

# Translating Climate Science into Useful Products and Services

## A Presentation to the Research Dialogue

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United States National Oceanic and Atmospheric Administration

May 19, 2016



# Research and Useful Knowledge



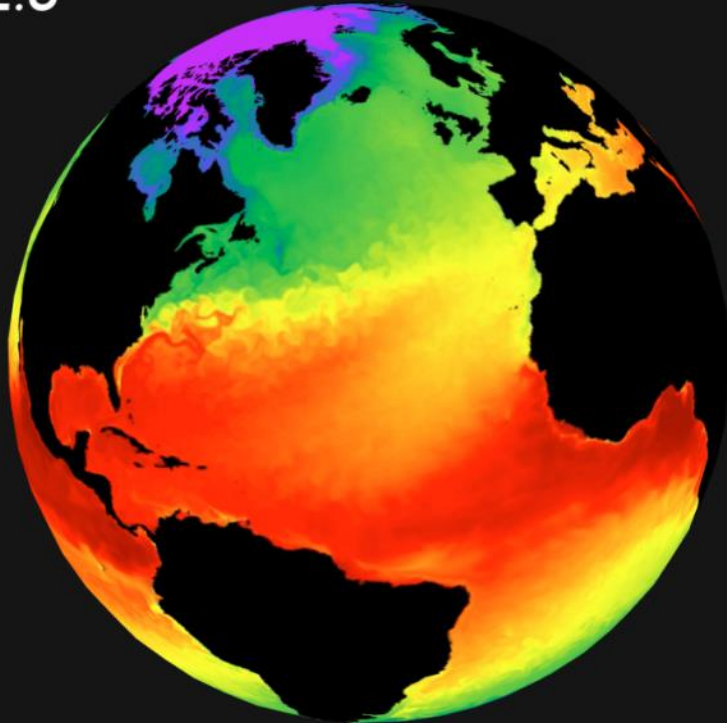
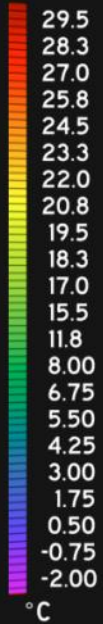
Research and  
Development

Products of  
R&D in active  
use by  
communities  
and decision-  
makers

# The Challenge of Scale

**GFDL CM/ESM2.6**

Sea Surface Temperature



# Understanding Sea Level Rise

Sea Level Rise and Coastal Flooding Impacts

Sea Level Rise and Coastal Flooding Impacts

Sea Level Rise Confidence Marsh

Vulnerability Flood Frequency

Sea Level Rise ?

Current MHHW

Legend

- Water Depth
- Low-lying Areas
- Area Not Mapped
- Visualization Location
- Leveed Areas ?

Overview

Use the slider bar above to see how various levels of sea level rise will impact this area.

Levels represent inundation at high tide. Areas that are hydrologically connected are shown in blue.

Understanding The Map

Additional Information

Streets Download Share Map

Zoom to: State or Territory

Pt Pleasant Coast Guard Station

Use the slider to view a simulation of sea level rise at this location.

# Understanding Sea Level Rise

Sea Level Rise and Coastal Flooding Impacts

Sea Level Rise Confidence Marsh

Vulnerability Flood Frequency

Sea Level Rise ?

3 ft SLR

Legend

- Water Depth
- Low-lying Areas
- Area Not Mapped
- Visualization Location
- Leveed Areas ?

Overview

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# Understanding Se Level Rise

Sea Level Rise and Coastal Flooding Impacts

Sea Level Rise Confidence Marsh  
Vulnerability Flood Frequency

Sea Level Rise ?

6 ft SLR

Legend

- Water Depth
- Low-lying Areas
- Area Not Mapped
- Visualization Location
- Leveed Areas

Overview

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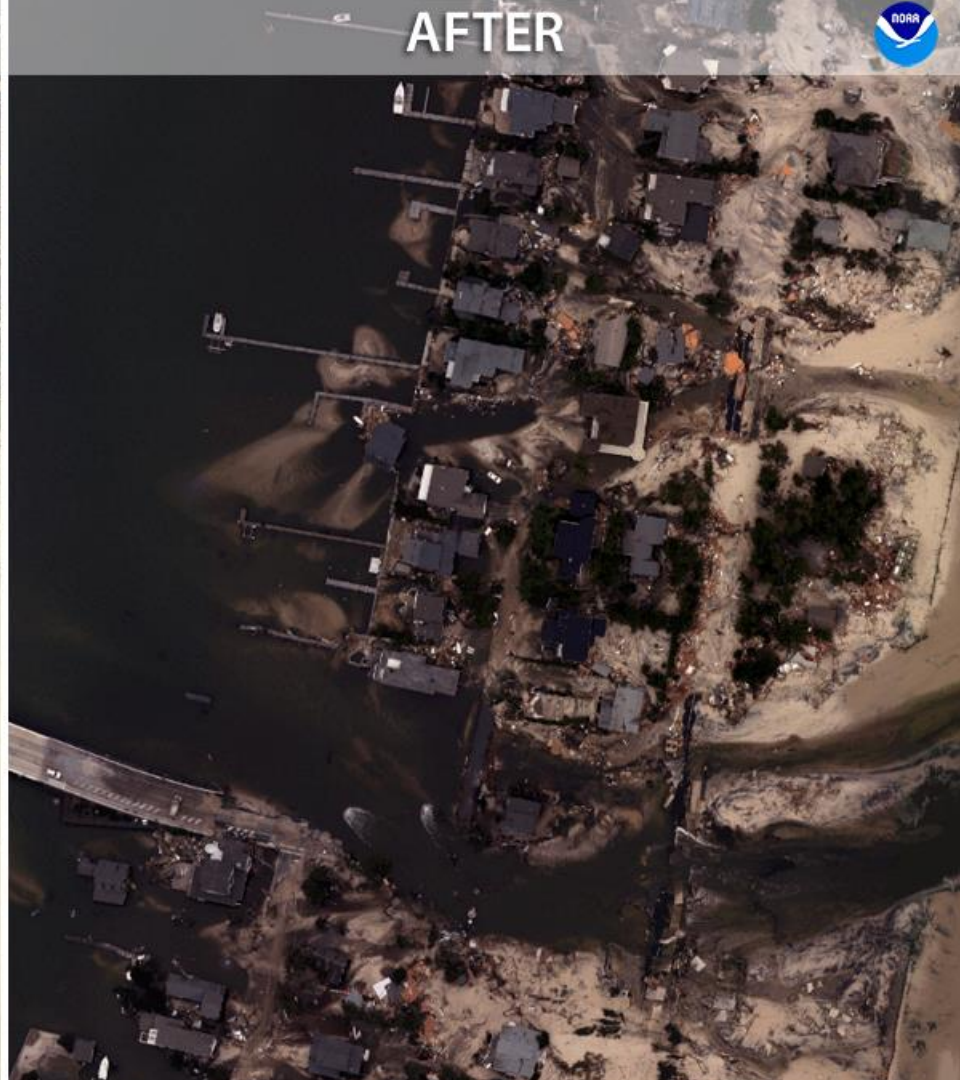
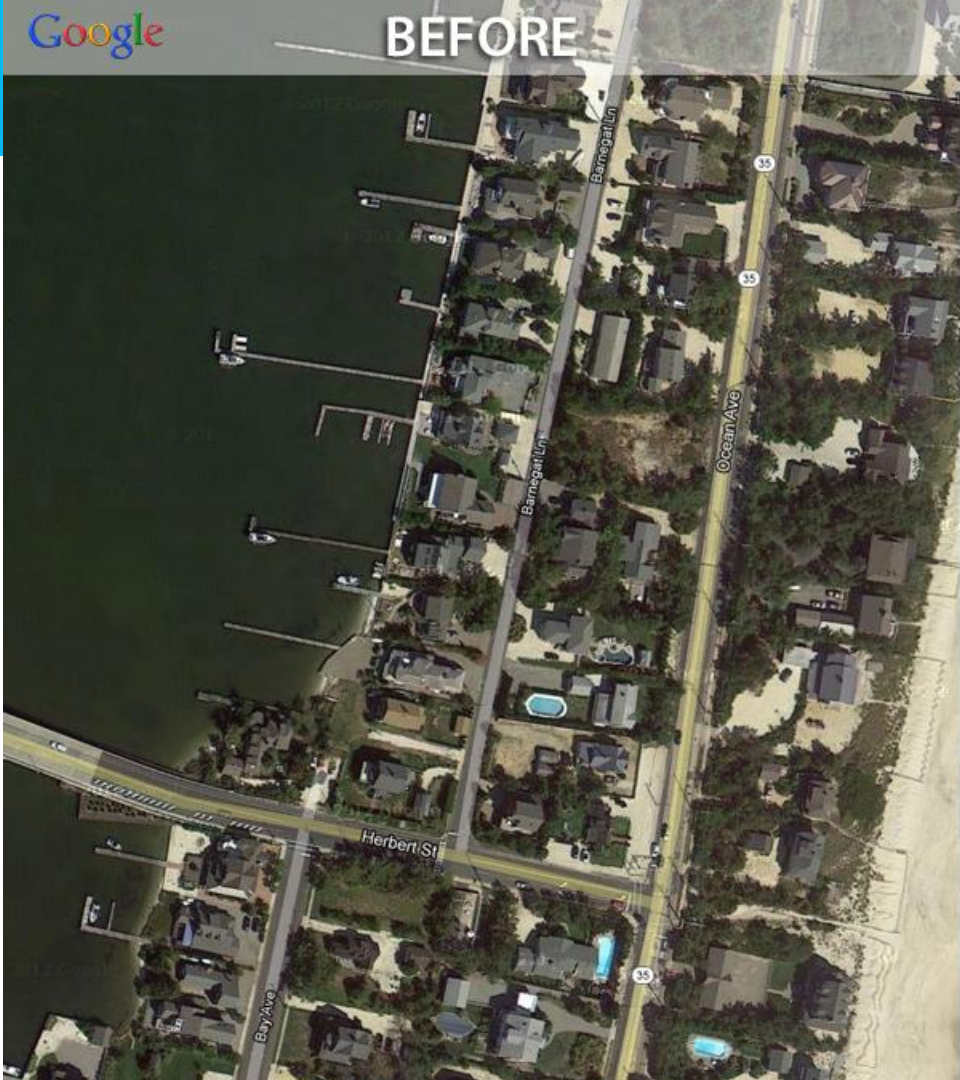
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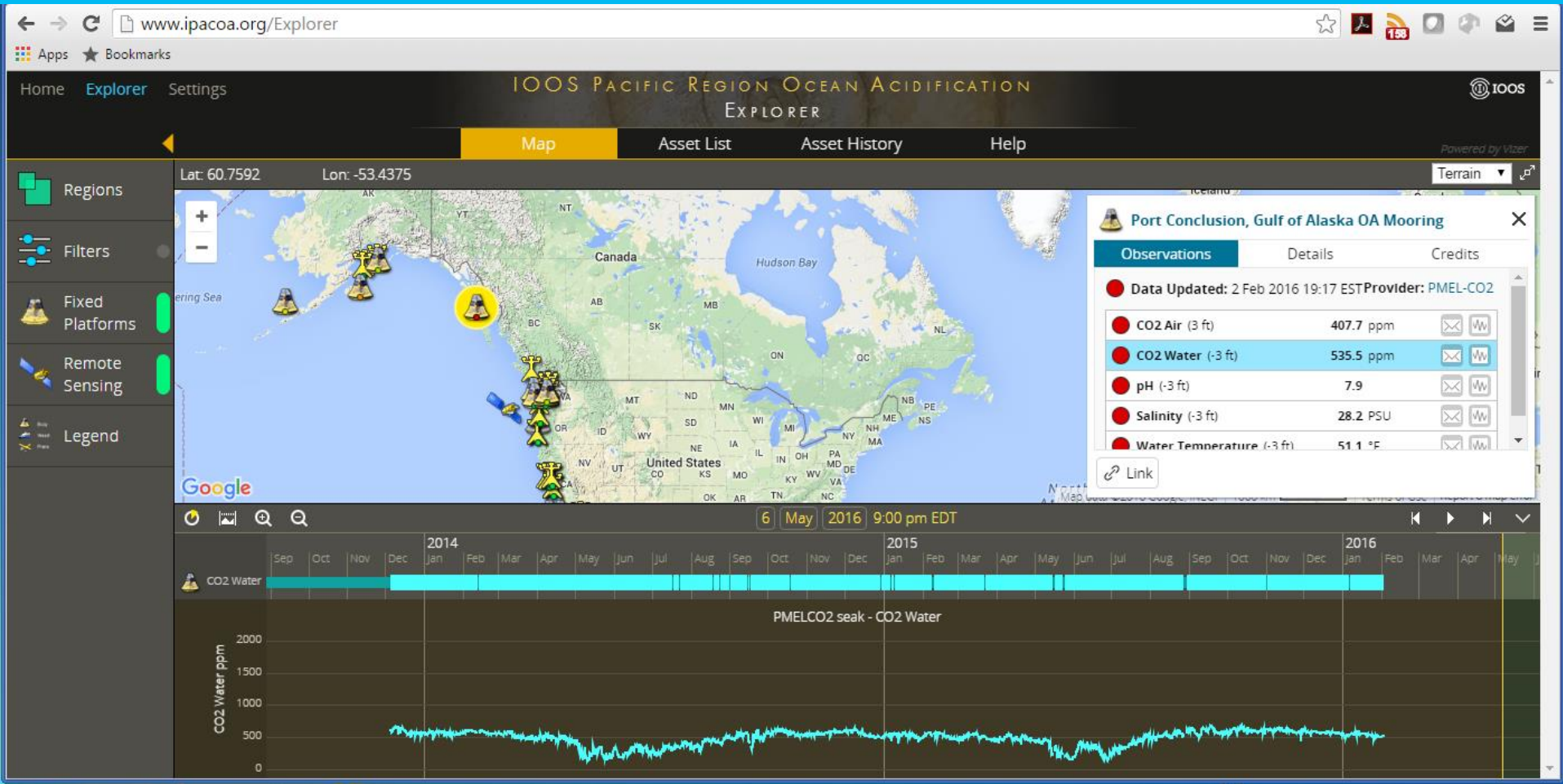


# Helping Communities Prepare for Sea Level Rise





# Understanding Ocean Acidification



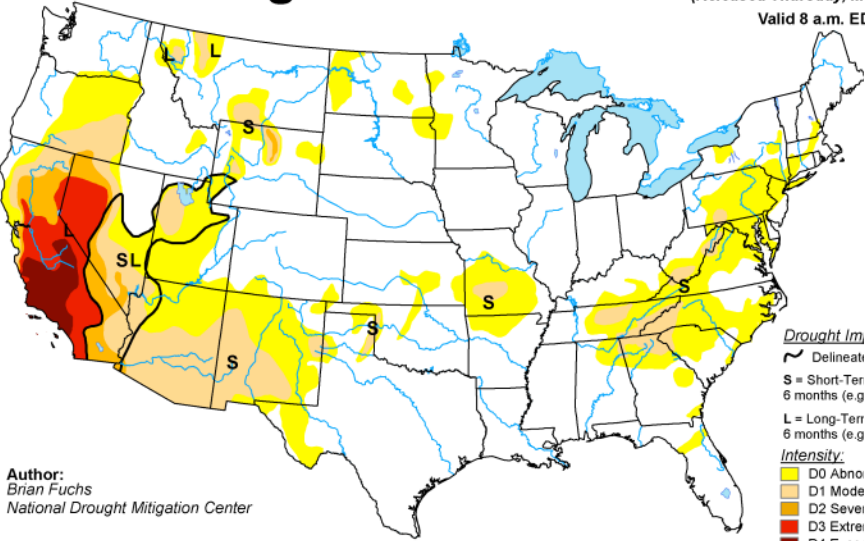
# Building Resilience to Ocean Acidification



# Monitoring and Predicting Drought

## U.S. Drought Monitor

May 3, 2016  
(Released Thursday, May 5, 2016)  
Valid 8 a.m. EDT



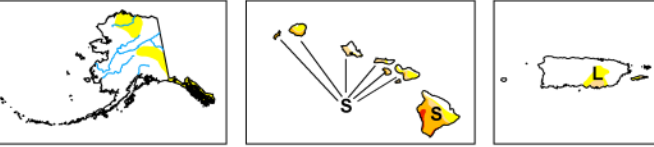
**Drought Im**  
~ Delineat  
S = Short-Ter  
6 months (e.g  
L = Long-Ter  
6 months (e.g  
**Intensity:**  
D0 Abno  
D1 Mode  
D2 Seve  
D3 Extre  
D4 Exceq

Author:  
Brian Fuchs  
National Drought Mitigation Center

The Drought M  
scale conditions  
vary. See accor  
forecast statem

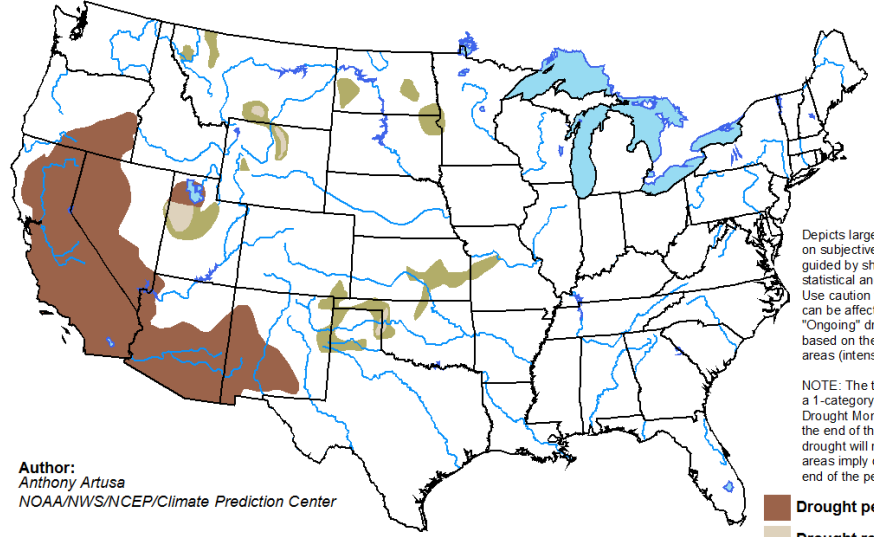


<http://droughtmo>



## U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

Valid for April 21 - July 31, 2016  
Released April 21, 2016



Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

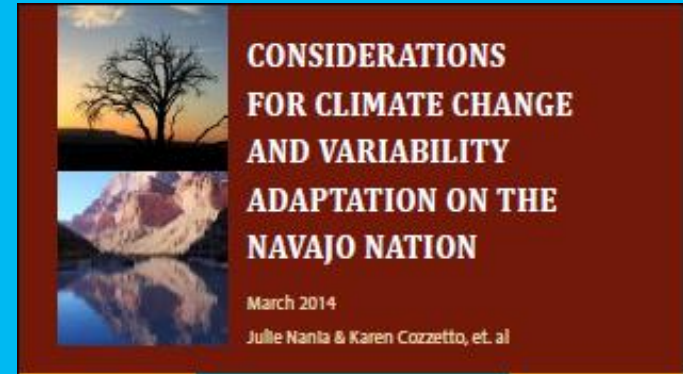
Author:  
Anthony Artusa  
NOAA/NWS/NCEP/Climate Prediction Center

- Drought persists
- Drought remains but improves
- Drought removal likely
- Drought development likely




<http://go.usa.gov/3eZ73>

# Engaging Drought-Vulnerable Communities



**THE NAVAJO NATION**

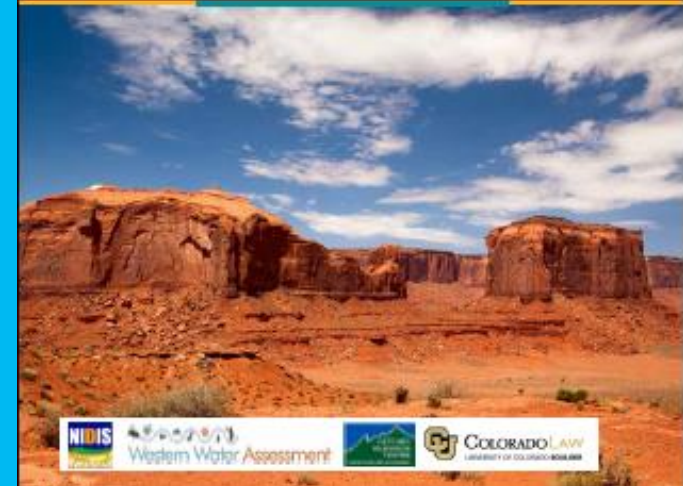


**BEN SHELLY** PRESIDENT  
**REX LEE JIM** VICE PRESIDENT

CEM 13-06-27

**STATE OF EMERGENCY DECLARATION**

THE NAVAJO NATION COMMISSION ON EMERGENCY MANAGEMENT RE-AFFIRMS THE DROUGHT DECLARATION STATE OF EMERGENCY



# Research and Useful Knowledge

