TPWD's TEAM Tool: Crowdsourcing Citizen Science and Ecosystem Analysis

Laura Miksch Texas Parks and Wildlife Department Landscape Ecology Program laura.miksch@tpwd.texas.gov



Today's Schedule

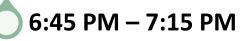
6:35 PM – 6:45 PM

Introduction to the Landscape Ecology Program



Q&A

TPWD TEAM exercise walk through



If you wish to follow along, please go to: <u>https://tpwd.texas.gov/gis/team/</u> Landscape Ecology Program

Home Data & Apps 🗸



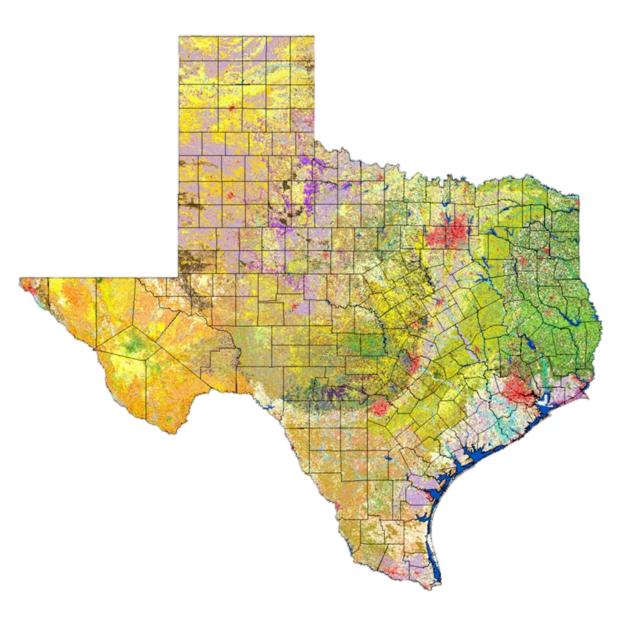
Ecological Mapping Systems (EMS)

The EMS dataset comprises 398 vegetation types for the entire state of Texas in a geospatial format. This dataset was developed from aerial imagery, 14,000+ ground control points, and modeling various abiotic variables such as, slope, elevation, and soils.



Texas Ecosystem Analytical Mapper (TEAM)

The TEAM application is an interactive, user-friendly mapping tool that assists users in understanding the Texas landscape and integrates EMS data with land management and resource planning of all vegetation types.



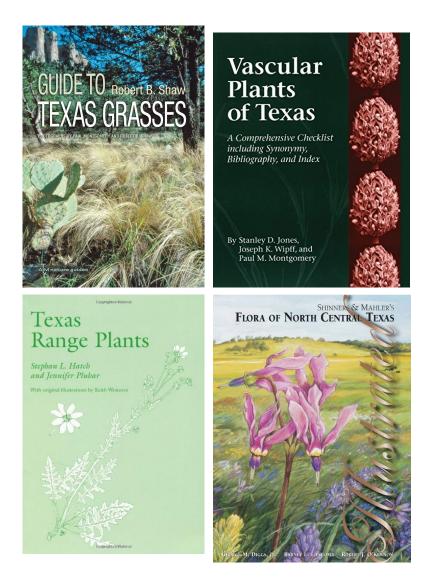
Texas Ecological Mapping Systems (EMS-TX)

- Statewide vegetation data
- Thematic Resolution
 403 mapped habitat types
- Ground verified
 - >18,000 field data points
- Anthropogenic effects
 - 19 Invasive vegetation types mapped

Recommendations from our Botanists

• Plant ID guides:

- Guide to Texas Grasses. Robert Blaine Shaw
- Vascular Plants of Texas. Joseph K. Wipff, Paul M. Montgomery, Stanley D. Jones
- Texas Range Plants. Stephan L. Hatch, Jennifer Pluhar
- Illustrated Flora of East Texas. George M. Diggs, Jr., Barney L. Lipscomb, Monique D. Reed, and Robert J. O'Kennon
- Illustrated Flora of North Central Texas. George M. Diggs, Jr., Barney L. Lipscomb, Robert J. O'Kennon



POLL 1

Have you heard about TEAM and have you used it?

TEAM Tool – Who, What, Why?

Who can use TEAM?

Anyone can use team!

- •Online and free
- Designed with land managers, landowners, educators and wildlife professionals in mind

TEAM Tool – Who, What, Why? What is TEAM?

- **TEAM-Texas Ecosystem Analytical Mapper**
 - Google Maps Based Application
 - •View landscape (EMS-TX) data in relation to other abiotic layers
 - Soils, hydrology, public lands, etc...
 - Basic GIS Analysis Tools
 - Create custom vegetation reports
 - Team Groundtruth: Citizen science feedback tool!

TEAM Tool – Who, What, Why?

Why would you use TEAM?

So many reasons!

- •GIS software is expensive, inaccessible, complicated, glitchy.
 - TEAM is free and more simplified
- Supports habitat management decisions
- Landscape level planning
- Ecological understanding
- Community involvement
- Improve map accuracy

Tips for Working with Geographic Data



2. Learn and employ 3. Be prepared for the breataxing technoiqueers worst as needed

Tips for Working with Geographic Data

T Things break and fix themselves without rhyme or reason

U If you are having problems: Turn it off and turn it on again Close the browser, refresh the page, restart computer



Try a different browser



Walk away for a few minutes



Call over an expert and show them and the problem will magically fix itself

POLL 2

Where should we go for the TEAM quick DEMO?

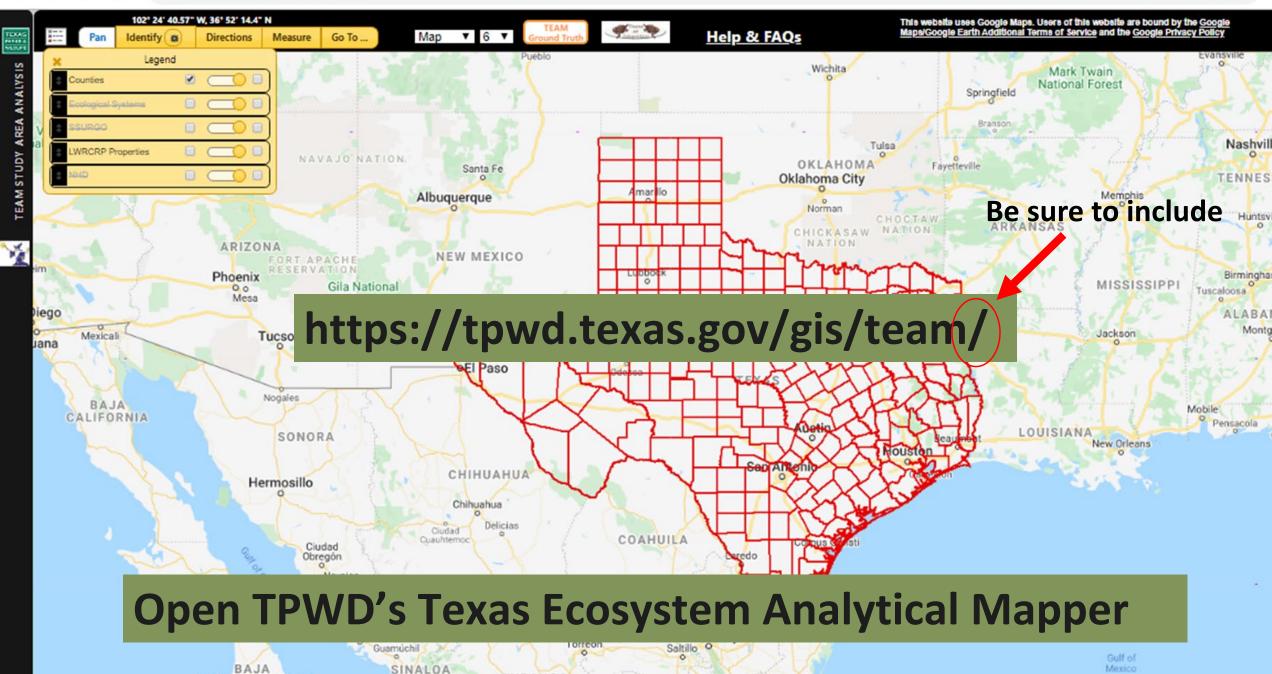
Demonstration of TEAM

 If you want to follow along the link for the TEAM tool:

<u>https://tpwd.texas.gov/gis/team/</u>

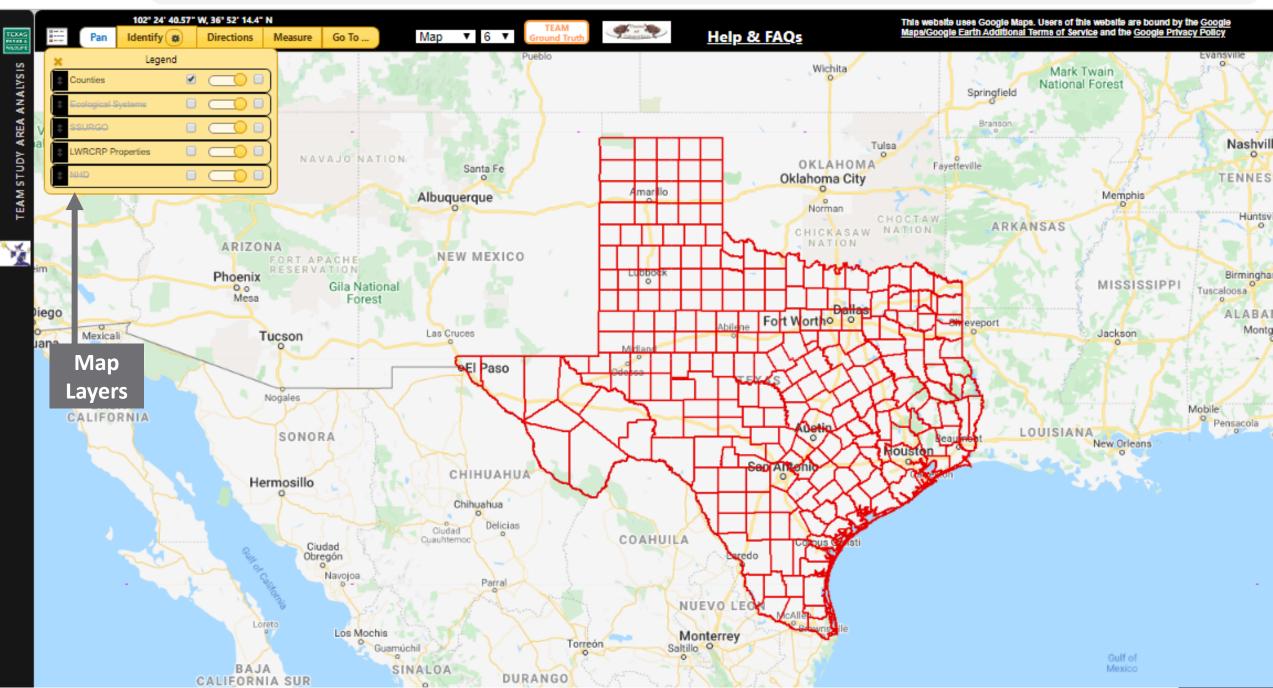
Let's break down the layout of TEAM

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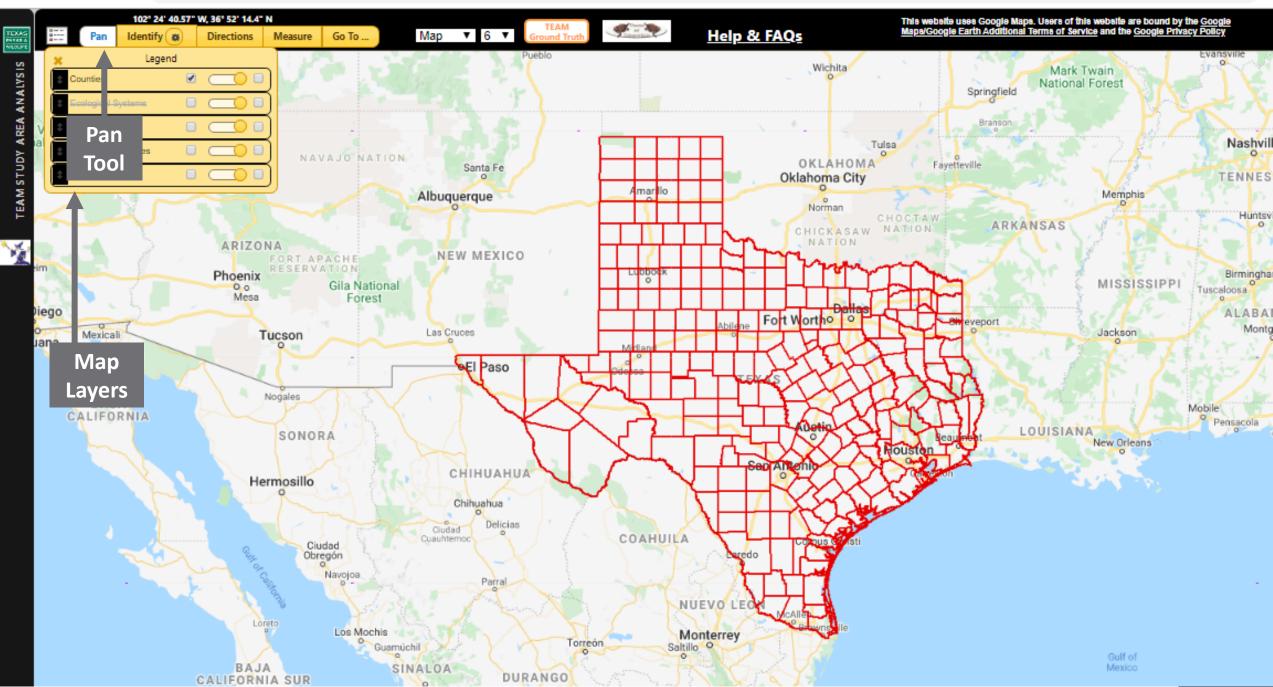
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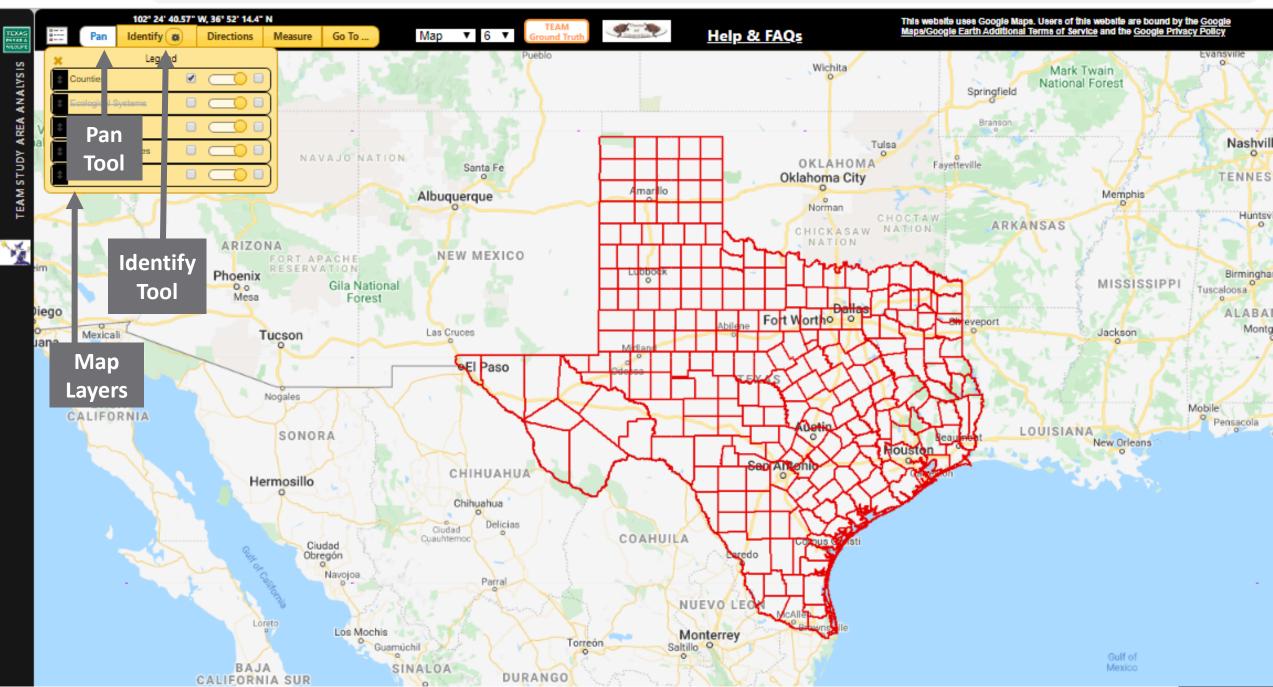
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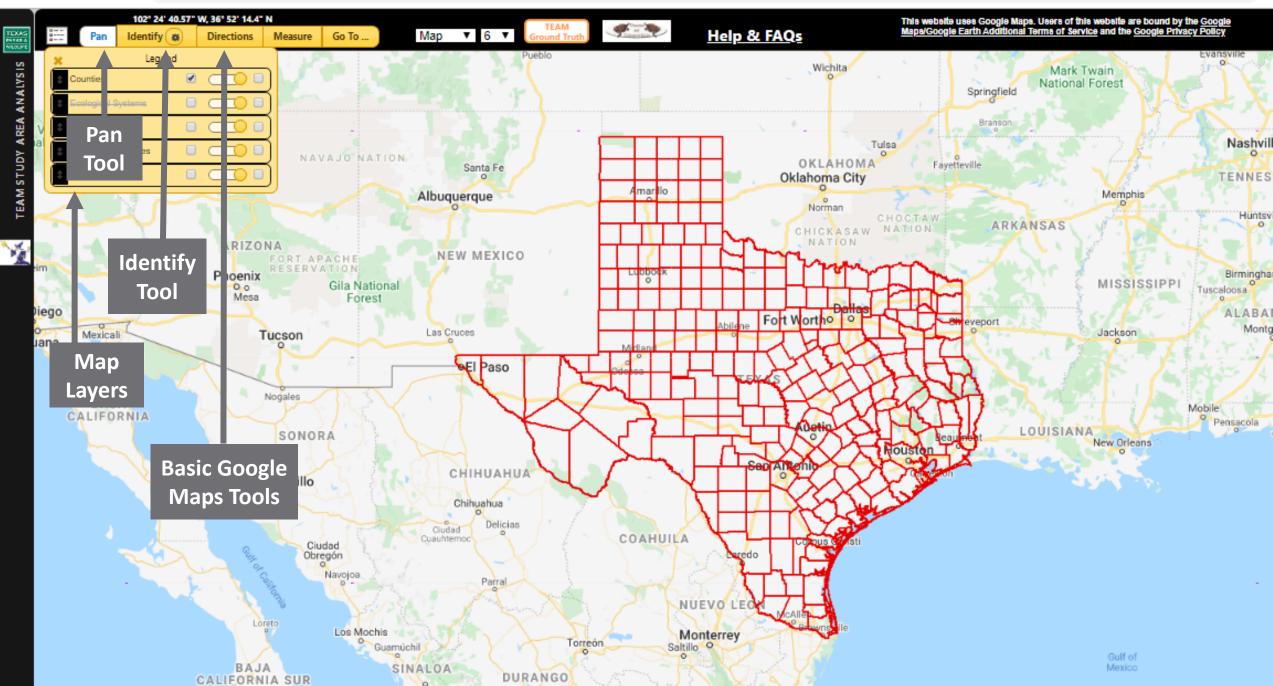
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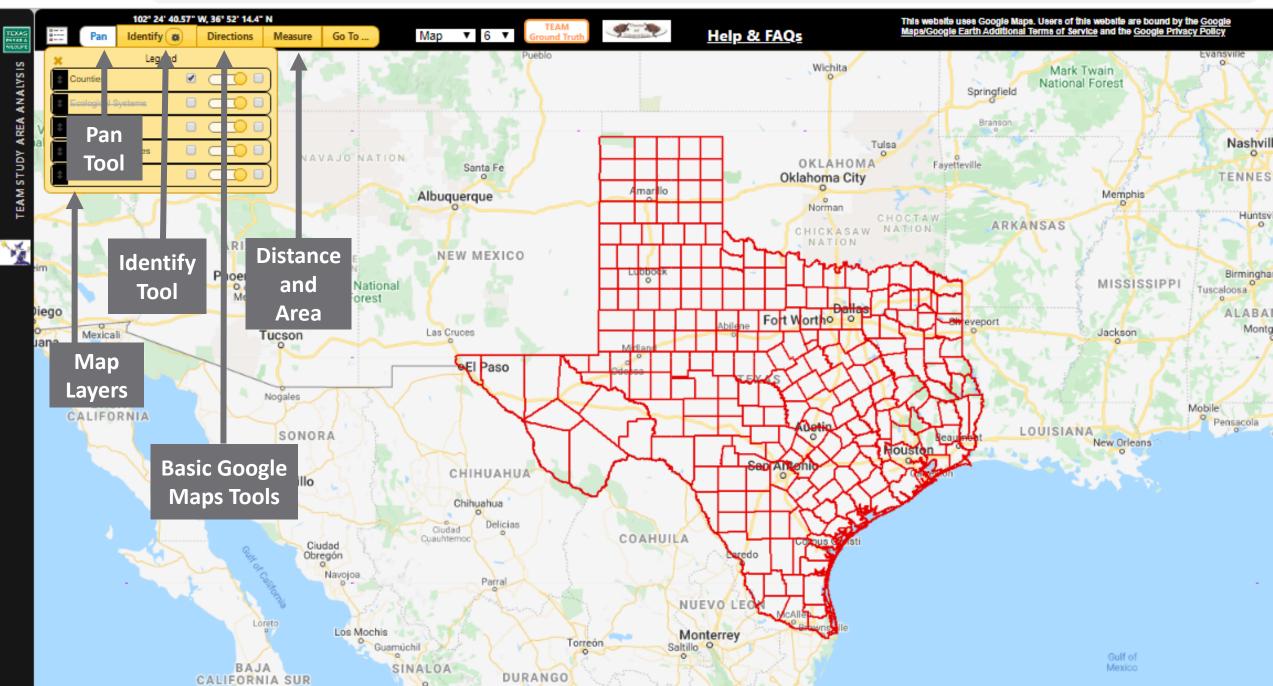
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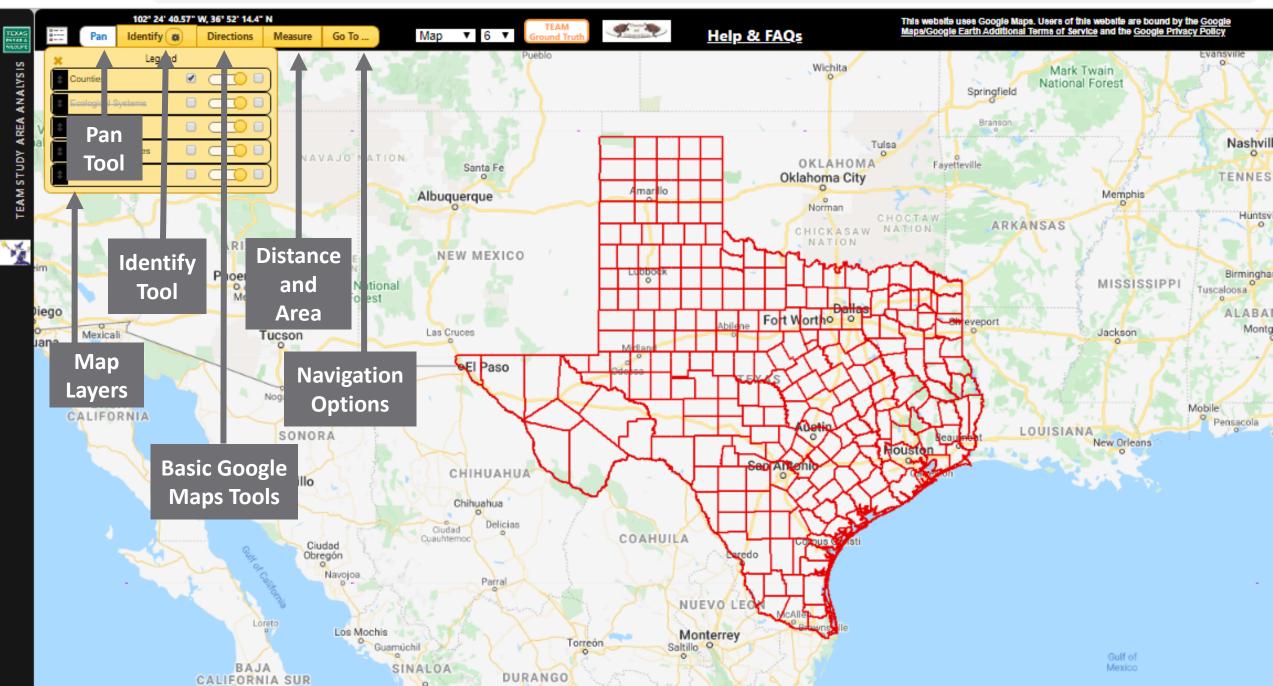
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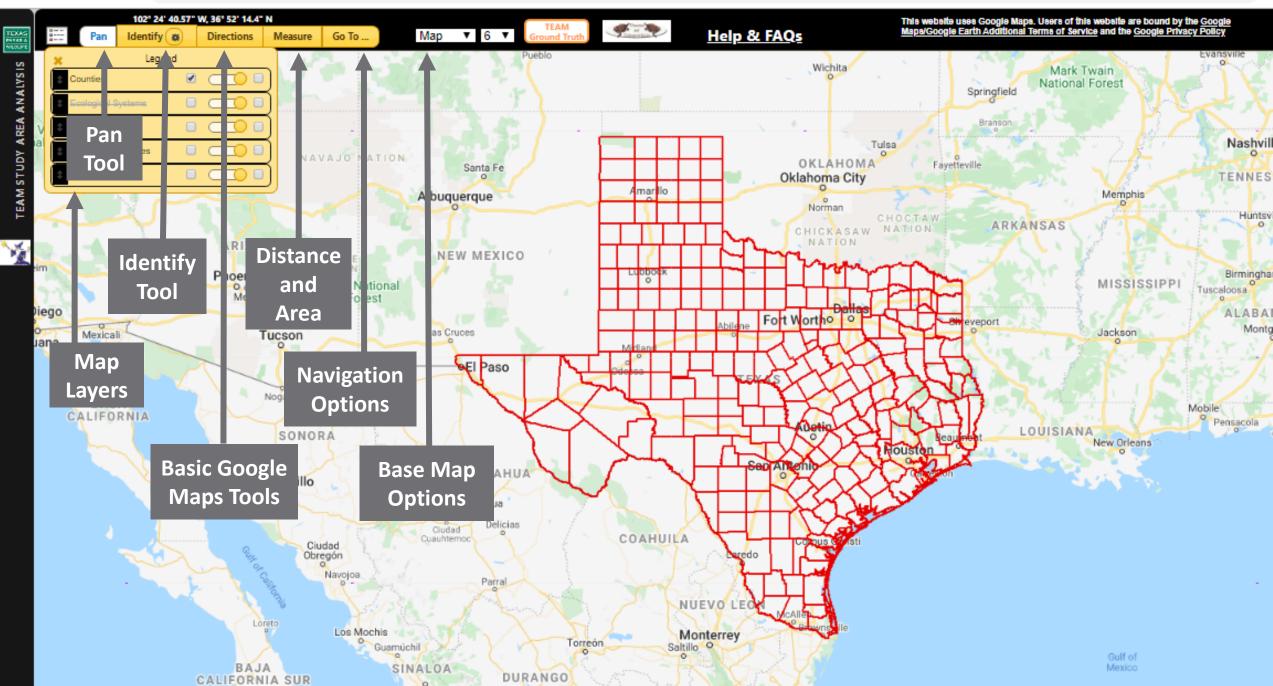
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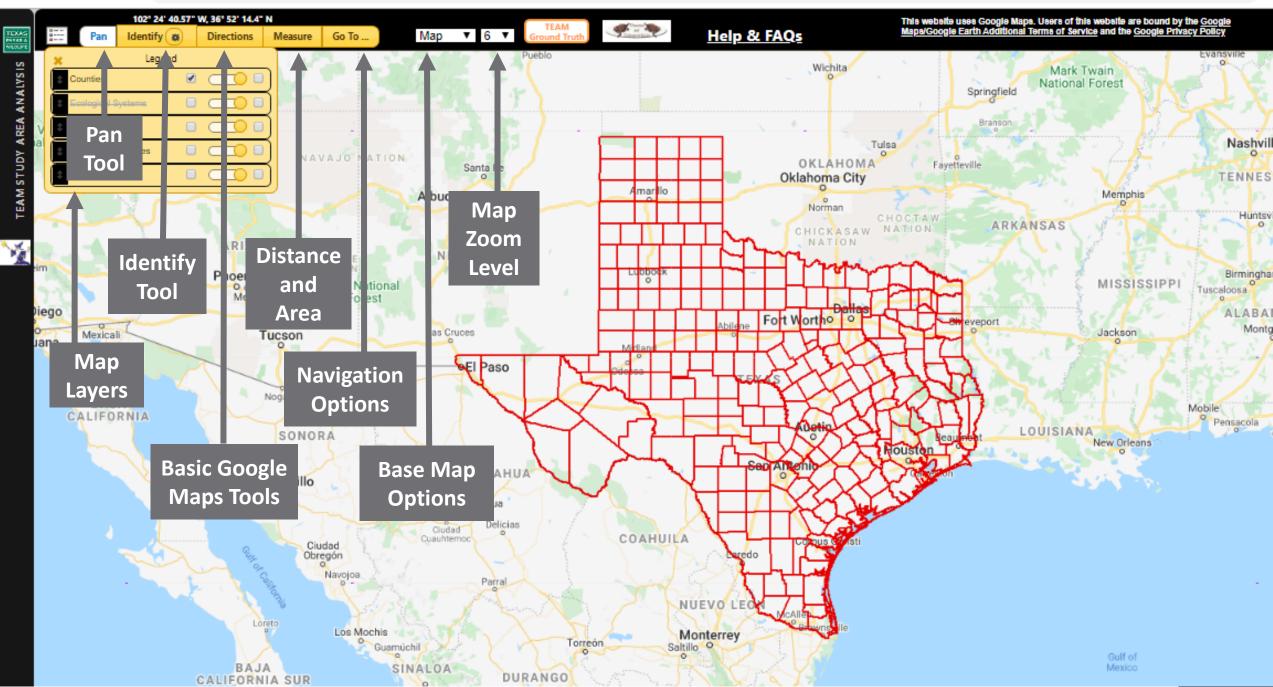
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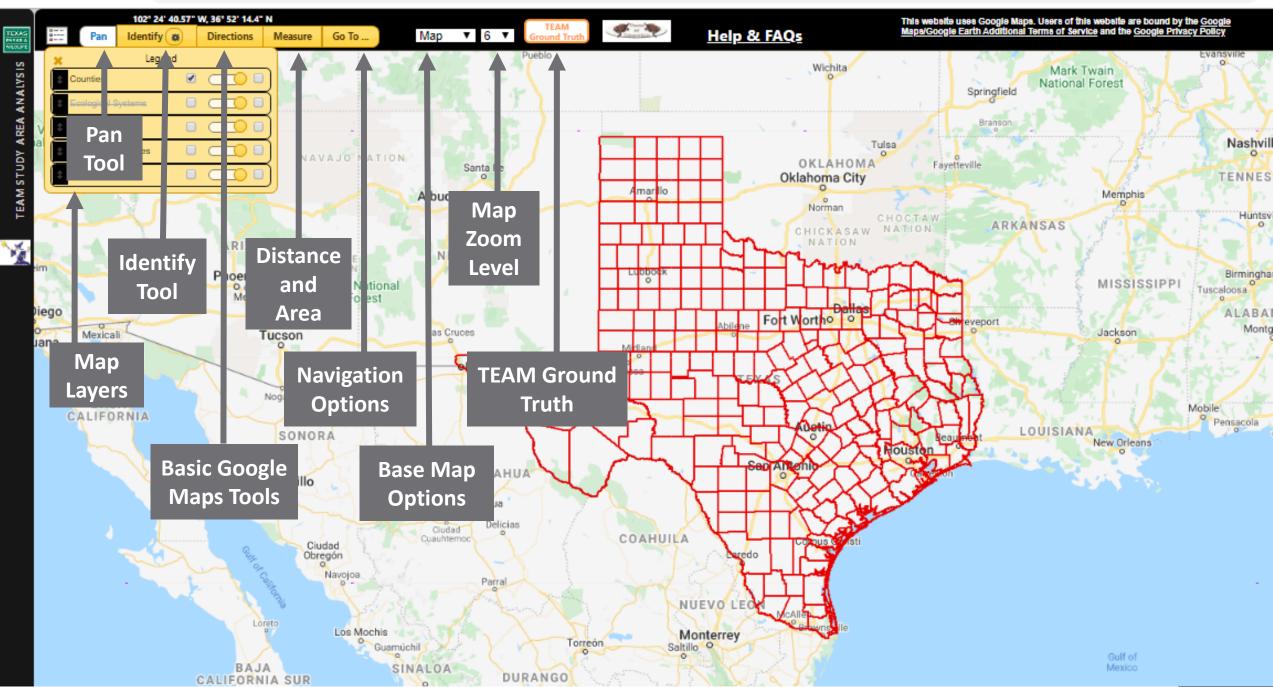
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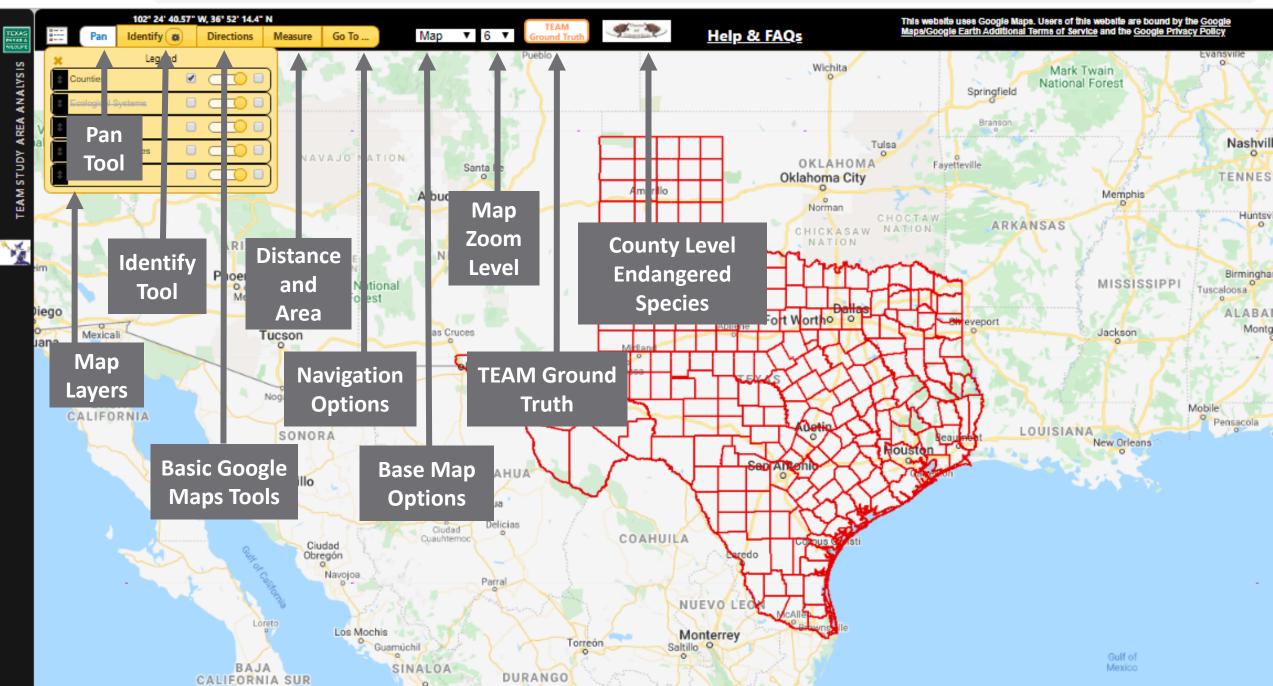
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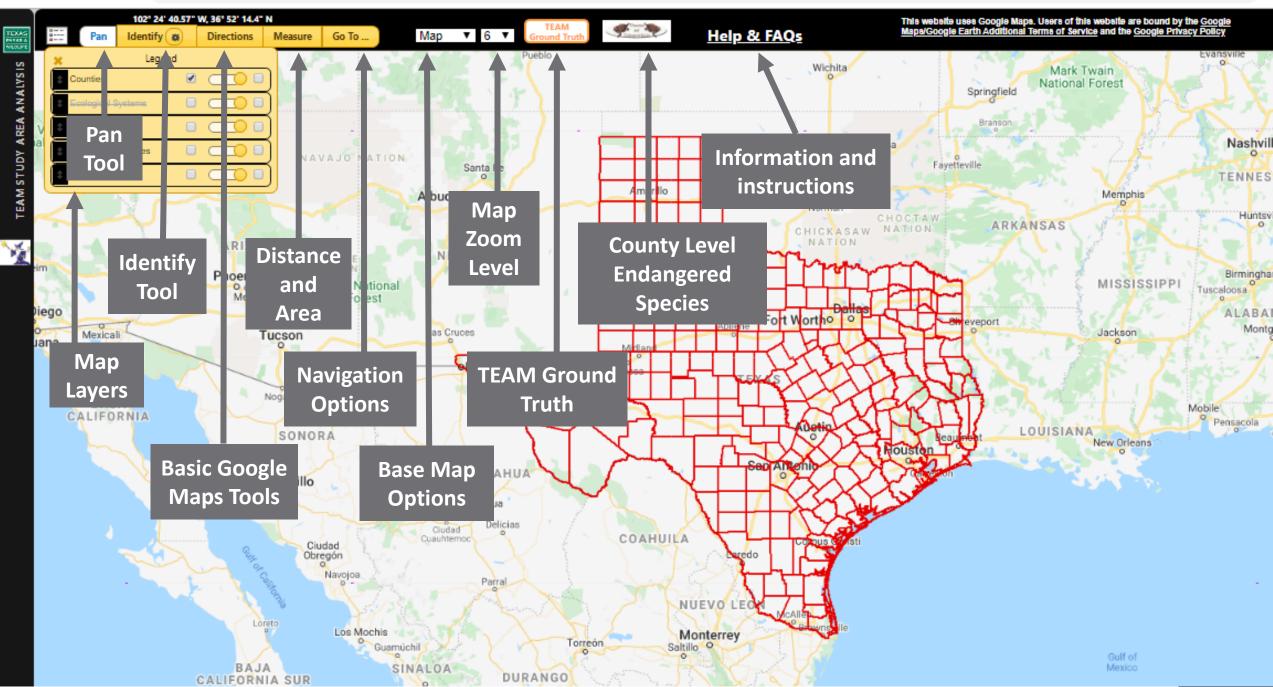
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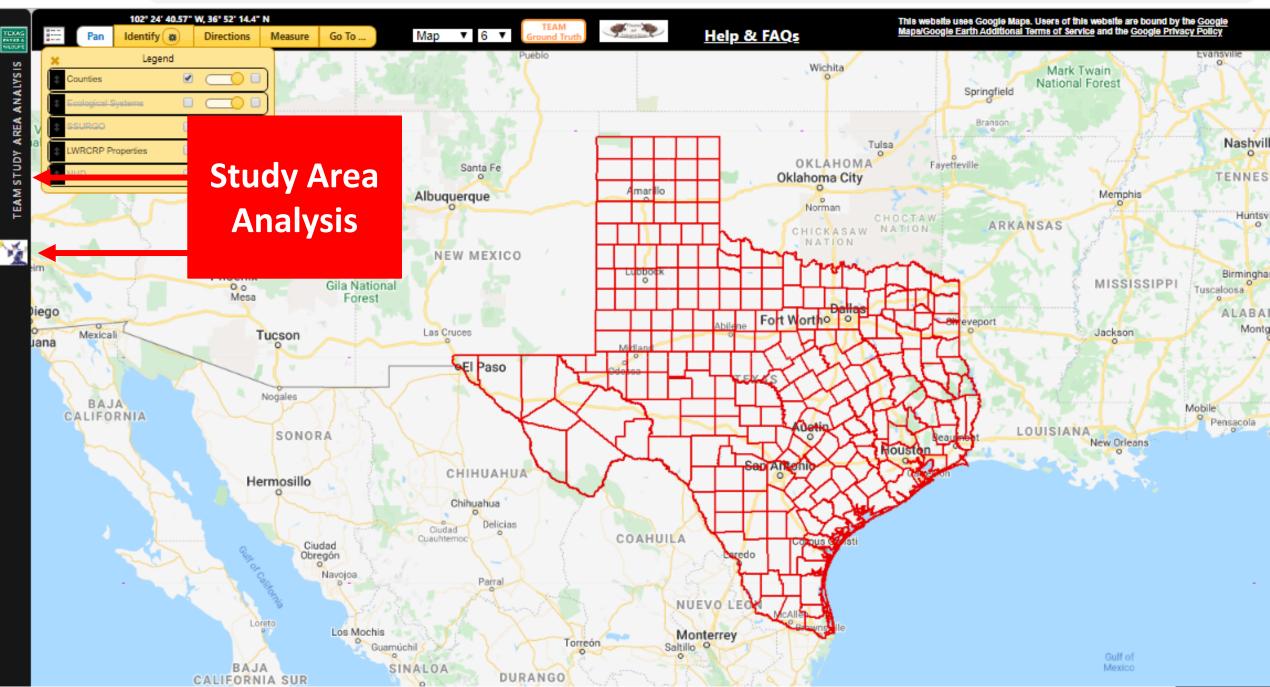
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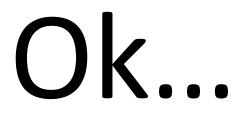
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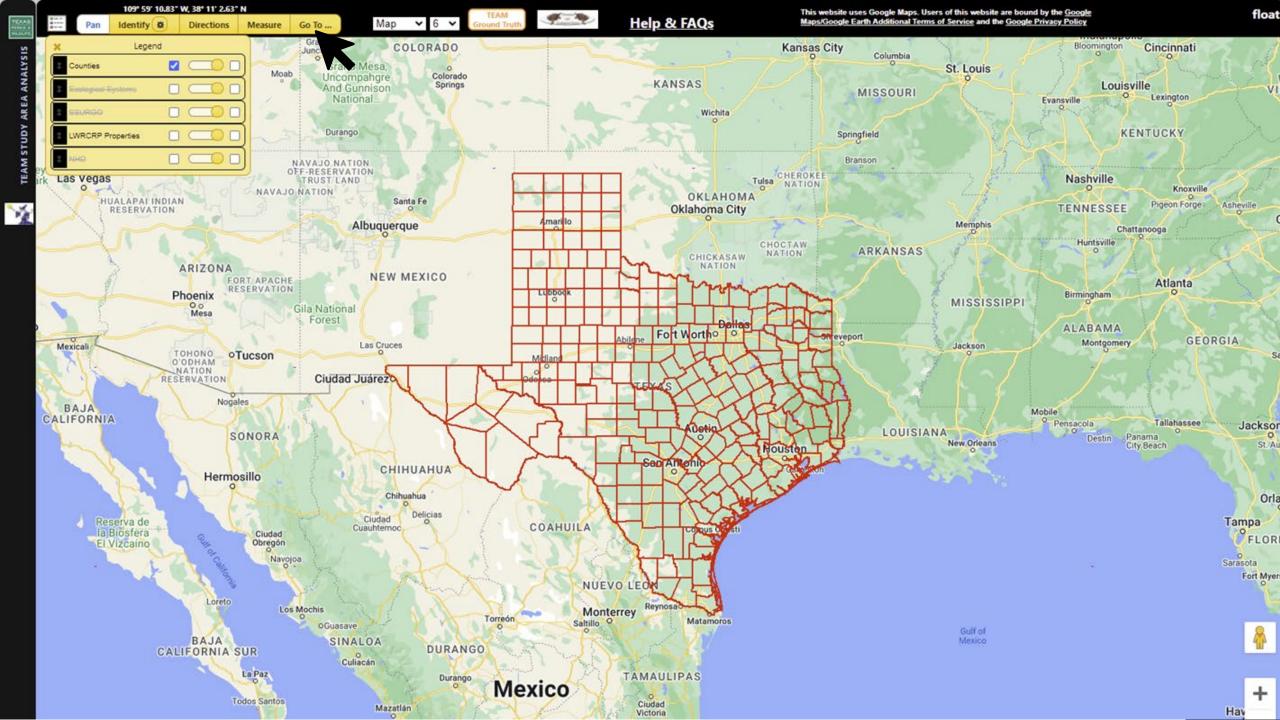
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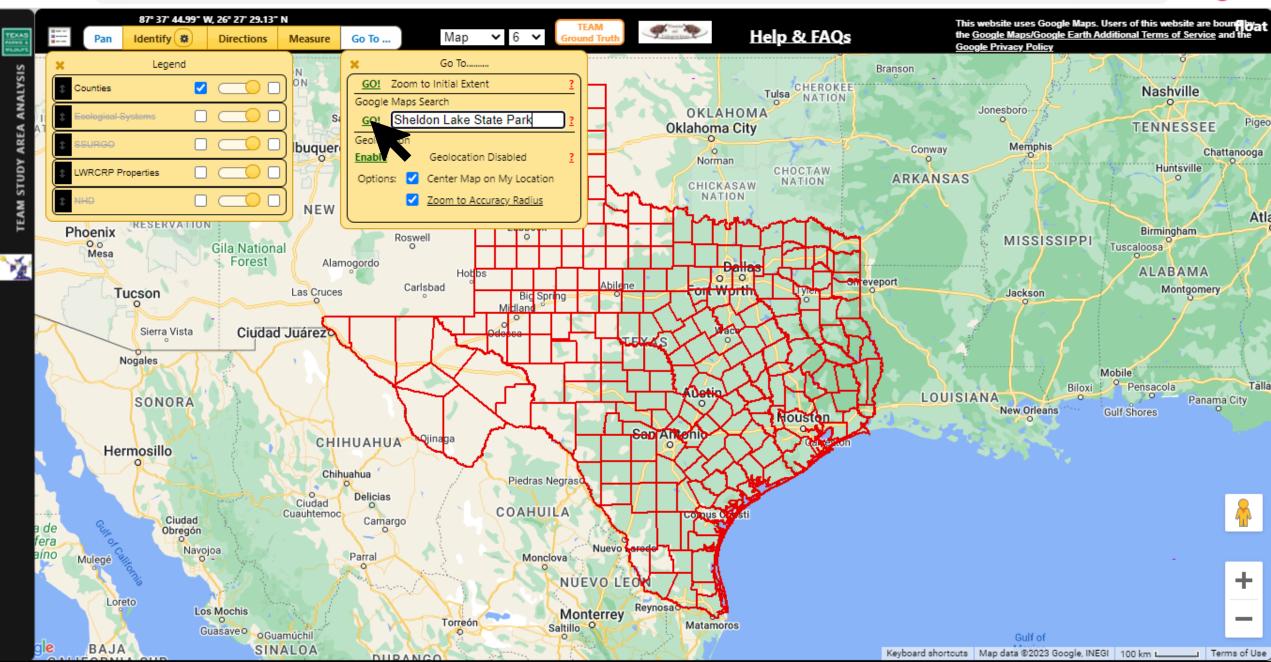
Deep Breath...

Let's Make a Map!

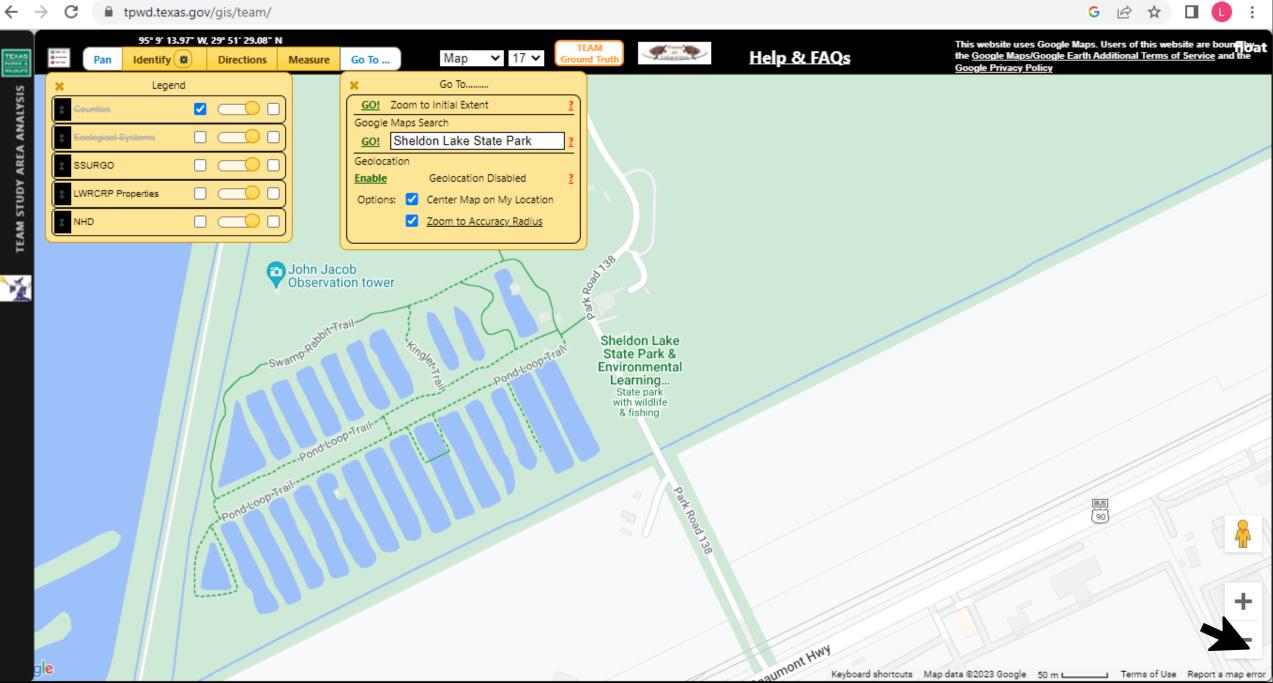


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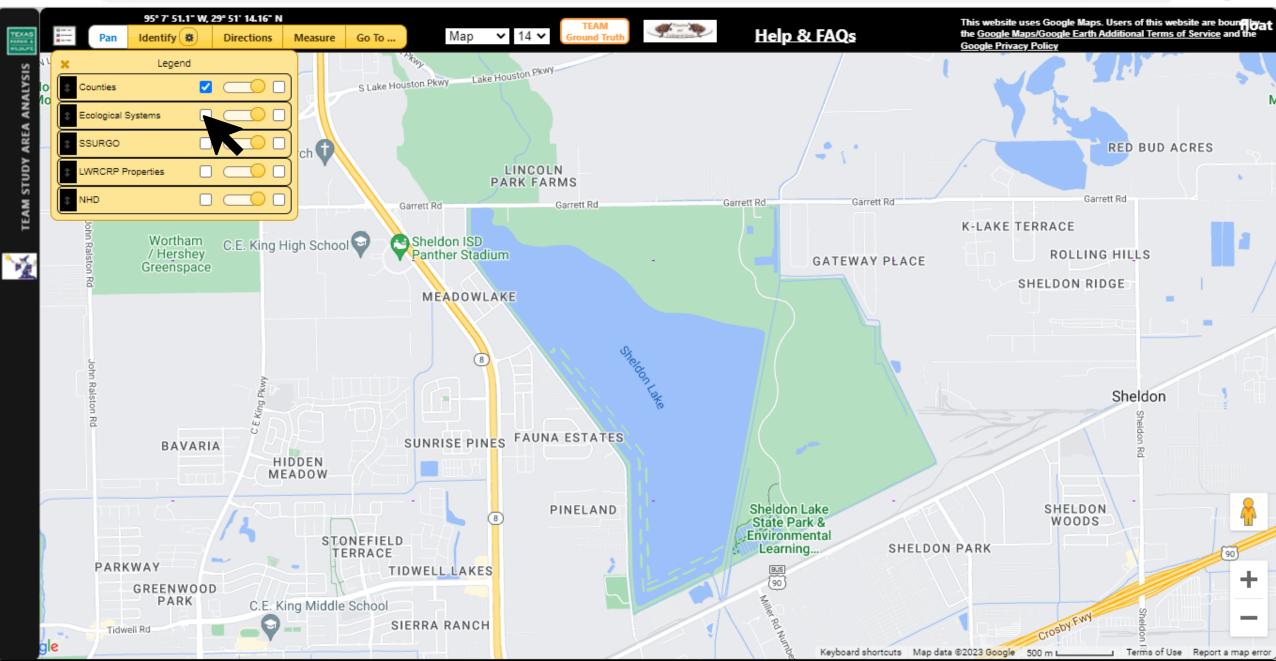
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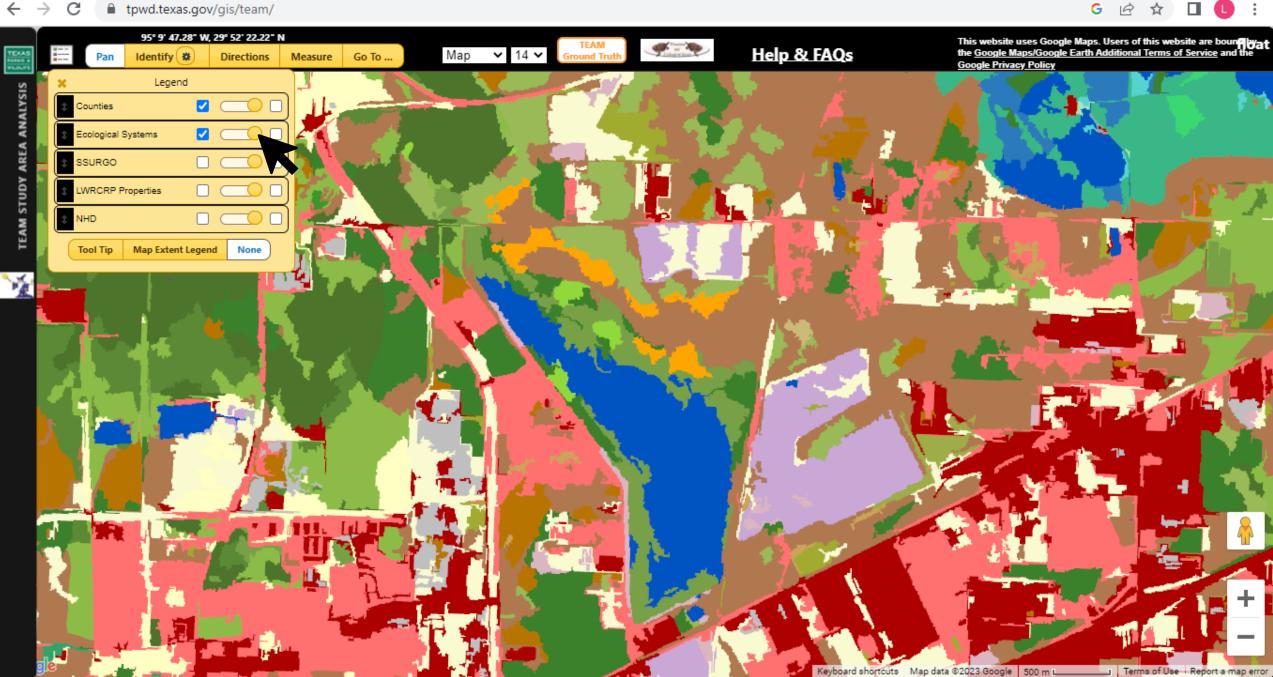
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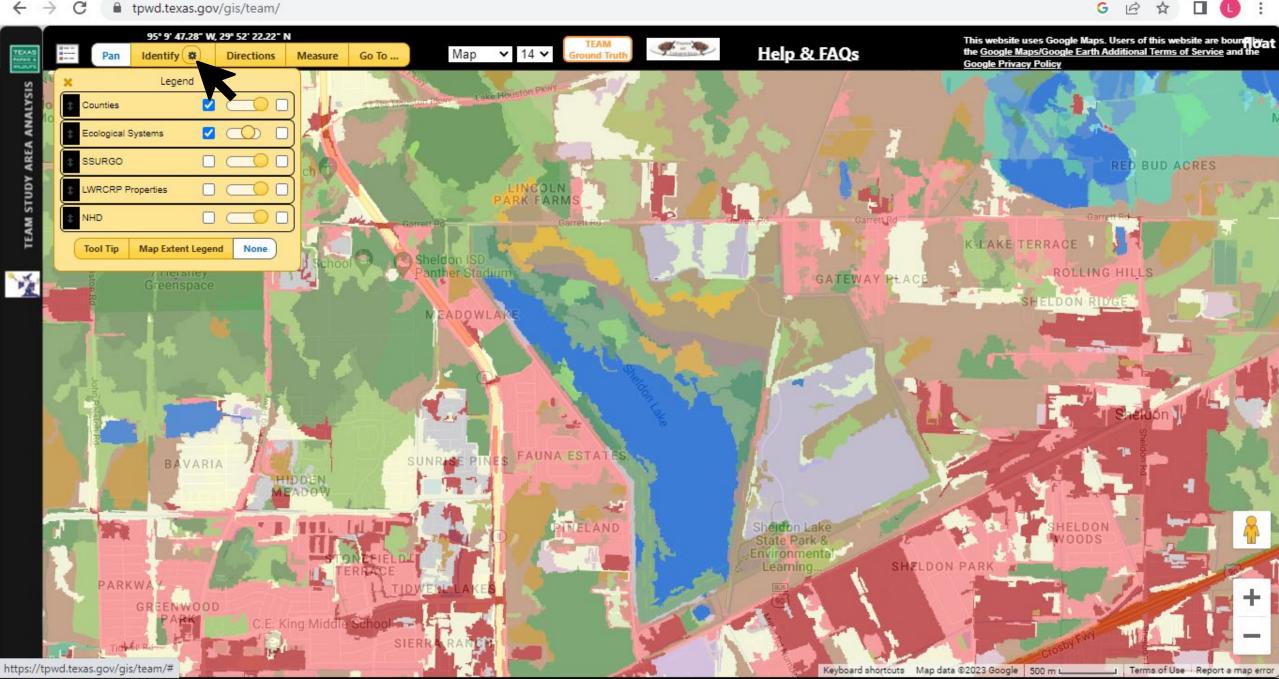




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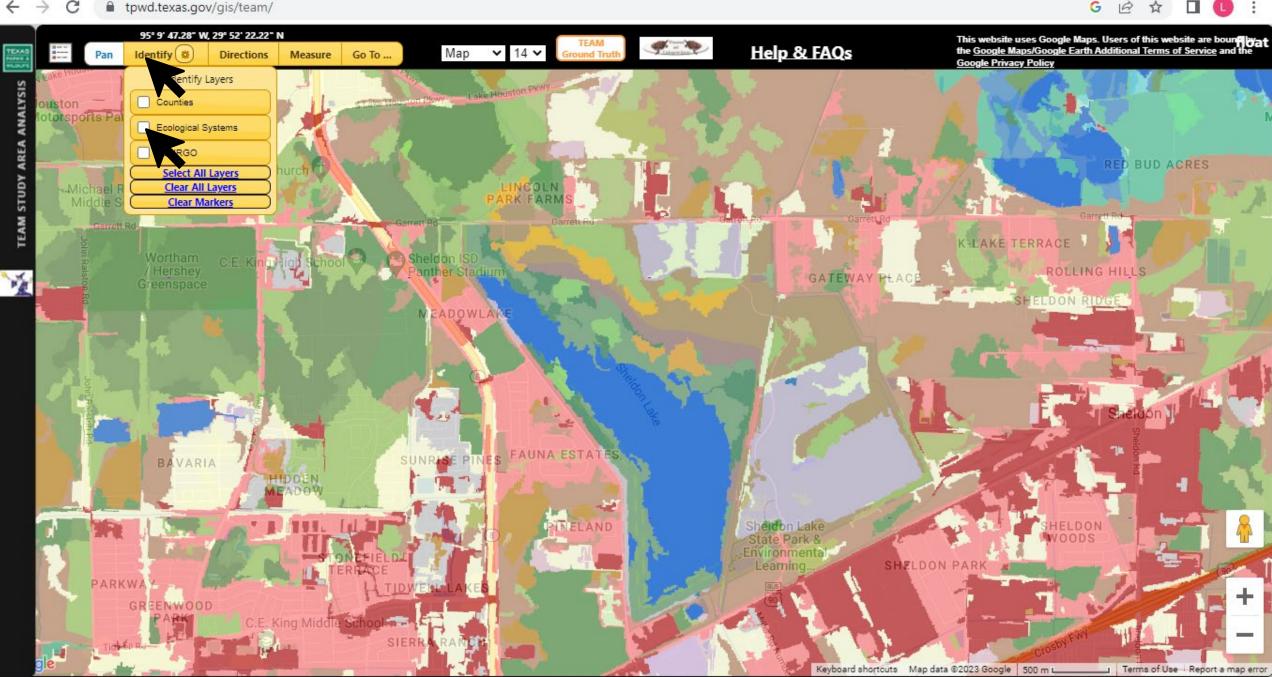
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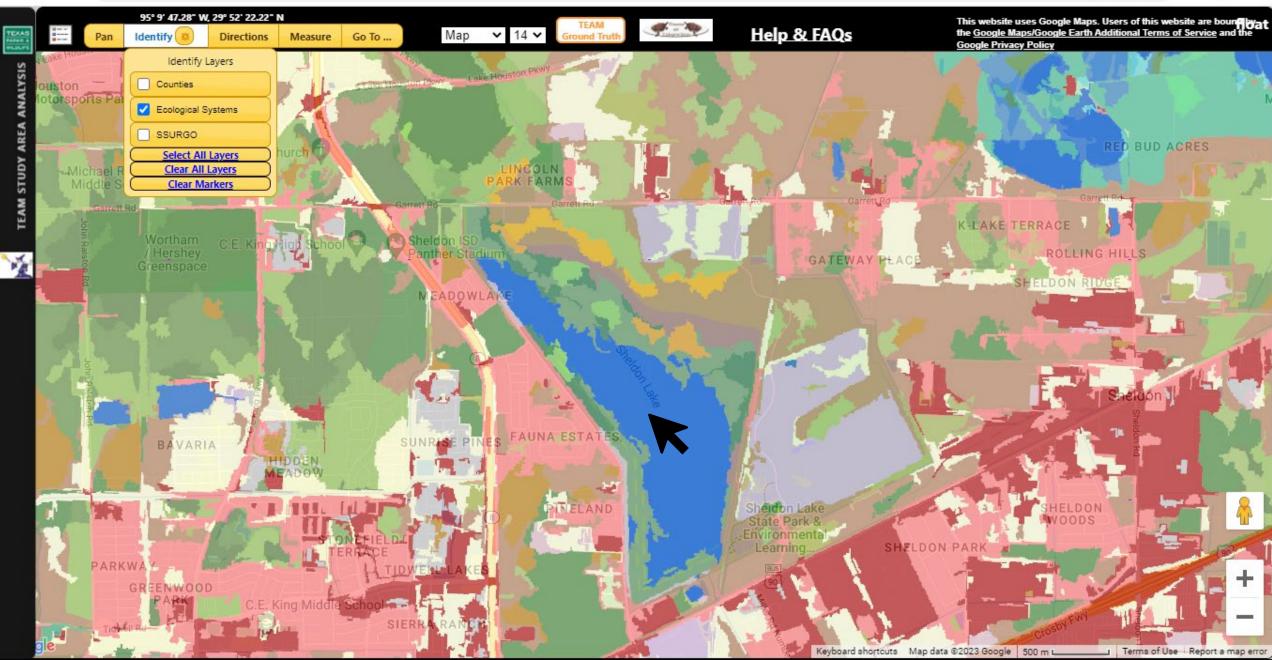
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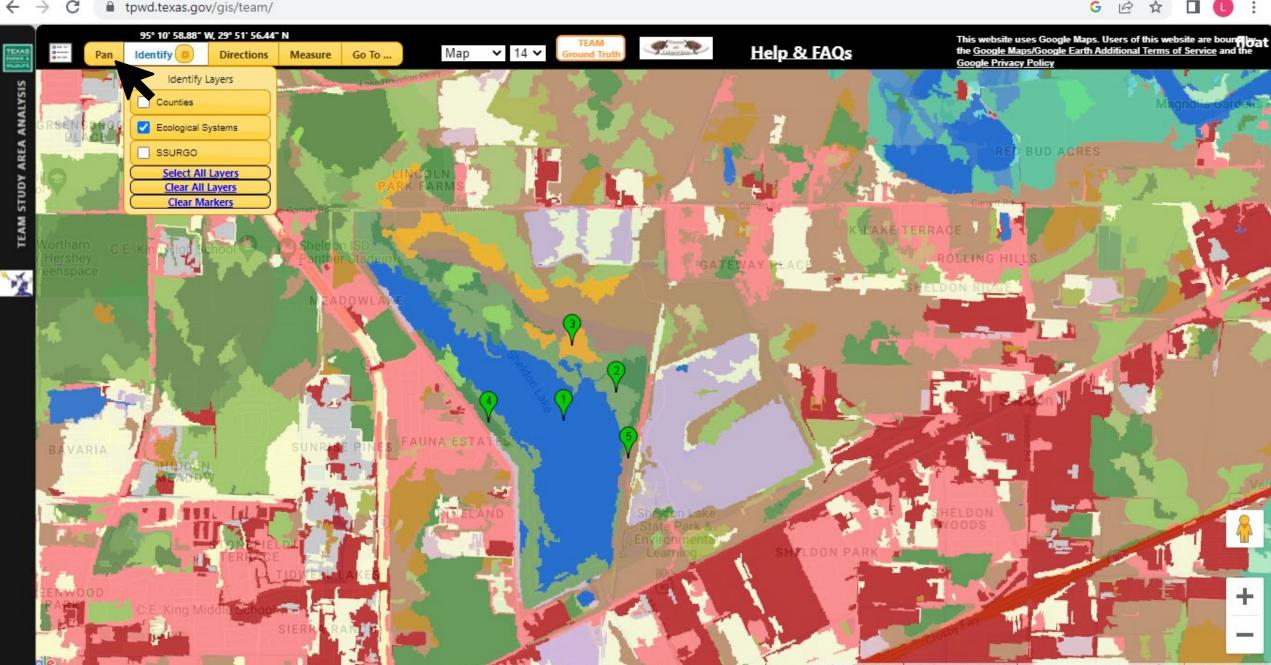


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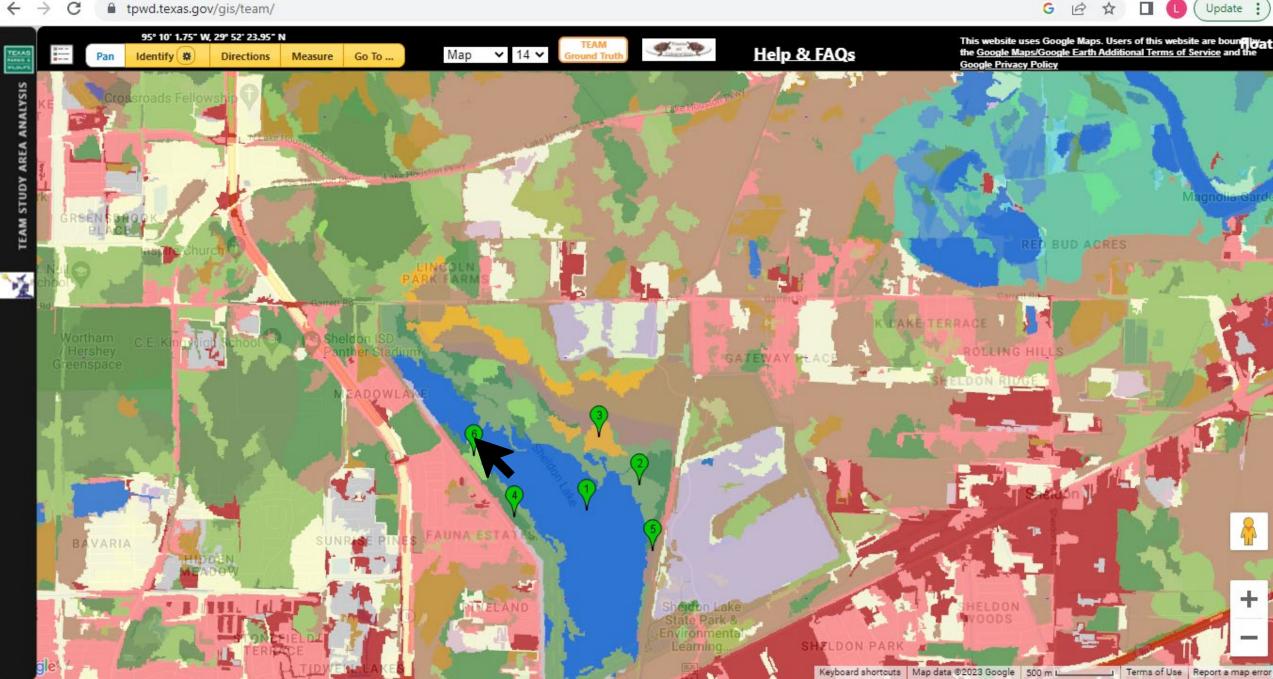
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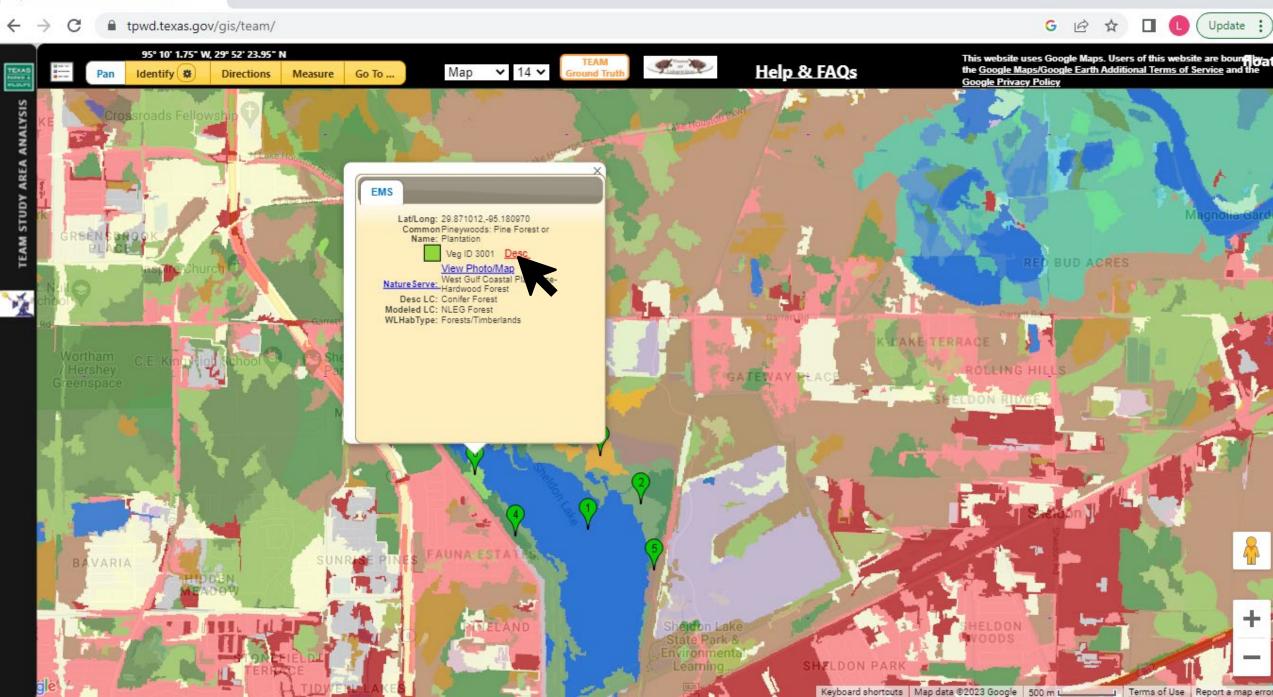
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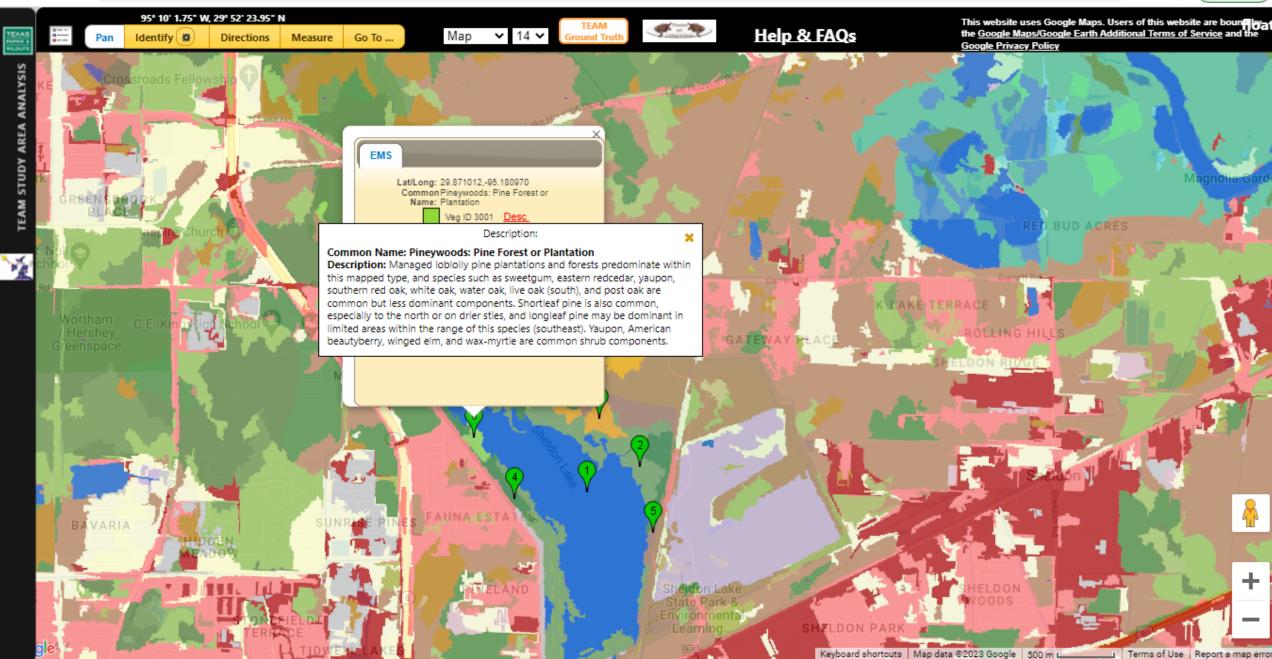
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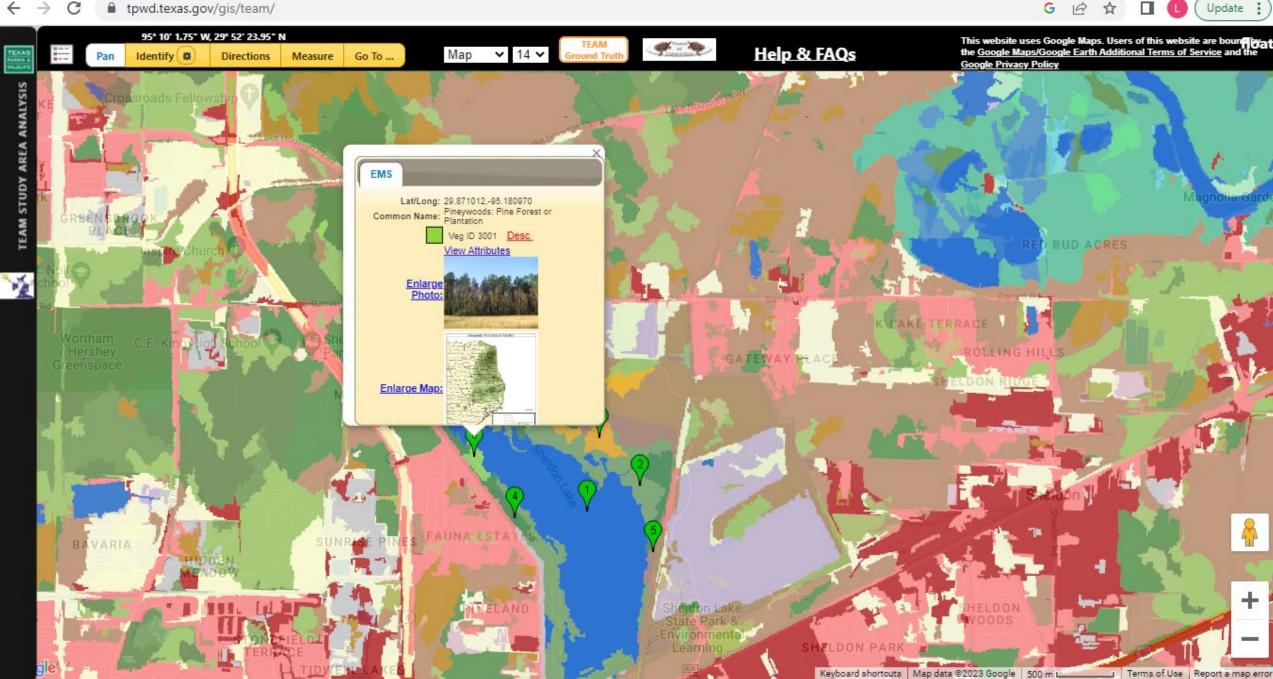
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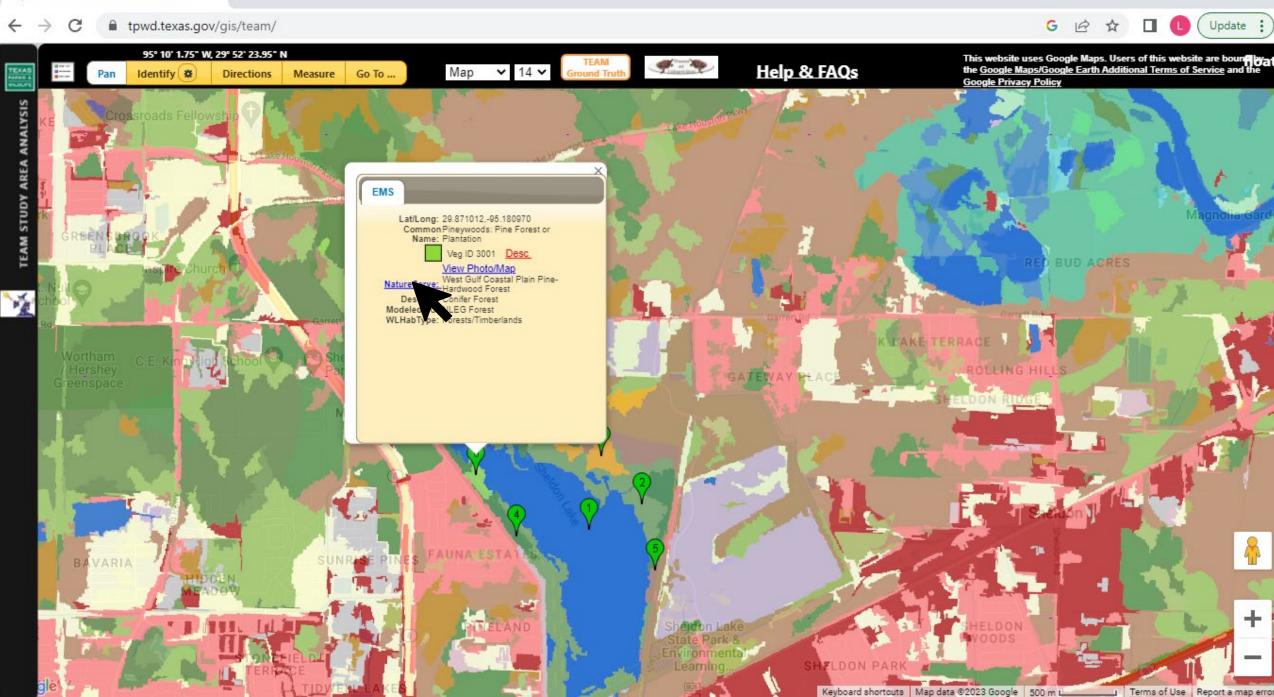
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Landscape Ecology Program > Ecological Mapping Systems > Ecological Mapping Systems of Texas > Forests, Woodlands and Savannas > West Gulf Coastal Plain Pine-Hardwood Forest

West Gulf Coastal Plain Pine-Hardwood Forest

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Download PDF Nature Serve ID: CES203.378

Geology

This system is widespread and forms the matrix of the West Gulf Coastal Plain of Texas and therefore occurs on numerous Cenozoic sedimentary formations and some Cretaceous formations of the Mesozoic era. These formations range from sandstone, shale, alluvium, and conglomerate, to marl, with glauconitic formations (Weches) and tuffaceous formations (Catahoula) present.

Landform

The system occurs over a wide variety of landforms, with drier expressions occurring on hilltops and ridges. It occupies slopes and lower landscape positions, where conditions are more mesic, and composition of the system varies across these gradients. C 🔒 tpwd.texas.gov/landwater/land/programs/landscape-ecology/ems/emst/forests-woodlands-and-savannas/west-gulf-coastal-plain-pine-hardwood-forest

Landform

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Soils

Numerous soil types are occupied by this system, but are generally alfisols or ultisols. Soils most commonly encountered are sands and loams.

Parent Description

This upland system forms the matrix over much of the West Gulf Coastal Plain. This is particularly the case outside of the range of *Pinus palustris* (longleaf pine). Within the range of *Pinus palustris* (longleaf pine), the historical matrix was often dominated by that species and should be mapped as West Gulf Coastal Plain Upland Longleaf Pine Forest and Woodland (CES203.293). However, given the current patchy distribution of *Pinus palustris* (longleaf pine), the prevalence of plantings of *Pinus taeda* (loblolly pine) and *Pinus elliottii* (slash pine), and the difficulty in identifying the system on the basis of remotesensing data, we chose to include occurrences of this more restricted system within the West Gulf Coastal Plain Pine-Hardwood Forest. The system occupies a range of topographic and edaphic conditions, replaced by other systems in areas where unique abiotic conditions result in occurrences of other, more restricted, systems. Typical pines that dominate these sites are *Pinus taeda* (loblolly pine) and *Pinus echinata* (shortleaf pine), though *Pinus palustris* (longleaf pine) may also be present to dominant, within its range. Historically, *Pinus echinata* (shortleaf pine) dominated drier sites, especially to the north. *Pinus taeda* (loblolly pine) was less dominant than in the current landscape, and occupied less dry sites and became more conspicuous to the south. Seventy-five percent or more of the canopy of some occurrences may be occupied by pines, often *Pinus taeda* (loblolly pine). Typical deciduous hardwoods conspicuous in this system include *Liquidambar styraciflua* (sweetgum), *Carya texana* (black hickory), *Quercus stellata* (post oak), *Quercus falcata* (southern red oak), *Quercus alba*

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Ecological Mapping Systems

Pineywoods: Pine Forest or Plantation

Pineywoods: Pine / Hardwood Forest or Plantation

Pineywoods: Upland Hardwood Forest

Pineywoods: Dry Pine Forest

Pineywoods: Dry Pine / Hardwood Forest and Plantation

Pineywoods: Dry Upland Hardwood Forest



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Ecological Mapping Systems

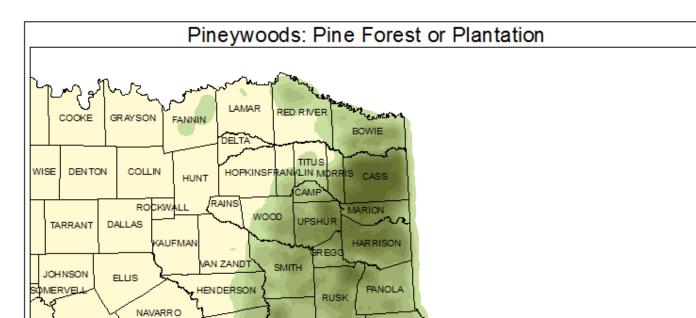
Pineywoods: Pine Forest or Plantation

Mapping System ID: 3001

This represents the typical type for the system where the canopy is dominated by pines. Many sites actually represent pine plantations and managed forests, and discriminating between natural pine forest and plantation is problematic using our mapping methods. More than half of the area mapped for this system is represented by this vegetation type, and *Pinus taeda* (loblolly pine) predominates.

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Distribution Map



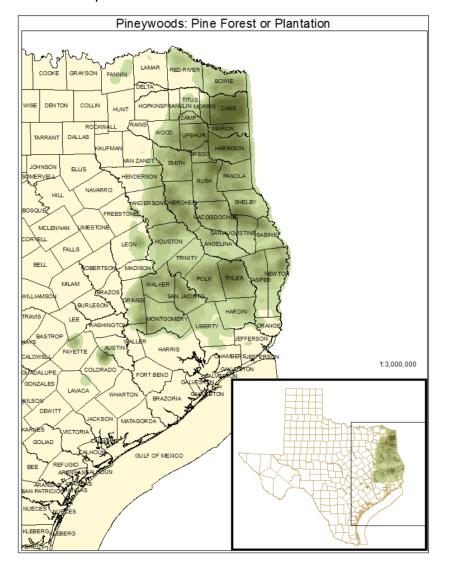
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(lobiolly pine) predominates.

Distribution Map





Photos



Public Land Occurrence

- Angelina National Forest: USDA Forest Service
- Big Thicket National Preserve: US National Park Service
- Caddo National Grasslands Wildlife Management Area: Texas Parks and Wildlife Department
- Davy Crockett National Forest: USDA Forest Service
- Sam Houston National Forest Wildlife Management Area: Texas Parks and Wildlife Department
- Sabine National Forest: USDA Forest Service.

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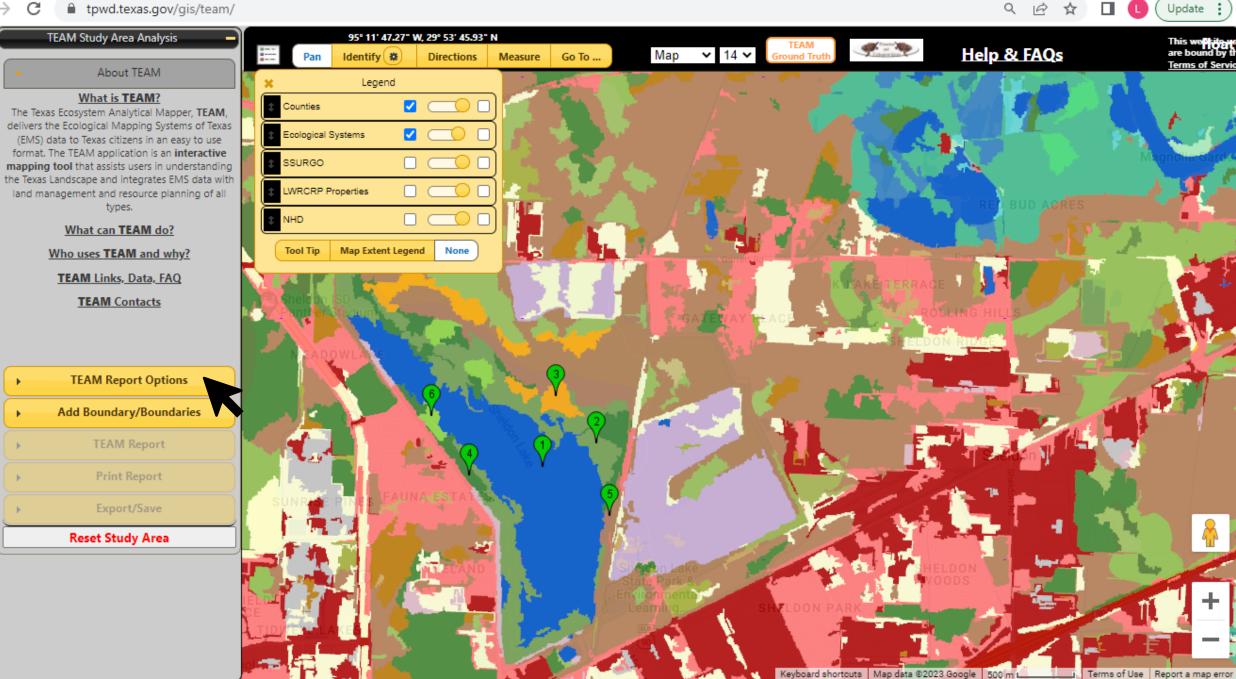
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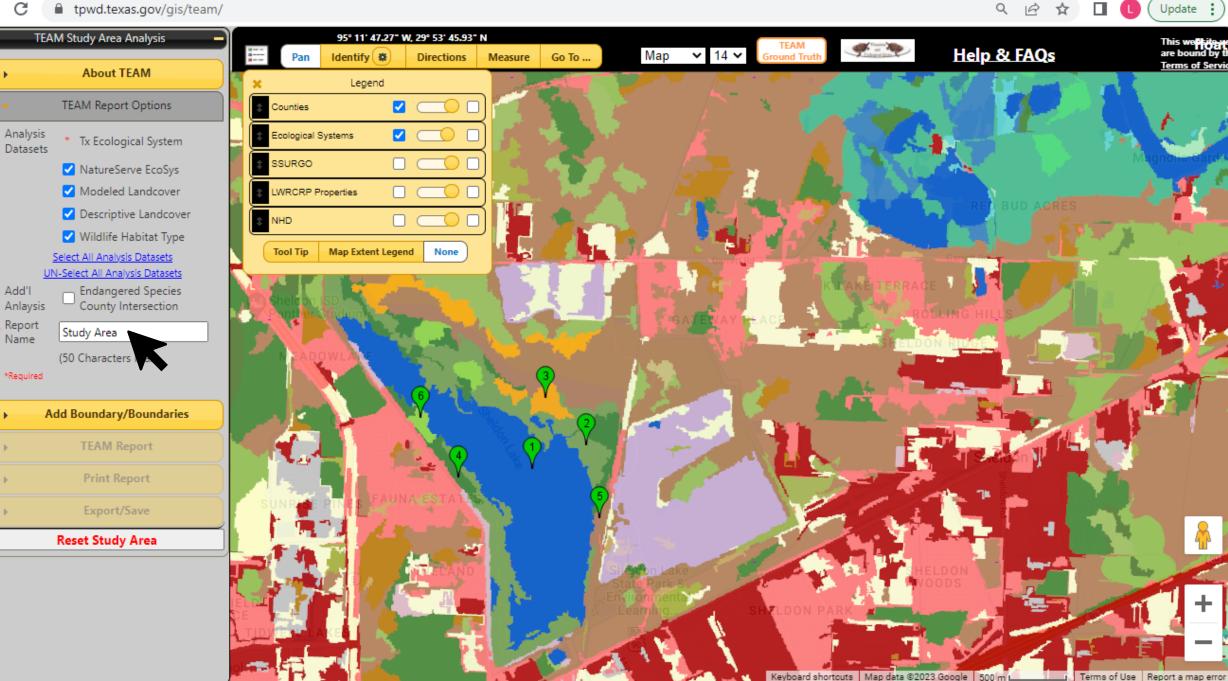
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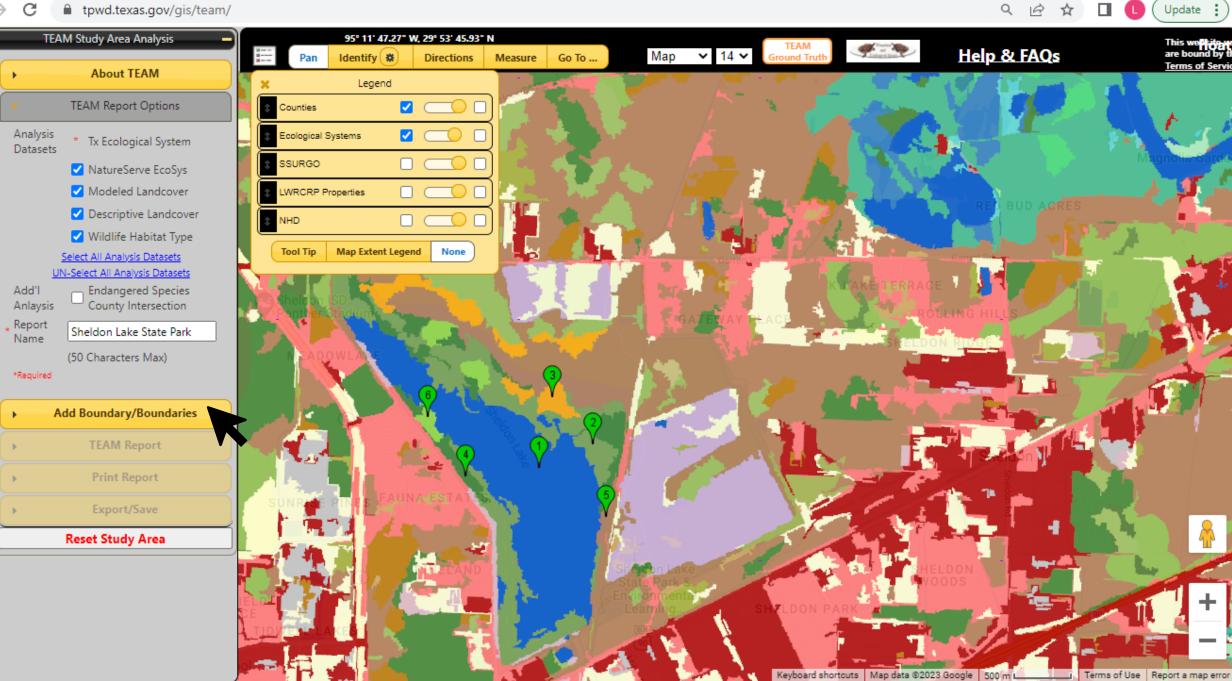
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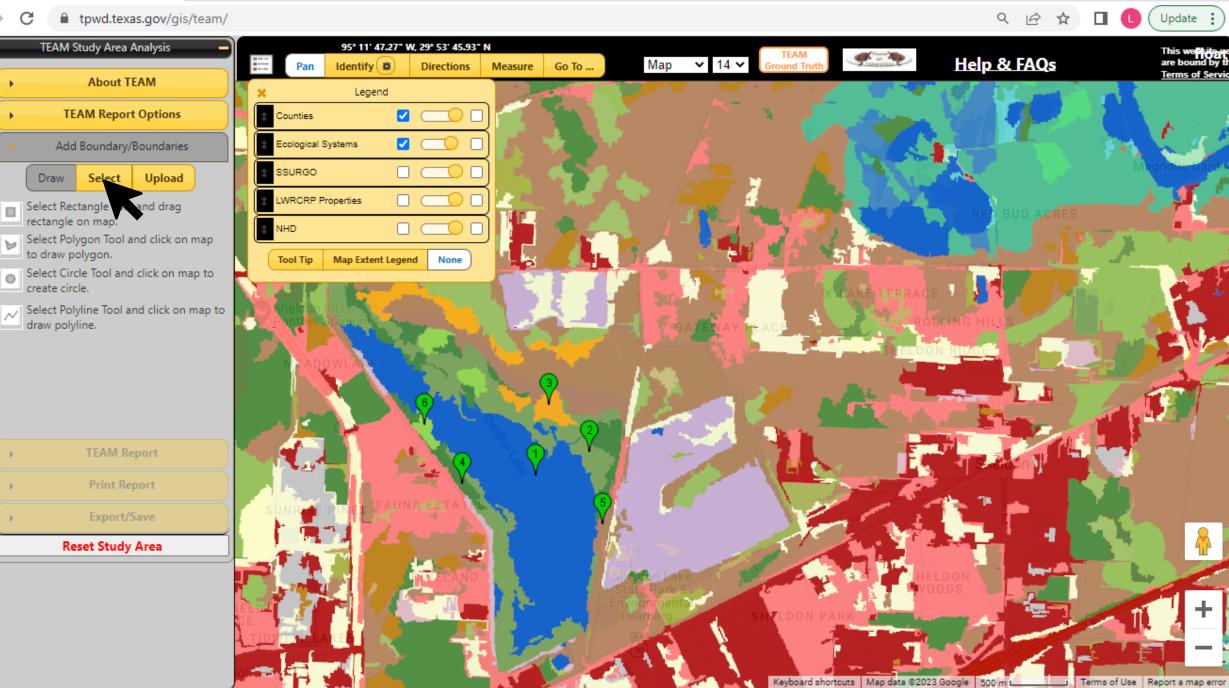
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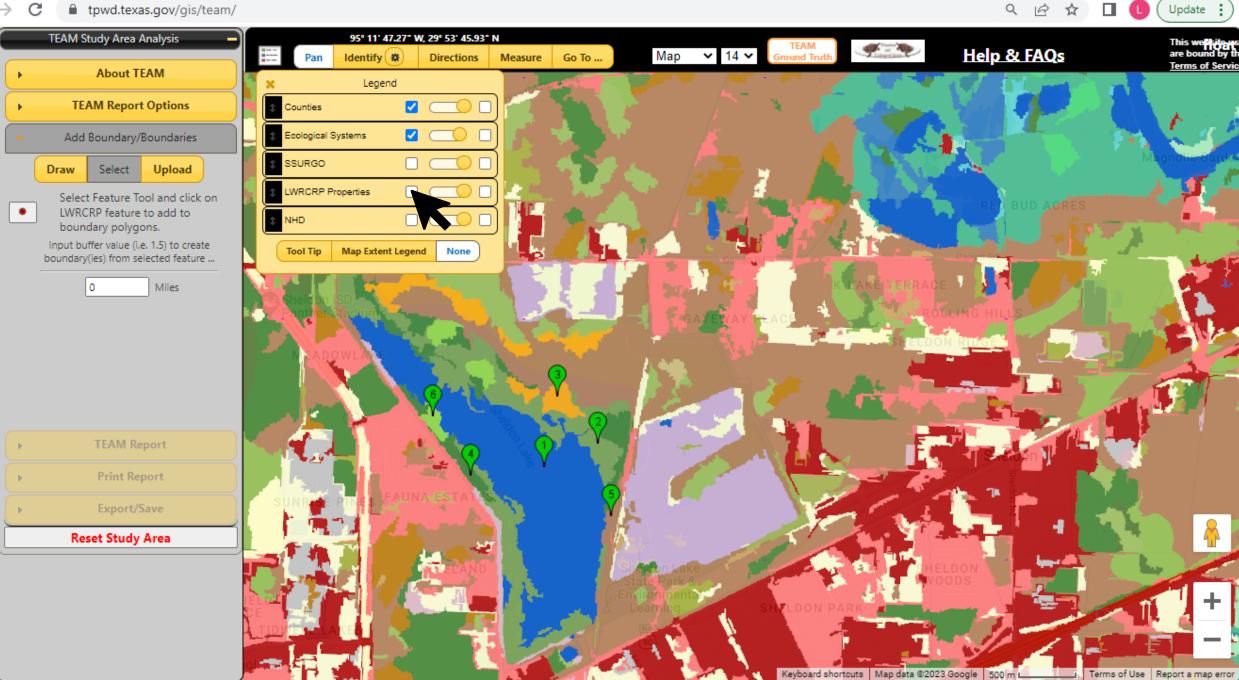
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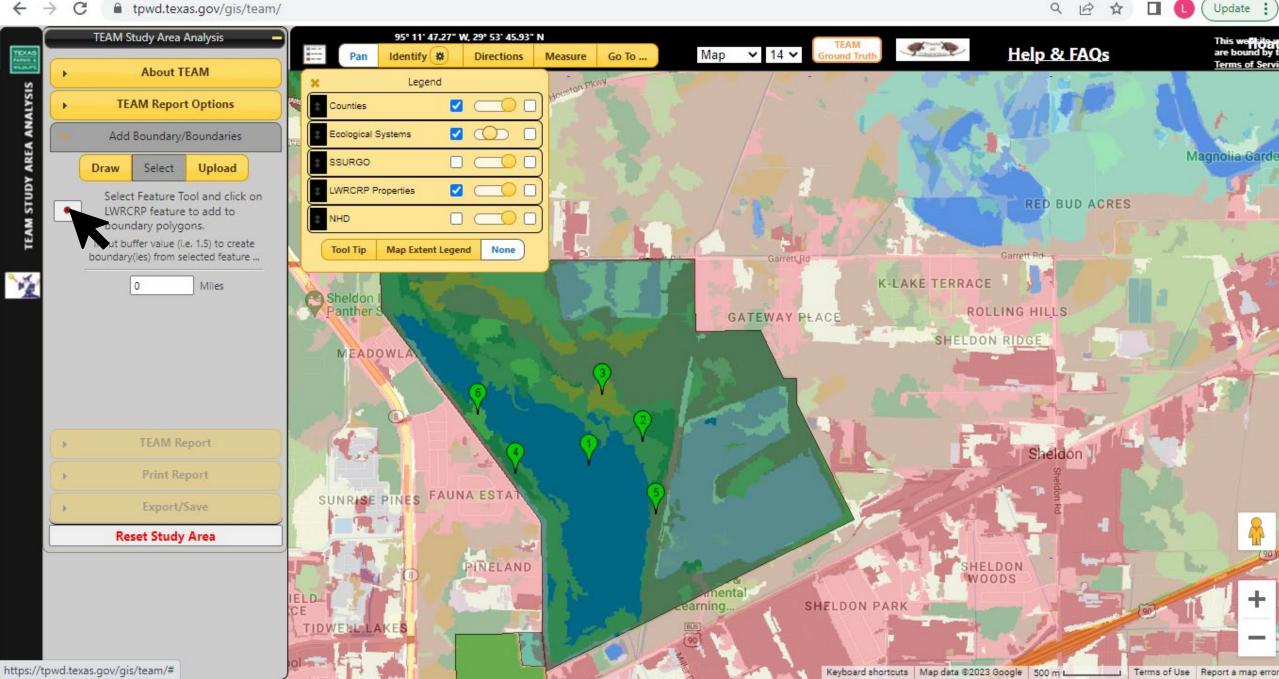


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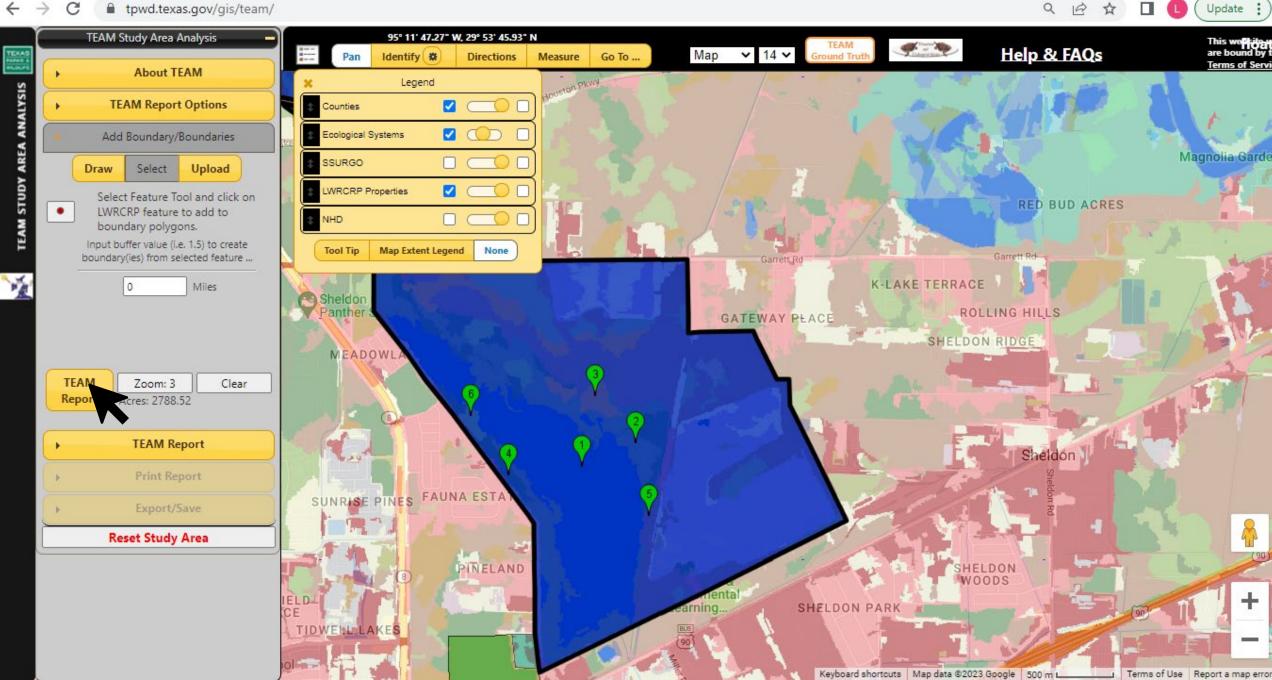
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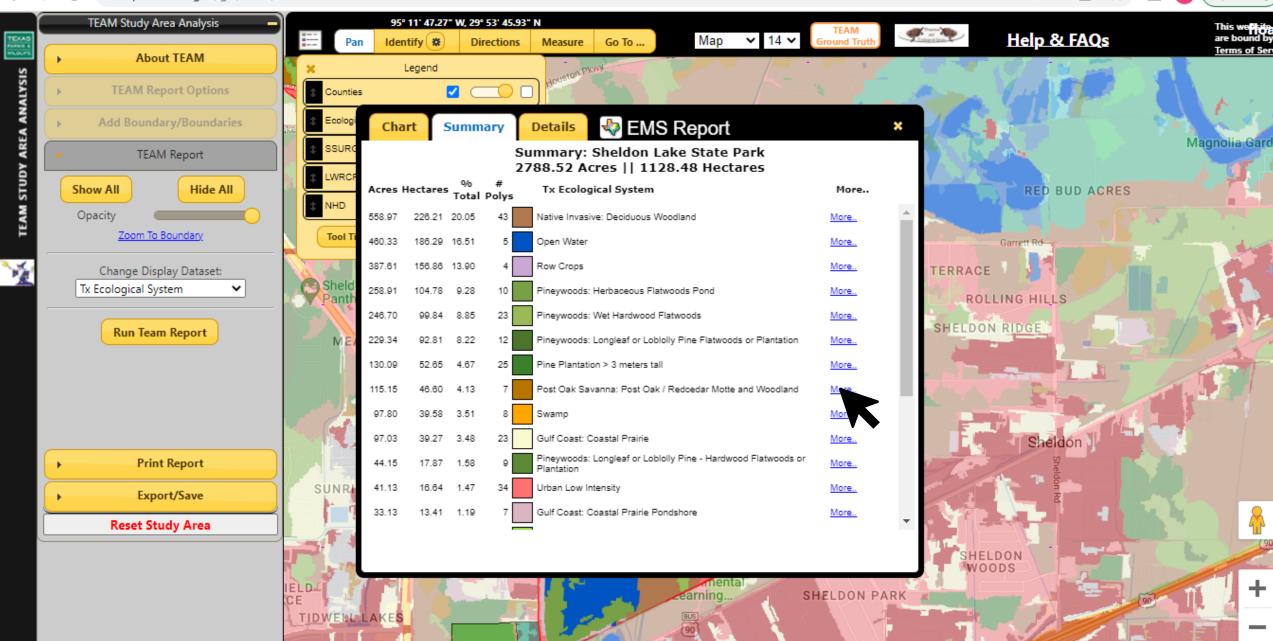
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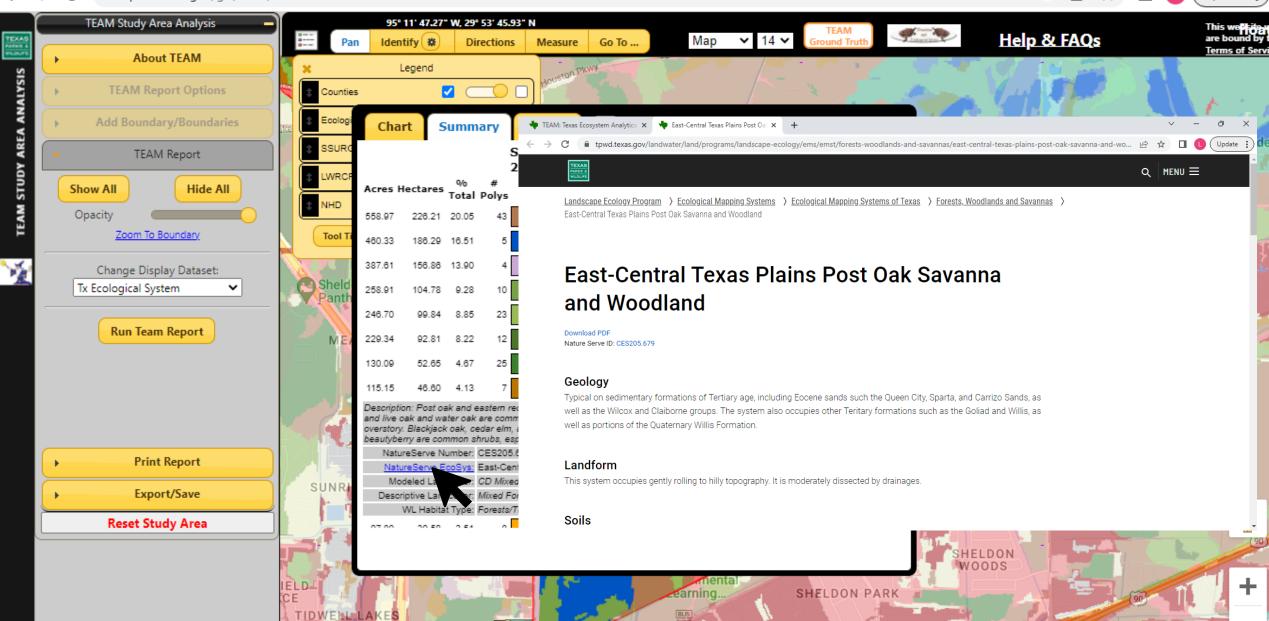
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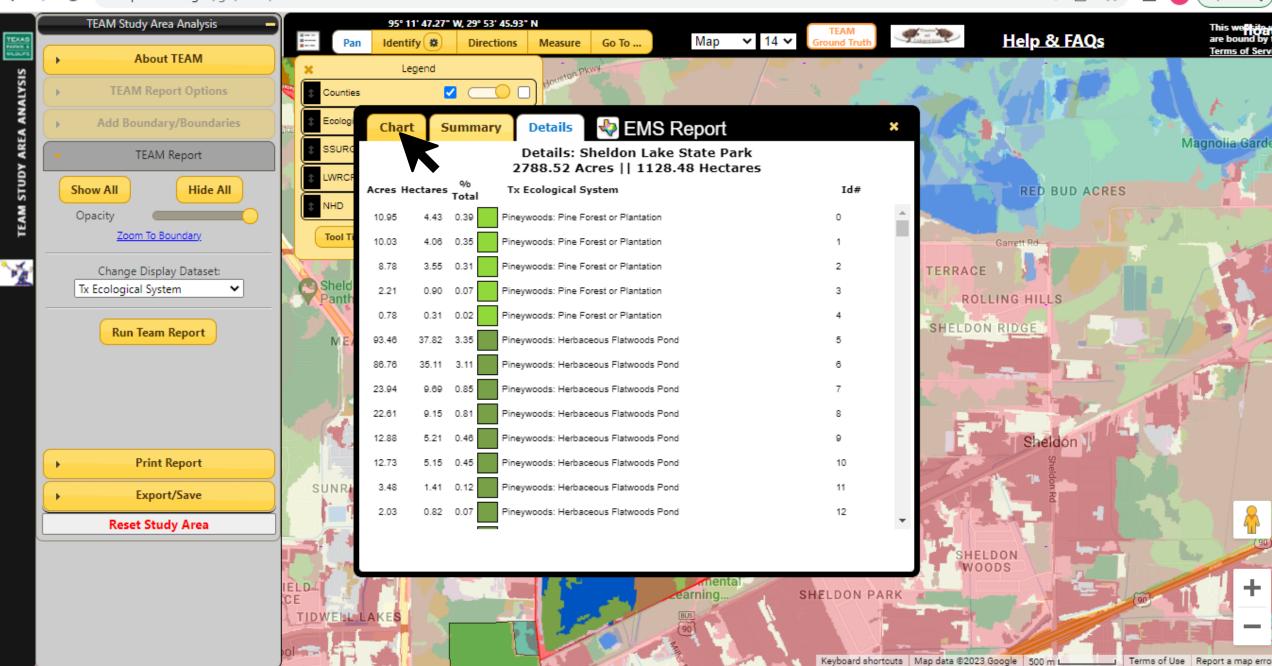
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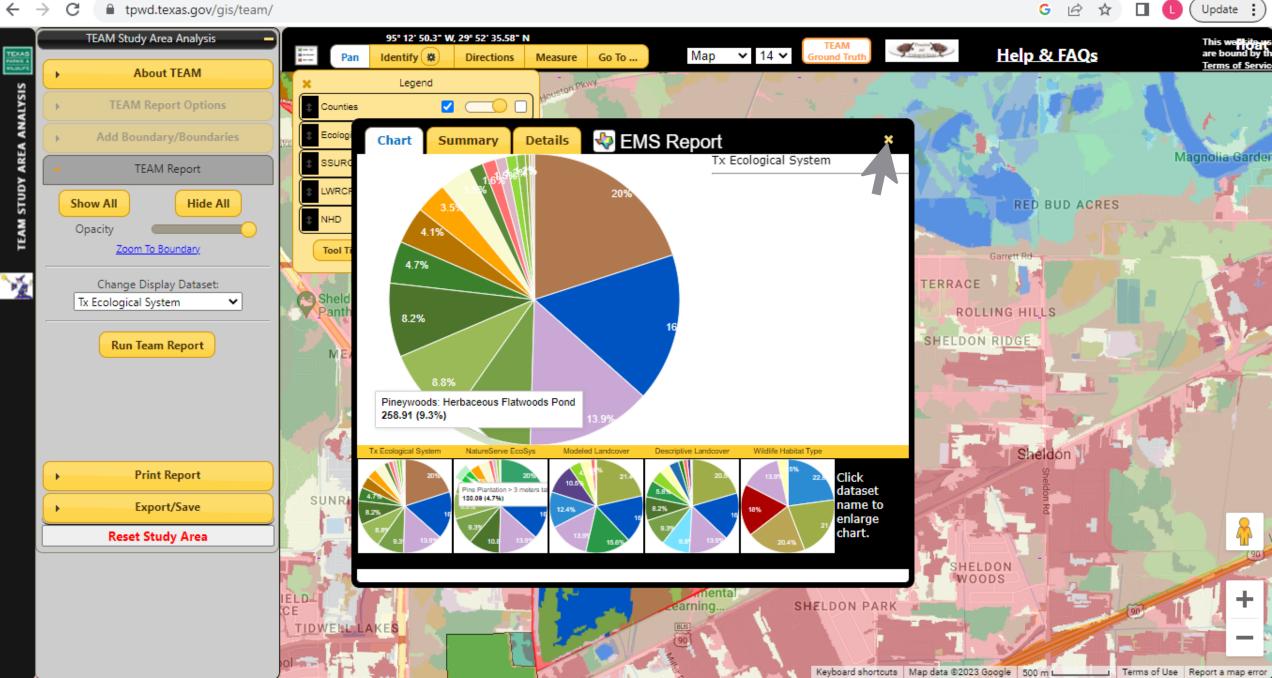
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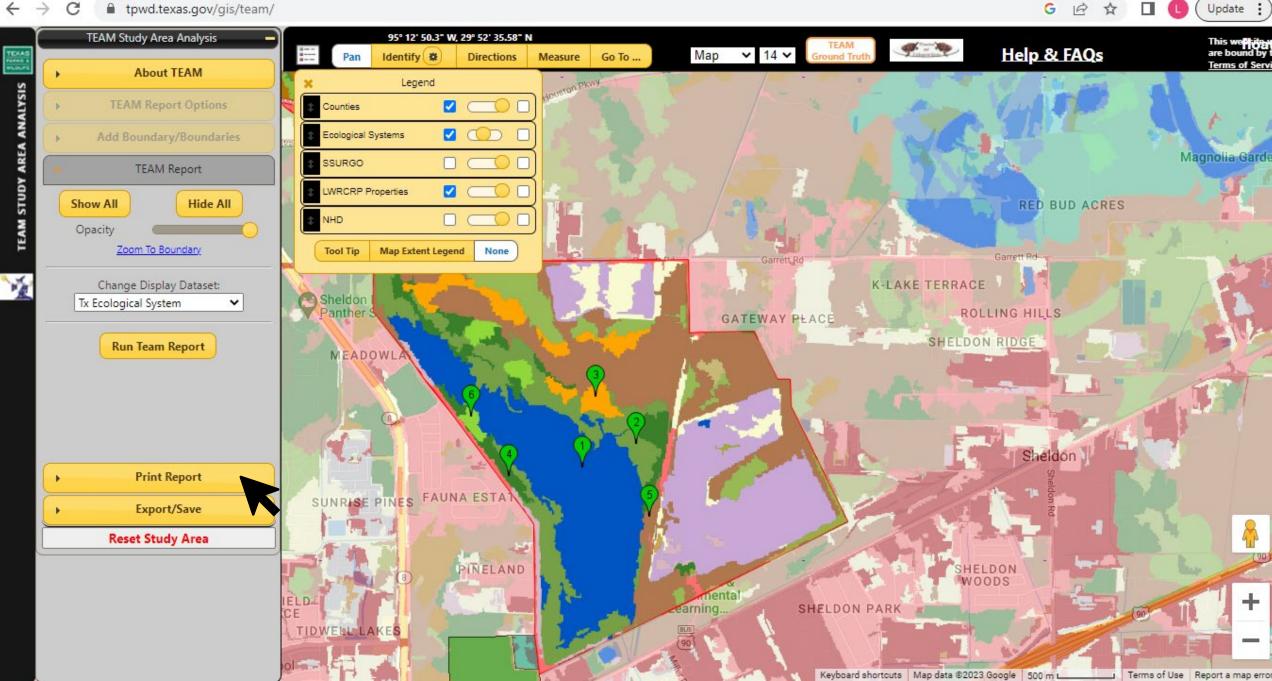
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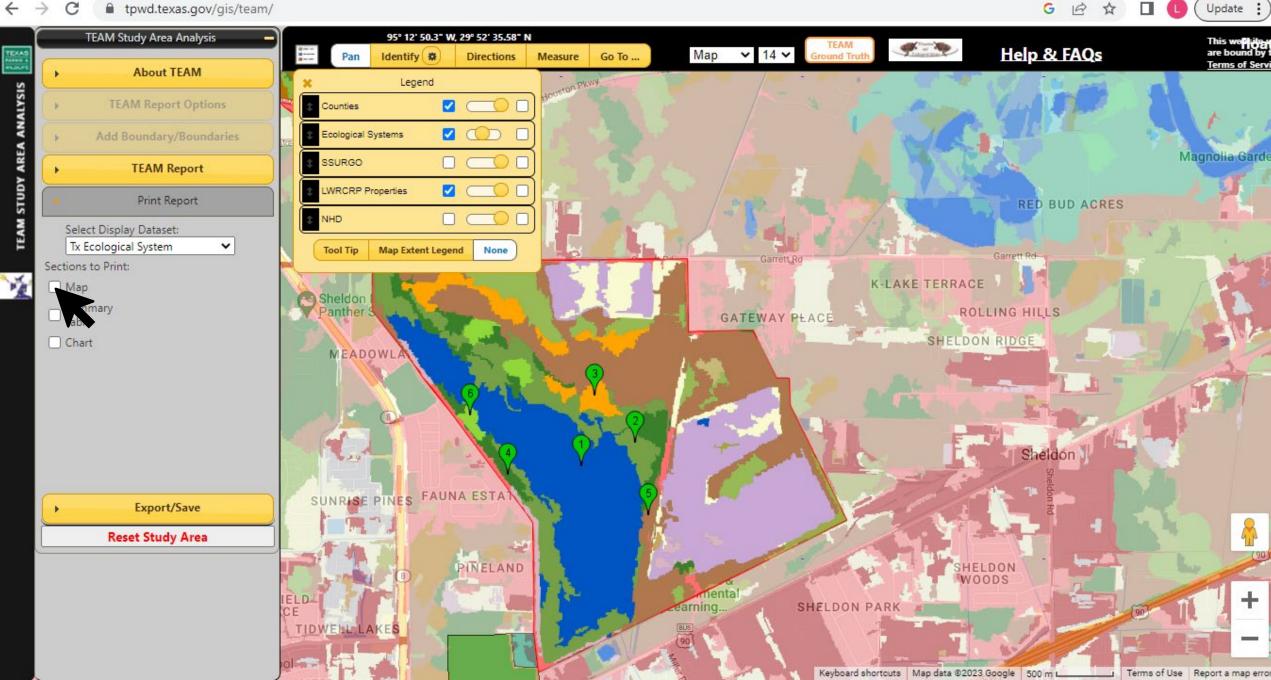
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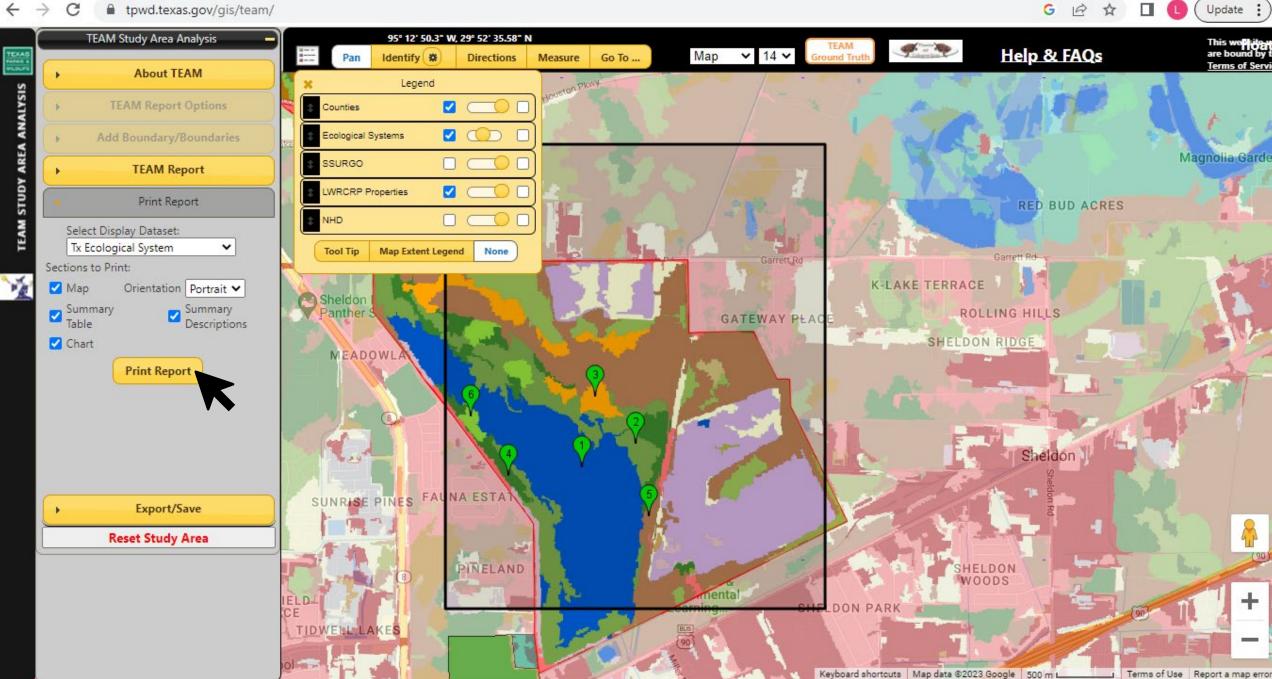
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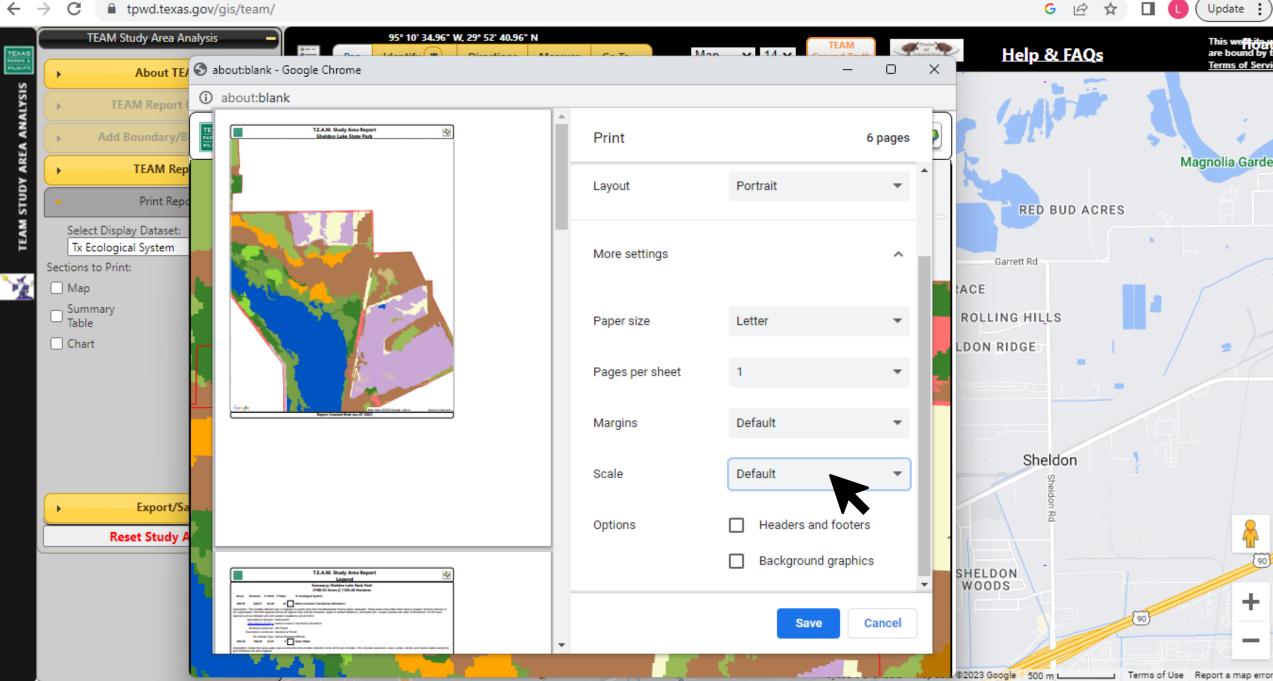
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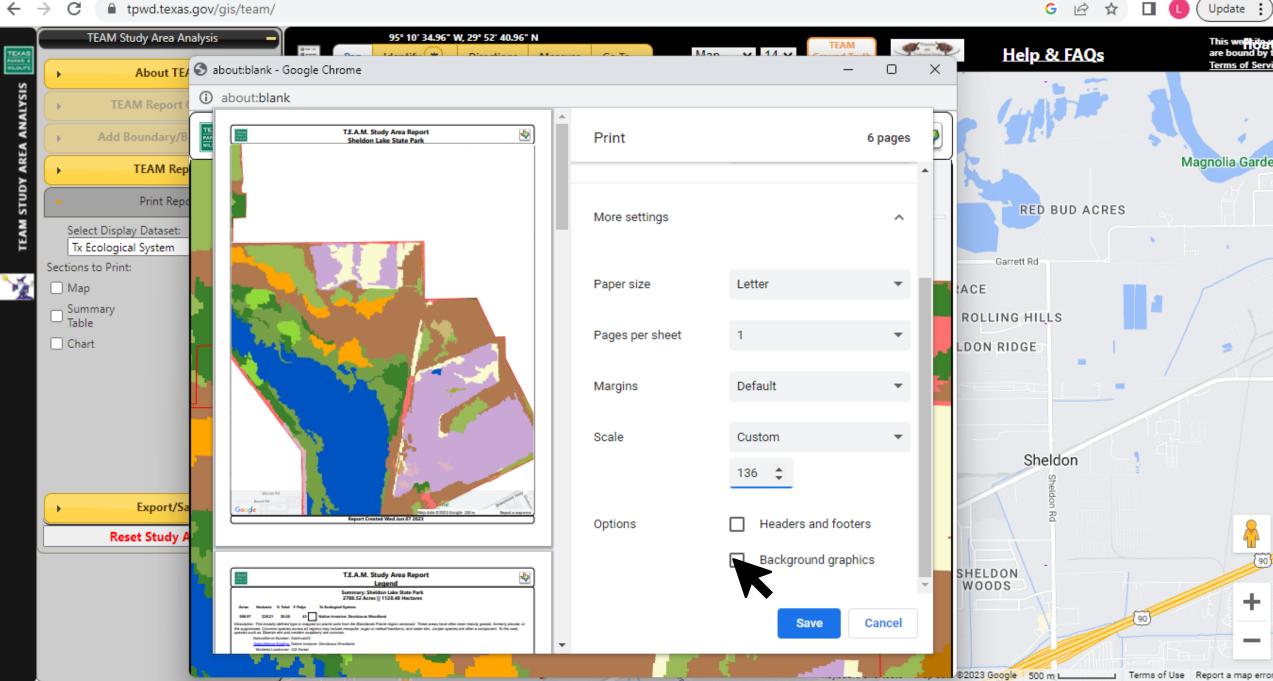
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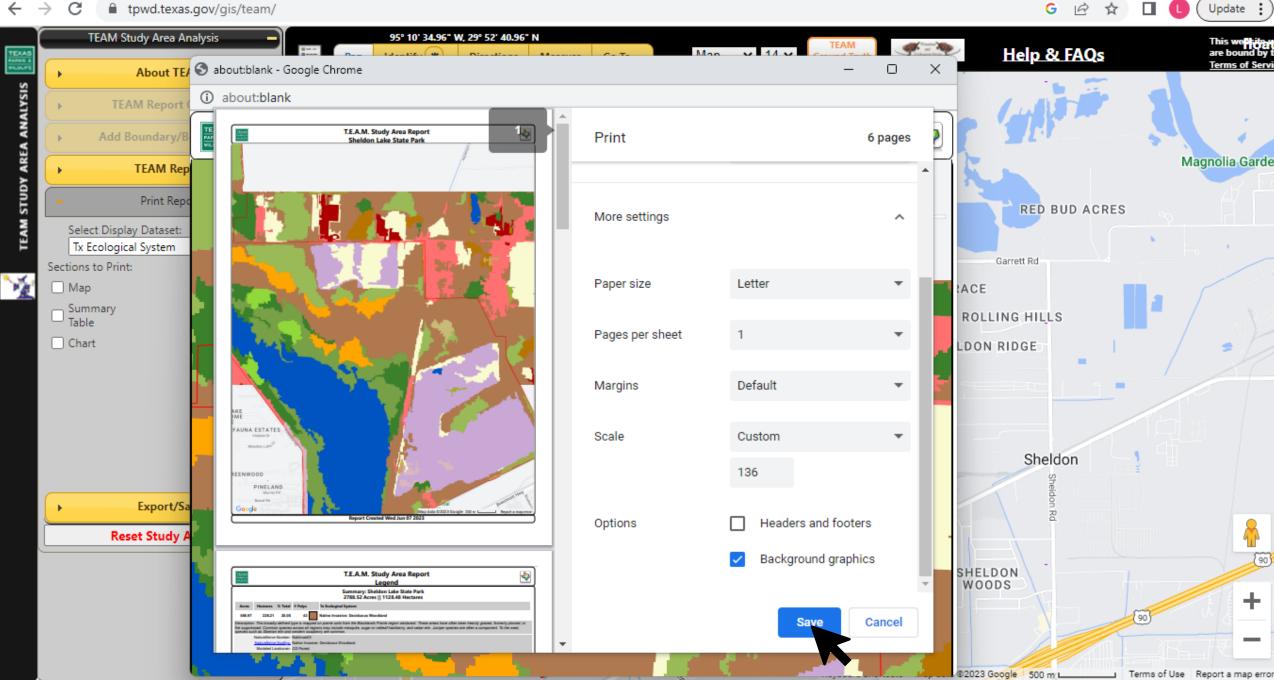
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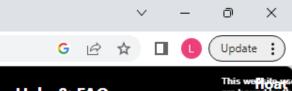
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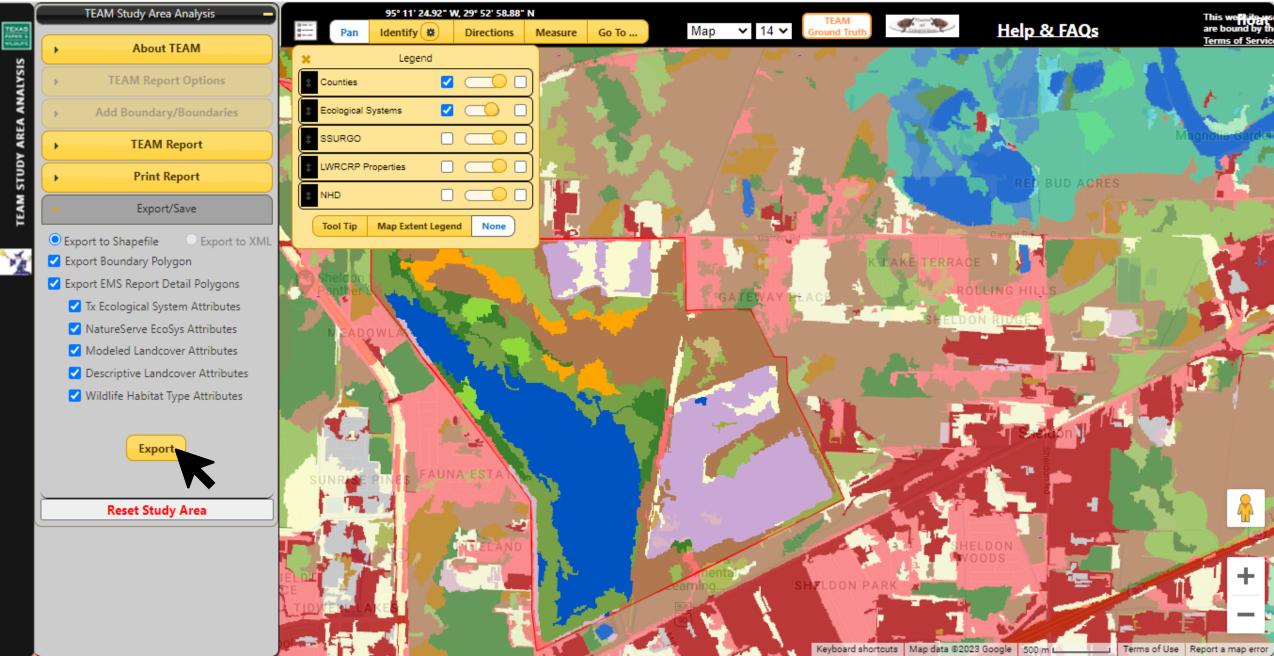
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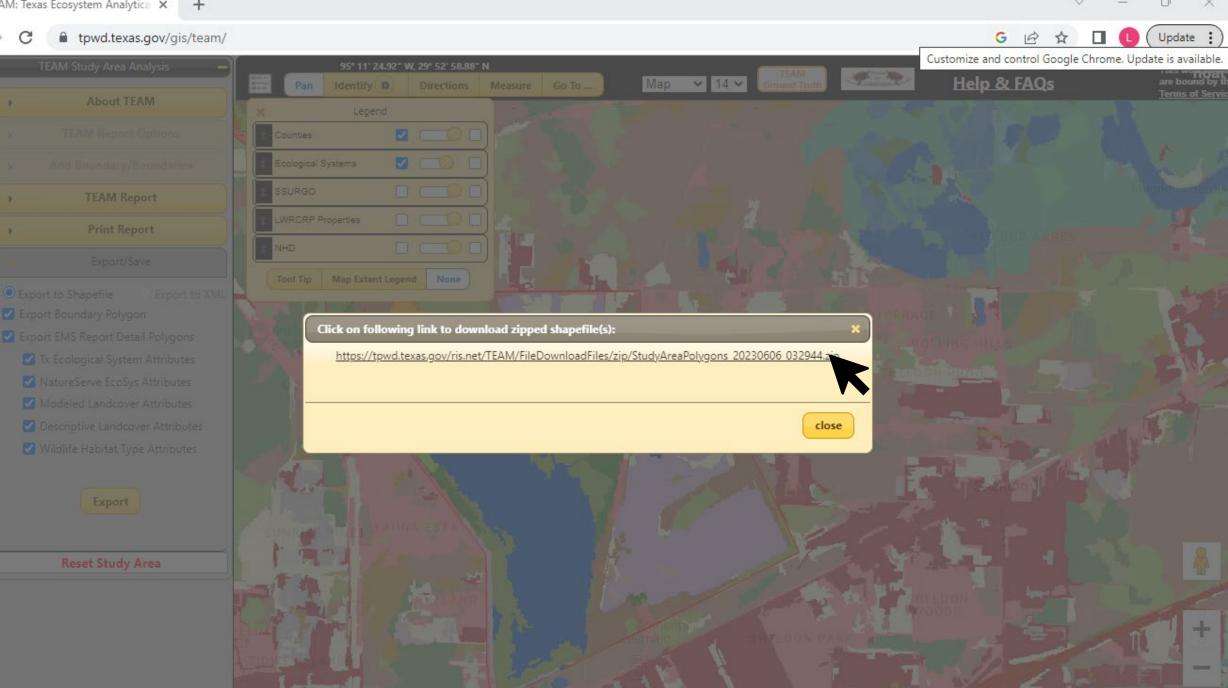
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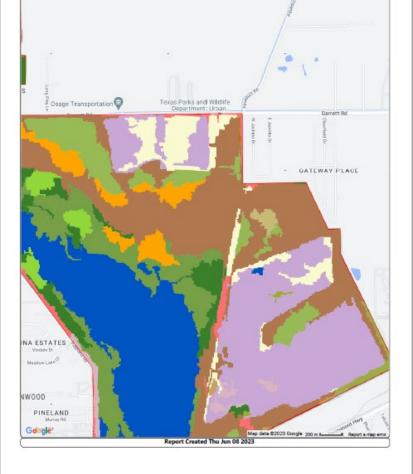
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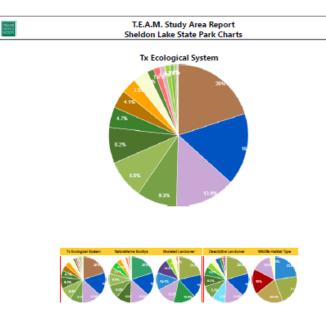


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288.81	104.78	9.28		Pheywoods: Herbeckous Flatwoods Pond	
waters, 3 woles aut	on an converse	n bullande	NORTH AND A 10	a undraty of meatic greaterists or manifest over flationoids solids. Important spectaes may instruke little Movement, in wriety of galaxisation and other andge species. Some areas have been convented to larve greaters such as the nets (south), seeing cheatrut call, follolity pine. Insglaad pine (south), water call, meangam, and willow sak me	mudagrass. Woody
	NetureServe Modeled La			adal Plain Flatwoode Pond	
			/latenods Ma	nah	
	WL Heb	itel Type:	Vielande		
246.79	\$9.84	8.88	23	Pineywoods: Wet Hardwood Flatwoods	
whends L	obiolty pine o in some stars	v longiani da	f pine (nouth) in	on, learnd cail, water cail, meaning cheathruf cail, and overcap cail, may be important in these seasonally or tem ay also be present. Locally, Chinese takine may durithele some ensu in the south, and deart palmetic may fo	
			CEB203.548	and their Management Minister of Parkana in	
	Modeled La			atal Plain Nonthwite Wel Hardwood Flatecode	
			/lateroods Dec	alduous Forwal	
	WL Hep	Ball Type:	Weinste		
229.34	82.81	8.22	12	Pineywoods: Longinal or Lobiolly Pine Flatwoods or Plantation	
cour Ded	Shows trees a	with an in		is within this mapped type. Relatively reduced languest pare stands may occur in the south, and death pine place cash, water cash, severagors, severap cheating cash, and blockgare may also be important.	abons may also
				astal Plain Pine - Hardwood Flatwoods	
			NLEG Forwat		
1			/Inferrod's Con	offer Forest	



The finished product!

Poll 3

What is the most relevant way you think you could personally use TEAM?

Q&A Time

Ending at 7:30 pm

Thank you for coming everyone!

TPWD Landscape Ecology Program Website

http://tpwd.texas.gov/landwater/land/programs/landscape-ecology/

TEAM application

http://tpwd.texas.gov/gis/team/ (use in Chrome Browser for all functionality)

Contact information

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