

Texas Strategic Mapping Program Resources and Statewide Initiatives for 2023-2024

April 7, 2023

Joey Thomas



StratMap

tnris.org/stratmap





Imagery Preview - StratMap 2019 CapArea Imagery

Providing the Highest Level of Geographic Data Services to the People of Texas



Texas GIS Forum

Save the Date! The 2023 Texas GIS Forum will be held the week of October 23-27. Stay tuned for more info.

[Learn More >](#)



GIO
Geographic Information Office

TNRIS hosts the State of Texas's Geographic Information Office (GIO), an inter-agency initiative to collaborate and facilitate the effective use of G.I.S. in state and local government.

[Learn More >](#)



RDC
Research & Distribution

Let our hands-on team of data Specialists assist you with physical map products and other datasets, many unavailable online.

[Learn More >](#)

StratMap

Data Layers

Shape Texas



StratMap Contracts

Orthoimagery

Elevation – Lidar

Hydrography

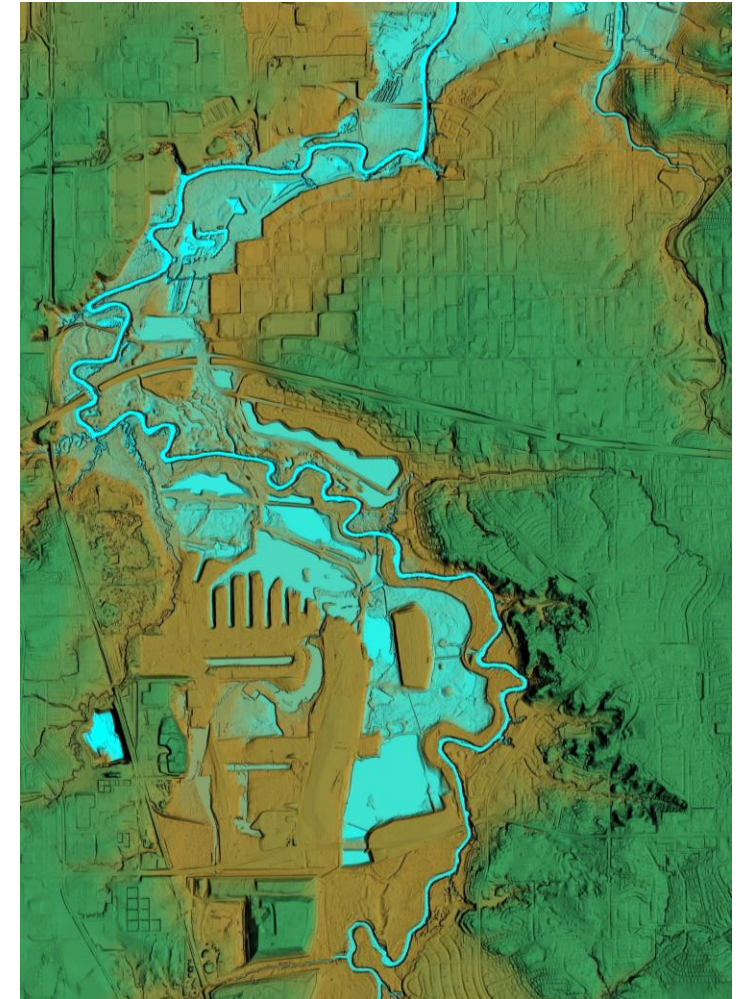
Land Parcels

Address Points

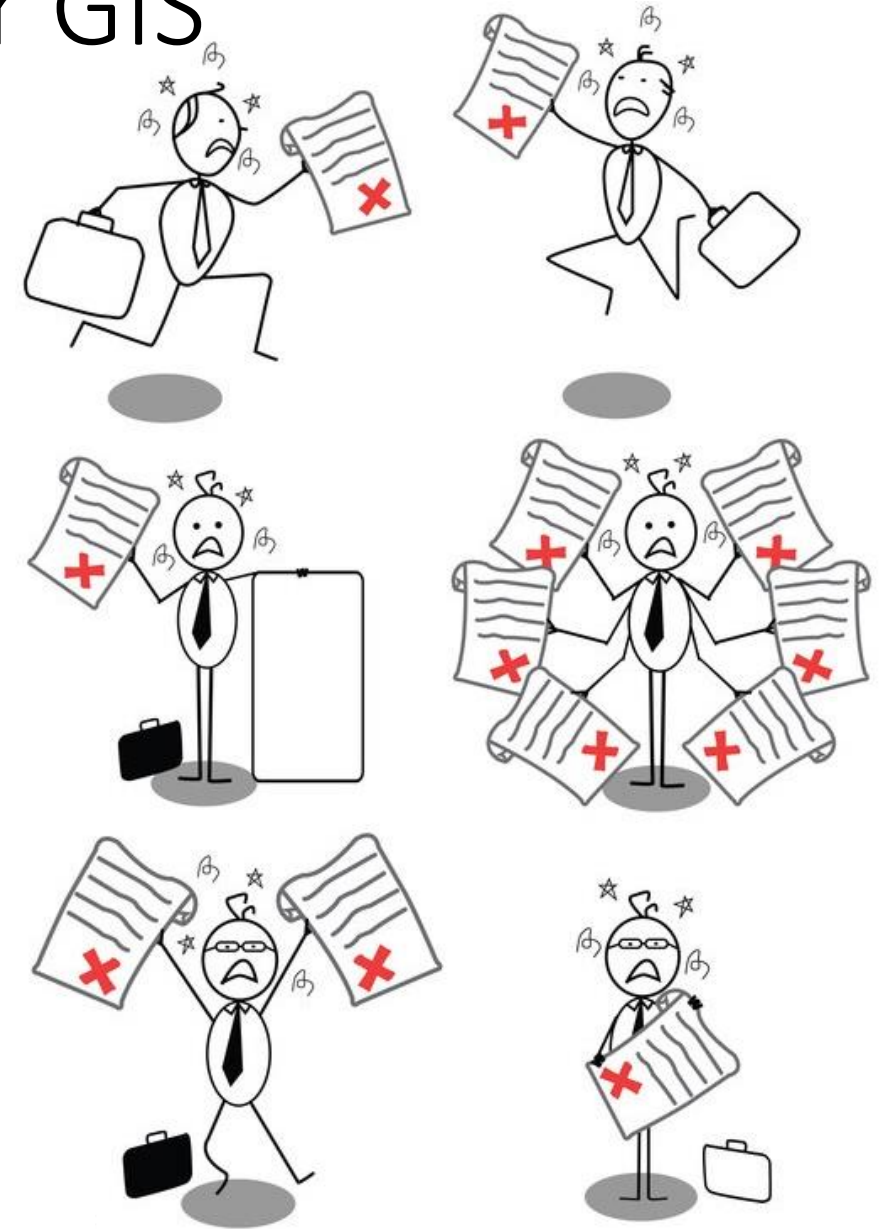
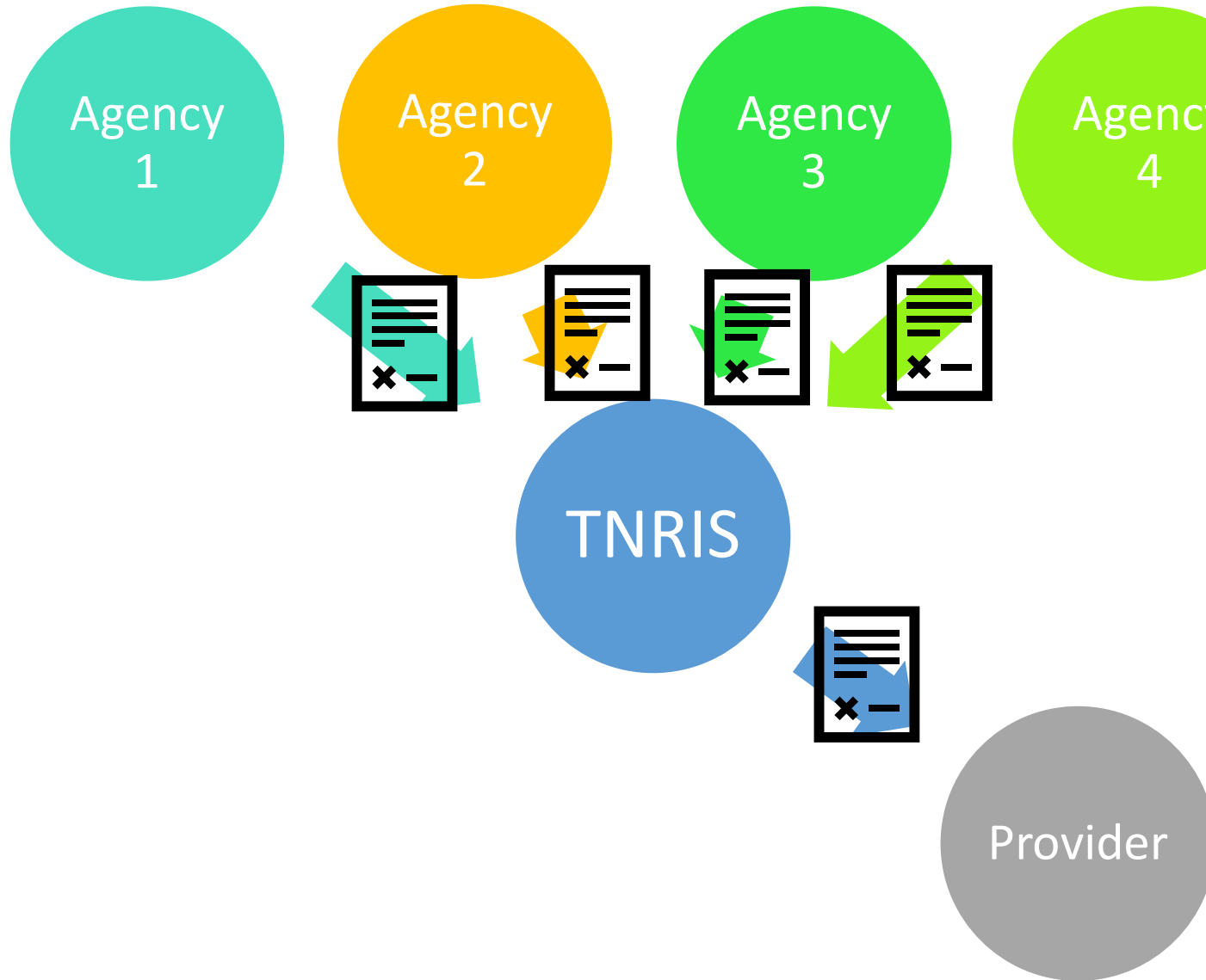
StratMap - Strategic Mapping Program



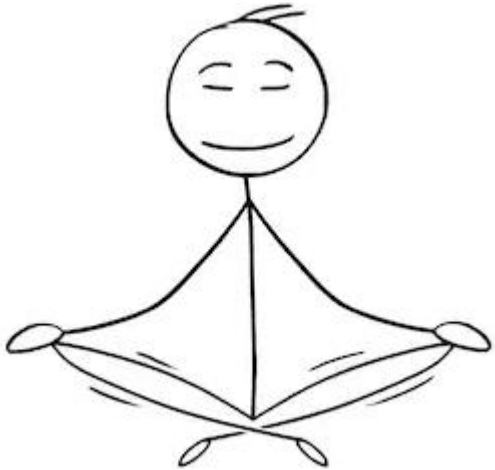
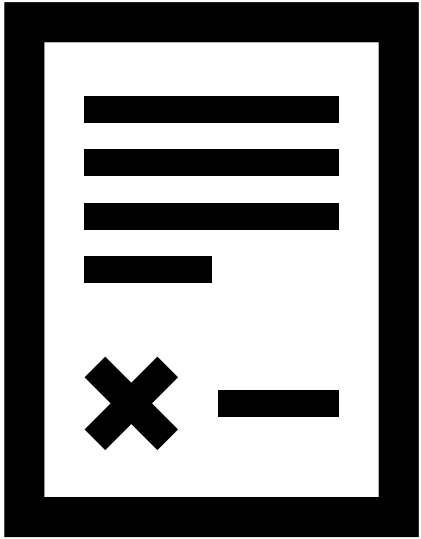
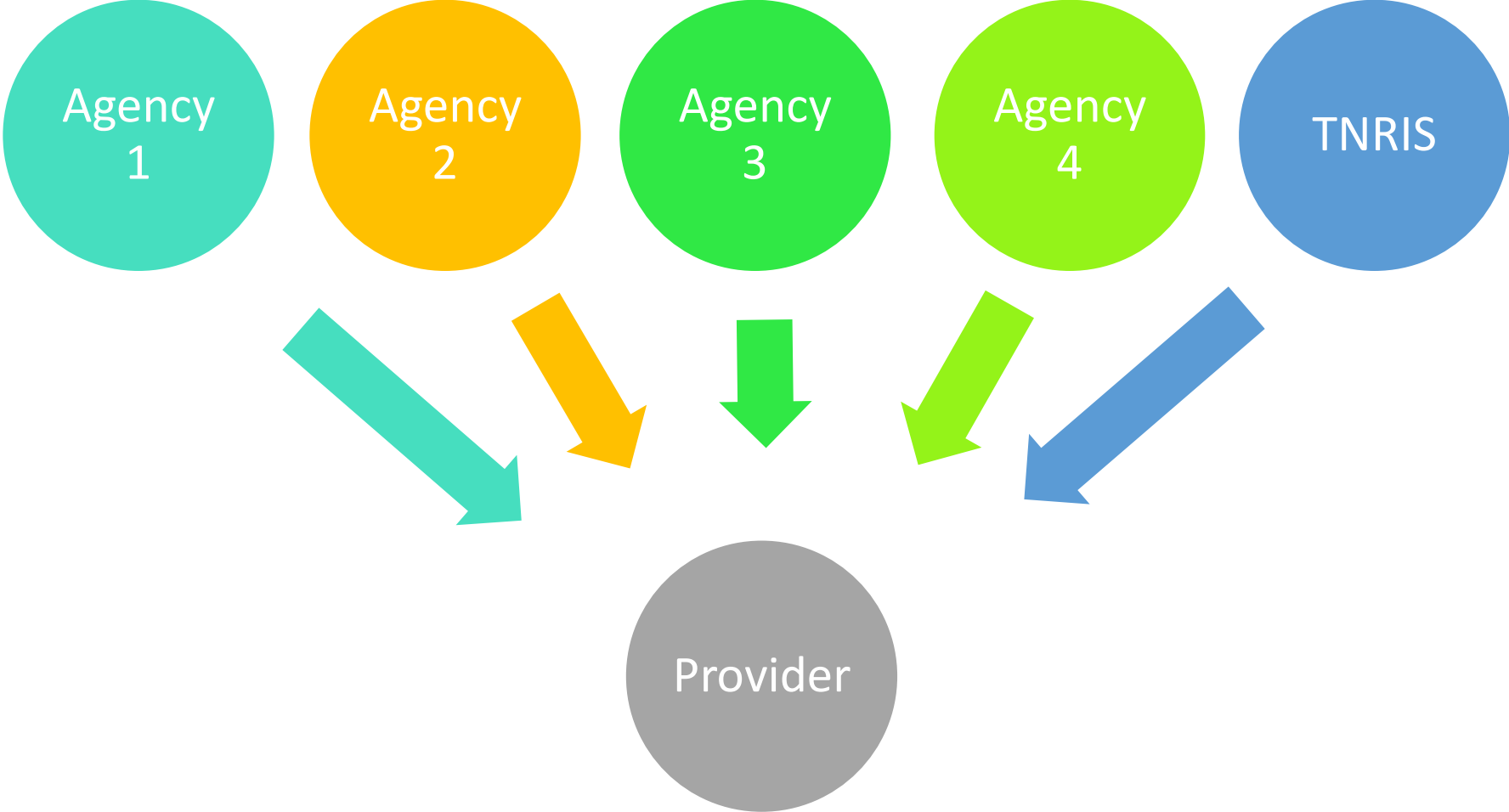
- Maintain authoritative, trusted **state geospatial layers** based on national standards.
 - ✓ Acquire new geospatial data
 - ✓ Update existing geospatial data
- Define a **common mapping standard** to ensure consistent, high quality data for the State of Texas and the public.
- **Attract partnerships** to increase the purchasing power of public funds.



Pre-2009: No master contract for GIS



2009 – present: Master contract for GIS



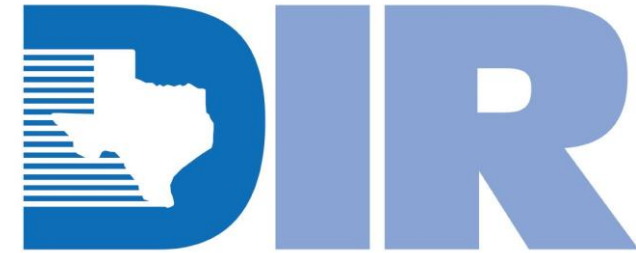
Master contract for GIS

Initiated/held by Department of Information Resources
Administered by TWDB-TNRIS

- Pool resources
- Lower cost per entity
- Higher quality service
- Save time – **no individual procurements**
- **Competitive Bids**

Current pool: Established 2020

Expires 2025



StratMap Contracts Partners

Over 70 Agencies and Counting...

- [Bandera County River Authority and Groundwater District](#)
- [Bexar County Appraisal District](#)
- [Bexar Metro 9-1-1](#)
- [Brazos Central Appraisal District](#)
- [Brazos County Emergency Communications](#)
- [Brownsville Public Utility Board](#)
- [Capital Area Emergency Communications District](#)
- [Central Texas Council of Governments](#)
- [City of Austin](#)
- [City of Bastrop](#)
- [City of Bee Cave](#)
- [City of Bryan](#)
- [City of Burnet](#)
- [City of Cedar Park](#)
- [City of College Station](#)
- [City of Georgetown](#)
- [City of Houston](#)
- [City of Hutto](#)
- [City of Laredo](#)
- [City of Leander](#)
- [City of Lockhart](#)
- [City of Marble Falls](#)
- [City of McAllen](#)
- [City of Palestine](#)
- [City of Pflugerville](#)
- [City of Pharr](#)
- [City of Port Isabel](#)
- [City of Round Rock](#)
- [City of San Antonio](#)
- [City of San Marcos](#)
- [City of Tyler](#)
- [City of Waco](#)
- [City of Weslaco](#)
- [City of West Lake Hills](#)
- [East Texas Council of Governments](#)
- [Edwards Aquifer Authority](#)
- [Fort Bend County Drainage District](#)
- [Hays County](#)
- [Hidalgo County Drainage District #1](#)
- [Hidalgo County Metropolitan Planning Organization](#)
- [Hidalgo County Regional Mobility Authority](#)
- [Houston-Galveston Area Council](#)
- [Laguna Madre Water District](#)
- [Lower Rio Grande Valley Development Council](#)
- [McLennan County](#)
- [McLennan County 9-1-1](#)
- [Missouri City](#)
- [National Geospatial-Intelligence Agency](#)
- [Railroad Commission of Texas](#)
- [Sabine River Authority](#)
- [San Antonio River Authority](#)
- [Smith County](#)
- [Smith County 9-1-1](#)
- [Smith County Appraisal District](#)
- [Tarrant Regional Water District](#)
- [Texas A&M University](#)
- [Texas Commission on Environmental Quality](#)
- [Texas Commission on State Emergency Communications](#)
- [Texas Department of Transportation](#)
- [Texas Eastern 9-1-1](#)
- [Texas Forest Service](#)
- [Texas General Land Office](#)
- [Texas Municipal Power Agency](#)
- [Texas Parks and Wildlife Department](#)
- [Texas Water Development Board](#)
- [Travis County](#)
- [Trinity River Authority](#)
- [University Lands](#)
- [U.S. Army Corps of Engineers](#)
- [U.S. Fish & Wildlife Service](#)
- [U.S. Geological Survey](#)
- [USDA Natural Resources Conservation Service](#)
- [Williamson County](#)

 Local/Municipality

 Regional Agency

 State Agency

 Federal Agency

GIS Contracts: StratMap Vs. GPSC

	StratMap (TxDIR)	GPSC (USGS)
Contract Fee	<p><u>0.75%</u> to DIR</p> <p>All TNRIS Project Management Services Are Free when partnering with TWDB</p> <p>DIR Fee Included in Price Bid by Vendors</p>	<p><u>6%</u> to USGS</p>
Bid Type	<p>Competitively Bid to All Vendors on Contract</p> <p>Partners Participate in Evaluation and Vendor Selection</p>	<p>Negotiated by USGS</p>
QAQC	<p>3rd-Party from Pre-Flight to Final Products</p>	<p>USGS Review of Project Deliverables</p>
Vendors	<p>17 Lidar Vendors (includes 8 of 10 GPSC vendors)</p>	<p>10 Lidar Vendors</p>
Purchase Order	<p>Directly to Vendor</p>	<p>Issued to USGS</p>

All StratMap contracts can be used without TNRIS involvement.

StratMap Contract

How it works

1. Project initiation
2. Compile **Statement of Work (SOW) & Approval from DIR**
3. Release **Solicitation w/SOW** to StratMap Vendor Pool
4. **Evaluate** proposal responses
5. **Select Vendor** and **Finalize DIR Statement of Work**
6. **Purchase Order** sent to winning vendor(s) from each partner referencing StratMap Contract(s)
7. Ongoing **project management** from TNRIS or on your own
8. Ongoing Quality Assurance and Quality Control (**QA/QC**)
9. Data review and acceptance

StratMap #580170805		Central Texas Lidar									
Complete Tabulation						Technical Tabulation				Cost Tabulation	
Vendor	Total Scores			Group Total Score		Vendor	Group SubTotal		Cost Tabulation		
	Evaluator 1	Evaluator 2	Evaluator 3	Total Score	Rank		SubTotal	Rank	Total Cost	Rank	
Vendor #1	77	58	61	196	4	Vendor #1	134	4	\$1,026,525.30	1	
Vendor #2	92	93	86	271	1	Vendor #2	190	1	\$1,051,688.00	2	
Vendor #3	73	48	77	198	3	Vendor #3	139	3	\$1,213,200.00	3	
Vendor #4	81	70	79	230	2	Vendor #4	173	2	\$1,490,074.80	4	
Points Given	323	269	303	895			636				
Average Score	81	67	76	224			159				

- Project Plan (50 pts total)
 - Process Description – 20
 - Contingency Plan – 10
 - Reporting and Expectations – 10
 - Schedule – 10
- Product Sample (20 pts total)
 - Quality – 10
 - Relevance – 10
- Pricing (30 pts total)
 - Total Project – 10
 - Value – 20

Example of Lidar Project Timeline for 2023-2024

Milestone	Date
Initial Meetings	January-February 2023
Call for Partners & AOIs	February-Early June
Review Draft Solicitation (SOW)	June 2023
Finalize Solicitation(SOW) and submit to DIR for Review/Approval	July 2023
Release Solicitation (SOW)	Mid August 2023
Vendor Response Deadline	Late September 2023
Evaluation	October 2023
Vendor Selection	October 2023
<u>Deadline for any additional participation</u>	Mid October 2023
Submission of Final SOW to DIR	Mid October 2023
<u>PO Deadline and Kick-off Meeting</u>	December 2023
Flight planning/Ground control	October – December
Begin Data Acquisition	TBD/Leaf-off conditions*(late December)

Gather Partners

* Weather dependent

Example Lidar Project 2023-2024 Timeline

Milestone	Date
End Data Acquisition	TBD*/Leaf-off conditions(February-March 2024)
Data Production and QAQC	March-September 2024
Final Delivery and 3 rd party QAQC Report	September-December 2024
Project Close-Out	Late Fall 2024

Lidar Specifications and Deliverable Datasets

Final Vendor Delivered Products

- LAS Point Cloud
- Hydro-flattened DEM
- Hydro-breaklines
- Product and Project Level Metadata
- Intensity Imagery
- 3rd party QAQC Report

TNRIS Derivative Datasets

- 2ft and 5ft cartographic contours
- Building footprints

TNRIS	USGS QL2
0.5m NPS/4 ppsm	0.71m NPS/ 2 ppsm
RMSEz 10cm (non-vegetated)	RMSEz 10cm (non-vegetated)
Classifications: 1,2,3,4,5,6,7,9,14,17,18,20	Classifications: 1,2,7,9,17,18,20

The Texas Lidar Specification is modeled very closely to the USGS Lidar Specification version 1.3 and the ASPRS Positional Accuracy Standards for Digital Geospatial Data

Optional pricing scenarios can be added to the project for simple derivative datasets(hypsography, digital surface models, hydro-enforced dems, etc.)

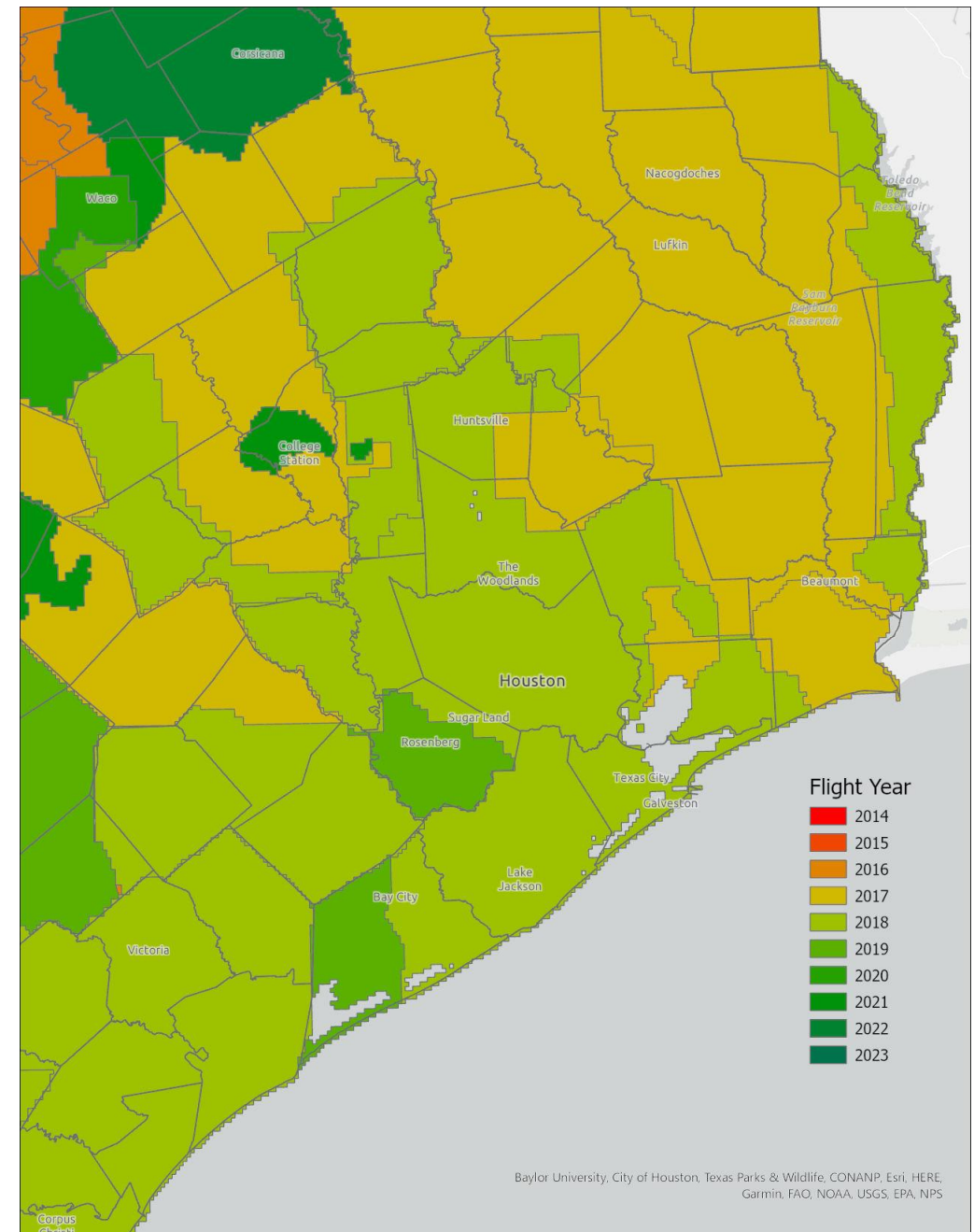
All data and derivative datasets will become publicly available for download at data.TNRIS.org.

Current Lidar Status For HGAC Region

The Region has complete coverage with Lidar from 2017-2019

TNRIS recommends shifting from political boundaries to HUC boundaries to ensure data can support the widest applications for local and state agencies.

Additional tiles to complete HUC coverage or other scenarios can be added as Optional AOIs which are “take it or leave it”.



Recent Historical Pricing (Acquisition + 3rd Party QAQC)

Winter 2020-2021 Travis & Bexar for **3,296 DO4Q tiles** was awarded at **~\$195.00** per 4ppsm DO4Q tile and **500 DO4Q** tiles of 12ppsm for **~\$235.00**

Winter 2021-2022 Ellis, Hill, Johnson and Navarro for **3,244 DO4Q tiles** was awarded at **~\$126.00** per DO4Q tile.

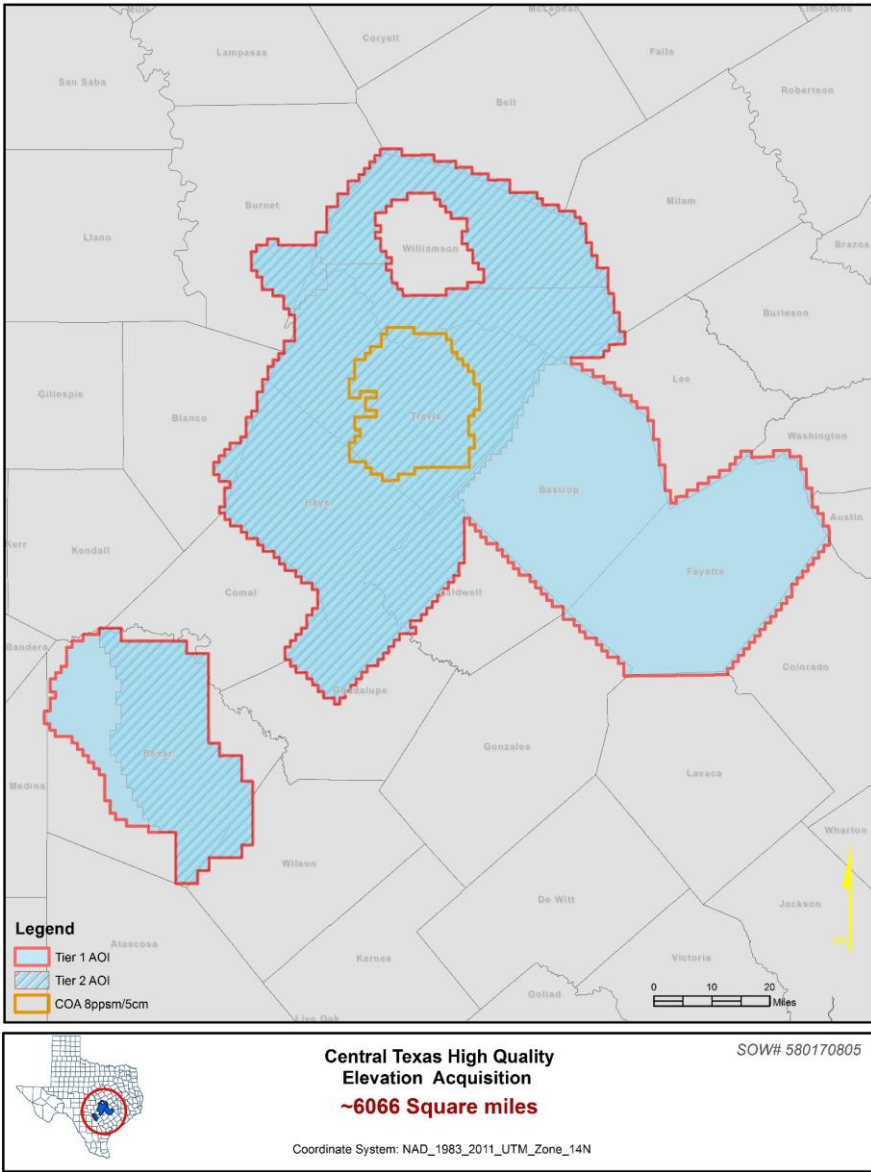
Winter 2022-2023 El Paso Region and Upper Clear Fork Brazos HUCs for **4,680 DO4Q tiles** was awarded at **~\$132.00** per DO4Q tile.

Other Regional Government entities are looking to acquire lidar this winter.

Cost per DO4Q has continued to remain competitive over the past few years.

How StratMap Cost Share Benefits Everyone

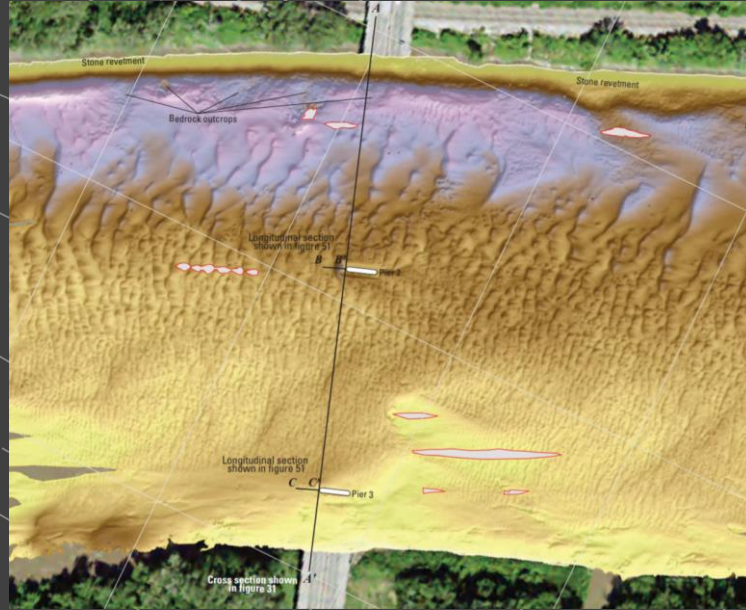
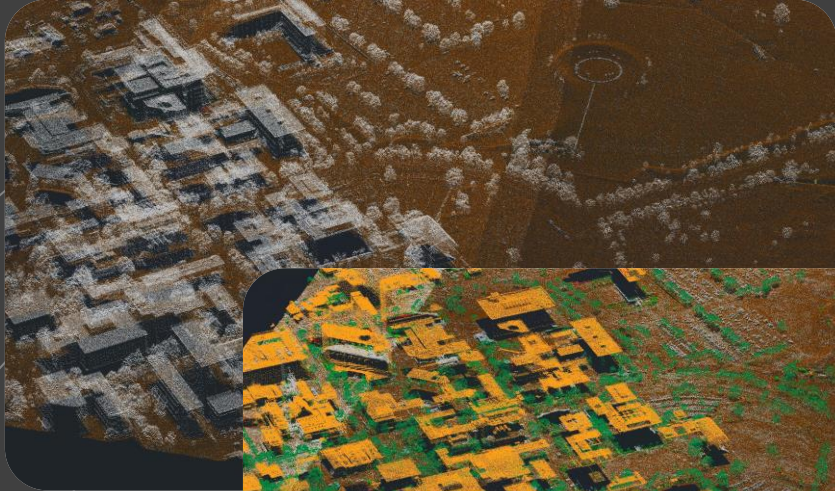
TWDB, Williamson County, City of Round Rock, and San Antonio River Authority Partnered for a Central Texas Lidar Project. TWDB also applied for a USGS 3-D Elevation Program(3DEP) grant after securing competitive bids.



AOI	Total Square Miles	Cost Per Square Mile
Tier 1	6066	\$149.46
Tier 2	3909	\$175.99

- Benefits resulting from the USGS/3DEP program joining project
- Acquired an additional 2,000 square miles of lidar
 - Partners saved ~\$25.00 per square mile
 - Savings resulted in additional StratMap lidar project that year
 - Saving resulted in derivative dataset projects from local/regional partners

The StratMap Program Has Generated over \$7,000,000 is cost share from federal, regional and local partnerships Accounting for 37.8% of total contributed funds from 2009-2019.



StratMap New Data Initiatives

- Full Classification of Federal Lidar Projects
- High Quality Bathymetric Data for Rivers and Coastal Waterbodies
- Elevation Derived Hydrography (Ele-Hydro)
- Continuing efforts to Digitize and Georeference the TNRIS Historical Imagery Archive
- 1 meter Land Cover

2023 StratMap Land Parcels and Address Points



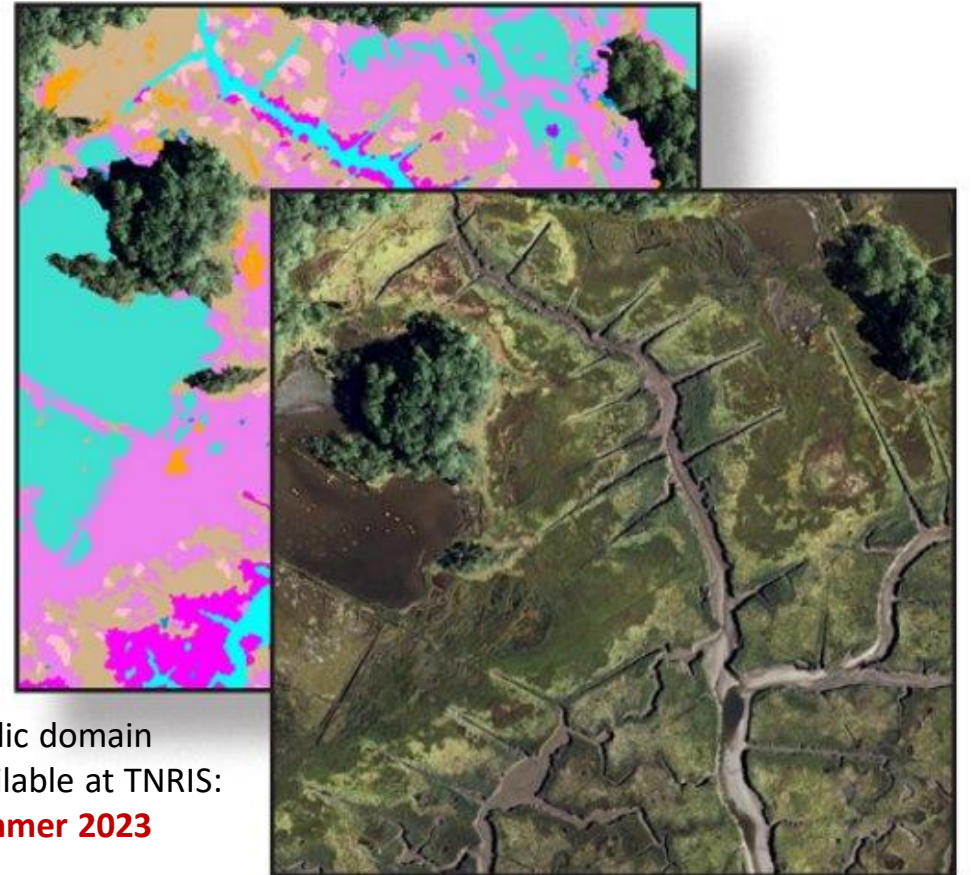
- 2023 collection has begun!
- Available at TNRIS: **July 2023**
- Visit TNRIS [DataHub](#) for past Land Parcels and Address Points.



NOAA C-CAP Land Cover

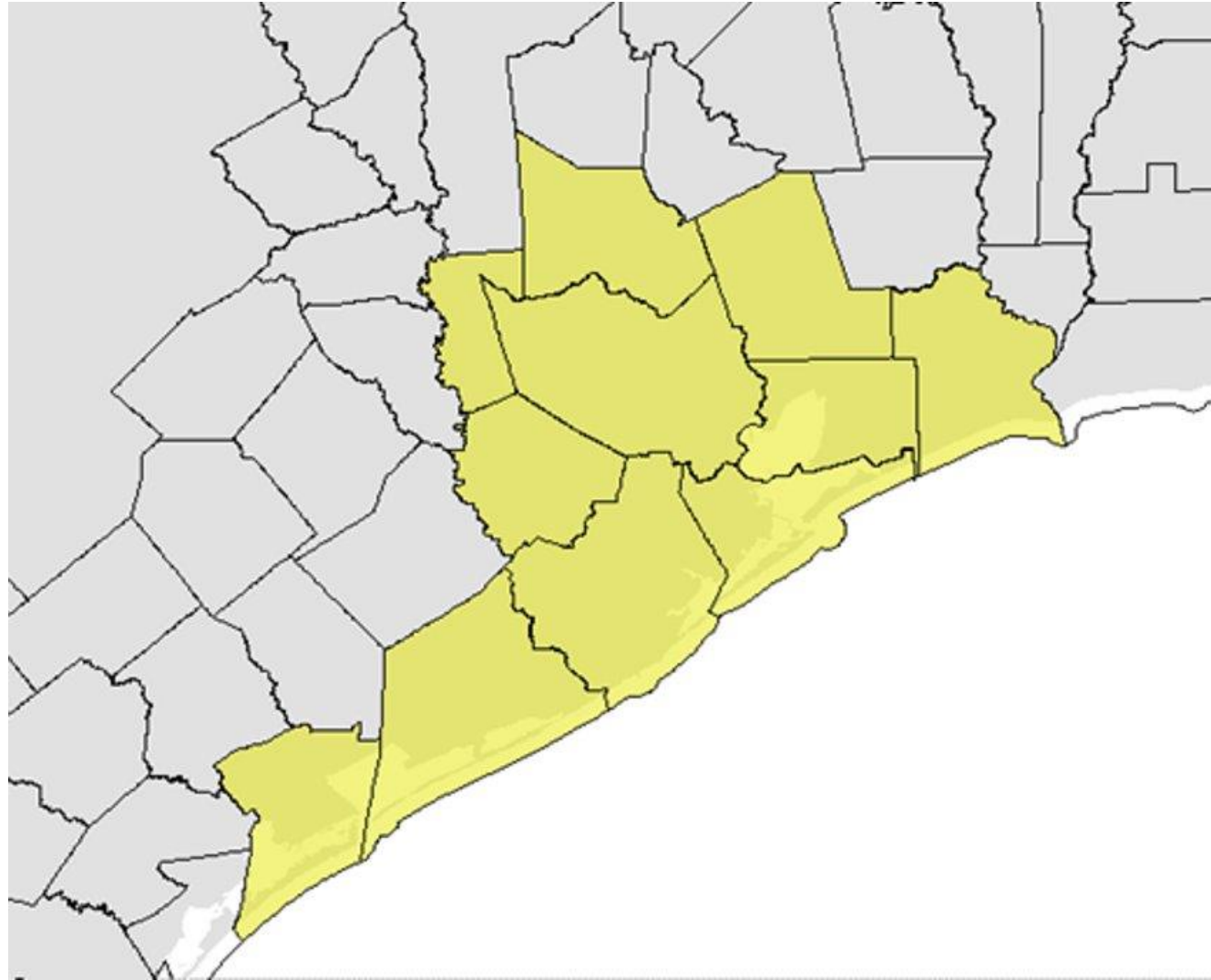
Specs

- 1-meter
- Houston-Galveston region
- 25 classes



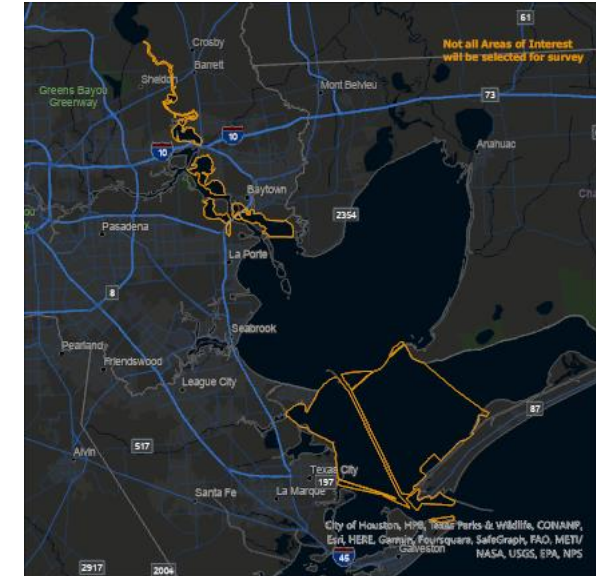
- Public domain
- Available at TNRIS: **Summer 2023**

NOAA Land Cover Pilot Area of Interest



Bathymetry Initiatives

- 2023 Texas Water Development Board bathymetry efforts continue for the Texas Coast.
- TWDB Bathymetry project initiation is underway for Nueces Bay and portions of the Texas Upper Coastal Region identified by the Texas Integrated Flooding Framework workshop for bathymetry collection along the Texas coast.
- Project is anticipated to be awarded early summer. Final areas of interest will be determined based on budget.

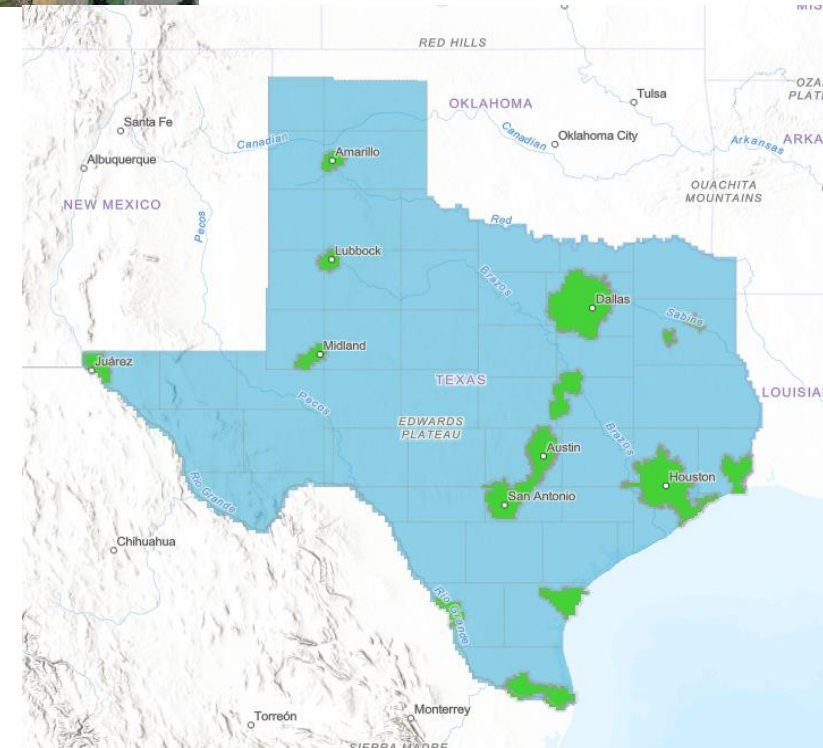




Imagery content from **AppGeo** and



- Urban areas **2022** imagery- **NOW AVAILABLE**
- Statewide **2020-2021** imagery- **NOW AVAILABLE**
- Statewide **Winter 2022/23** imagery- **CURRENTLY IN ACQUISITION**



State Agencies

Level	Service Requests*	Annual Subscription Fee**
Power	>=20,000,000	\$375,000
Advanced	1,250,000 - 19,999,999	\$125,000
High	500,000 - 1,249,999	\$62,500
Moderate	100,000 - 499,999	\$31,250
Minimum	<100,000	\$15,625

State Universities

Department - Annual flat fee \$15,625**

University Wide - Annual flat fee \$125,000**

Regional Agency

Annual flat fee \$15,000**

Local Agency

Annual flat fee \$6,000**

* State Agency cost is calculated based on an annual metric of service web requests. A web request is every **new** click, pan, scroll, load or zoom per user in your organization.

** Cost does not include DIR Fee

Texas Imagery Service

Request a Free Trial Today

<https://www.tnris.org/tis-request/>



Search collections by keyword Search collections by geolocation

Availability Category File Type Date Range Sort by: NEWEST Clear all filters

Data.tnris.org

Land Parcels 2022 Basemap Download	Watershed Boundaries 2022 Hydrography Download	Address Points 2022 Basemap Download	South Llano River... 2022 Bathymetry Elevation Lidar Download	Capital Area Council of... 2022 Imagery Download	Ellis, Hill, Johnson, &... 2022 Elevation Lidar Download	Laguna Madre Bathymetry 2021 Bathymetry Download	Address Points 2021 Basemap Download	Land Parcels 2021 Basemap Download	Bois D'Arc Lidar 2021 Elevation Lidar Download
Bexar & Travis Counties Lidar 2021 Elevation Lidar Download	McLennan County Lidar 2021 Elevation Lidar Download	CapArea, Brazos & Kerr... 2021 Imagery Download	North & Central Texas... 2020 Elevation Lidar Download	Collin & Van Zandt Counti... 2020 Elevation Lidar Download	Texas NAIP Imagery 2020 Imagery Download	CapArea & McLennan... 2020 Imagery Download	Balmorehea & Davis Mounta... 2020 Elevation Imagery Lidar Download	National Land Cover Database 2019 Basemap Land Cover Download	Smith County Imagery 2019 Imagery Download
Desert Mountain 2019 Elevation Lidar Download	Address Points 2019 Basemap Download	Pecos Dallas Lidar 2019 Elevation Lidar Download	West Texas Lidar 2019 Elevation Lidar Download	Missouri City Lidar 2019 Elevation Lidar Download	Brown County Lidar 2019 Elevation Lidar Download	Land Parcels 2019 Basemap Download	Hurricane Lidar 2019 Elevation Lidar Download	CapArea Imagery 2019 Imagery Download	Brazos County Imagery 2019 Imagery Download
Matagorda Bay Lidar 2019 Elevation Lidar Download	Texas NAIP Imagery 2018 Imagery Download	Lower Colorado San Bernard... 2018 Elevation Lidar Download	Texas West Central Lidar 2018 Elevation Lidar Download	Panhandle Lidar 2018 Lidar Download	Upper Coast Lidar 2018 Elevation Lidar Download	Crockett County Lidar 2018 Elevation Lidar Download	Eastern Texas Lidar 2018 Elevation Lidar Download	Buffalo Bayou Lidar 2018 Elevation Lidar Download	South Texas Lidar 2018 Elevation Lidar Download
CapArea & McLennan... 2018 Imagery Download	East Texas Imagery 2018 Imagery Download	South Central Texas Lidar 2018 Elevation Lidar Download	Lavaca & Wharton... 2018 Elevation Lidar Download	Lake Amistad National... 2017 Elevation Lidar Download	East Texas Lidar 2017 Elevation Lidar Download	Jefferson, Liberty, &... 2017 Elevation Lidar Download	Brazos, Freestone, &... 2017 Elevation Lidar Download	Red River Lidar 2017 Elevation Lidar Download	Neches River Basin Lidar 2017 Elevation Lidar Download



TNRIS Events

GIS Community Meeting - 2nd Quarter

April 19, 2023

2:00PM-4:00PM

Location:

TxDOT Stassney Campus

[Directions](#)

GIS Community Meeting - 3rd Quarter

July 19, 2023

2:00PM-4:00PM

Location:

TBD

Texas GIS Forum 2023

October 23-27, 2023



8:00AM-12:00PM

Location:

Commons Conference Center

GIS Community Meeting - 4th Quarter (Town Hall: State of the State)

October 27, 2023

8:00AM-12:00PM

Location:

TEXAS **GIS** FORUM

October 23-27 2023



Have a Presentation Idea?

Submissions are open now through
May 16, 2023 for this year's TX GIS Forum.

Providing the Highest Level of Geographic Data Services to the People of Texas



- **Joey Thomas**
- office: 512-463-8851
- Joey.Thomas@twdb.texas.gov

