

NOAA Digital Coast Sea Level Rise and Coastal Flooding Impacts Viewer

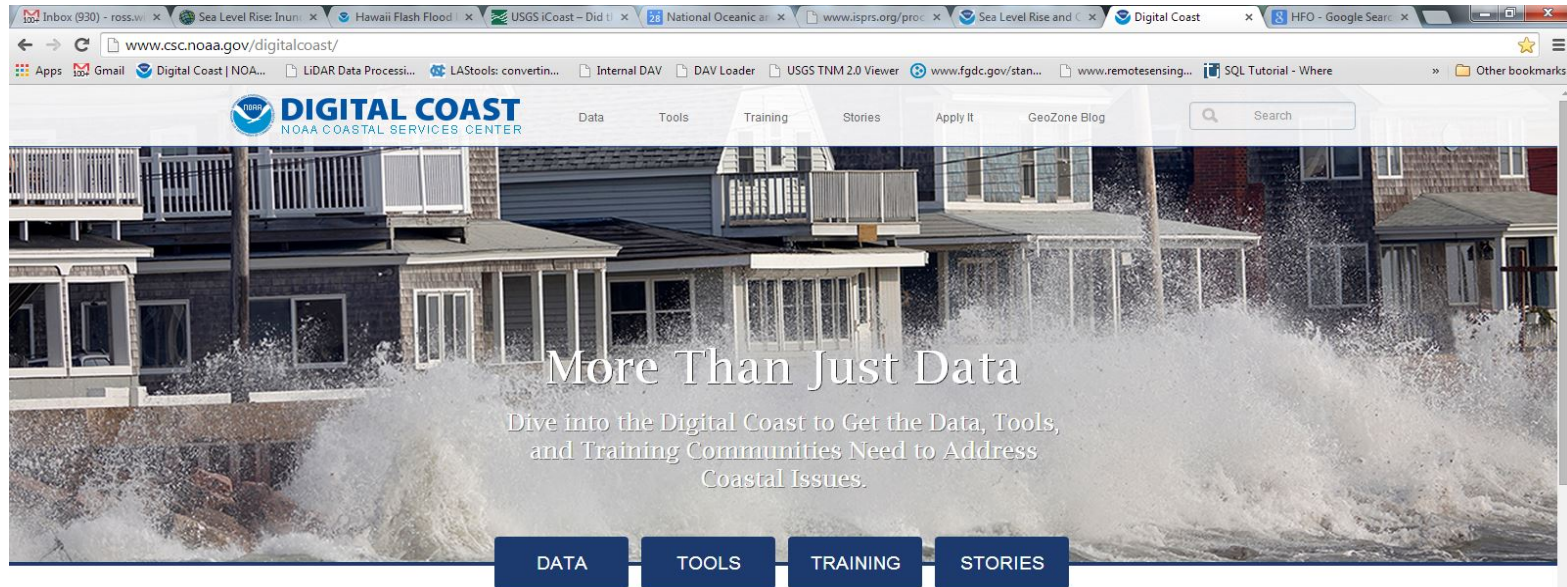
Ross Winans

**The Baldwin Group at the
NOAA Pacific Services Center**



NOAA Pacific Services Center
NOAA Coastal Services Center

Digital Coast



What is the Digital Coast?

This NOAA-sponsored website is focused on helping communities address coastal issues and has become one of the most-used resources in the coastal management community. The dynamic Digital Coast Partnership, whose members represent the website's primary user groups, keeps the effort focused on customer needs.

Learn more in our About section, or just dive in. And please provide feedback as often as possible. Hearing from you is what makes the Digital Coast work.

Learn More about the Digital Coast

[About](#) [Contributing Partners](#) [Watch the Video](#)

Top: [Data](#) [Tools](#) [Training](#) [Stories](#)

- 1 [Historical Hurricane Tracks](#)
- 2 [Sea Level Rise Viewer](#)
- 3 [Coastal County Snapshots](#)
- 4 [MarineCadastr.e.gov National Viewer](#)
- 5 [ENOW Explorer](#)



NOAA Pacific Services Center
NOAA Coastal Services Center



Search

Contributing Partners: NOAA Coastal Services Center



Launch Viewer ➤

Features

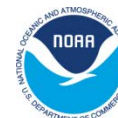
-

The NOAA Coastal Services Center would like to acknowledge those organizations that provided direct content used in this tool or feedback, ideas, and reviews over the course of the tool's development. Specifically the Center would like to acknowledge the following groups

Tool Overview

Mapping and Visualizing Sea level Rise and Coastal Flooding Impacts
[View recorded webinar](#)

- Climate Adaptation for Coastal Communities
- Coastal Inundation Mapping



NOAA Pacific Services Center
NOAA Coastal Services Center

In Action

The screenshot shows a web browser window with multiple tabs open. The active tab is the NOAA Digital Coast website. The header features the NOAA Digital Coast logo and navigation links: Data, Tools, Training, Stories, Apply It, and GeoZone Blog. A search bar is located on the right. The main content area is titled "Sea Level Rise and Coastal Flooding Impacts Viewer". Below the title, it lists contributing partners as NOAA Coastal Services Center. A navigation bar shows "Overview", "In Action" (selected), "Support", and "Get It Now". The "Story Maps" section includes links to "History Behind Flooding in Charleston, South Carolina" and "Assessing Seagrass Vulnerability along Florida's Gulf Coast". The "Stories from the Field" section includes links to "Providing Easily Accessible Maps to Aid Ecosystem Restoration in the Gulf of Mexico" and "Creating a Customized Sea Level Rise Viewer to Assist Planners in Florida". The "Videos" sidebar on the right includes "Tool Overview", "First Time Tips", "Digital Coast Webinar Series" (with a link to "Mapping and Visualizing Sea level Rise and Coastal Flooding Impacts"), and "Related Training" (with links to "Climate Adaptation for Coastal Communities" and "Coastal Inundation Mapping").

Sea Level Rise and Coastal Flooding Impacts Viewer

Contributing Partners: NOAA Coastal Services Center

Overview **In Action** Support Get It Now

Story Maps

[History Behind Flooding in Charleston, South Carolina](#)
Data from the Sea Level Rise Viewer were used to create an interactive map that shows how areas vulnerable to flooding today were often marshlands in 1863.

Stories from the Field

[Assessing Seagrass Vulnerability along Florida's Gulf Coast](#)
The Sea Level Rise and Coastal Flooding Impacts Viewer data helped local planners identify the impacts of shoreline armoring on seagrass habitats.

[Providing Easily Accessible Maps to Aid Ecosystem Restoration in the Gulf of Mexico](#)
MarineCadastre.gov and Coastal Change Analysis Program land cover data are helping to inform ecosystem restoration planning in the Gulf of Mexico.

[Creating a Customized Sea Level Rise Viewer to Assist Planners in Florida](#)
A customized viewer was designed using inundation data provided by the Sea Level Rise and Coastal Flooding Impacts Viewer.

[Providing Easily Accessible Maps to Aid Ecosystem Restoration in the Gulf of Mexico](#)
MarineCadastre.gov and Coastal Change Analysis Program land cover data are helping to inform ecosystem restoration planning in the Gulf of Mexico.

[Increasing Resilience in the San Francisco Bay Area](#)
Lidar data, the Sea Level Rise Viewer, and other Digital Coast resources were critical to the success of the Adapting to Rising Tides project.

[Planning for Sea Level Rise Adaptation at the Site Scale in New Jersey](#)
Data from the Sea Level Rise and Coastal Flooding Impacts Viewer was used to assess vulnerability and provide recommendations at three publicly accessible waterfront recreation areas.

Videos

[Tool Overview](#)

[First Time Tips](#)

Digital Coast Webinar Series

[Mapping and Visualizing Sea level Rise and Coastal Flooding Impacts](#)
[View recorded webinar](#)

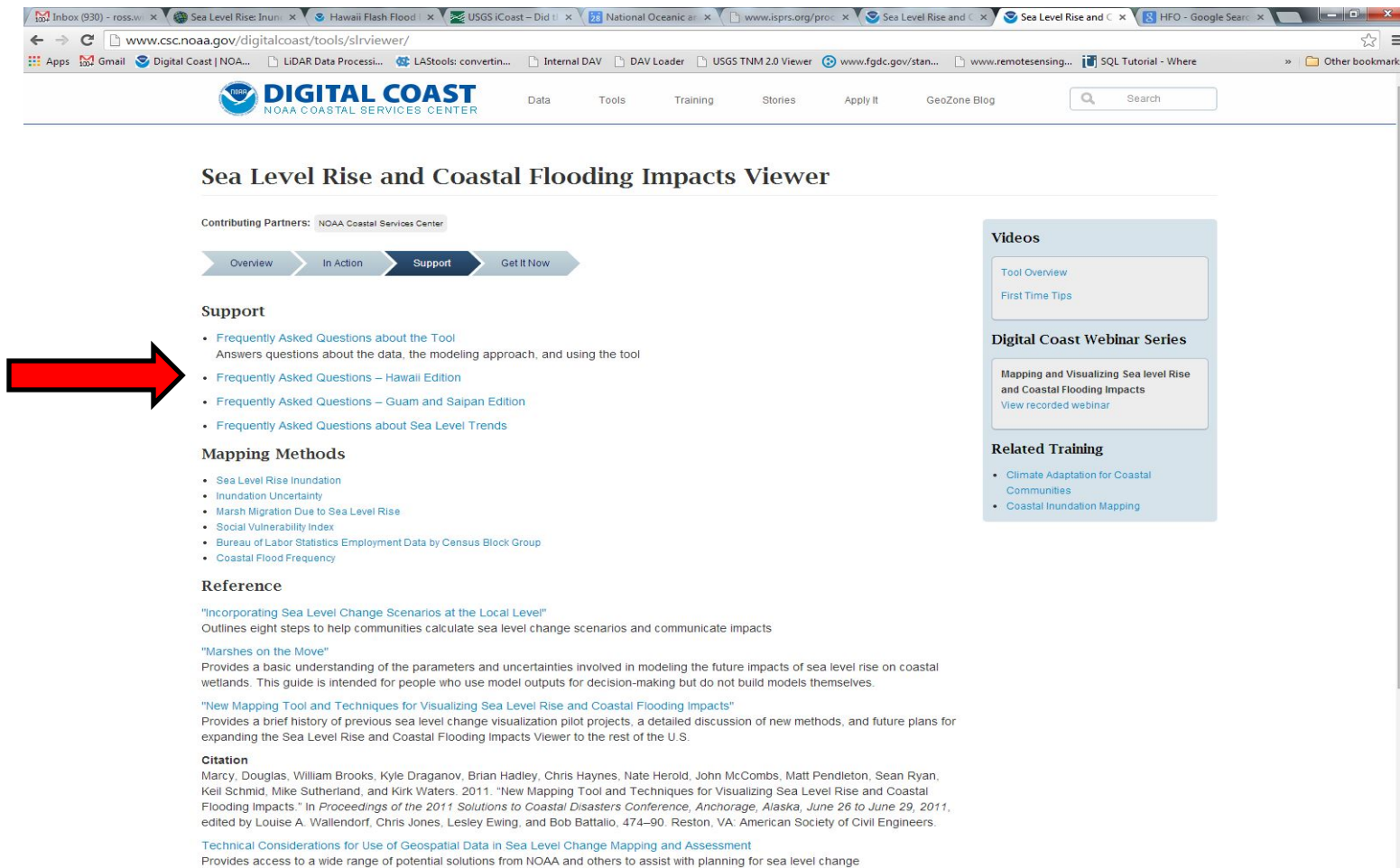
Related Training

- [Climate Adaptation for Coastal Communities](#)
- [Coastal Inundation Mapping](#)



NOAA Pacific Services Center
NOAA Coastal Services Center

Support



DIGITAL COAST
NOAA COASTAL SERVICES CENTER

Data Tools Training Stories Apply It GeoZone Blog

Sea Level Rise and Coastal Flooding Impacts Viewer

Contributing Partners: NOAA Coastal Services Center

Overview In Action **Support** Get It Now

Support

- [Frequently Asked Questions about the Tool](#)
Answers questions about the data, the modeling approach, and using the tool
- [Frequently Asked Questions – Hawaii Edition](#)
- [Frequently Asked Questions – Guam and Saipan Edition](#)
- [Frequently Asked Questions about Sea Level Trends](#)

Mapping Methods

- [Sea Level Rise Inundation](#)
- [Inundation Uncertainty](#)
- [Marsh Migration Due to Sea Level Rise](#)
- [Social Vulnerability Index](#)
- [Bureau of Labor Statistics Employment Data by Census Block Group](#)
- [Coastal Flood Frequency](#)

Reference

["Incorporating Sea Level Change Scenarios at the Local Level"](#)
Outlines eight steps to help communities calculate sea level change scenarios and communicate impacts

["Marshes on the Move"](#)
Provides a basic understanding of the parameters and uncertainties involved in modeling the future impacts of sea level rise on coastal wetlands. This guide is intended for people who use model outputs for decision-making but do not build models themselves.

["New Mapping Tool and Techniques for Visualizing Sea Level Rise and Coastal Flooding Impacts"](#)
Provides a brief history of previous sea level change visualization pilot projects, a detailed discussion of new methods, and future plans for expanding the Sea Level Rise and Coastal Flooding Impacts Viewer to the rest of the U.S.

Citation
Marcy, Douglas, William Brooks, Kyle Draganov, Brian Hadley, Chris Haynes, Nate Herold, John McCombs, Matt Pendleton, Sean Ryan, Keil Schmid, Mike Sutherland, and Kirk Waters. 2011. "New Mapping Tool and Techniques for Visualizing Sea Level Rise and Coastal Flooding Impacts." In *Proceedings of the 2011 Solutions to Coastal Disasters Conference, Anchorage, Alaska, June 26 to June 29, 2011*, edited by Louise A. Wallendorf, Chris Jones, Lesley Ewing, and Bob Battallo, 474–90. Reston, VA: American Society of Civil Engineers.

[Technical Considerations for Use of Geospatial Data in Sea Level Change Mapping and Assessment](#)
Provides access to a wide range of potential solutions from NOAA and others to assist with planning for sea level change

Videos

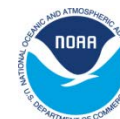
- [Tool Overview](#)
- [First Time Tips](#)

Digital Coast Webinar Series

- [Mapping and Visualizing Sea level Rise and Coastal Flooding Impacts](#)
[View recorded webinar](#)

Related Training

- [Climate Adaptation for Coastal Communities](#)
- [Coastal Inundation Mapping](#)



NOAA Pacific Services Center
NOAA Coastal Services Center

Get It Now

The screenshot shows a web browser window with multiple tabs open. The active tab is the NOAA Digital Coast website. The page title is "Sea Level Rise and Coastal Flooding Impacts Viewer". The navigation bar includes links for Data, Tools, Training, Stories, Apply It, and GeoZone Blog. A search bar is located on the right. The main content area features a "Get It Now" section with a "Launch" button and a "Download Data" button, which is highlighted with a red box. Below the "Download Data" button, there is a list of data types available for download, including DEMs, sea level rise inundation polygons, and low-lying area polygons. A sidebar on the right contains sections for "Videos", "Digital Coast Webinar Series", and "Related Training".

Sea Level Rise and Coastal Flooding Impacts Viewer

Contributing Partners: NOAA Coastal Services Center

Overview In Action Support **Get It Now**

Get It Now

Version 2.0

Launch >

- Mobile-friendly
- New features! We want your [feedback](#).

Download Data >

Provides access to the data used by the tool. These data include:

- DEMs
- Sea level rise inundation polygons and rasters
- Low-lying area polygons
- Mapping confidence polygons

Also available:

- [Social Vulnerability Index data](#)
- [ESRI REST map services](#)
- Marsh migration data – available by request at csc.info@noaa.gov.

For technical assistance, or to let us know how you are using the viewer or data, email csc.info@noaa.gov. In your use of the viewer or data, please credit NOAA's Digital Coast.

Videos

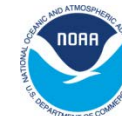
- [Tool Overview](#)
- [First Time Tips](#)

Digital Coast Webinar Series

- [Mapping and Visualizing Sea level Rise and Coastal Flooding Impacts](#)
- [View recorded webinar](#)

Related Training

- [Climate Adaptation for Coastal Communities](#)
- [Coastal Inundation Mapping](#)



NOAA Pacific Services Center
NOAA Coastal Services Center

Download Data

Inbox (929) - ross.winans... National Oceanic and Atmospheric Administration www.isprs.org/proceedings Sea Level Rise and Coastal Sea Level Rise Data Download

csc.noaa.gov/slr/data/

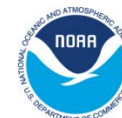
Apps Gmail Digital Coast | NOAA... LIDAR Data Processing LAStools: convertin... Internal DAV DAV Loader USGS TNM 2.0 Viewer www.fgdc.gov/stan... www.remotesensing... SQL Tutorial - Where » Other bookmark

Sea Level Rise Data Download

Go to SLR Viewer Go to Digital Coast

Filter by States or Counties

- Alabama
- American Samoa
- CNMI
- California
- Connecticut
- Delaware
- Florida
- Georgia
- Guam
- Hawaii
 - Molokai
 - Sea Level Rise
 - Mapping Confidence
 - DEM
 - Flood Frequency
 - Maui
 - Sea Level Rise
 - Mapping Confidence
 - DEM
 - Flood Frequency
 - Lanai
 - Sea Level Rise
 - Mapping Confidence
 - DEM
 - Flood Frequency
 - Kauai
 - Sea Level Rise
 - Mapping Confidence
 - DEM
 - Flood Frequency



NOAA Pacific Services Center
NOAA Coastal Services Center

Launch the Viewer

The screenshot shows a web browser with multiple tabs open. The active tab is www.csc.noaa.gov/digitalcoast/tools/slrviewer/. The website header features the NOAA Digital Coast logo and navigation links: Data, Tools, Training, Stories, Apply It, and GeoZone Blog. A search bar is also present.

Sea Level Rise and Coastal Flooding Impacts Viewer

Contributing Partners: NOAA Coastal Services Center

Overview In Action Support **Get It Now**

Get It Now

Version 2.0

Launch ➔

- Mobile-friendly
- New features! We want your [feedback](#).

Download Data ➔

Provides access to the data used by the tool. These data include:

- DEMs
- Sea level rise inundation polygons and rasters
- Low-lying area polygons
- Mapping confidence polygons

Also available:

- [Social Vulnerability Index data](#)
- [ESRI REST map services](#)
- Marsh migration data – available by request at csc.info@noaa.gov.

For technical assistance, or to let us know how you are using the viewer or data, email csc.info@noaa.gov. In your use of the viewer or data, please credit NOAA's Digital Coast.

Videos

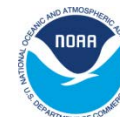
- [Tool Overview](#)
- [First Time Tips](#)

Digital Coast Webinar Series

- [Mapping and Visualizing Sea level Rise and Coastal Flooding Impacts](#)
- [View recorded webinar](#)

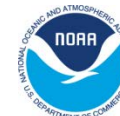
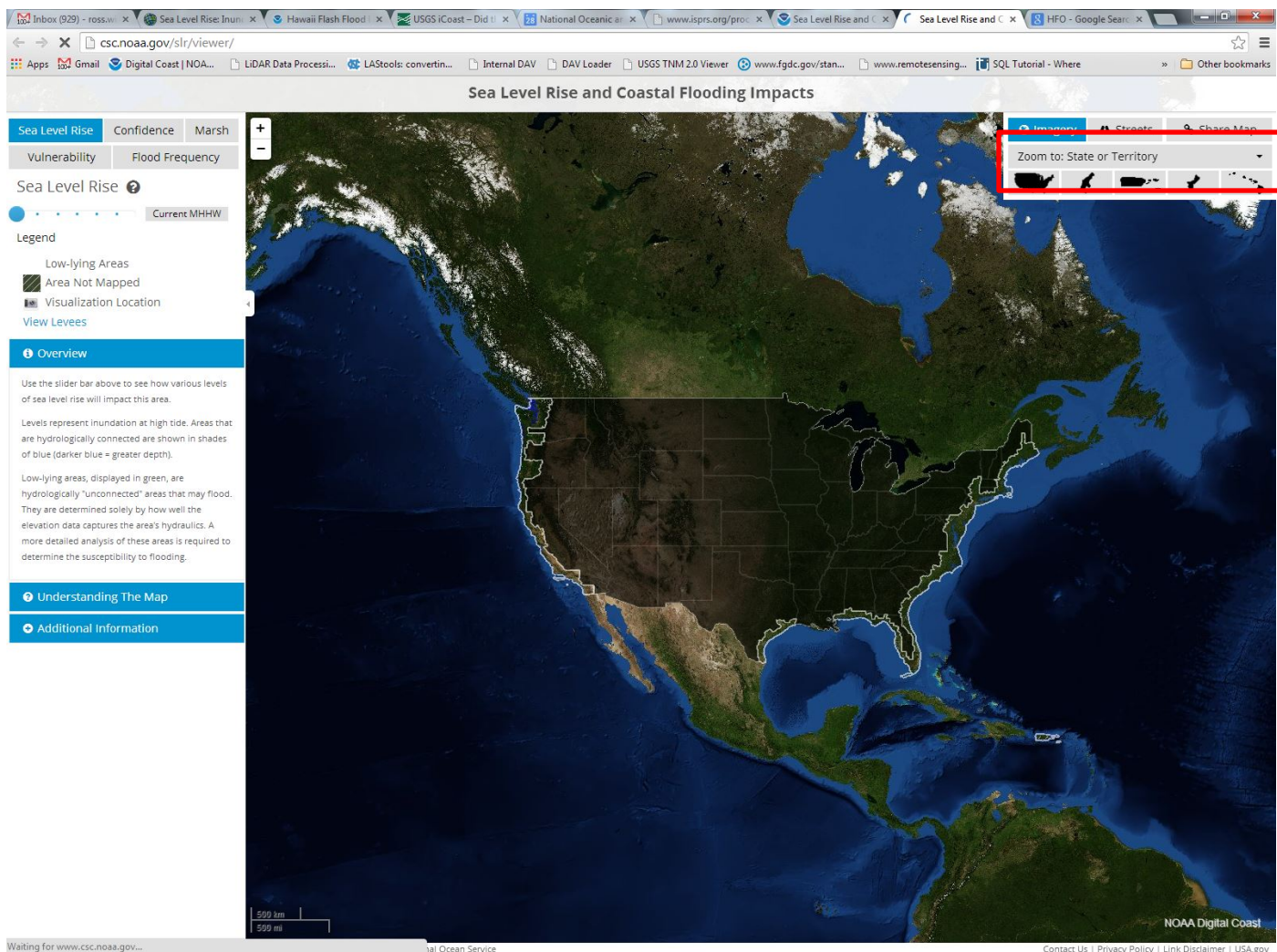
Related Training

- [Climate Adaptation for Coastal Communities](#)
- [Coastal Inundation Mapping](#)



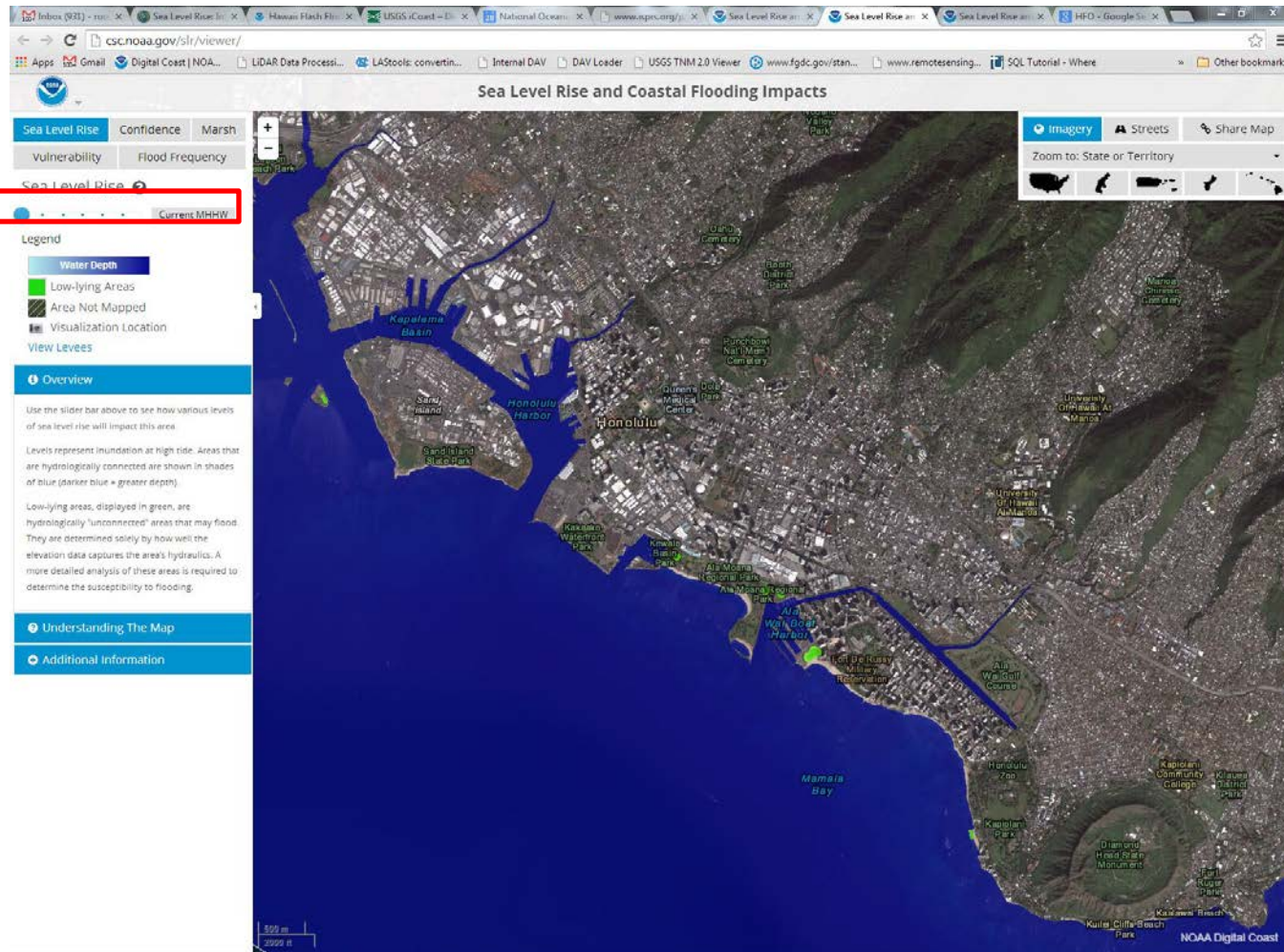
NOAA Pacific Services Center
NOAA Coastal Services Center

Welcome to the Viewer



NOAA Pacific Services Center
NOAA Coastal Services Center

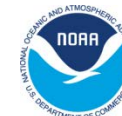
Honolulu – 0-foot Sea Level Rise



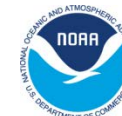
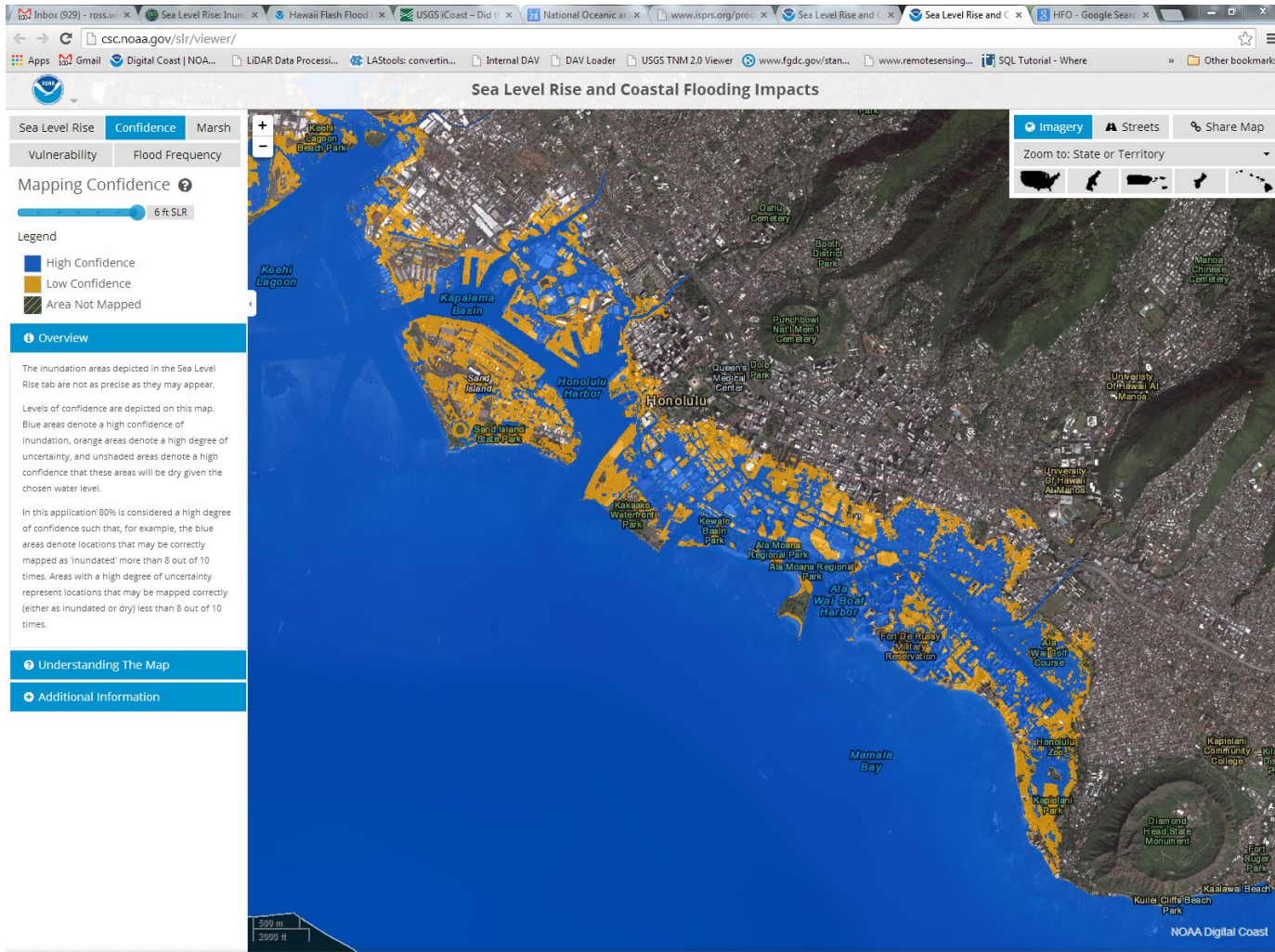
NOAA Pacific Services Center
NOAA Coastal Services Center

The screenshot displays the NOAA Sea Level Rise and Coastal Flooding Impacts viewer. The main map shows Honolulu, Hawaii, with projected flooding areas highlighted in green and low-lying areas in blue. The interface includes a sidebar with navigation options like 'Sea Level Rise', 'Confidence', and 'Marsh'. A legend on the left explains the color coding for water depth, low-lying areas, and area not mapped. The top of the browser shows the URL 'csc.noaa.gov/slr/viewer/' and various browser tabs.

The screenshot shows the NOAA Sea Level Rise and Coastal Flooding Impacts viewer. The main map displays Honolulu, Hawaii, with projected flooding areas highlighted in blue and low-lying areas in green. The interface includes a sidebar with navigation options like 'Sea Level Rise', 'Confidence', and 'Marsh', and a legend explaining the map's symbology. The NOAA Digital Coast logo is visible in the bottom right corner.



Confidence Intervals – 6 feet

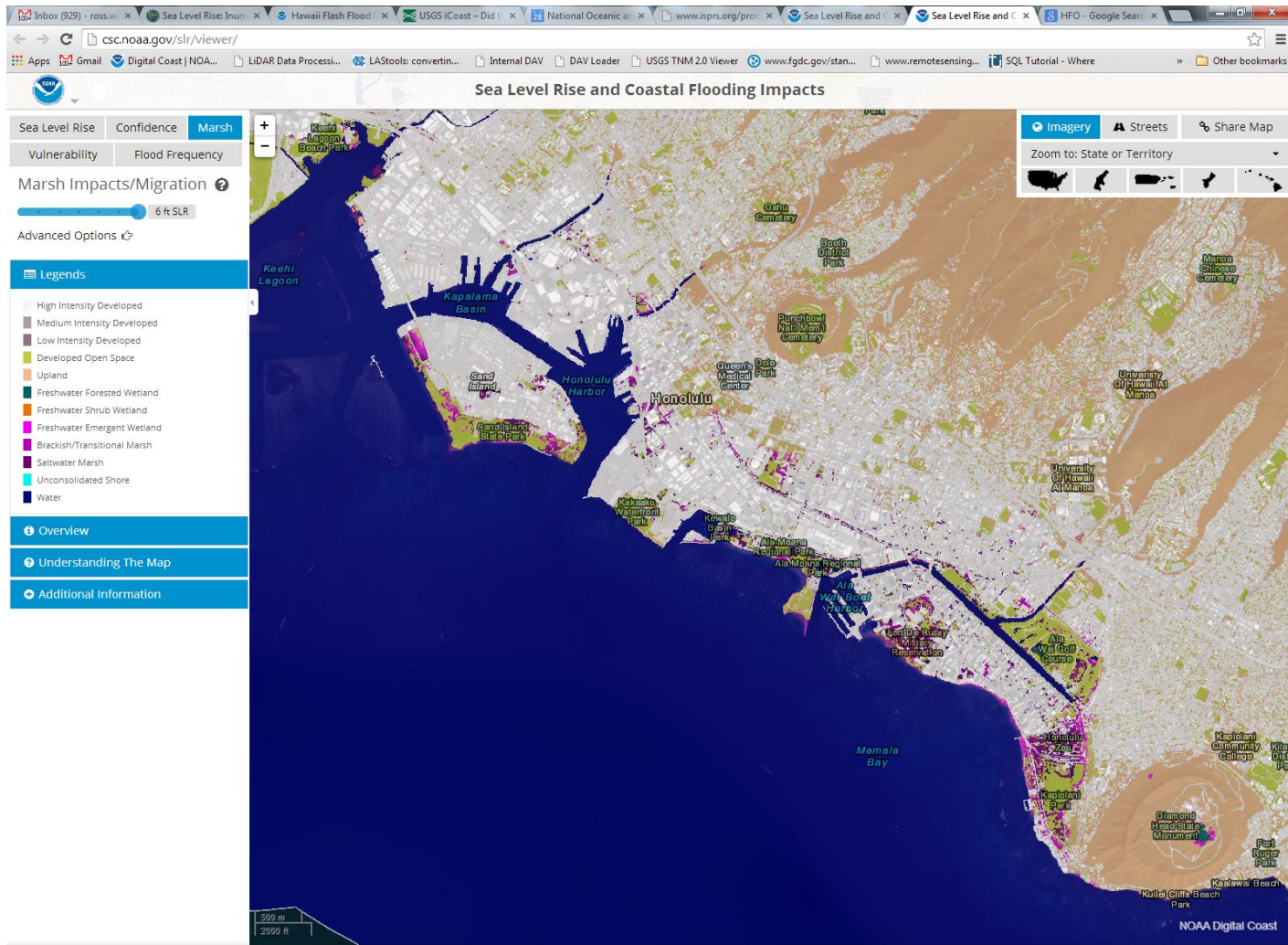


NOAA Pacific Services Center
NOAA Coastal Services Center

[Contact Us](#) | [Privacy Policy](#) | [Link Disclaimer](#) | [USA.gov](#)

[illegible]

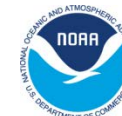
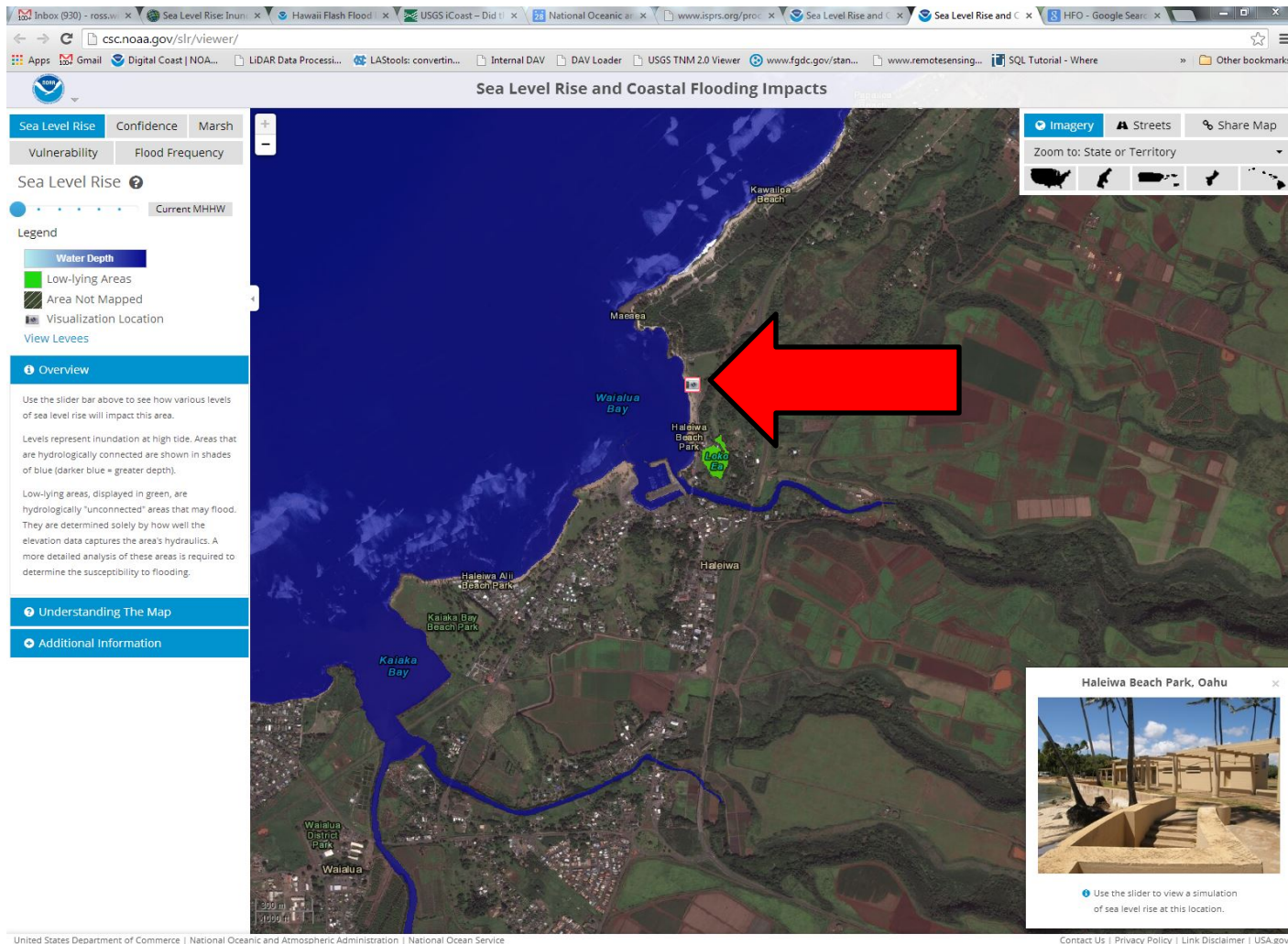
Marsh Migration – 6 feet



NOAA Pacific Services Center
NOAA Coastal Services Center

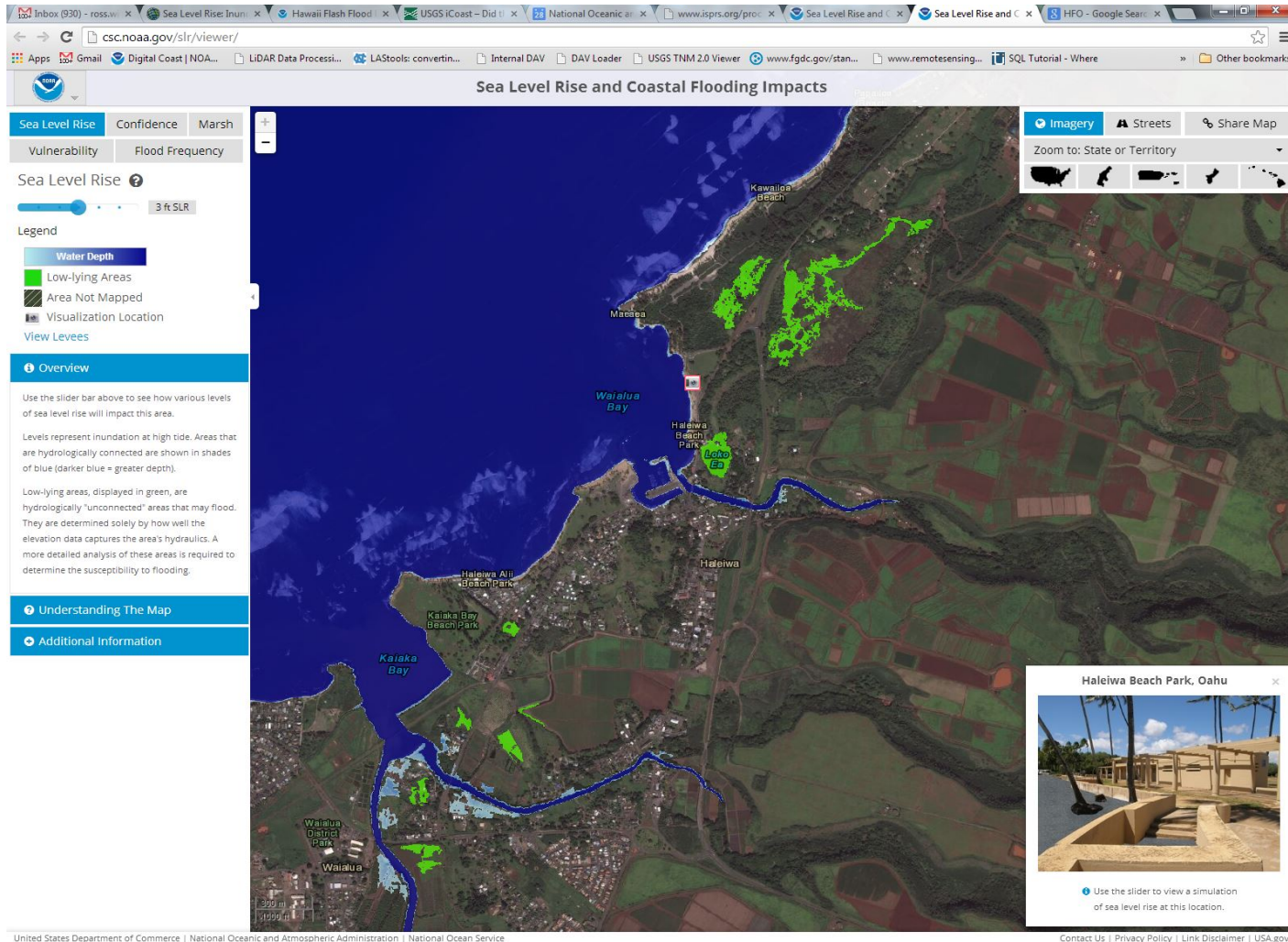
[illegible]

Canvis – 0 feet



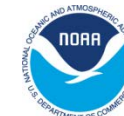
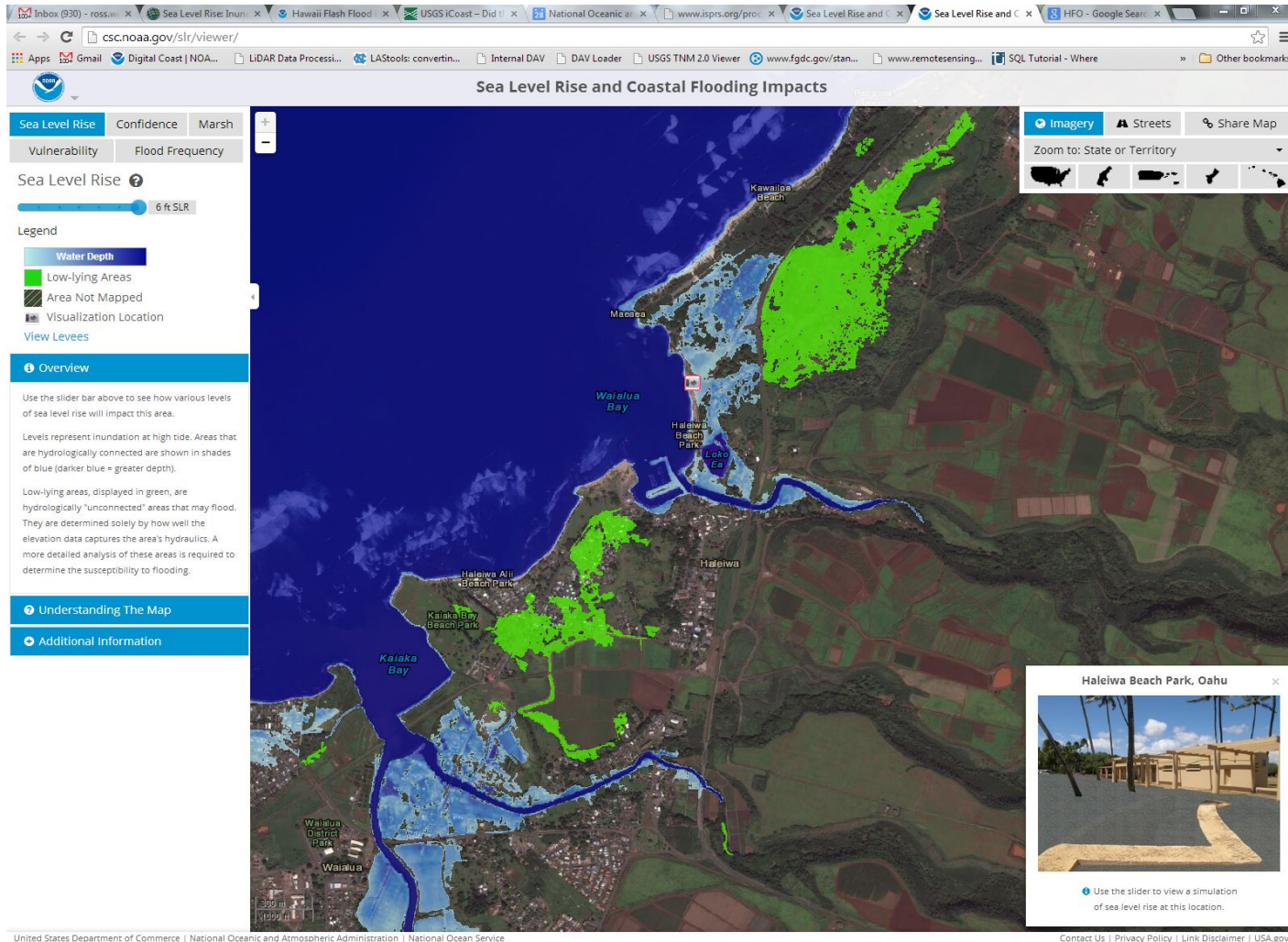
NOAA Pacific Services Center
NOAA Coastal Services Center

Canvis – 3 feet



NOAA Pacific Services Center
NOAA Coastal Services Center

Canvis – 6 feet



NOAA Pacific Services Center
NOAA Coastal Services Center

Economic Vulnerability and Flood Frequency

Currently unavailable for Pacific Islands and some West Coast locations

Economic Vulnerability:

- Unique economies
- Finer scale needed for islands

Flood Frequency:

- Sheltered tide gauges
- Weather Forecast Offices use different metrics
- No way to account for flooding from big wave events



NOAA Pacific Services Center
NOAA Coastal Services Center

Regional Updates

Completed (as of 2014):

- Tool converted to JavaScript (iPhone friendly)
- FTP download interface

Fall 2015:

- NOAA Coastal Services Center's Economics: National Ocean Watch team preparing to readdress Hawaii's economics data
- Also working with partners in U.S. Pacific territories

TBA:

- NOAA Coastal Services Center, in coordination with partner organizations, is exploring the best options to address flood frequency for Pacific Islands and West Coast locations.



NOAA Pacific Services Center
NOAA Coastal Services Center

Questions?

Ross.Winans@noaa.gov



NOAA Pacific Services Center
NOAA Coastal Services Center