

Dallas County Trail and Preserve Program Board

February 23, 2023

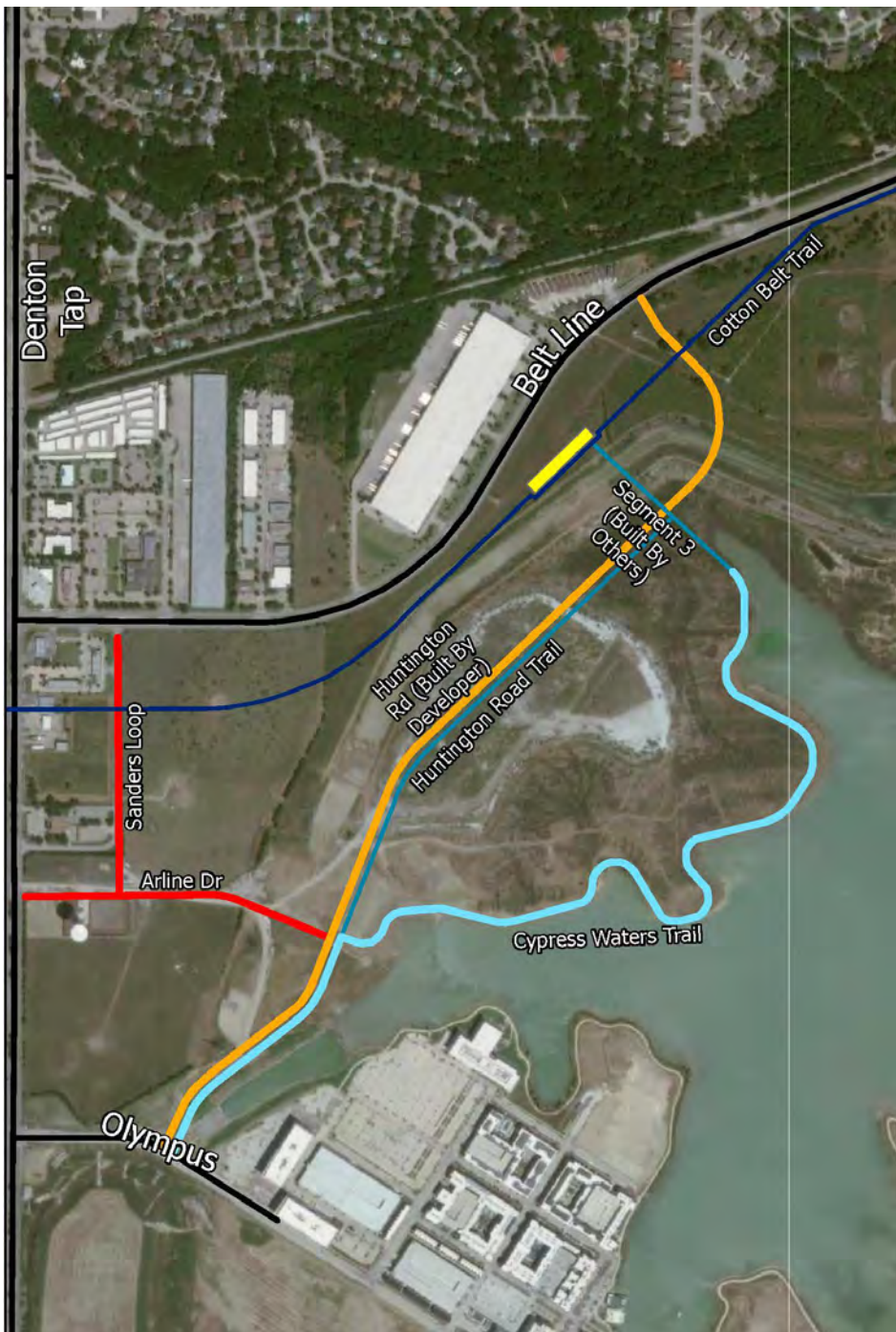
Public Works & Trails Update



Public Works Update

- P&D Trail Program responsibilities transfer to PW effective January 1st 2021
- Dallas County Mobility Plan published on PW website
 - PW presented to TAPP Board at June 3rd 2021 meeting
- PW continues assessment of transferred trail projects and attending meetings with our agency partners and stakeholders
- Public Works completed briefings for the Commissioners and the Judge on Redistricting updates in Spring 2022
- Dallas County adopted updated Metes and Bounds for the new Commissioner District Boundaries in November 2022
- Public Works is currently finishing up 2023 Commissioner Briefings on all Active Projects, including TAPP Trails

Cypress Waters Trail



Project Scope:

- New Construction of 12 feet wide reinforced concrete trail that includes cross drainage structures and trail safety appurtenances.

Status Update:

- City of Dallas executed Amendment to ILA in June. ILA was fully executed through Commissioners Court in August 2022.
- ROW easements at City attorney's Office for Conveyance
 - Meeting on Feb 28th
- Amendment to Work Order for consultant approved by Commissioners Court



Chalk Hill Trail

Project Scope:

- New Construction of 12 feet wide reinforced concrete Trail with access trails and sidewalk to neighboring communities, 3 bridges, cross drainage culverts and other trail safety appurtenances.

Status Update:

- Received TA Set-Aside funding from NCTCOG for \$3.4 million in Construction Funding
- Awaiting draft AFA from TxDOT to secure funding
- Design is on hold pending AFA execution and TxDOT Review
- City is working on the ROW at south end of the project (Phase 3)
- City of Dallas is submitting a TxDOT TA Set-Aside application for part of Phase 3
- Contract Administrators are reviewing the Amendment to ILA with Civil DA's office.

Heritage Trail (Under 80 Trail)



Project Scope:

- New Construction of 12 feet wide reinforced concrete Trail with 2 pedestrian bridges and parking amenities.

Status Update:

- Coordinating with City on PSA Execution
- City is finalizing plans for trail outside TxDOT ROW
- County has reviewed and commented on these plans
- City is coordinating with TxDOT on improvements within State Corridor



Campion Trail

Project Scope:

- New Construction of 12 feet wide reinforced Concrete Trail includes construction of three bridges, 6 low water crossings and 2 boardwalks.

Status Update:

- Phase 1 – From River Hills to Frasier Dam (100% Design)
 - Split into two phases due to ROW issues
 - Planning to bid the southern segment in Spring 2023
 - City is working on Agreements with City of Dallas and USACE.
- Phase 2- From Frasier Dam to California Crossing (Dallas County Participation)
 - Dallas County has reviewed 50% plans and provided comments.

Parks & Open Space Update

Open Space Preserve Property Requests

Utility Easement Requests

- Trinity River – Mountain Creek
- Goat Island
- Rowlett Creek
- North Mesquite Creek

Road Projects

- Spring Creek Forest
 - Holford Road Reconstruction – Will elevate bridge over Spring Creek, add a turning lane and entrance lighting, and create a pedestrian connection between Spring Creek Park and Spring Creek Forest Preserves.

Preserve Project Updates

- Cottonwood Creek Preserve
 - City of Wilmer is exploring the possibility of adding a disc golf course, to be designed by Brian Lamoreaux, member of the Professional Disc Golf Association (PDGA) and designer of the Lester Lorch course. County staff are working with the City on a plan for preserve amenities.
- Goat Island Preserve
 - The Park & Open Space Program is partnering with the Dallas County Fire Marshal and other organizations for a plan to remove tires.
- McCommas Bluff Preserve
 - County staff are working with the Civil District Attorney's Office on a potential boundary encroachment. The boundary survey is underway.
- Grapevine Springs Preserve
 - A professional arborist diagnosed the Sam Houston Treaty Oak with heart rot and will treat it with a fungicide. City of Coppell is taking the lead on this project and the County is cost-sharing.

Parks & Open Space Social Media



[dallascountyparksopenspace](https://www.instagram.com/dallascountyparksopenspace)



[Dallas County Parks & Open Space](https://www.facebook.com/DallasCountyParksOpenSpace)

Open Space Plan

DALLAS COUNTY OPEN SPACE PLAN 1991

*"We have not inherited
the earth from our
fathers, we are
borrowing it
from our
children."*

Native American Saying



- The last Dallas County Open Space Plan was completed in 1991 by Halff Associates.
- A contract with a consultant is anticipated to go to Commissioners Court for approval in March.

Volunteer Program

- Dallas County Parks & Open Space collaborated with Texas Conservation Alliance (TCA) again to host a cleanup event in January at Post Oak Preserve. 23 volunteers filled up another 8-yard dumpster!





Next Meeting
April 6, 2023

See you next time!

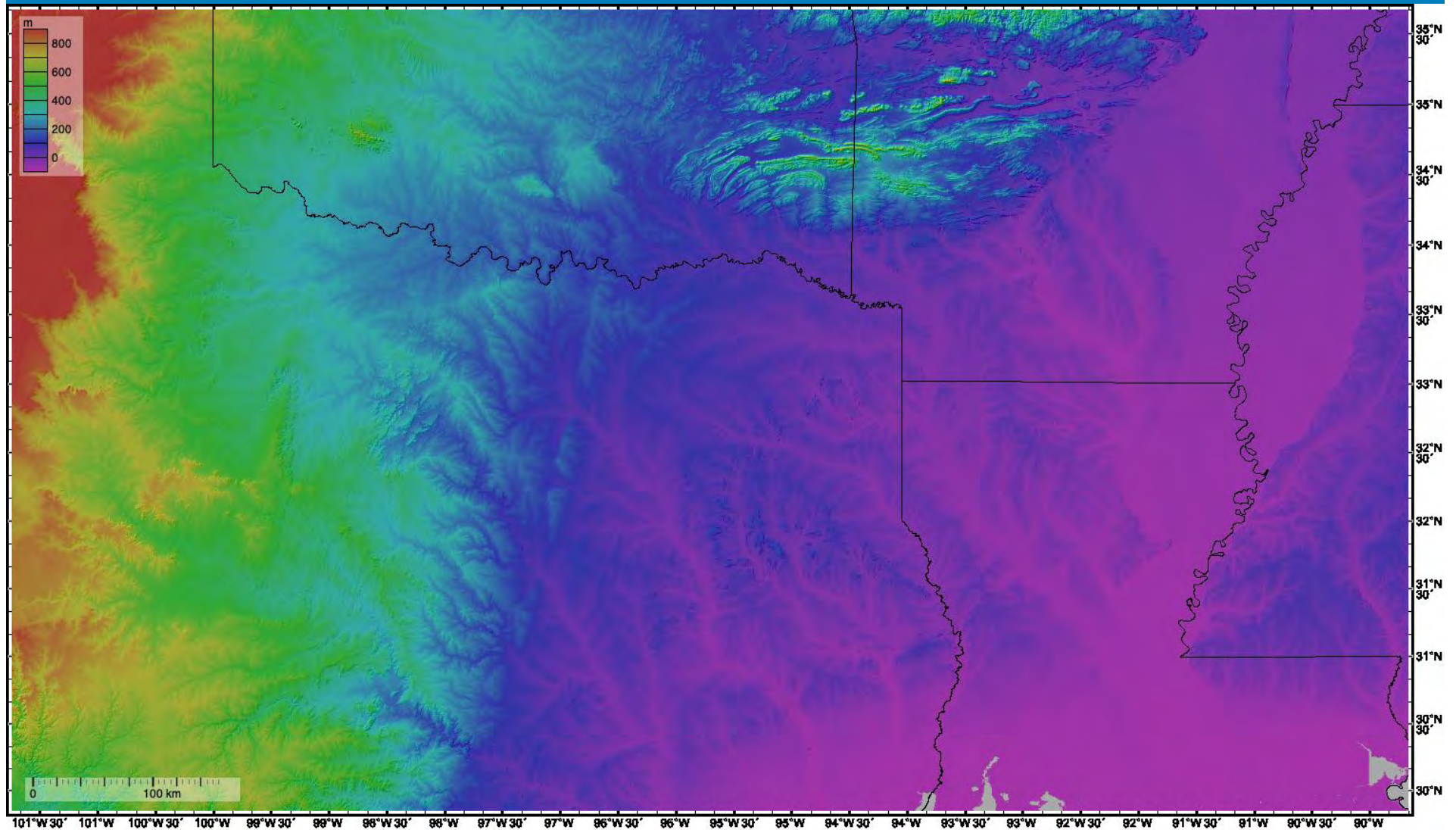
Geology and Fossils of Cedar Ridge and White Rock Escarpment, South Dallas

**Presentation to
Dallas Trail and Preserve Program (TAPP) Board
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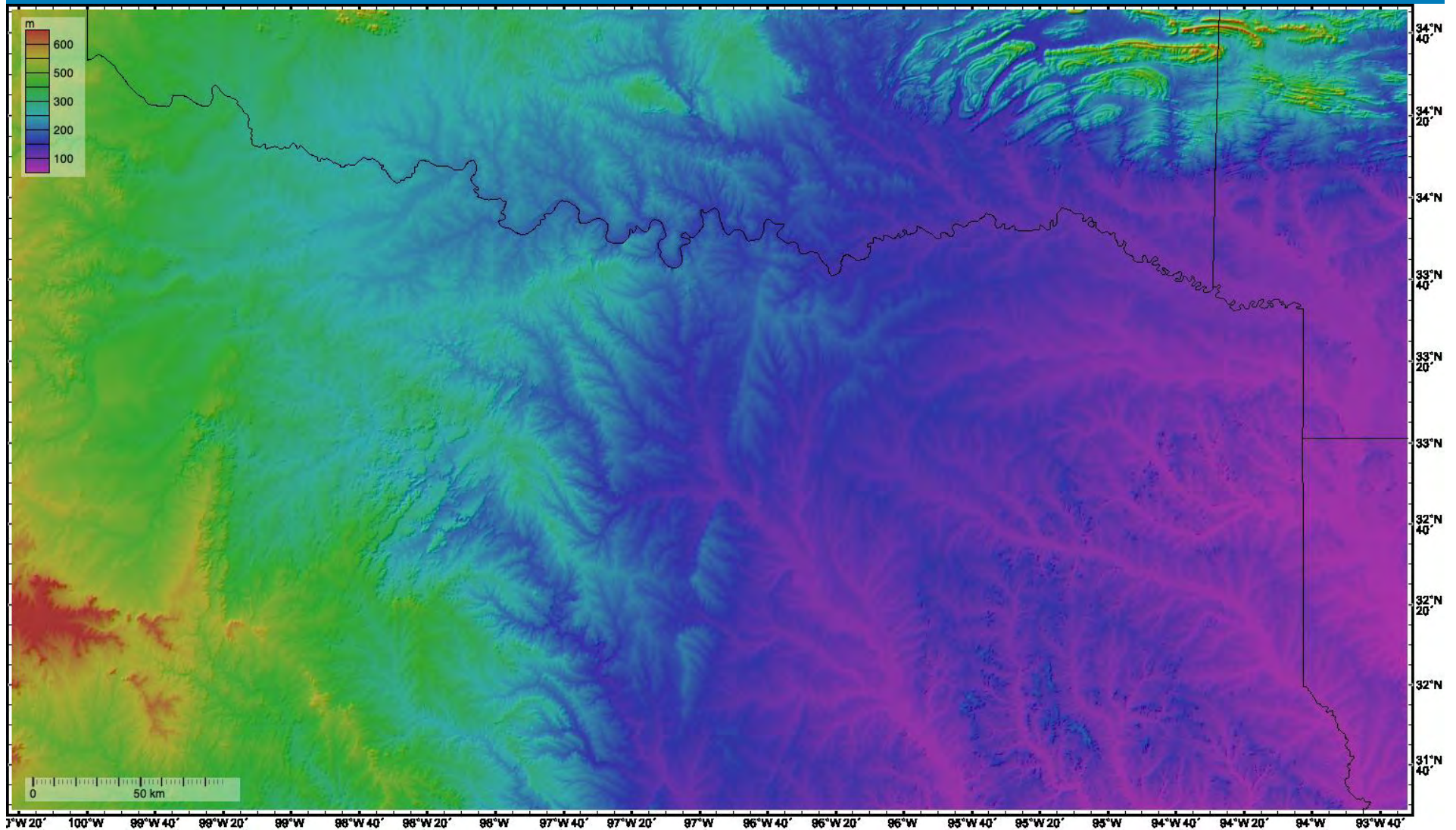
**by
Tom Dill,
Consulting Geologist**



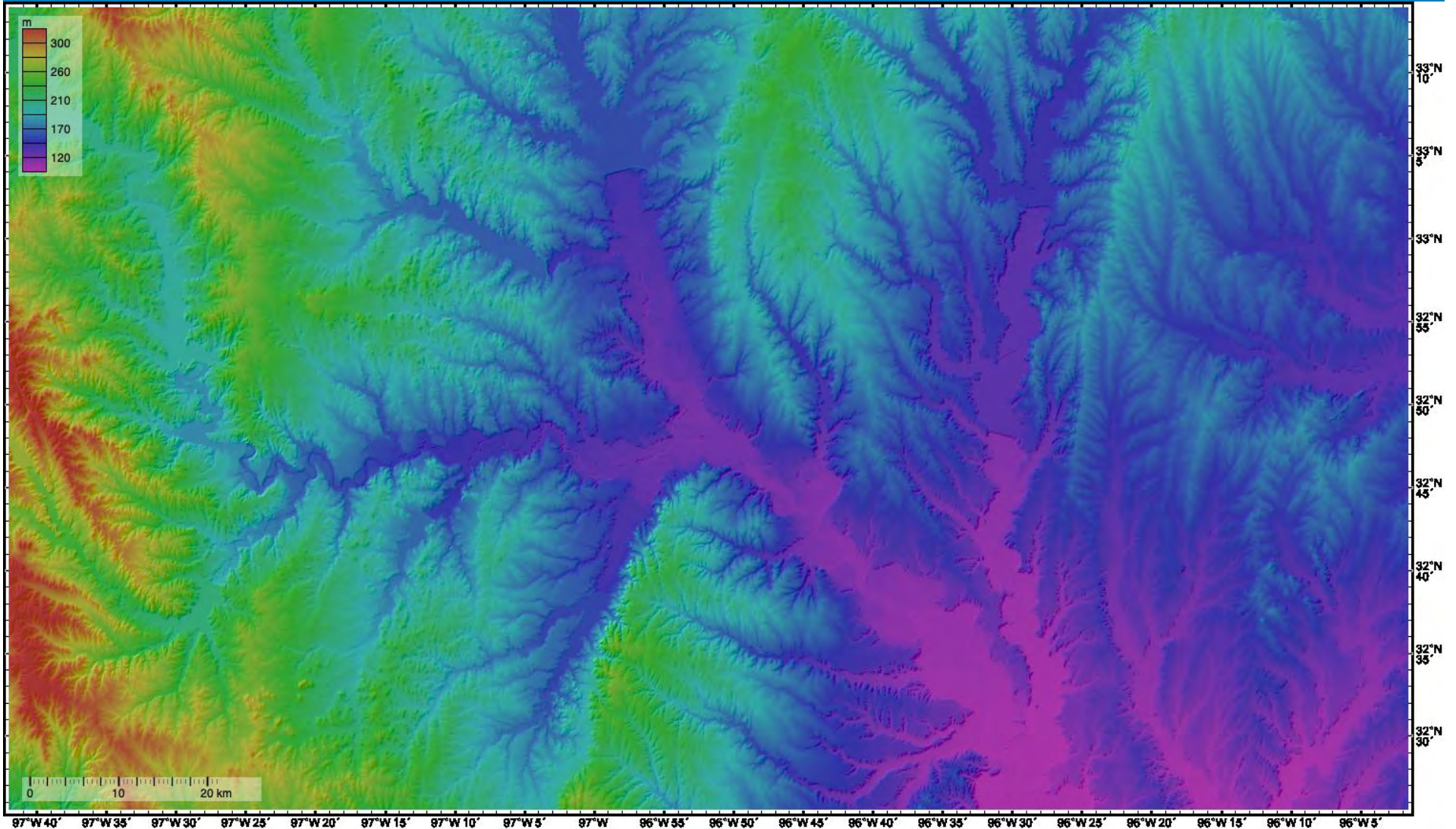
Topography (elevation) of south-central United States



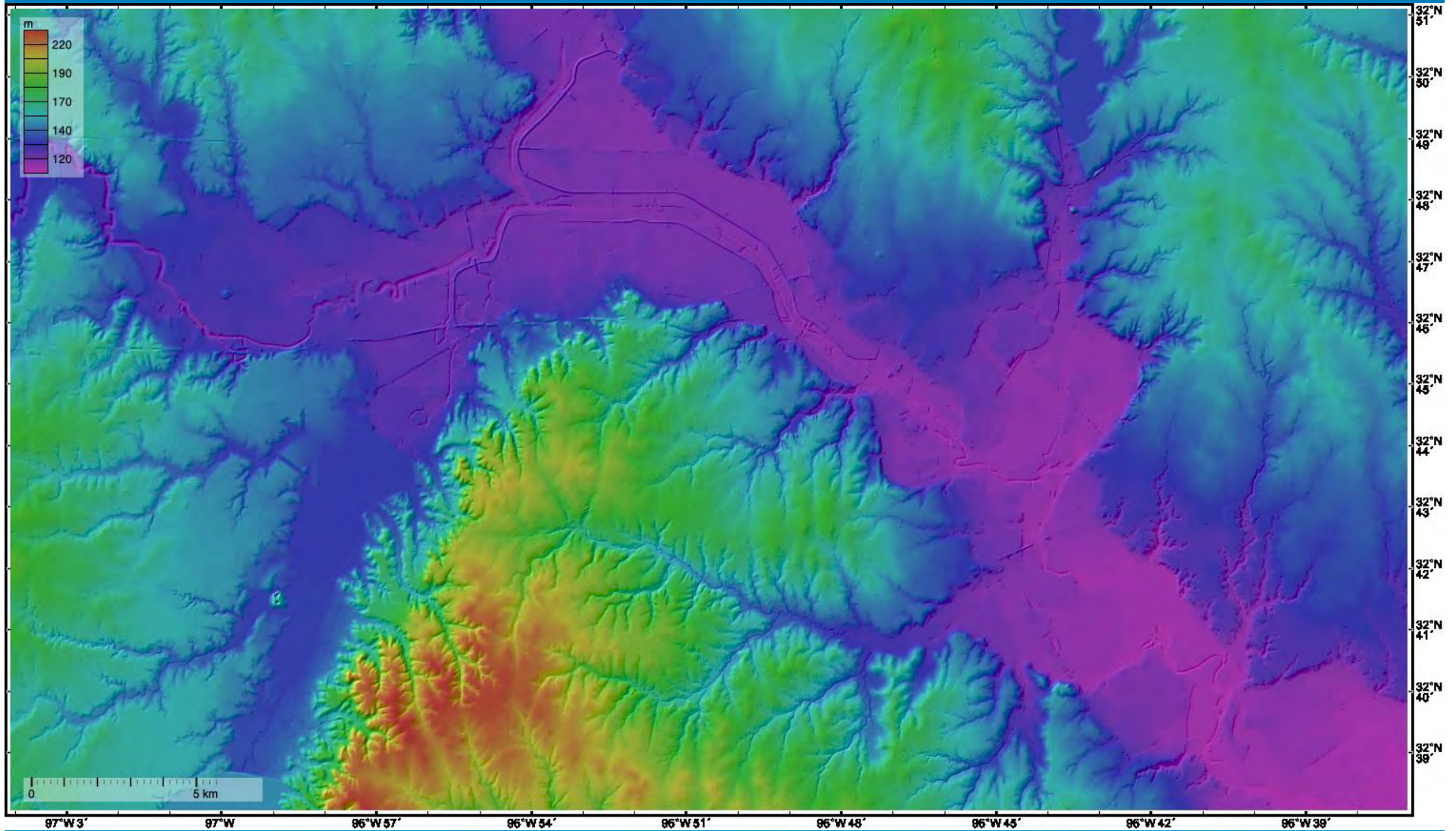
Topography (elevation) of north and east Texas



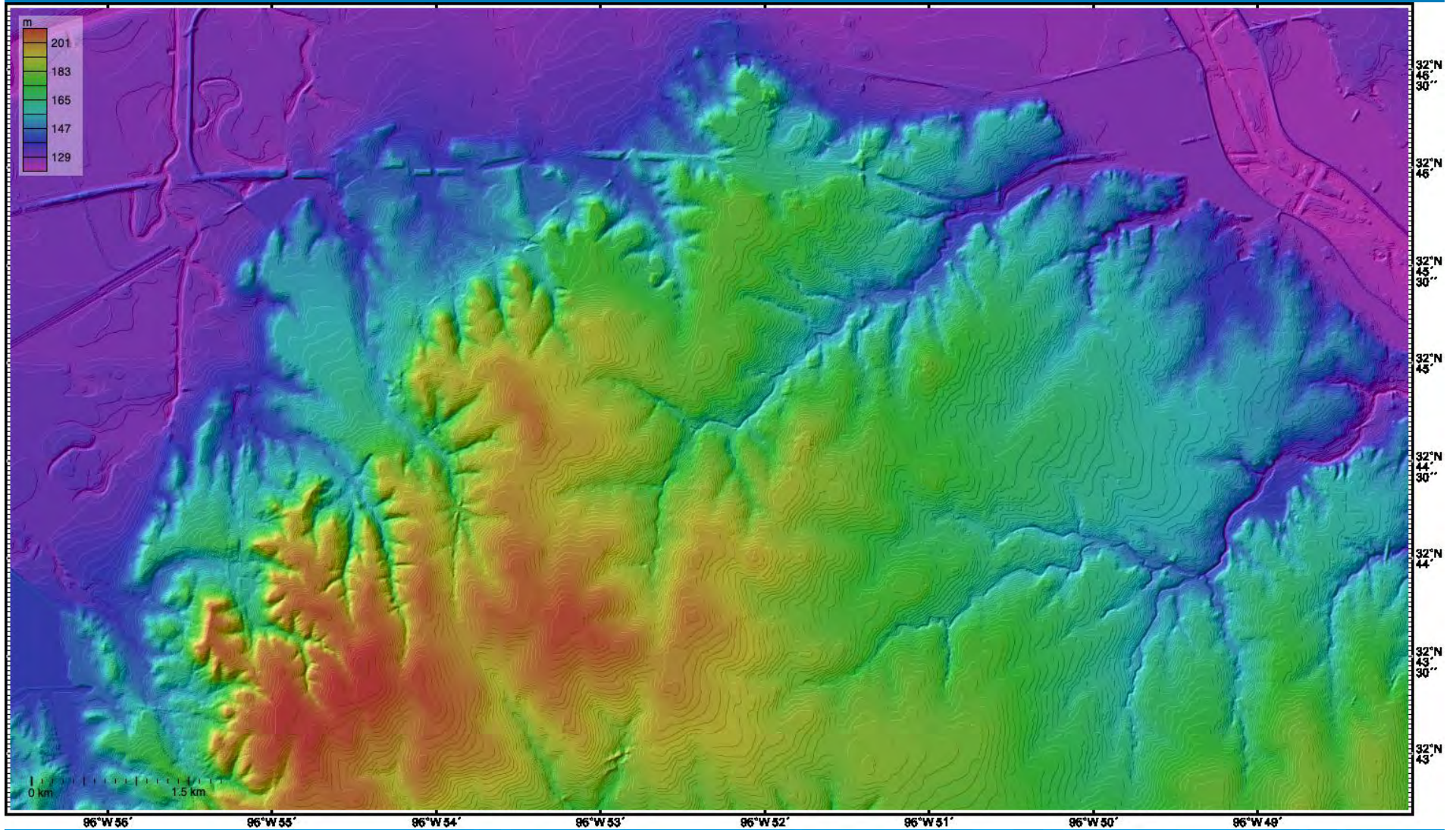
Topography (elevation) of Dallas area



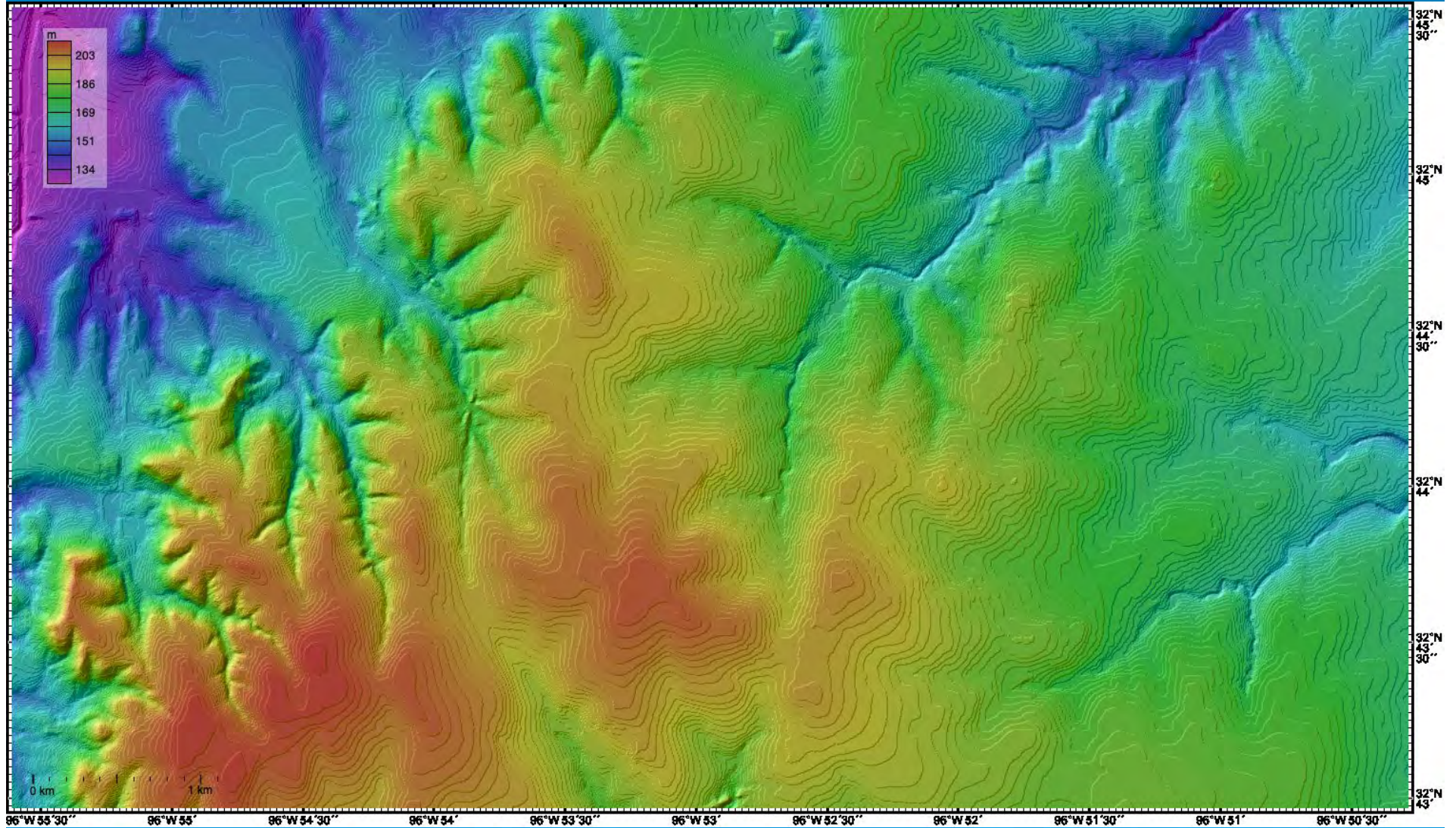
Topography (elevation) of south Dallas



Topography (elevation) of Arcadia Park to Oak Cliff



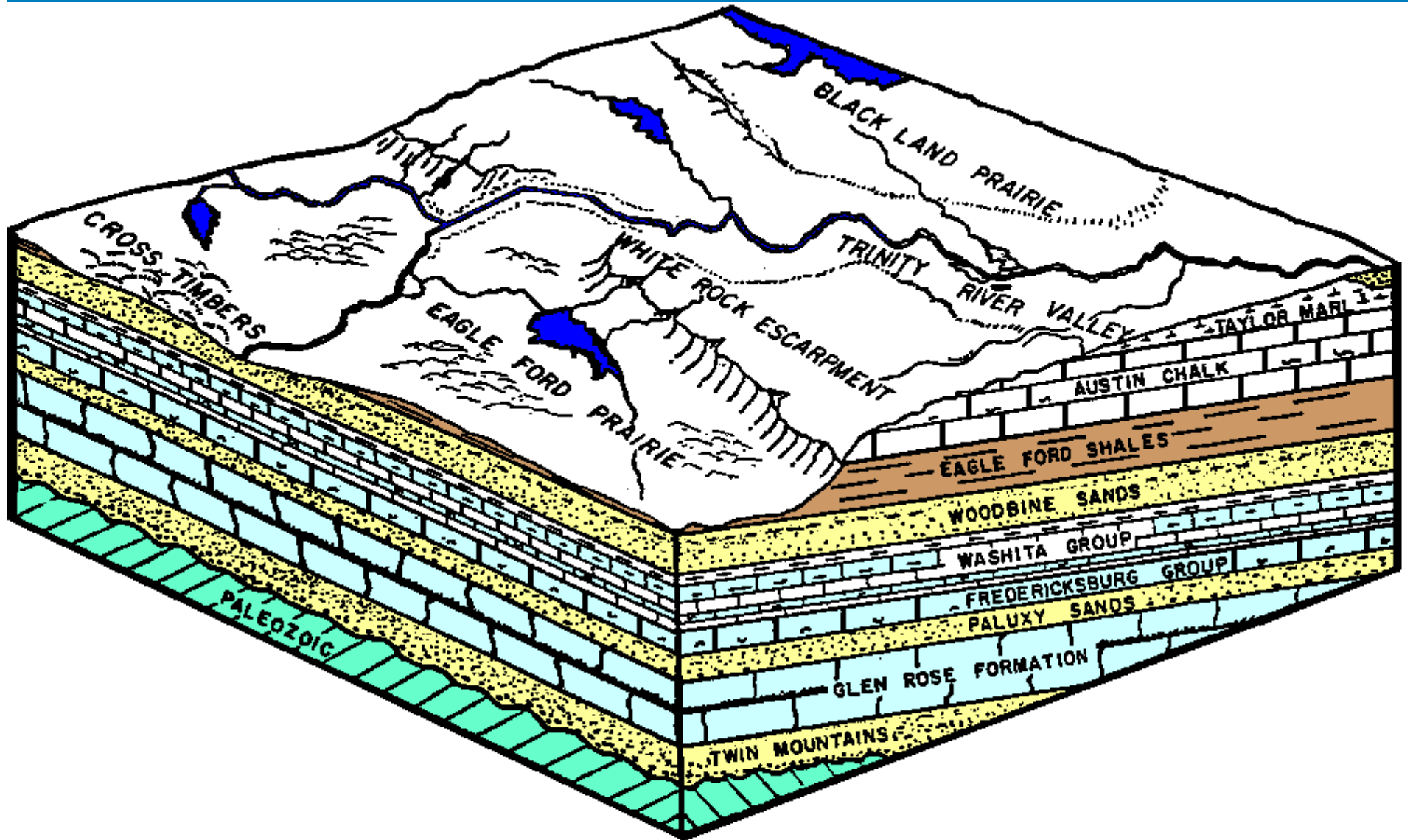
Topography (elevation) of railroad conversion to trail



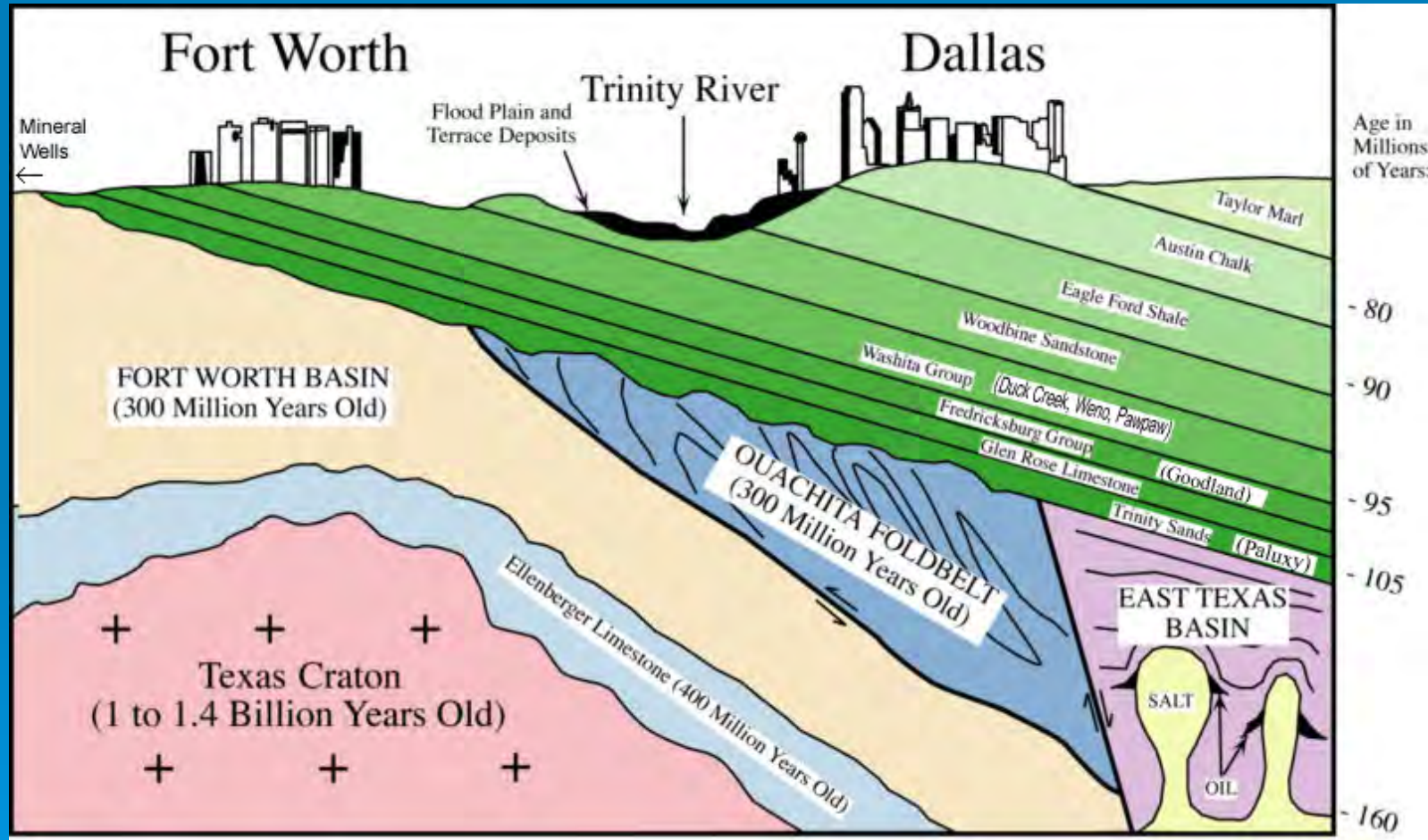
Topographic features of southwestern Dallas County

- Cedar Ridge
 - Low gradient streams flow east to the Trinity River
- White Rock Escarpment
 - On west side of Cedar Ridge
 - Relatively steep slopes to the west
 - High gradient streams flow west to Mountain Creek
 - Rocky, porous, alkaline soil - cedar forest
- Eagle Ford or “Grand” Prairie
 - Prairie west of Cedar Ridge
 - Gentle slope to east
 - Low gradient streams flow E to Mountain Creek
 - Clayey, impermeable, expansive soil – mesquite grassland
- Terraces
 - On west side of Cedar Ridge
 - Gentle slopes to west and northwest

Block Diagram of Dallas County



Geologic section across North Texas



White Rock Escarpment (Austin over Eagle Ford), S of US-380 W of McKinney and N of Frisco



Austin Chalk

- Forms Cedar Ridge and White Rock Escarpment
 - Chalk is a variety of limestone
 - Very fine-grained but porous, therefore soft and light
 - Composed of microscopic calcite crystal structures (coccoliths) produced by marine planktonic algae (coccolithophores)
- Chalk is relatively unique type of rock
 - Prominent in England (White Cliffs of Dover) and northern Europe
 - Almost all chalk is Late Cretaceous in age
 - Cretaceous is actually named for chalk
 - Sea level was unusually high, and earth was unusually warm in Late Cretaceous time
- Austin Chalk is gray when freshly excavated
 - Due to included organic matter and pyrite (both black in color)
 - Weathers white, often with yellow stain near the surface and red spots due to oxidation (rusting) of pyrite
 - Gives name to White Rock Creek and other features

Former chalk quarry for cement, Cockrell Hill, Dallas



Faulting in Austin Chalk (Lower Unit), Quarry, Cockrell Hill Rd, Dallas



Austin Chalk

➤ Rich in fossils

- Abundant large flat clams called Inoceramids
 - “Fibrous” texture looks like petrified wood
 - Thin and brittle, so fossils often broken and incomplete
 - Inoceramid fragments are common in stream gravels
- Abundant burrows of worms and crustaceans
 - Sometimes only visible when rock is fresh
 - Disappear when chalk is bleached by weathering
- Some layers of oysters
- Few ammonites (spiral, chambered mollusks like Nautilus)
 - Poorly preserved (probably abundant in the sea, but shells dissolved)
 - Ammonites useful for determining the age
- Few large, thick-shelled, tubular clams called Durania
- Scattered carbonized wood fragments that floated out to sea
- Rare but significant bones and teeth of vertebrates
 - Fish, turtles, sharks
 - Shark teeth unusually concentrated in bottom foot “contact zone”
 - Marine reptiles – mosasaurs and plesiosaurs

Inoceramid clam in Austin Chalk



Abundant Inoceramid clams in Austin Chalk



Mold of the exterior of an ammonite in Austin Chalk



Poorly-preserved ammonite in Austin Chalk



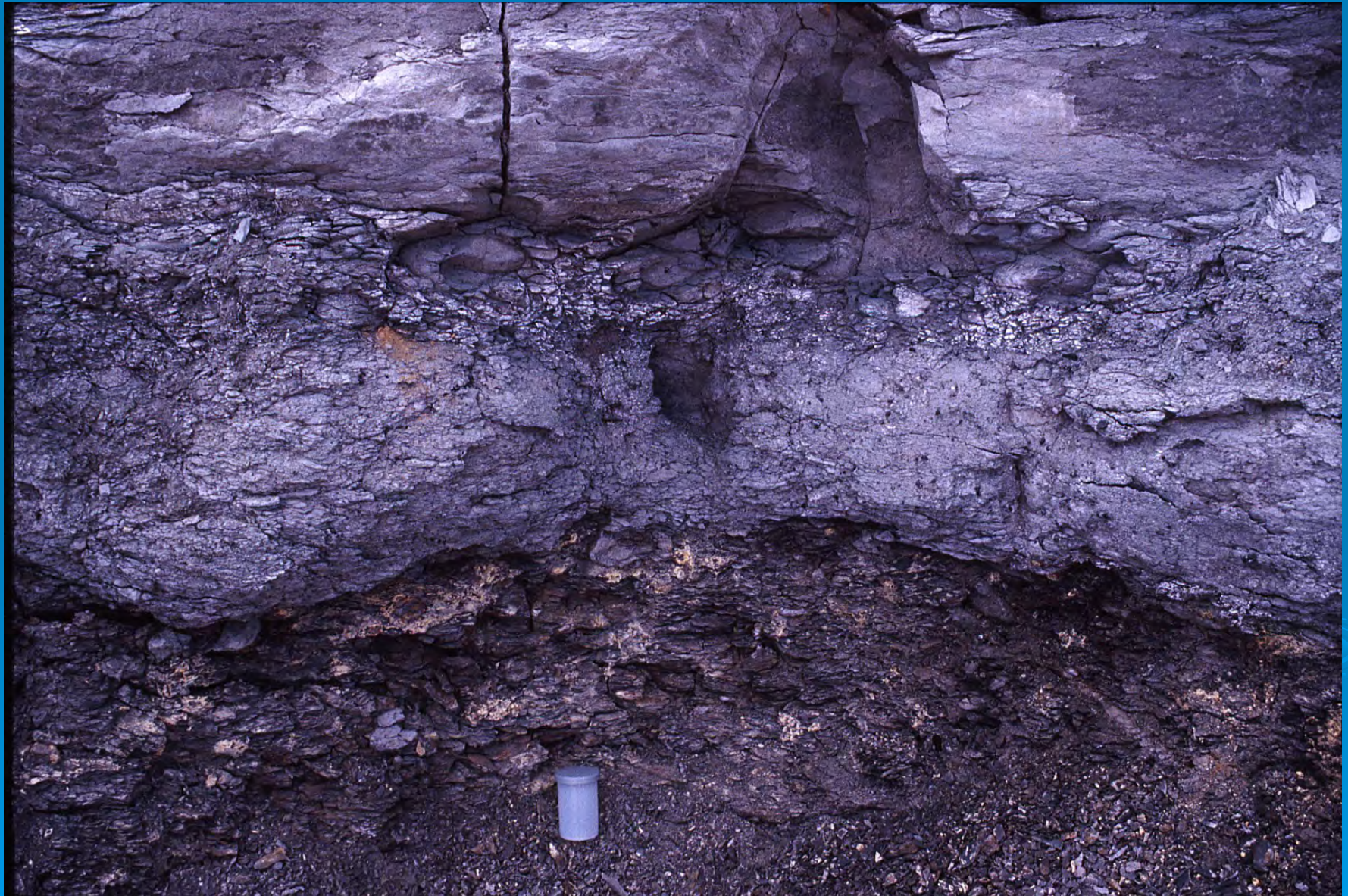
Poorly-preserved straight ammonite (Baculite) in Austin Chalk



Mosasaur Vertebrae (articulated), Austin Chalk



Contact of Austin Chalk over Eagle Ford Shale, TXI Quarry, Midlothian



Shark tooth, contact zone of Austin Chalk over Eagle Ford Shale



Carbonized wood and bits of vegetation, Austin Chalk



Bone, contact zone of Austin Chalk on Eagle Ford Shale



Fossils from contact zone of Austin Chalk on Eagle Ford Shale



Eagle Ford Shale

- Shale is compacted mud
 - Laminated or very thin bedded
 - Breaks into slabs and thin flakes
 - Weathers rapidly to deep clay soil
 - Easily eroded, forming lowlands
- Eagle Ford Shale is black to dark gray
 - Due to included organic matter and pyrite (both black)
 - Weathers to orange brown clay at surface, black clay underneath
 - To east in Tyler Basin, this shale is deeply buried and generated the oil in the giant East Texas Oil Field
- Contains much volcanic ash
 - Ash was altered to bentonite clays in sea water
 - Bentonitic clays shrink when dry and swell when wet
 - Forms “gumbo” soils
 - Cause foundation problems, heaving roads, and landslides

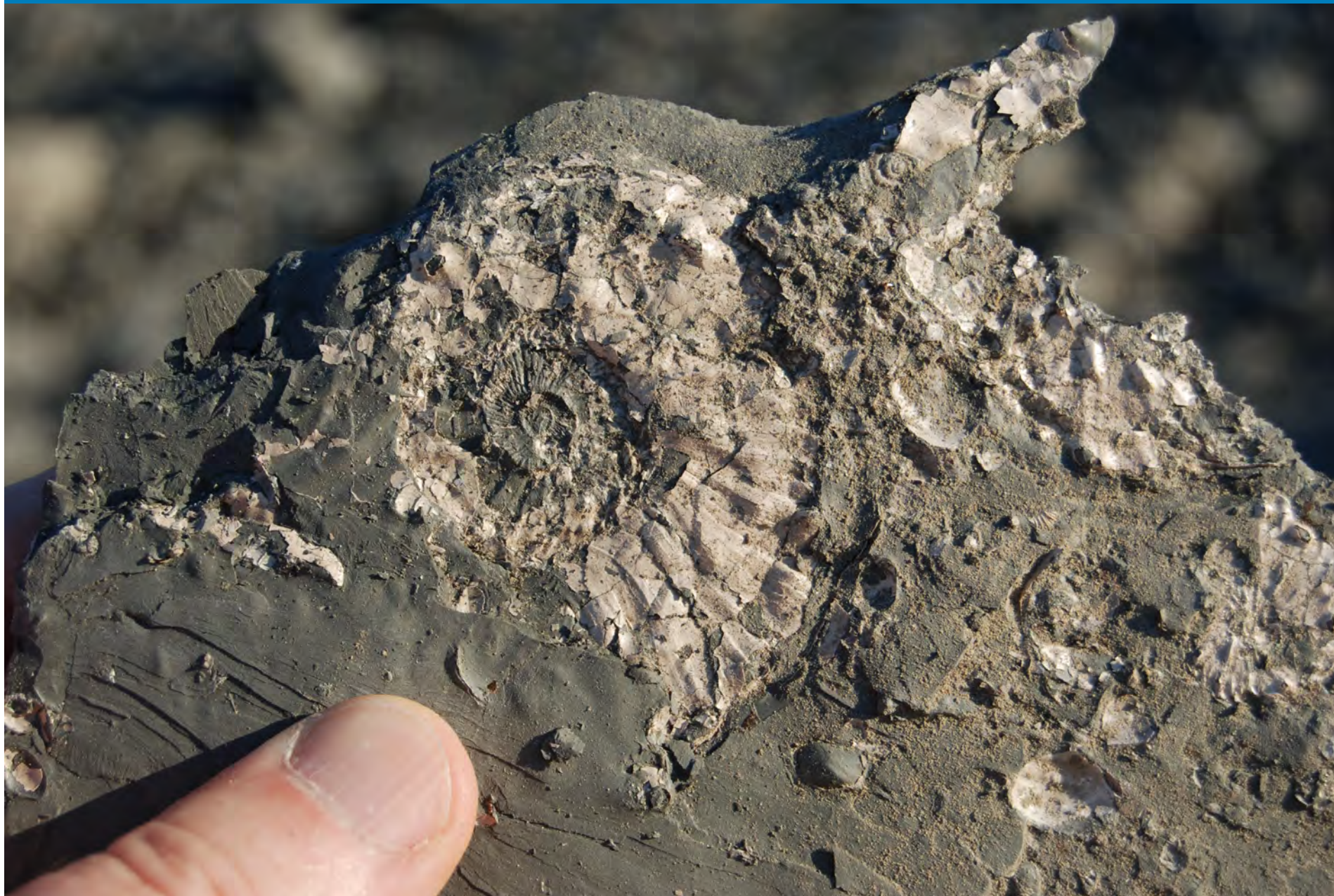
Eagle Ford Shale

- Rich in fossils
 - Common Inoceramid clams – some with very thin shells
 - Oysters abundant near the top
 - Common ammonites
 - Much better preservation than in the chalk
 - Exterior shell often preserved
 - “Pearly” luster sometimes preserved
 - Zones of burrows
 - Including burrows lined with fecal pellets
 - Crab fossils common in some zones
 - Bones and teeth of vertebrates
 - Fish, turtles, sharks
 - Marine reptiles – mosasaurs and plesiosaurs
- Layers of concretions (rounded masses of cemented sediment)
 - Many are “septarian” concretions, with “septa” or calcite veins
 - Not fossils, but may contain fossils

Inoceramid clams, Eagle Ford Shale, Westmoreland and I-30, Dallas



Ammonite, Eagle Ford Shale, Westmoreland and I-30, Dallas



Crustacean burrows, Eagle Ford Shale



Septarian concretion, Eagle Ford Shale (not a fossil)



Geology and Fossils of Cedar Ridge and White Rock Escarpment, South Dallas

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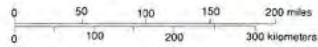
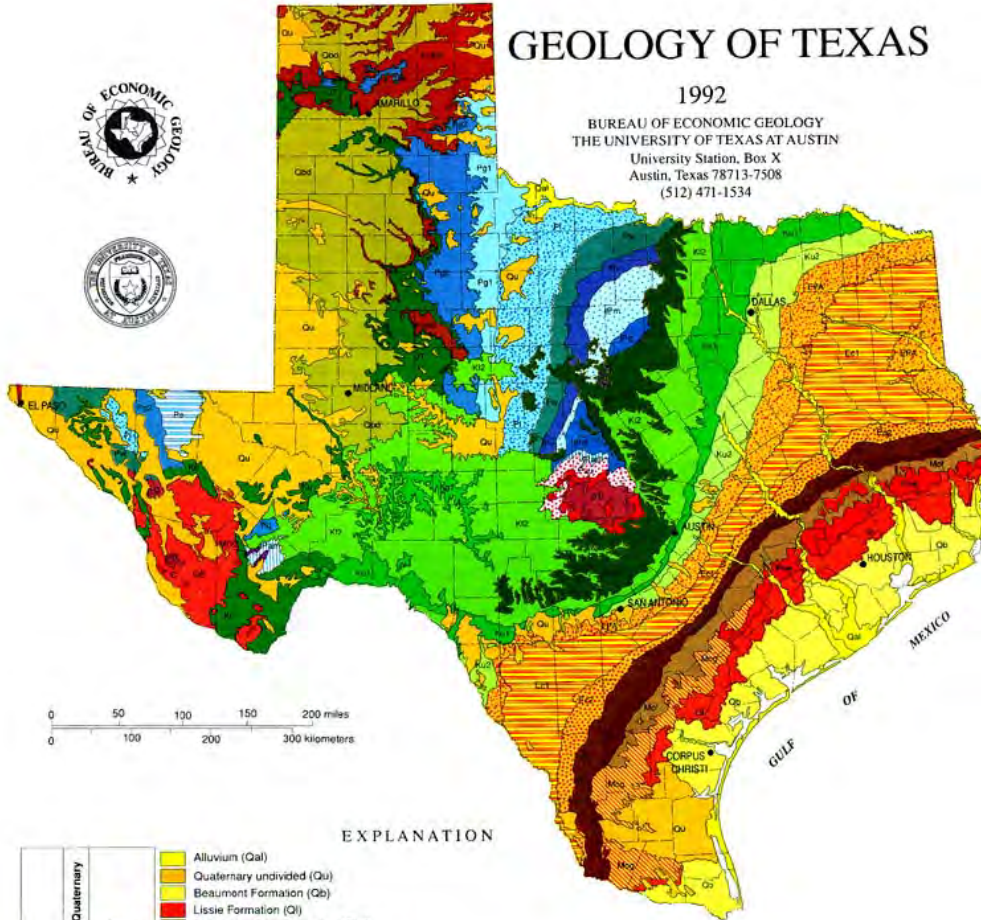




GEOLOGY OF TEXAS

1992

BUREAU OF ECONOMIC GEOLOGY
THE UNIVERSITY OF TEXAS AT AUSTIN
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Austin, Texas 78713-7508
(512) 471-1534



EXPLANATION

		CENOZOIC		
CENOZOIC	Quaternary		Alluvium (Qal)	
			Quaternary undivided (Qu)	
			Beaumont Formation (Qb)	
			Lissie Formation (Ql)	
			Blackwater Draw Formation (Qbd)	
	Tertiary	Pliocene 2 m.y.		Willis Formation (Pow)
				Ogallala Formation (PoMo)
		Miocene 5 m.y.		Goliad Formation (Mog)
				Fleming and Oakville Formations (Mof)
		Oligocene 24 m.y.		Catahoula Formation (Oc)
			Oligocene and Eocene undivided (OE) (volcanic rocks and conglomerates in Trans-Pecos Texas)	
Eocene 38 m.y.			Jackson Group (Whitsett, Manning, Wellborn, Caddell, Yazoo, and Moodys Branch Fms.) (Ej)	
			Claiborne Group (Yegua Formation) (Ec2)	
Paleocene 58 m.y.			Claiborne Group (Cook Mountain, Sparta, Weches, Queen City, and Reklaw) (Ec1)	
			Wilcox and Midway Groups (EPA)	
MESOZOIC	Paleocene 66 m.y.		Navarro and Taylor Groups (Ku2)	
			Austin, Eagle Ford, Woodbine, and U. Washita Groups (Ku1)	
	Cretaceous		Fredericksburg and L. Washita Groups (Kl2)	
			Trinity Group (Kl1)	
			Cretaceous undivided (Ku)	
Jurassic 144 m.y.		Jurassic Triassic undivided (JT)		
Triassic 245 m.y.				
PALEOZOIC	Pre-cambrian		Ochoan Series (Po)	
			Guadalupe Series (Whitehorse and Quartermaster Formations) (Pg2)	
			Guadalupe Series (Blaine and San Angelo Formations) (Pg1)	
			Leonardian Series (Pl)	
			Wolfcampian Series (Pw)	
			Permian undivided (Pu)	
			Virgilian Series (IPv)	
			Missourian Series (IPm)	
			Des Moinesian Series (IPd)	
			Atokan and Morrow Series (IPam)	
	Mississippian, Devonian, and Ordovician undivided (MDO)			
	Cambrian (C)			
	Paleozoic undivided (Pau)			
	Precambrian undivided (p-C)			
	245 m.y.			
	296 m.y.			
	320 m.y.			
	505 m.y.			
	570 m.y.			
	1200 m.y.			
	2000 m.y.			

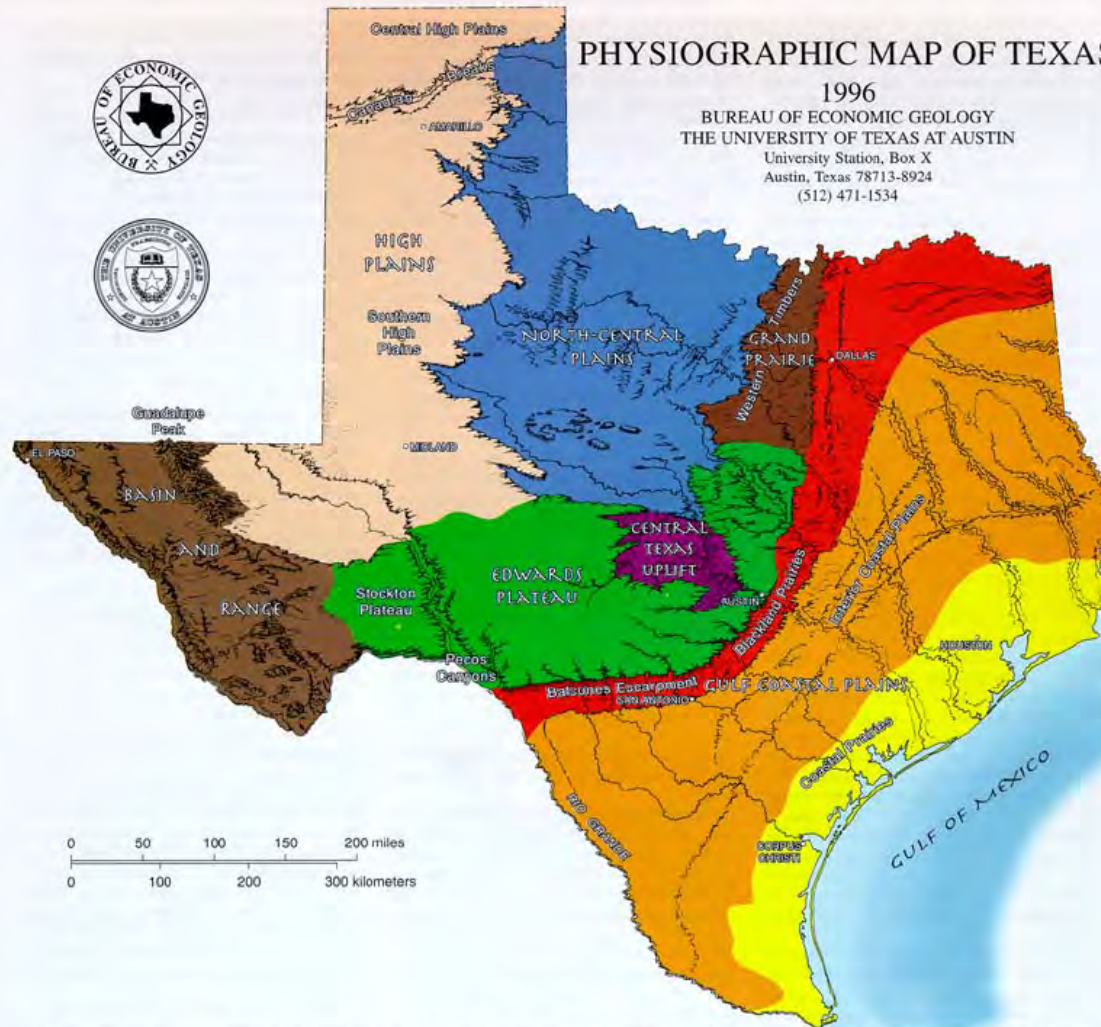
Geology of Texas



PHYSIOGRAPHIC MAP OF TEXAS

1996

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PROVINCE	MAX. ELEV. (ft)	MIN. ELEV. (ft)	TOPOGRAPHY	GEOLOGIC STRUCTURE	BEDROCK TYPES
Gulf Coastal Plains					
Coastal Prairies	300	0	Nearly flat prairie, <1 ft/mi to Gulf	Nearly flat strata	Deltaic sands and muds
Interior Coastal Plains	800	300	Parallel ridges (questas) and valleys	Beds tilted toward Gulf	Unconsolidated sands and muds
Blackland Prairies	1000	450	Low rolling terrain	Beds tilted south and east	Chalks and marls
Grand Prairie	1250	450	Low stairstep hills west; plains east	Strata dip east	Calcareous east; sandy west
Edwards Plateau					
Principal	3000	450	Flat upper surface with box canyons	Beds dip south; normal faulted	Limestones and dolomites
Pecos Canyons	2000	1200	Steep-walled canyons		Limestones and dolomites
Stockton Plateau	4200	1700	Mesa-formed terrain; highs to west	Unfaulted, near-horizontal beds	Carbonates and alluvial sediments
Central Texas Uplift					
Central Texas Uplift	2000	800	Knobby plain; surrounded by questas	Centripetal dips, strongly faulted	Granites; metamorphics; sediments
North-Central Plains					
North-Central Plains	3000	900	Low north-south ridges (questas)	West dip; minor faults	Limestones; sandstones; shales
High Plains					
Central	4750	2900	Flat prairies slope east and south	Slight dips east and south	Eolian silts and fine sands
Canadian Breaks	3800	2350	Highly dissected; local solution valleys		
Southern	3800	2200	Flat; many playas; local dune fields		
Basin and Range					
Basin and Range	8750	1700	North-south mountains and basins	Some complex folding and faulting	Igneous; metamorphics; sediments

Physiographic Map of Texas

Dallas Area Geology - From Geologic Atlas of Texas

