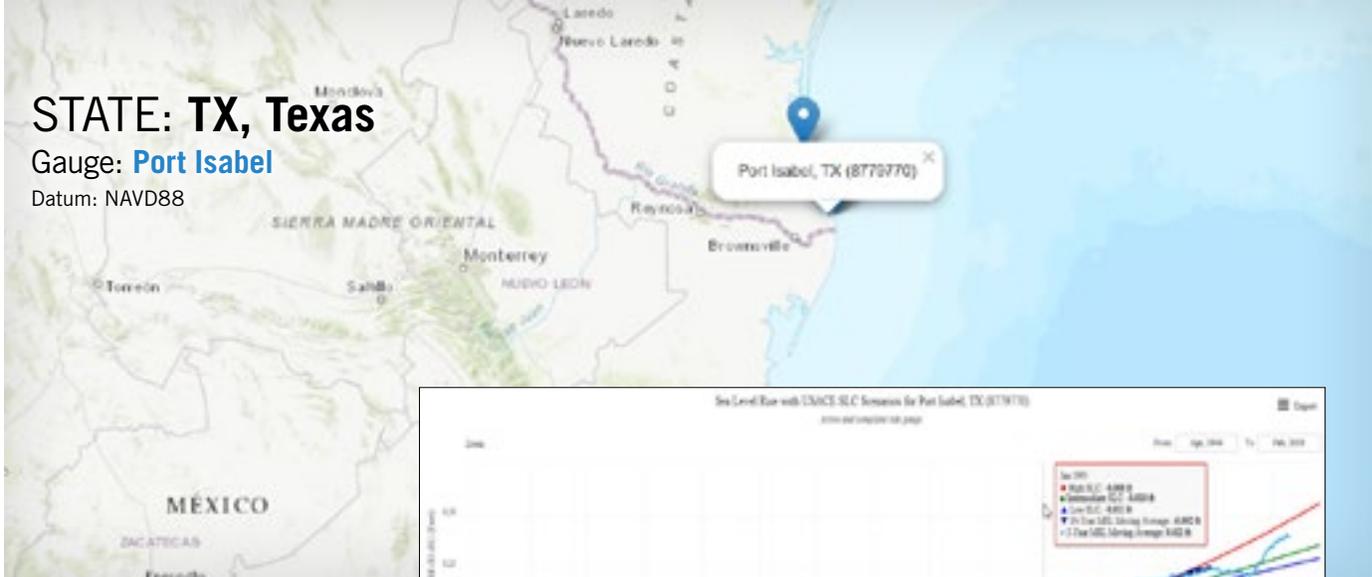


TEXAS

STATE: TX, Texas

Gauge: Port Isabel

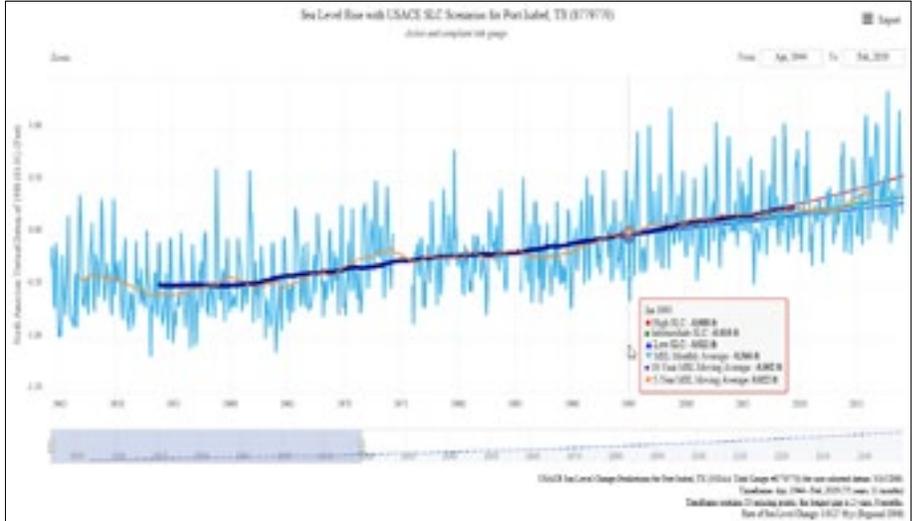
Datum: NAVD88



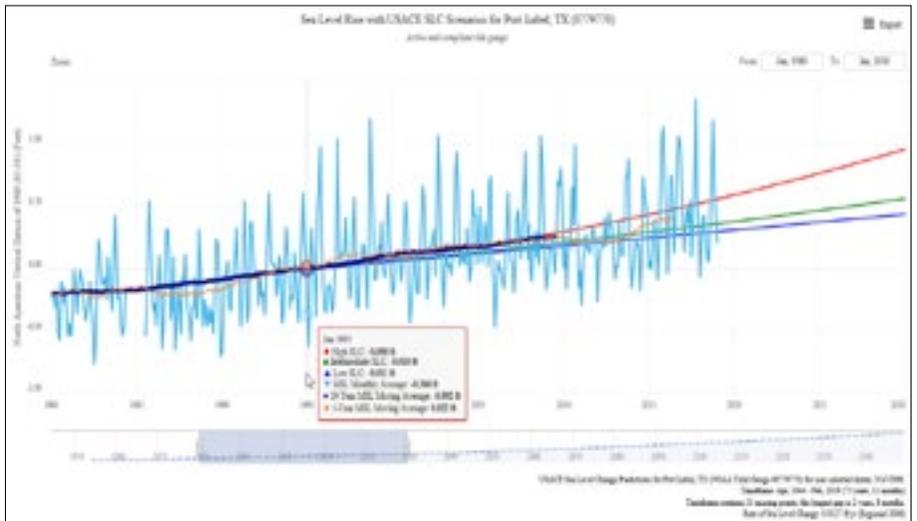
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

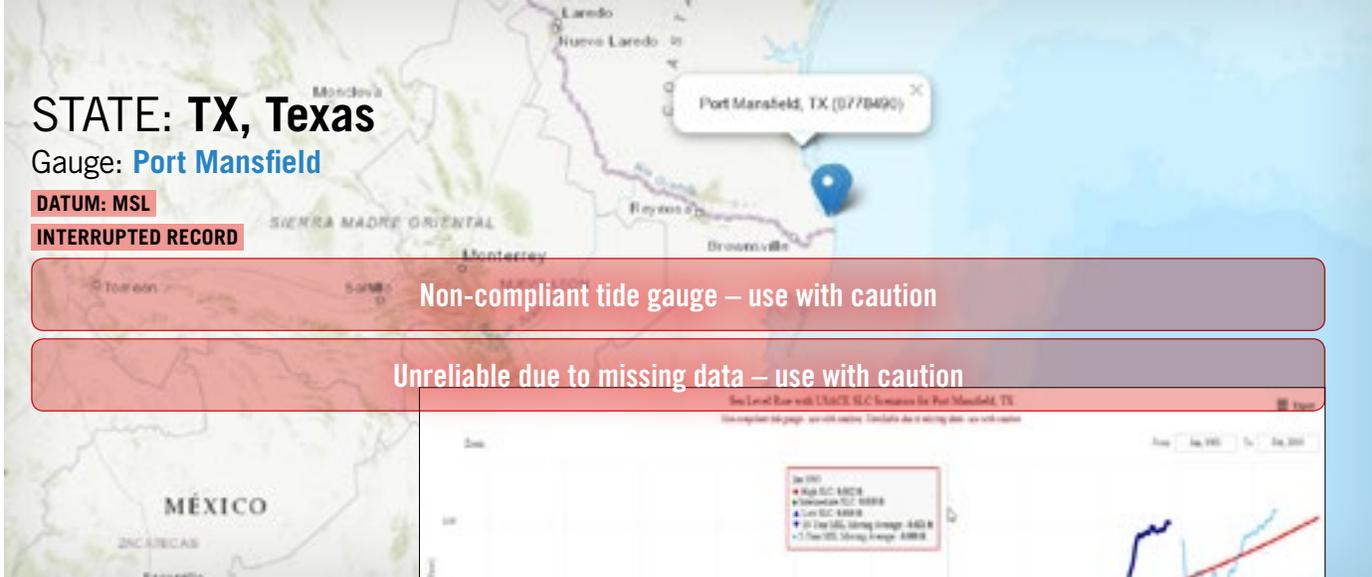


STATE: **TX, Texas**

Gauge: **Port Mansfield**

DATUM: **MSL**

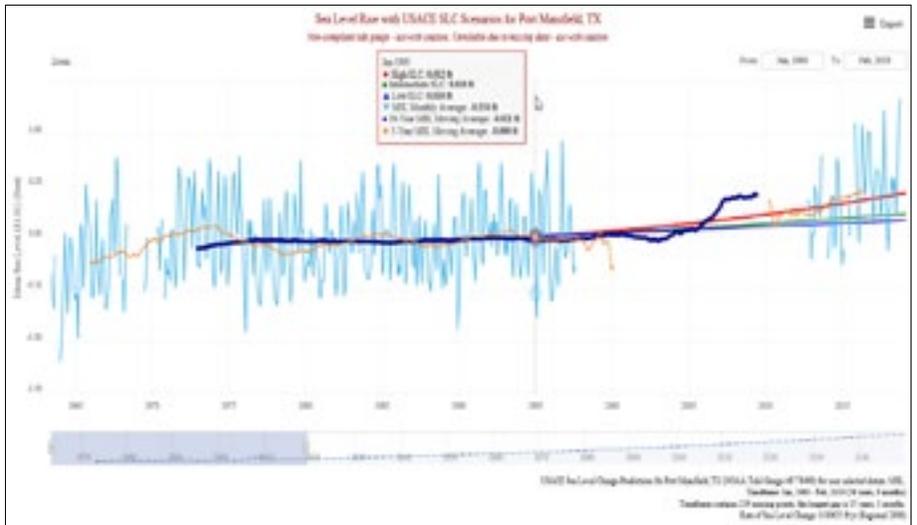
INTERRUPTED RECORD



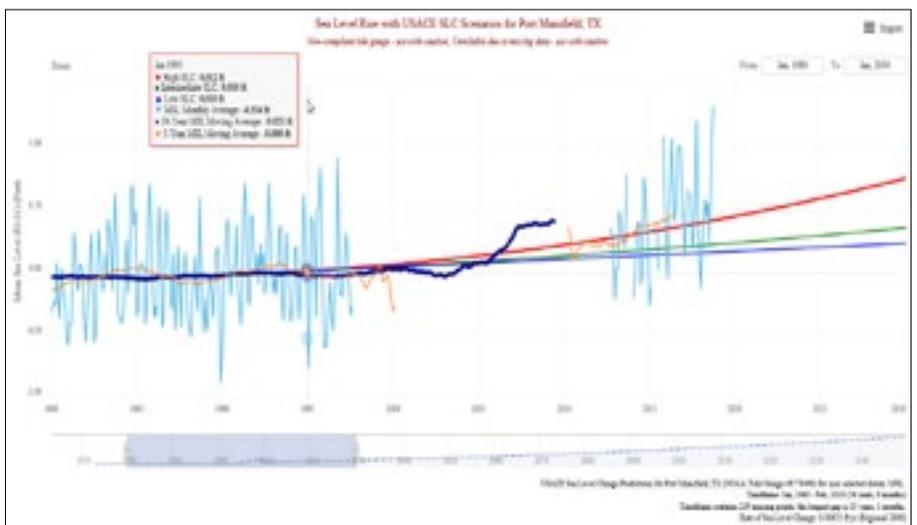
1
 19-year midpoint moving average
 5-year MSL midpoint moving average



2
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values



3
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values
 From January 1980 To January 2030



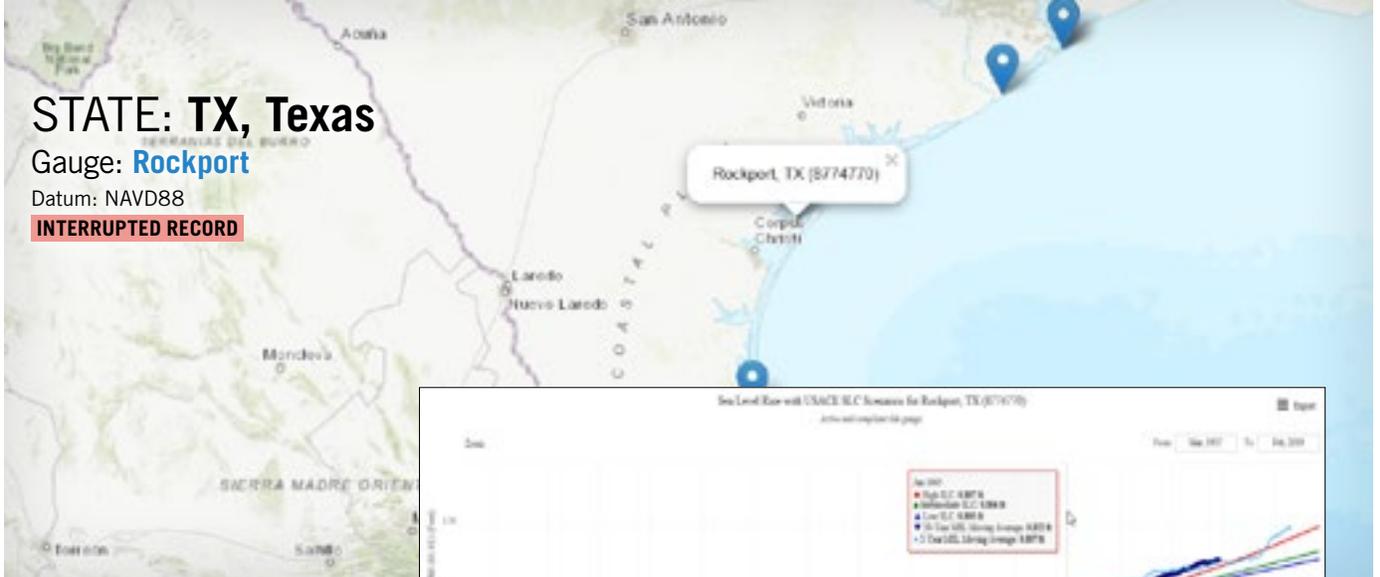
TEXAS

STATE: TX, Texas

Gauge: **Rockport**

Datum: NAVD88

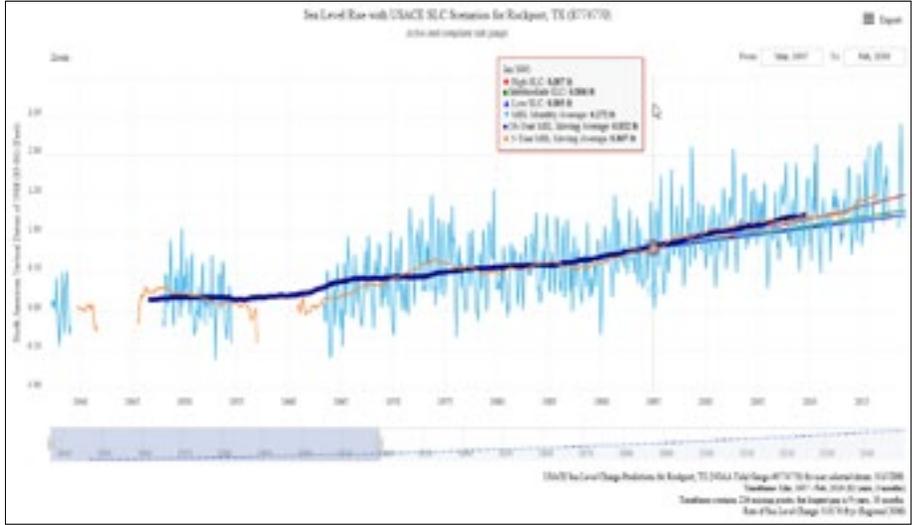
INTERRUPTED RECORD



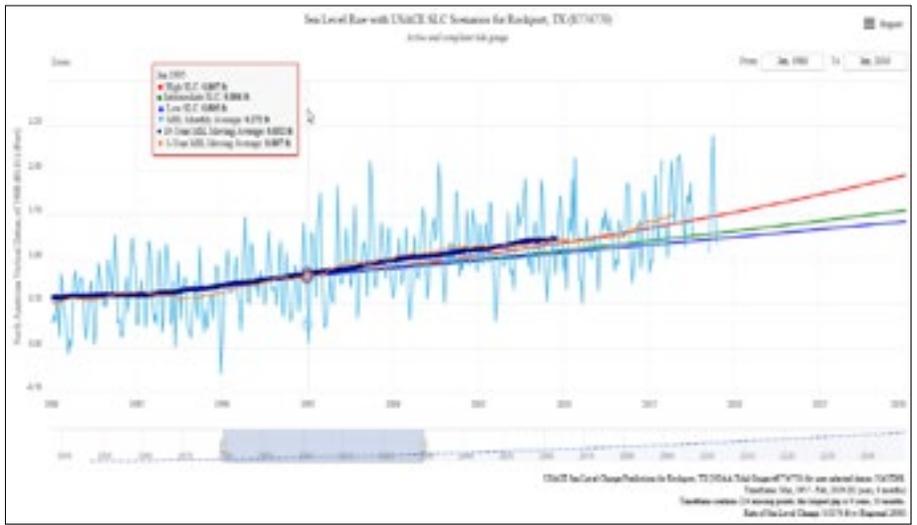
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



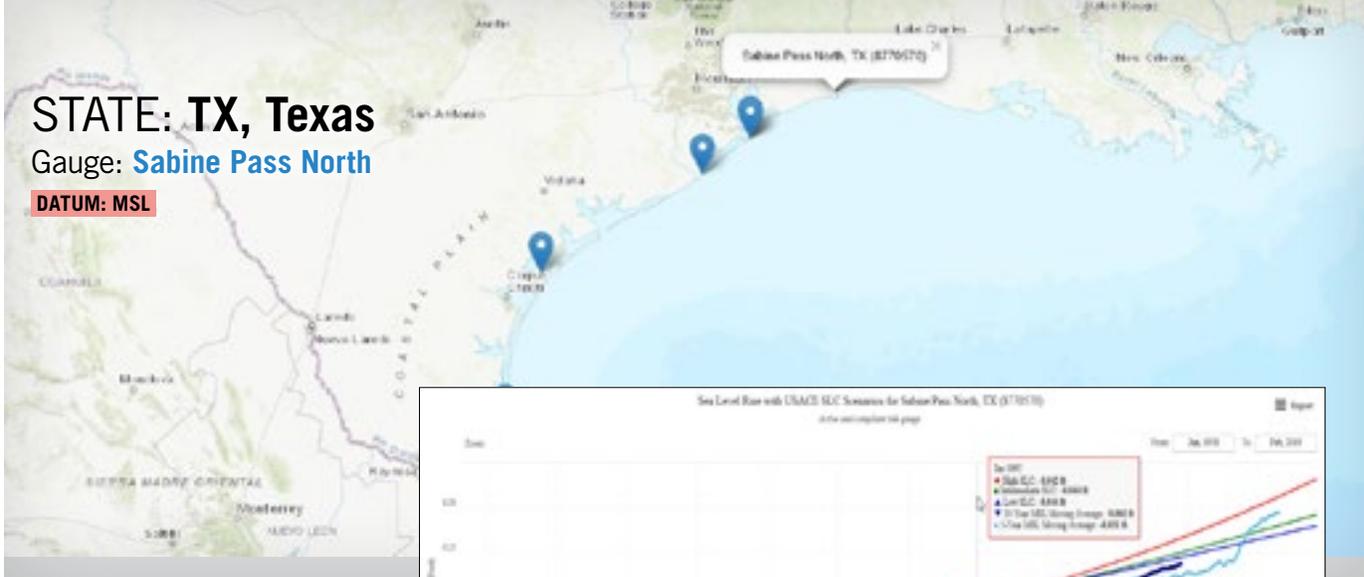
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



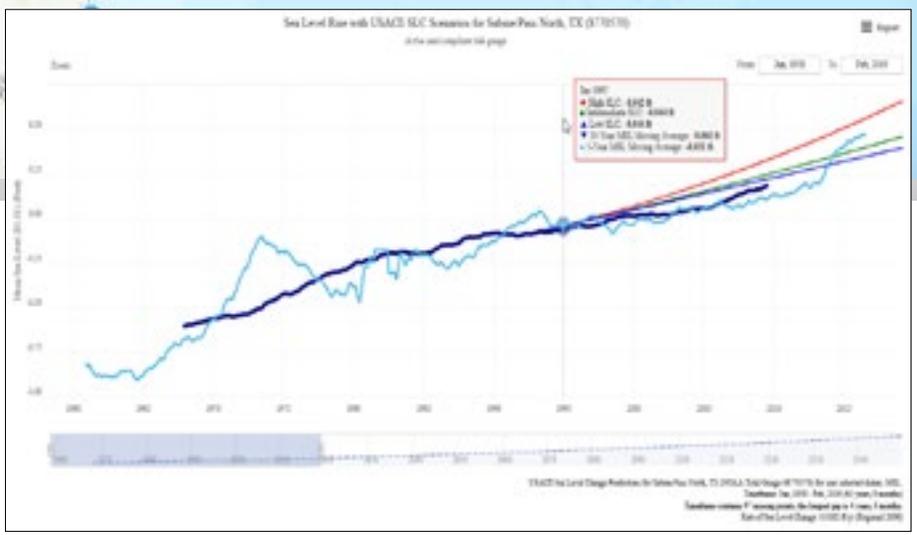
STATE: TX, Texas

Gauge: Sabine Pass North

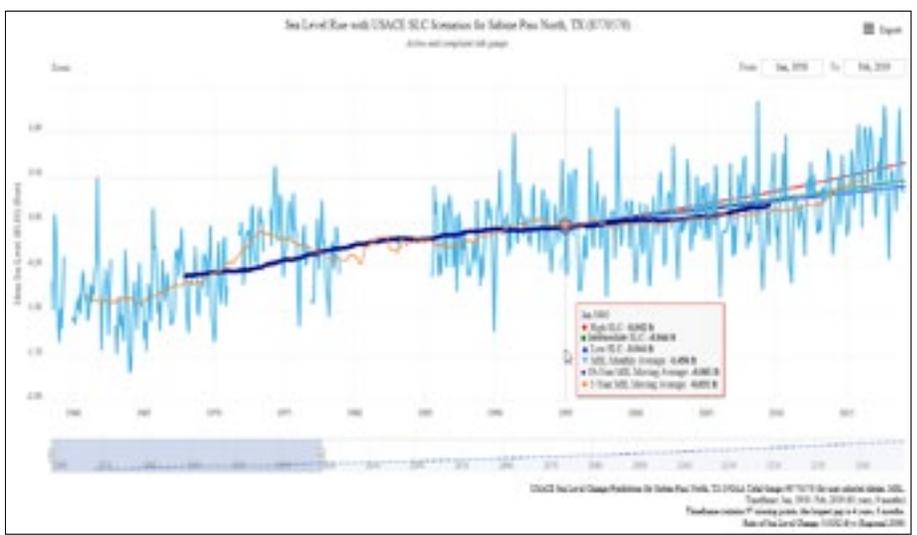
DATUM: MSL



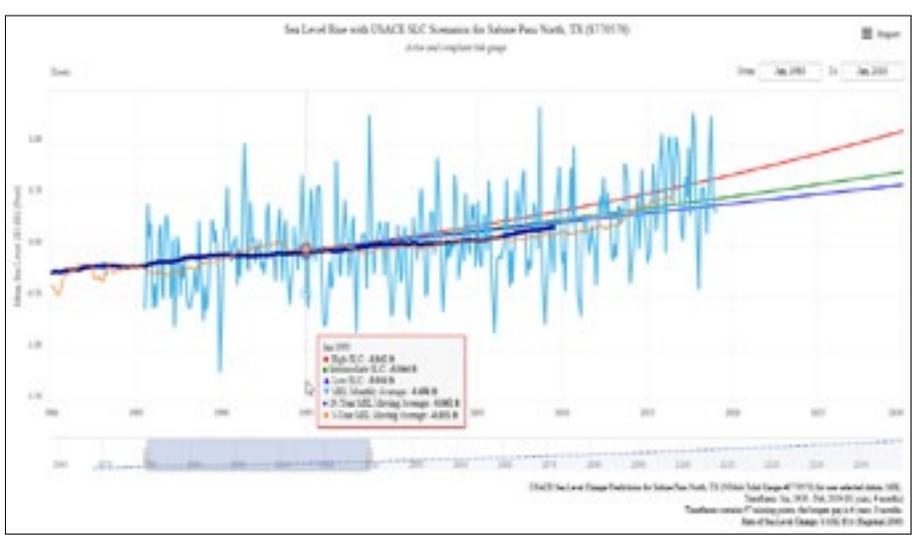
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



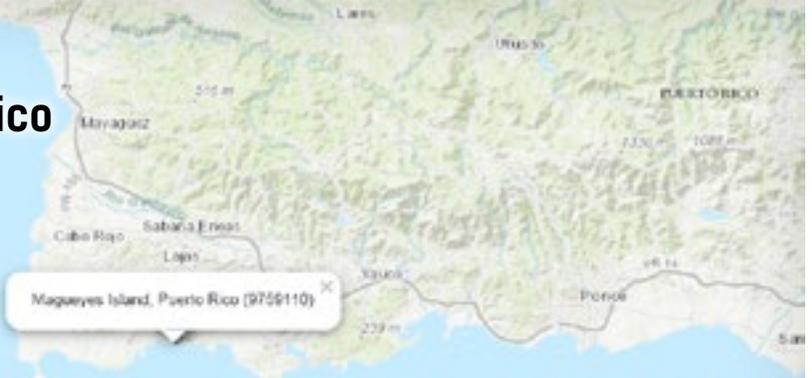
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



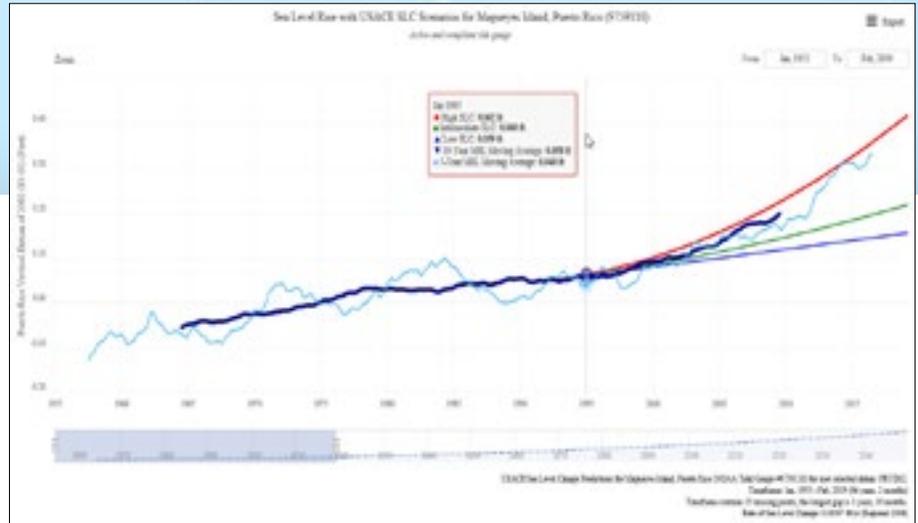
U.S. TERRITORY: Puerto Rico

Gauge: **Magueyes Island**

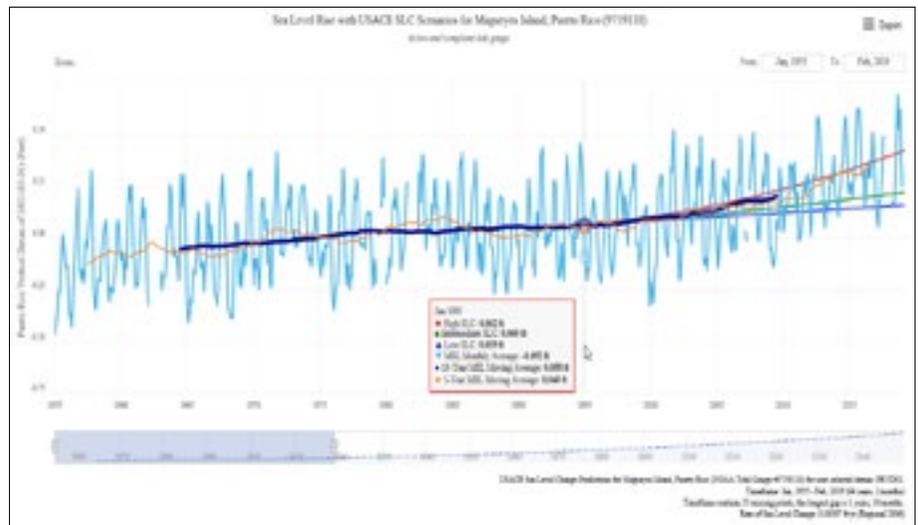
DATUM: **PRVD02**



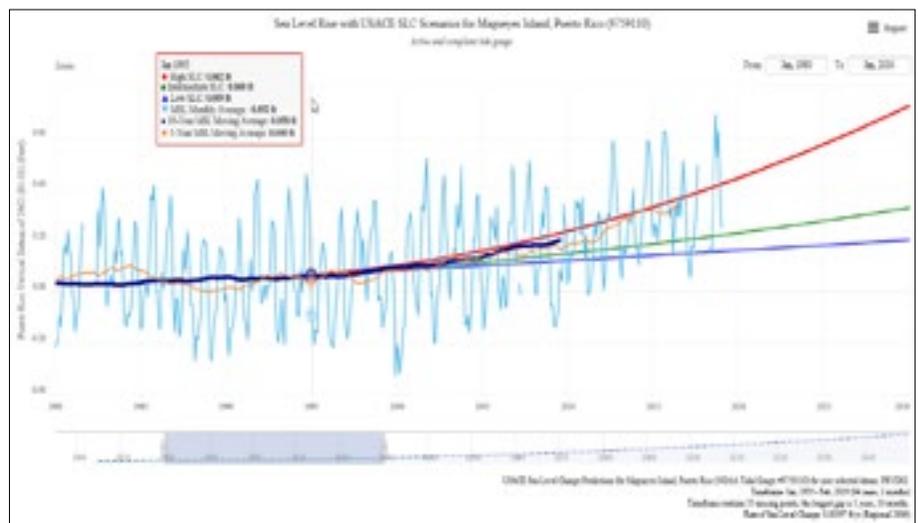
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



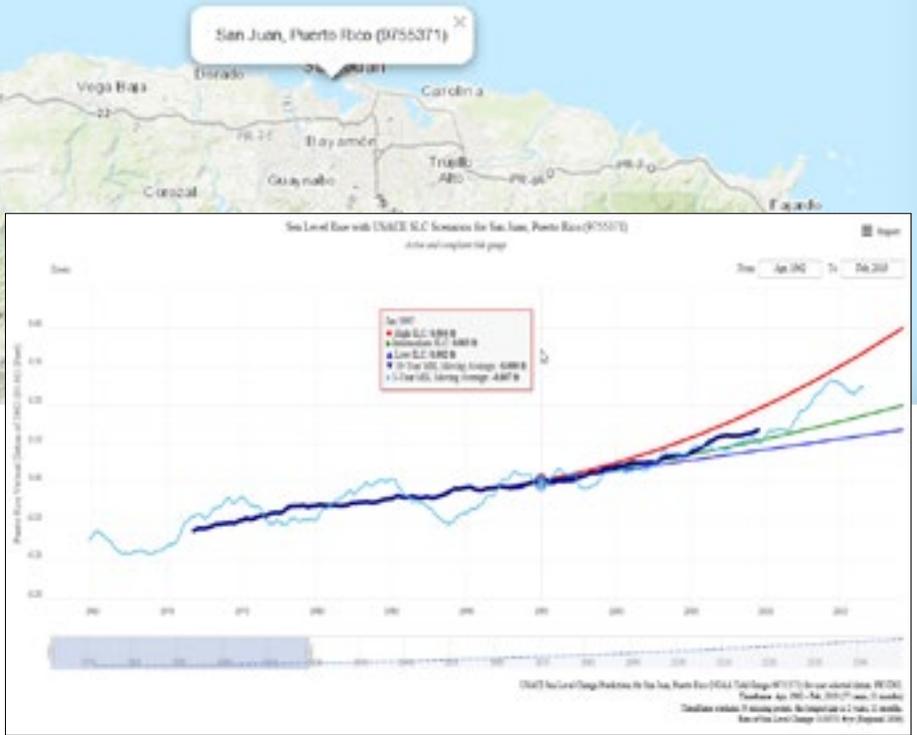
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



U.S. TERRITORY: Puerto Rico

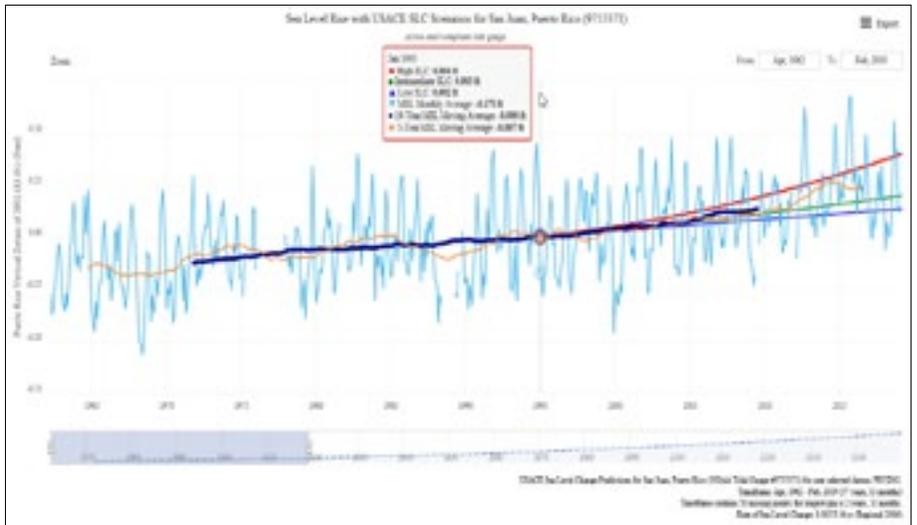
Gauge: **San Juan**

DATUM: **PRVD02**



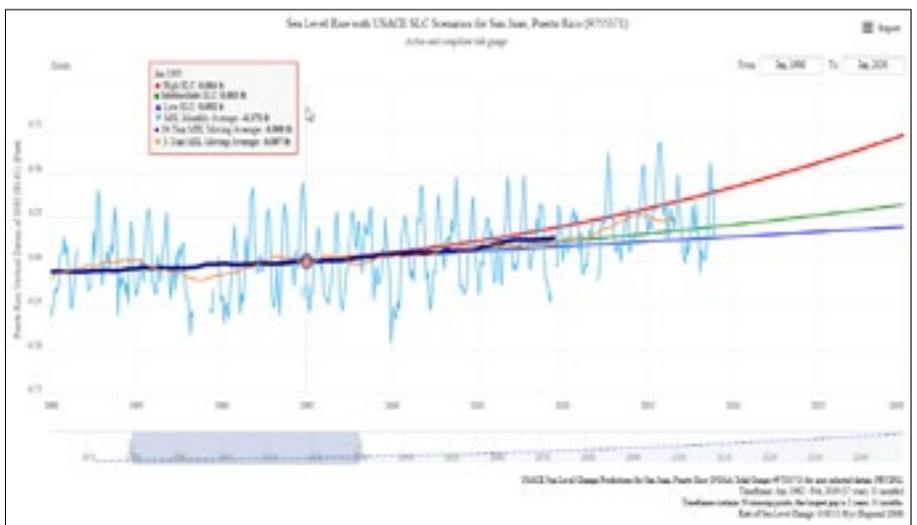
1

19-year midpoint moving average
5-year MSL midpoint moving average



2

19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



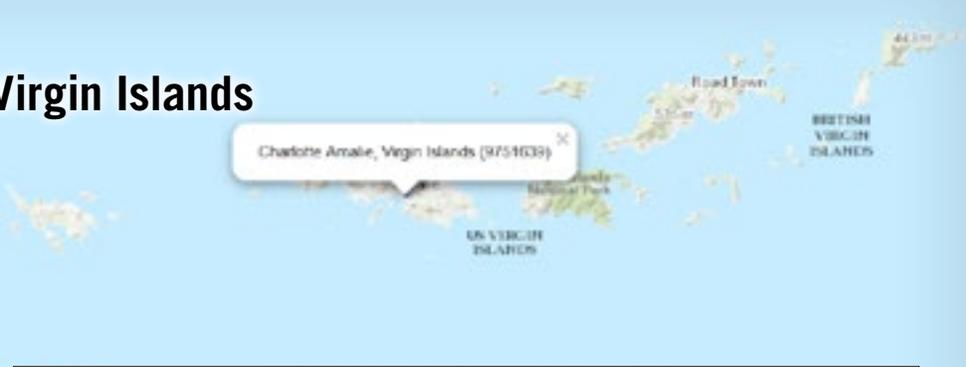
3

19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

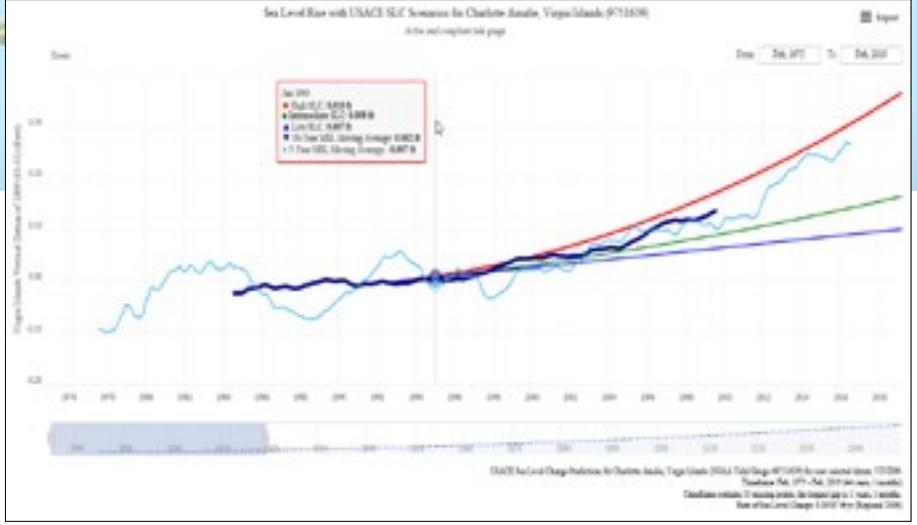
U.S. TERRITORY: Virgin Islands

Gauge: **Charlotte Amalie**

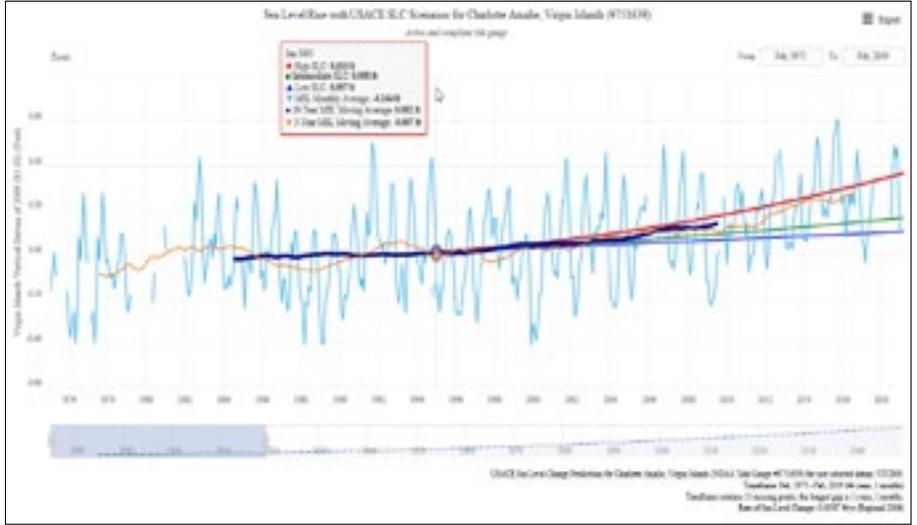
DATUM: **VIVD09**



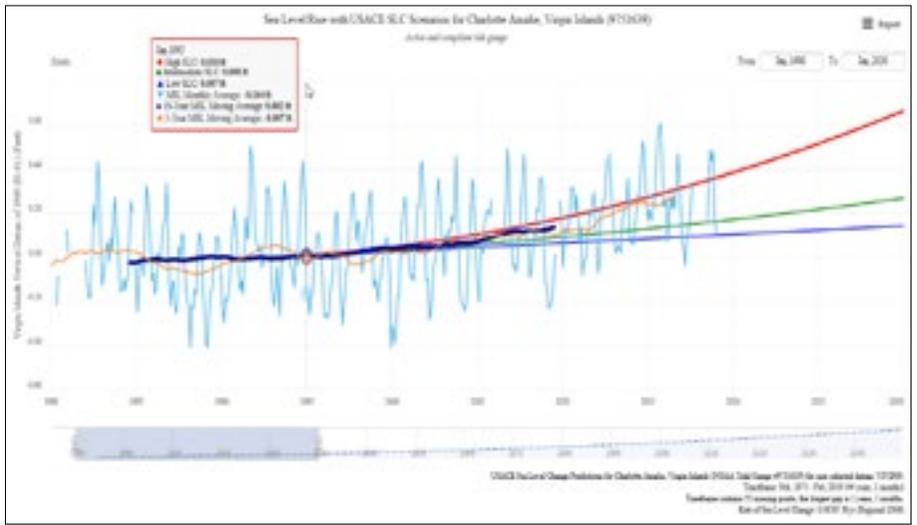
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



U.S. TERRITORY: Virgin Islands

Gauge: **Lime Tree Bay**

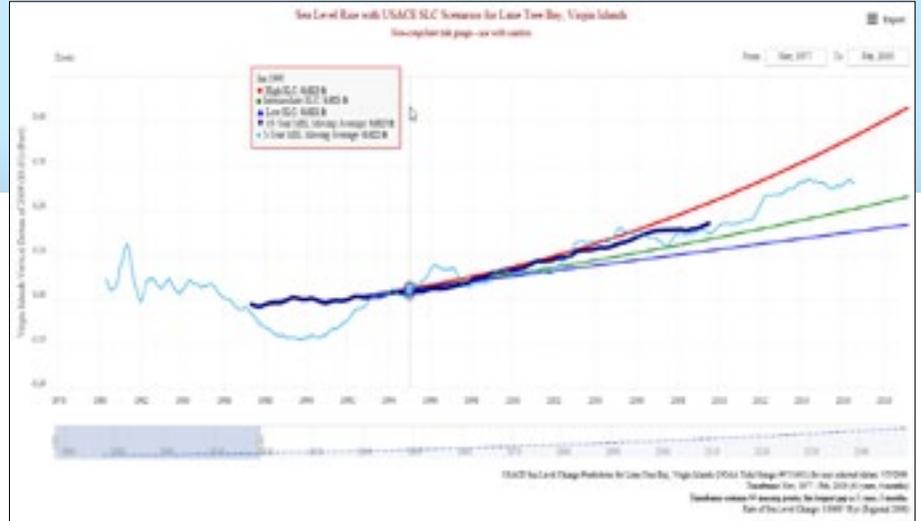
DATUM: **VIVD09**



Non-compliant tide gauge – use with caution

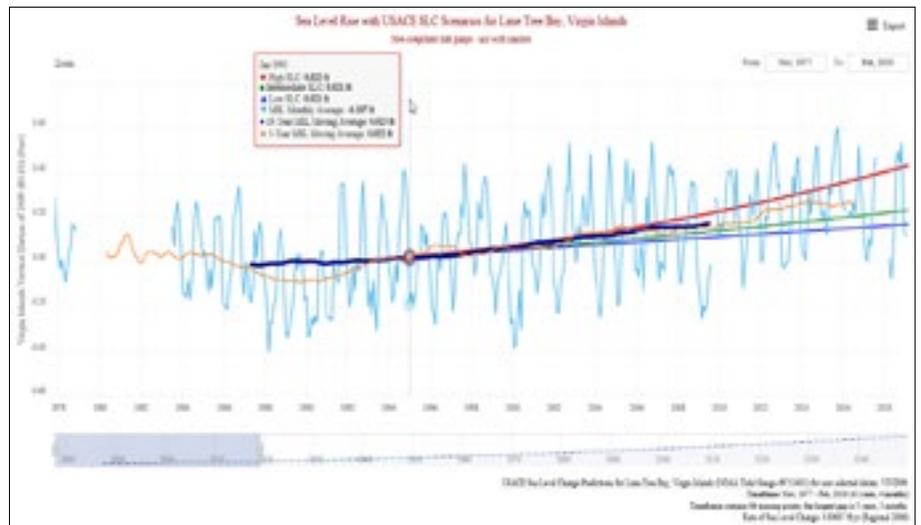
1

19-year midpoint moving average
5-year MSL midpoint moving average



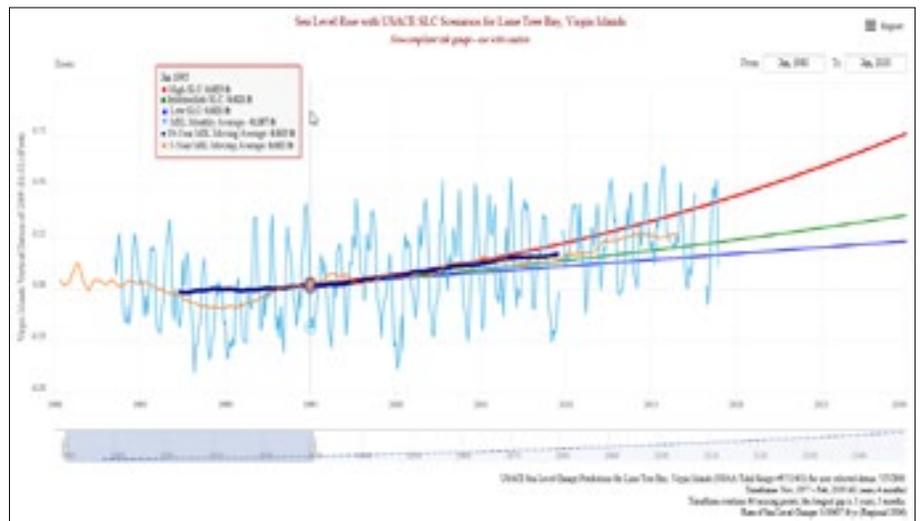
2

19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3

19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



BERMUDA

BRITISH TERRITORY: Bermuda

Gauge: **Bermuda**

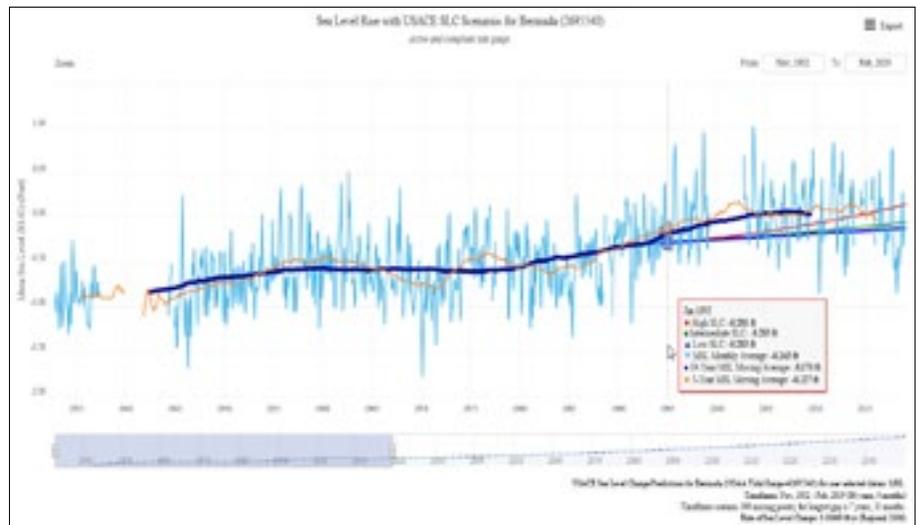
DATUM: **MSL**



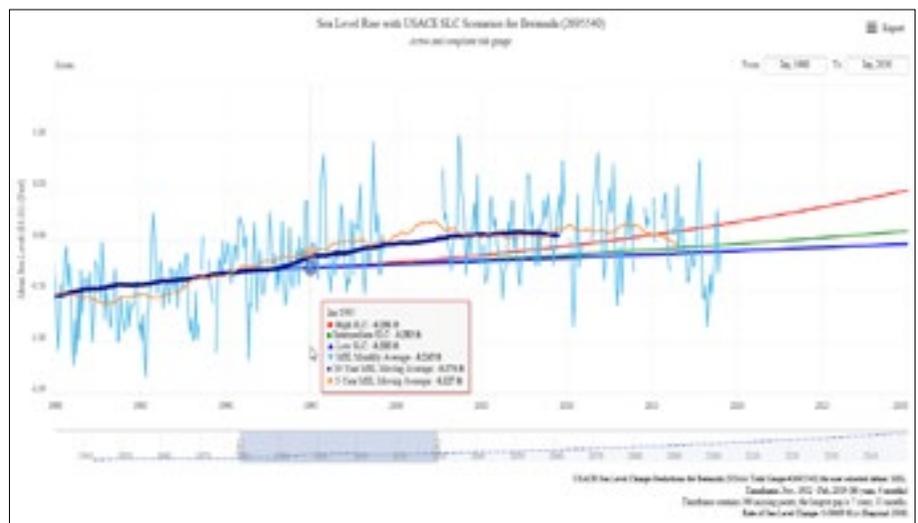
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



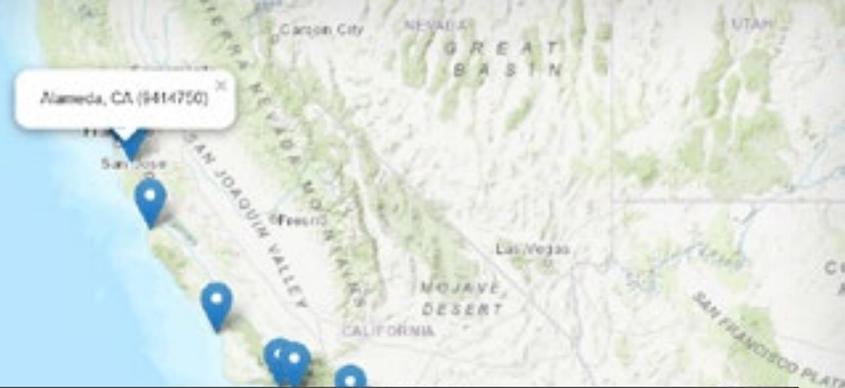
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



STATE: CA, California

Gauge: **Alameda**

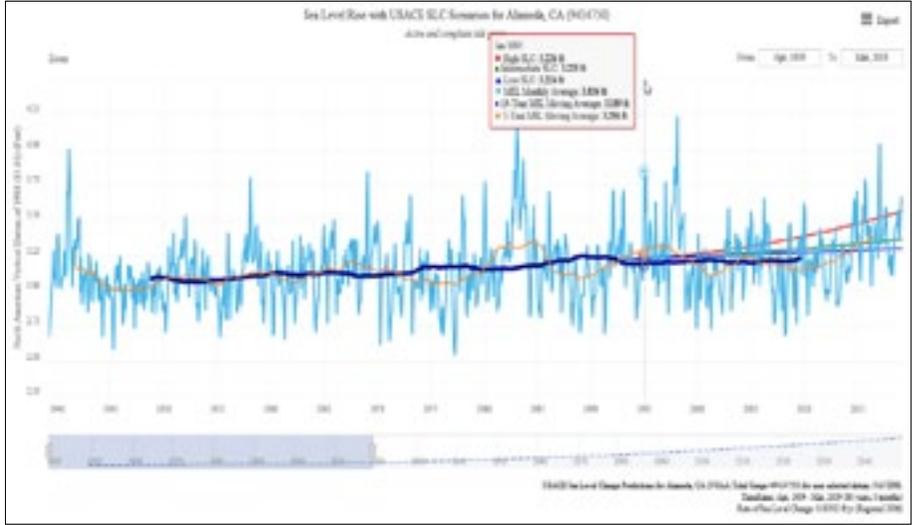
Datum: NAVD88



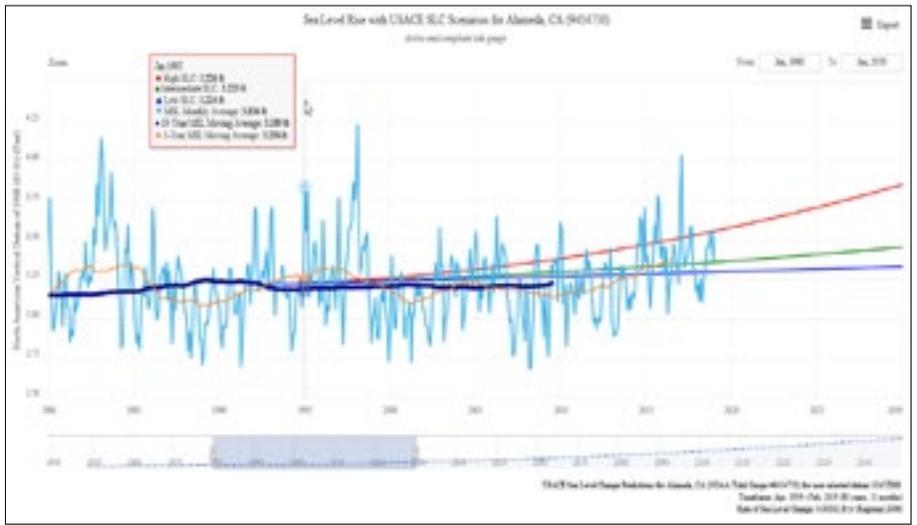
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

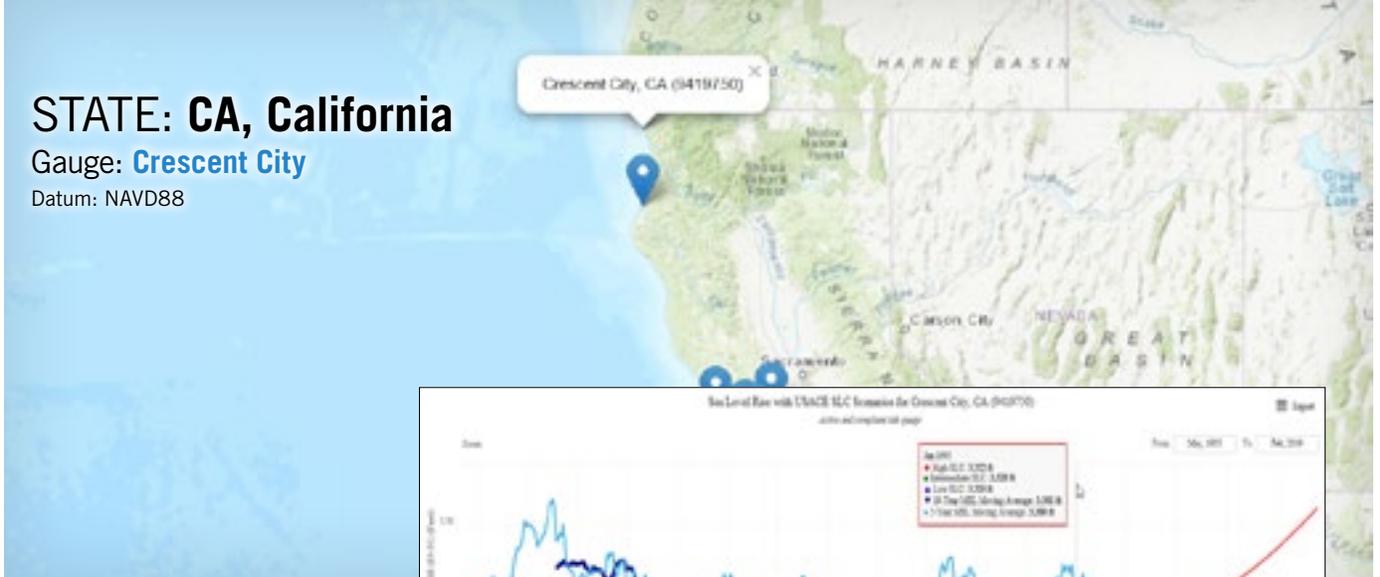


STATE: CA, California

Gauge: **Crescent City**

Datum: NAVD88

Crescent City, CA (9419750)

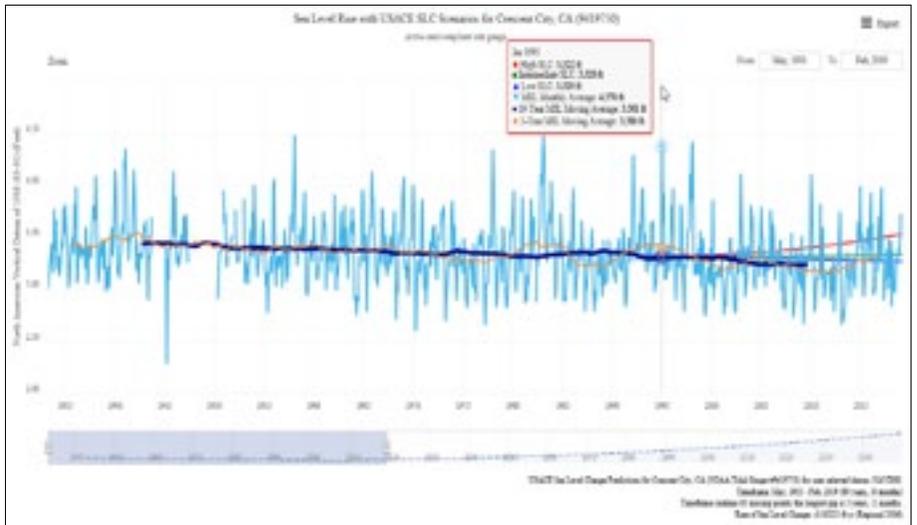


1
19-year midpoint moving average
5-year MSL midpoint moving average

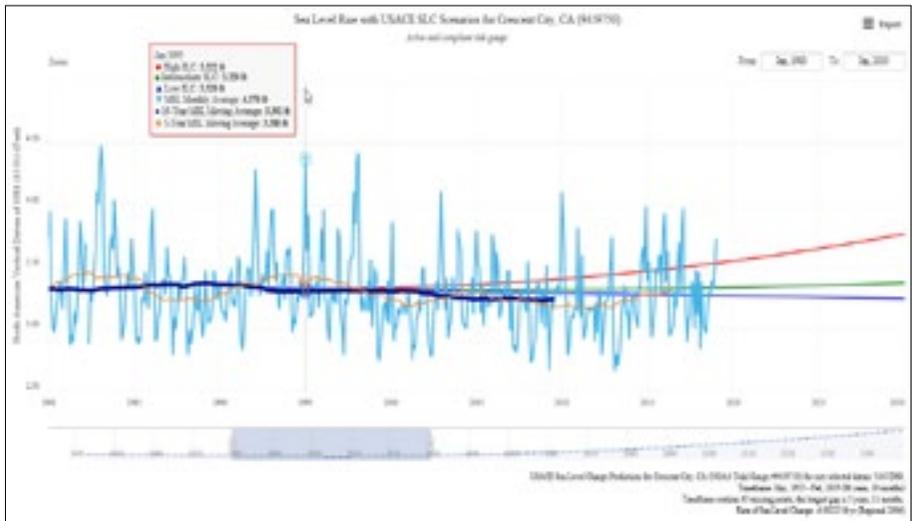


Note: Unlike the rest of the US, seismic and isostatic effects in this area of the Pacific Northwest cause the land surface to rise. This rise in land surface causes relative sea level to drop.

2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

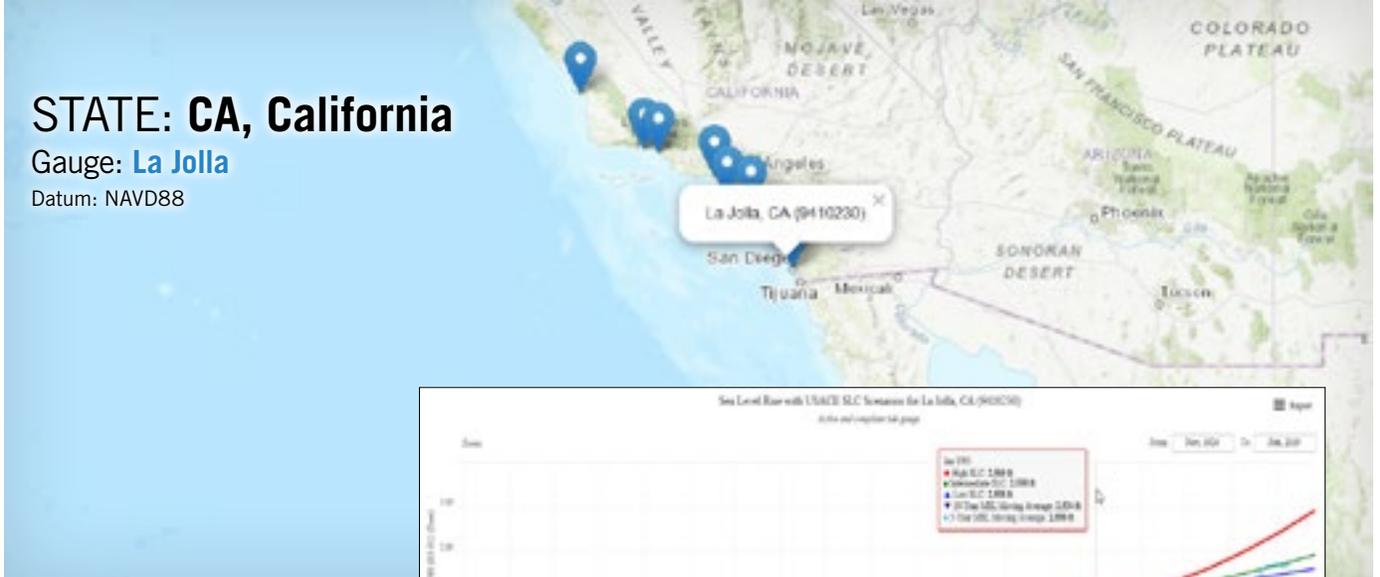


CALIFORNIA

STATE: **CA, California**

Gauge: **La Jolla**

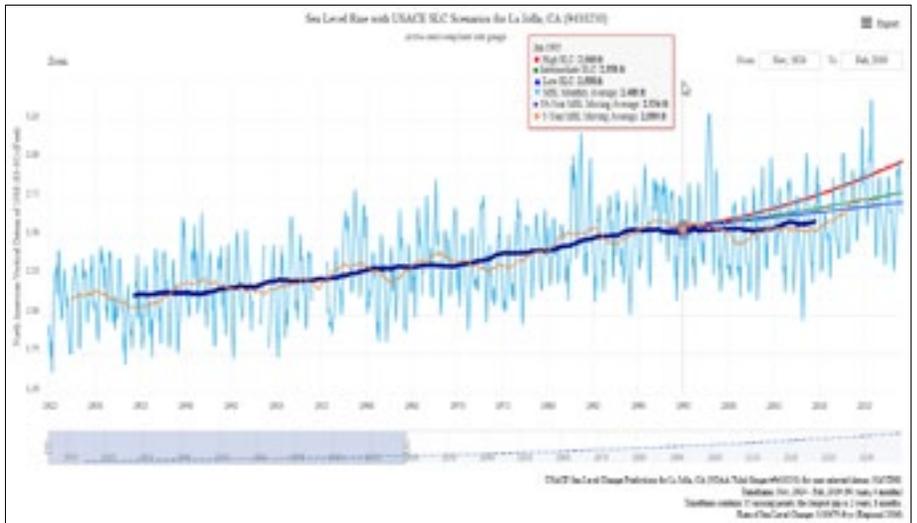
Datum: NAVD88



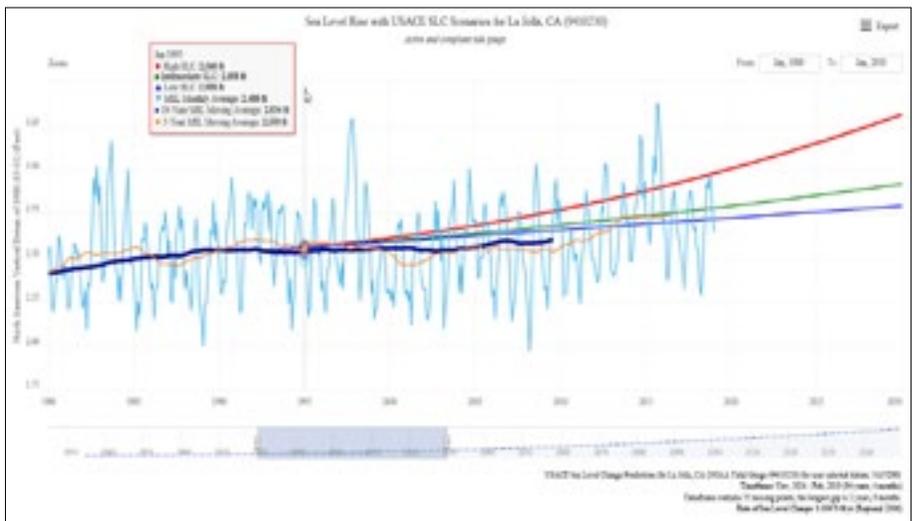
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



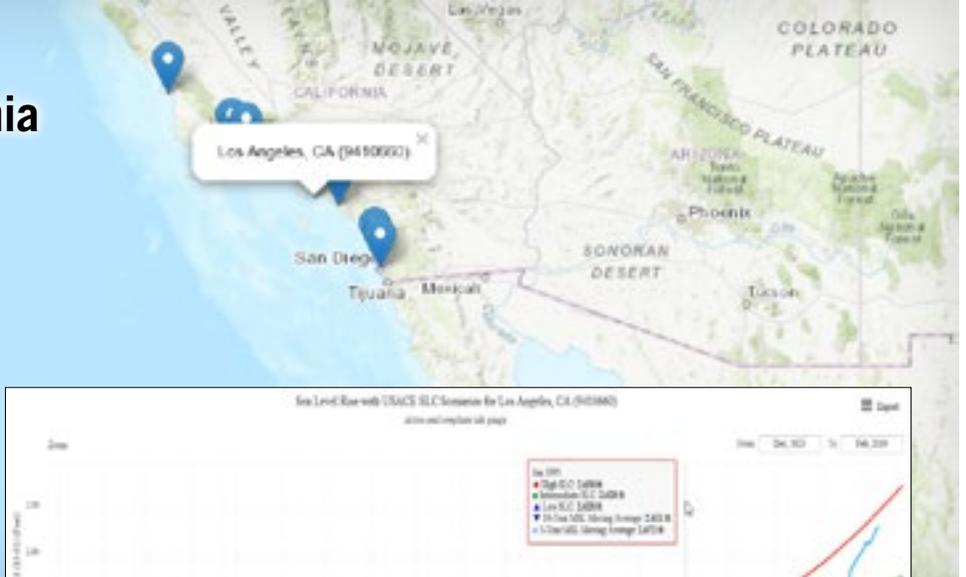
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



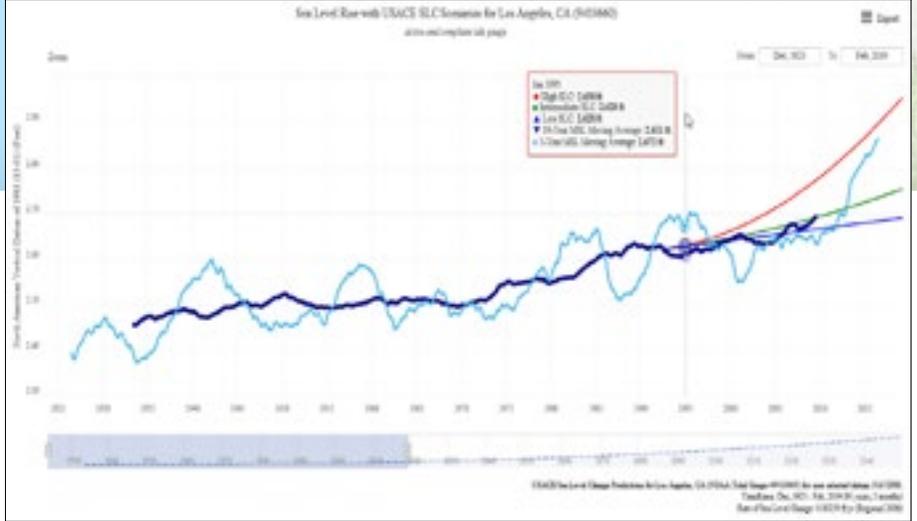
STATE: CA, California

Gauge: **Los Angeles**

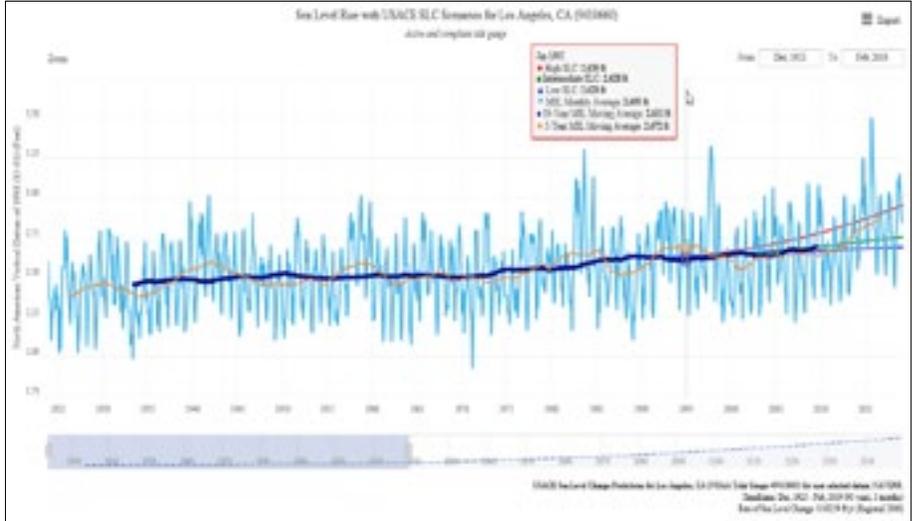
Datum: NAVD88



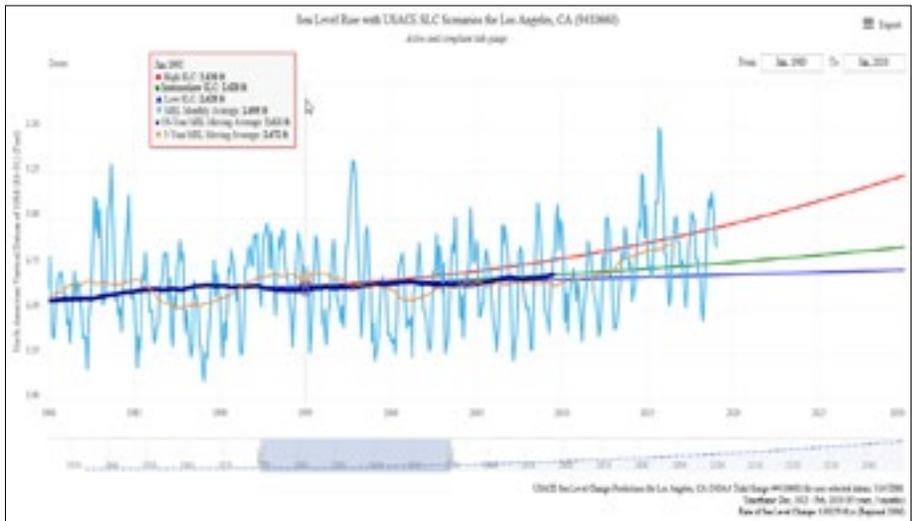
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

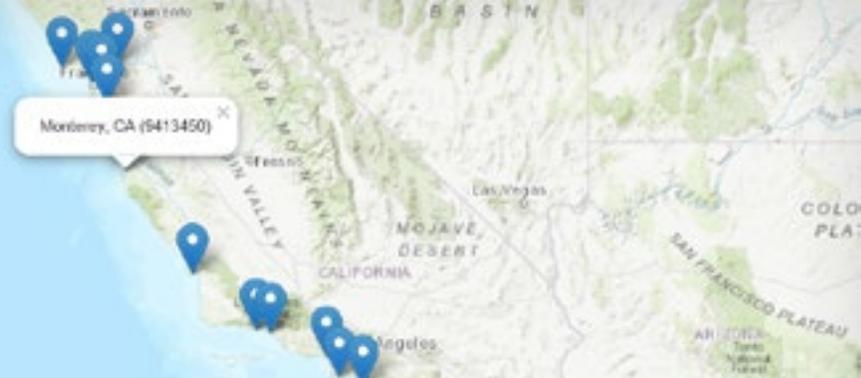


CALIFORNIA

STATE: **CA, California**

Gauge: **Monterey**

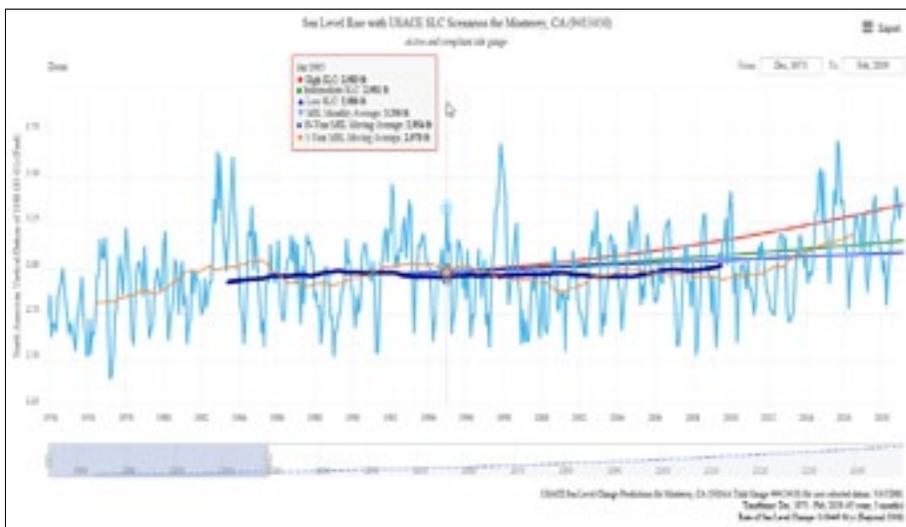
Datum: NAVD88



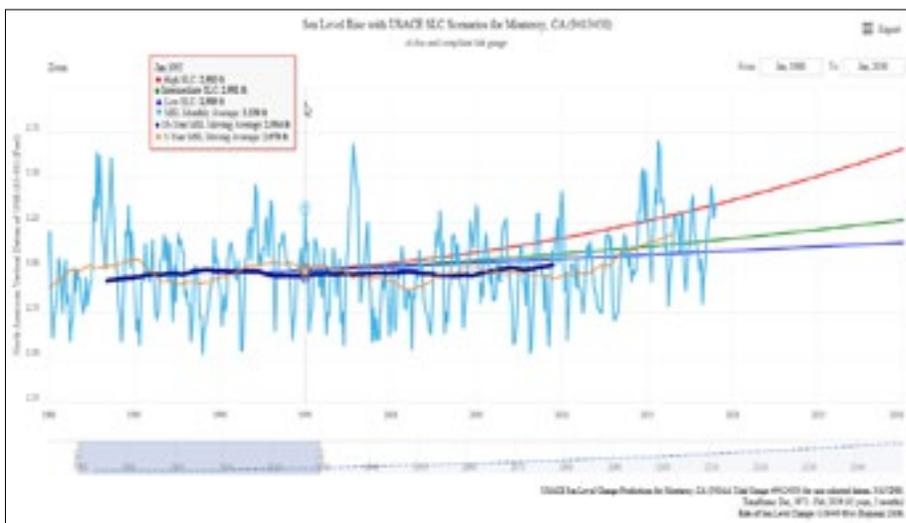
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



STATE: CA, California

Gauge: **Newport Beach**

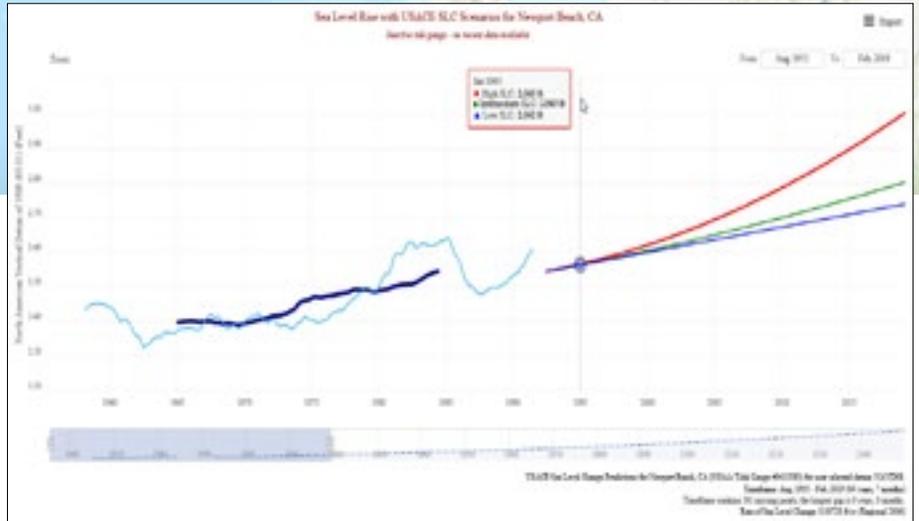
Datum: NAVD88

INTERRUPTED RECORD

Inactive tide gauge – no recent data available

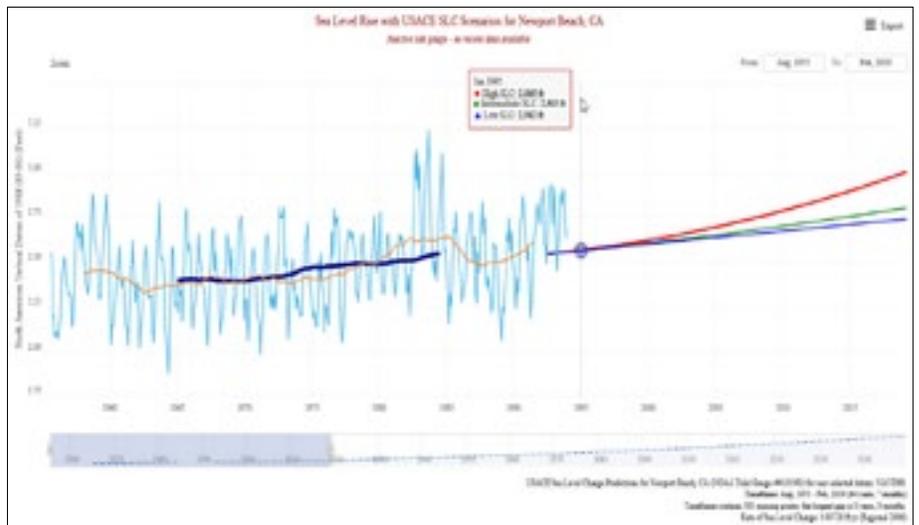
1

19-year midpoint moving average
5-year MSL midpoint moving average



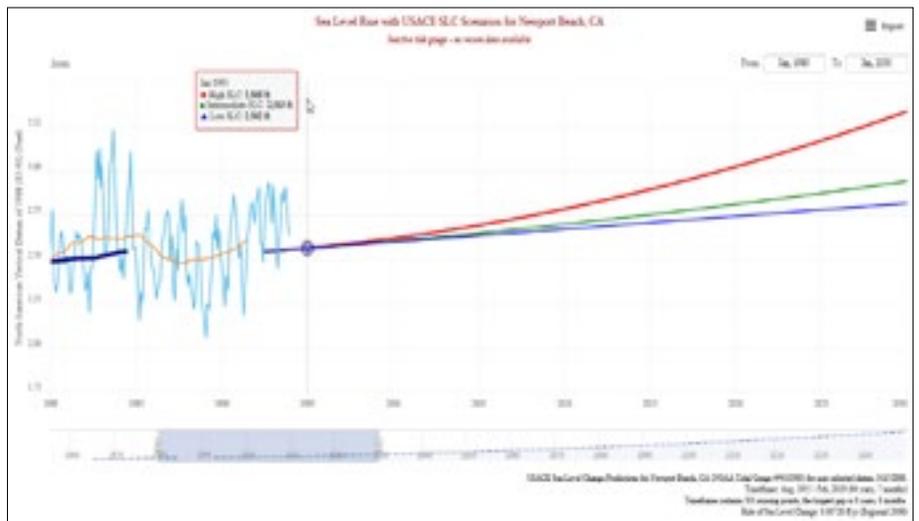
2

19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3

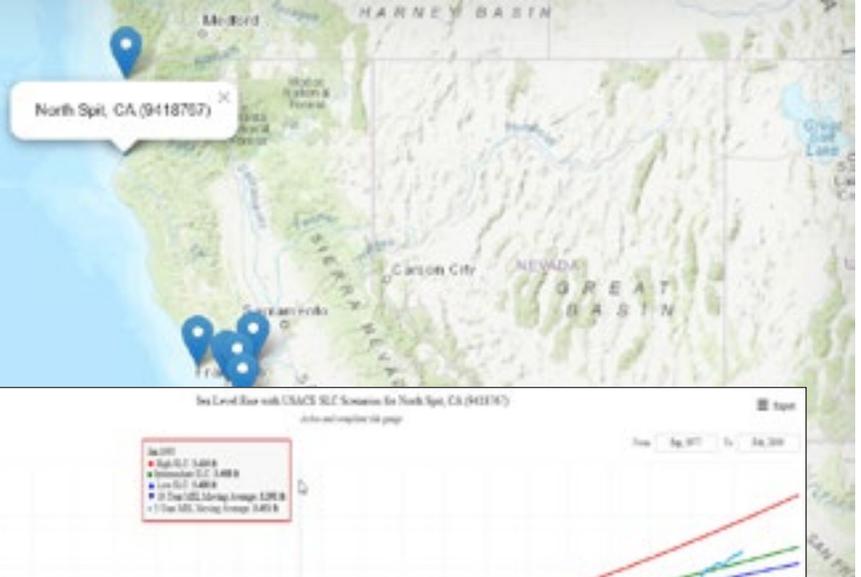
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



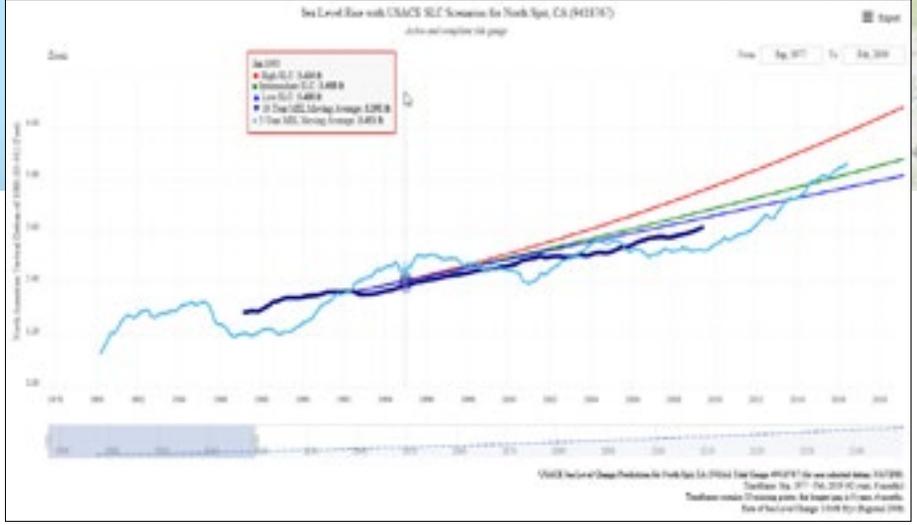
STATE: CA, California

Gauge: **North Spit**

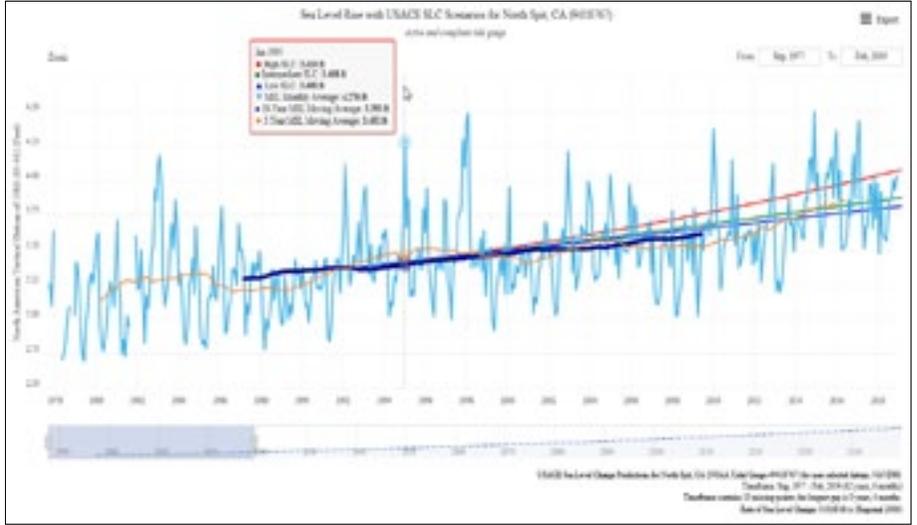
Datum: NAVD88



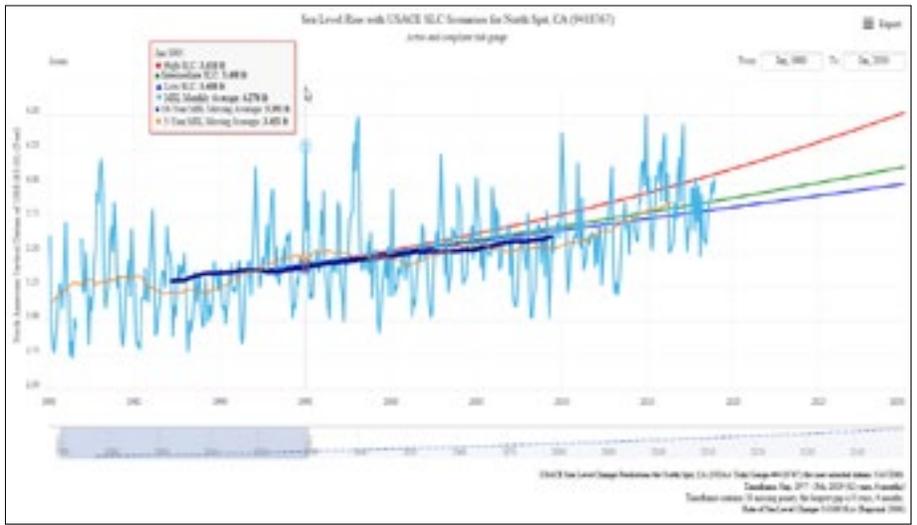
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



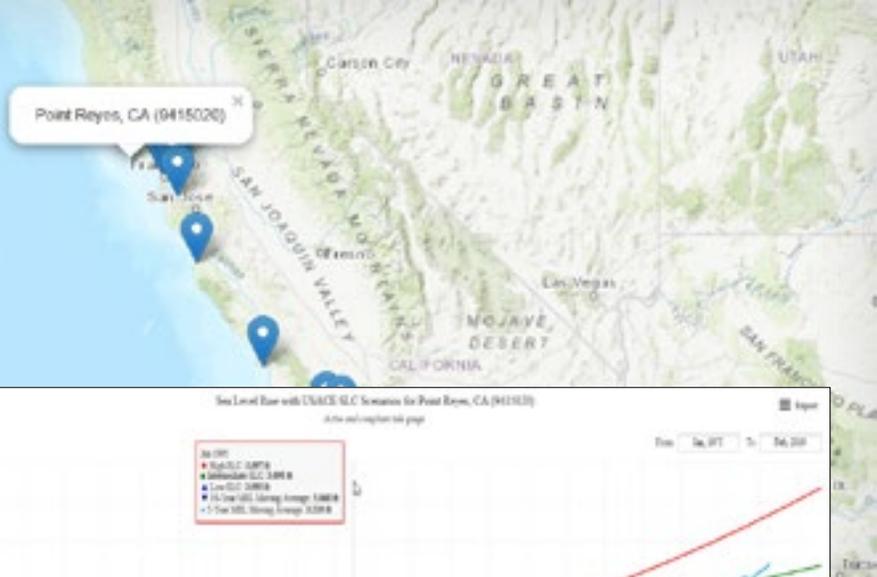
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



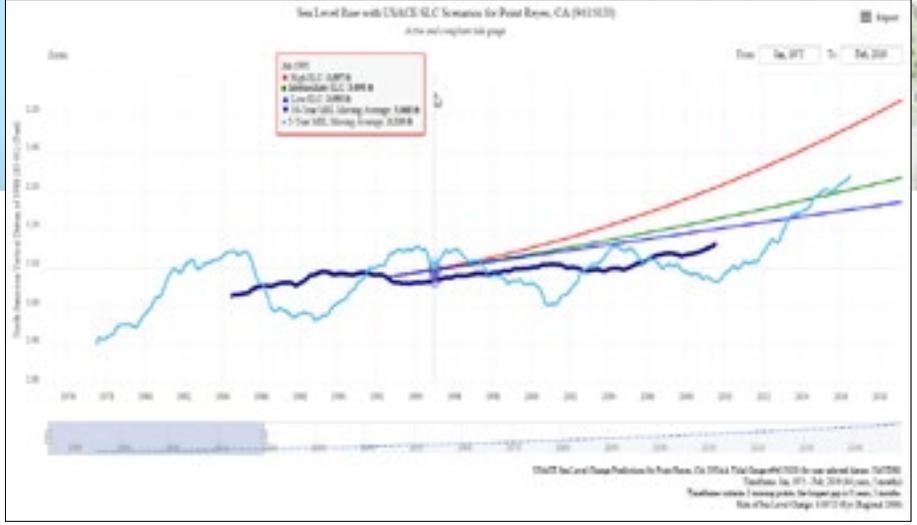
STATE: CA, California

Gauge: **Point Reyes**

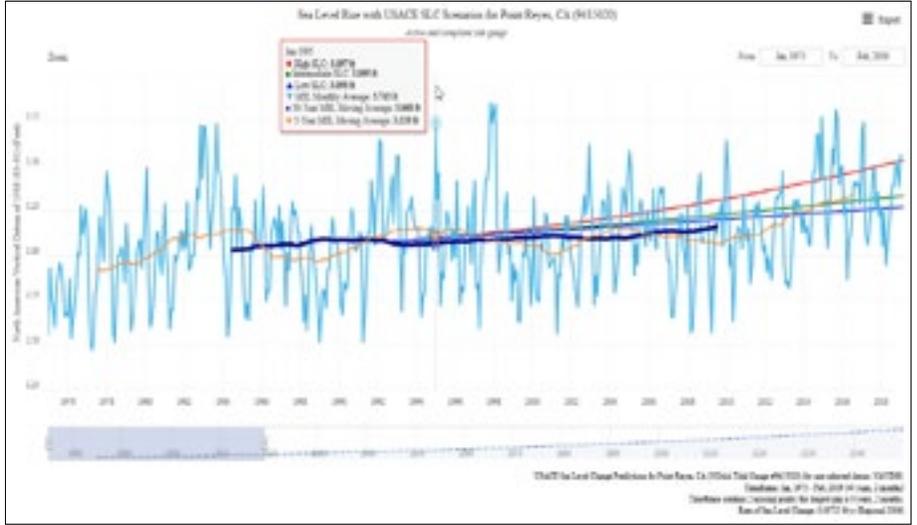
Datum: NAVD88



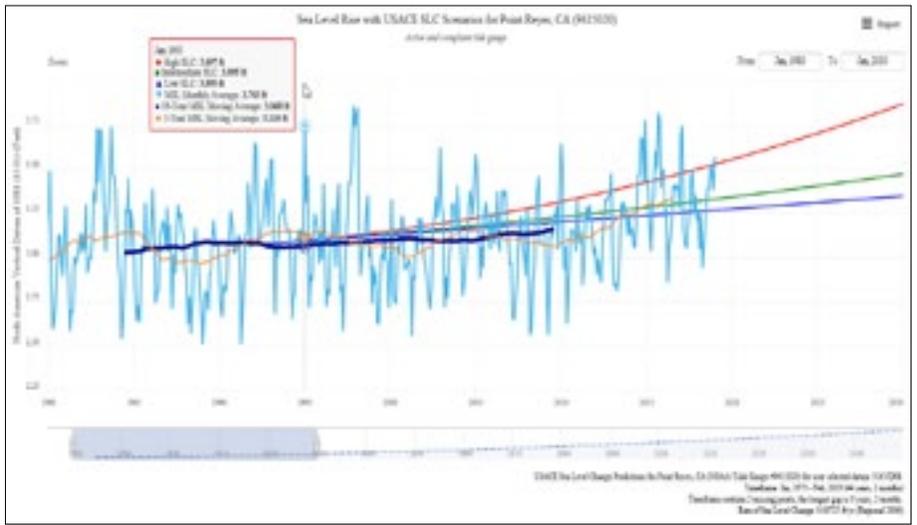
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



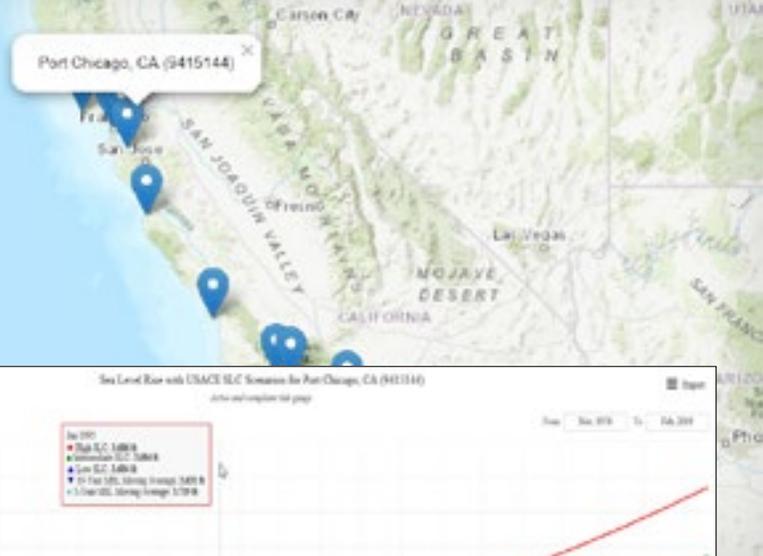
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



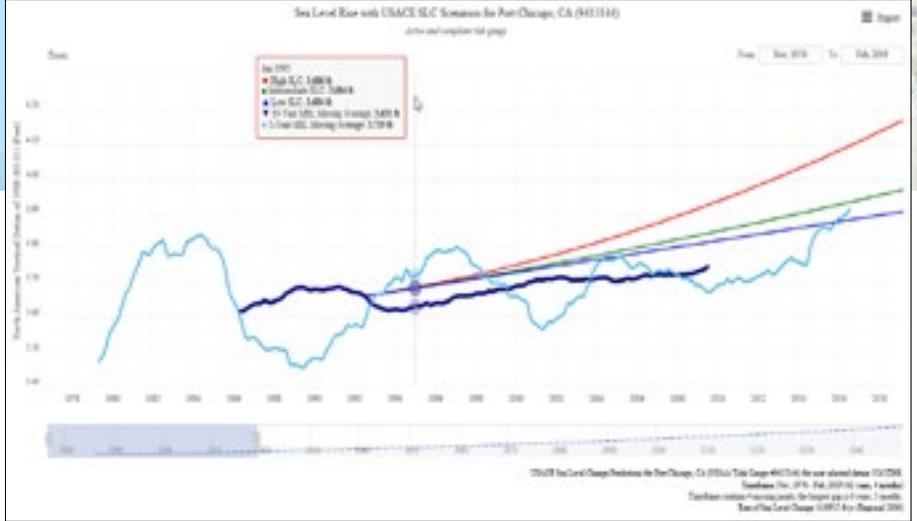
STATE: CA, California

Gauge: **Port Chicago**

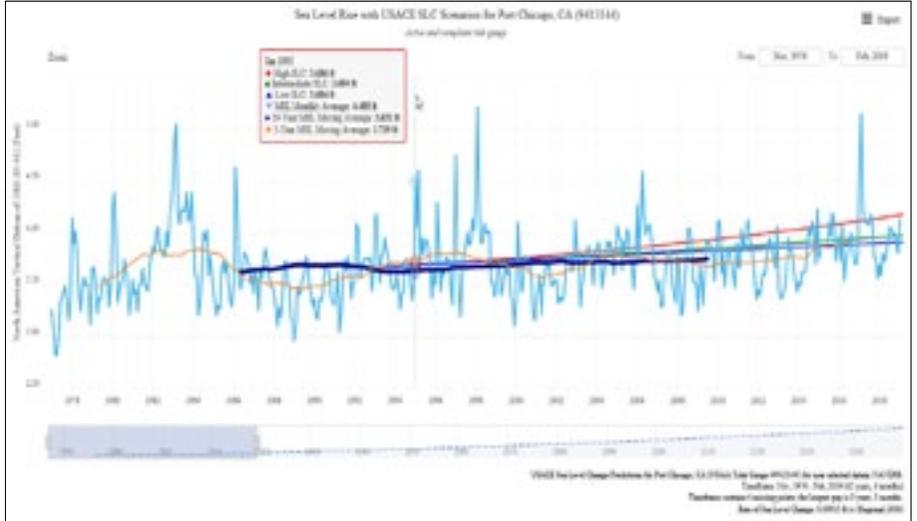
Datum: NAVD88



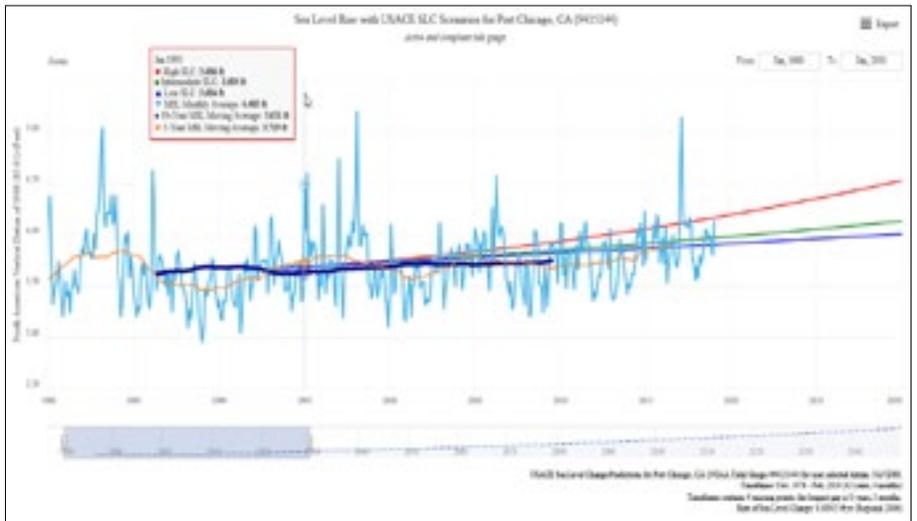
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



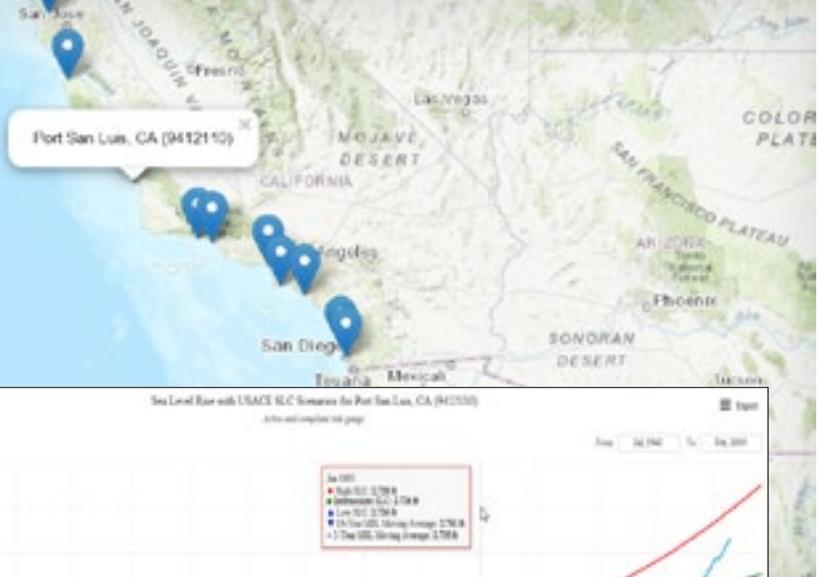
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



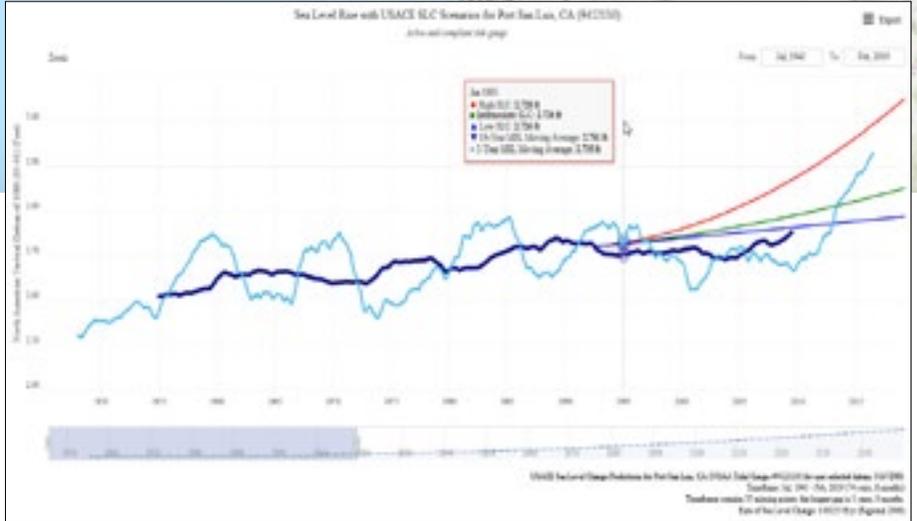
STATE: CA, California

Gauge: **Port San Luis**

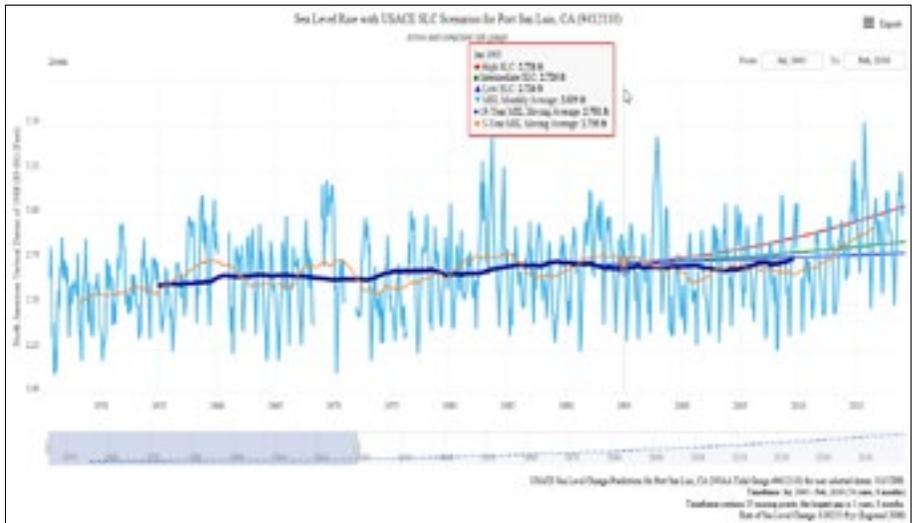
Datum: NAVD88



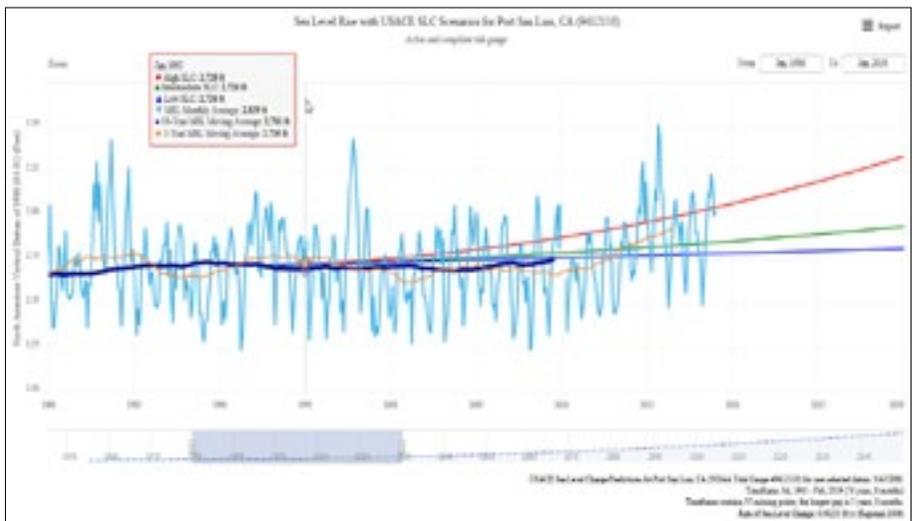
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

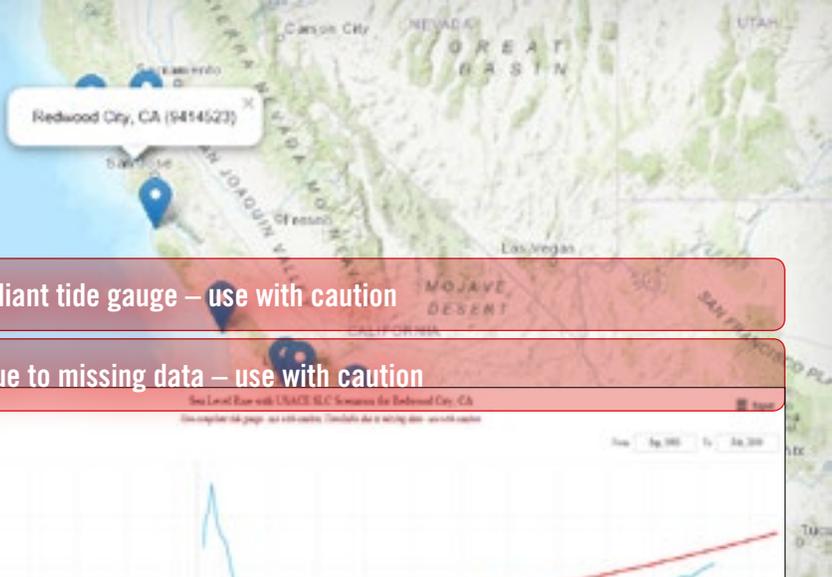


STATE: CA, California

Gauge: **Redwood City**

DATUM: MSL

INTERRUPTED RECORD



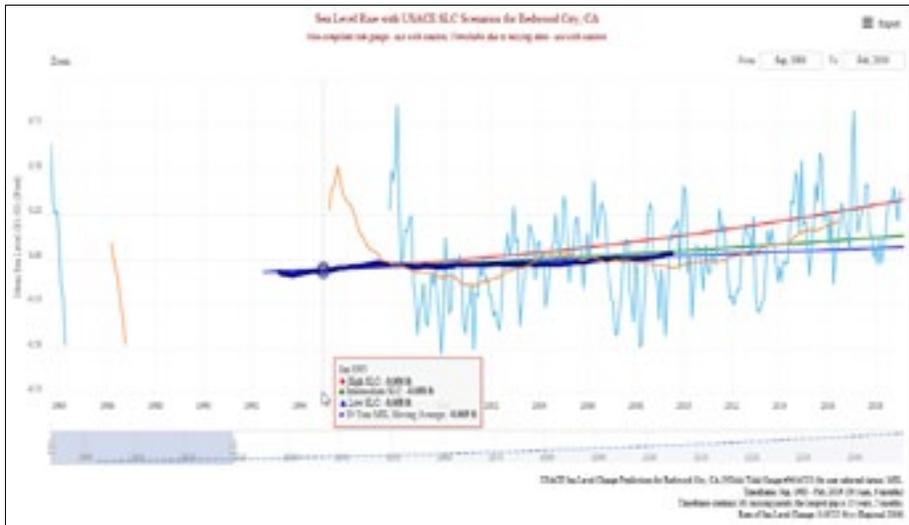
Non-compliant tide gauge – use with caution

Unreliable due to missing data – use with caution

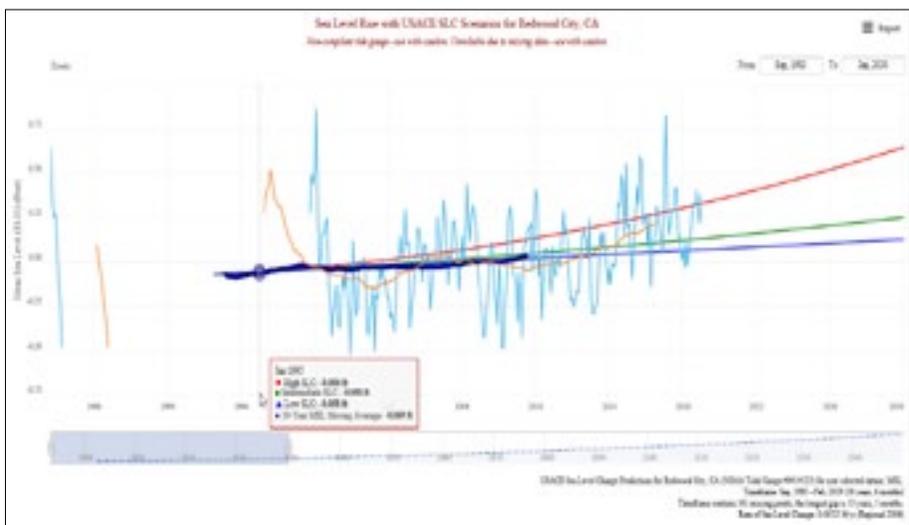
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

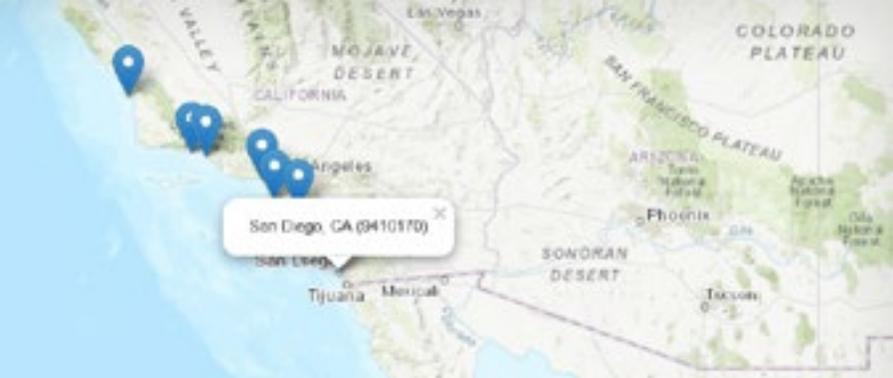


STATE: CA, California

Gauge: **San Diego**

Datum: NAVD88

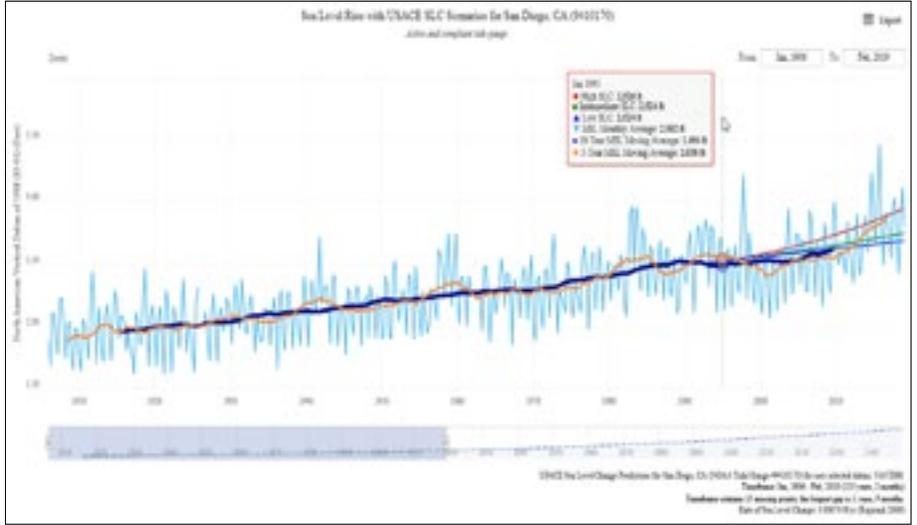
INTERRUPTED RECORD



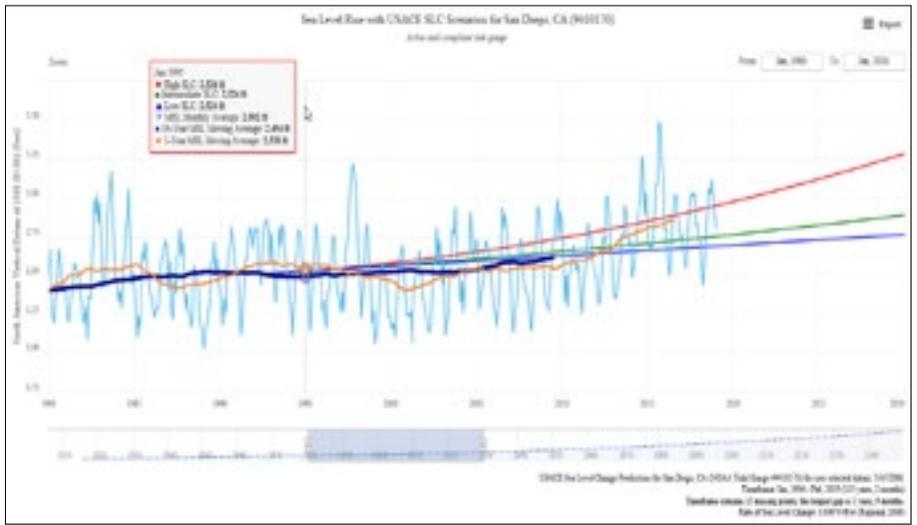
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



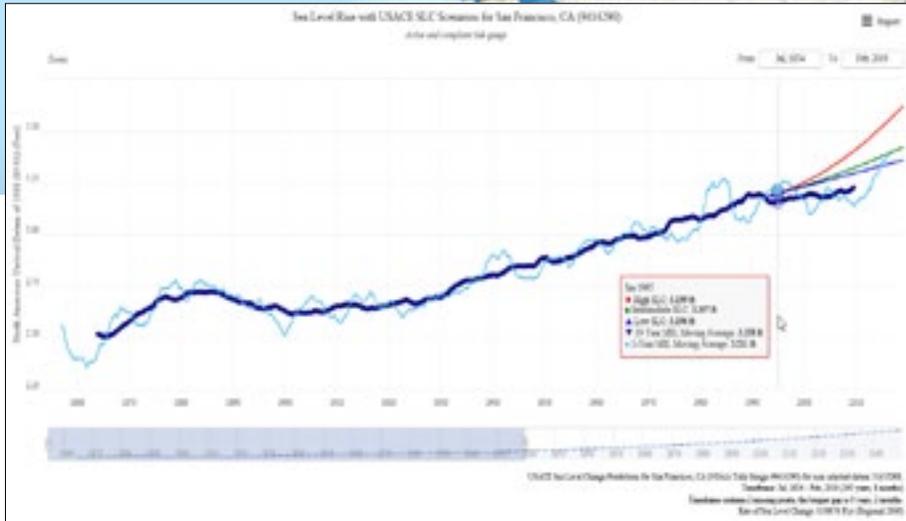
STATE: CA, California

Gauge: **San Francisco**

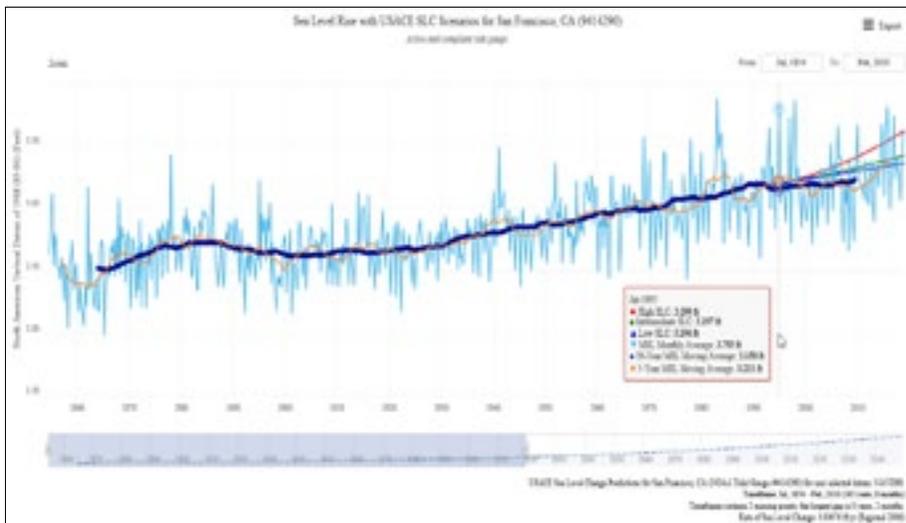
Datum: NAVD88



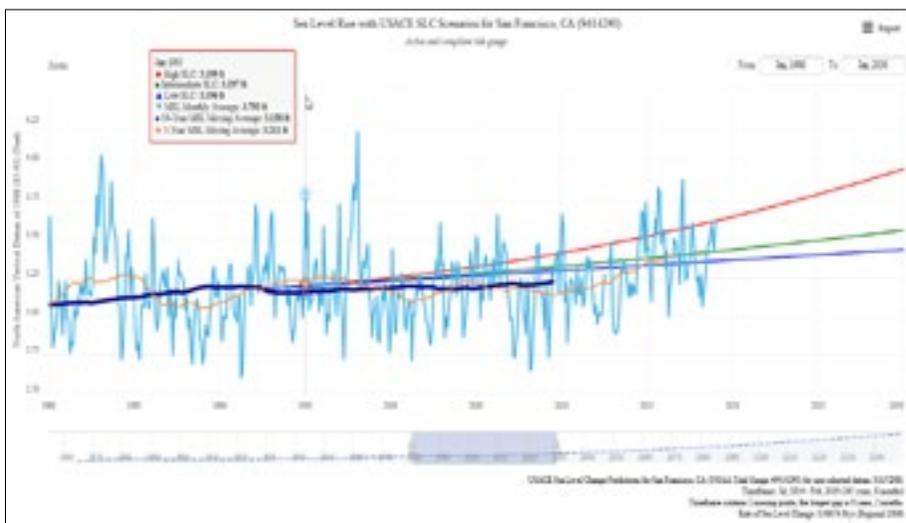
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



STATE: CA, California

Gauge: **Santa Barbara**

Datum: NAVD88

INTERRUPTED RECORD

Non-compliant tide gauge – use with caution

Unreliable due to missing data – use with caution

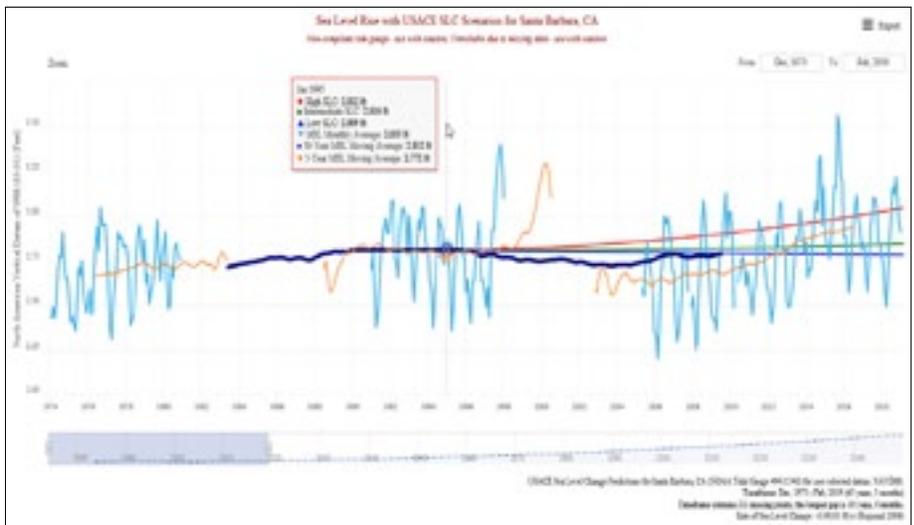
1

19-year midpoint moving average
5-year MSL midpoint moving average



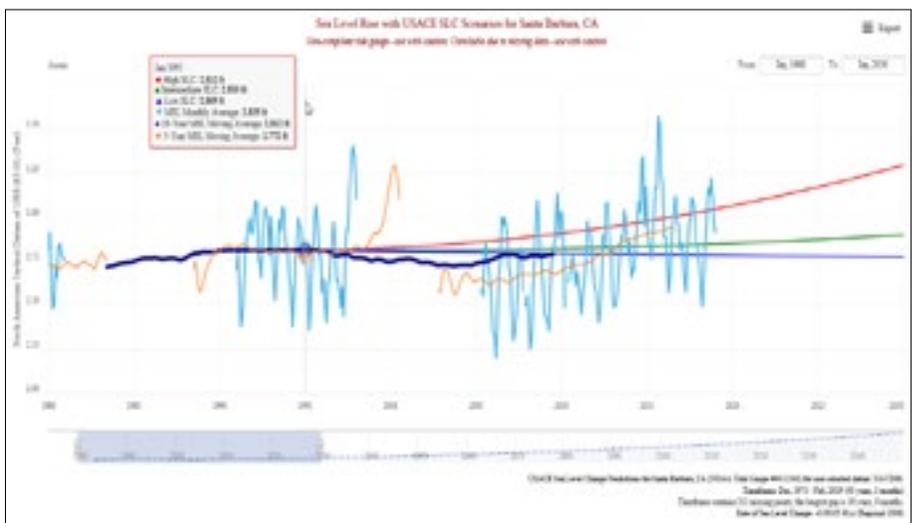
2

19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3

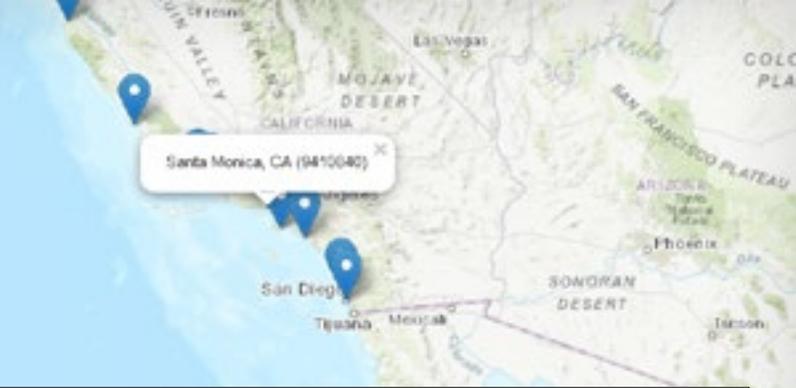
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



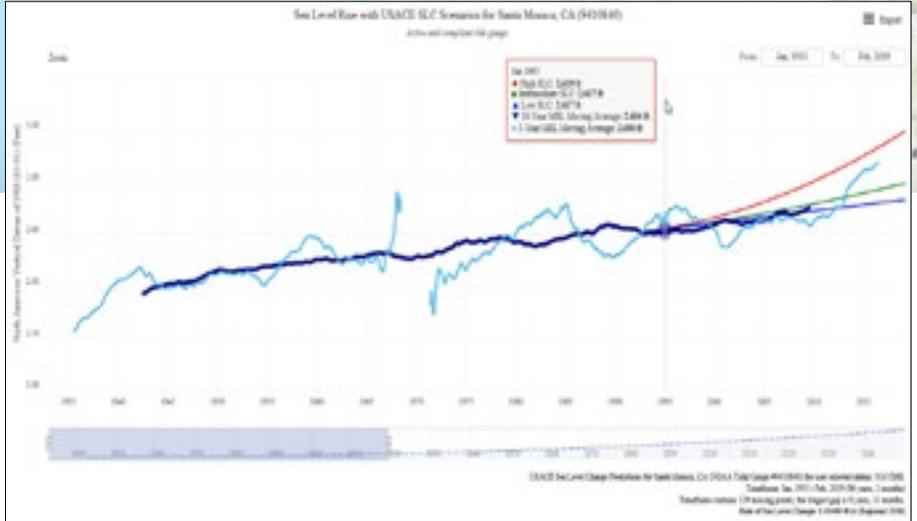
STATE: CA, California

Gauge: **Santa Monica**

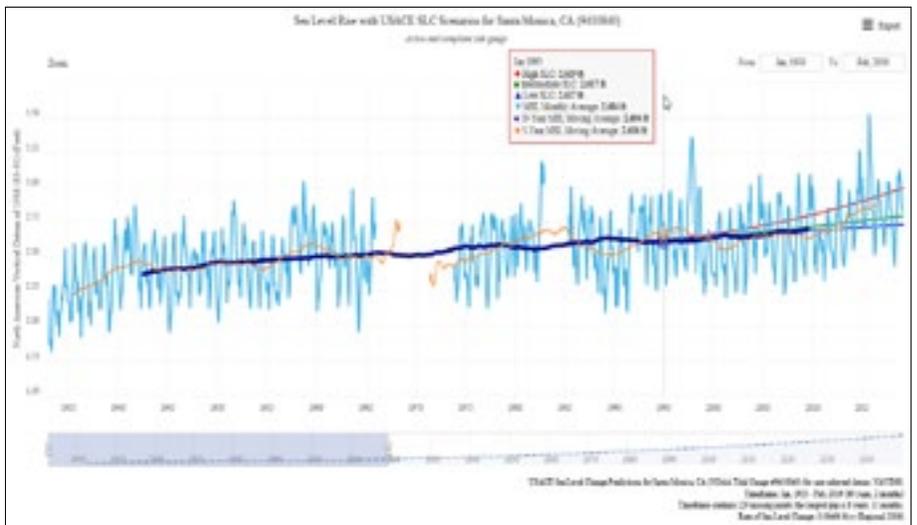
Datum: NAVD88



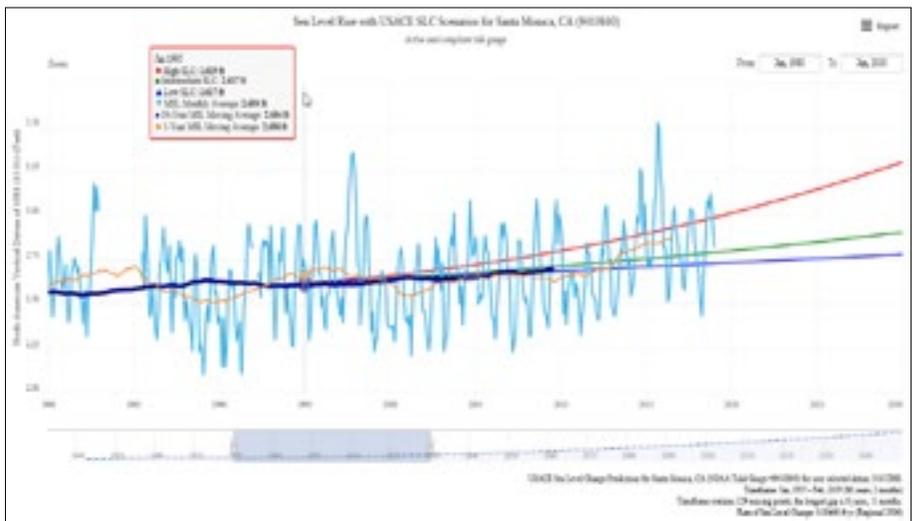
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



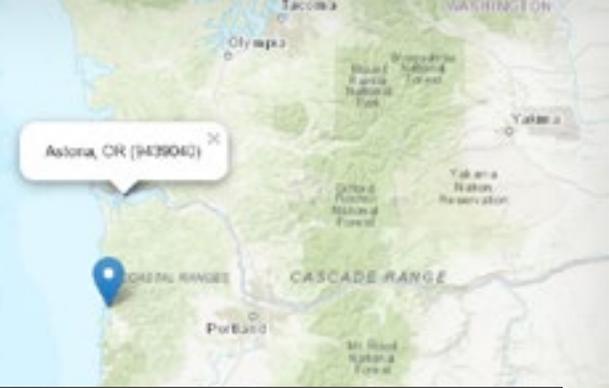
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



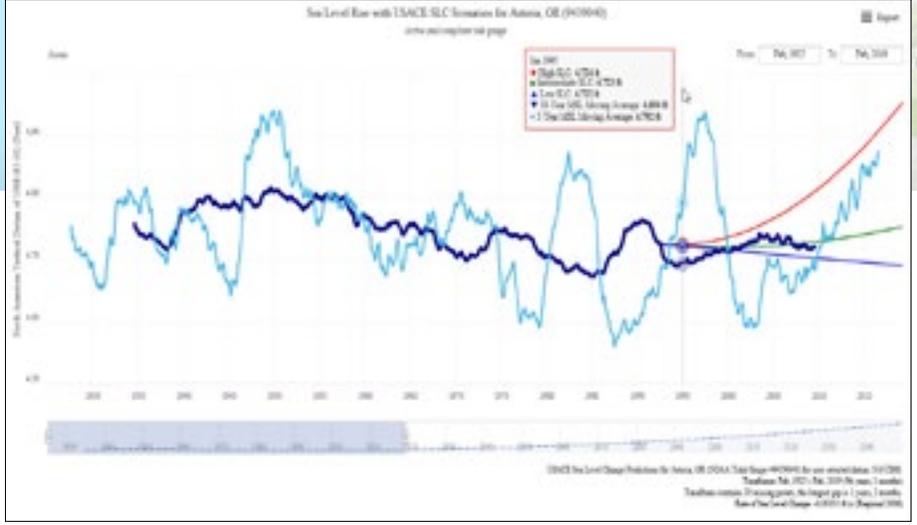
STATE: OR, Oregon

Gauge: Astoria

Datum: NAVD88

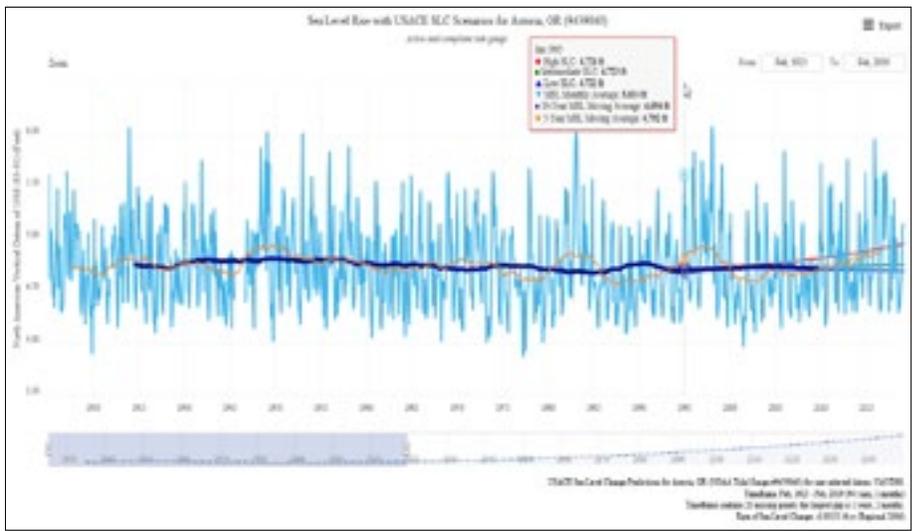


1
19-year midpoint moving average
5-year MSL midpoint moving average

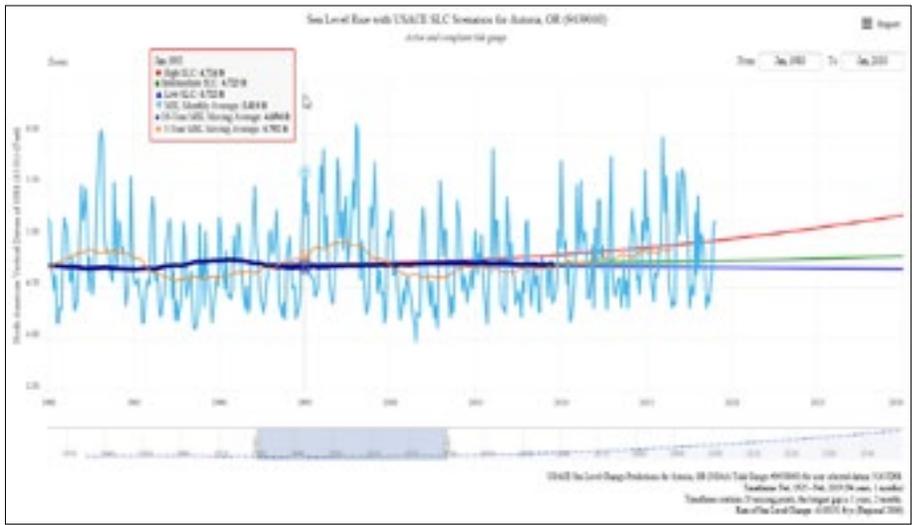


Note: Unlike the rest of the US, seismic and isostatic effects in this area of the Pacific Northwest cause the land surface to rise. This rise in land surface causes relative sea level to drop.

2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

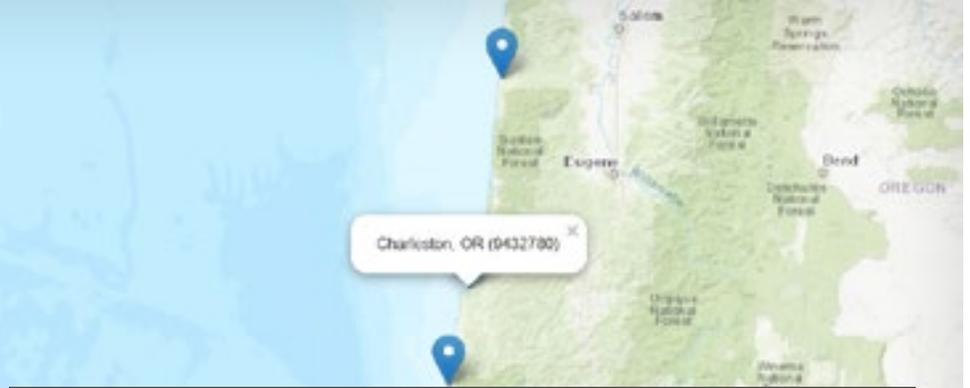


OREGON

STATE: OR, Oregon

Gauge: **Charleston**

Datum: NAVD88

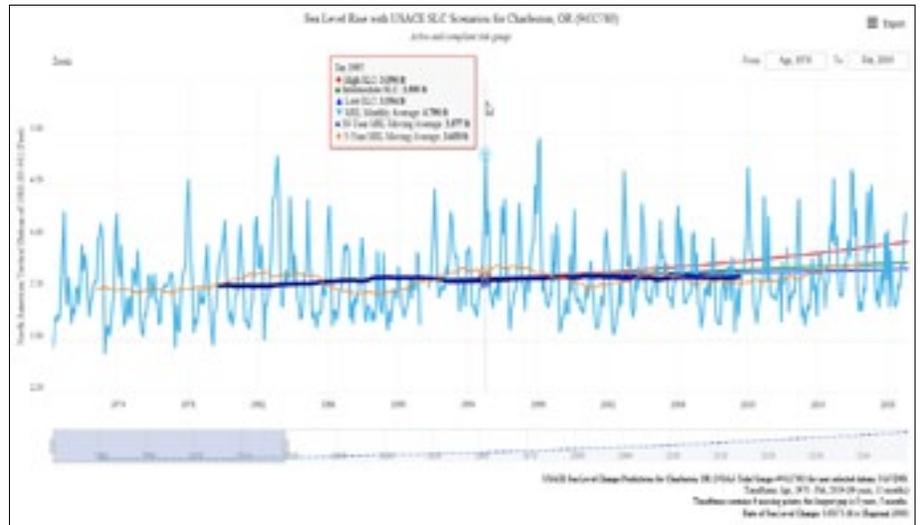


1
19-year midpoint moving average
5-year MSL midpoint moving average

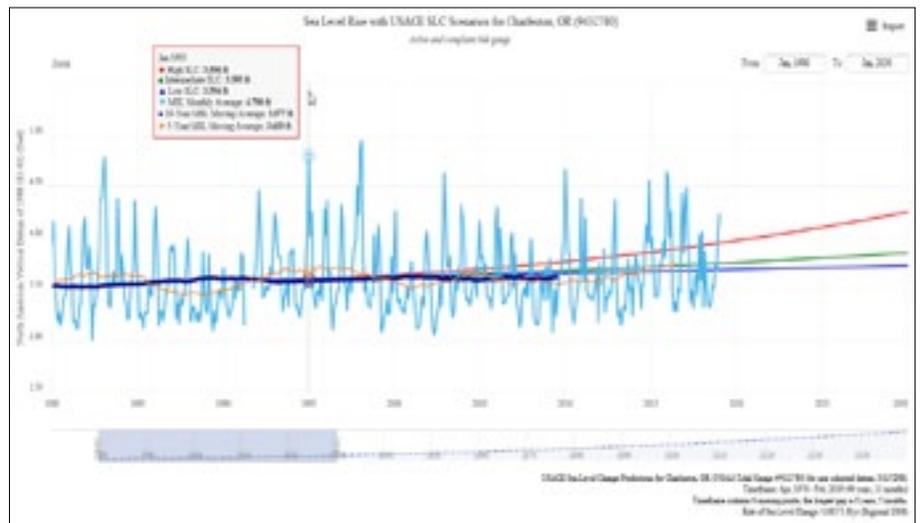
Note: Unlike the rest of the US, seismic and isostatic effects in this area of the Pacific Northwest cause the land surface to rise. This rise in land surface causes relative sea level to drop.



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



STATE: OR, Oregon

Gauge: **Garibaldi**

DATUM: MSL

INTERRUPTED RECORD



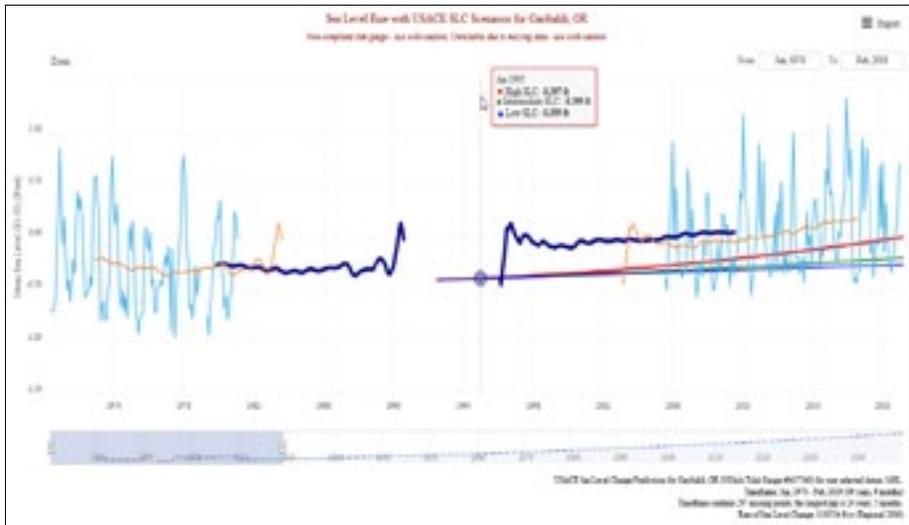
Non-compliant tide gauge – use with caution

Unreliable due to missing data – use with caution

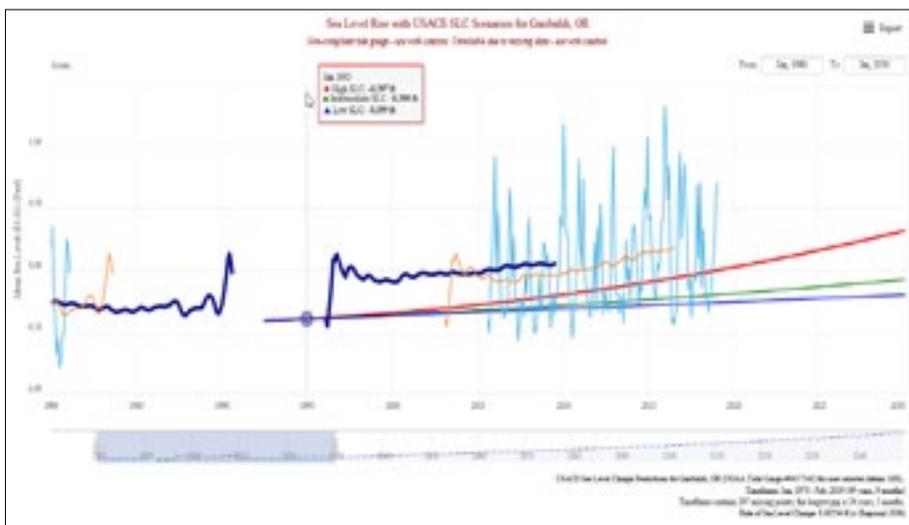
1
 19-year midpoint moving average
 5-year MSL midpoint moving average



2
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values



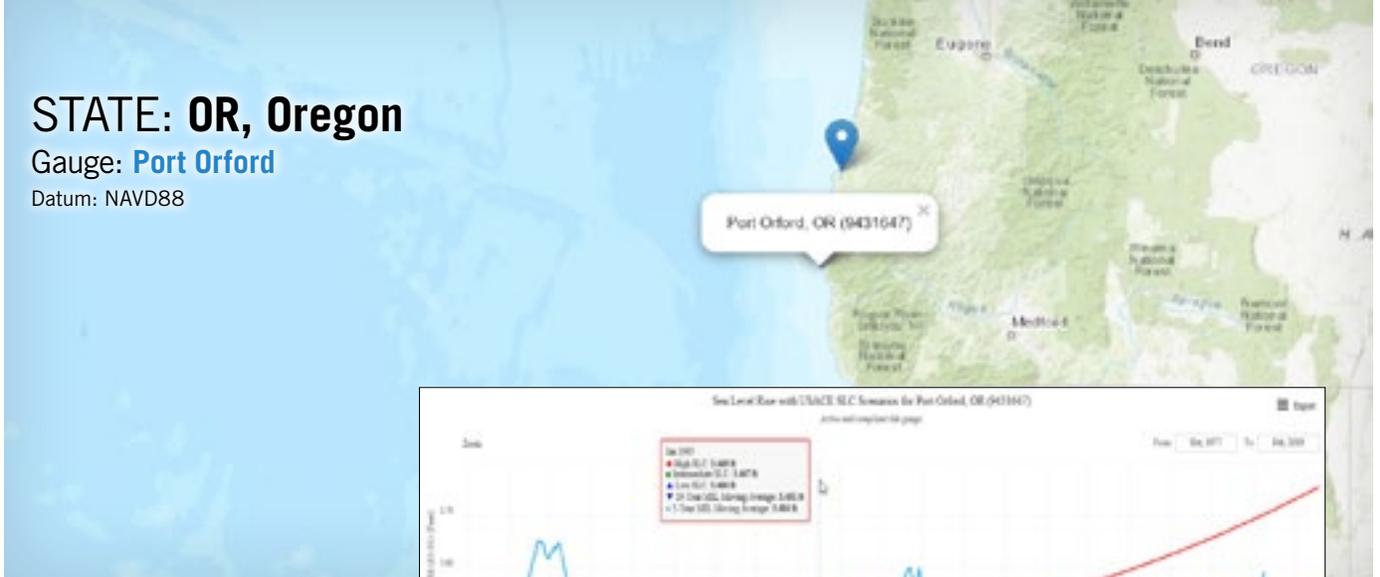
3
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values
 From January 1980 To January 2030



STATE: OR, Oregon

Gauge: **Port Orford**

Datum: NAVD88

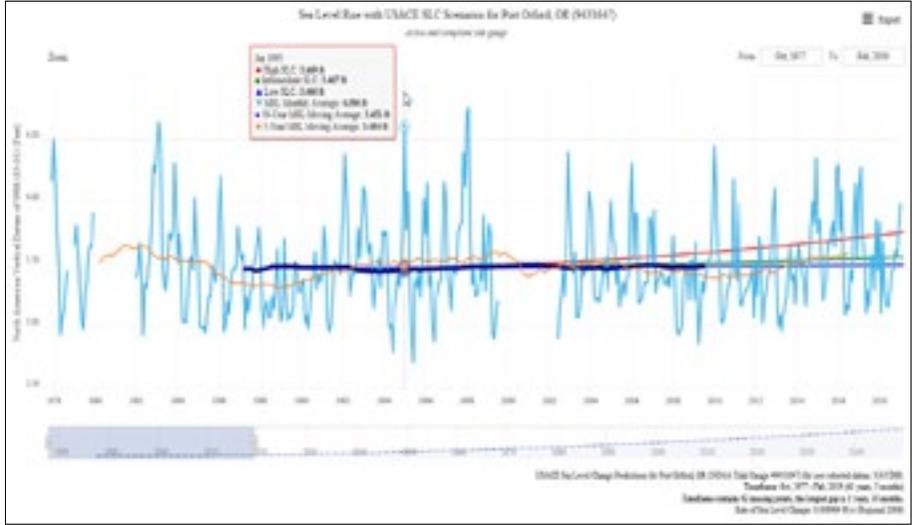


1
19-year midpoint moving average
5-year MSL midpoint moving average

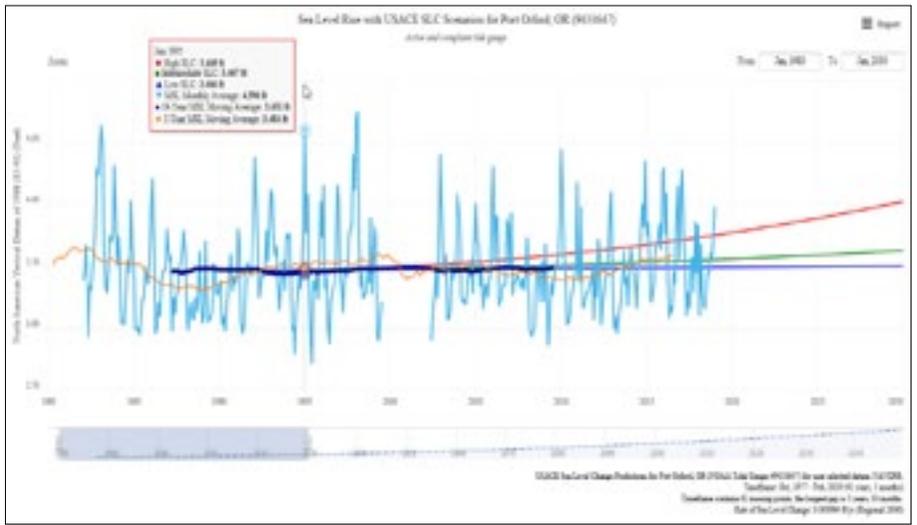
Note: Unlike the rest of the US, seismic and isostatic effects in this area of the Pacific Northwest cause the land surface to rise. This rise in land surface causes relative sea level to drop.



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

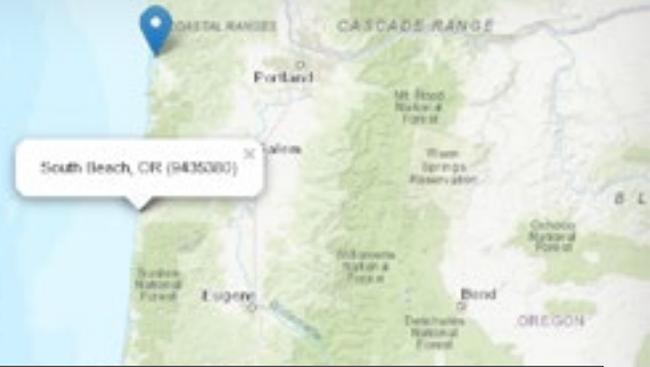


OREGON

STATE: **OR, Oregon**

Gauge: **South Beach**

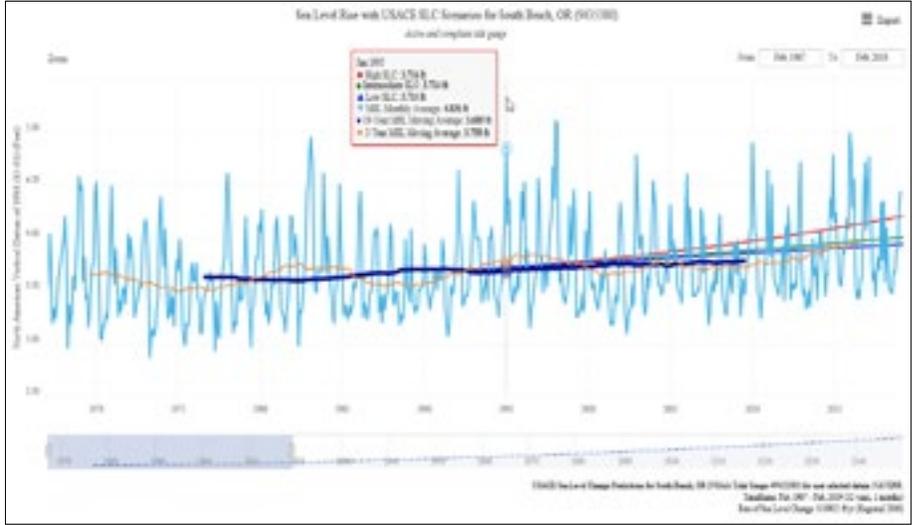
Datum: NAVD88



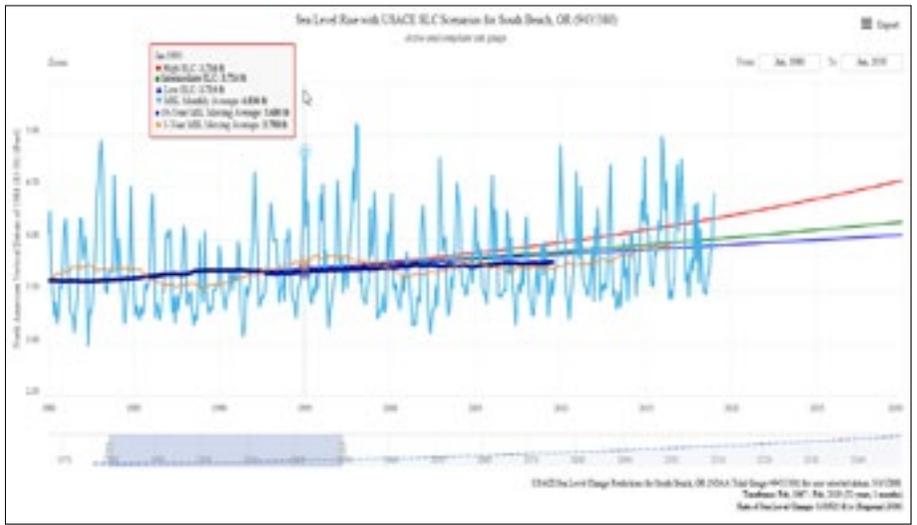
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



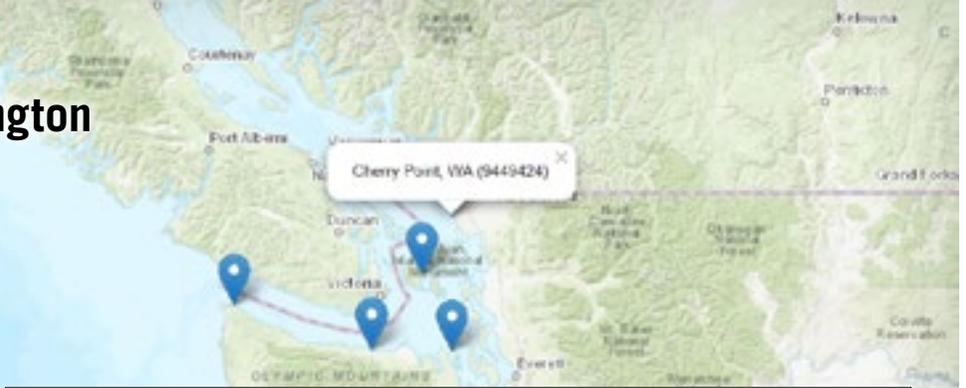
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



STATE: WA, Washington

Gauge: **Cherry Point**

DATUM: **MSL**

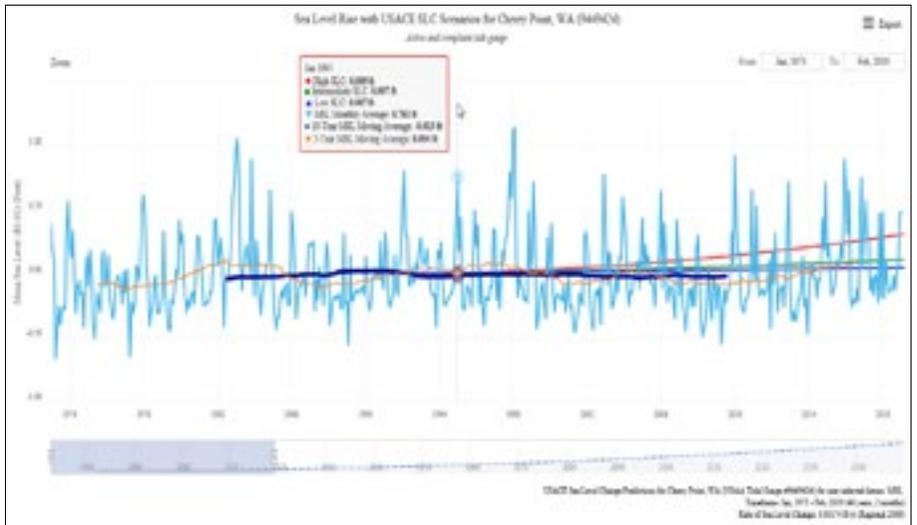


1
19-year midpoint moving average
5-year MSL midpoint moving average

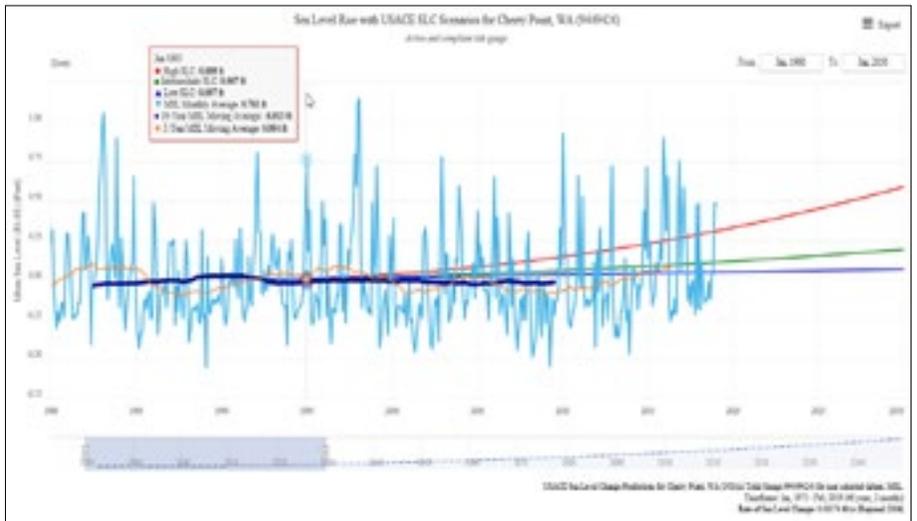


Note: Unlike the rest of the US, seismic and isostatic effects in this area of the Pacific Northwest cause the land surface to rise. This rise in land surface causes relative sea level to drop.

2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



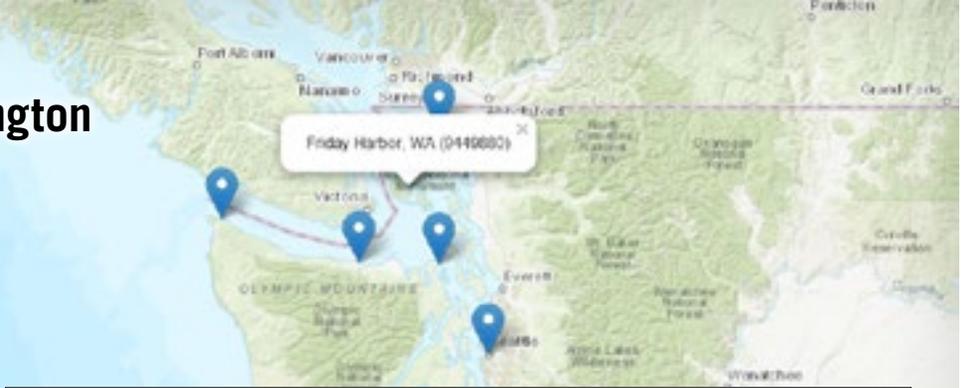
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



STATE: WA, Washington

Gauge: **Friday Harbor**

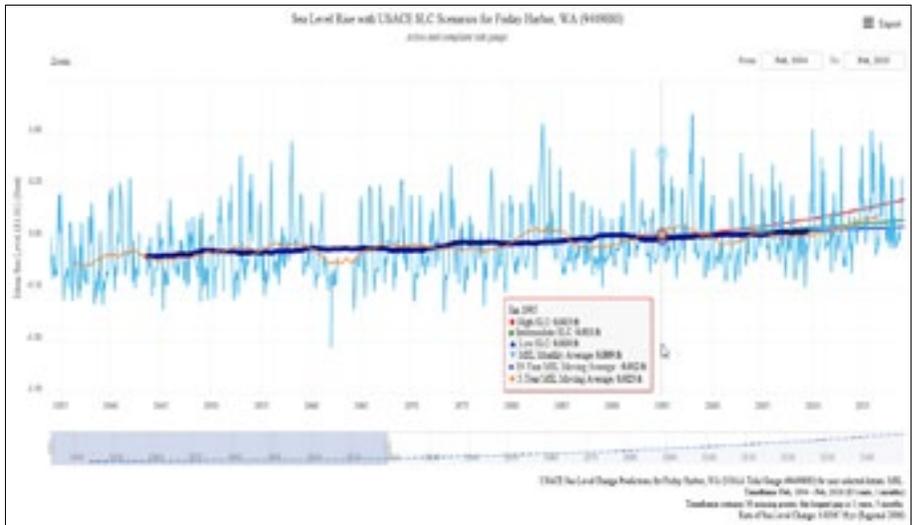
DATUM: **MSL**



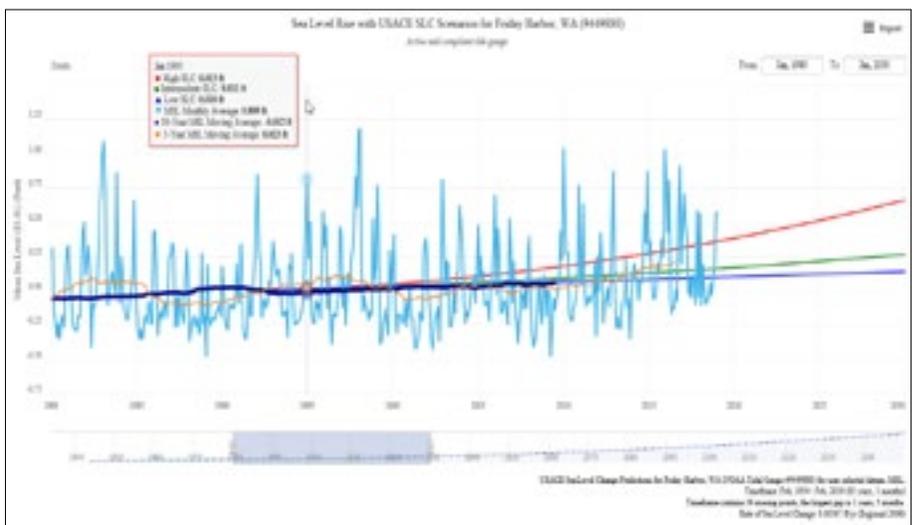
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



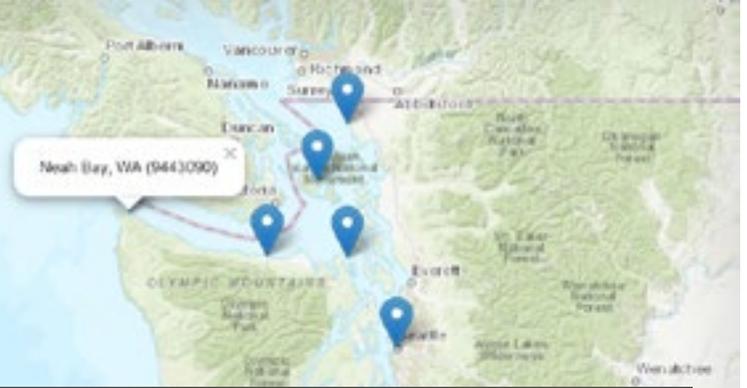
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



STATE: WA, Washington

Gauge: **Neah Bay**

Datum: NAVD88

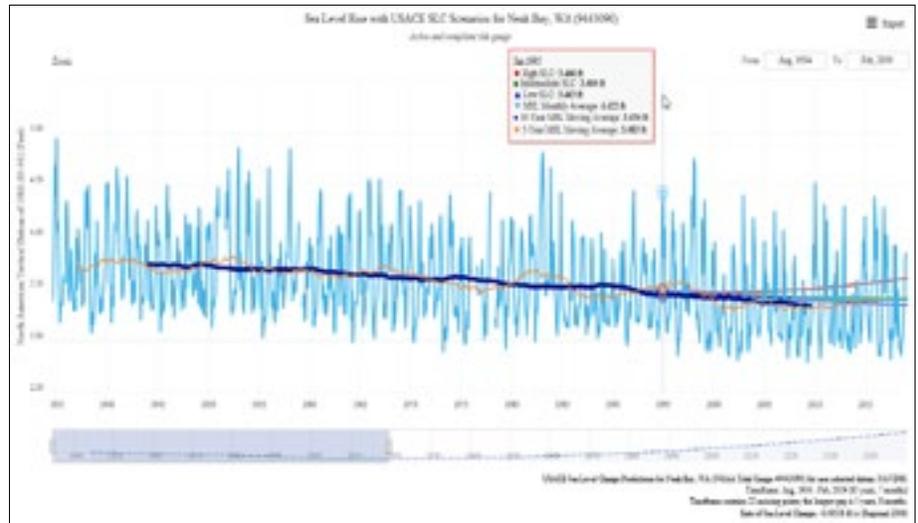


1
 19-year midpoint moving average
 5-year MSL midpoint moving average

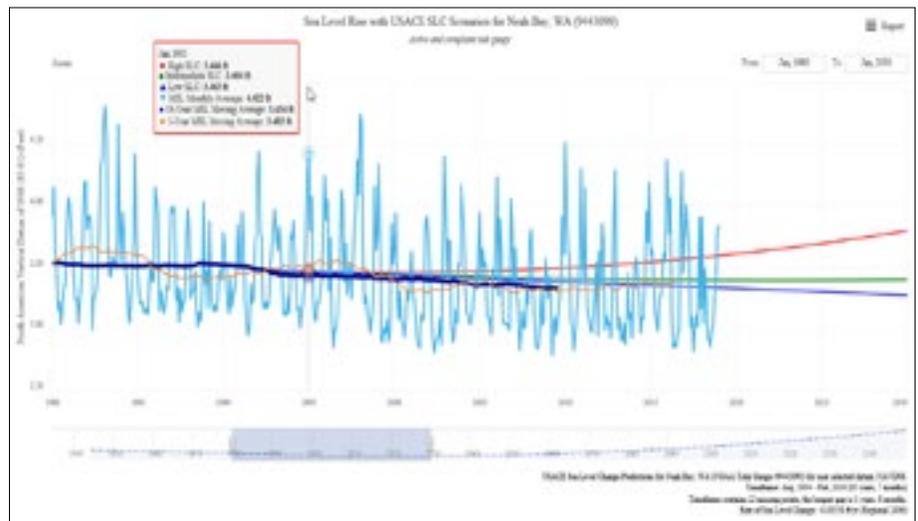
Note: Unlike the rest of the US, seismic and isostatic effects in this area of the Pacific Northwest cause the land surface to rise. This rise in land surface causes relative sea level to drop.



2
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values



3
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values
 From January 1980 To January 2030



STATE: WA, Washington

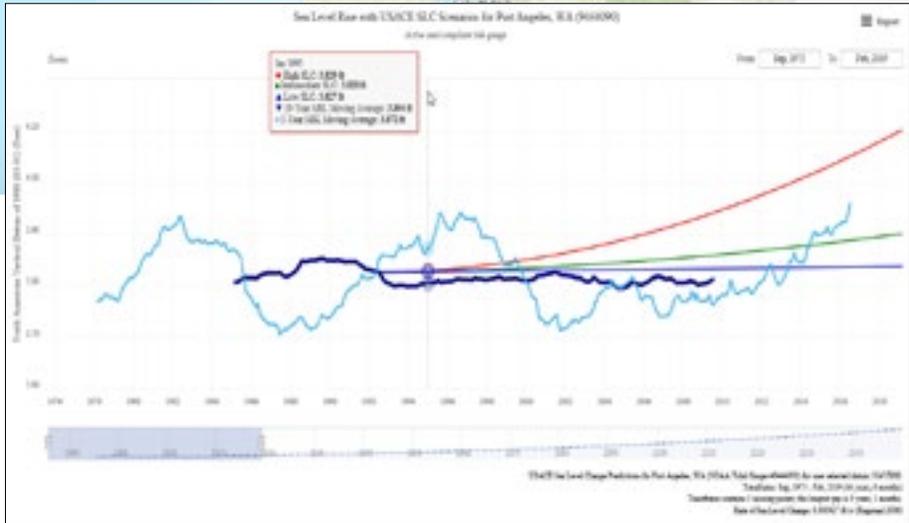
Gauge: **Port Angeles**

Datum: NAVD88

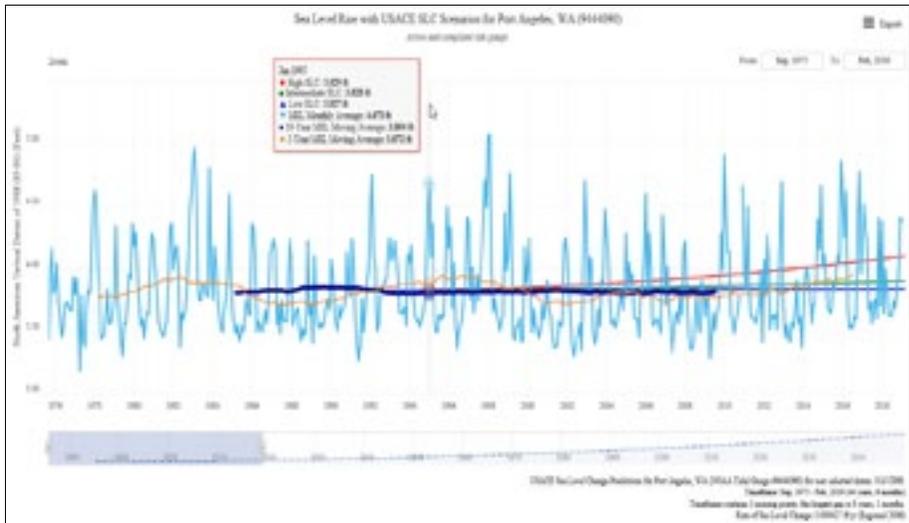


1
19-year midpoint moving average
5-year MSL midpoint moving average

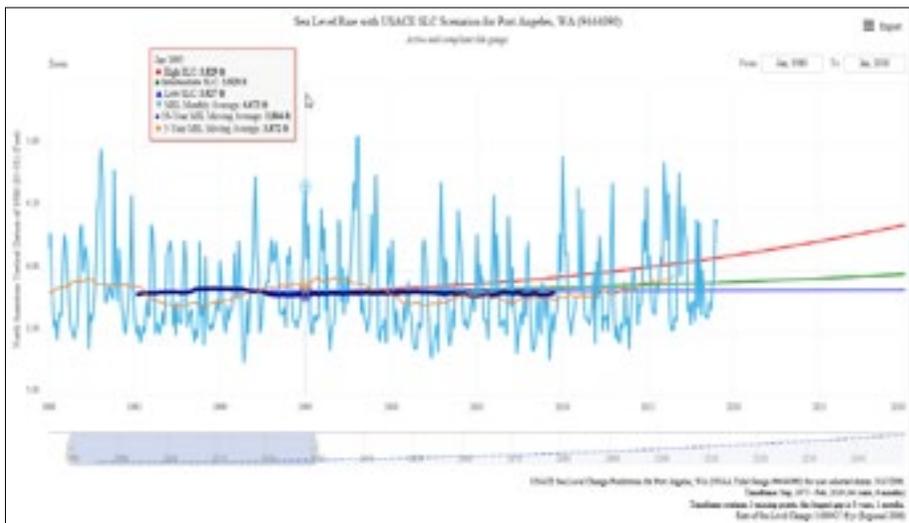
Note: Unlike the rest of the US, seismic and isostatic effects in this area of the Pacific Northwest cause the land surface to rise. This rise in land surface causes relative sea level to drop.



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



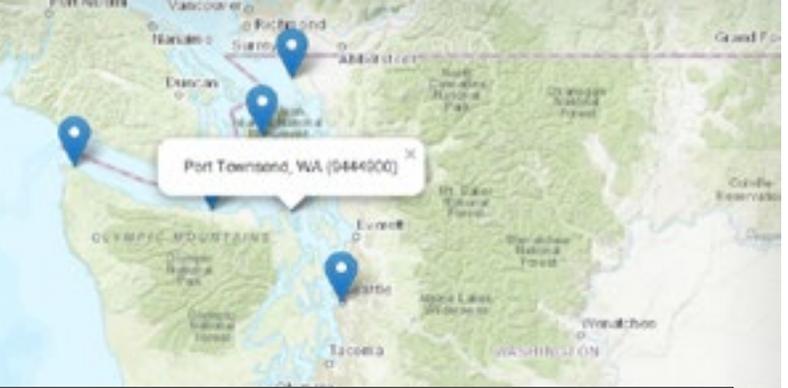
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



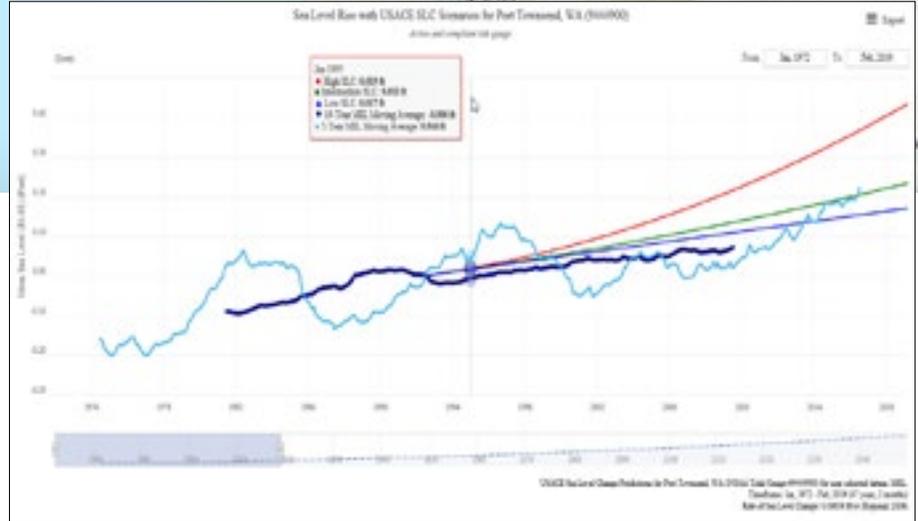
STATE: WA, Washington

Gauge: **Port Townsend**

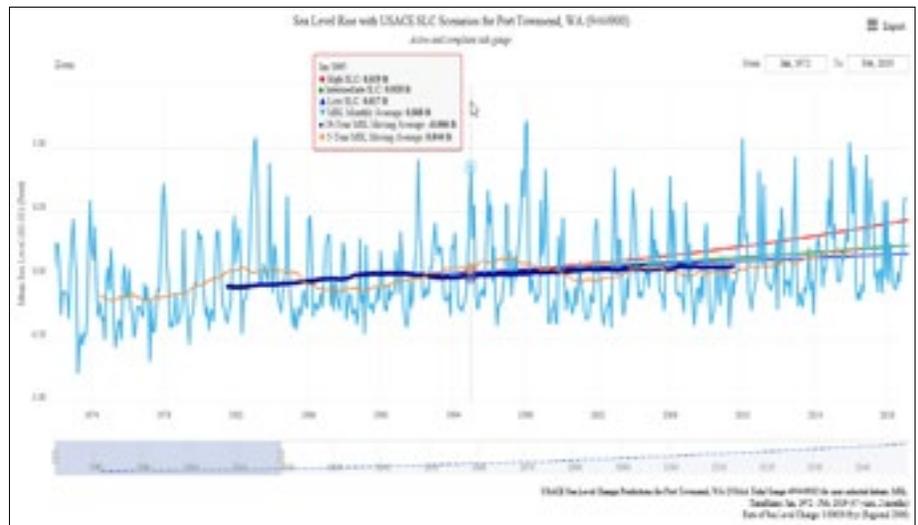
DATUM: **MSL**



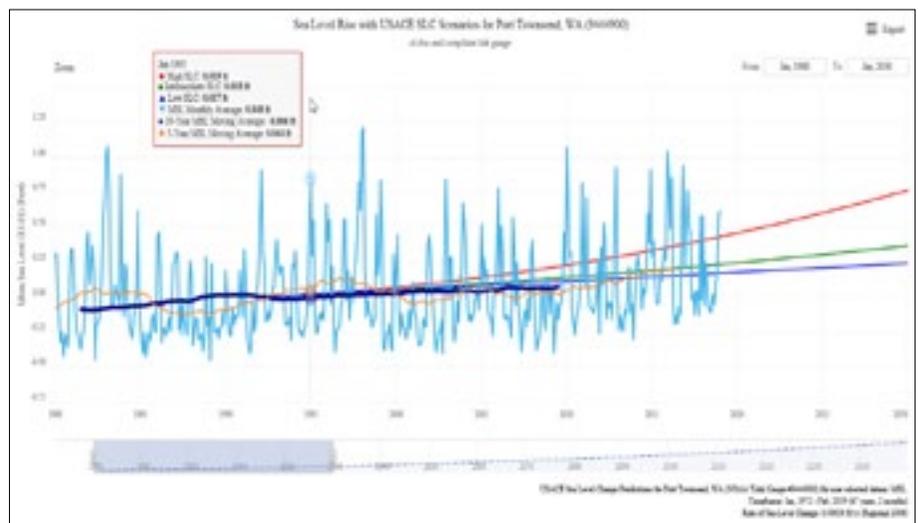
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



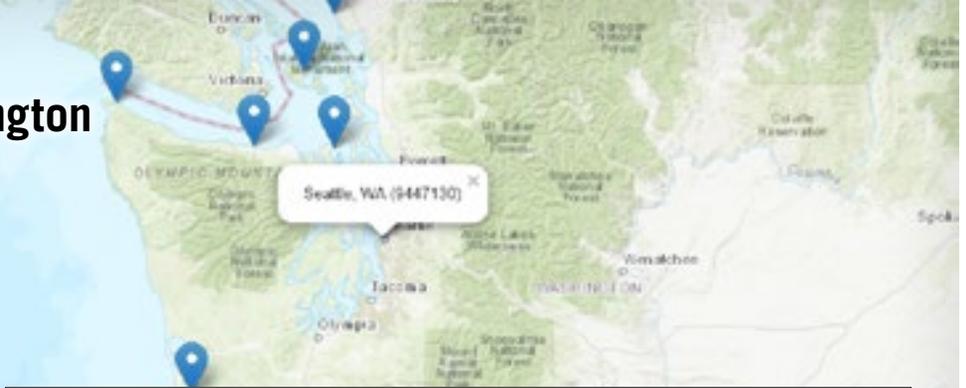
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



STATE: WA, Washington

Gauge: **Seattle**

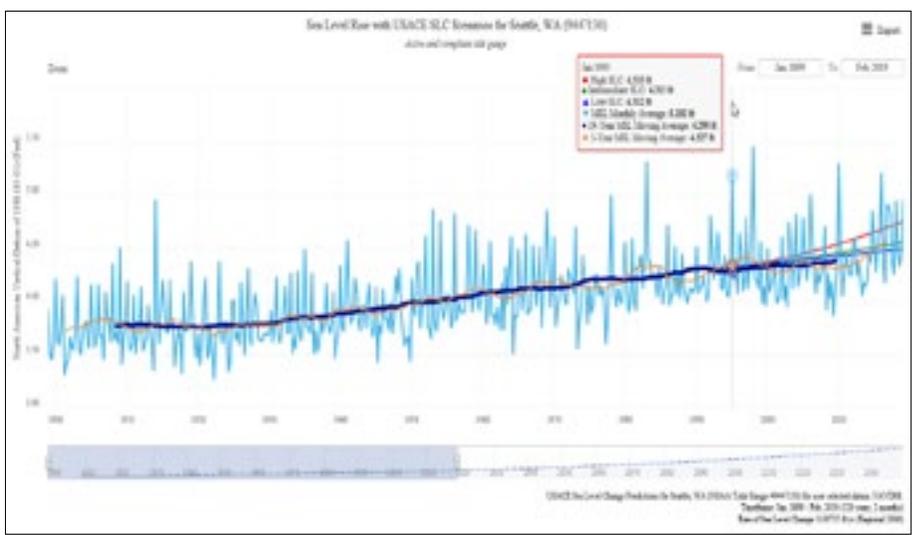
Datum: NAVD88



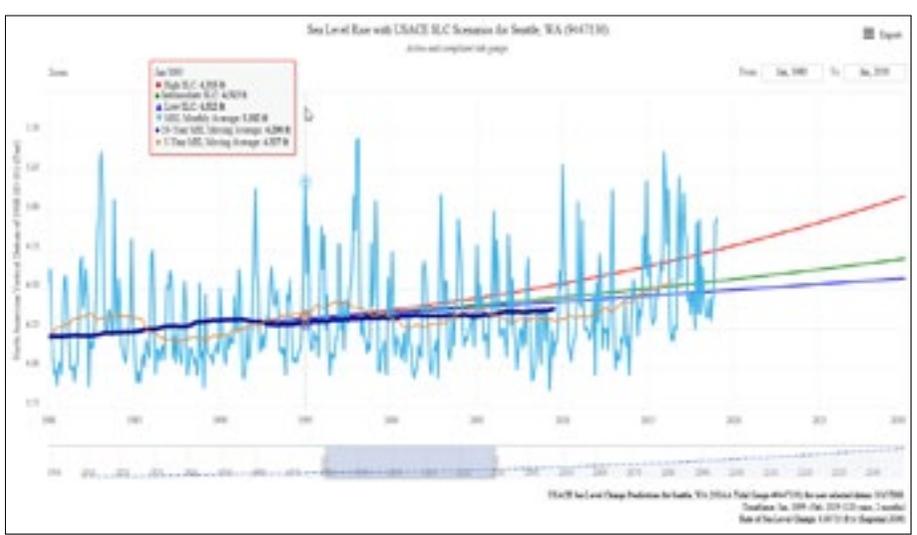
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



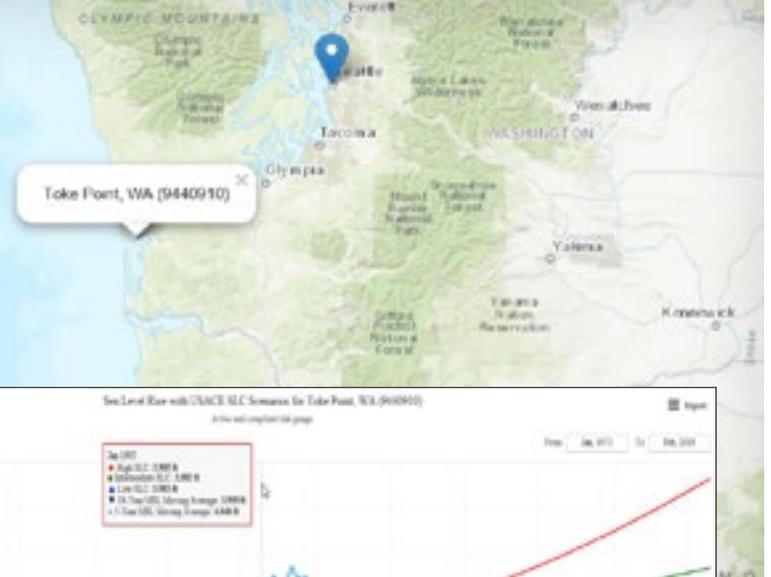
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



STATE: WA, Washington

Gauge: **Toke Point**

Datum: NAVD88

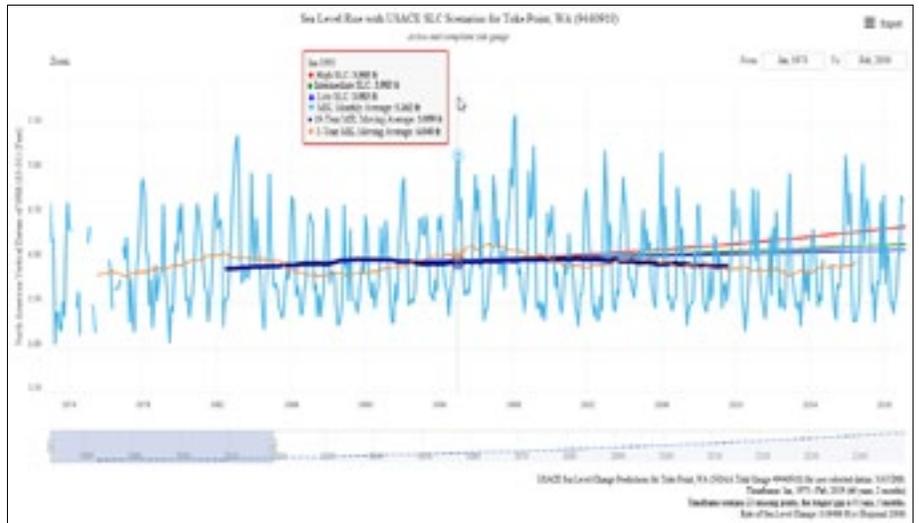


1
19-year midpoint moving average
5-year MSL midpoint moving average

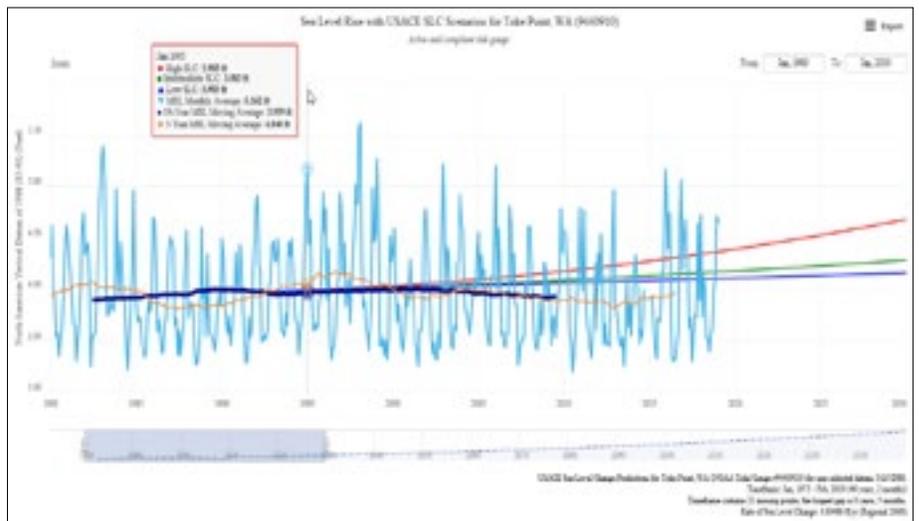
Note: Unlike the rest of the US, seismic and isostatic effects in this area of the Pacific Northwest cause the land surface to rise. This rise in land surface causes relative sea level to drop.



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



STATE: AK, Alaska

Gauge: **Adak Island**

Datum: NAVD88

Unreliable gauge due to local event – use with caution

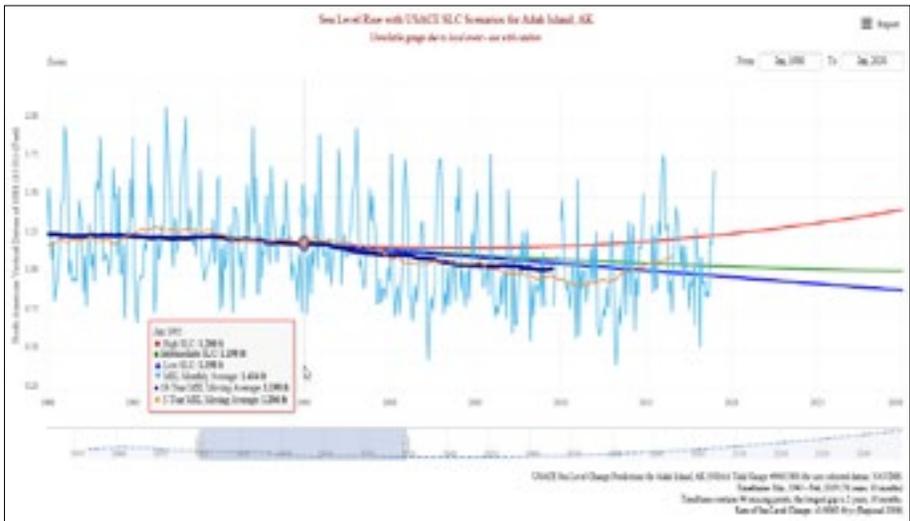
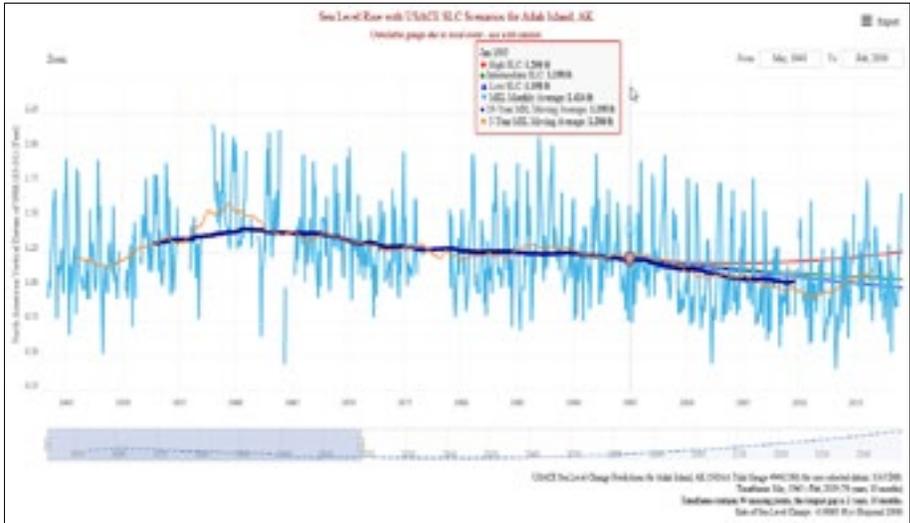
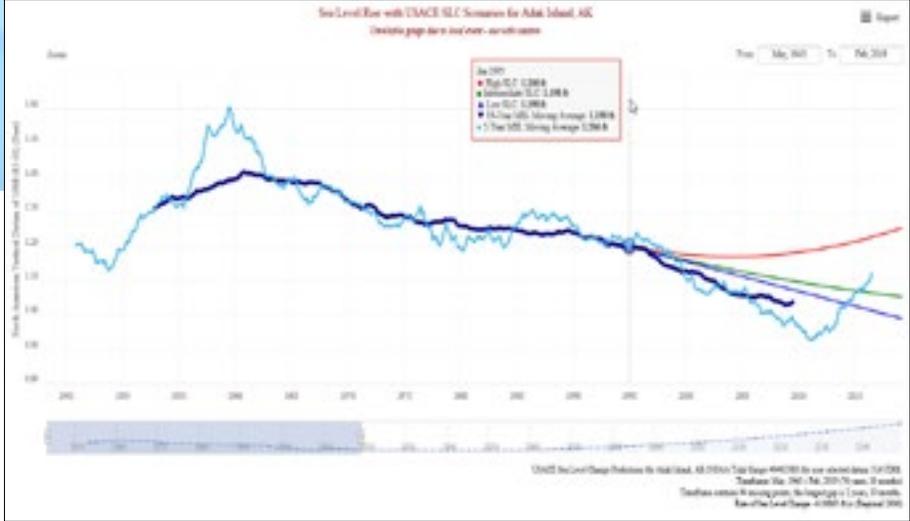


1
19-year midpoint moving average
5-year MSL midpoint moving average

Note: Unlike the rest of the US, seismic and isostatic effects in this area of Alaska cause the land surface to rise. This rise in land surface causes relative sea level to drop.

2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values

3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

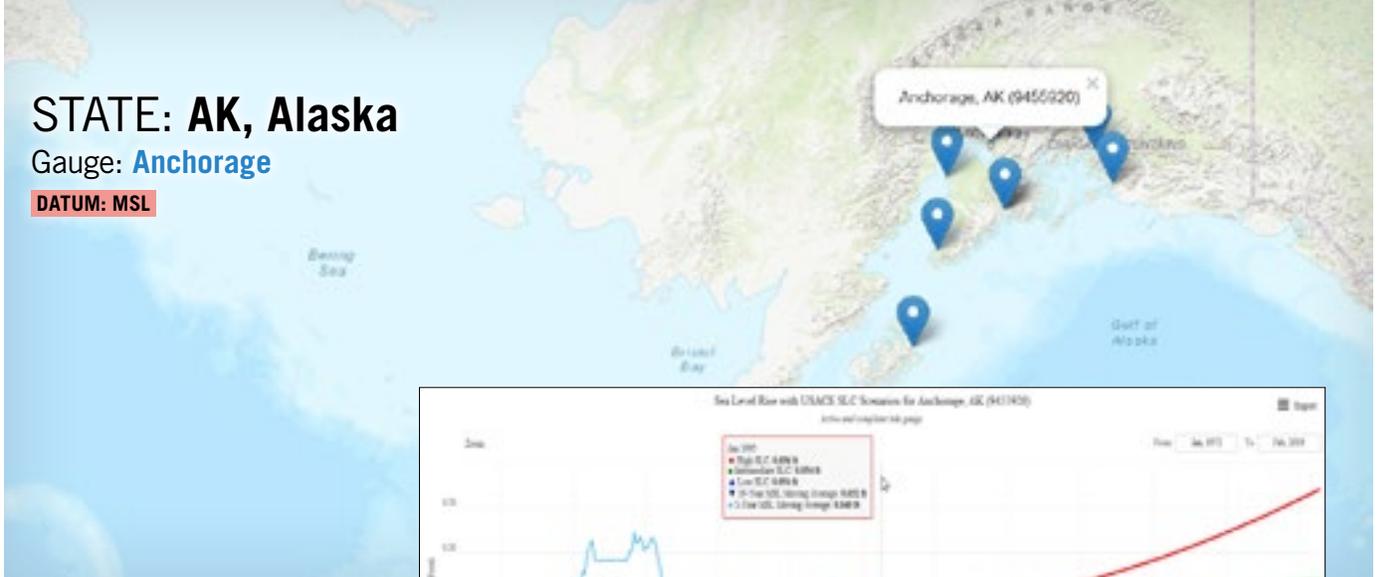


ALASKA

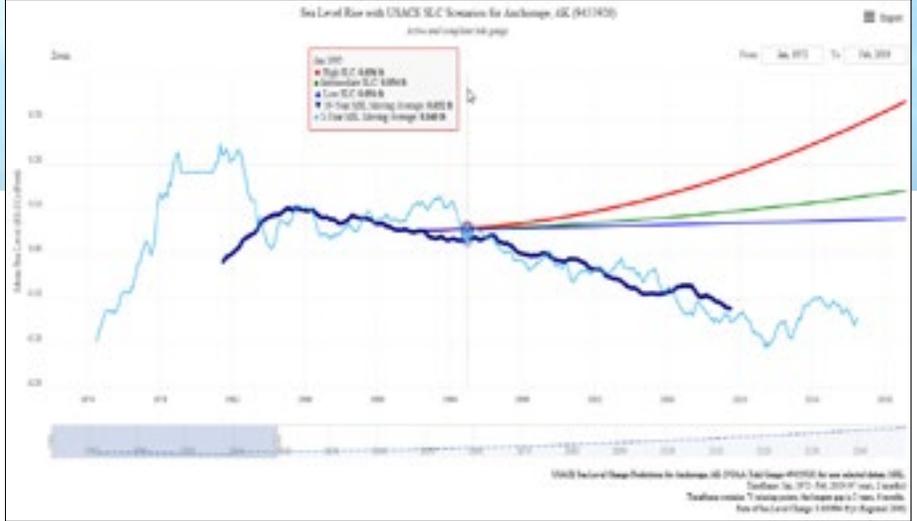
STATE: **AK, Alaska**

Gauge: **Anchorage**

DATUM: **MSL**

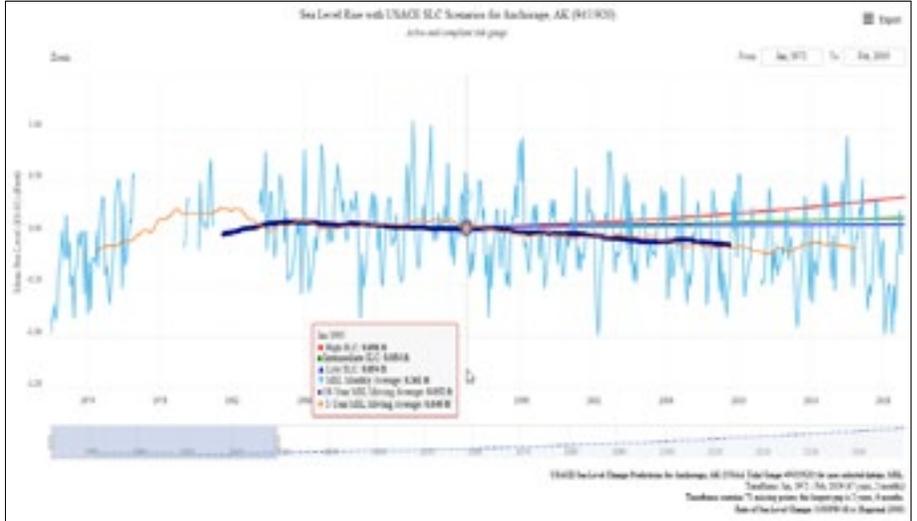


1
19-year midpoint moving average
5-year MSL midpoint moving average

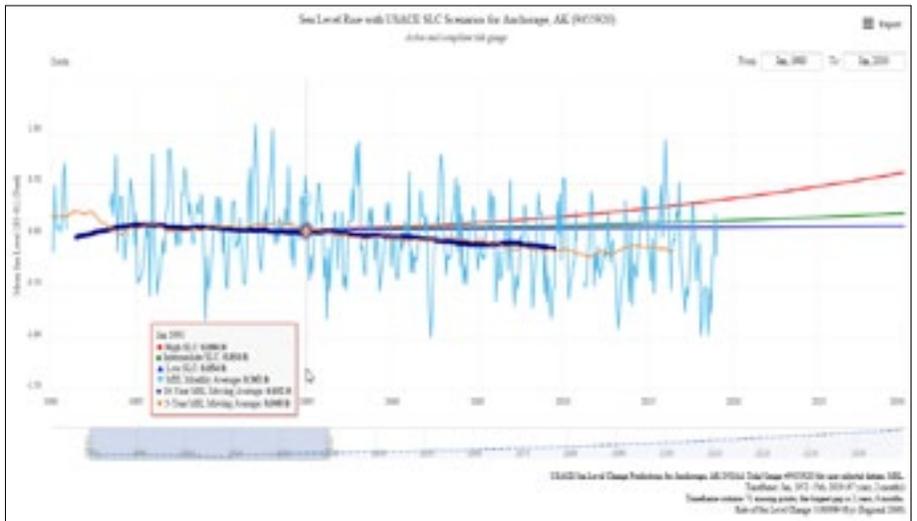


Note: Unlike the rest of the US, seismic and isostatic effects in this area of Alaska cause the land surface to rise. This rise in land surface causes relative sea level to drop.

2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



STATE: AK, Alaska

Gauge: **Cordova**

DATUM: **MSL**

Unreliable gauge due to local event – use with caution

1

19-year midpoint moving average
5-year MSL midpoint moving average

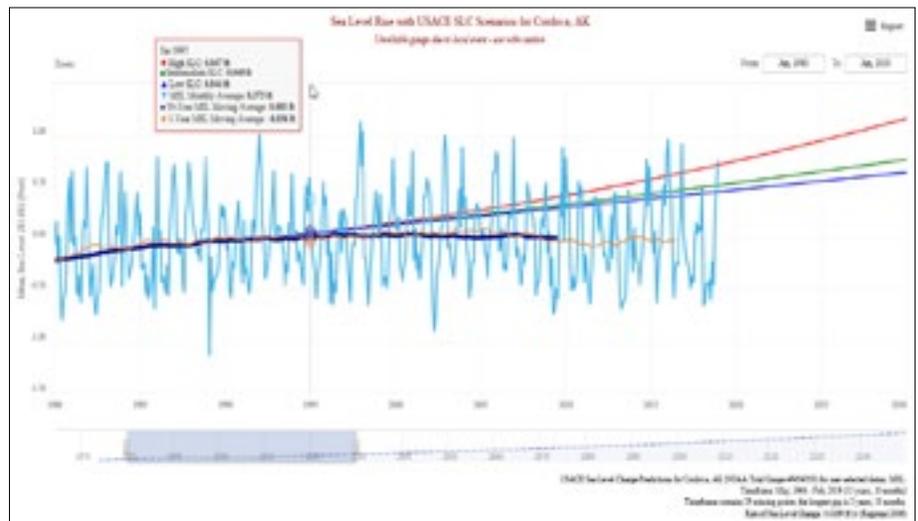
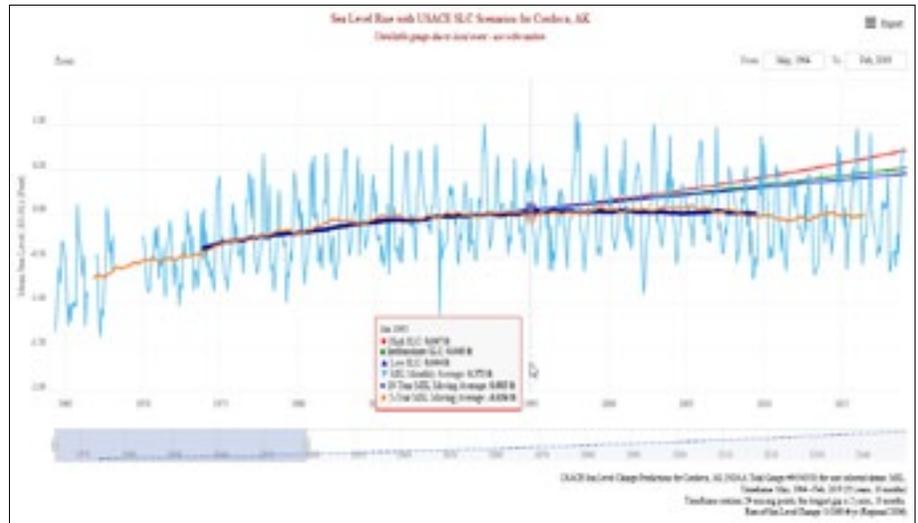
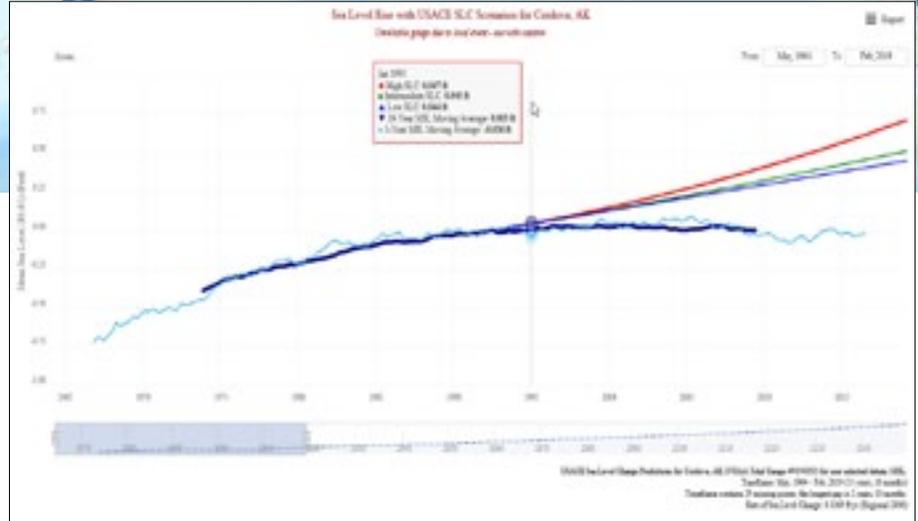
Note: Unlike the rest of the US, seismic and isostatic effects in this area of Alaska cause the land surface to rise. This rise in land surface causes relative sea level to drop.

2

19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values

3

19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

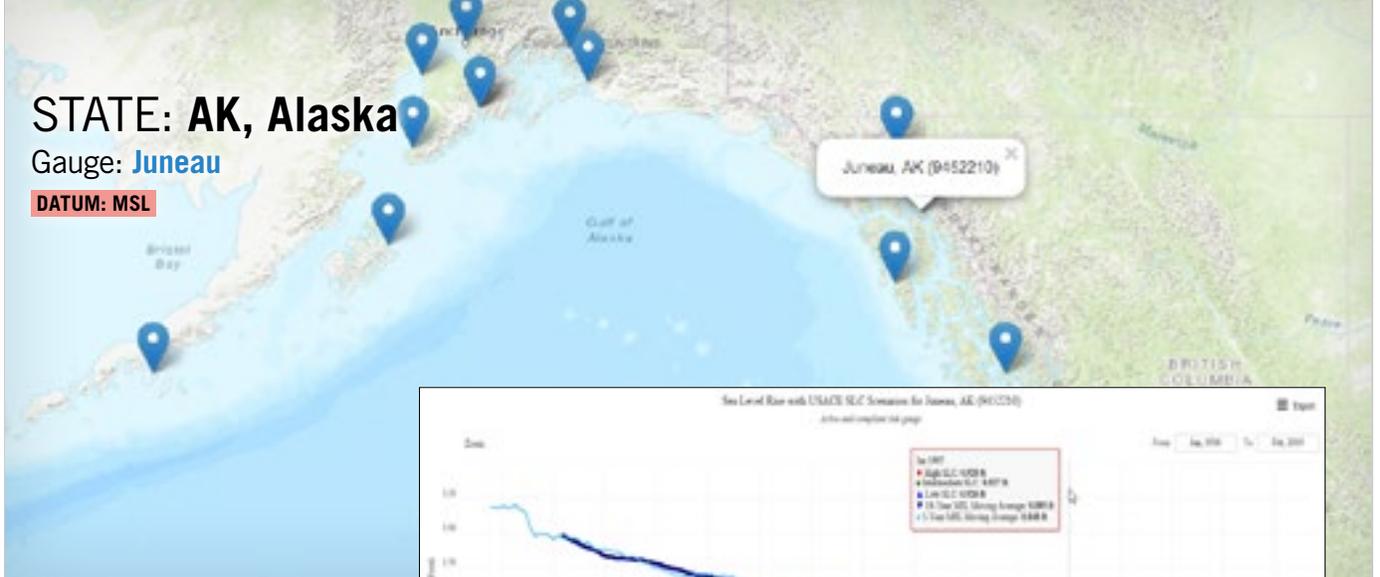


ALASKA

STATE: **AK, Alaska**

Gauge: **Juneau**

DATUM: **MSL**

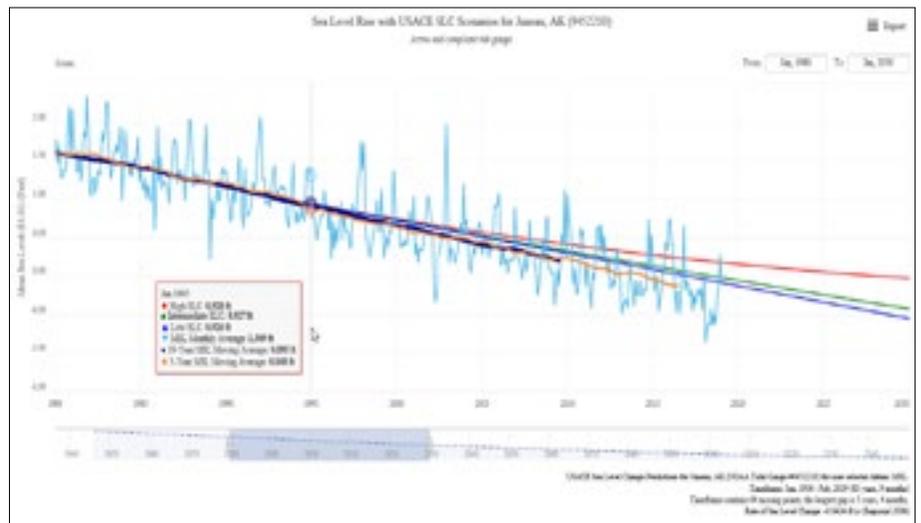
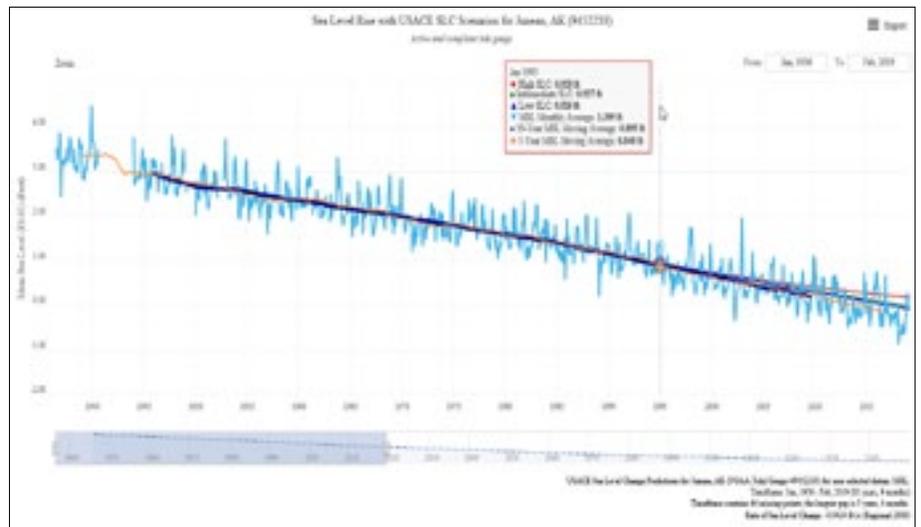
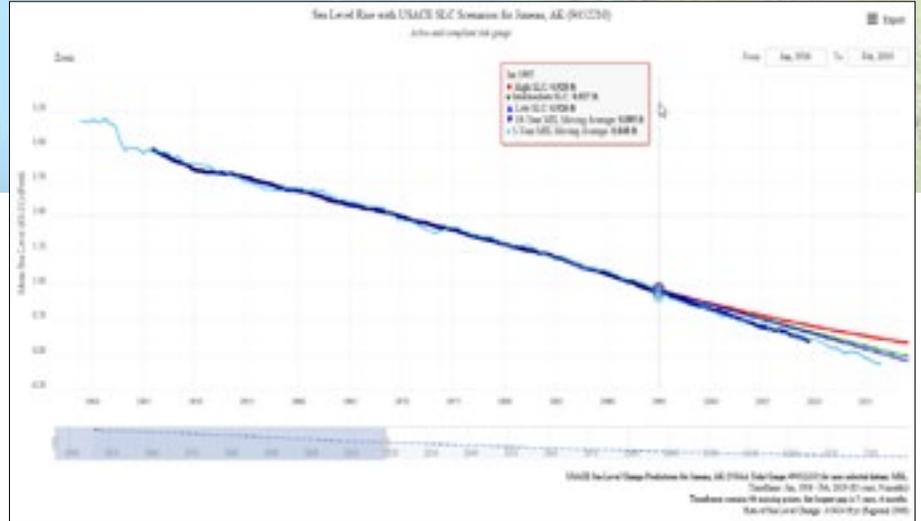


1
19-year midpoint moving average
5-year MSL midpoint moving average

Note: Unlike the rest of the US, seismic and isostatic effects in this area of Alaska cause the land surface to rise. This rise in land surface causes relative sea level to drop.

2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values

3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

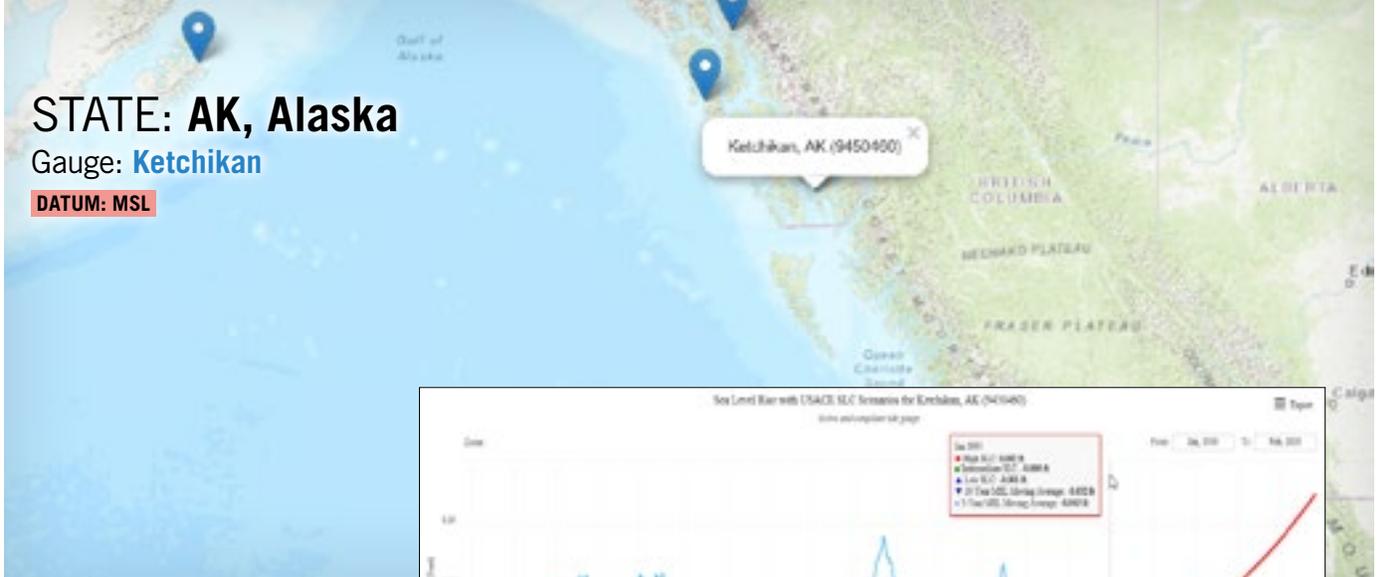


ALASKA

STATE: **AK, Alaska**

Gauge: **Ketchikan**

DATUM: **MSL**

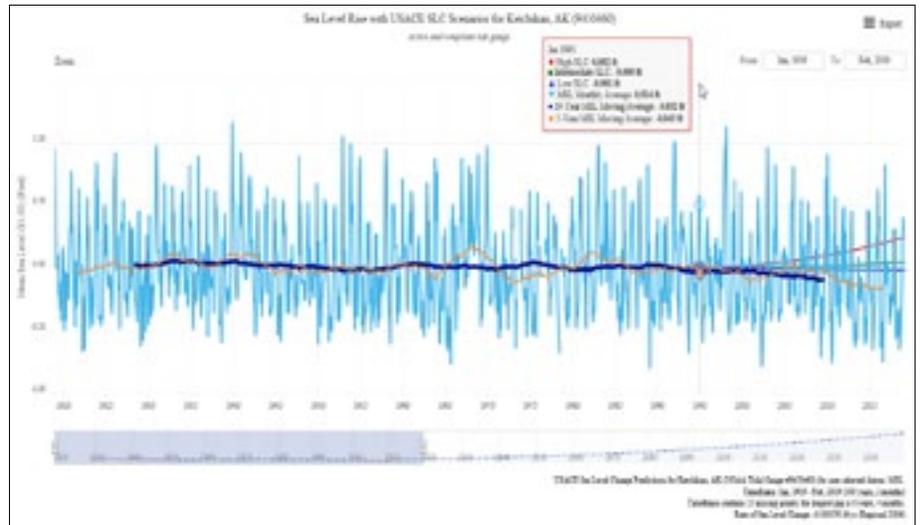


1
19-year midpoint moving average
5-year MSL midpoint moving average

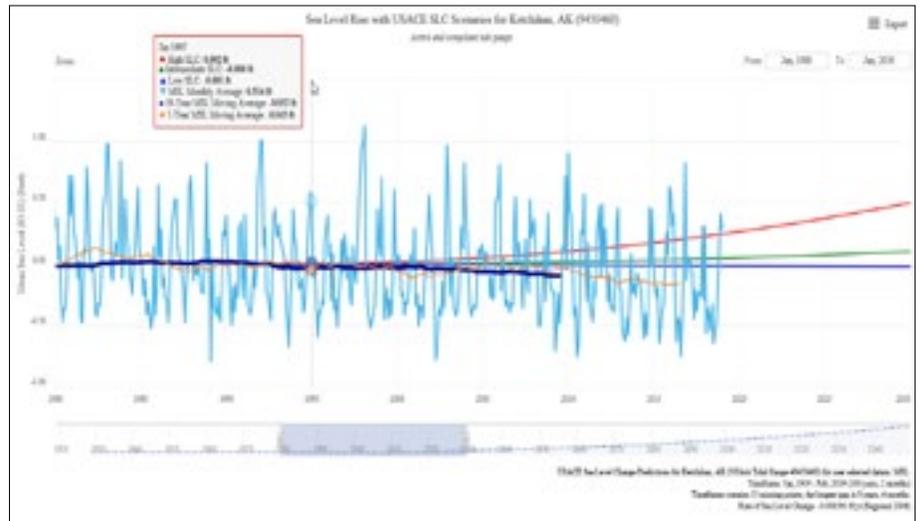


Note: Unlike the rest of the US, seismic and isostatic effects in this area of Alaska cause the land surface to rise. This rise in land surface causes relative sea level to drop.

2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

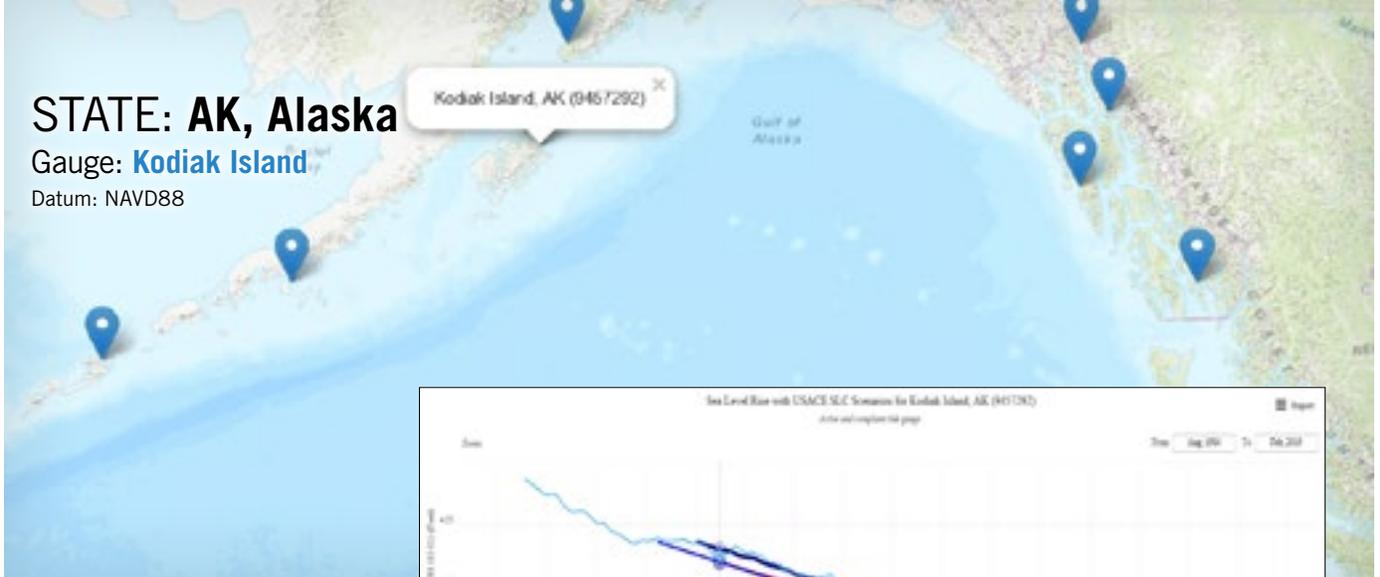


ALASKA

STATE: **AK, Alaska**

Gauge: **Kodiak Island**

Datum: NAVD88

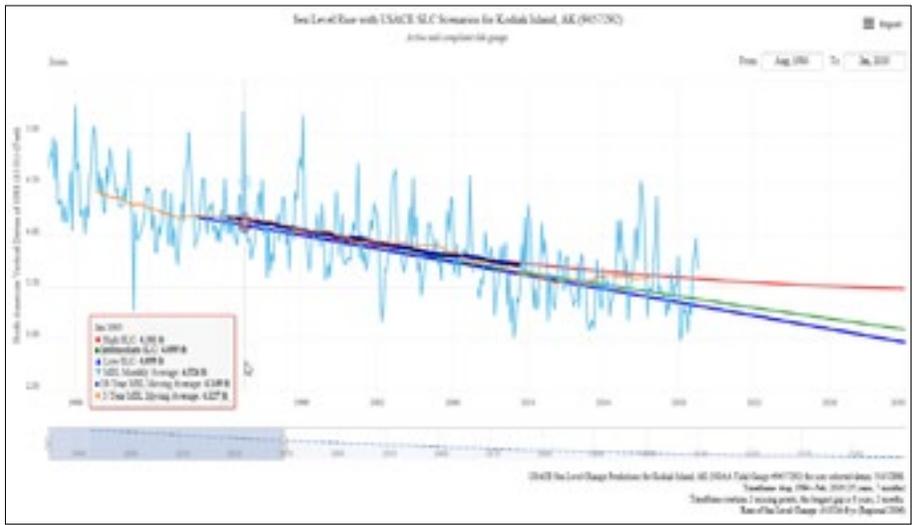
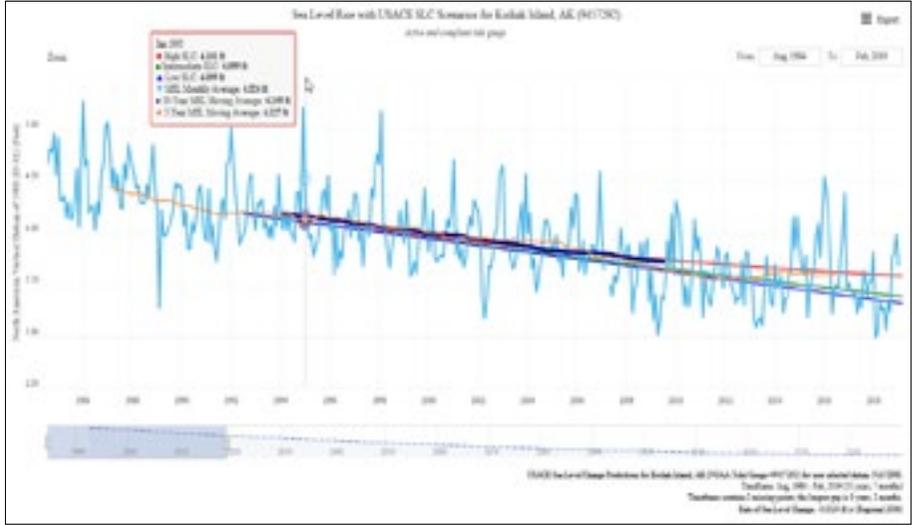
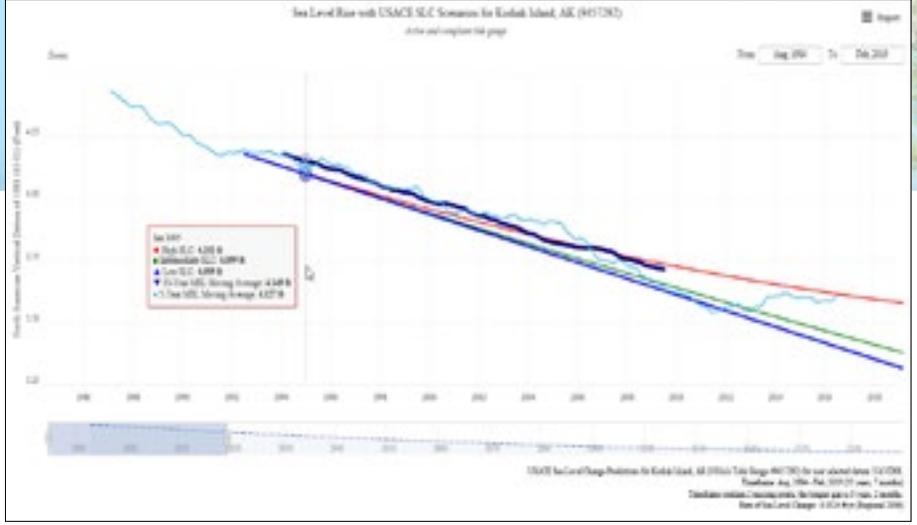


1
19-year midpoint moving average
5-year MSL midpoint moving average

Note: Unlike the rest of the US, seismic and isostatic effects in this area of Alaska cause the land surface to rise. This rise in land surface causes relative sea level to drop.

2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values

3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



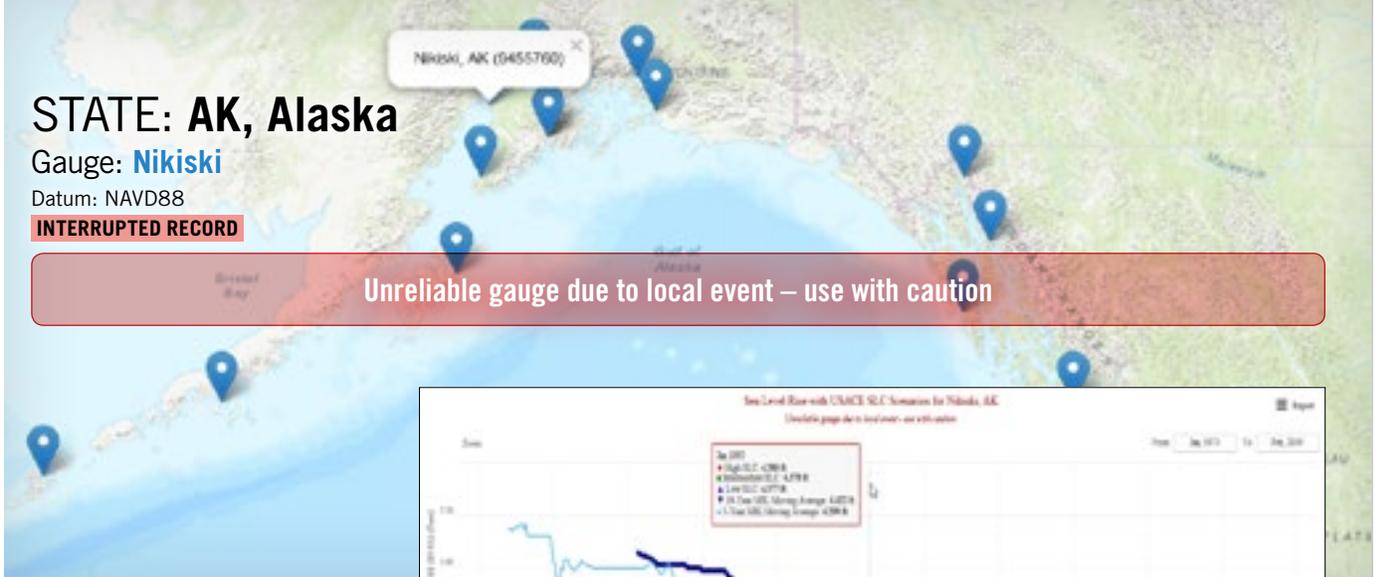
ALASKA

STATE: **AK, Alaska**

Gauge: **Nikiski**

Datum: NAVD88

INTERRUPTED RECORD



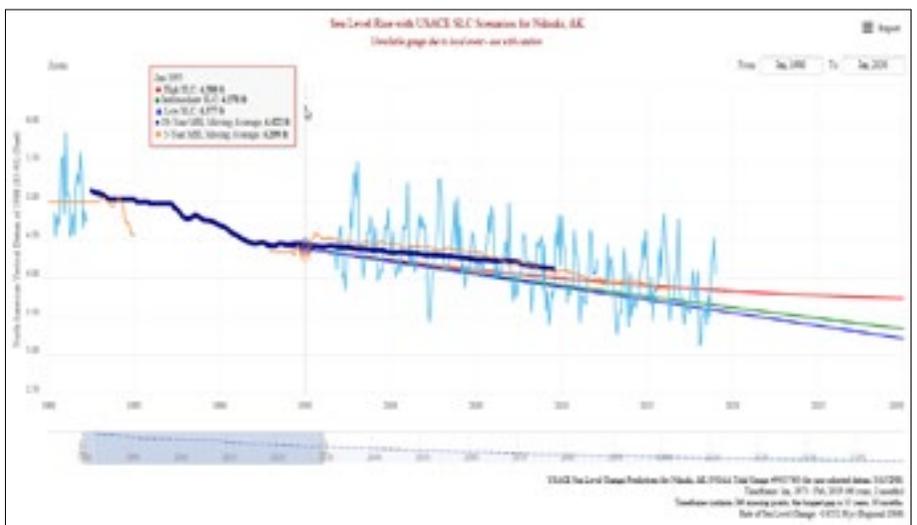
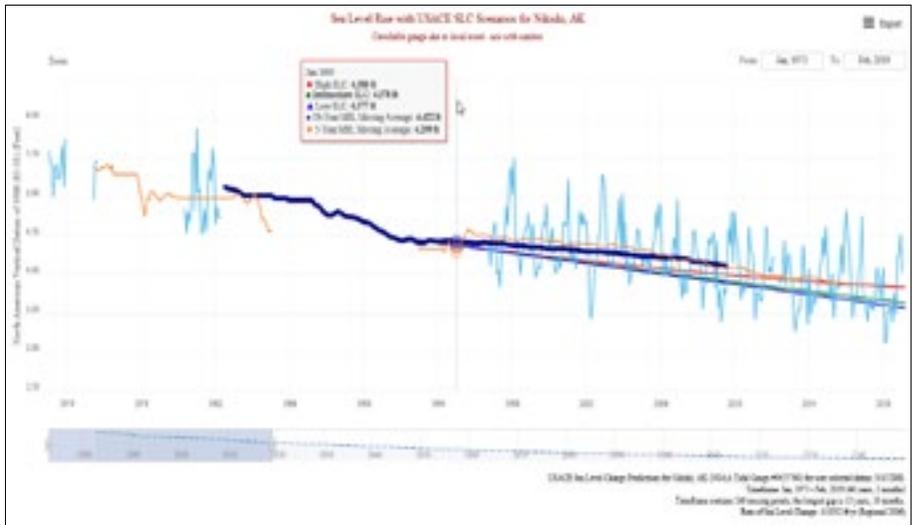
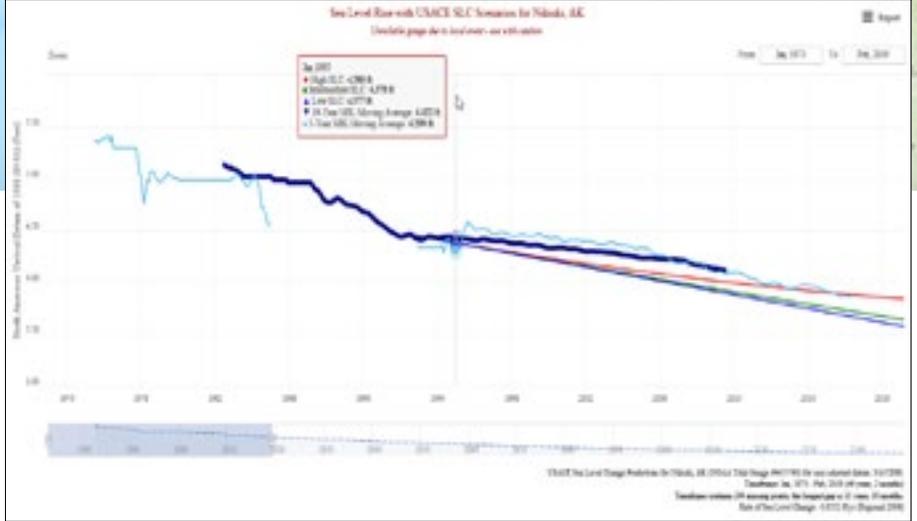
Unreliable gauge due to local event – use with caution

1
19-year midpoint moving average
5-year MSL midpoint moving average

Note: Unlike the rest of the US, seismic and isostatic effects in this area of Alaska cause the land surface to rise. This rise in land surface causes relative sea level to drop.

2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values

3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

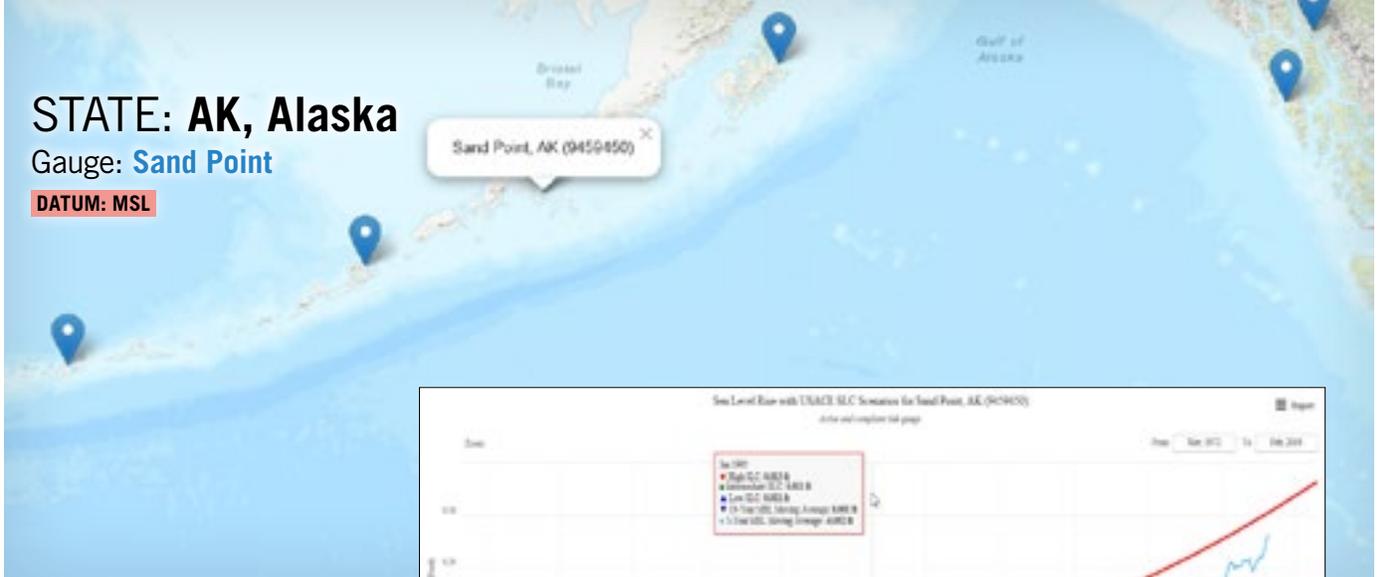


ALASKA

STATE: **AK, Alaska**

Gauge: **Sand Point**

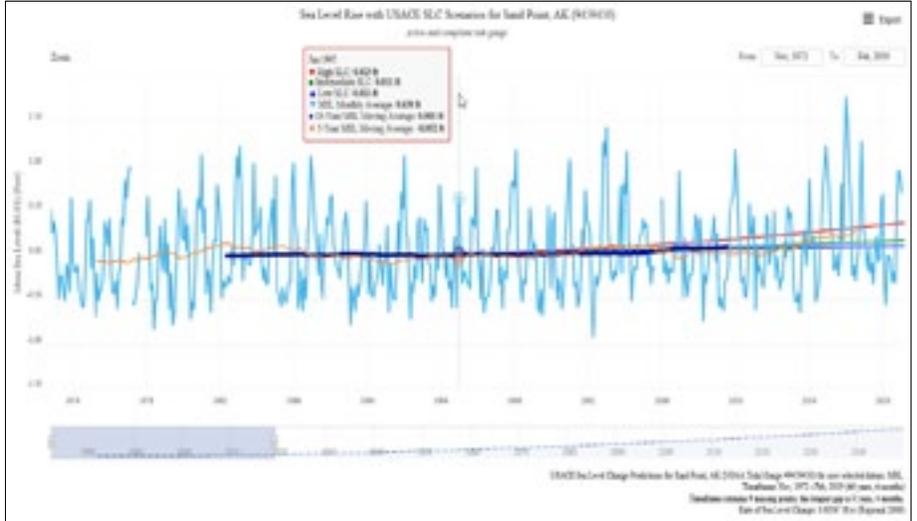
DATUM: **MSL**



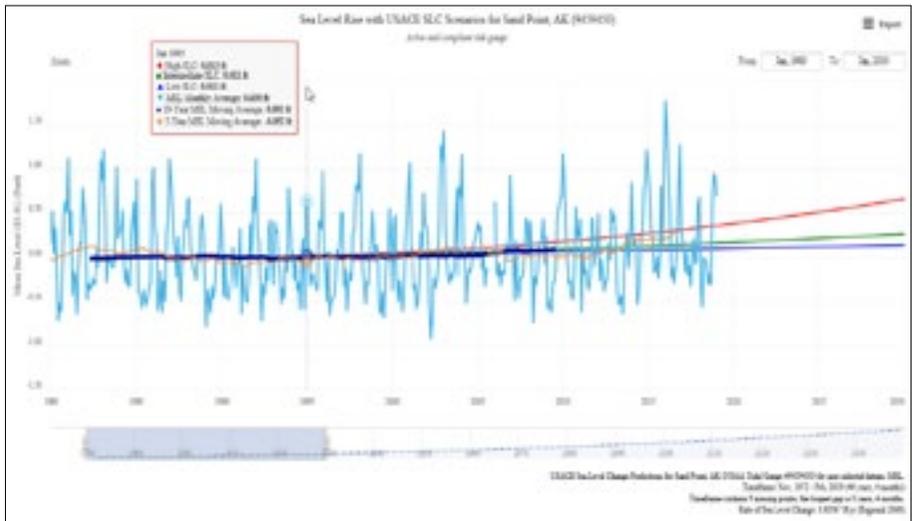
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



ALASKA

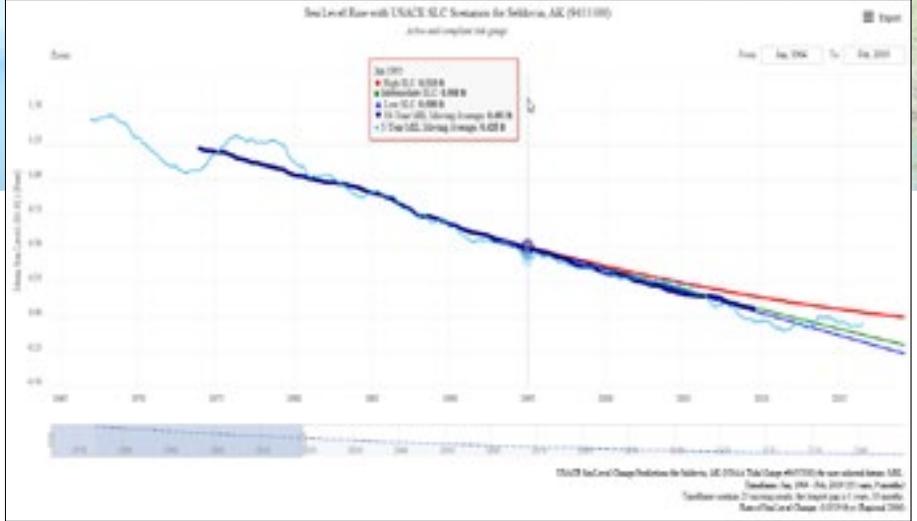
STATE: **AK, Alaska**

Gauge: **Seldovia**

DATUM: **MSL**

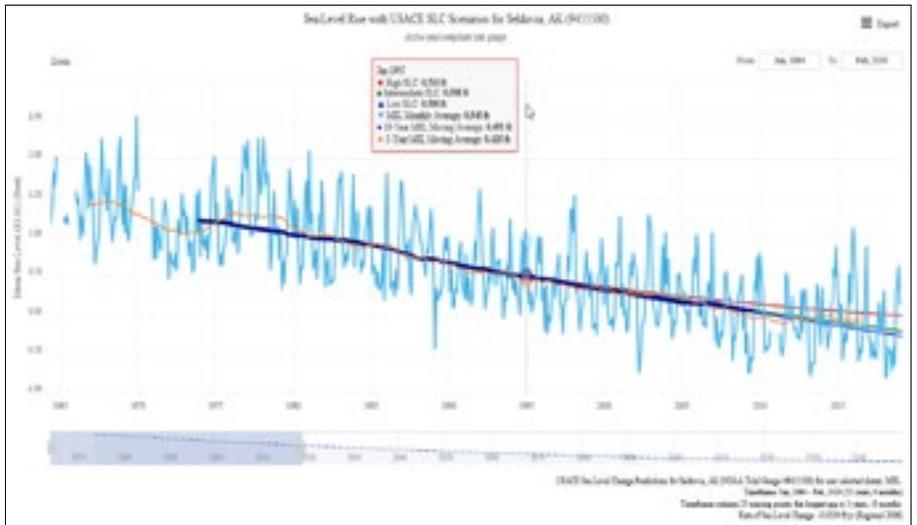


1
 19-year midpoint moving average
 5-year MSL midpoint moving average

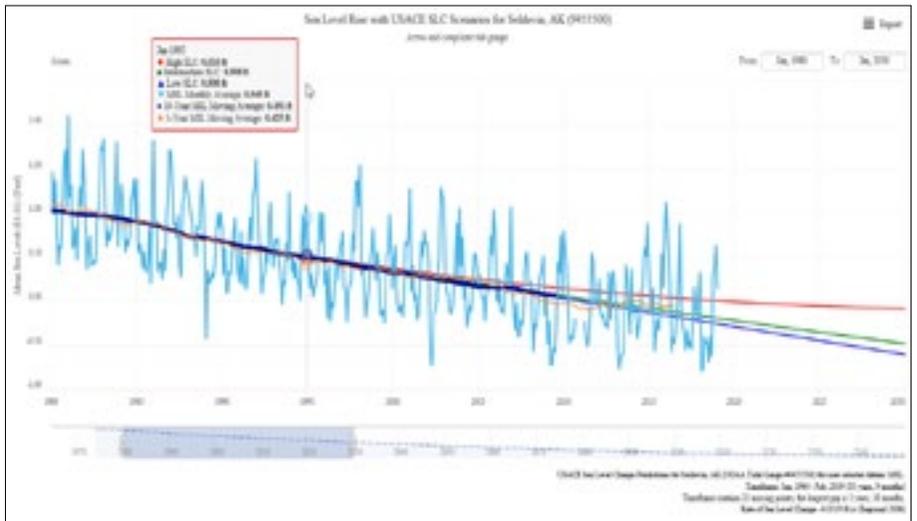


Note: Unlike the rest of the US, seismic and isostatic effects in this area of Alaska cause the land surface to rise. This rise in land surface causes relative sea level to drop.

2
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values



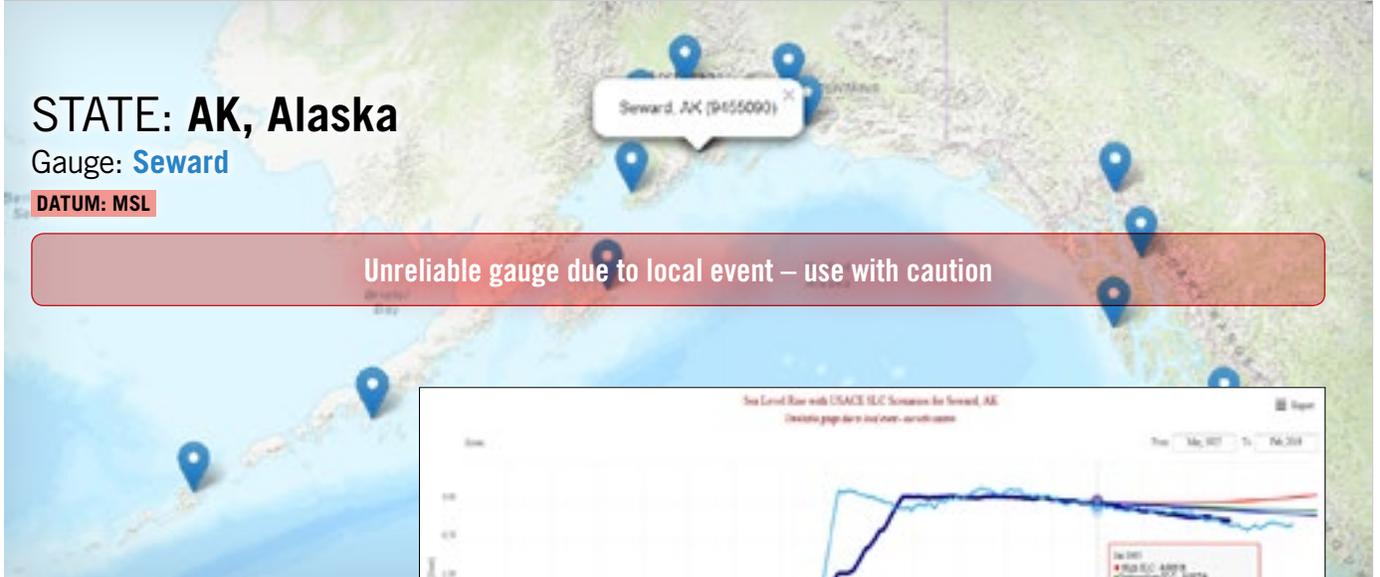
3
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values
 From January 1980 To January 2030



STATE: AK, Alaska

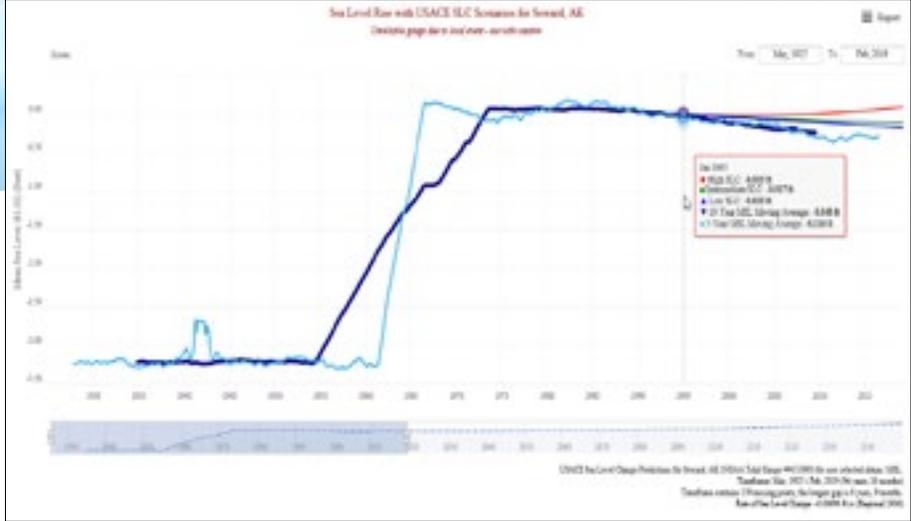
Gauge: **Seward**

DATUM: **MSL**



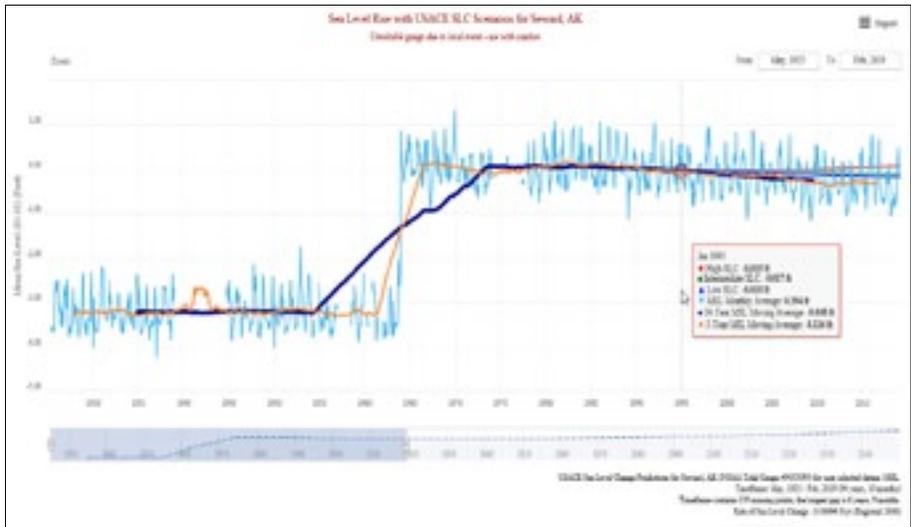
Unreliable gauge due to local event – use with caution

1
19-year midpoint moving average
5-year MSL midpoint moving average

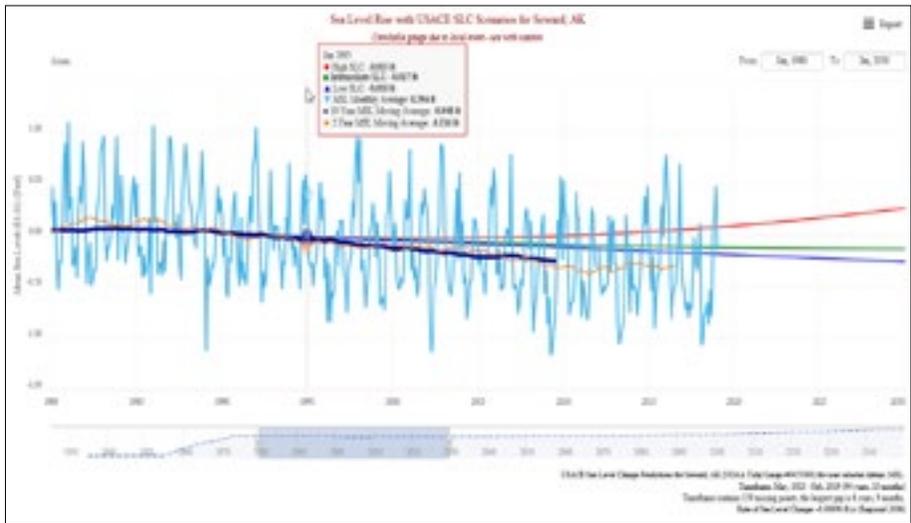


Note: Unlike the rest of the US, seismic and isostatic effects in this area of Alaska cause the land surface to rise. This rise in land surface causes relative sea level to drop.

2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

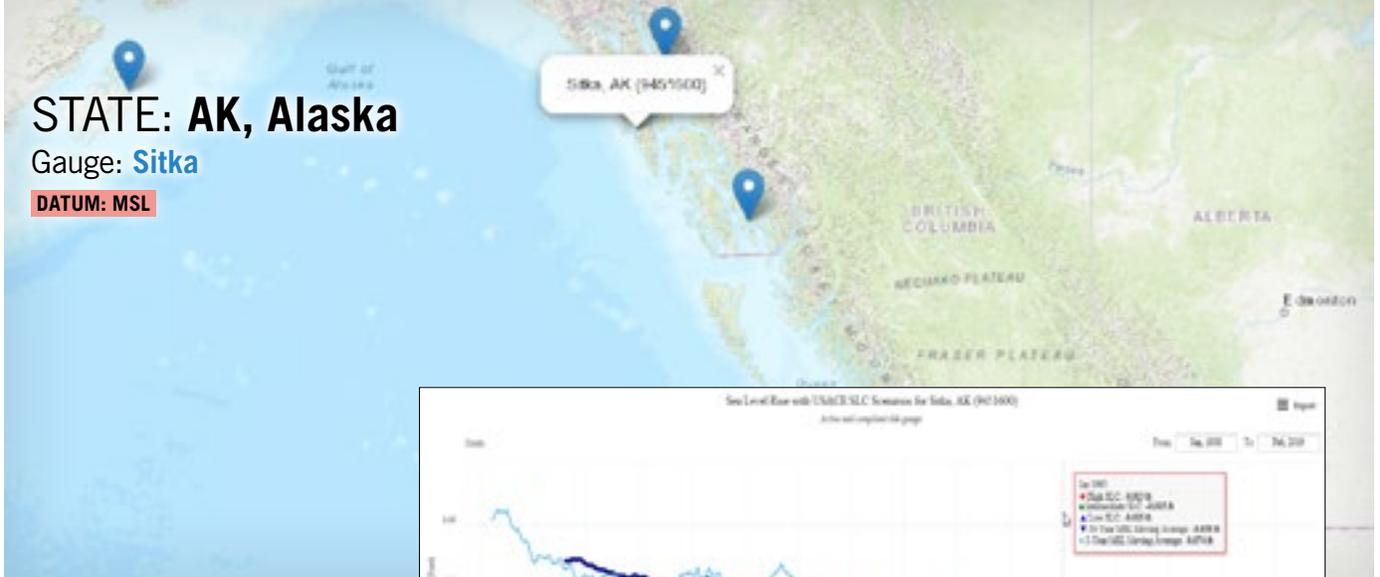


ALASKA

STATE: **AK, Alaska**

Gauge: **Sitka**

DATUM: **MSL**

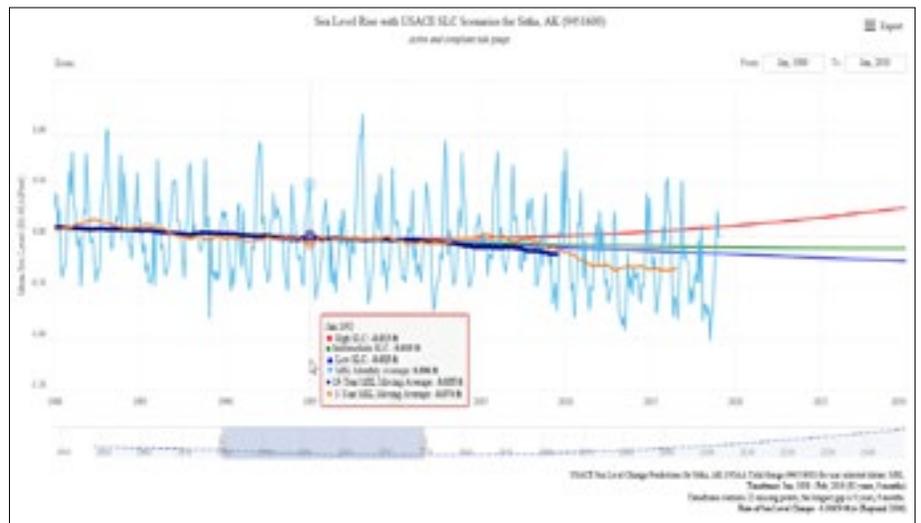
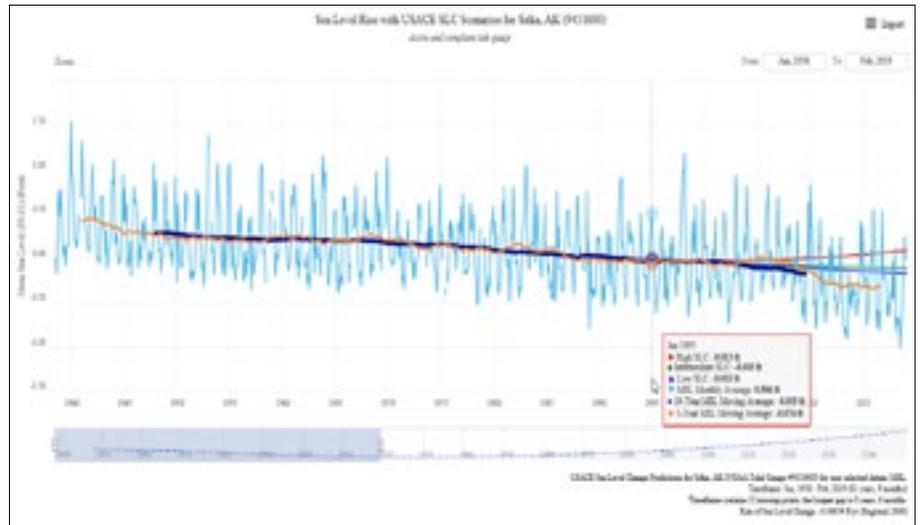
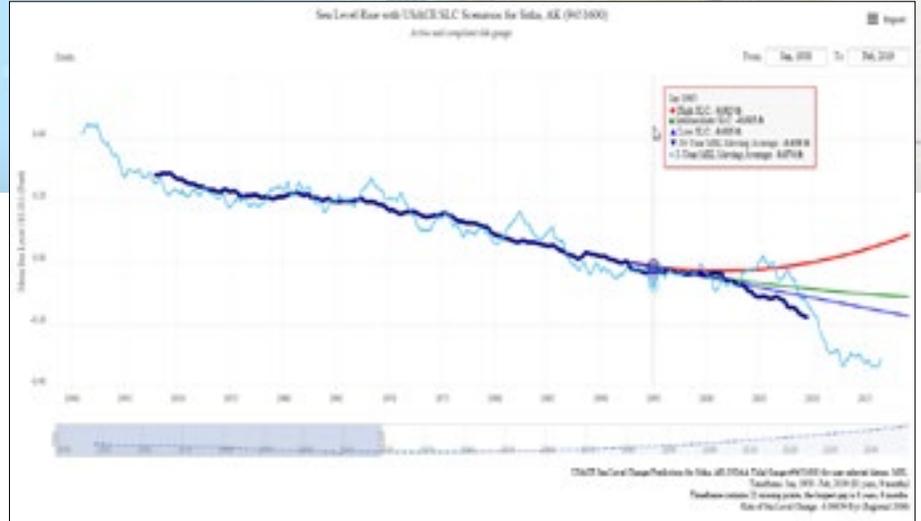


1
19-year midpoint moving average
5-year MSL midpoint moving average

Note: Unlike the rest of the US, seismic and isostatic effects in this area of Alaska cause the land surface to rise. This rise in land surface causes relative sea level to drop.

2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values

3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



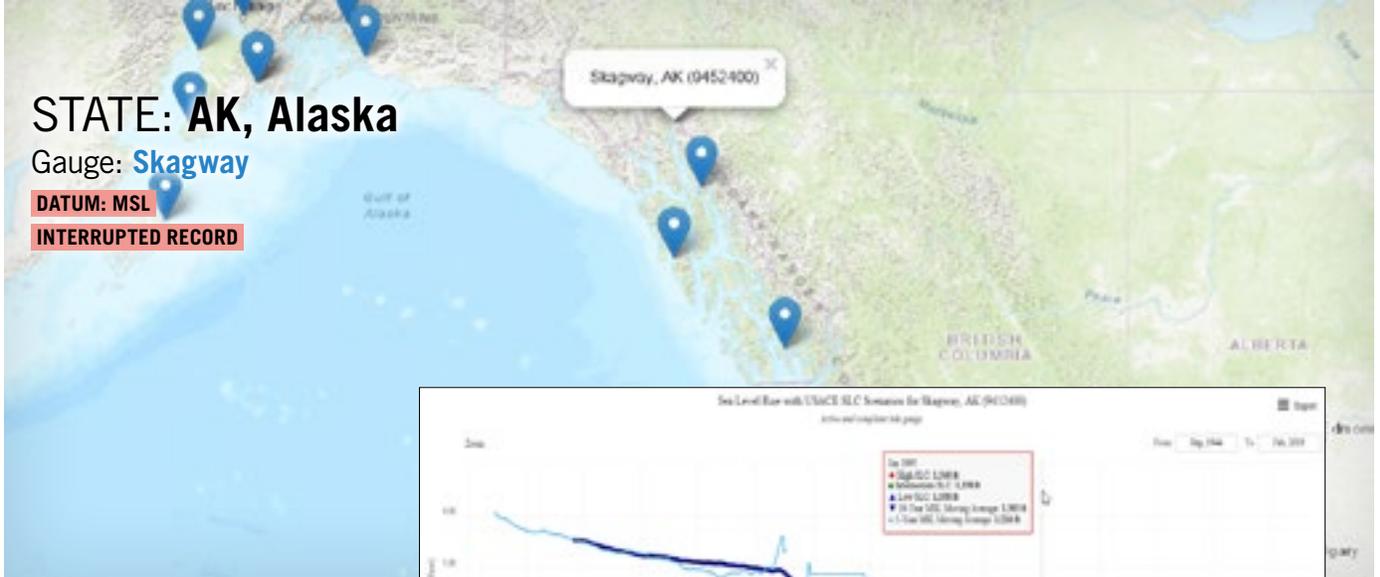
ALASKA

STATE: **AK, Alaska**

Gauge: **Skagway**

DATUM: **MSL**

INTERRUPTED RECORD

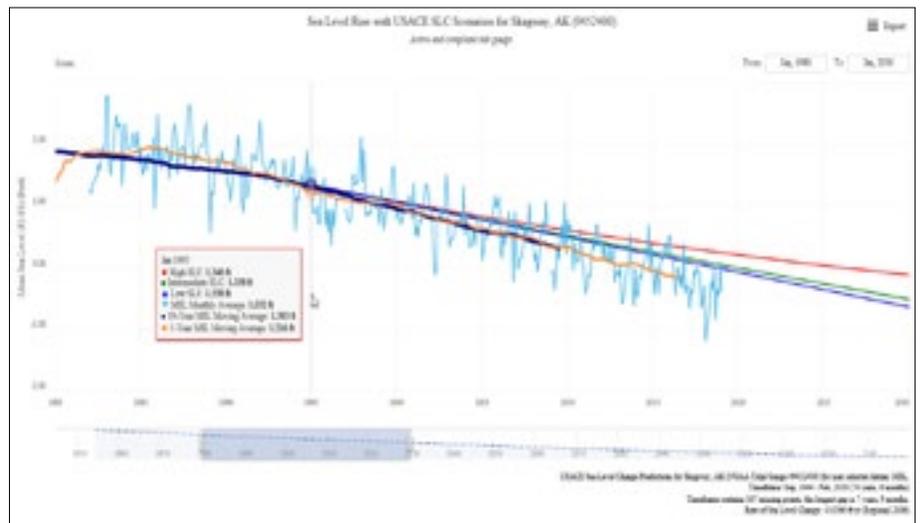
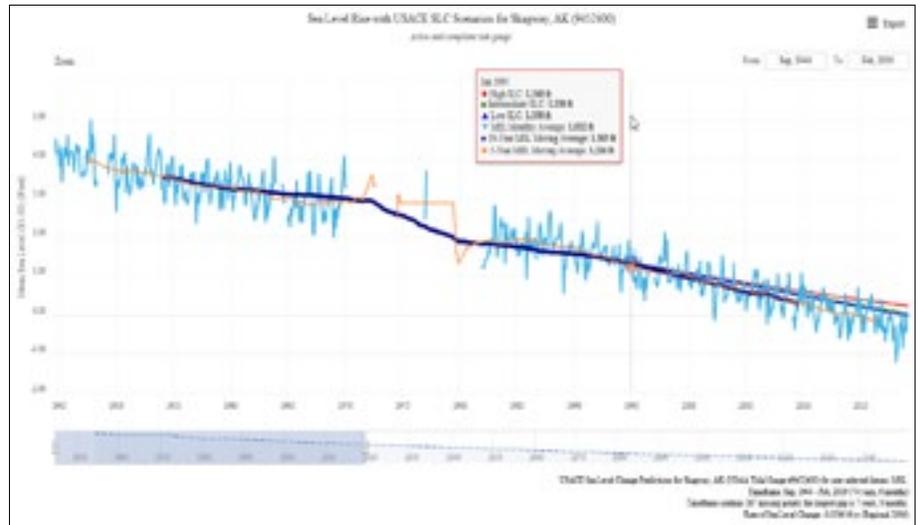
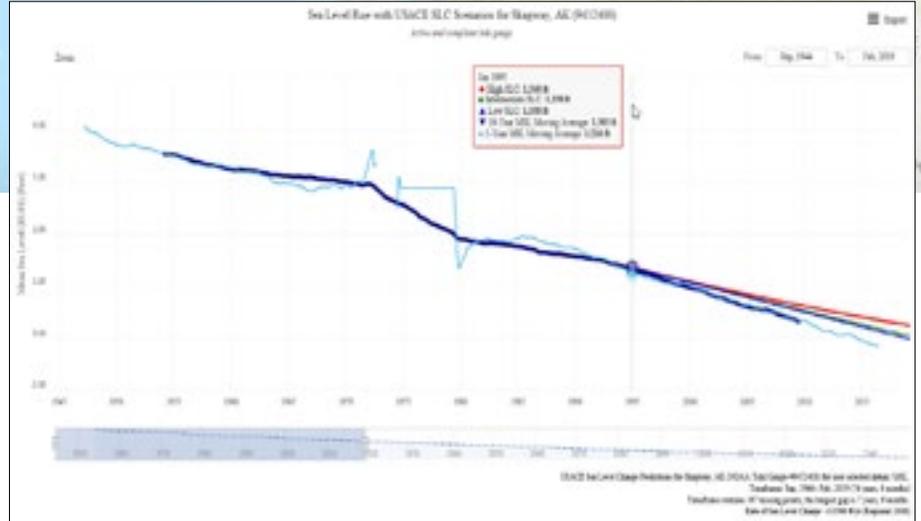


1
19-year midpoint moving average
5-year MSL midpoint moving average

Note: Unlike the rest of the US, seismic and isostatic effects in this area of Alaska cause the land surface to rise. This rise in land surface causes relative sea level to drop.

2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values

3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

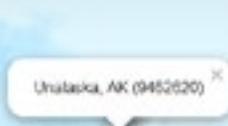


ALASKA

STATE: **AK, Alaska**

Gauge: **Unalaska**

DATUM: **MSL**



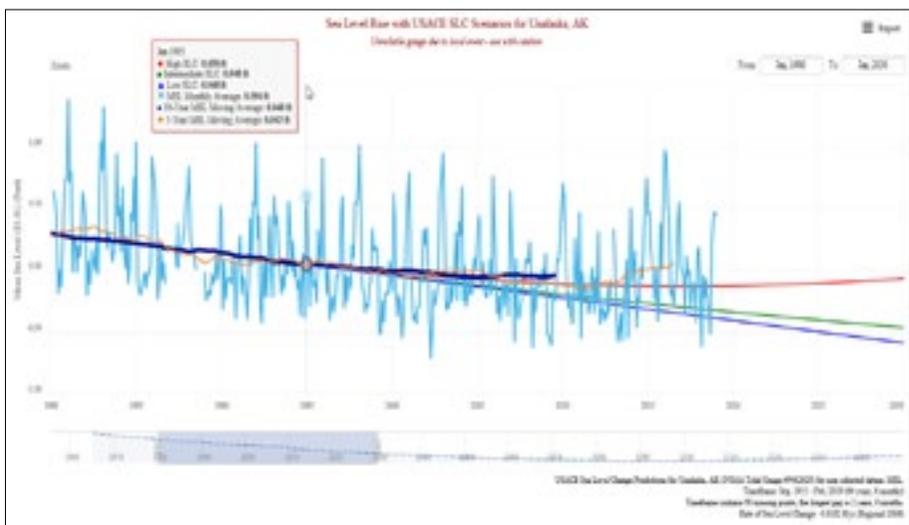
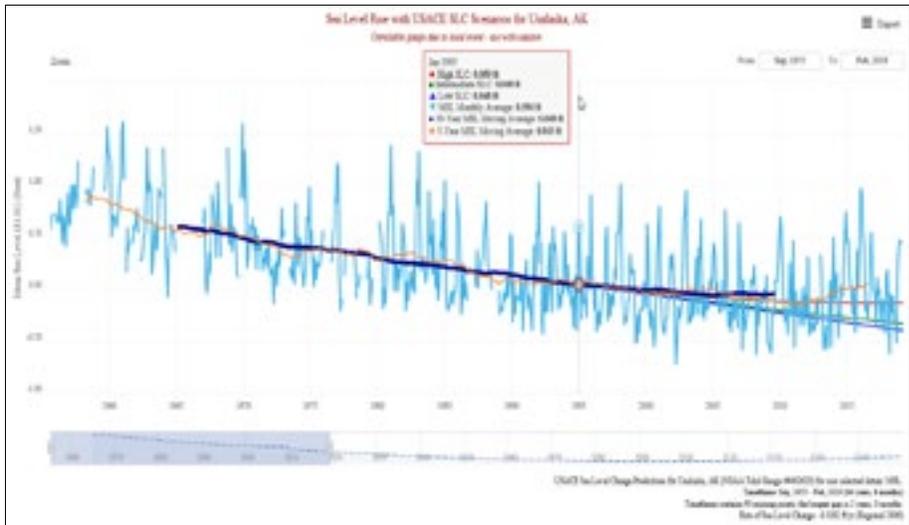
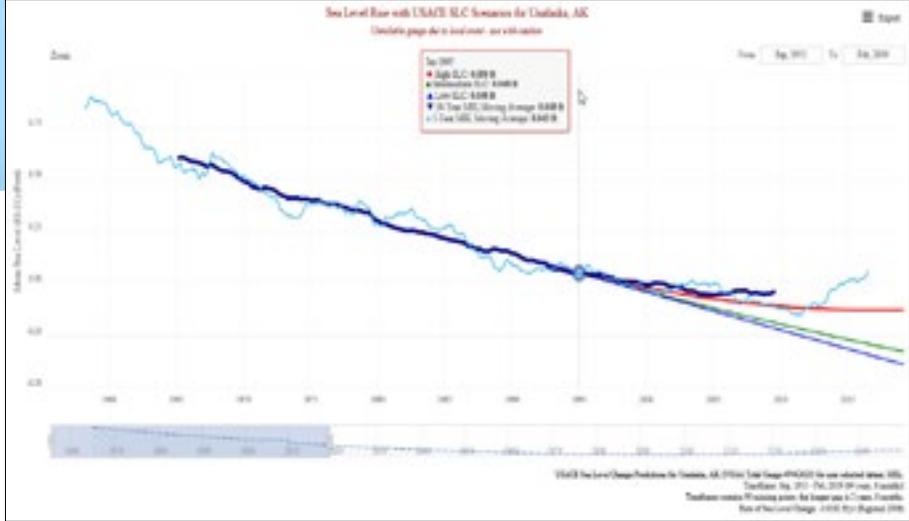
Unreliable gauge due to local event – use with caution

1
19-year midpoint moving average
5-year MSL midpoint moving average

Note: Unlike the rest of the US, seismic and isostatic effects in this area of Alaska cause the land surface to rise. This rise in land surface causes relative sea level to drop.

2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values

3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

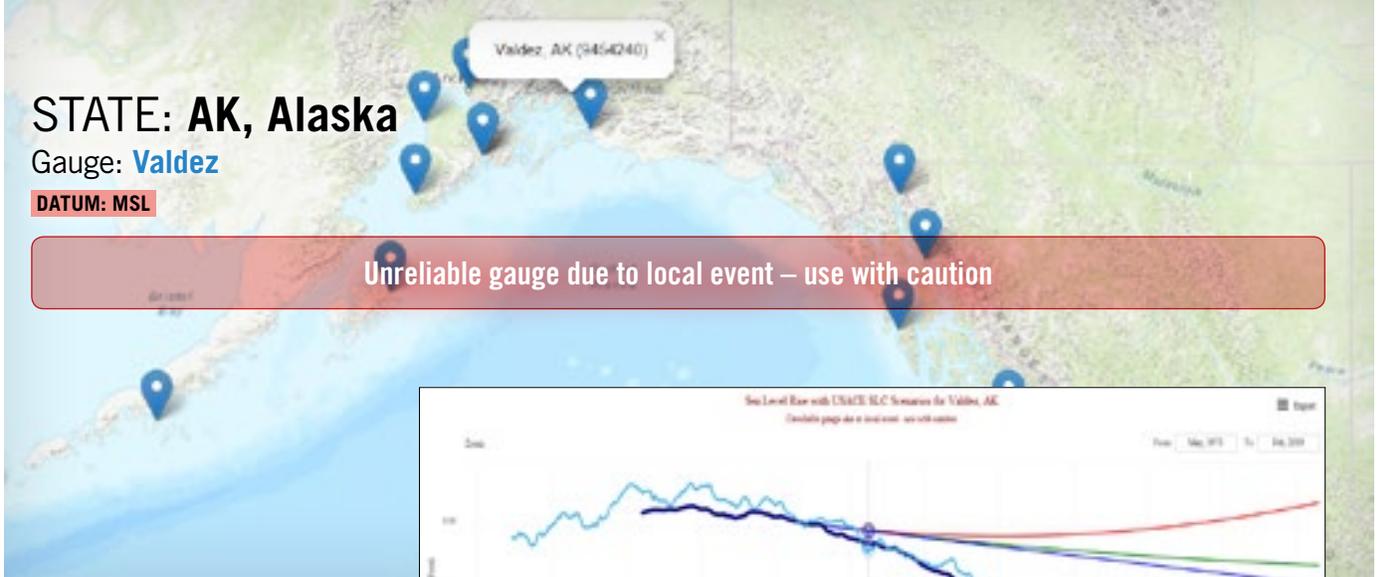


ALASKA

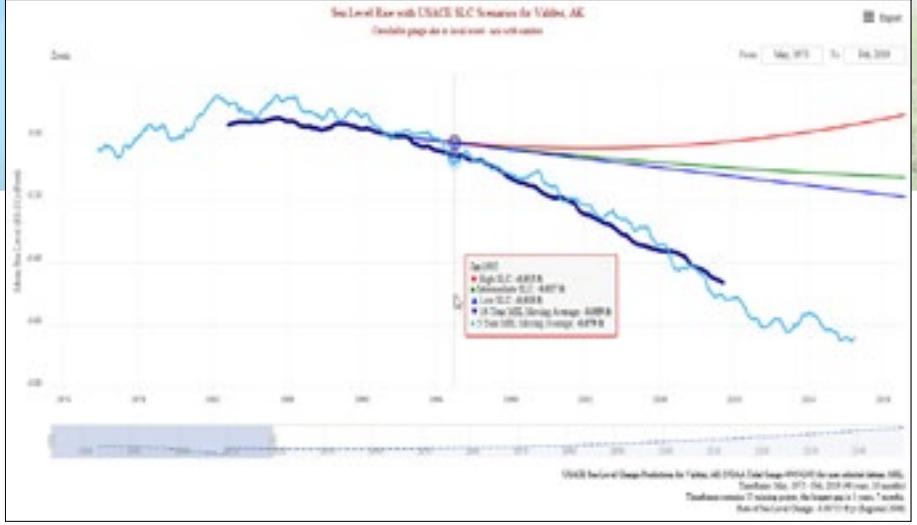
STATE: **AK, Alaska**

Gauge: **Valdez**

DATUM: **MSL**

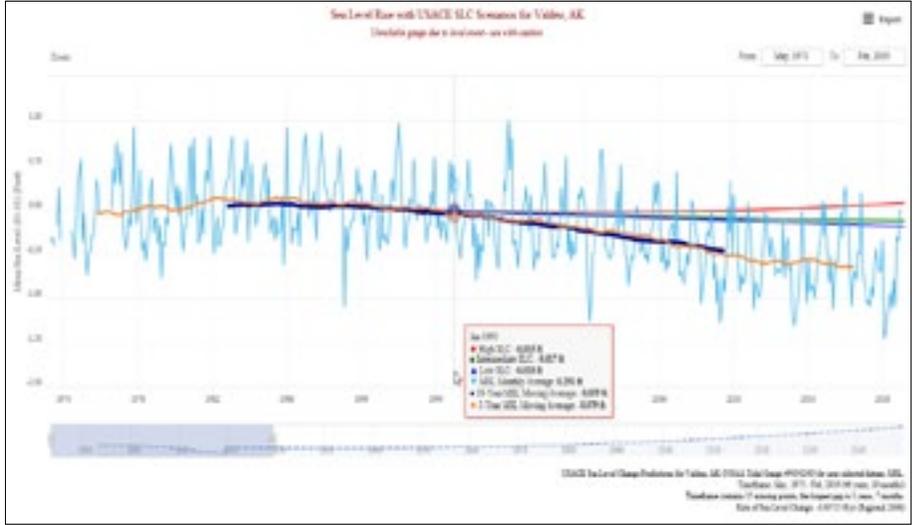


1
 19-year midpoint moving average
 5-year MSL midpoint moving average

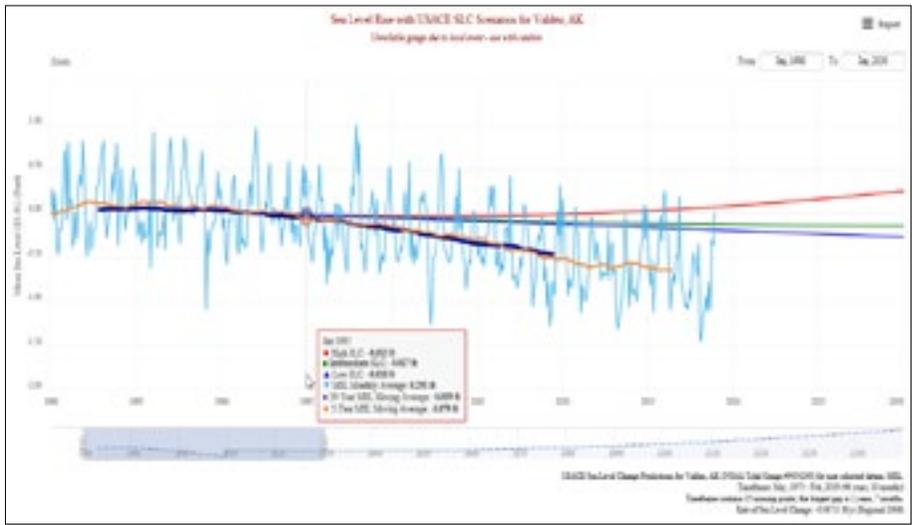


Note: Unlike the rest of the US, seismic and isostatic effects in this area of Alaska cause the land surface to rise. This rise in land surface causes relative sea level to drop.

2
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values



3
 19-year midpoint moving average
 5-year MSL midpoint moving average
 +Monthly Mean Values
 From January 1980 To January 2030

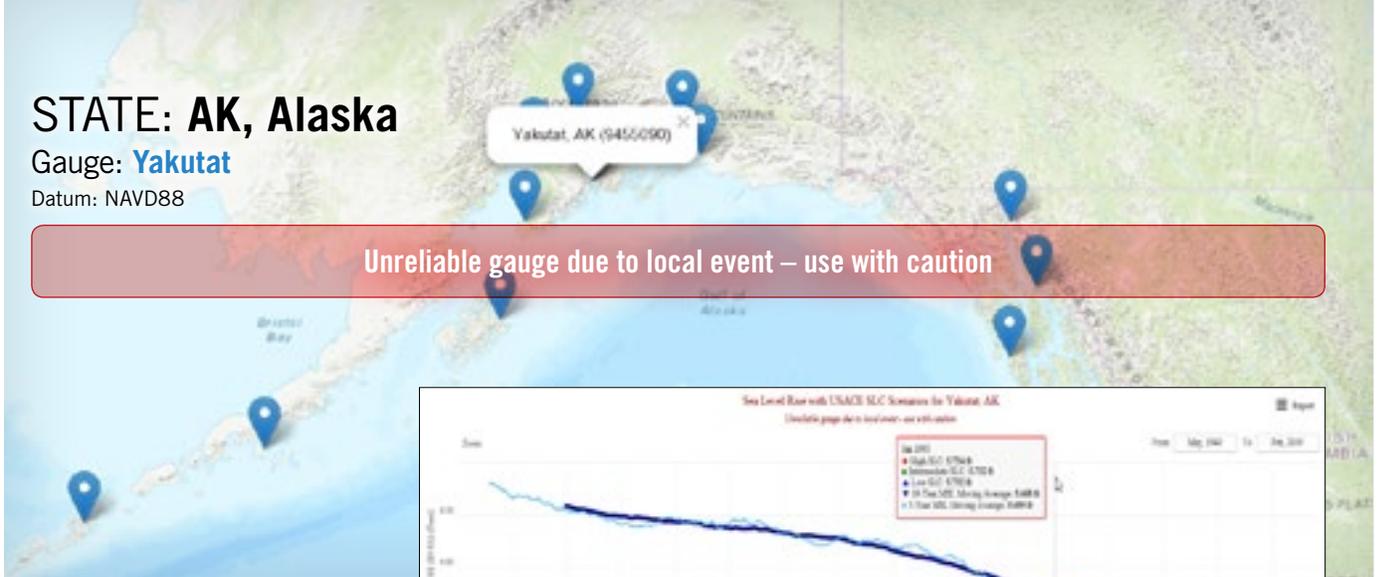


ALASKA

STATE: **AK, Alaska**

Gauge: **Yakutat**

Datum: NAVD88

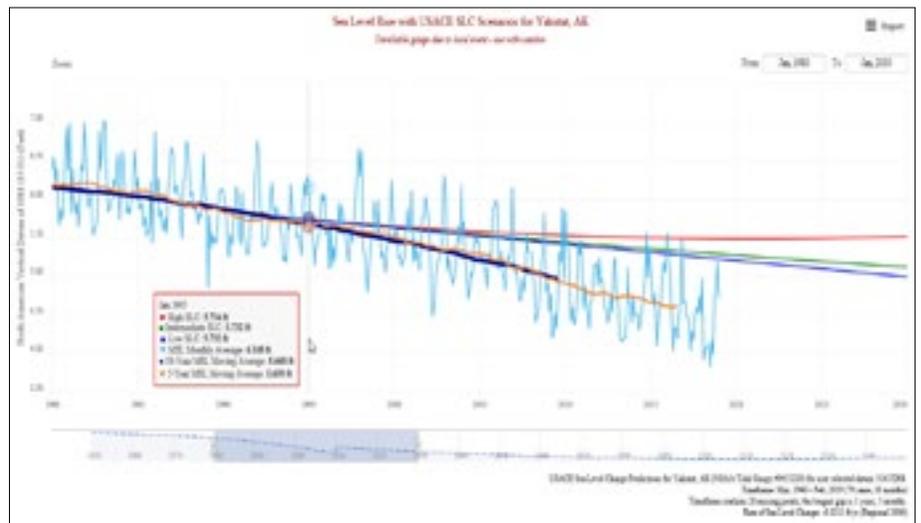
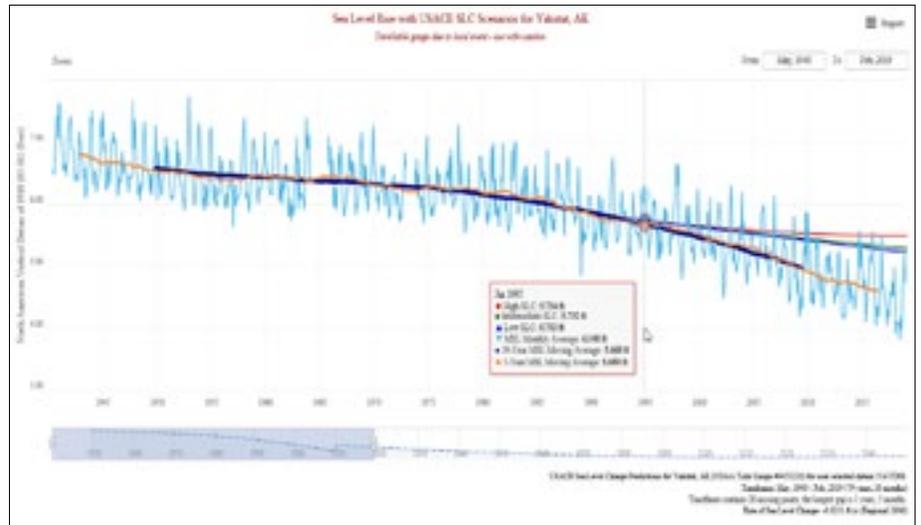
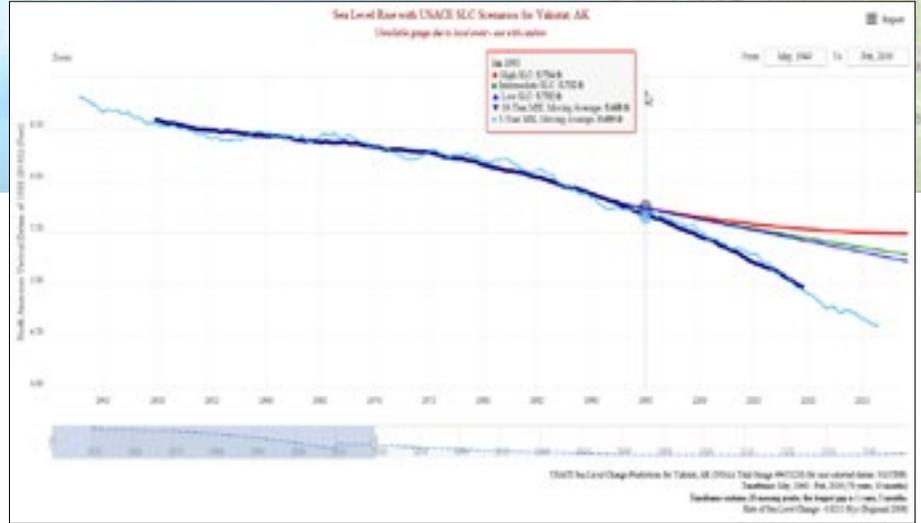


1
19-year midpoint moving average
5-year MSL midpoint moving average

Note: Unlike the rest of the US, seismic and isostatic effects in this area of Alaska cause the land surface to rise. This rise in land surface causes relative sea level to drop.

2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values

3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



STATE: HI, Hawaii

Gauge: **Hilo**

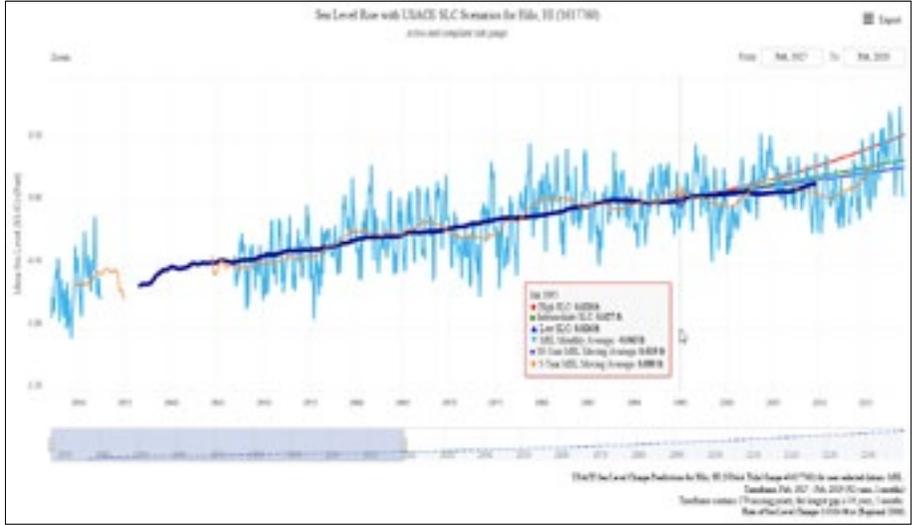
DATUM: **MSL**



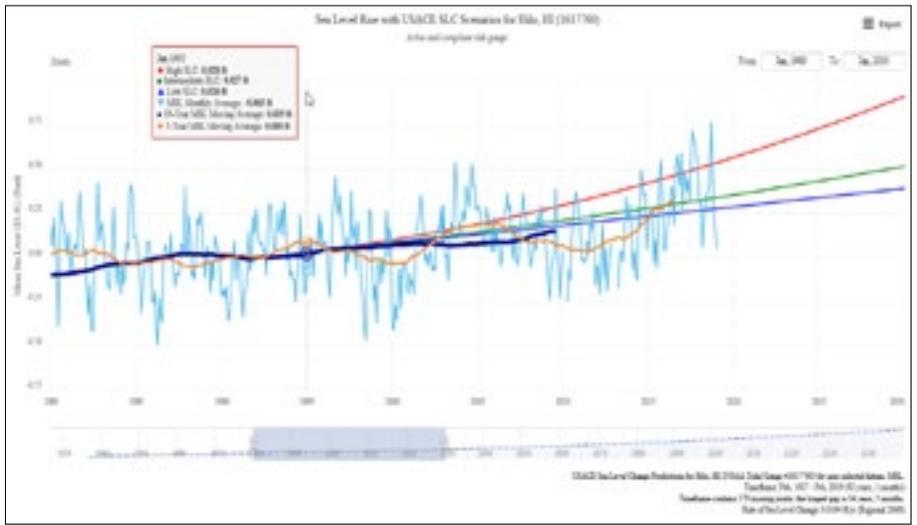
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



HAWAII

STATE: **HI, Hawaii**

Gauge: **Honolulu**

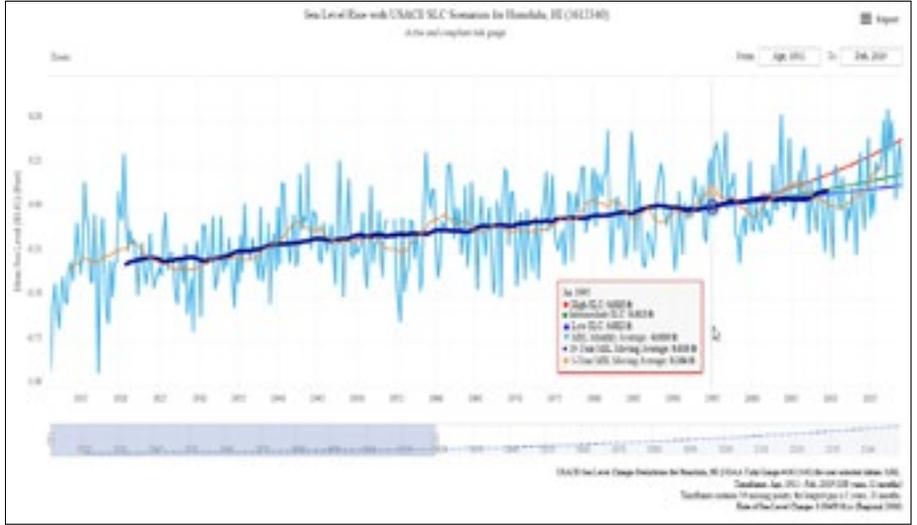
DATUM: **MSL**

Honolulu, HI (1612340)



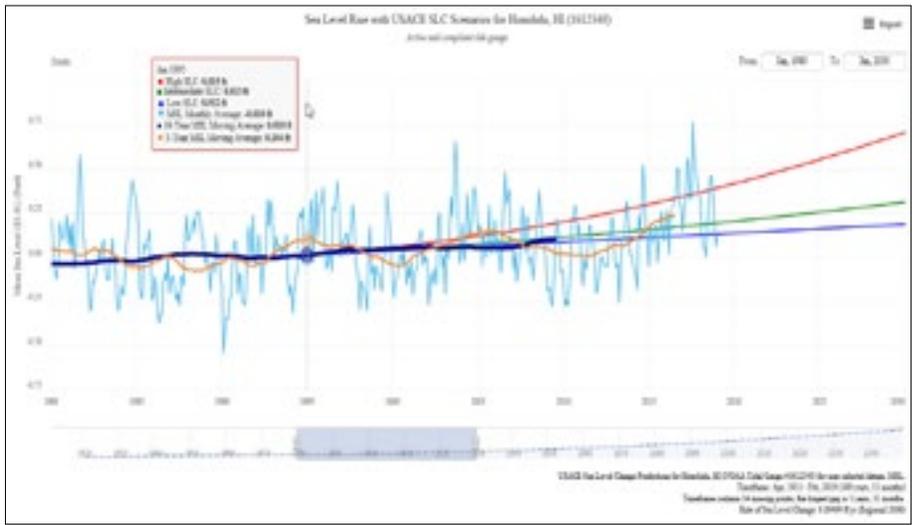
1

19-year midpoint moving average
5-year MSL midpoint moving average



2

19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



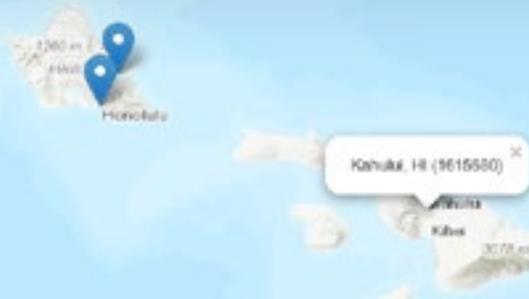
3

19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

STATE: HI, Hawaii

Gauge: **Kahului**

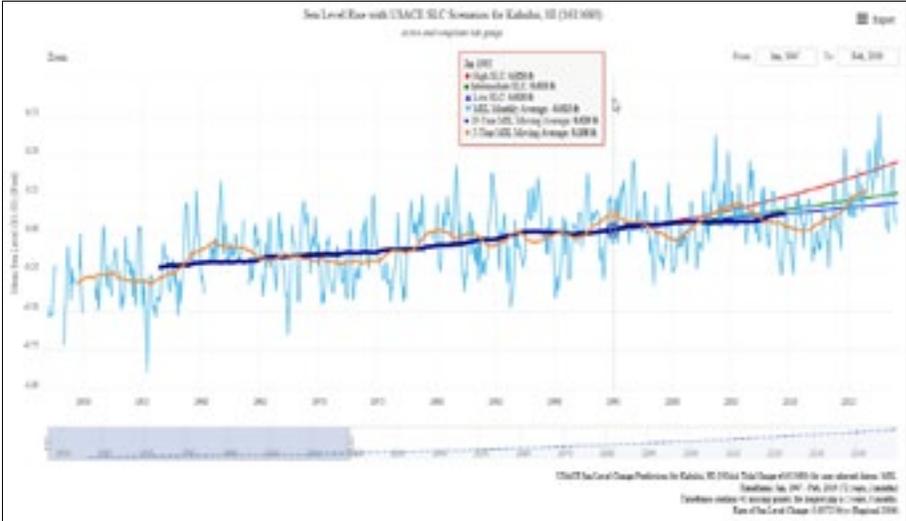
DATUM: **MSL**



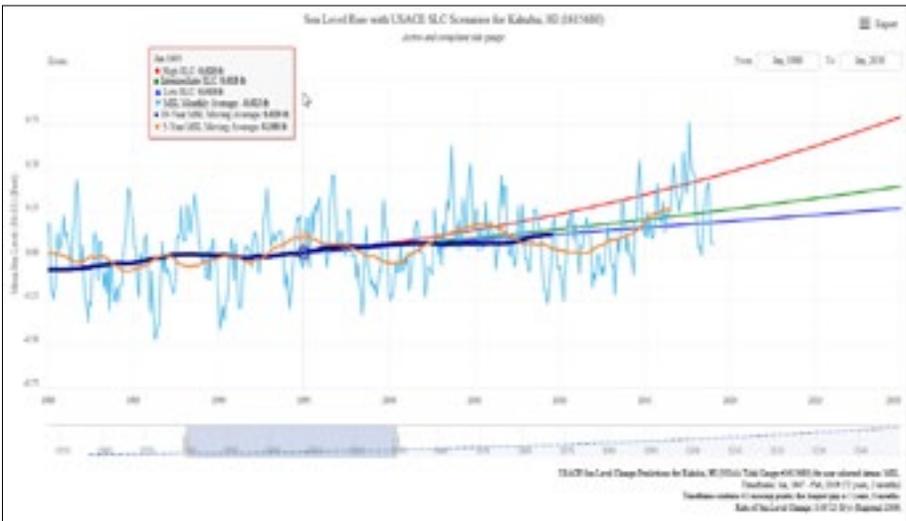
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

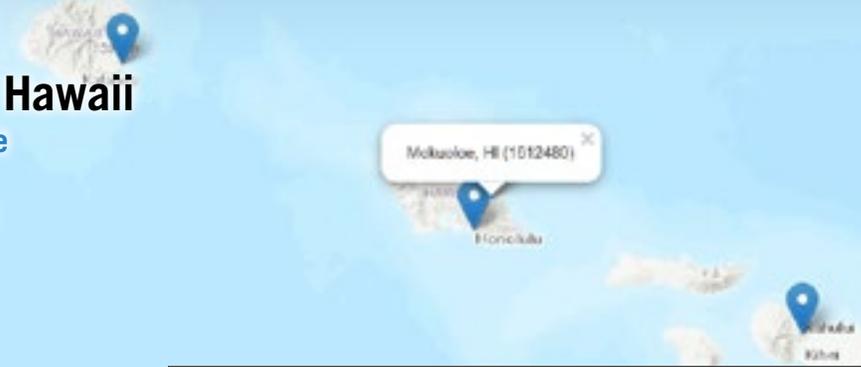


STATE: HI, Hawaii

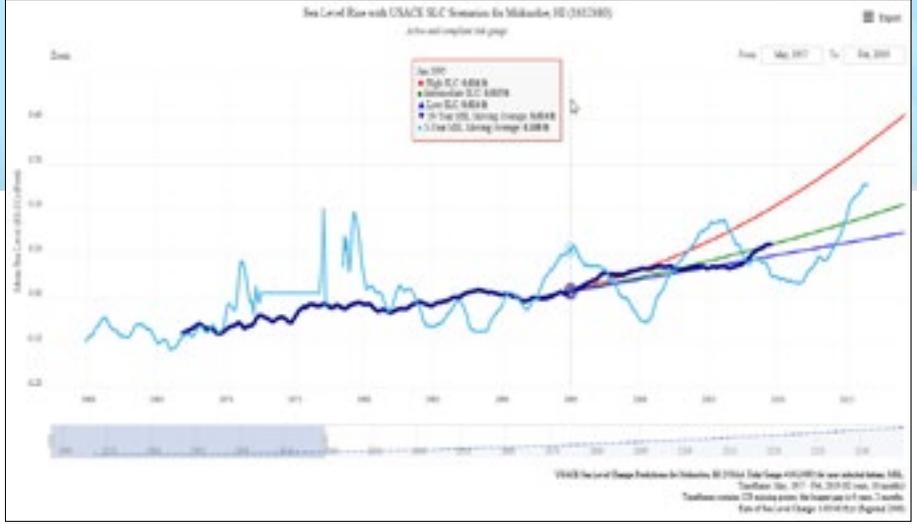
Gauge: **Mokuoloe**

DATUM: MSL

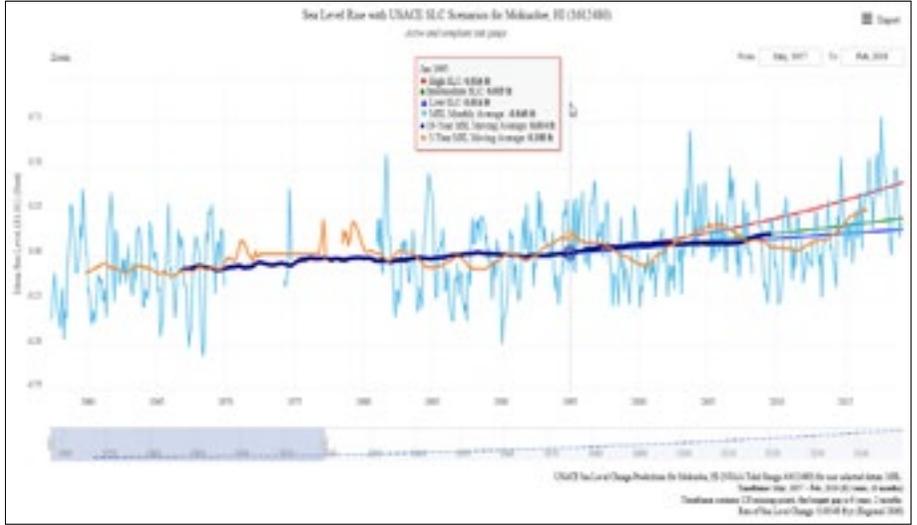
INTERRUPTED RECORD



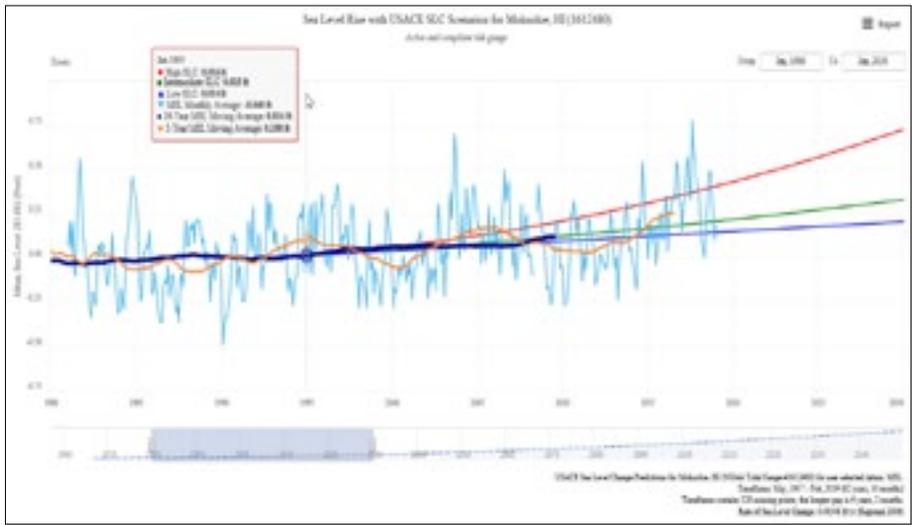
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



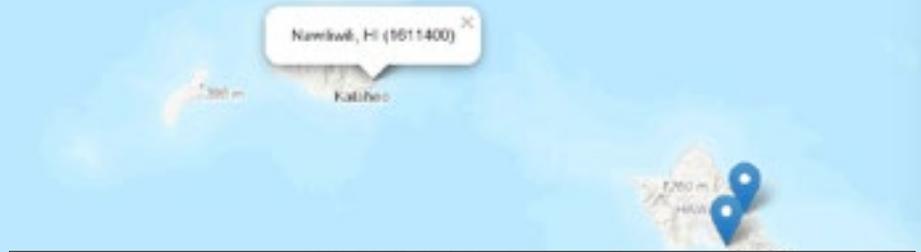
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



STATE: HI, Hawaii

Gauge: **Nawiliwili**

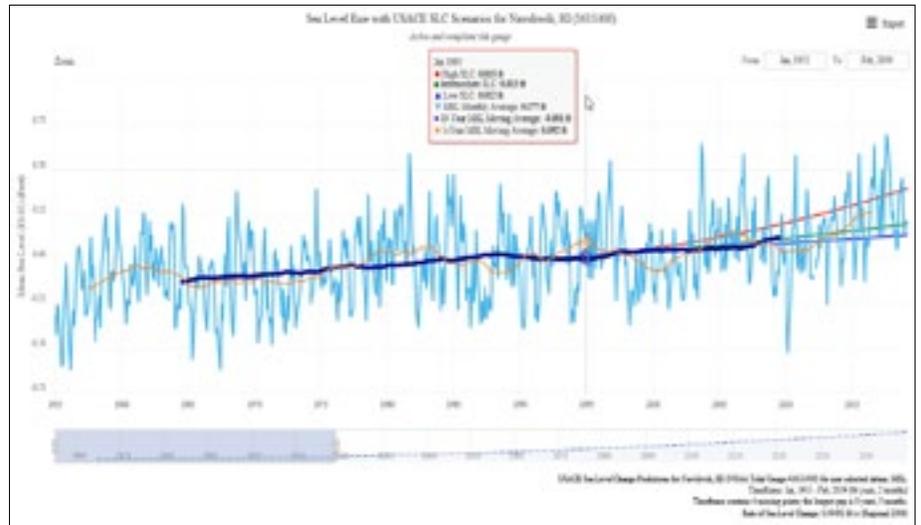
DATUM: **MSL**



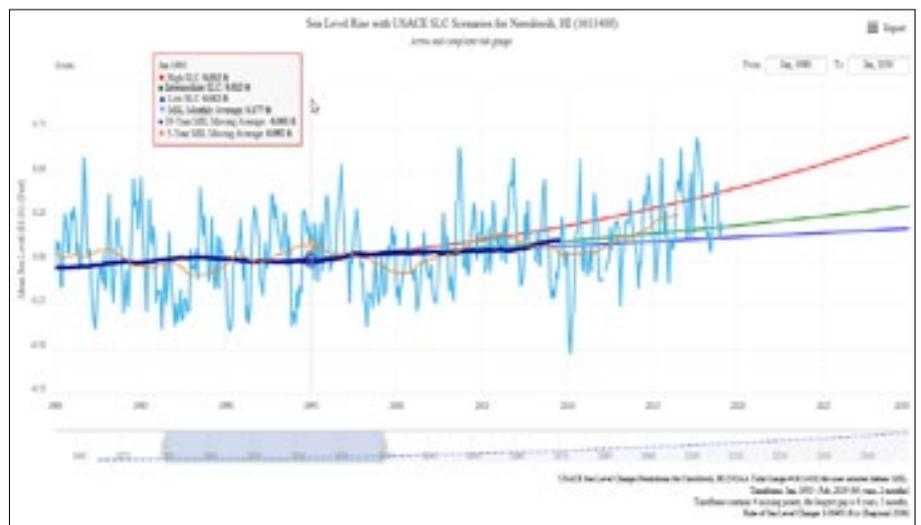
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



GUAM

U.S. TERRITORY: Guam

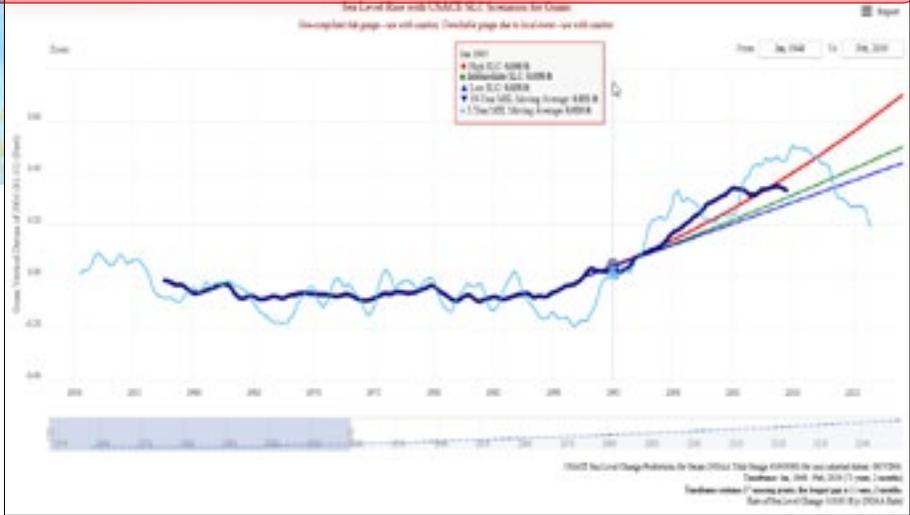
Gauge: **Guam**

DATUM: GUVDO4

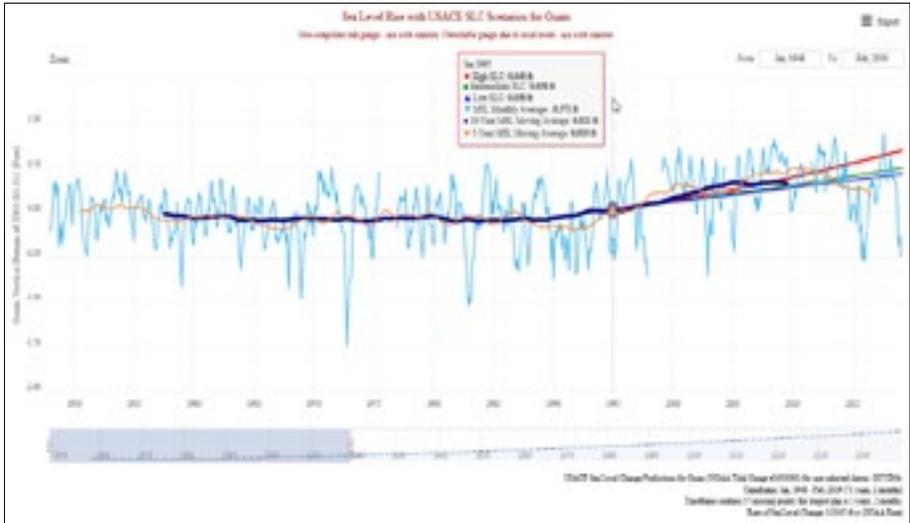
Guam (1630000)

Non-compliant tide gauge – use with caution

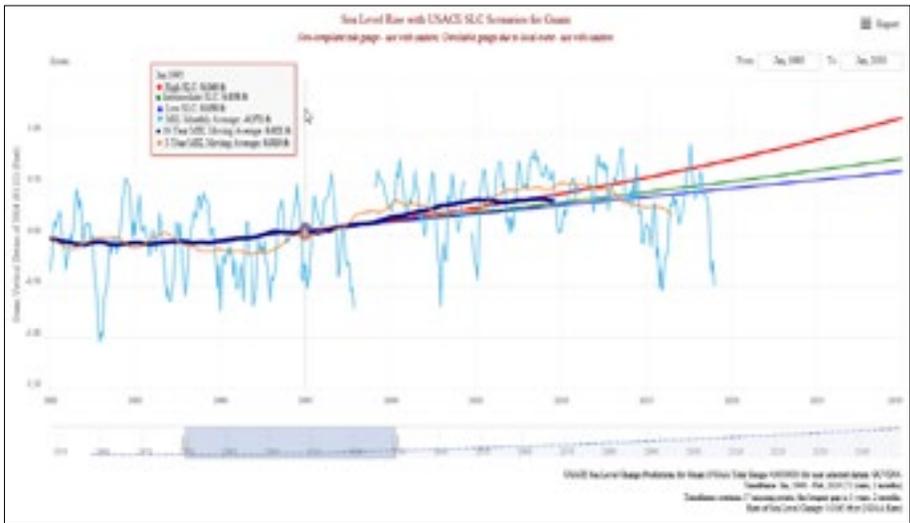
Unreliable gauge due to local event – use with caution



1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

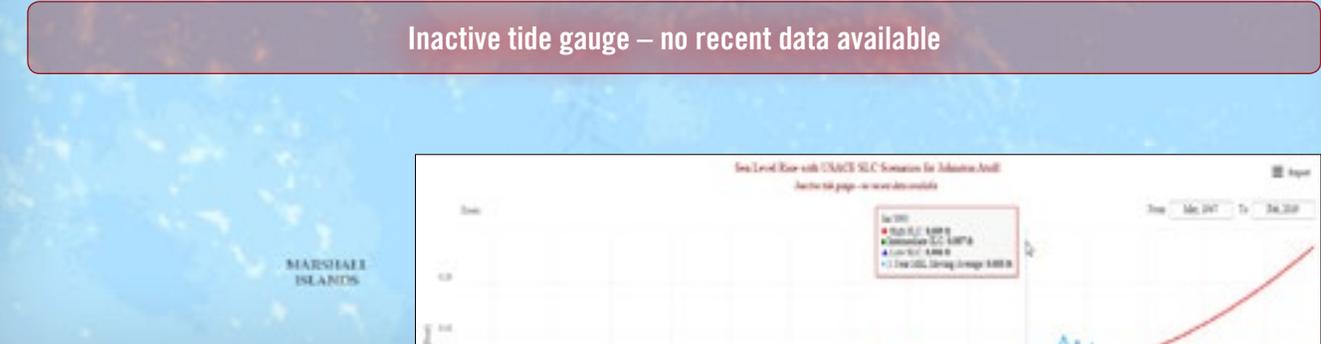
U.S. UNINCORPORATED AREA: Johnston Atoll

Gauge: **Johnston Atoll**

DATUM: **MSL**

Johnston Atoll (1619000)

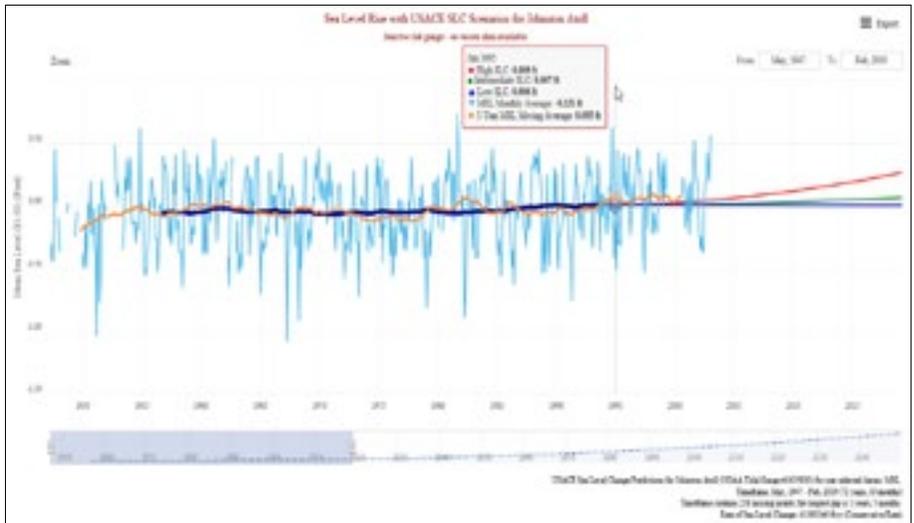
Inactive tide gauge – no recent data available



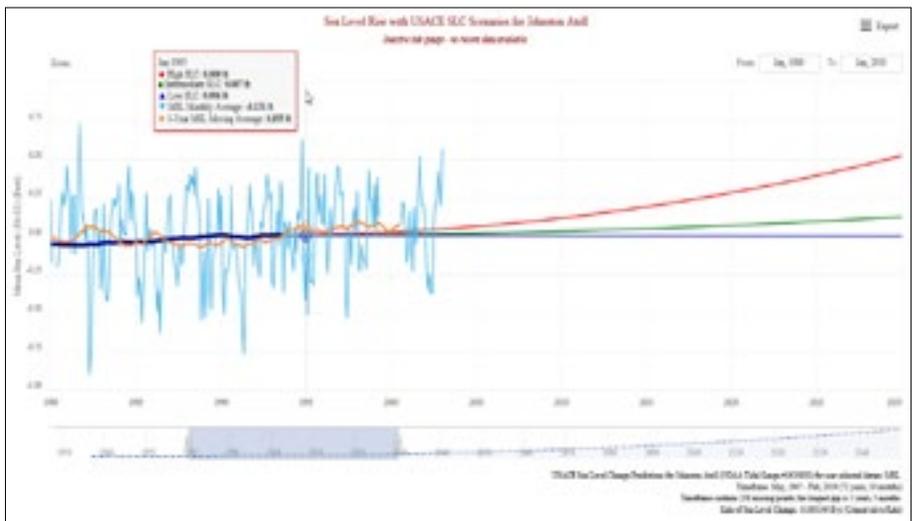
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



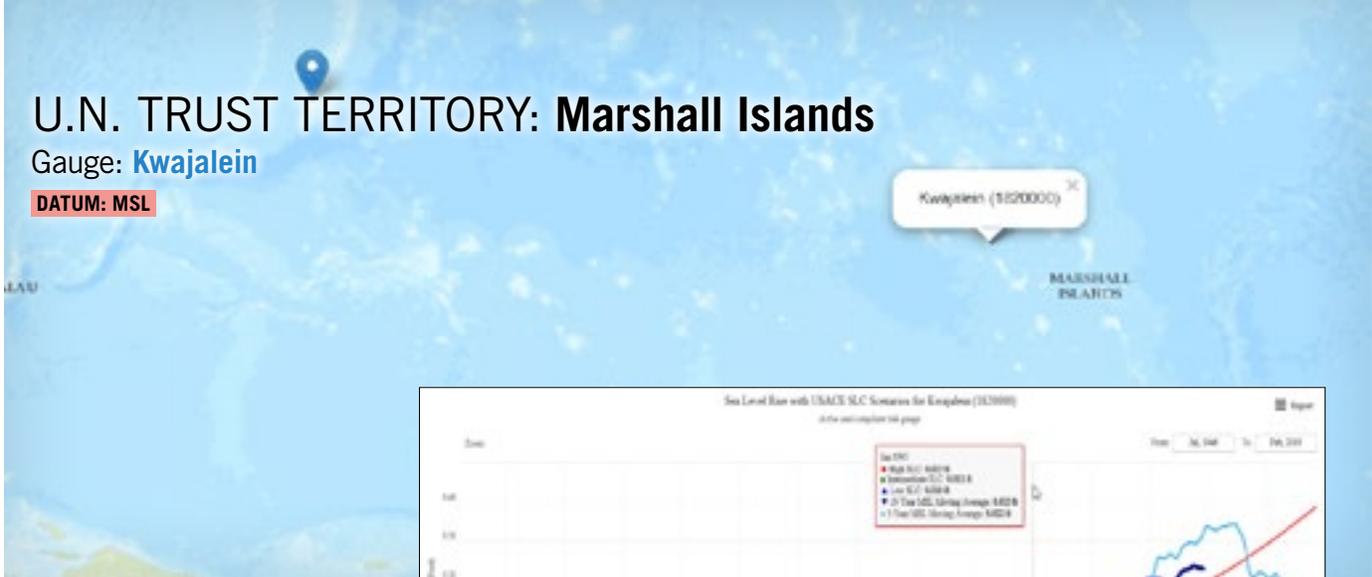
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



U.N. TRUST TERRITORY: Marshall Islands

Gauge: **Kwajalein**

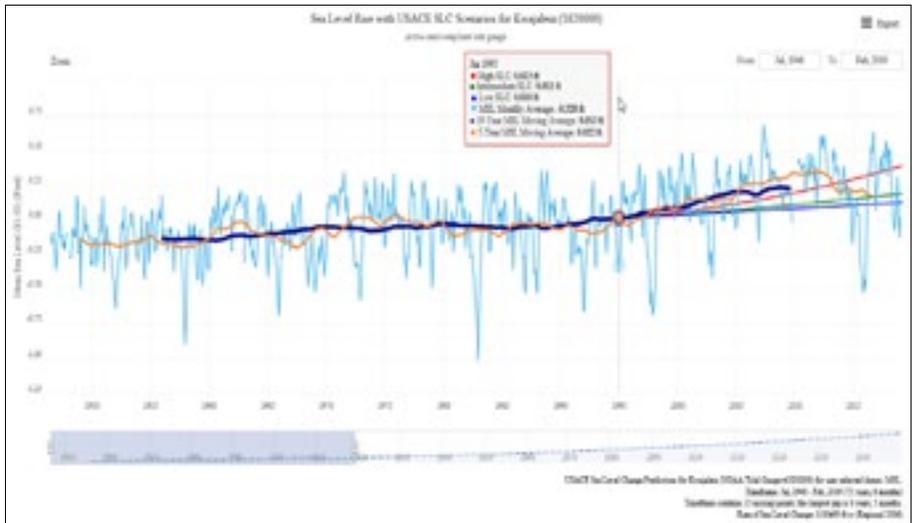
DATUM: **MSL**



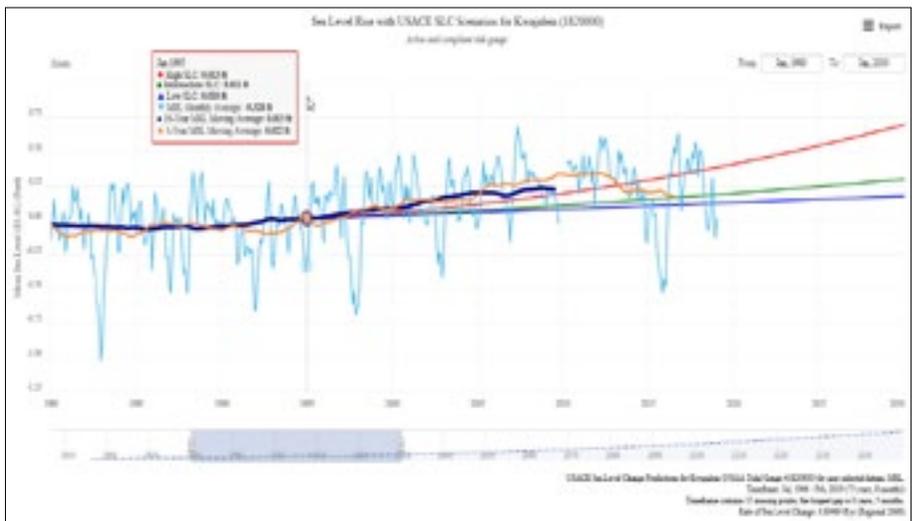
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



MIDWAY ATOLL

U.S. UNINCORPORATED AREA: Midway Atoll

Gauge: Midway Atoll

DATUM: MSL

Midway Atoll (1019910)

Pacific Ocean

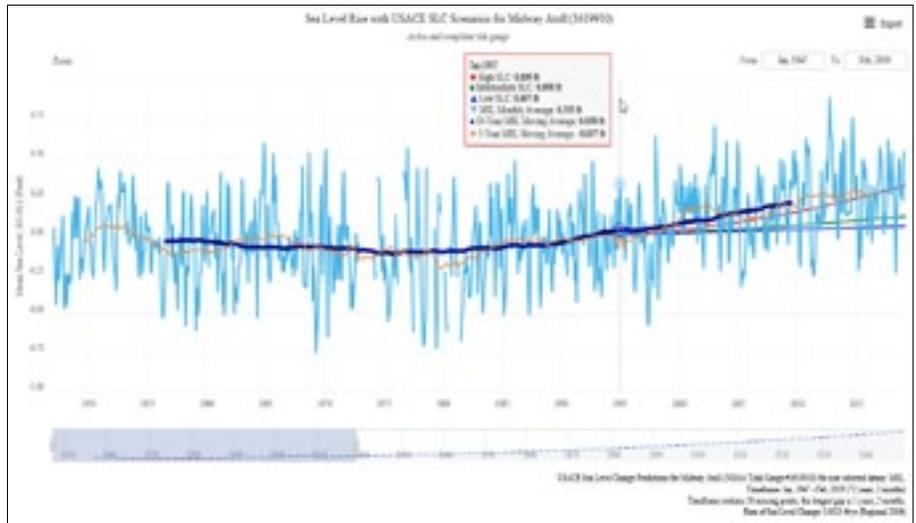
1

19-year midpoint moving average
5-year MSL midpoint moving average



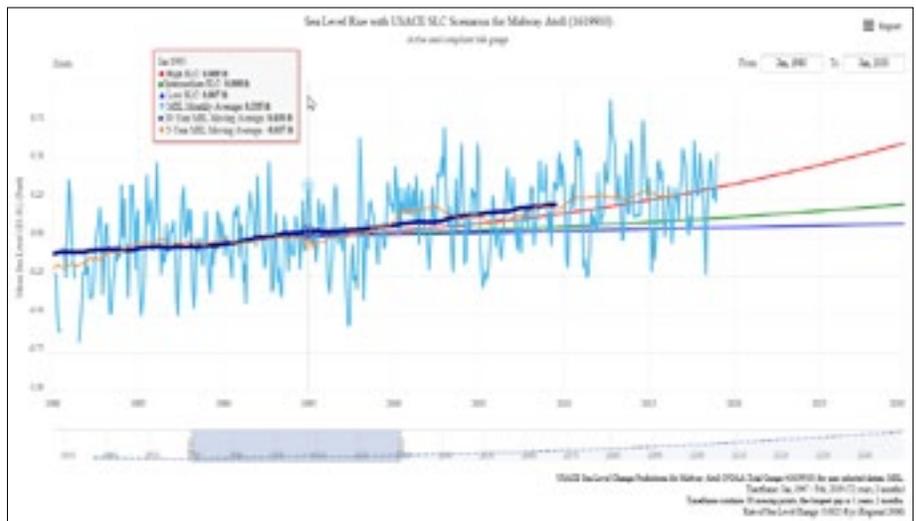
2

19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3

19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



SAMOA

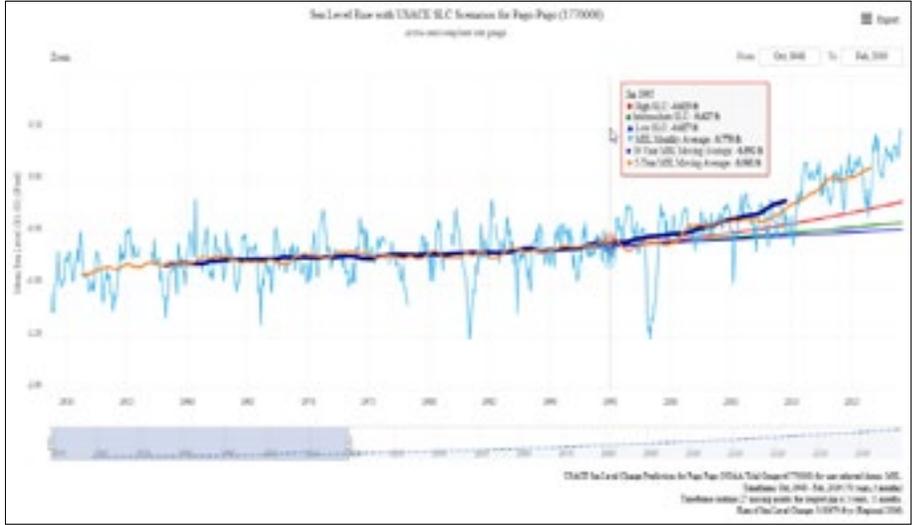
U.S. TERRITORY: SAMOA

Gauge: Pago Pago

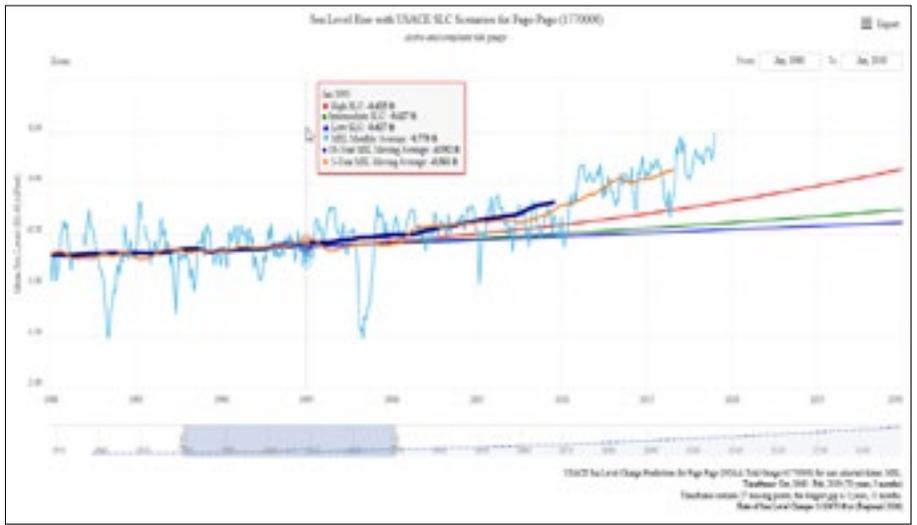
DATUM: MSL



1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



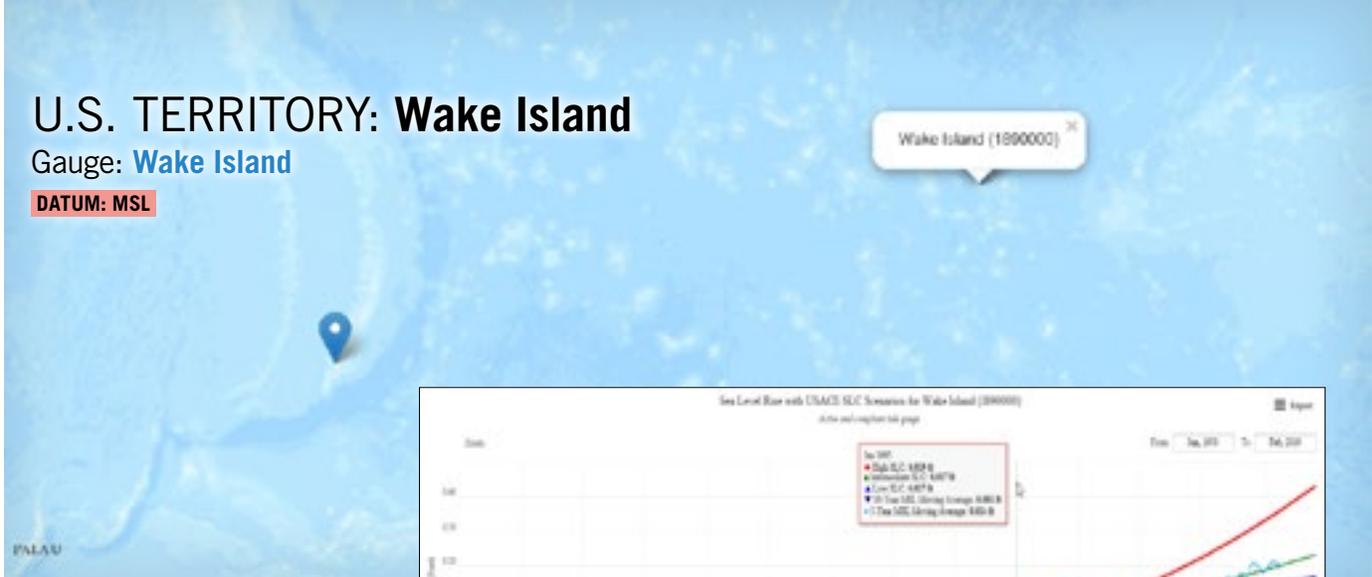
3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030

WAKE ISLAND

U.S. TERRITORY: Wake Island

Gauge: [Wake Island](#)

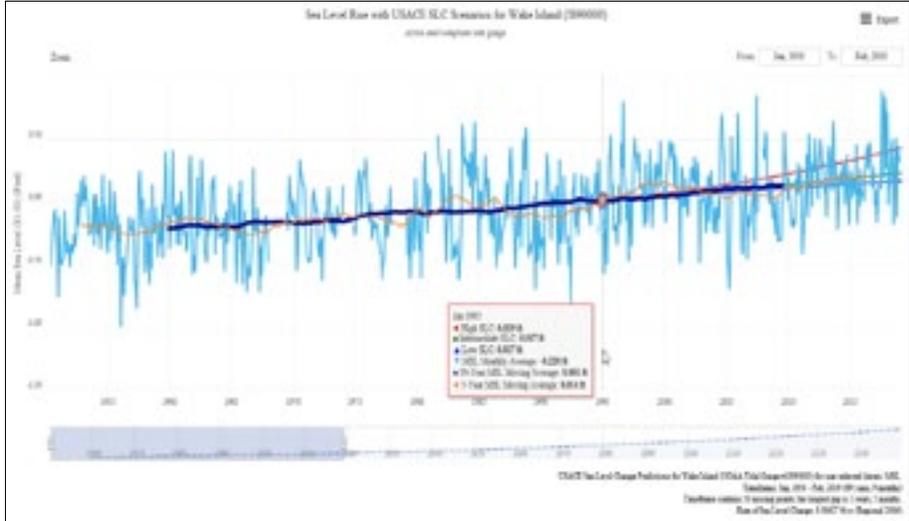
DATUM: MSL



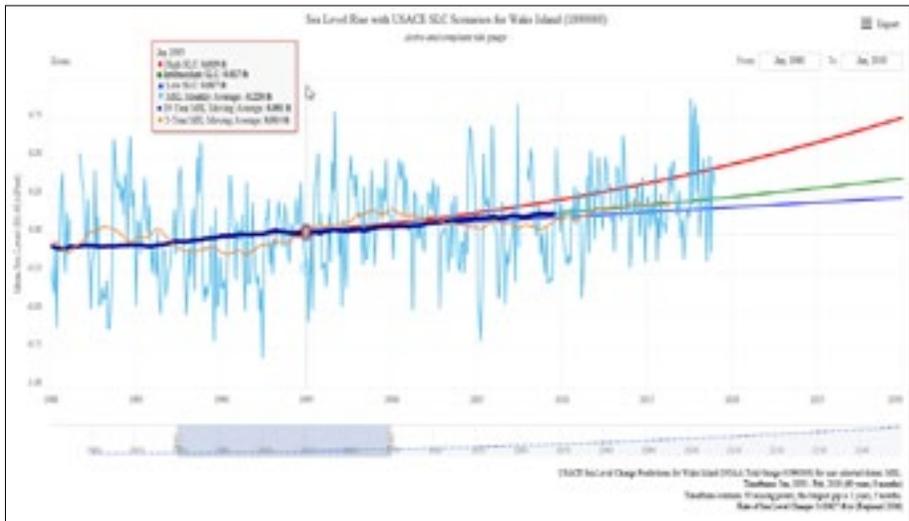
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



FEDERATED STATES OF MICRONESIA: Caroline Islands

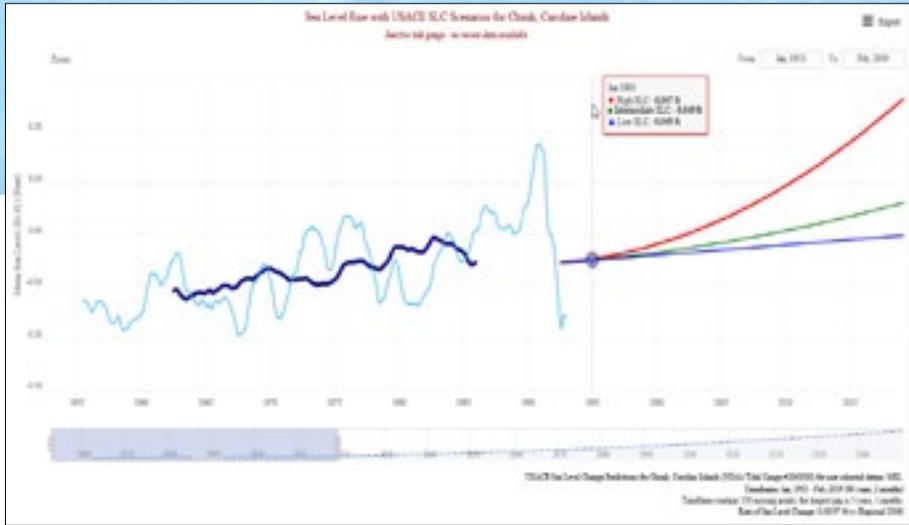
Gauge: **Chuuk**

DATUM: MSL

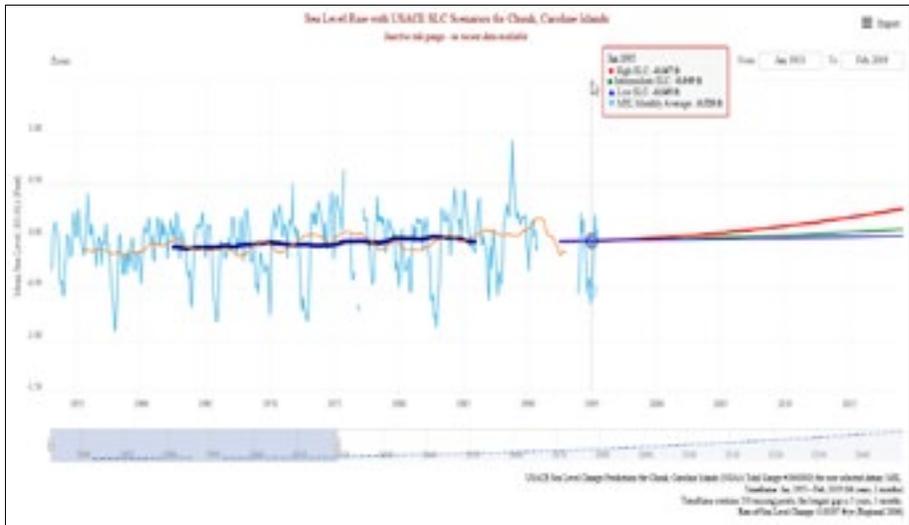
INTERRUPTED RECORD



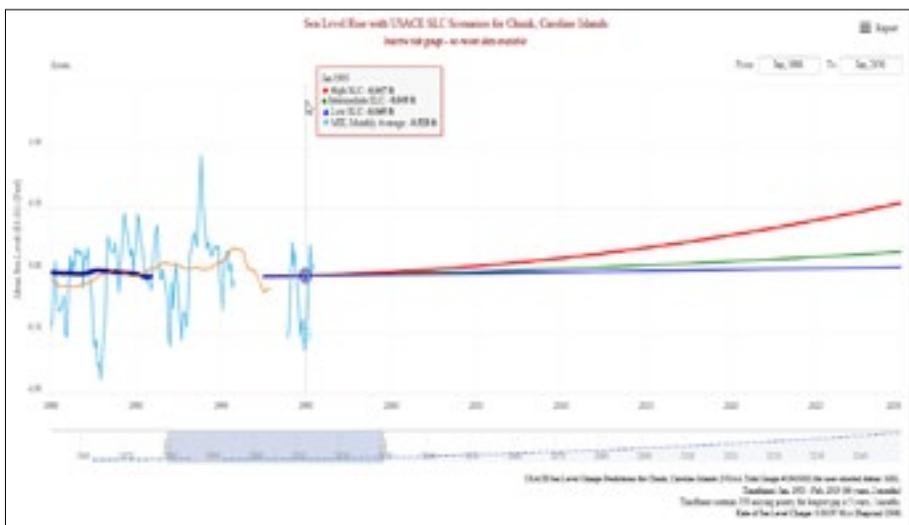
1
19-year midpoint moving average
5-year MSL midpoint moving average



2
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values



3
19-year midpoint moving average
5-year MSL midpoint moving average
+Monthly Mean Values
From January 1980 To January 2030



Conners, H., R. McNally, M. Huber, A. Sant-Miller, K. White
(2019) Atlas of Observed Sea Level Changes. US Army Corps of Engineers: Washington, DC.

https://www.usace.army.mil/corpsclimate/Public_Tools_Dev_by_USACE/sea_level_change/