

Great Story Maps and How to Emulate Them

ALLEN CARROLL

RUPERT ESSINGER

Esri Story Maps Team

DAN PISUT

National Oceanic and Atmospheric Administration

MICHELLE THOMAS

Natural Resources Conservation Service



Allen

1

What Is a
Story
Map?

Rupert

2

Great
Story Maps

Dan

3

NOAA
Story
Maps

Michelle

4

Fridays
on the
Farm

Allen

5

Why
Does It
Matter?

1

What are Story Maps?



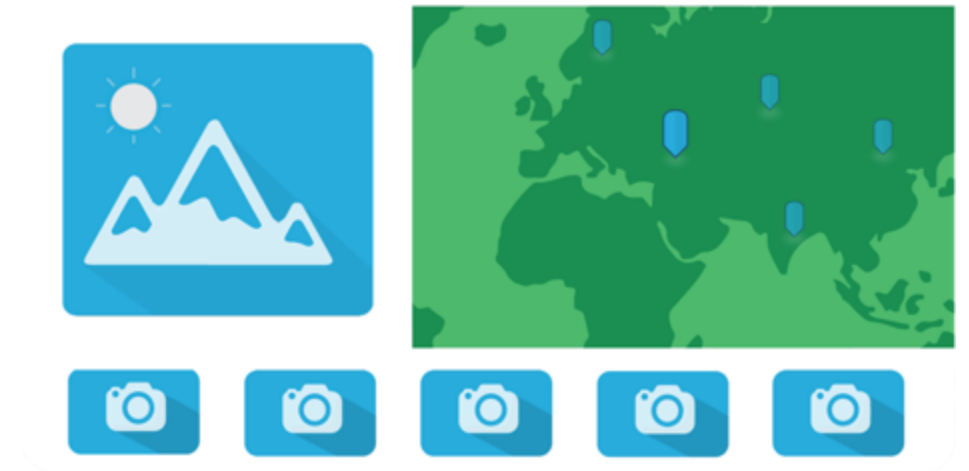
What are
Story Maps?

Story Maps are simple web
apps that combine
interactive maps,



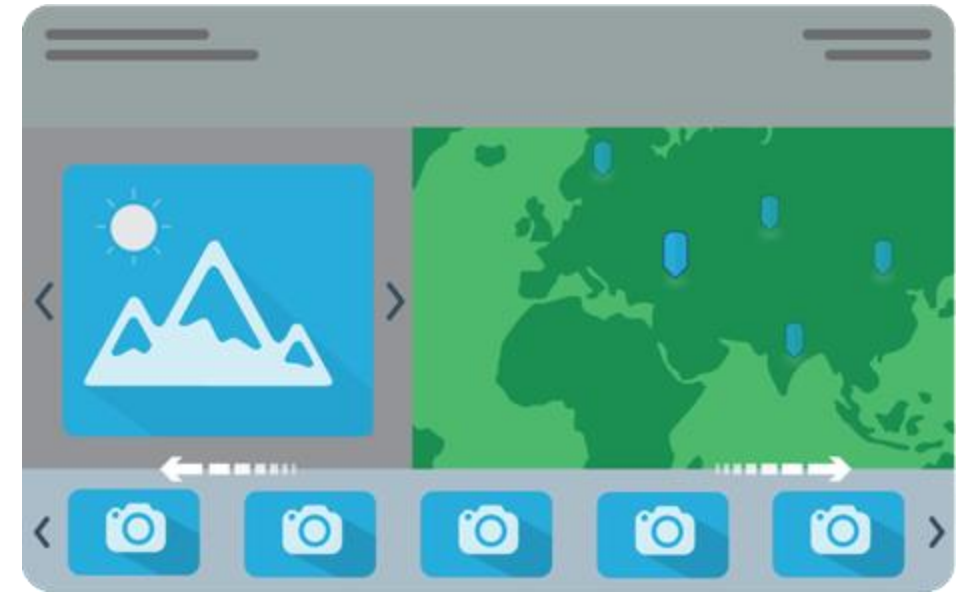
What are
Story Maps?

Story Maps are simple
web apps that combine
interactive maps,
multimedia content,



What are
Story Maps?

Story Maps are simple web apps that combine interactive maps, multimedia content, and user experiences



Story Maps are simple web apps that combine interactive maps, multimedia content, and user experiences to tell stories about the world.



What are Story Maps?

Most **Story Maps** are
hosted by Esri in the cloud.
(But you can opt to host
them yourself.)



Story Maps incorporate builder functions that enable you to build a sophisticated story with no GIS or web development skills.



What are
Story Maps?

Story Maps work equally well on PCs,
tablets, and smartphones.



What are Story Maps?

Story Maps are open source. You're free to download and customize them.



What are Story Maps?

Story Maps include an array of apps that provide different ways of telling a story with maps.



Sequential
narratives

Presenting a series of
points of interest

Story Maps

Enabling a “crowd” to
participate in a story

Comparing
several maps

Scrolling through maps
and multimedia



What are
Story Maps?

Journal

Shortlist

Story Maps

Crowdsource

Cascade

Series



What are
Story Maps?

Why **Story Maps?**



Story



“Stories are a communal
currency of humanity.”

—Tahir Shah, in Arabian Nights

What are Story Maps?

Story



Map



“Maps codify the miracle
of existence.”

—Nicholas Crane,
Mercator: The Man Who Mapped
the Planet

Then:

Map = **Noun**

Story



Map



Map as static
accompaniment to
story

Now:

Map = **Active Verb**

Story



Map as

- Context
- Connective tissue
- Windows to information
- Supporting cast
- Main character

What are Story Maps?



Story



Map

A new medium

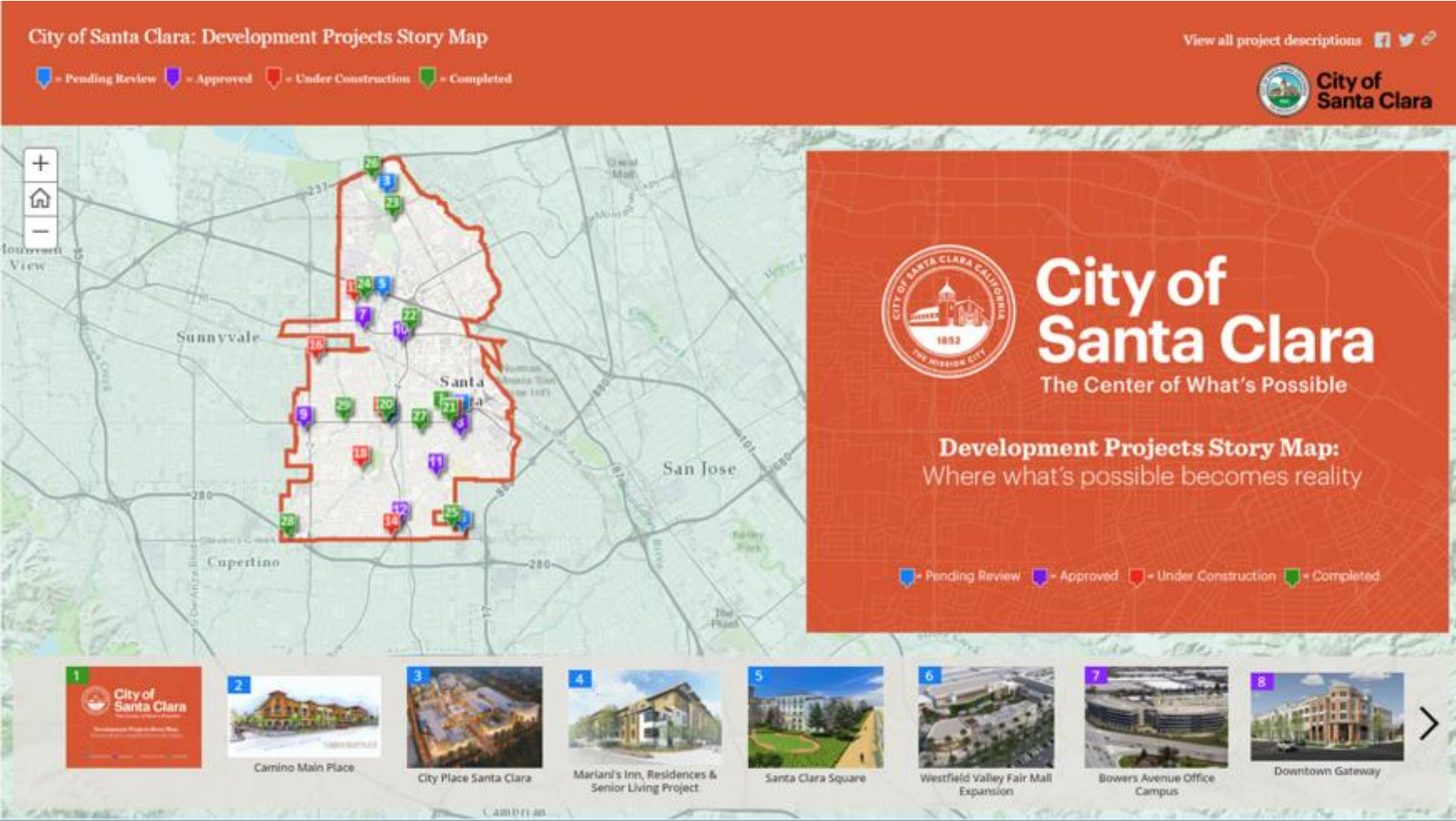
The background features a warm orange-to-red gradient with a textured, marbled appearance. In the lower portion, there are layered, wavy shapes in shades of orange and red. Overlaid on these is a dark blue area containing a white grid pattern, resembling a map or a technical drawing.

2

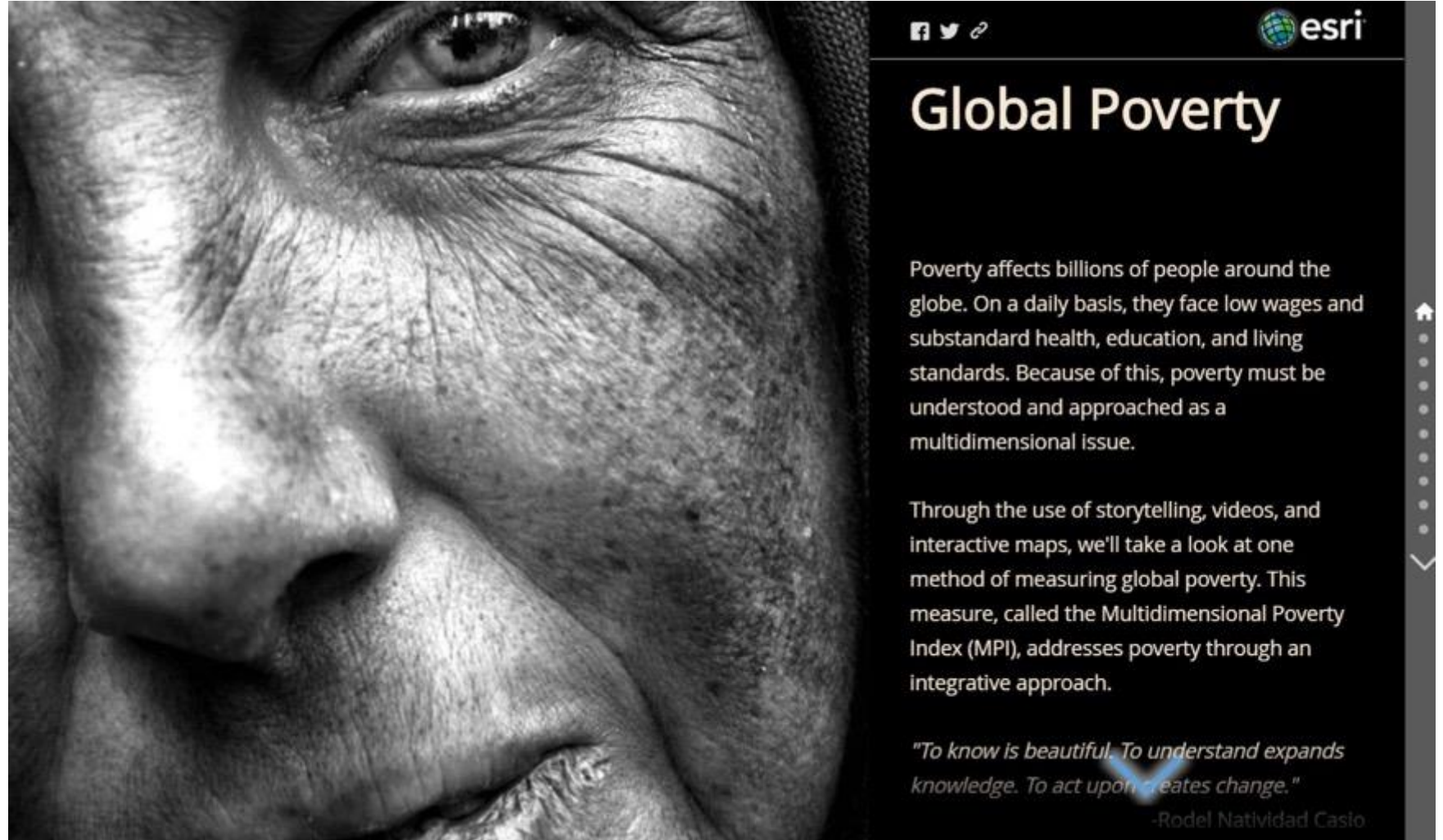
Great Story Maps

RUPERT

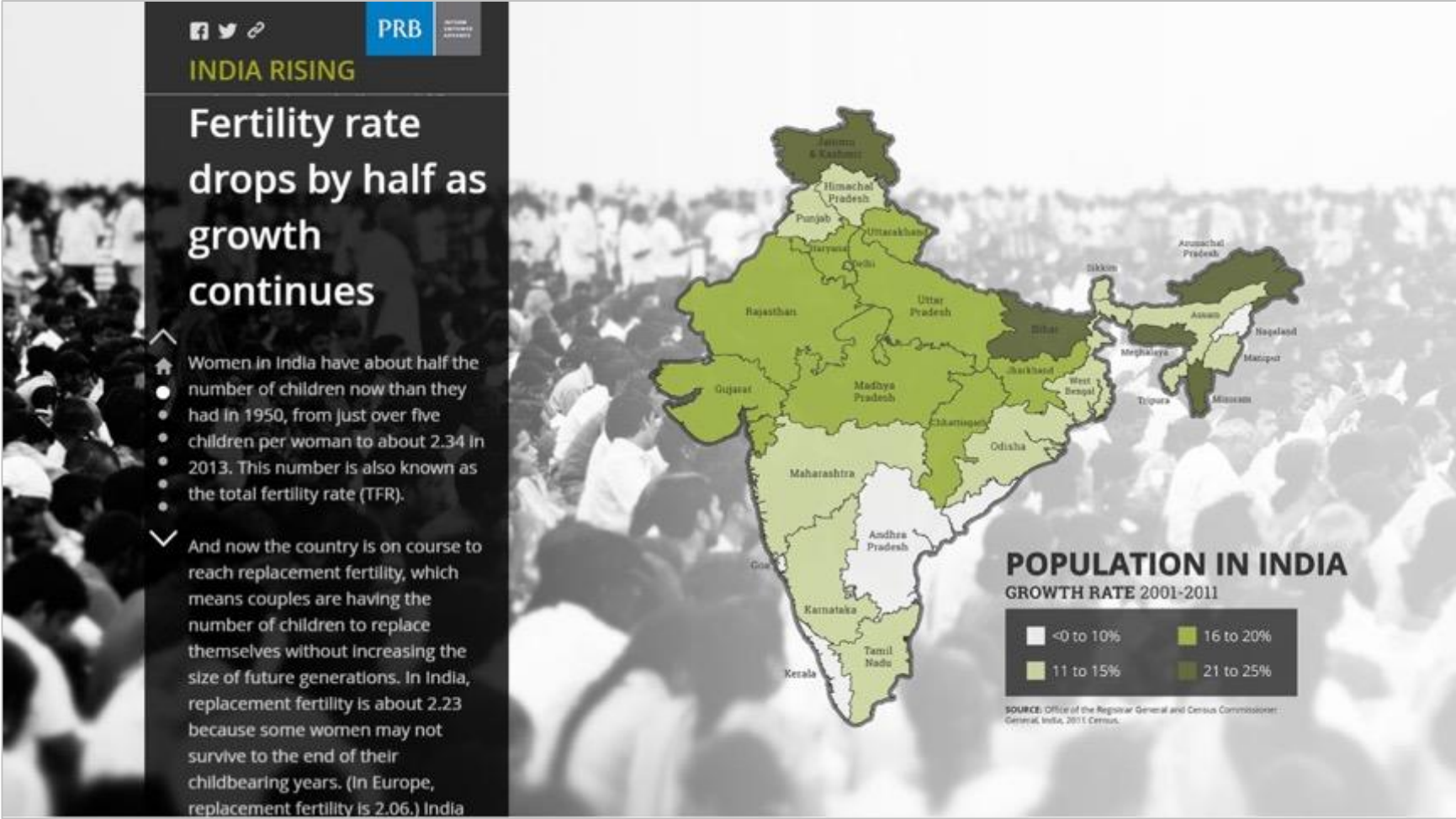
Development Projects



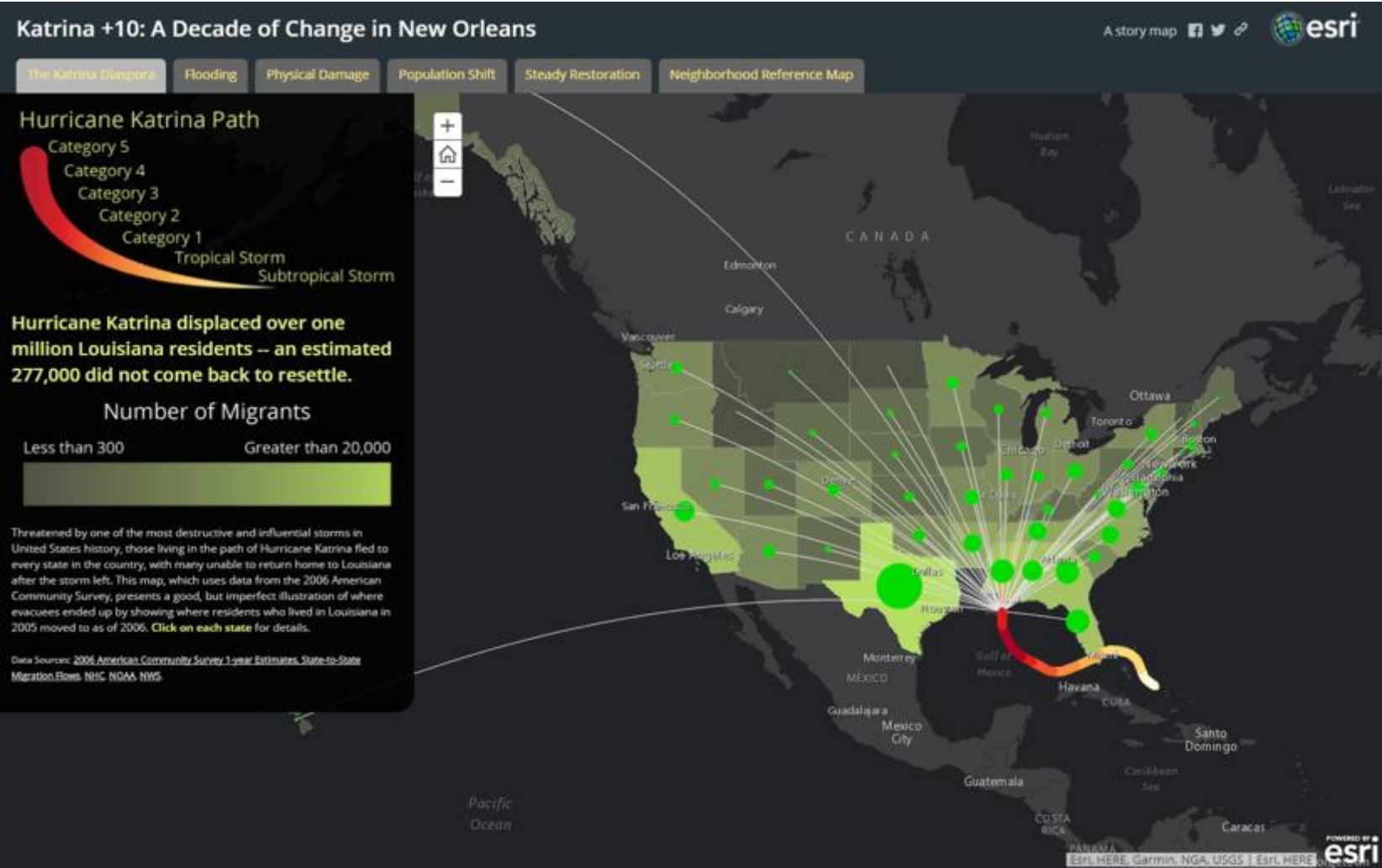
Global Poverty



India Rising



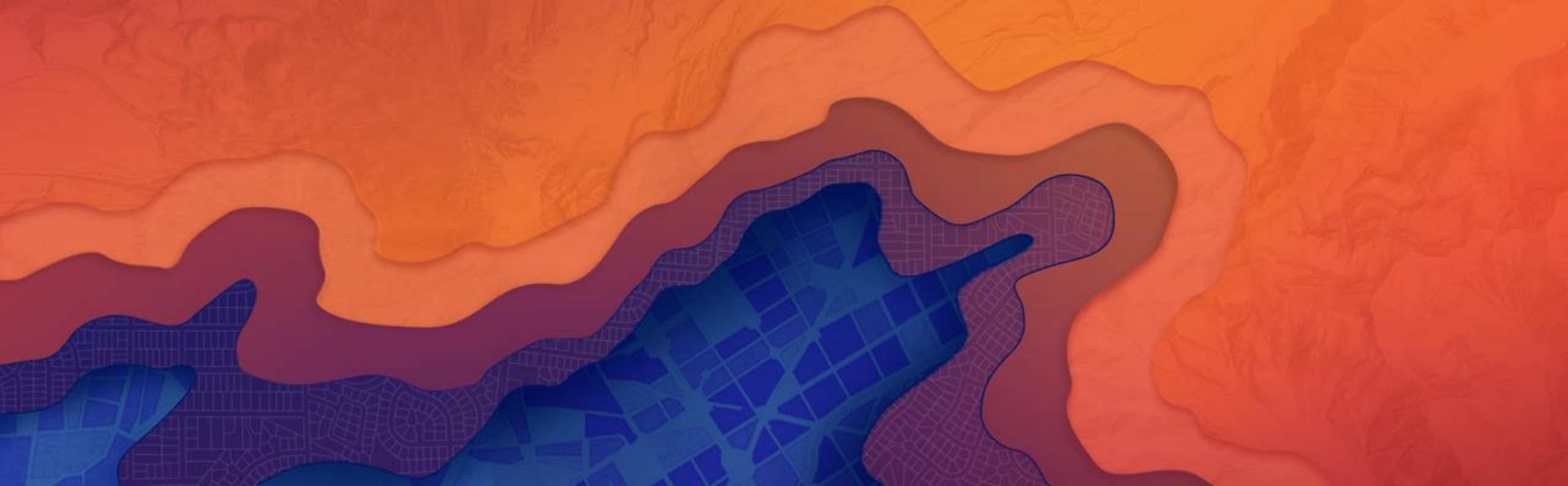
Katrina +10: A Decade of Change in New Orleans



3

NOAA Story Maps

DAN



NOAA Data in the Classroom [link](#)

The screenshot displays the NOAA Satellite and Information Service website. The header features the NOAA logo and the text "National Oceanic and Atmospheric Administration U.S. Department of Commerce" and "Satellite and Information Service". The main content area is titled "Data in the Classroom" and includes a navigation menu with "Home", "El Niño", and "Sea Surface Temperature". Below this, the text "INVESTIGATING" is visible. A paragraph discusses El Niño and sea surface temperature, mentioning "graphs and maps, you can" and "and even begin to predict". A button labeled "LAUNCH THE A" is present. The main content area also features a "NOAA VIEW ArcGIS Portal" banner with the tagline "EXPLORE A WORLD OF DATA". Below the banner, a section titled "Featured Maps and Apps" displays four maps: "Earth in True Color Daily", "Land Surface Temperature Weekly", "Ocean Temperature Departure Weekly", and "Sea Surface Temperature Weekly". A disclaimer at the bottom states: "The NOAA View data imagery portal provides access to NOAA's wealth of global data resources. Data on this site is intended for outreach and education purposes only and is not considered part of NOAA's official data centers. Links are provided for each dataset to access the original, science-quality data." A "Contact Us" link is located at the bottom right.

NOAA National Oceanic and Atmospheric Administration U.S. Department of Commerce

Satellite and Information Service

Data in the Classroom

Home El Niño Sea Surface Temperature

INVESTIGATING

People blame El Niño for... One of the ways to detect... sea surface temperature... graphs and maps, you can... and even begin to predict... our [El Niño activity](#) and...

LAUNCH THE A

NOAA Visualization Lab

NOAA VIEW ArcGIS Portal

EXPLORE A WORLD OF DATA

Featured Maps and Apps

Earth in True Color Daily

Land Surface Temperature Weekly

Ocean Temperature Departure Weekly

Sea Surface Temperature Weekly

The NOAA View data imagery portal provides access to NOAA's wealth of global data resources. Data on this site is intended for outreach and education purposes only and is not considered part of NOAA's official data centers. Links are provided for each dataset to access the original, science-quality data.

Contact Us

Data in the Classroom

About NODE Project Download

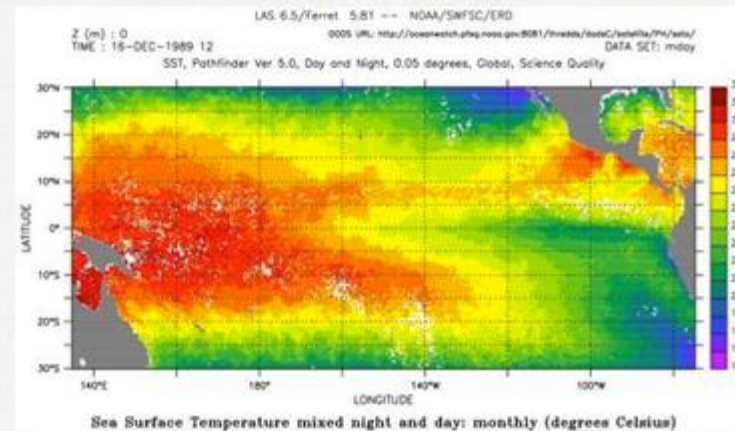
Investigating El Niño Using Real Data.

El Niño / Level 1

Reading Sea Surface Temperature

One of the ways to detect an El Niño event is to look at sea surface temperature (SST). SST can be recorded using instruments on orbiting satellites which measure infrared radiation from the surface of the oceans. This data can be represented on maps in different ways. Researchers map temperature zones using colors to represent areas of temperature, producing what is called a false-color map.

Below is an example of a false-color map of sea surface temperature. Use this map to [check your understanding](#). Then [try making your own map](#) of sea surface temperature using real data.



Check your understanding

1. Lines of latitude indicate:

- ☐ degrees of temperature.
- ☐ degrees north and south of the Equator.
- ☐ areas of equal temperature.
- ☐ representations of colors to indicate temperature.

- Developed in ASP.NET
- Limited amount of activities online compared to the PDFs
- Uses antiquated browser technologies
- Inactive from HTTPS

pedagogical approach

Invention Level: Invention is the highest cognitive level. Exercises need to be designed where pedagogy and technology are integrated simultaneously. This is where the inquiry approach can be fully implemented. This area is very student driven.

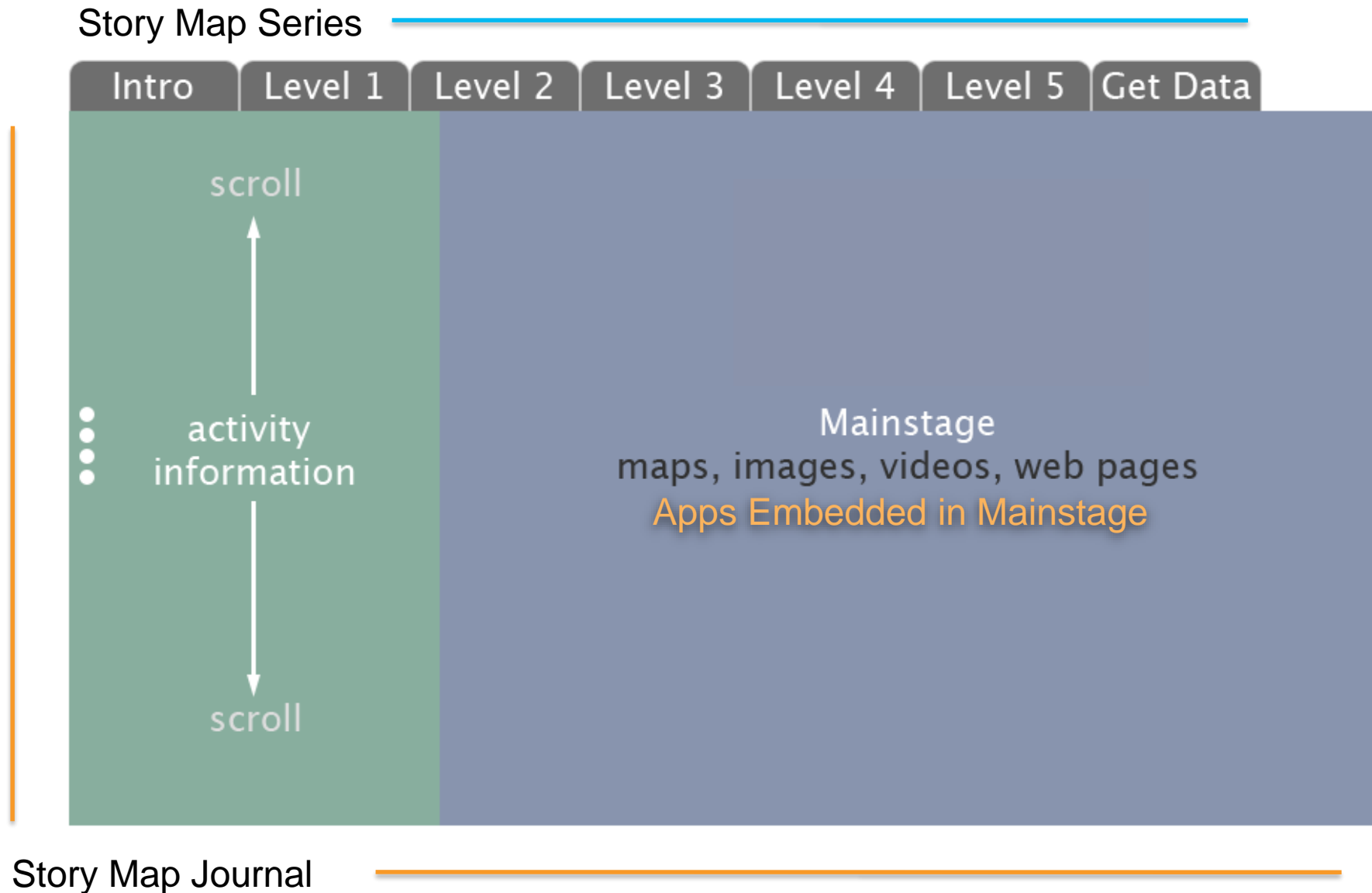
Interactivity Level: This level features the use of complex technology interactions. Here problem-solving techniques are introduced that can be very student directed. Tools are needed for students to analyze data and discuss findings.

Adaptation Level: Students use portal tools to play and practice what they know. These interactions can be student-directed.

Adoption Level: Many teachers appreciate having prescriptive approaches to utilizing online tools. We recommend some form of drill and practice exercises that are predictable to teachers and will be available for them to share with their students. Once understood teachers can move to the next level of online interactivity and teacher technology inclusion.

Entry Level: The developers are making the basic assumption that first-time users of a new portal are at an entry level and need direct guidance in how to use the portal and demonstration site. This level of interaction is very teacher directed. Once teachers learn how to use the site they are ready to skip this level and move on to more complex levels. The Entry Level provides teachers with a teach-back system to help their students enter into the portal and its use.

Simplicity and Consistency in Design



Teaching Sea Level with Story Maps

Understanding Sea Level Using Real Data

NOAA Data in the Classroom

Introduction Level 1 Level 2 Level 3 Level 4 Level 5 Get Data Teacher's Guide

Measuring Sea Level From Space


Introduction

Objectives

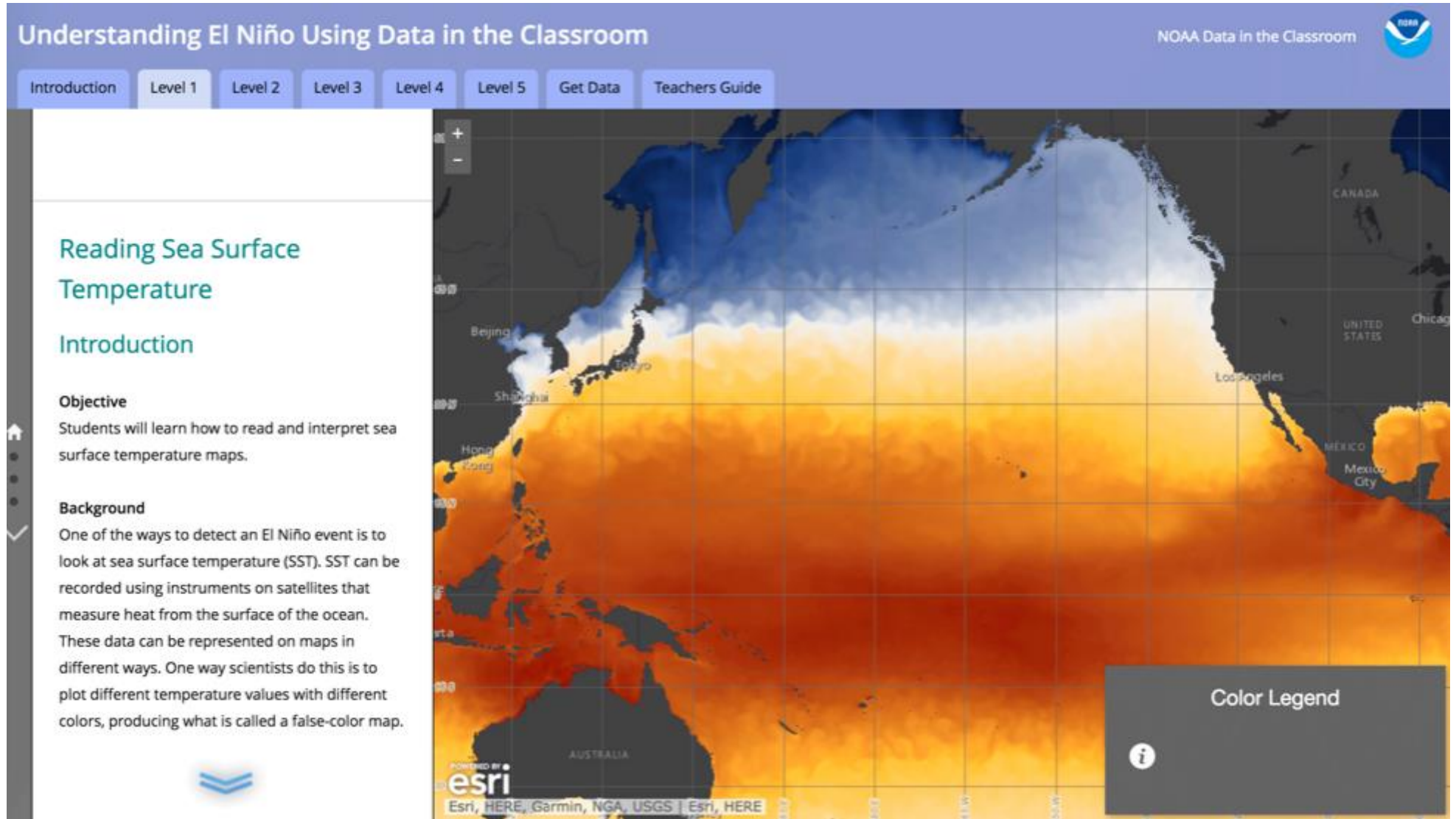
Students will analyze real data maps from satellites to provide evidence for global variations in sea surface height. Students will construct an explanation for sea surface height variations across the equatorial Pacific Ocean.

Activities

- Analyze satellite maps of global sea surface height
- Construct explanation for sea level variations



Teaching El Nino with Story Maps



Teaching Coral Bleaching with Story Maps

Understanding Coral Bleaching Using Data in the Classroom

NOAA Data in the Classroom

Introduction Level 1 Level 2 Level 3 Level 4 Level 5 Get Data Teacher's Guide

Coral Bleaching - Get Data

Coral Reef Station Data

NOAA provides station data for many coral reefs around the world (see [here](#)). This tool provides a smaller sampling of those stations, along with more simplified graphs and data outputs.

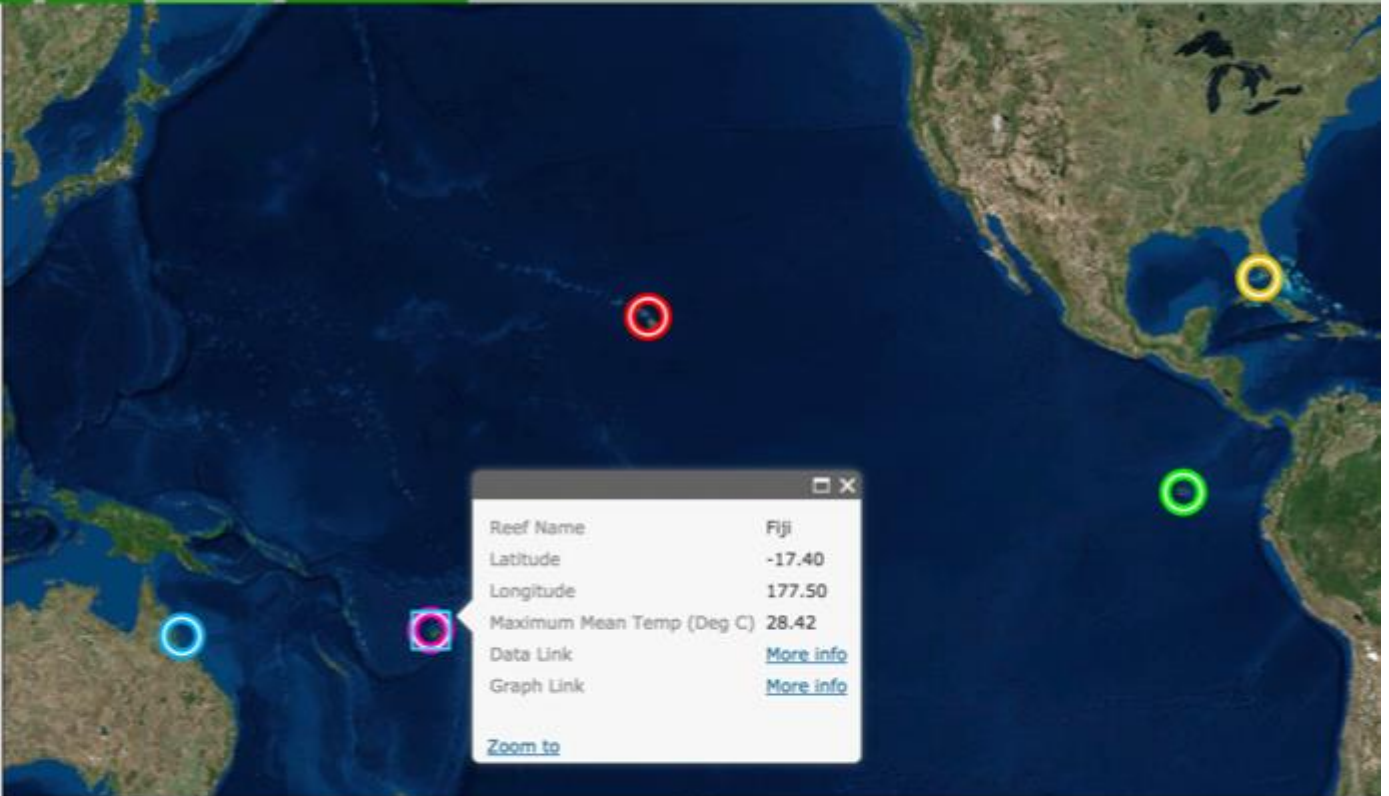
Click one of the five station locations. The pop-up provides the reef name, location, and then important data related to coral bleaching.

Maximum Mean Temperature: this is the mean warmest temperature coral typically experience. Anything 1°C over this value can cause bleaching.

Graph Link: Click this link to access a real-time graph of Degree Heating Week data.

Data Link: Click this link to get a CSV file (can be analyzed in Microsoft Excel or any other spreadsheet software) of daily SST, HotSpots (degrees above the Maximum Mean Temperature), Degree Heating weeks, and Bleaching Alert Area.

For more information about the HotSpots and Bleaching Alert Area data, please visit the [NOAA](#)



Reef Name	Latitude	Longitude	Maximum Mean Temp (Deg C)
Fiji	-17.40	177.50	28.42

Coral Reef Data Stations

Taking a Dive Under the Ocean

Understanding Coral Bleaching Using Data in the Classroom

NOAA Data in the Classroom

Introduction Level 1 Level 2 Level 3 Level 4 Level 5 Get Data Teacher's Guide

Monitoring Coral Reefs in the Field

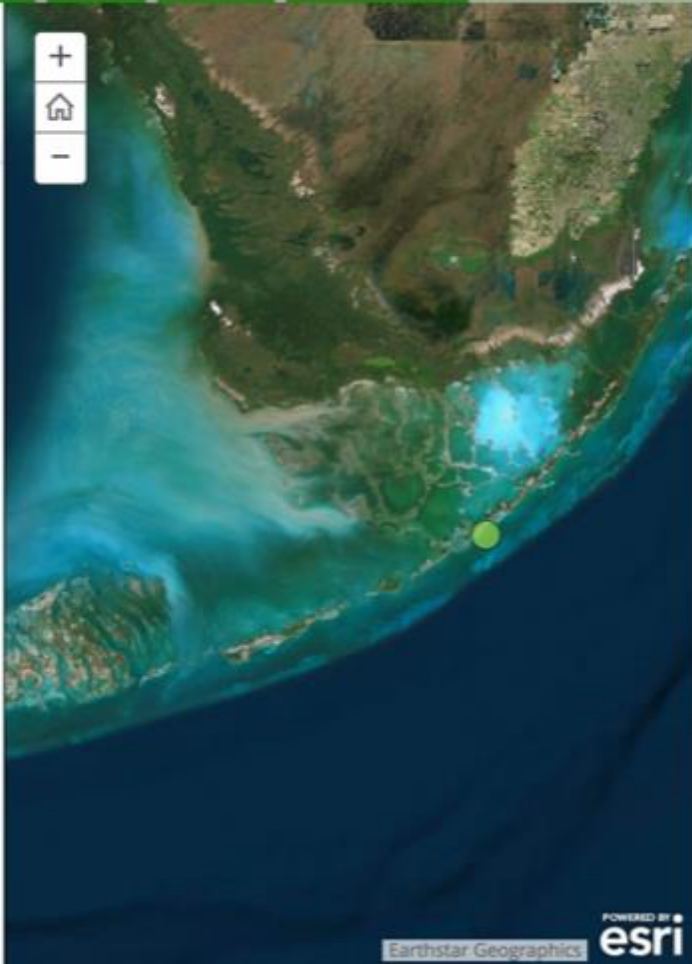
Optional: Surveying Coral Reefs

By using underwater 360° cameras, XL Catlin and Google have created underwater tours of coral reefs around the world. In this activity, we'll use these tours to do some qualitative comparisons of reefs around the world. Qualitative methods mean that you provide descriptions instead of numerical data.

Click on a reef tour location and virtually swim through the reef using your mouse or touchpad to zoom and pan.

Record your observations on

- Reef health (e.g., bleached or not)
- Abundance of fish
- Mix of hard coral, soft coral, sponges, and algae




Map showing the location of Cheeka Rocks, Florida Keys, marked with a green dot. The map is powered by Earthstar Geographics and Esri.

Cheeka Rocks, Florida Keys

Cheeka Rocks, Florida Keys-Catlin Seaview Survey

[View on Google Maps](#)



©2017 Google - © Catlin Seaview Survey Terms of Use Report a problem

Cozumel, Mexico

The background features a warm orange-to-red gradient with a textured, marbled appearance. In the lower portion, there are stylized, layered shapes in shades of blue and purple. These shapes have a grid-like pattern, resembling a map or a topographical design, and are layered to create a sense of depth.

4

NRCS Story Maps

MICHELLE



USDA Natural Resources Conservation Service



Helping People, Help the Land

Voluntary Conservation on America's Working Lands

- We provide **one-on-one, personalized advice** on the best solutions to meet the unique conservation and business goals of those who grow our nation's food and fiber.
- We help people make **investments in their operations and local communities** to keep working lands working, boost rural economies, increase the competitiveness of American agriculture, and improve the health of our air, water and soil.
- We generate, manage and share the **data, research and standards** that enable partners and policymakers to make decisions informed by objective, reliable science.

A person wearing a straw hat and a plaid shirt stands in a field of tall, golden grass. They are holding two paper airplanes, one in each hand, as if about to launch them. The scene is bright and sunny, with a warm, golden light filtering through the grass.

Conservation on the Ground



#Fridaysonthefarm *Shortlist* Collection

USDA Natural Resources Conservation Service #Fridaysonthefarm

#Fridaysonthefarm   

Each Friday, meet farmers, producers and landowners through our #Fridaysonthefarm features. Visit local farms, ranches, forests and resource areas where NRCS and partners help people help the land. (We'll add new map locations as we share new Friday stories; locations are approximate to protect landowner privacy.)



#Fridaysonthefarm *Cascade* Features



#Fridaysonthefarm: Taking the High Ground and Farming with Nature



#Fridaysonthefarm: Seminole Pride Markets Success



#Fridaysonthefarm: Conservation Leads to Stream Delisting



#Fridaysonthefarm: Young Iowa Farmer Implements New Grazing System



#Fridaysonthefarm: A Place to Call Home



Special Mother's Day #Fridaysonthefarm Features



#Fridaysonthefarm: Fire Sparks New Life on an Old Farm



#Fridaysonthefarm: Restoring a Majestic Love



#Fridaysonthefarm: High Tunnel Increases Growing Season and Crop Yield for Mississippi Farmer and Local Community

#Fridaysonthefarm *Cascade* Features - Highlights



<https://arcg.is/yq9Pm>

- **Embedded map** ties reader to the farmer, rancher, forester or partner
- **Subtitle images** and **menus** establish a narrative and move the story
- **Interactive slides** and **media** make technical information understandable
- **Responsive design** delivers story where users live and work

#Fridaysonthefarm – Corporate Media Strategy

- **Collaboration** between the national communication team and states
- **Uniform structure and features** for multiple authors
- **Standard branding** on story maps and digital media products
- **Integration** into digital media outreach:
 - USDA and NRCS social media channels
 - NRCS web presence
 - USDA blog stories
 - Newsletters and announcements through GovDelivery
 - National, state and programmatic media distribution through news service
 - Collaborative outreach with partners



Building on #Fridaysonthefarm - Announcements

USDA Natural Resources Conservation Service: 2017 Conservation Innovation Grants

Investing in Innovation

In 2017, the NRCS will award over \$22.6 million in national CIG funding for 33 projects in conservation finance and pay-for-success models, water management and data analytics as well as for historically underserved communities. Learn more about those projects through the storymap. (Note: Map locations for projects are estimates only to protect producer and partner privacy.) The competitive NRCS Conservation Innovation Grants or CIG program - which drives public and private sector innovation in resource conservation - helps develop the tools, technologies, and strategies to support next-

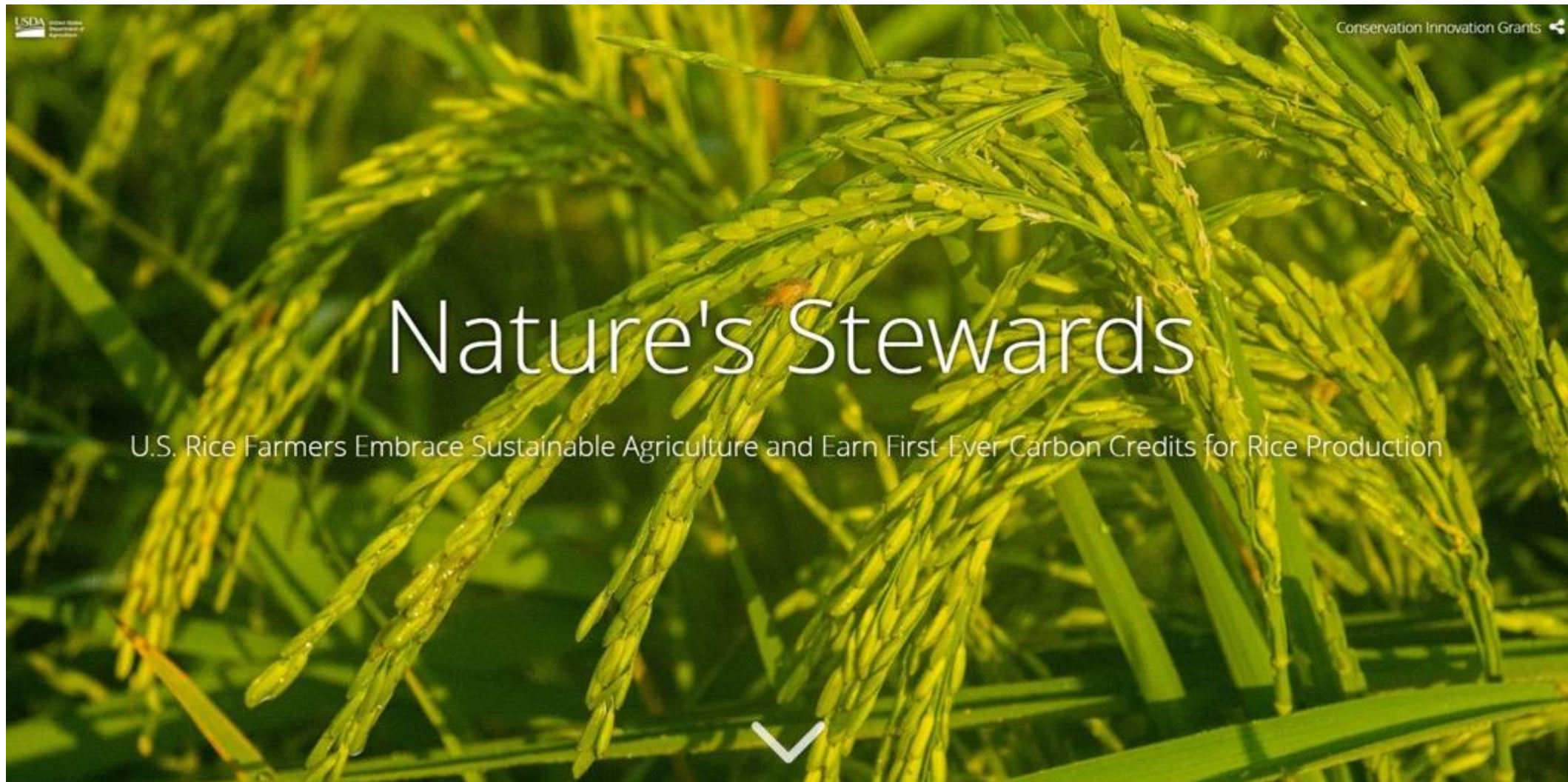


 Environmental Price Assurance Facility	 Liquid Assets Project: Mobilizing Impact...	 Development of Self-Sustaining Markets for Bird...	 The Gulf Coast Conservation Revolving Loan Fund...
 Pathways for Producers in Metro Atlanta Region...	 Conservation Drain Finance	 Integrated Investment Incentives for Conservation...	 Brandywine Christina Water Fund Pay for Success...
 Demonstration of an Advanced Distillation and...	 PA "Offset Partnerships": Bringing Pay for Success...	 Financing Regenerative Agriculture: Innovative...	 Using Farmer-Based Water Technology Farms to...
 Utilizing Deep-rooted Cover Crops to Enhance Water...	 Integrating Precision Irrigation Technologies to...	 Leveraging Water Markets to Secure Water for Nature an...	 Cover crops and no-tillage enhance soil water...



Demonstration of an Advanced Distillation and Nutrient Separation Processor for Dairy Wastewater

Building on #Fridaysonthefarm – More Complex Stories



<http://arcg.is/1Xb8bP>

Building on #Fridaysonthefarm – Collaborative Stories



<http://arcg.is/1fWPOX>

Thank you.





5

Why Does it Matter?

ALLEN

(I'll give you seven reasons)

1

Emancipate Your Data

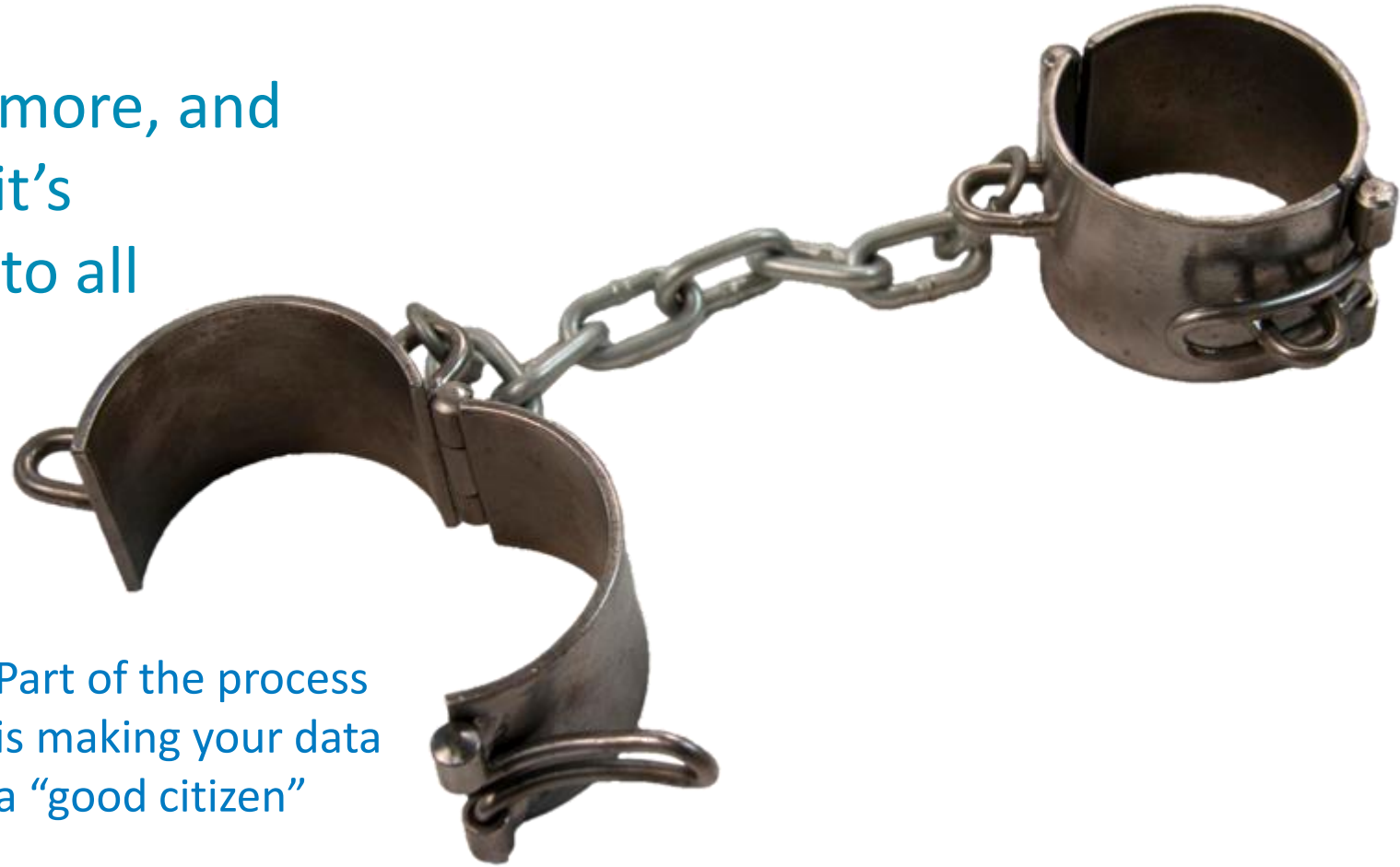
- Too much data is enslaved within the organizations that own it



1

Emancipate Your Data

- It will do more, and better, if it's available to all



- Part of the process is making your data a “good citizen”

2

Expand the GIS Spectrum

- It's more than just analysis

Storytelling



Analysis

Decision
Support

Emergency
Response

Planning

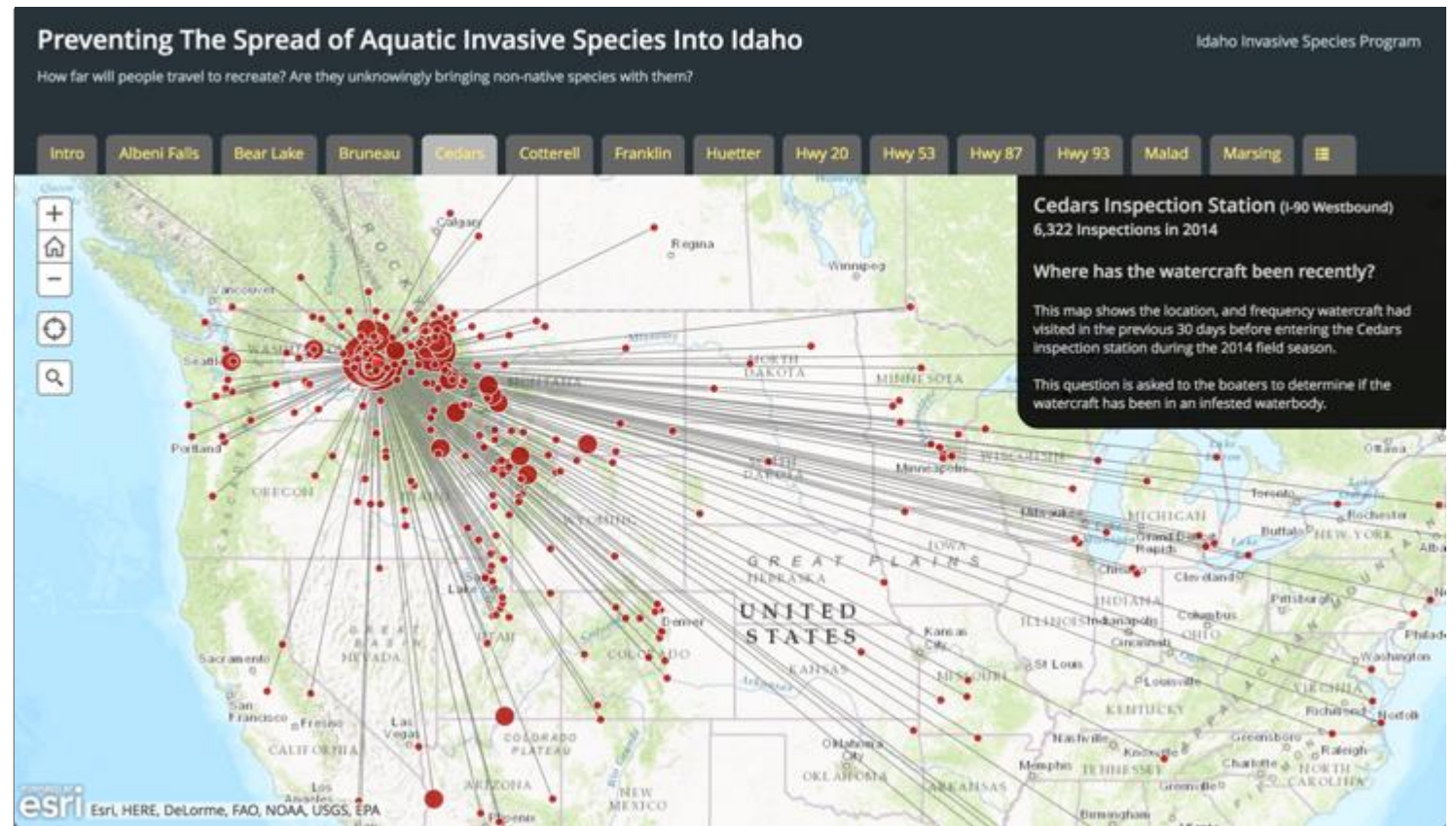
Situation
Awareness



3

Share Your Work

- If you're a GIS professional... show what you've done



4

Spread the Word


- Story maps can show people how special your place is



5

Rally People to Your Cause

- Recruit, convince, inspire




WORLD
RESOURCES
INSTITUTE

Brazil's People of the Forest

The Yudja are one of many indigenous groups who call Brazil's Amazon rainforest home. For decades, they've sustainably managed their community forest, relying on it for food, shelter and livelihoods.

But in the face of new roads, hydroelectric dams and mines, what will become of the Yudja and the forest they inhabit?

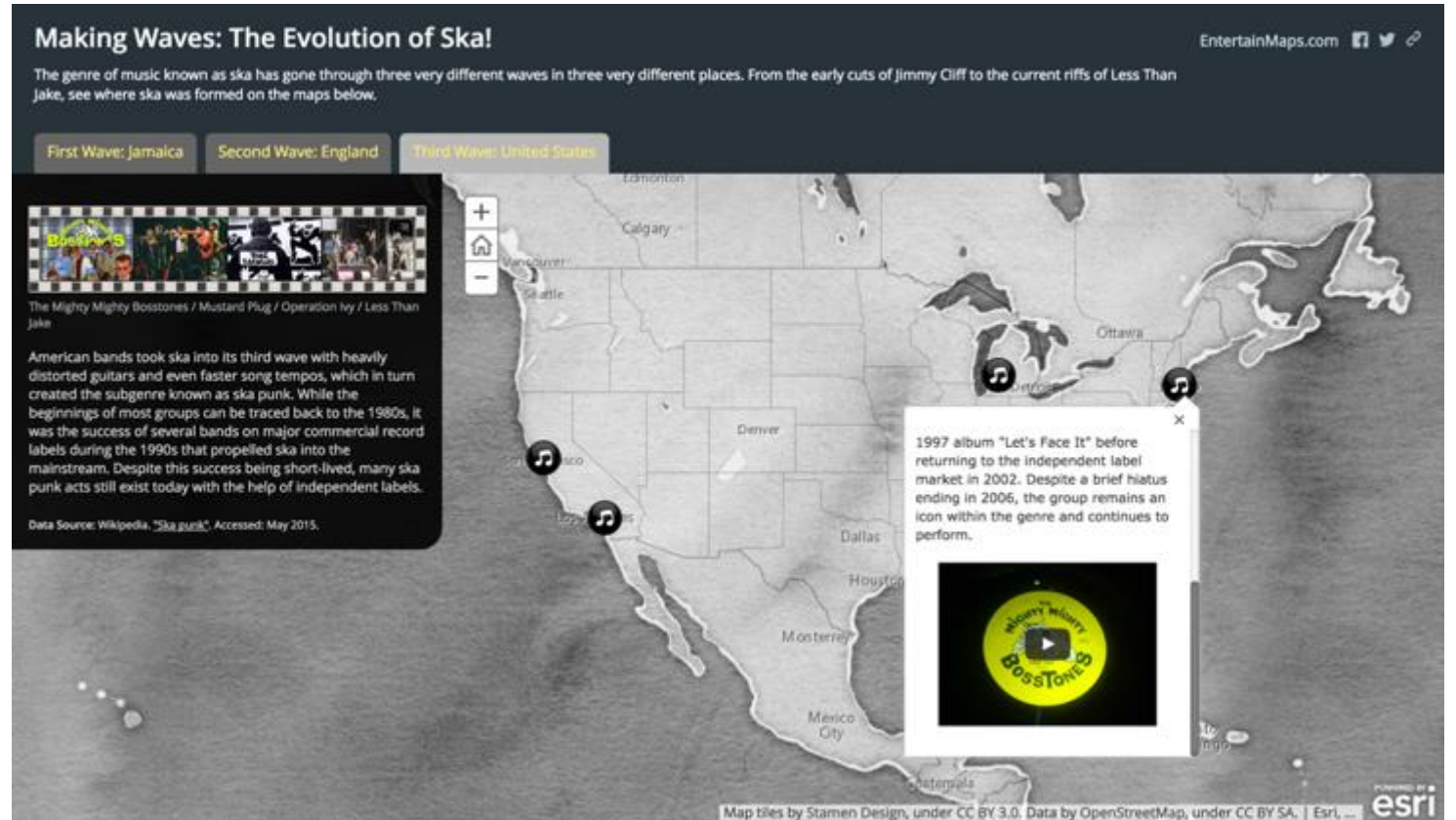
StoryMap by Caleb Stevens, Sarah Parsons, Katie Reyntar and Bill Dugan
Photos and video by André D'ella



6

Express Yourself!

- Story maps are a creative medium whose potential has barely been tapped



7

Telling the Story of the Earth

- In aggregate we can make a difference

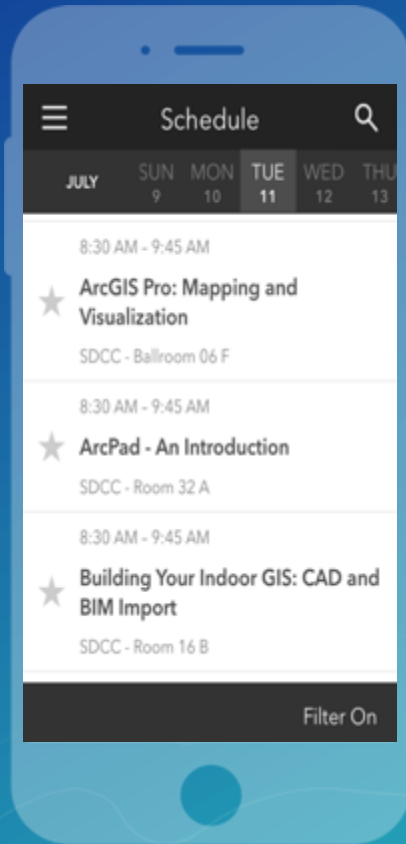


Please Take Our Survey on the Esri Events App!

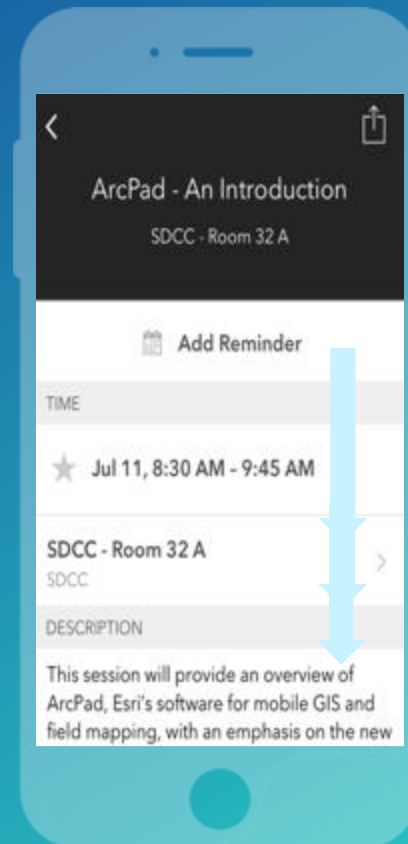
Download the Esri Events app and find your event



Select the session you attended



Scroll down to find the survey



Complete Answers and Select "Submit"

