

# Brainstorm

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Bo Zhao



Oregon State University

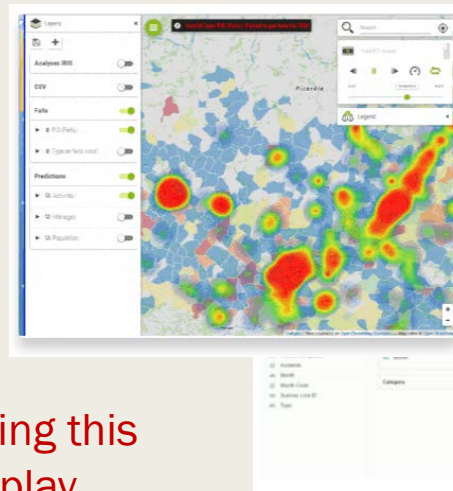
## Geoviz Type: Single View, Possibly Coordinated Multiple View

**Screenshots to the right:**  
examples of Galigeo's time  
series map applications

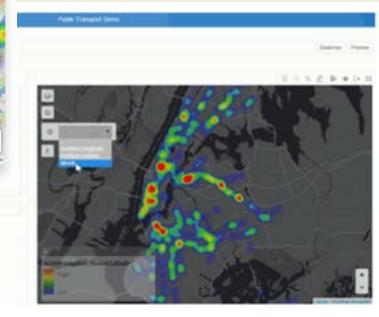
**Proposed project:**  
map series displaying  
changes over time (time  
series, change detection)

**Ultimately:** interested in using this  
type of application to display  
changes in both landcover and  
habitat suitability maps  
over time

[HTTPS://WWW.GALIGEO.COM/LOCATION-INTELLIGENCE-SOFTWARE-OVERVIEW/MAPPING-FOR-BUSINESS-OBJECTS/](https://www.galigeo.com/location-intelligence-software-overview/mapping-for-business-objects/)



<https://analytips.blog/2017/11/02/create-a-location-driven-dashboard-for-public-transport-in-less-than-one-hour-part-two/>



# Supply Chain Mapping

## Coordinated Multi-View / Network Visualization

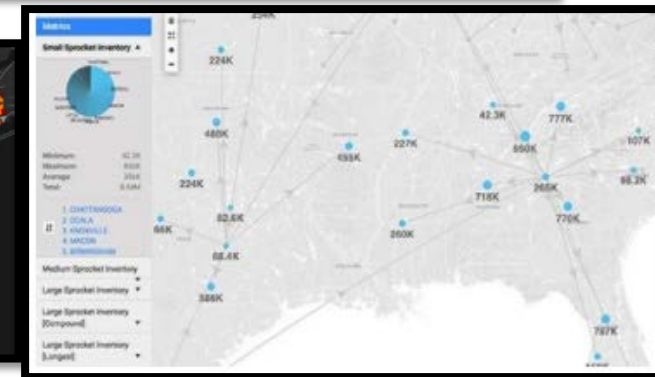
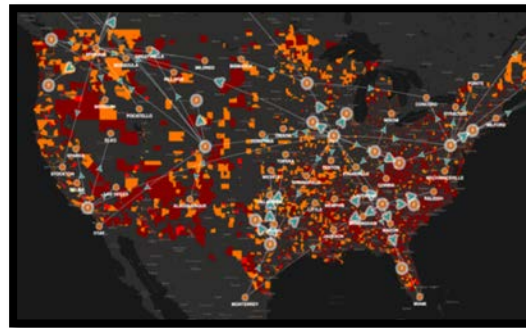
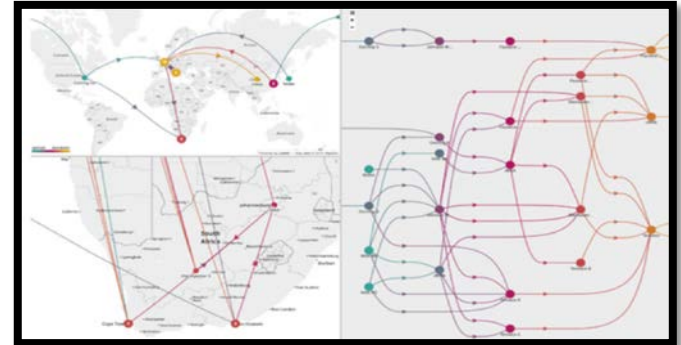
- Trace raw wood products materials throughout lifecycle  
Chain of Custody:  
    > Forest/Plantation Origin → Mill → Manufacturing → Supplier

- Visualize a variety of heat-maps over geographic base layer

AND/OR

- Searchable/Clickable Metrics to identify/  
track product type, by volume:

- Ex: Species harvested in Brazil →  
    Shipped to Indonesia →  
    Manuf. into Plywood →  
    Imported into U.S.



<http://www.sourcemap.com/logistics/>

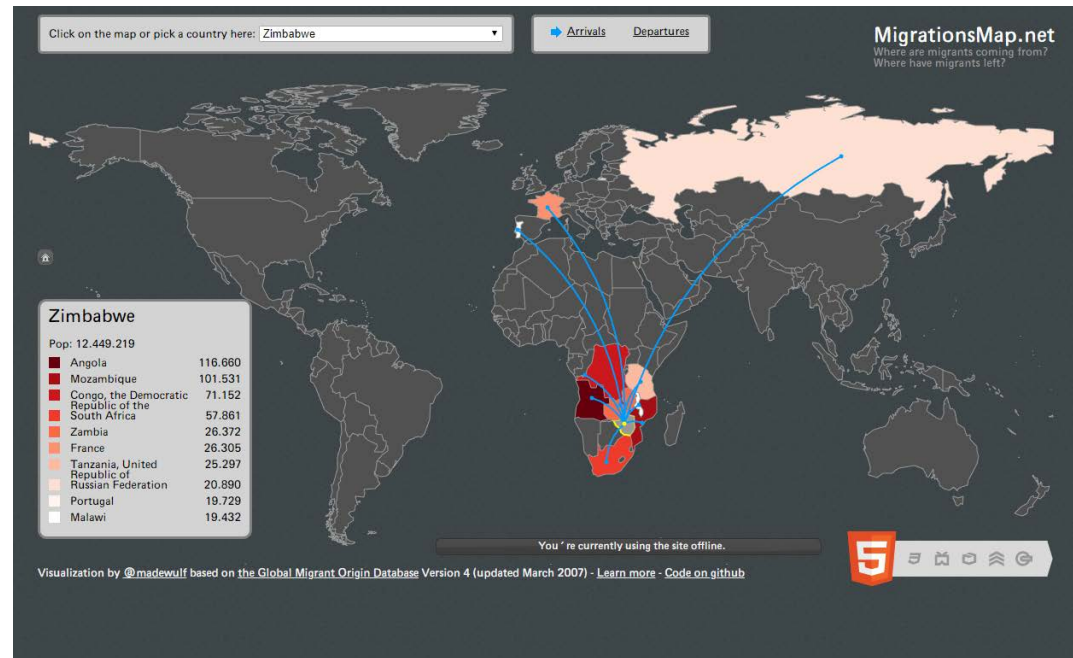
- Provide clients assurance about risk-free raw materials throughout supply chain.

- Non-Google map for accessibility in China?

[http://www.benchmark-intl.com/lacey\\_ecp/supply\\_chain\\_mapping](http://www.benchmark-intl.com/lacey_ecp/supply_chain_mapping)

<http://migrationsmap.net/#/ZWE/arrivals>

This GeoViz is a single-view Geoviz using isolines to show migrations. My goal would be to create a similar GeoViz but use isolines to show the distribution of Syrian refugees among countries since the start of the war.



# GEOG 472 Project Proposal

- **Geoviz link:**  
[https://cdn.rawgit.com/paulomur/MapBox\\_BaseMaps/7ee0c83c/map1.html](https://cdn.rawgit.com/paulomur/MapBox_BaseMaps/7ee0c83c/map1.html)

**Description**: Create a time-series of heatmaps which show the density of “ego-index” across geotagged regions from Hurricane Harvey data. Use HTML5 with JS; investigate use of ASP C# .NET for creation of end-content. Use python/R/ArcGIS-Pro for geostatistical analysis. GUI: Use slider for adjusting time.

**Type of Geoviz:** Storymap. For each page, show samples of tweets, description, and heatmap.





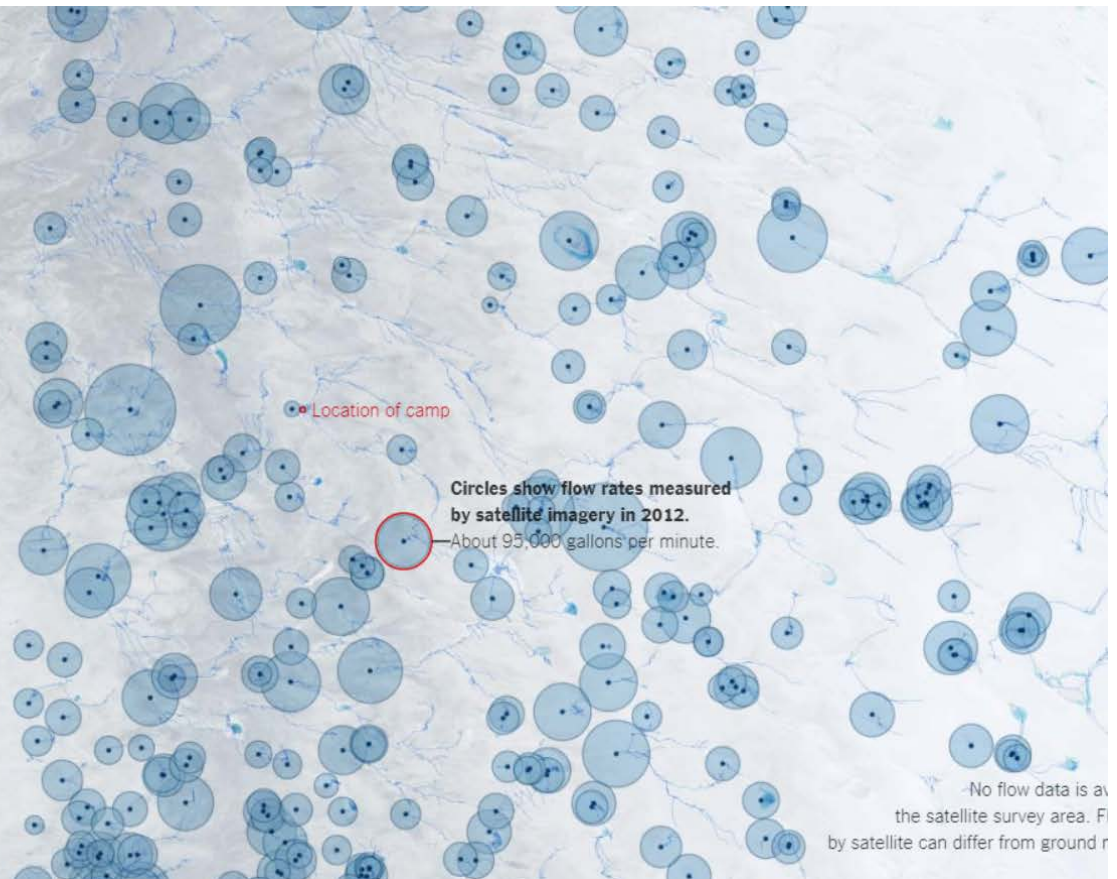
## Final Project Story Map Idea

This story map is from the New York Times and explores the accelerating rate of ice sheet melt for use in modeling sea level rise in the near future, it can be found here:

[Greenland is melting away](#)

For my final project I would like to take a similar approach to visualize decreasing snow pack levels in the Cascades and subsequent stream flow and water availability to the Willamette Valley through the use of a story map.

The USDA Natural Resource Conservation Service provides snowpack and stream gage data gathered from a range of SNOTEL sensors throughout this region.

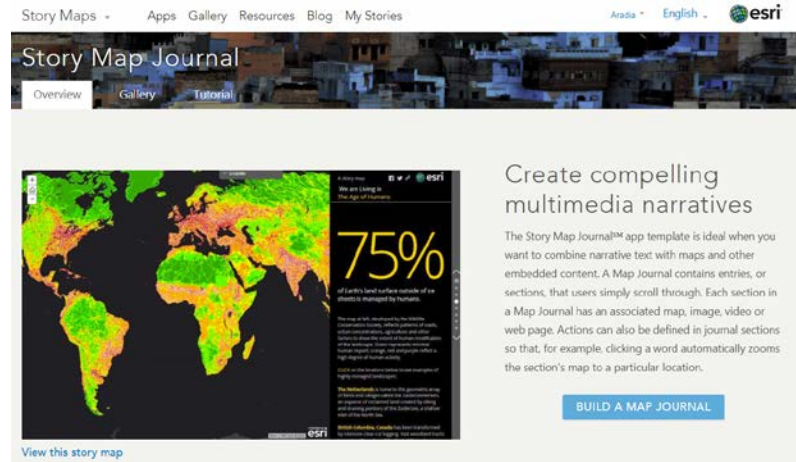


## Aradia Farmer | Geology & Geography | Cascadia Subduction Zone - disaster planning and management

For this project, I want to work on a StoryMap that can be used to explore various ways of communicating the hazards of the Cascadia Subduction Zone, as well as offering practical datasets/tools for preparing Oregon to weather the event when it comes. The audience will likely be policy makers rather than laypeople.

Last term, I worked on a StoryMap Cascade that explored some of the aspects of vulnerability here in Oregon to this event. I would like for this project to build on that research, though with a greater focus on geovisual analytics and less focus on storytelling. My prior project can be found at <https://arcg.is/1KvvXy>.

For this project, I suspect that a StoryMap Journal (<https://storymaps.arcgis.com/en/app-list/map-journal/>) will be the more appropriate app template to use, but I am open to suggestions from my group as our creative process moves along.



# Remotely Sensed Migrant Corridors Across the Sahel

Multi-pane (Bootstrap), Coordinated View

Focus: interactive map which draws on GEE imagery and outputs with D3 supported graphics

Design Theme: clean, modern, minimal text

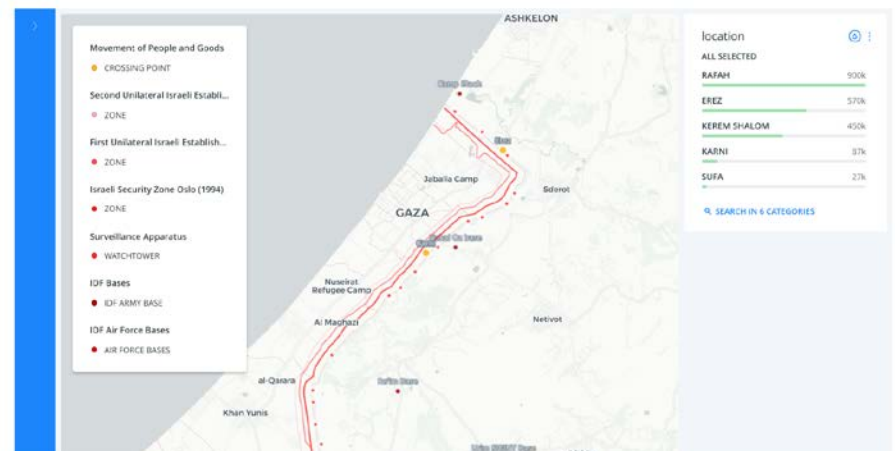
Goal: present initial results for thesis proposal, opportunity to take stock of geospatial data available



[borderground.inf](http://borderground.inf)

[o](#)

Movement of people and goods: interactive map





The URL link of the geoviz project:

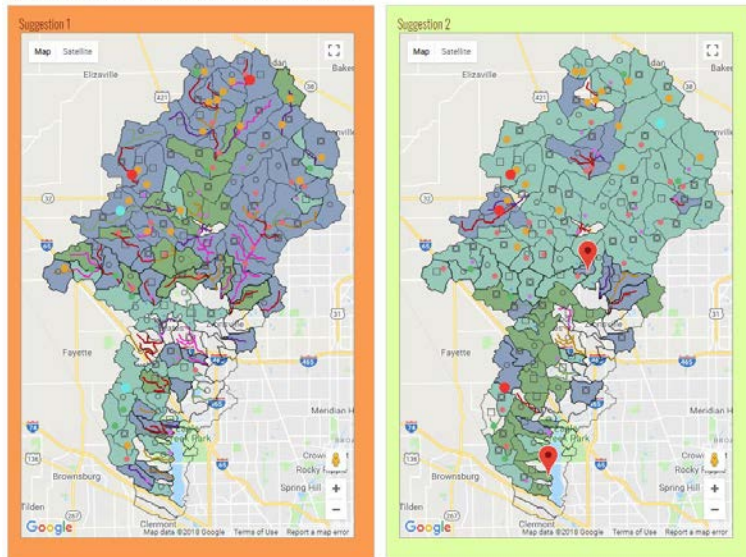
<http://wrestore.iupui.edu/>

Project Goals:

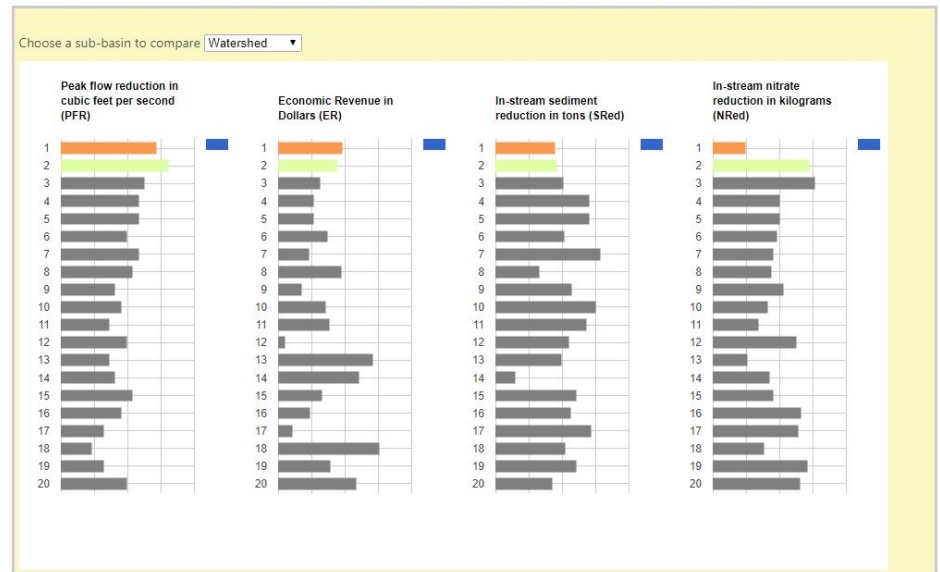
Preparing an Interactive Adaptation and Collaboration Tool for managing Water, Energy and Land (InterACTWEL) in Hermiston Oregon.

Using different techniques of visualization(maybe using coordinated multiple view or story map) for visualizing the data and results in this web based tools.

STEP 1: COMPARE THE TWO MAPS BELOW TO ASSESS IF YOU LIKE HOW THE PRACTICES ARE ALLOCATED IN THE TWO SUGGESTIONS.  
Click inside of any sub-basin to learn about practices proposed in a sub-basin.



STEP 2: NOW ASSESS IF THE TWO SUGGESTIONS ABOVE MEET YOUR EXPECTATION FOR GOALS AT A SPECIFIC SUB-BASIN.



# Ocean Acidification Vulnerability Map

Brian Katz

## Type of geoviz:

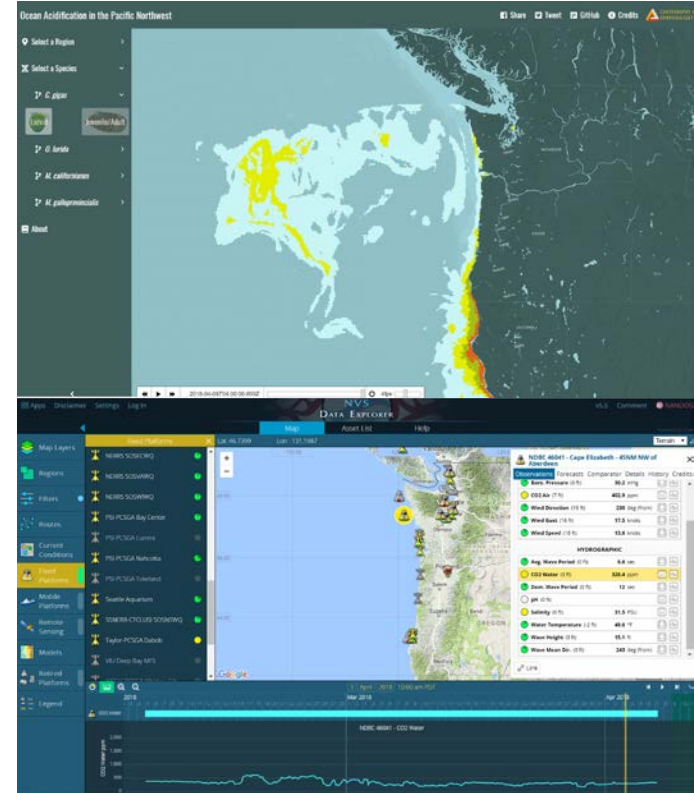
Coordinated Multiple View

## Description of project:

Expanding on an interface created in Fall term's Web Mapping course to visualize shellfish stakeholders' vulnerability to ocean acidification (OA) in the Pacific Northwest.

## This tool aims to visualize:

- Current and future **OA exposure**
  - Time slider of observed and forecasted OA
  - Interactive graph changes based on time and place selected to show magnitude and frequency of harmful OA conditions
- Shellfish **species thresholds** to OA
  - Toggle data view by species and life stage
  - Water styled by good, stressful, or corrosive conditions to shellfish growth
- Community **sensitivity** and **adaptive capacity** to OA
  - Hexagonal tessellation
  - Attributes assigned based on places' economic reliance on shellfish; access to resources, technology, and scientific funding



## Interesting geoviz & techniques:

- [NANOOS](#)
- [Crossfilter \(example\)](#)
- [Population Pyramid](#)
- [Cubism Time Series](#)

Ginny Katz | GEOG

4572



## Story map

How Clean Water Services is changing the water reuse conversation and mindset with beer.



Share the journey and vision of **Pure Water Brew**, the US's first 100% DPR recycled beer, at the Singapore International Water Week 2018.

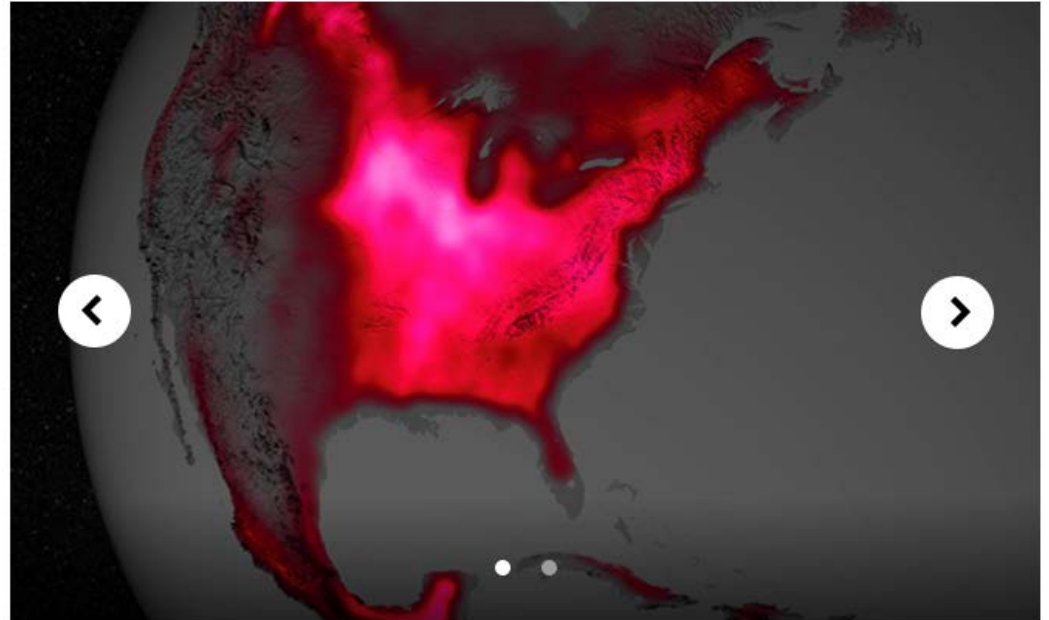
Specific tools geovisual tools:  
Interactive maps and data  
Narratives  
Media  
Social Media Data



<http://storymap.genesisofexodusfilm.com/index.html>



- Drought effects on solar-induced chlorophyll fluorescence (SIF) [\(link\)](#)
- My project: single view / time lapse of SIF and SIF anomaly in North America during the 2012 drought



The magnitude of fluorescence portrayed in this visualization prompted researchers to take a closer look at the productivity of the U.S. Corn Belt. The glow represents fluorescence measured from land plants in early July, over a period from 2007 to 2011. Image credit: NASA's Goddard Space Flight Center

[Larger image](#)

# Migration patterns of an endangered species listed on the ESA

BY COLETTE PRUITT AND GUS SIMMS

<https://winkyt.github.io/standwithstandingrock/>

We would like to know more and/or compare old vs. new migration routes of a certain species that is enlisted on the ESA. It's unclear which one we want to choose, but there are plenty. This assignment is relevant when one collects field data and enters it to create a visual aid. We can incorporate other topics in the story map to mention climate change and those effects.

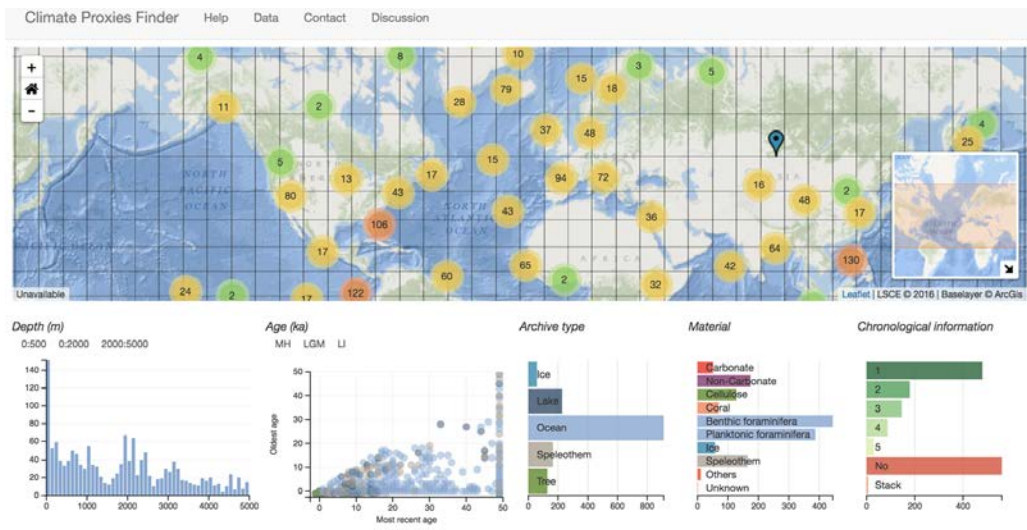
Potential forms: Story Map or Migrations map





## Geoviz planning to work: **Coordinated Multiple View**

[Click here for Coordinated \(Multiple\) View geoviz.](#)



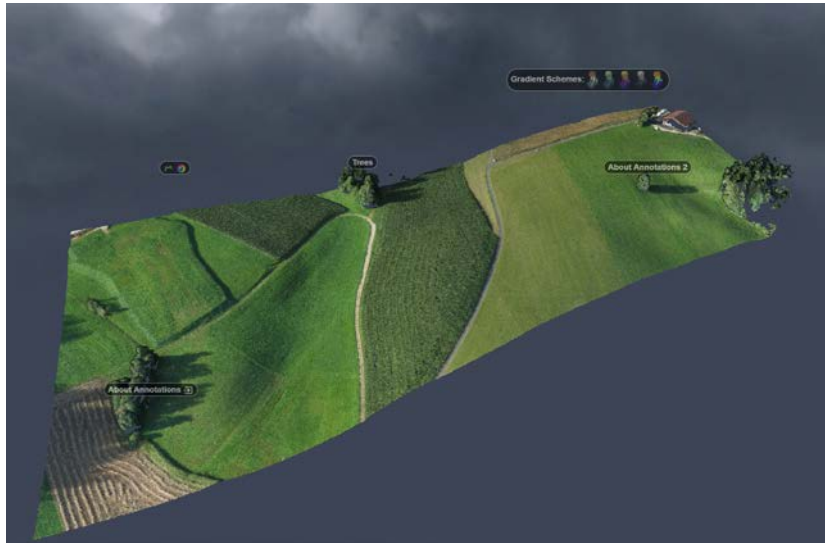
Goal: Compile local, state, and federal Emergency Plans for specific locations in one easy to access and easy to navigate platform.

Target Audience: EM planners, police, fire, engaged citizens.

Q. What will it do?

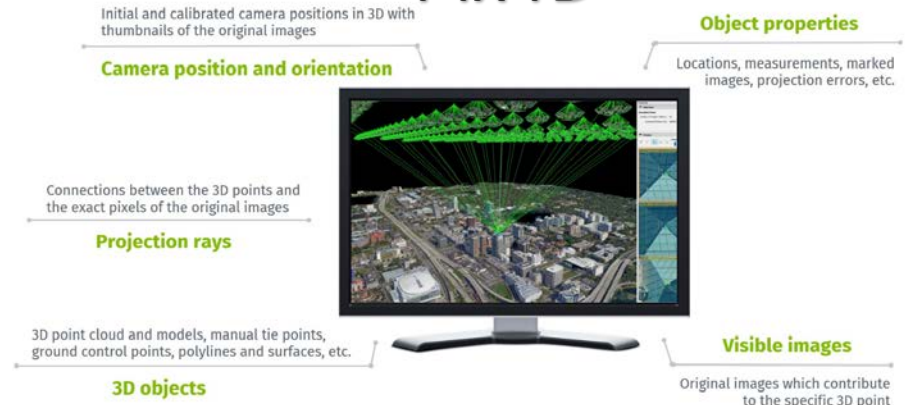
A. At its base existence - as a user, you will be able to find your local emergency management plan by navigating to your country, state, and county - depending on the availability of plans.

<http://potree.org/potree/examples/annotations.html>

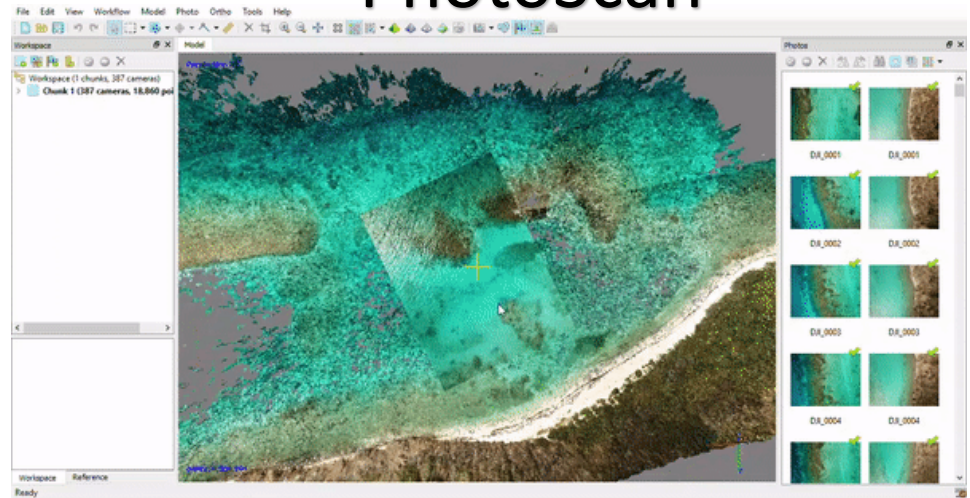


Add SfM specific items to a PoTree (Top Left) web based pointcloud visualization. For example, visualize which images saw a point, similar to a Pix4d Raycloud (Top Right). Or possibly, snap the view to see through an image, similar to new functionality in PhotoScan (Bottom Right).

## Pix4D



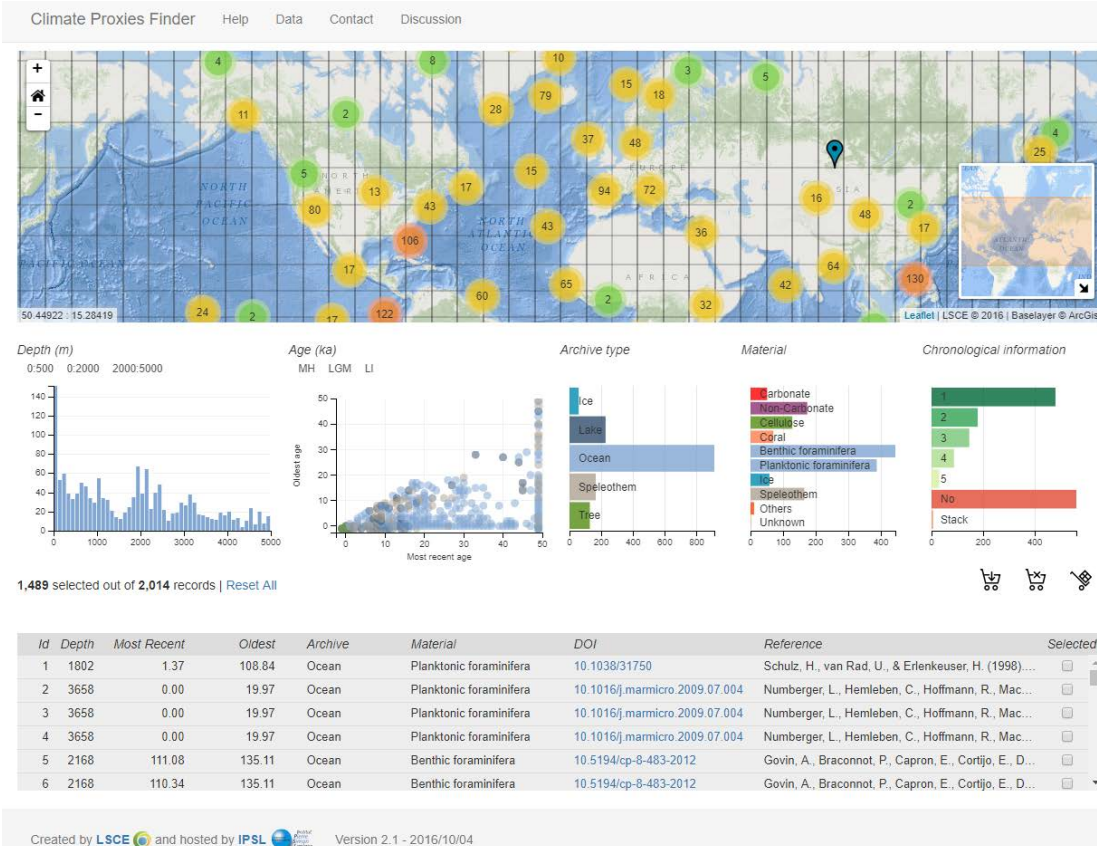
## PhotoScan



# Mapping inscriptions of Roman soldiers

My project aims to map inscriptions of Romans soldiers and explore their content through visual analysis.

I will use data of 2,000 inscriptions downloaded from an on-line database. I'm currently parsing the texts to extract the information I plan to visualize (names, ages, places of birth, years of service etc.). Their content



and their relationships with one another or with their site of discovery offer rich research opportunities that could be enhanced using appropriate geospatial and data analysis tools.

The type of the geoviz that I plan to work on is coordinated multiple view. The final result should look like the website on the left.

<http://climateproxiesfinder.ipsl.fr/>



The URL link of the geoviz project:

<http://www.suominet.ucar.edu/>

Project Goals:

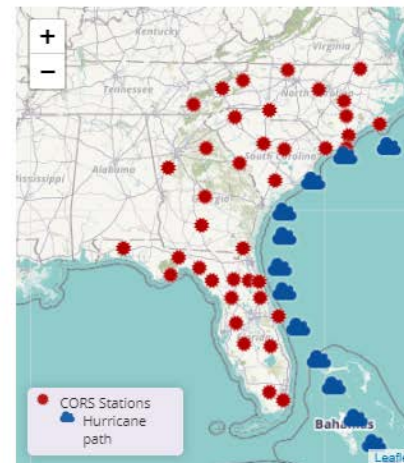
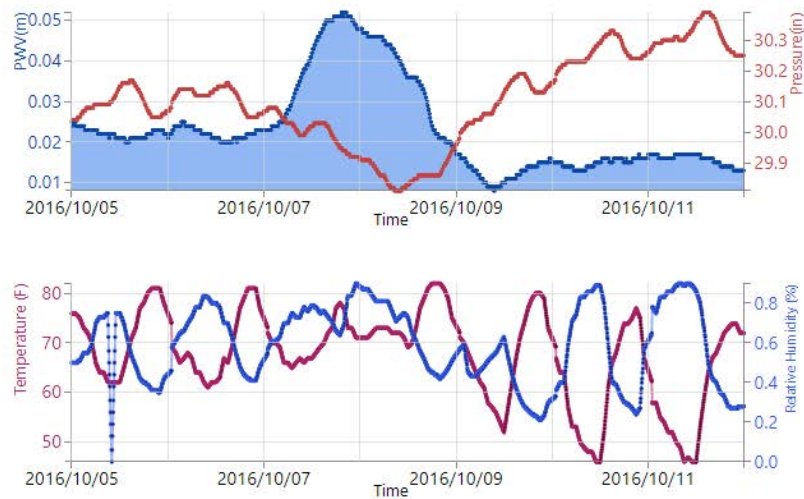
Real-time visualization of the temporal & spatial variability of water vapor calculated from GPS

The visualization features summarized the aim of the project include:

- \*Visualization of real time GNSS observations time series

- \*Visualization of MET observations time series

- \* Visualization of precise point position results (water vapor)



# Story map: the influence of beetle outbreak and wildfire on fire severity and forest regeneration

1. <https://usfs.maps.arcgis.com/apps/MapJournal/index.html?appid=9bb22eed68944e1e89cca9e5eea8339d>

**Forests of Utah, 2015**  
Department of Agriculture (USDA) Forest Service.

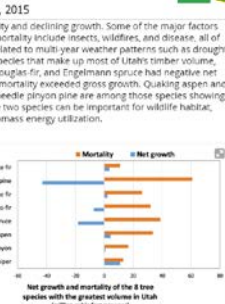
Right: Upper panel over Western Slopes; Central National Forest; Photo by Steve Torkin, USDA Forest Service.

Utah's forests cover nearly 18.3 million acres, or about one-third of the State's land area. These forests encompass a wide variety of environments and forest types that are valued for their scenic beauty, wood and non-wood forest products, wildlife habitat, and ecosystem services.

This overview highlights the status of Utah's forest resources based on forest inventory data collected between 2006 and 2015. There are 8,853 permanent forest inventory plots in Utah, and about one-third of these plots contain accessible forest land that will continue to be measured by field crews every 10 years. The estimates for this summary were generated from data in the FIA database (FIADBS) uploaded in November, 2019 ([BIA database download](#)).

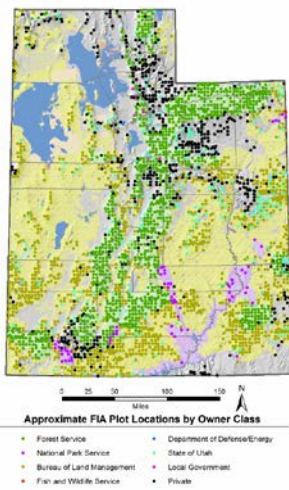
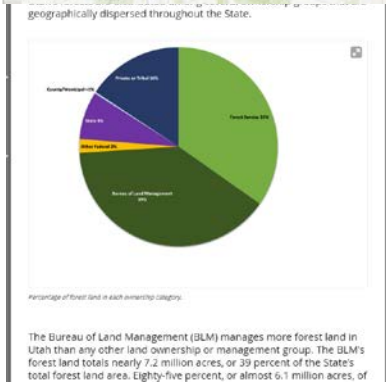
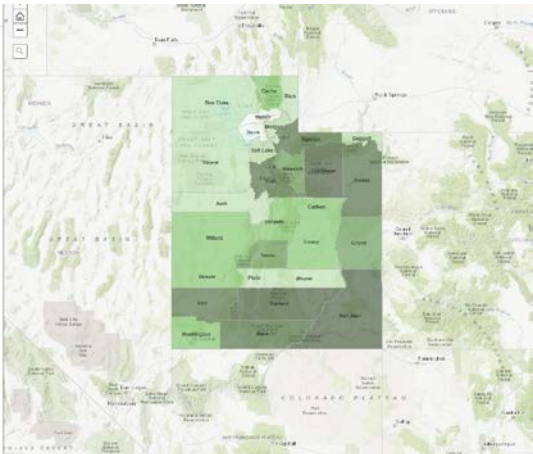
Utah Forest Statistics, 2006 - 2015	2006	2015
<b>Forest land</b>	18,295,000	17,749,000
Number of live trees > 1 in diameter (million trees)	1,284,000	1,237,000
Volume of live trees > 1 in diameter (million cubic feet)	26,464,000	24,444,000
Live tree aboveground biomass (thousand tons dry tons)	294,224,000	274,124,000
Net growth of live trees > 1 in diameter (million cubic feet per year)	49,000	50,000
Annual mortality of live trees > 1 in diameter (million cubic feet per year)	48,000	47,000
<b>Forest land by species</b>		
Number of live trees > 1 in diameter (million trees)	1,284,000	1,237,000
Volume of live trees > 1 in diameter (million cubic feet)	26,464,000	24,444,000
Live tree aboveground biomass (thousand tons dry tons)	294,224,000	274,124,000
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Forest inventory estimates, 2006 - 2015.



Right: Major tree species by volume. Net growth is positive for all tree species except Gambel oak.

The pinyon-juniper forest-type group contains more live tree volume (6.9 billion cubic feet) than any other forest-type group. When the volumes of individual tree species are compared rather than forest types, Utah juniper has more volume than any other species. With 4.1 billion cubic feet statewide, Utah juniper accounts for more than one-quarter of all live tree volume in Utah.



3. Create a story map that integrates photographs, graphs from analyses, and maps generated from remote sensing analyses to communicate with land managers and stake holders. My topic of interest is my research, which is focused on the influence of beetle outbreak and wildfire in central interior British Columbia. I would like to create a story map that integrates analyses from field data with remote sensing analyses at the landscape scale.



# Story Map: Groundwater Action

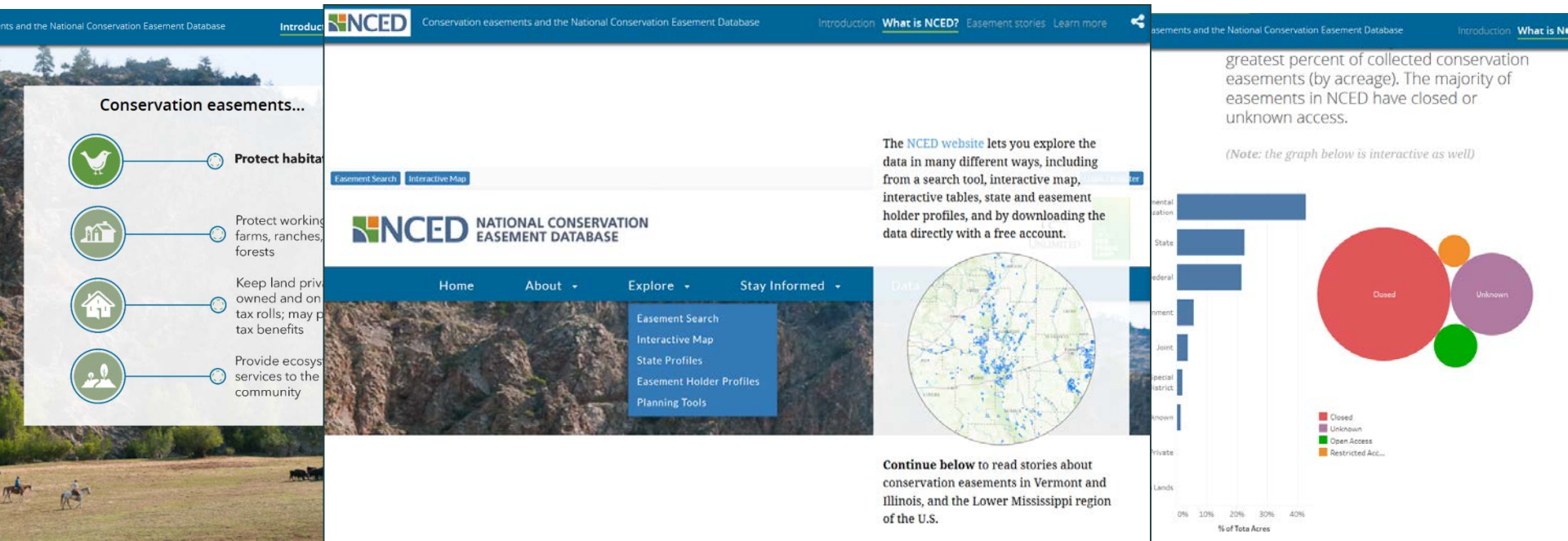
Why are wells running dry in the Walla-Walla Basin, what can be done to stop this, and why are the current regulatory structures not going to work sustainably?

## GOALS

- Summary of existing water right system
- Intro to geology/hydrogeology of the basin
- Intro to OWRD action in the basin
- Create several maps illustrating wells, actions, and geology
- Link to websites of the many water-based projects in the area

Example: <https://www.conservationeasement.us/storymap/index.html>

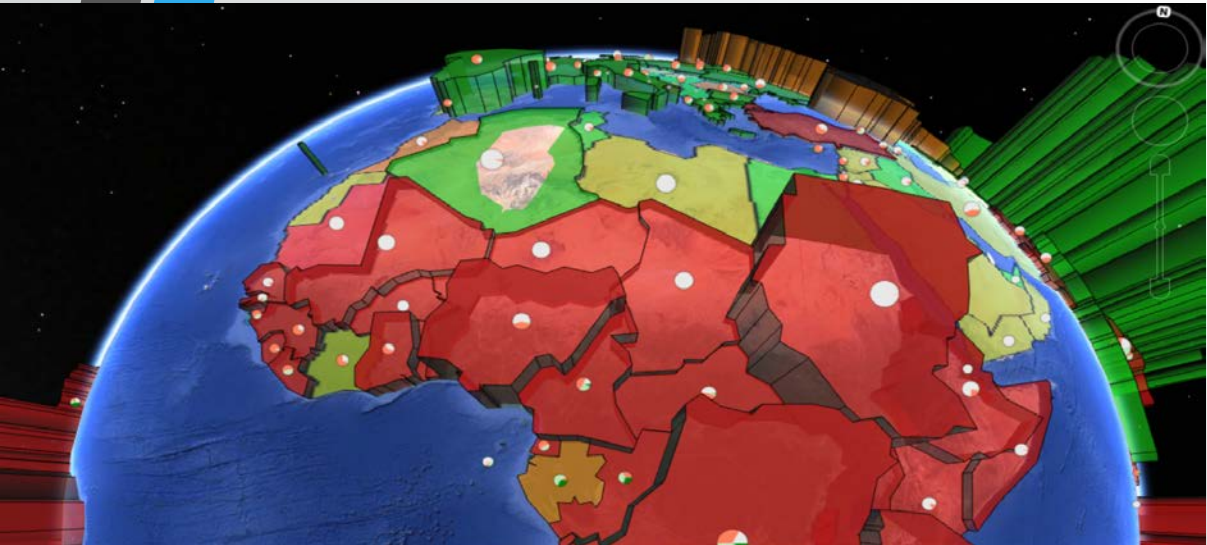
Cascade format with linked information, interactive maps, data graphics



# Disappearing Forests

URL:

[https://www.earthblog.com/blog/archives/2008/06/disappearing\\_forests\\_google\\_earth\\_v.html](https://www.earthblog.com/blog/archives/2008/06/disappearing_forests_google_earth_v.html)



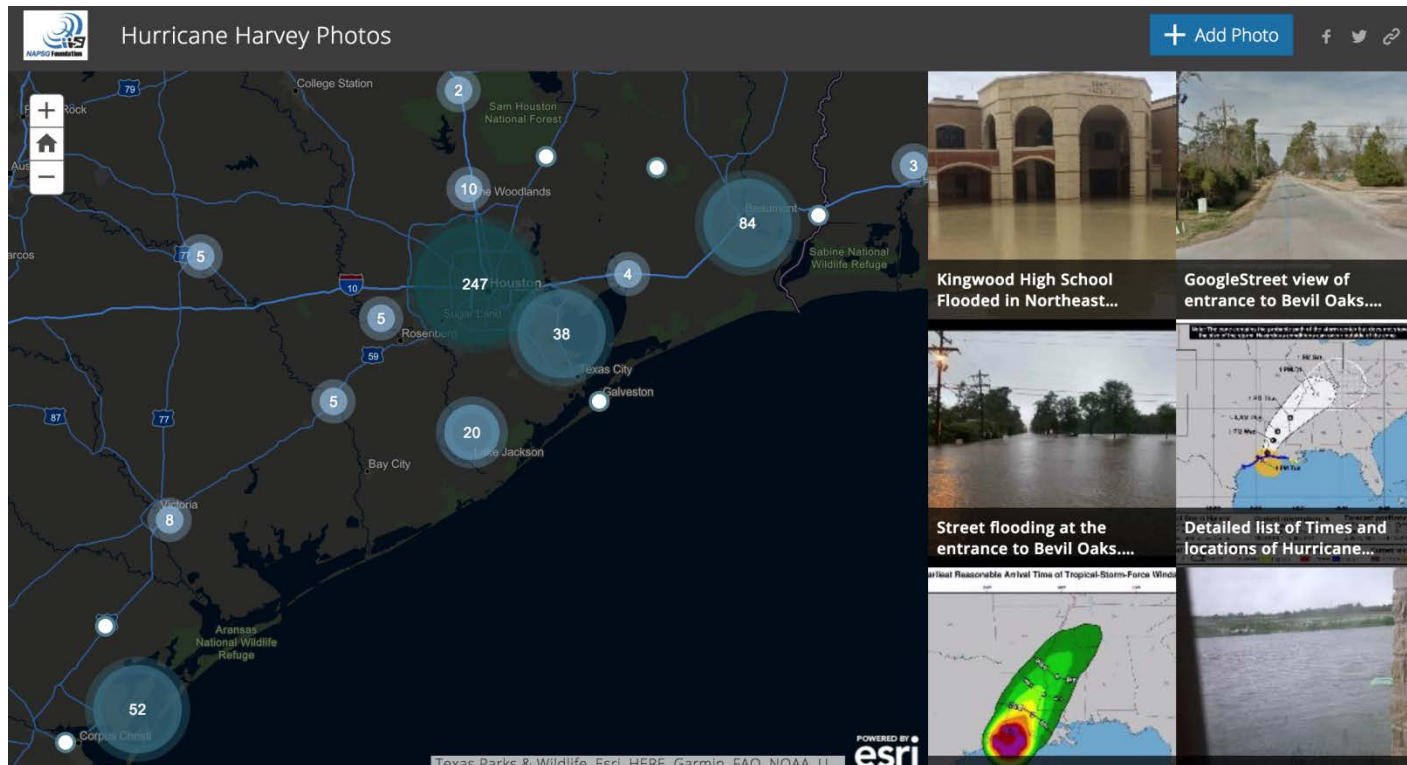
## Description:

This is a kml layer that is an add on to Google Earth. It shows the deforestation rates per country by showing a 3D relief of the amount of deforested trees. This method of visualizing deforestation can easily draw your eye to a region and show emphasis on significant deforestation areas. Each country is interactive and you can click on then to get linked to the Global Forest Watch data set.

## Future work:

I want to construct a single view, interactive version of where deforestation is occurring within the small west African country Of Guinea-Bissau. Ideally I would like to include dynamic charts and graphs surrounding and explaining the deforestation trends Over time.

<https://www.arcgis.com/apps/StoryMapCrowdsource/index.html?appid=b6ef838e4d26489e8f62102639dc3d91>



I plan to visualize the impact of Harvey using crowd sourcing data/social media data.

Type: Story Map