BULLETIN Corpus Christi Geological Society



and

Coastal Bend Geophysical Society



March 2025 ISSN 0739 5620

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CORPUS CHRISTI GEOLOGICAL SOCIETY P.O. BOX 1068* C.C.TX. 78403 2024-2025

www.ccgeo.org

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Visit the geological web site at www.ccgeo.org

CCGS/CBGS JOINT MEETING SCHEDULE 2024-2025

| | | Sep | temb | er | | | | | Oct | tober | | | | | | No | vem | ber | | |
|----|----|---------|-----------------|----|----|----|----------------------------|---|---|--|---|--------------------------|----|----------------------|--------------|-------------------------------|---------------------------|------------------|--------|-------|
| S | Μ | Т 2 | W 2024 | Th | F | S | S | Μ | T 20 | W)24 | Th | F | S | S | Μ | Т | W 1024 | Tł ļ | n F | S |
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| 15 | 16 | 17 | <mark>18</mark> | 19 | 20 | 21 | 13 | 14 | 15 | <mark>16</mark> | 17 | 18 | 19 |) 10 | 0 11 | 12 | 2 13 | 31 | 4 1 | 5 16 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 5 17 | 7 18 | 19 |) <mark>2(</mark> | <mark>)</mark> 2 | 1 2 | 2 23 |
| 29 | 30 | | | | | | 27 | 28 | 29 | 30 | 31 | | | 24 | 4 25 | 26 | 5 27 | 72 | 8 2 | 9 30 |
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| 15 | 16 | 17 | 18 | 19 | 20 | 21 | 12 | 13 | 14 | <mark>15</mark> | 16 | 17 | 18 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 | 19 | 20 | 21 | 22. | 23 | 24 | 25 | 16 | 17 | 18 | <mark>19</mark> | 20 | 21 | 22 |
| 29 | 30 | 31 | | | | | 26 | 27 | 28 | 29 | 30 | 31 | | 23 | 24 | 25 | 26 | 27 | 28 | |
| | | | | | | | | | | | | | | | | | | | | |

Meeting at Joe's Crab Shack Downtown. 11:00 Bar, 11:45 lunch, 12:00 speaker: Chuck Benson, USAF Meteorologist (Retired). "Hurricanes of the Coastal Bend." Meeting at Joe's Crab Shack Downtown. 11:00 Bar, 11:45 lunch, 12:00 speaker: Jason Ashby. "Hydrogen As a Future Alternative Source of Energy."

CCGS/CBGS Joint Meeting Schedule 2024-2025

| | | Μ | larch | | | | | | | Apri | l | | | | | I | Мау | | | |
|----|----|----|-------|----|----|----|----------------------|------------------------|------------------------------------|--------------------------|--|---------------------------|----|----|-------|-------|--------------------------------------|--------|----|----|
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| 9 | 10 | 11 | 12 | 13 | 14 | 15 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 | 20 | 21 | 22 | 23 | <mark>24</mark> | 25 | 26 | 18 | 19 | 20 | <mark>21</mark> | 22 | 23 | 24 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 | 27 | 28 | 29 | 30 | | | | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| 30 | 31 | | | | | | | | | | | | | | | | | | | |
| | | | | | | | Se Pa Ho SI | afoo dre l osted | d & S Islan I by C \$40.0 | steaks d Dr. CCGS/ | oil at 5 – 13 Starts (CBGS) the do | 309 S s at 5: s and | | | downt | town. | Joe's C 11:00)) speak | Bar, 1 | | : |

Calendar Of Meetings and Events

| Corpus Christi Geological/Geophysical Society | Third Wed.—11:30a.m. |
|---|-----------------------------|
| SIPES Corpus Christi Luncheons | Last Tues.—11:30a.m. |
| South Texas Geological Society Luncheons | Second Wed—noon San Antonio |
| San Antonio Geophysical Society Meetings | Fourth Tuesday |
| Austin Geological Society | First Monday |
| Houston Geological Society Luncheons | Last Wednesday |
| Central Texas Section of Society of Mining, Metalllurgy & Exp | |
| | San Antonio |

www.ccgeo.org



It is time to renew membership in the Corpus Christi Geological Society and/or the Coastal Bend Geophysical Society.

The <u>easiest</u> way to do that is to use our pay online website found at **https://corpus-christi**geological-society.square.site/

Or use your smartphone with this QR Code





Greetings to All

Happy March. We will hold no lunch meeting this month, so everyone can enjoy a relaxing spring break. April will bring us a very special evening meeting. The scholarship committee will be passing out well deserved scholarships to area students. The evening will start at 5:30 pm Thursday April 24th at Doc's with the food (shrimp boil) being served at 6:00 pm. Currently it will be a cash bar unless we get a sponsor for the bar. There is an announcement elsewhere in the Bulletin.

I hope everyone enjoyed the talk about hurricanes of the Texas coast in January by our very own Charles Benson. This talk brought back memories for me of Brent in 1999. I was part of a field trip to witness the energy that can cut a barrier island. It also reminded me of the many hours helping friends recover from Harvey in Rockport.

The February talk on hydrogen as an energy source was very interesting. Jason gave an excellent talk and many questions were asked about the carbon / hydrogen processes.

It is time to discuss leadership of CCGS. We NEED people to step up and become a committee head or officer. Please volunteer and use the opportunity for more networking and satisfaction of knowing you are a person that will lead the CCGS in the future. We at the CCGS have a very diverse group. Our group has experience and youth. OK, I will get off my soapbox.

April will also feature GEOGULF at Stephen F. Austin University in Nacogdoches, Texas.

It is an honor for me to be president. Thank you to those who volunteer to fill positions in our society. PLEASE consider a few hours of volunteering. Besides doing a good thing, it will give you a higher sense of accomplishment.

Remember our society depends on YOU.

Dennis O. Moore

President CCGS 2023-25

2025 Annual Shrimp Boil

Doc's Seafood & Steaks

Waterline area below Doc's at Sea Level!

Doc's is under the J.F.K. Bridge on Padre Island 13309 S. Padre Island Dr

Thursday, April 24, 2025 Starting at 5:30

Boiled Shrimp, Sausage, and all the fixin's at 6 pm

RSVP by Thursday April 17th

Hosted by Corpus Christi Geological Society, Coastal Bend Geophysical Society, and SIPES

> \$40.00 at the door* Cash bar

*Entrance for SIPES members is covered



CORPUS CHRISTI GEOLOGICAL SOCIETY COASTAL BEND GEOPHYSICAL SOCIETY



LUNCHEON MEETING ANNOUNCEMENT

May 21st, 2025

| Location: | Joe's Crab Shack, 444 North Shoreline Dr., Corpus Christi, TX 78401 |
|-------------------|--|
| Student Sponsors: | Viper Exploration, Imagine Resources, Mary DeMis. Thank you! |
| Time: | 11:30 AM Social, Lunch follows at 11:45 AM, Speaker at 12:00 PM |
| Cost: | \$35.00 (additional \$10.00 surcharge without reservation: NO SHOW may be billed.) |
| Reservations: | Please RSVP by 11:00 AM on Monday, May 19th before the meeting! |
| | Email: arrangements@ccgeo.org |

Please note that luncheon RSVPs are a commitment to Joe's Crab Shack (Shoreline Drive) and must be paid even if you can't attend the luncheon.

SPONSORSHIP OPPORTUNITIES ARE AVAILABLE! IF YOU WOULD LIKE TO SPONSOR, PLEASE CONTACT US AT:

arrangements@ccgeo.org

Speaker to be determined



CBGS President's Letter

CBGS Board 2023-2024

Acting President- Dr. Subbarao Yelisetti Vice President- Dr. Subbarao Yelisetti Secretary/ Treasurer-Charles Benson

CBGS Scholarships

The Coastal Bend Geophysical Society will be awarding scholarships in Fall 2025. Scholarships will be awarded based on merit and need. The award amounts may vary with the minimum award being \$1,000. The application deadline is August 28th, 2025.

Scholarship Requirements

Criteria for awarding the Scholarship from Coastal Bend Geophysical Society of Corpus Christi, Texas:

- 1. Scholarships are open to undergraduate or graduate students.
- 2. Must have declared major in Geophysics, or Geology with a concentration in Geophysics or Petrophysics.
- 3. Preference is given to students attending Coastal Bend schools (TAMU-K, TAMU-CC and Del Mar College), then to Coastal Bend natives attending other universities.
- 4. Must have a GPA of at least 3.0 and be in good standing with the school.
- 5. Must make effort to attend a Coastal Bend Geophysical Society Meeting in Corpus Christi Texas after being awarded a scholarship to be recognized by the society.

News

- According to the U.S. Energy Information Administration (EIA), US crude oil production rose to record high of 13.491 million barrels per day in December, 2024, up from 13.314 million bpd in November.
- According to the EIA forecasts, U.S. crude oil output is expected to average 13.59 million barrels per day (bpd) in 2025, up from its prior estimate of 13.55 million bpd.
- As of February 11, Brent crude prices are expected to average around \$74 in 2025, and \$66 in 2026, as reported by Arathy Somasekhar on reuters.com.

CBGS Business

CBGS currently has 28 active members, 2 honorary members, and 40 student members. Raised \$1,450 towards student scholarships through membership revenue this past year.

CBGS workshops/talks

CBGS is looking forward to offer workshops/talks in the future. Topic/speaker suggestions are welcome. Email your suggestions to <u>Subbarao.Yelisetti@tamuk.edu</u>

New Degree Tracks at TAMUK and Graduate Scholarships

- Texas A&M University-Kingsville (TAMUK) started its first cohort of MS Petrophysics program in Fall 2018. If you are interested in joining this program in Fall 2025, please contact the graduate coordinator for MS in Petrophysics, Dr. Subbarao Yelisetti at <u>Subbarao.Yelisetti@tamuk.edu</u>.
- The Department of Physics and Geosciences at TAMUK is offering competitive scholarships for MS Petrophysics students. For additional details about the program and scholarships, please visit the website:

https://www.tamuk.edu/artsci/departments/phge/phys/academics/gp.html

• BS degree in Geophysics, Minor in Geophysics and Certification in Geophysics offered at Texas A&M University-Kingsville since Fall 2017. Interested students can contact Dr. Subbarao Yelisetti (Subbarao.Yelisetti@tamuk.edu) for additional information.

Education/Events

-<u>SEG</u>

SEG 2025 annual meeting (IMAGE) will be held in Houston, TX from August 25-28. See <u>https://seg.org/Events/Upcoming-SEG-Annual-Meetings</u> for additional details.

See <u>https://seg.org/Education/Lectures/Distinguished-Lectures</u> for information about upcoming SEG distinguished lecture in Houston and other locations.

See <u>https://seg.org/Education/Lectures/Honorary-Lectures</u> for SEG honorary lecture locations in Texas.

-AGU

2025 Fall AGU annual meeting will be held in New Orleans, LA from December 15-19th, 2025. https://www.agu.org/Fall-Meeting

Monthly Saying

"At 1970 rates of production, (Canada's) reserves represent 923 years supply for oil and 392 years for gas". Joe Greene, Federal Energy Minister, 1971.

Monthly Summary

| Texas Oil and Gas Info | Current Month | Last Month | Difference | |
|------------------------|----------------------|-------------------|-------------------|----------|
| Texas Production | MMBO/BCF | MMBO/BCF | MMBO/BCF | |
| Oil | 156.5 | 167.3 | -10.8 | November |
| Condensate | 24.7 | 26.5 | -1.8 | November |
| Gas | 1020.4 | 1071.9 | -51.5 | November |
| | Current Month | Yr to date - 2025 | Yr to date - 2024 | |
| Texas Drilling Permits | 666 | 666 | 8683 | January |
| Oil wells | 134 | 134 | 1742 | January |
| Gas wells | 26 | 26 | 491 | January |
| Oil and Gas wells | 463 | 463 | 5943 | January |
| Other | 6 | 6 | 143 | January |
| Total Completions | 1717 | 1717 | 21022 | January |
| Oil Completions | 1340 | 1340 | 16733 | January |
| Gas Completions | 377 | 377 | 4289 | January |
| New Field Discoveries | 0 | 0 | 5 | January |
| Other | 512 | 512 | 9399 | January |

Subbarao Yelisetti Acting President, CBGS <u>Subbarao.Yelisetti@tamuk.edu</u>

GEOGULF (GCAGS) 2025

Registration for GeoGulf 2025 is Open

Seize the opportunity to join the prestigious Gulf Coast Section at <u>GeoGulf</u> <u>2025</u>, from April 6–8, 2025, at the scenic Stephen F. Austin State University in Nacogdoches, Texas. Secure your spot now with our exclusive early bird rate of \$400 available until March 1, before it rises to \$500.

REGISTER HERE

Included in Registration:

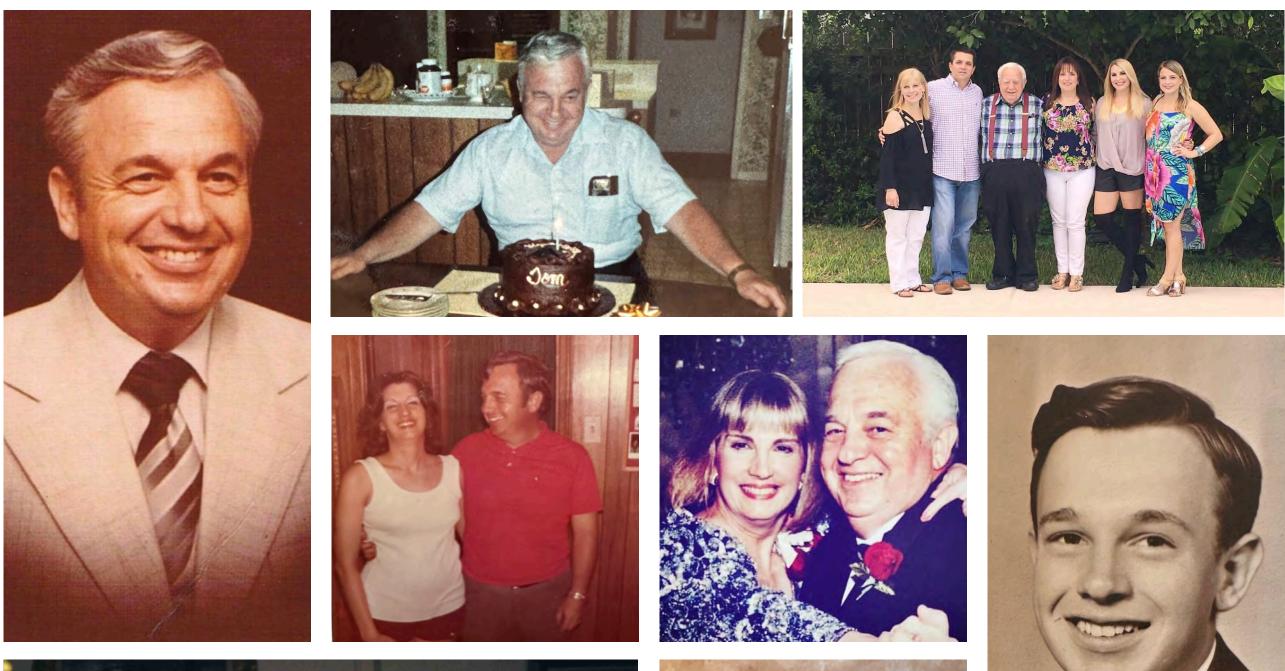
- **Dynamic Technical Program** Dive into over 115 presentations spanning petroleum systems, critical minerals, water resources, and beyond, all packed into an immersive two-day experience.
- East Texas Basin Spotlight Session Uncover groundbreaking research on one of the Gulf Coast's most geologically and historically pivotal basins.
- Core Workshop Led by the esteemed Molly Turko and Jon Rotzien, this interactive session offers a treasure trove of insights into the hidden wonders of the region's subsurface geology.
- Networking and Social Events Engage in lively icebreakers and vibrant happy hours designed to forge meaningful connections with fellow colleagues and industry leaders.
- Lunches Provided Enjoy Monday and Tuesday lunches with expert-led discussions. Monday features the Geology Meets Technology Panel on Big Data and AI in exploration, while Tuesday highlights Lorena Moscardelli on Emerging Energies and the Subsurface.
- Monday Night Social Join us for a fun-filled evening featuring live music, food, and drinks in the heart of East Texas.

GeoGulf 2025 will be an incredible experience, offering cutting-edge technical content, top-tier networking, and a fantastic time in the Pines. Register now at **www.geogulf2025.org** before early bird prices end on March 1.

We look forward to seeing you in Nacogdoches!

LEARN MORE HERE

Celebration of Life









THOMAS J. LONG



September 29, 1936 - February 3, 2025

Hituary

Thomas Jay Long, 88, got up to get a midnight snack this past Monday, and with a pocket full of cookies, passed away peacefully. The other pocket was full of crumbs.

Tom lived a complete life, from start to finish.

Born in a barn (or so we were told) on September 29, 1936, near Braman, OK, Tom grew up in a Phillips camp town, Bunavista, in the panhandle of Texas. He loved exploring the land, collecting arrowheads, and giving his two sisters, Maralee and Nancy, a hard time. After graduating from Borger High School, he attended the University of Oklahoma, which began a lifelong passion for the OU Sooners. There, he studied Geology and, always up for some fun, served as the social chair and president for his dorm. Most importantly, he met his best friend and college roommate, Jerry Haston, who would eventually introduce him to the love of his life, Margie.

After graduating, Tom served his country with honor in the U.S. Army, stationed at a scientific research base in Greenland. There, he studied grain conservation and the flow of ice and often re-told the story about how he and Big Ernie got on the wrong plane headed back to base camp, and reminded us that none of us kids would be here if he had gotten on the right plane, which went down in a whiteout. We are deeply thankful for the error.

A scientist and rockhound, his passion for the earth's mysteries led him to a distinguished career as a Geophysicist, eventually starting his own exploration company, Seven L's Oil & Gas, named for his family. He always knew what he wanted to be when he grew up, so his career was indeed much more than a job; it was a calling. He was well-respected in the industry and admired by everyone who had the privilege of working with him. We were once told that he had earned the nickname "The Armadillo" from his colleagues, we suppose because he was small, tough, and unmistakably Texan. He was incredibly active in the community, having helped reinstate the Coastal Bend Geophysical Society in 1984 and participated in leadership roles in many societies.

His career took him around the country, from Houston to Anchorage to Lafayette, before settling in Corpus with his beloved wife of nearly 50 years, Margie. There, they spent most of their life together. His love for her was fierce and unwavering, and together they raised their five children who love them very much. He was an incredible father who loved to take his kids on digs for arrowheads and pottery and was king of the road trip-especially across the southwest, stopping at every rock shop and greasy spoon along the way, instilling a sense of curiosity and adventure in his children. He led by example and encouraged them to be themselves, to follow their dreams, and to always show loving kindness to others.

Known for his dry, wry, mildly inappropriate sense of humor, Tom always had a clever aside waiting for you, but he was also known for his fierce loyalty and boundless generosity. He made everyone feel valued. He listened intently and with care. He was always kind, always giving to family, friends, and strangers in need. He was a man of simple pleasures—old country Music (Willie, Patsy), Chinese food, good Texas BBQ, a slice of chocolate cake, tending to his backyard grapefruit trees and feeding the birds. He loved and collected art – especially paintings of the desert southwest and Native American artifacts. Lastly, he never met a dog (or animal, for that matter) that he didn't like...and all dogs loved Tom Long.

He was a man of deep faith who knew Jesus Christ as his Savior and exemplified His love by serving others. He was a proud member of the United Methodist Church. He had a beautiful, deep voice and for many years sang in the church choir. He spent his last years living with his eldest daughter, Lois, and her family in Keller. There, each morning, he would wind the clock and sit in his chair and softly sing the gospel songs he knew by heart and was more than happy to sample all the cookies his grandkids baked.

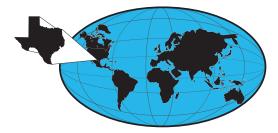
He is preceded in death by his beloved wife, Margie Rae Long of Austin; parents, Charles and Esther Long of Fritch; sister, Maralee (Long) Brown of Arlington; and many, many dear friends and relatives.

He is survived by his sister, Nancy (Long) McCann of Fort Worth; children: Lois (Long) Scott and husband, Dennis, of Keller; Thomas Kyle Long and wife, Molly, of College Station; Lori (Long) Plowman and husband, Chad, of Weatherford; Cami (Long) Basse and husband, Chris, of San Antonio; Amber Long and fiancé, Justin Keen, of Nashville, TN.

Tom (AKA Pop-Pop) was proud grandfather to seven grandchildren: Travis Long, Caitlyn (Scott) Wermuth, Sloane Basse, Collin Thomas Scott, Avery (Long) Harrington, Kennedy Scott, and Hayden Thomas Plowman. He is also survived by many beloved nephews and nieces and cherished friends.

When asked to describe him in one word, those who loved him said: Generous. Loyal. Easygoing. Kindhearted. Quietlyfunny. The-Greatest. But we all know just one word isn't enough to sum up a person's life. You were lucky if you knew him. We are beyond thankful for the 88 years we got with him. We know he is at peace in Heaven, surrounded by so much love. He will always be deeply loved and greatly missed.





THUNDER EXPLORATION, INC.

Celebrating 40+ years of prospect generation and exploration in the following South Texas plays and trends.

| Frio | San Miguel | Edwards |
|---------|--------------|---------------|
| Jackson | Austin Chalk | Pearsall |
| Yegua | Eagle Ford | Sligo |
| Wilcox | Buda | Cotton Valley |
| Olmos | Georgetown | Smackover |

Thunder continues to seek non-operated working interest participation in projects and prospects.

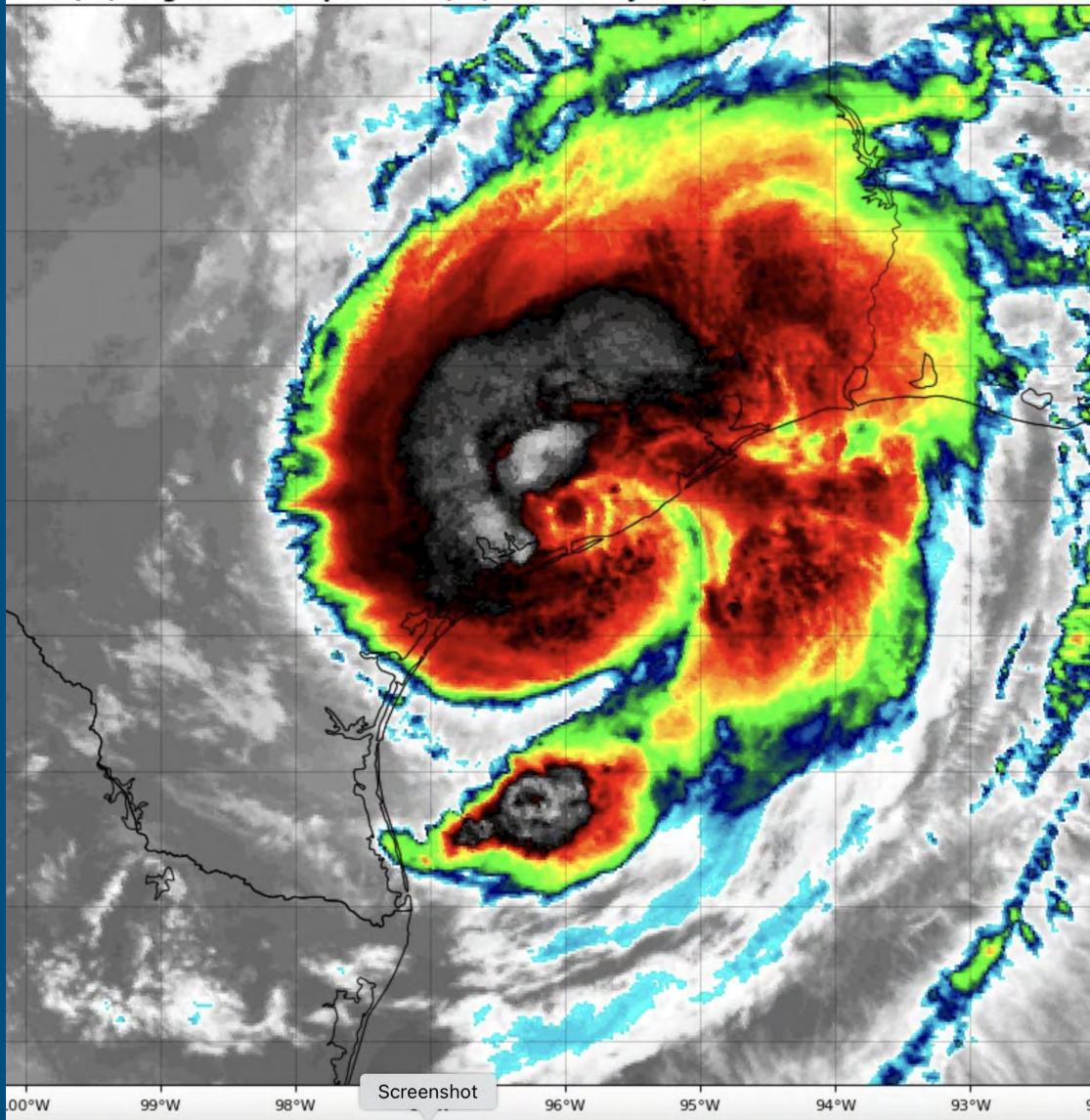
Thunder has participated in more than 100 new drills in the last seven years.

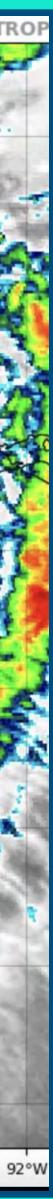
Walter S. Light Jr. President/Geologist 713.823.8288 EMAIL: wthunderx@aol.com Hurricanes of the Coastal Bend Chuck Benson, Colonel, USAF (Retired)

Overview

- Introduction*
- Formation
- Forecasting
- Case Studies
- Conclusions

el 13 (IR) Brightness Temperature (°C) at 09:52Z Jul 08, 2024





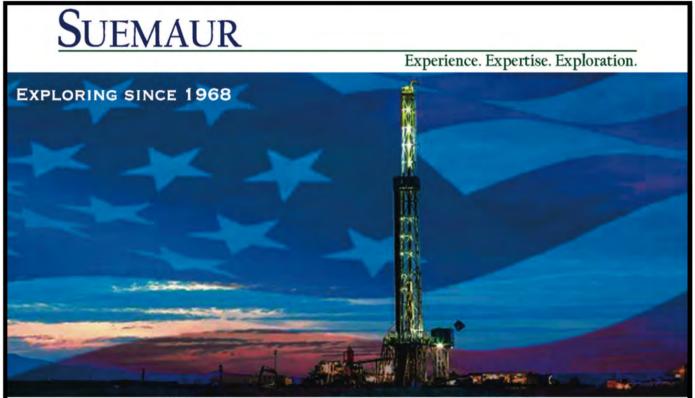
Necessary Conditions For Formation

- SSTs of at least 80F; <u>must be deep</u>!
- Oceanic region at least 5° from equator
- Warm, moist atmosphere
- Weak vertical wind shear
- Low-level vorticity
- Conditional instability

These are necessary, <u>but not sufficient conditions</u> for formation to occur...what else is needed?



SPONSORS

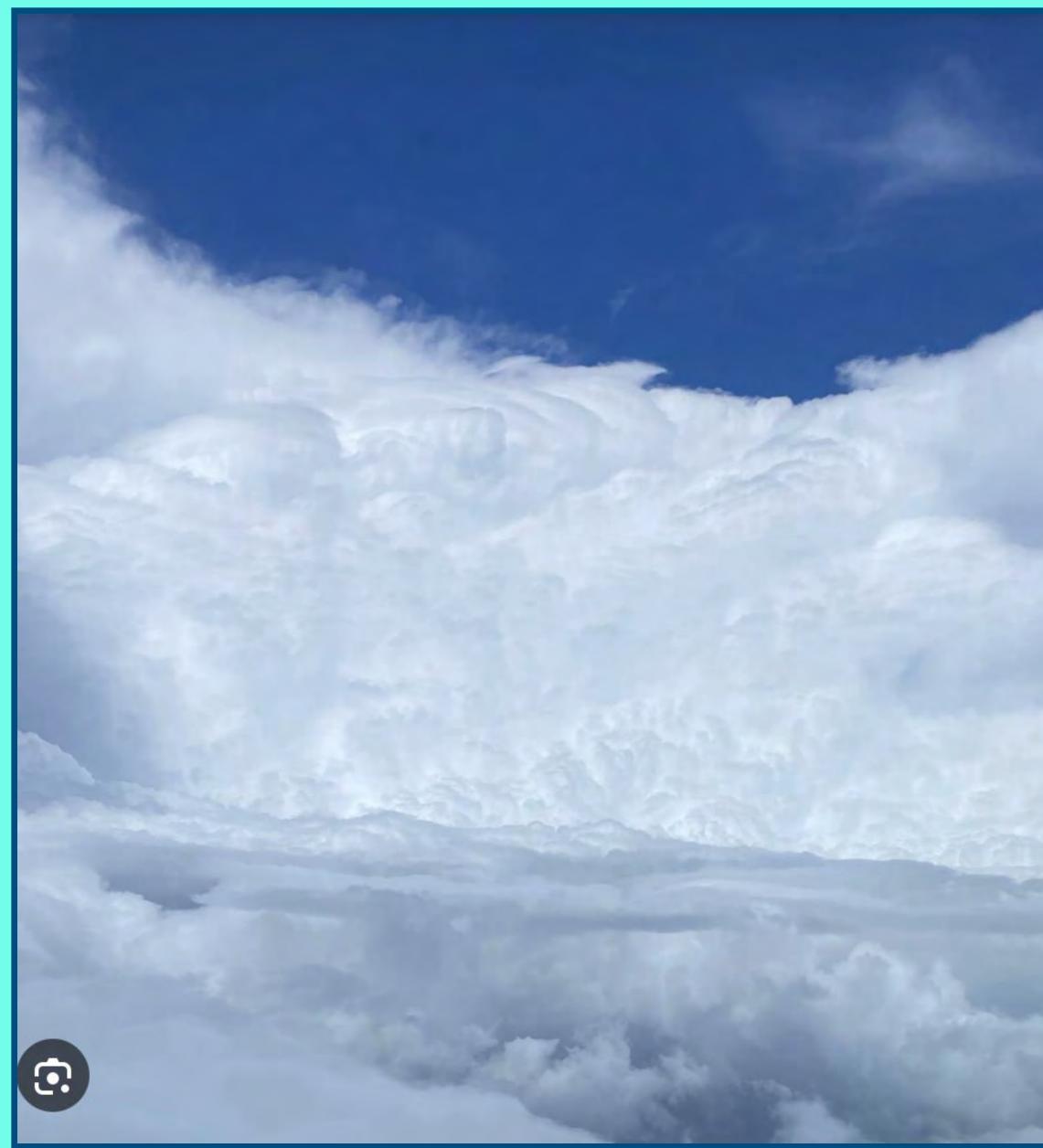


539 N Carancahua St, Suite 1100, Corpus Christi, TX 78401 (361) 884-8824 www.suemaur.com

Forecasting Step 1: Observations

Observational Sources

- Ship reports
- Ocean buoys
- Land reports
- Upper-air soundings
- Satellite data
- Doppler radar (when close to land)
- Aircraft reconnaissance (USAF, NOAA)
- Drones (air, undersea)







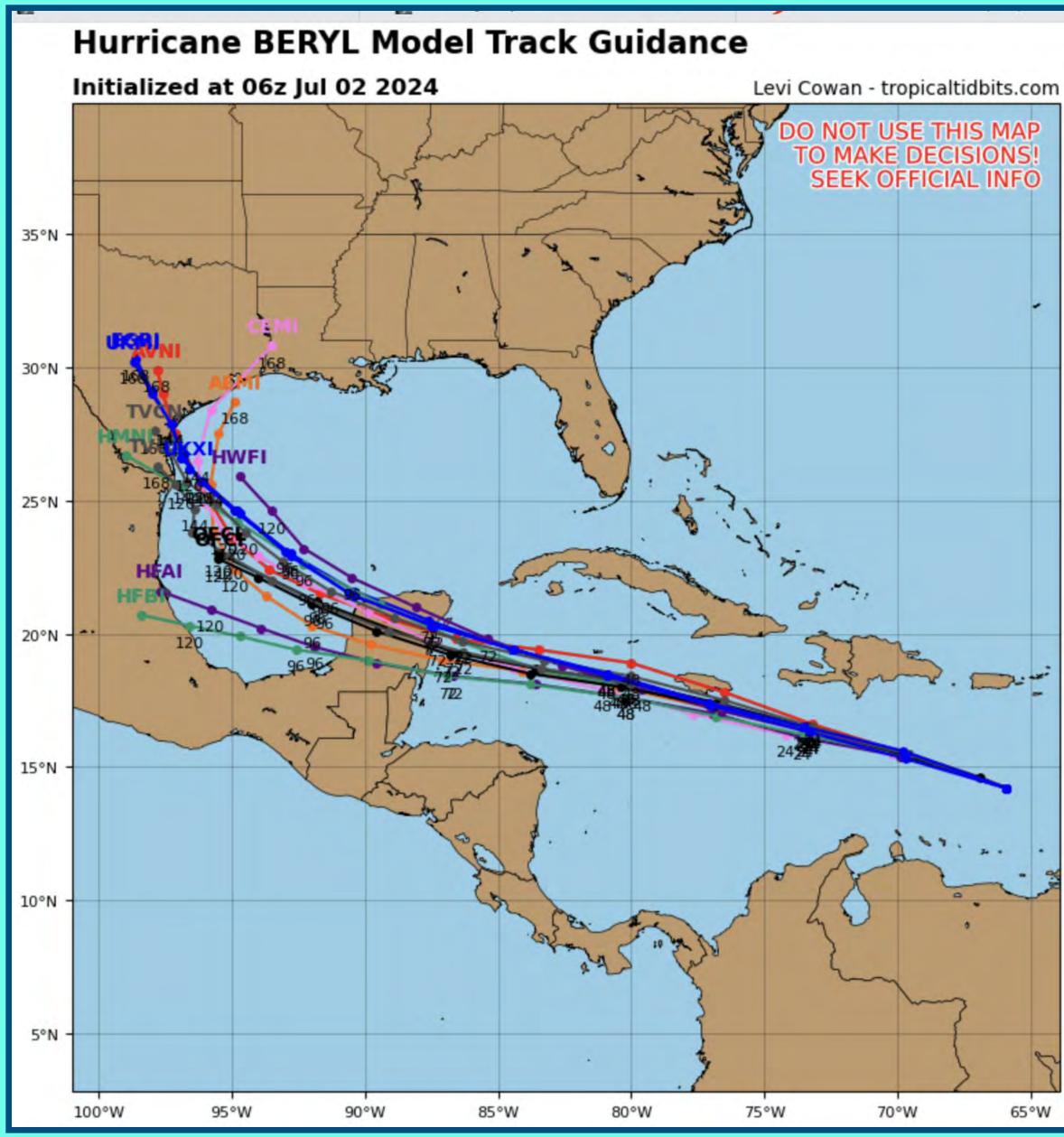


Forecasting Step 2: Numerical Forecast Models

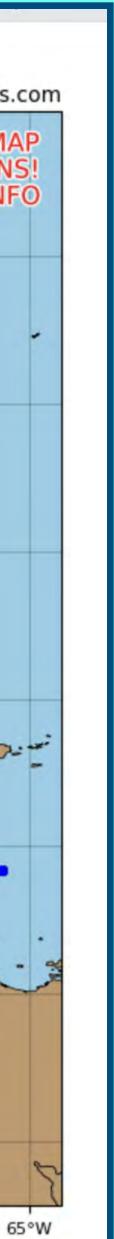
Numerous forecast model data available

- GFS (U.S.)
- **ECMWF (European)**
- **CMC (Canadian)**
- HWRF (U.S.)
- COAMPS (U.S. Navy)
- **Climatology/Persistence**
- **Ensembles**

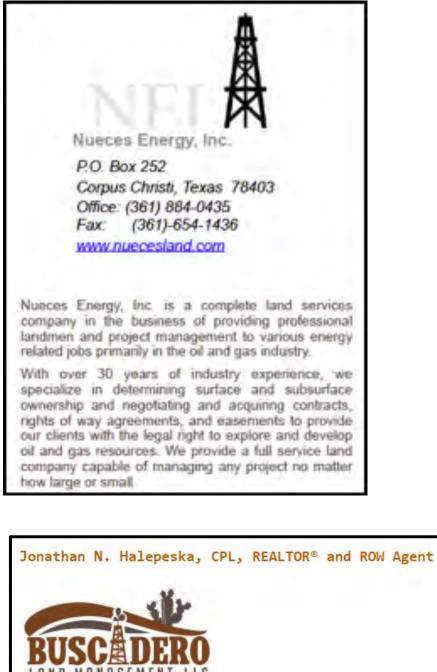
All of these create "spaghetti plots"*



Source: Tropical tidbits.com



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Forecasting Step 3: Official NHC Forecast

NHC forecasters use their knowledge and judgement to issue the official forecast track

- Tracks are generally issued four times per day
- NHC official forecast tracks generally perform
 <u>better</u> than the computer models
- 24-hr error: 40 miles
- 48-hr error: 70 miles
- 72-hr error: 100 miles
- 96-hr error: 150 miles
- 120-hr error: 220 miles

After NHC forecast tracks are released, "spaghetti plots" become a waste of time (although you may find them interesting!)





The Desk & Derrick Club of Corpus Christi is a dynamic organization that promotes the education of the petroleum, energy and allied industries and advances the professional

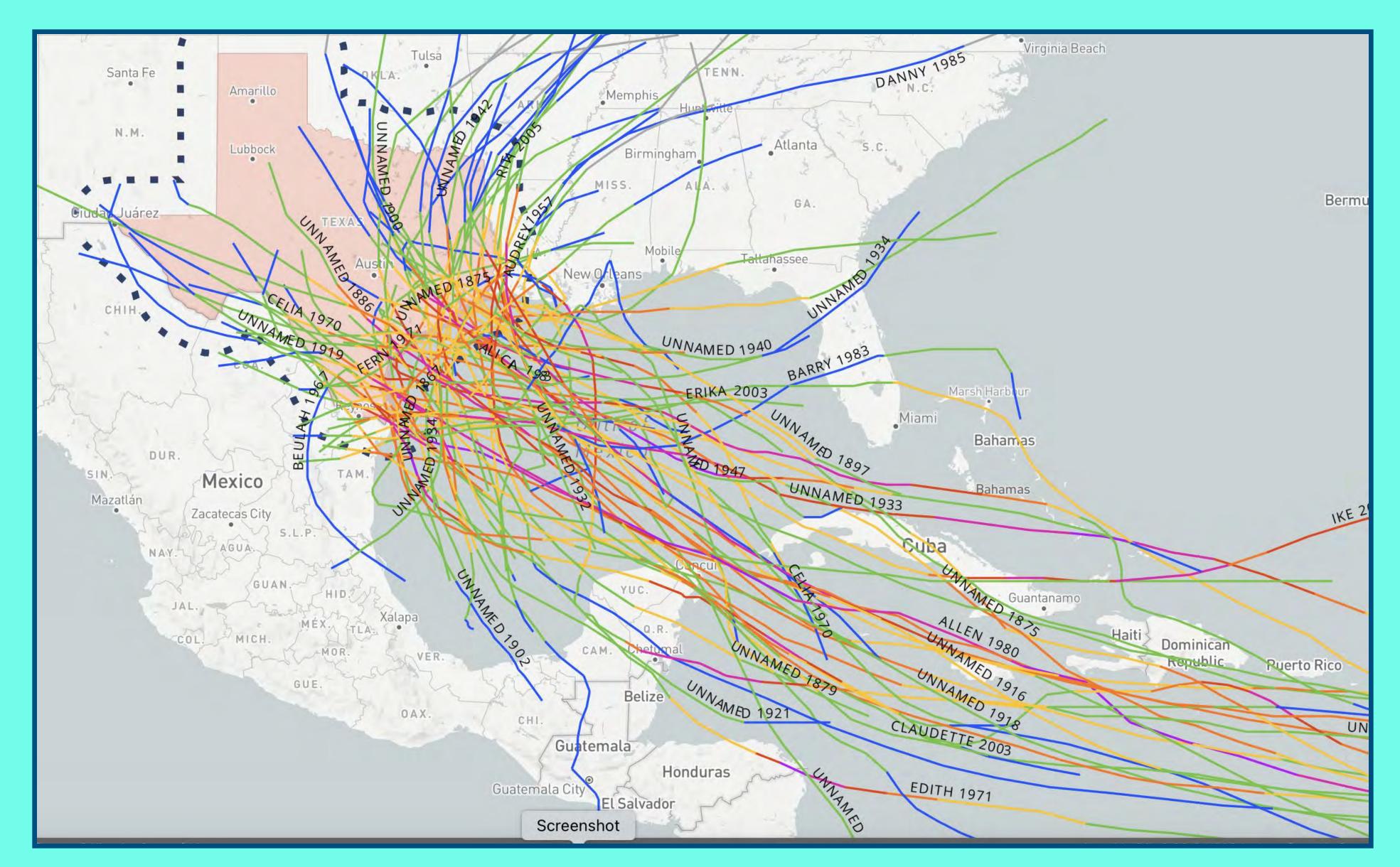
Member Benefits:

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- Enhance communication and leadership skills.
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Texas Hurricanes: 1851-2021



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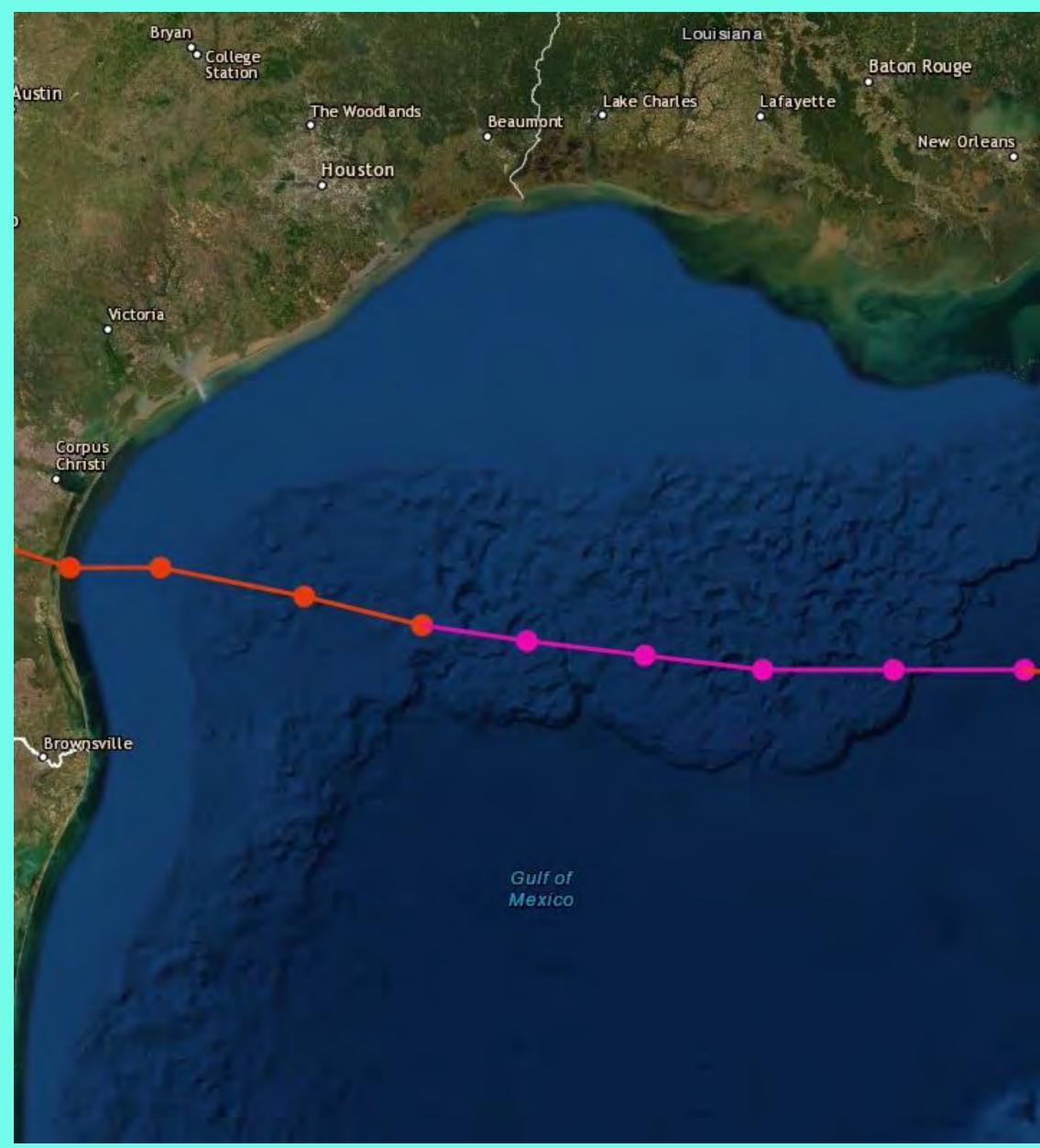
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1919 Hurricane (9/14/19)

Fast Facts

- Category 3 <u>at landfall</u>
- 16 ft storm surge downtown CRP
- CRP wind gusts over 100 mph
- Catastrophic damage downtown
- 600-1,000 deaths
- Dr. Robert Simpson







Heavy destruction of shorefront buildings and businesses.

II photos courtesy of the L.M. Gross Collection, Special Collections and Archives, Mary and Jeff Bell Library, Texas A&M Unive



Source: Public Domain

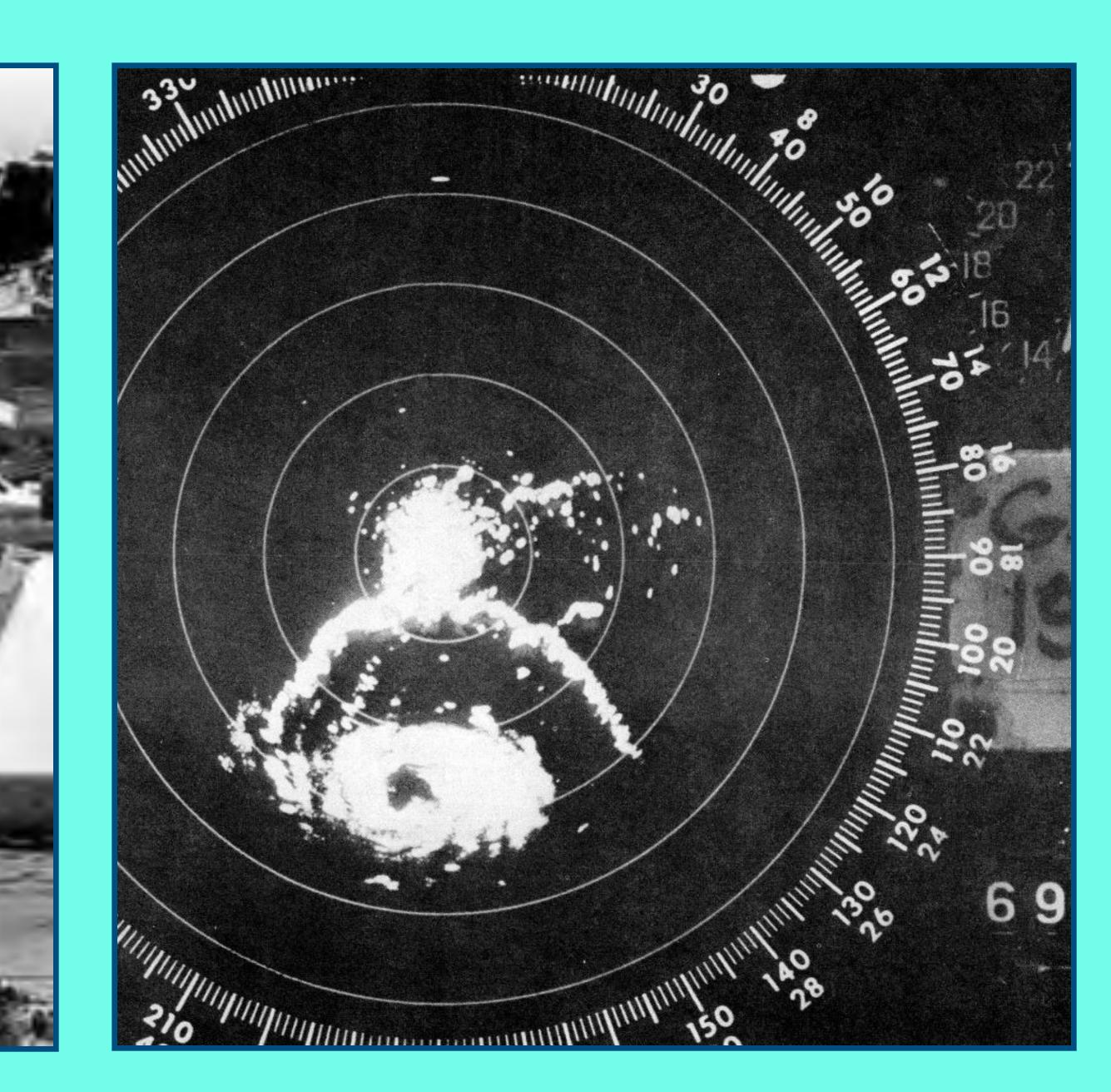


Hurricane Celia (8/3/70) Fast Facts

- Category 4 at landfall
- Initial warnings: Houston/Galveston
- Explosive intensification (record)
- CRP wind gusts over 160 mph
- Catastrophic wind damage
- Dr. Fujita
- 15 deaths/466 injured/\$950M damage
- TWIA

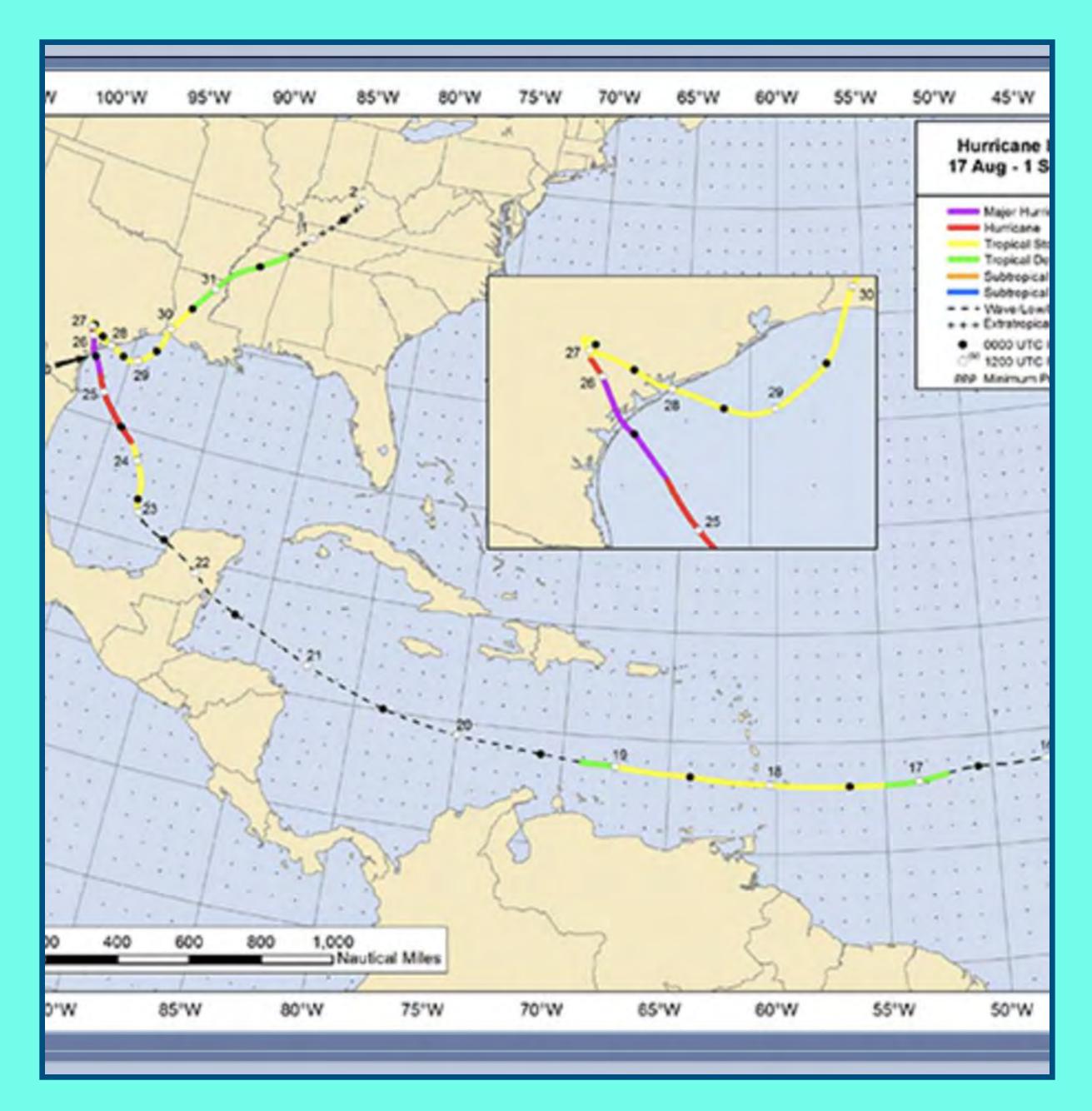


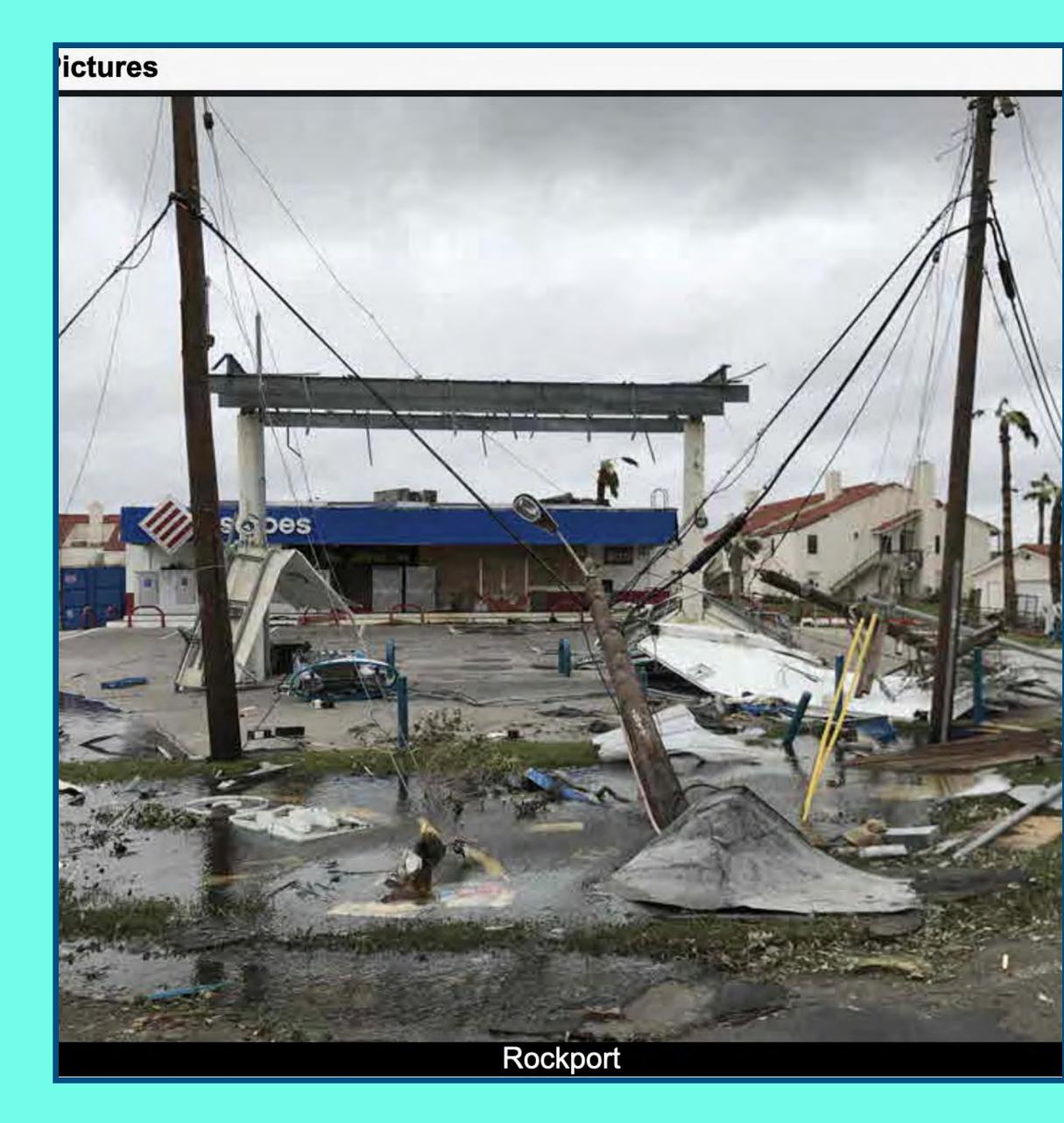




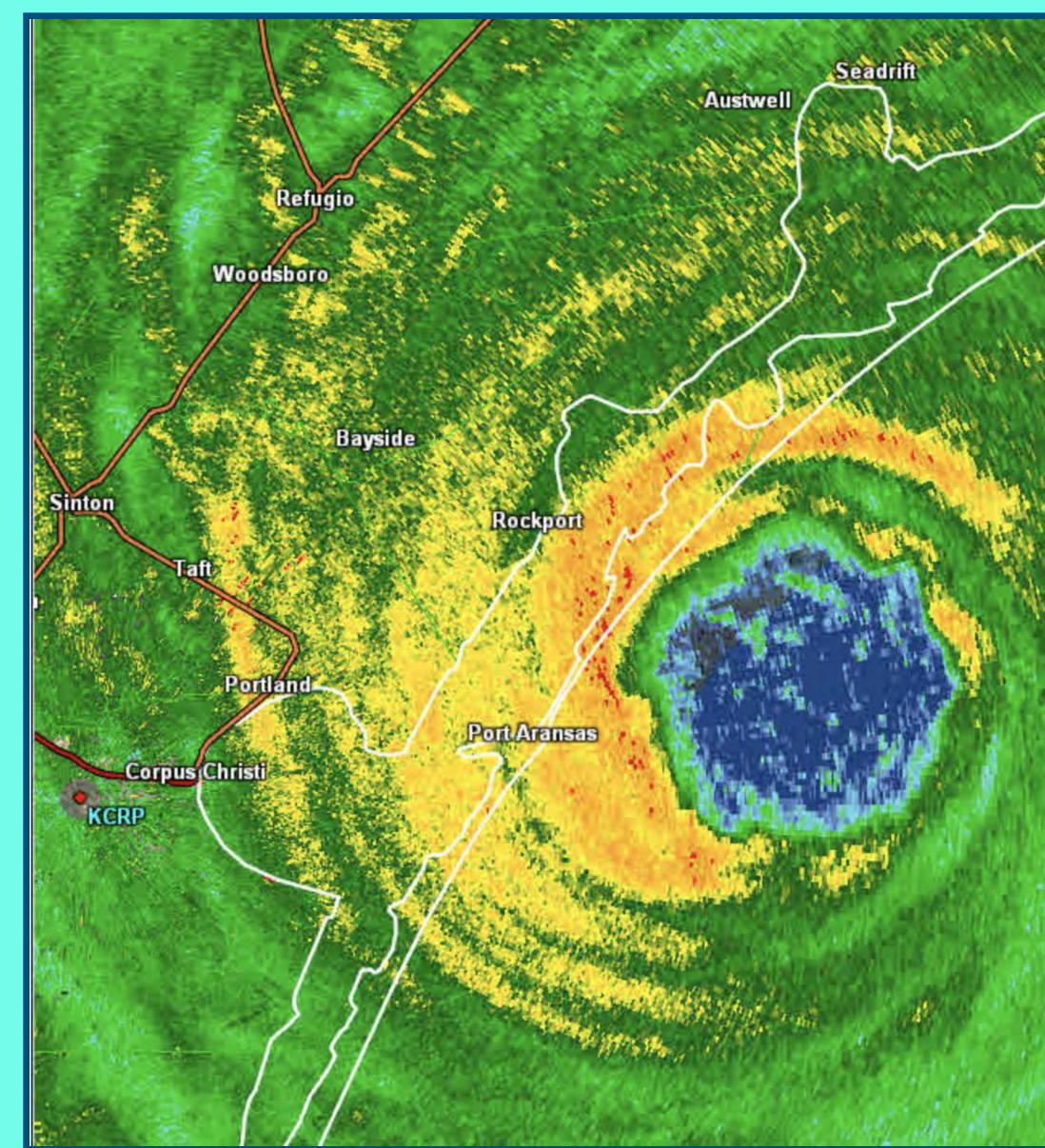
Hurricane Harvey (8/25/17) Fast Facts

- Category 4 at landfall
- Explosive intensification
- Rockport wind gust of 145 mph
- 12 ft storm surge (Port Lavaca)
- 50 in rainfall in Houston
 Addicks Dam/Cinco Ranch tragedy
- Tornadoes
- 80 deaths, \$125 billion in damage
- Psychological impact?





Source: CRP NWS Office

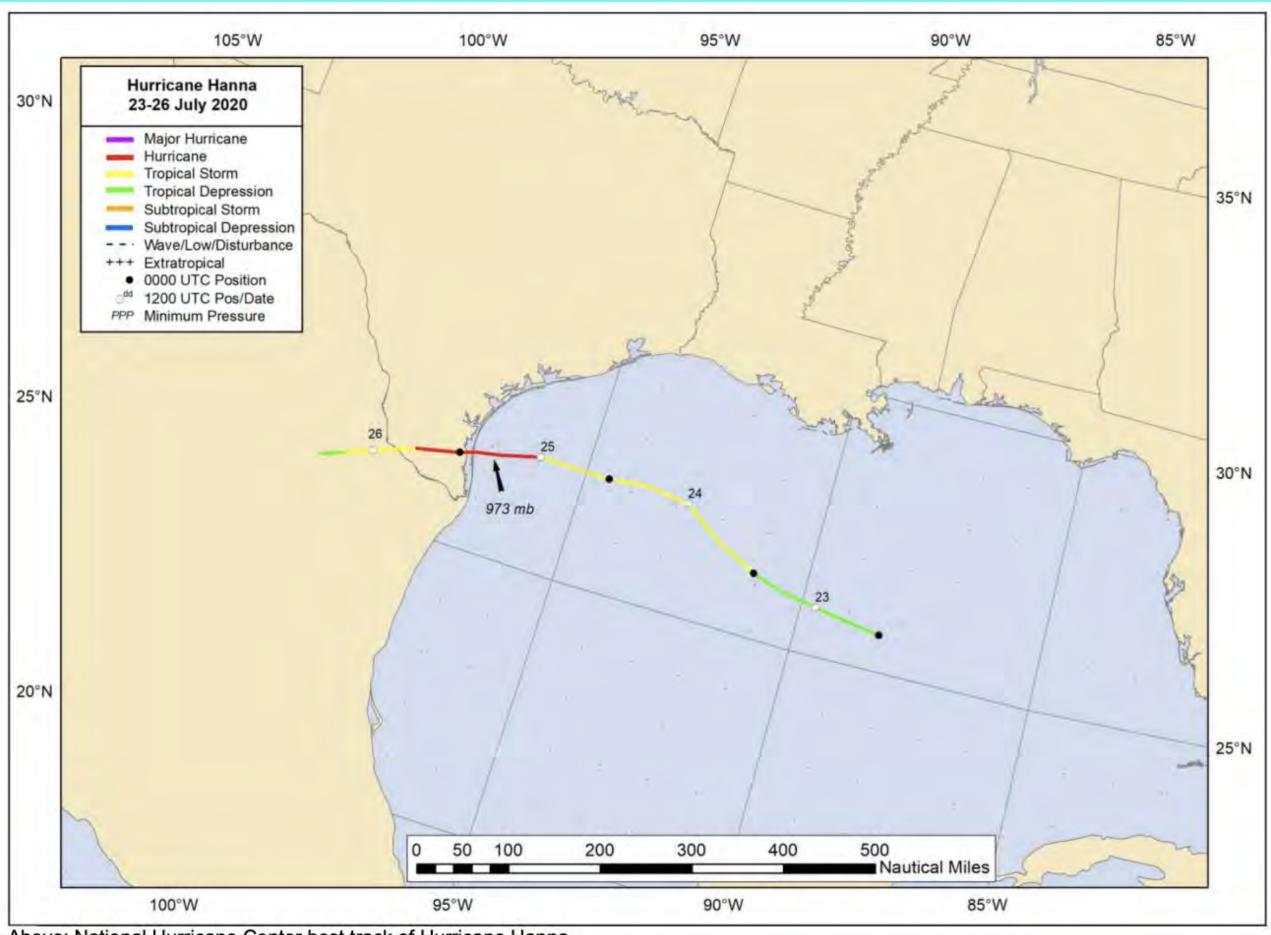




Hurricane Hanna (7/25/20)

Fast Facts

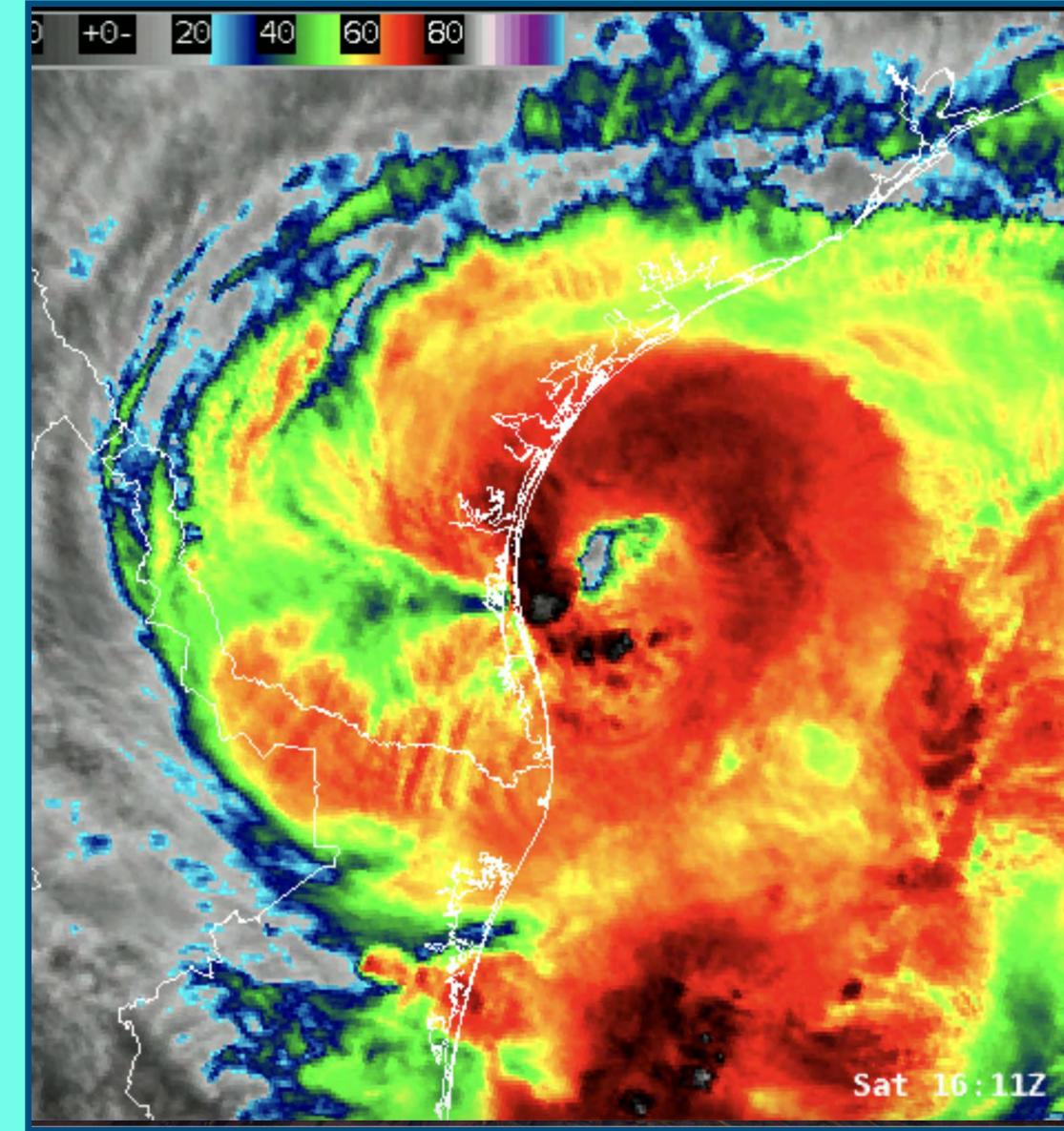
- Category 1 at landfall*
- Rapid intensification before landfall
- NGP wind gusts of 65 mph
- 6.5 ft storm surge (Bob Hall Pier)*
- Widespread storm surge damage
- PINS
- CRP was very fortunate!

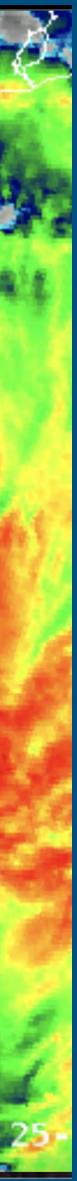


Above: National Hurricane Center best track of Hurricane Hanna.

Source: National Hurricane Center







Some Conclusions

- Higher risk: July-September
- Higher risk: Long-track storms from Yucatan Peninsula through Florida Keys
- Higher risk: Northeast quadrant of storm (generally)
- Add one category to expected intensity at landfall!
- Know your home's elevation!
- Have a checklist for preparation, <u>and</u> a checklist for evacuation!
- ANY hurricane is dangerous!

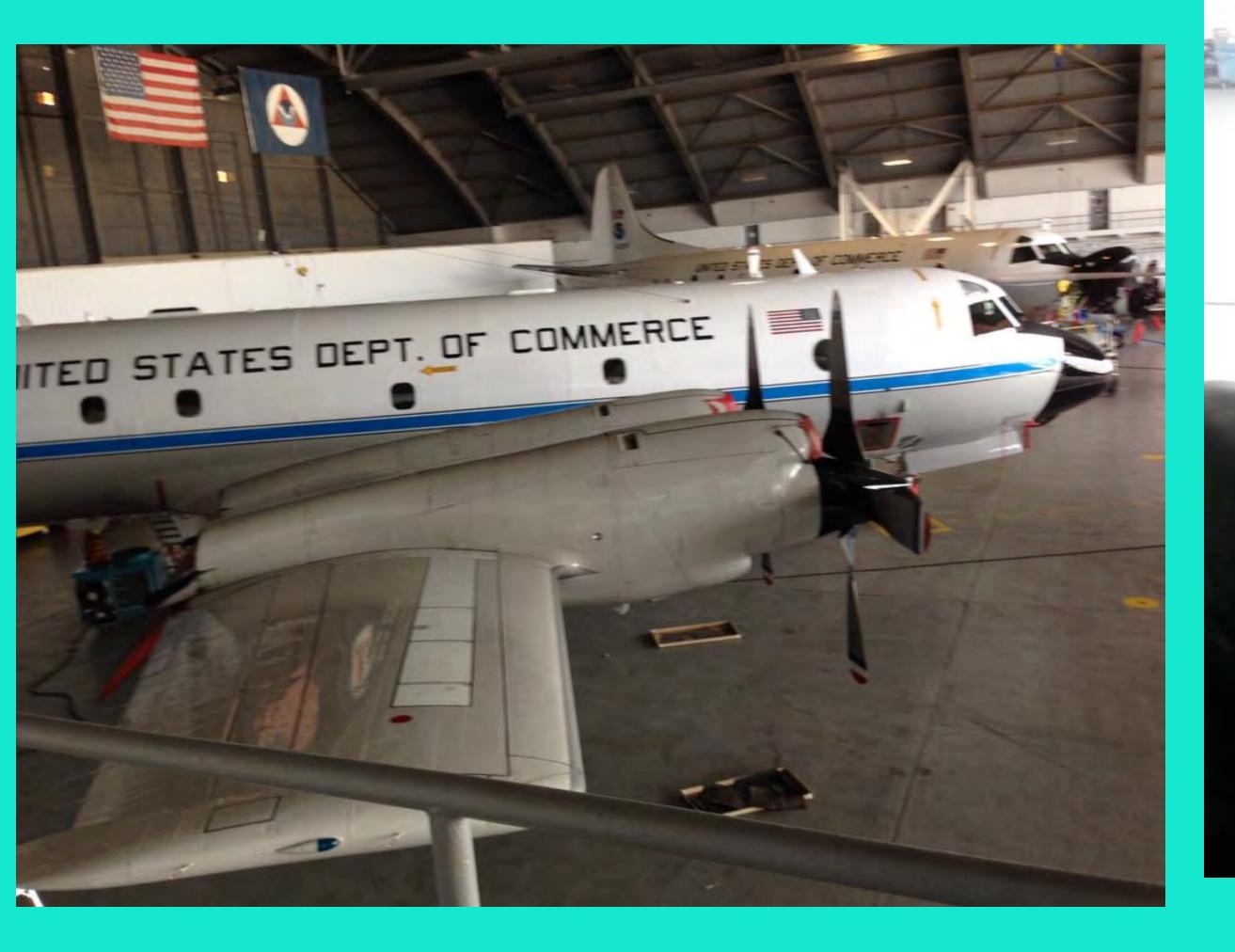


Source: National Hurricane Center



"The key to severe weather forecasting is to know when to worry." (author unknown)

Questions?







Corpus Christi Geological Society Papers available for purchase at the Texas Bureau of Economic Geology

Note: Publication codes are hyperlinked to their online listing in <u>The Bureau Store</u> (http://begstore.beg.utexas.edu/store/).

Cretaceous-Wilcox-Frio Symposia, D. B. Clutterbuck, Editor, 41 p., 1962. CCGS 002S \$15.00

Type Logs of South Texas Fields, Vol. I, Frio Trend. Compiled by Don Kling. Includes 134 fields. 158 p., 1972. Ring binder. CCGS 015TL \$25.00

Type Logs of South Texas Fields, Vol. II, Wilcox (Eocene) Trend. Compiled by M. A. Wolbrink. 98 p., 1979. Ring binder. CCGS 016TL \$25.00

Field Trip Guidebooks

South Texas Uranium. J. L. Cowdrey, Editor. 62 p., 1968. CCGS 102G \$12.00

Hidalgo Canyon and La Popa Valley, Nuevo Leon, Mexico. CCGS 1970 Spring Field Conference. 78 p., 1970. CCGS 103G \$8.00

Padre Island National Seashore Field Guide. R. N. Tench and W. D. Hodgson, Editors. 61 p., 1972. CCGS 104G \$5.00

Triple Energy Field Trip, Uranium, Coal, Gas—Duval, Webb & Zapata Counties, Texas. George Faga, Editor. 24 p., 1975. CCGS 105G \$10.00

Minas de Golondrinas and Minas Rancherias, Mexico. Robert Manson and Barbara Beynon, Editors. 48 p. plus illus., 1978. CCGS 106G \$15.00 Portrero Garcia and Huasteca Canyon, Northeastern Mexico. Barbara Beynon and J. L. Russell, Editors. 46 p., 1979. CCGS 107G \$15.00

Modern Depositional Environments of Sands in South Texas. C. E. Stelting and J. L. Russell, Editors. 64 p., 1981. CCGS 108G \$15.00

Geology of Peregrina & Novillo Canyons, Ciudad Victoria, Mexico, J. L. Russell, Ed., 23 p. plus geologic map and cross section, 1981. CCGS 109G \$10.00

Geology of the Llano Uplift, Central Texas, and Geological Features in the Uvalde Area. Corpus Christi Geological Society Annual Spring Field Conference, May 7-9, 1982. Variously paginated. 115 p., 53 p.

<u>CCGS 110G</u> \$15.00

Structure and Mesozoic Stratigraphy of Northeast Mexico, prepared by numerous authors, variously paginated. 76 p., 38 p., 1984. <u>CCGS 111G</u> \$15.00

Geology of the Big Bend National Park, Texas, by C. A. Berkebile. 26 p., 1984. CCGS 112G \$12.00

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http://www.lib.utexas.edu/books/landsapes/index.php Free service. Rare, fragile, hardto-find, public domain documents covering various topics about the landscape of Texas. Includes the Texas Geological Survey from 1887 until 1894.

USGS TAPESTRY OF TIME AND TERRAIN <u>http://tapestry.usgs.gov</u> The CCGS is donating to all of the 5th and 6th grade schools in the Coastal Bend. Check it out--it is a spectacular map. You might want to frame one for your own office. The one in my office has glass and a metal frame, and It cost \$400 and it does not look as good as the ones we are giving to the schools.

FREE TEXAS TOPOS'S <u>http://www.tnris.state.tx.us/digital.htm</u> these are TIFF files from your state government that can be downloaded and printed. You can ad them to SMT by converting them first in Globalmapper. Other digital data as well.

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http://antwrp.gsfc.nasa.gov/apod/asropix.html Astronomy picture of the day--awesome. I click this page everyday.

http://www.spacimaging.com/gallery/ioweek/iow.htm Amazing satellite images. Check out the gallery.

http://www.ngdc.noaa.gov/seg/topo/globegal.shtml More great maps to share with kids and students.

www.ccgeo.org Don't forget we have our own we page.

http://terra.nasa.gov/gallery/ Great satellite images of Earth.

<u>www.ermaper.com</u> They have a great free downloadable viewer for TIFF and other graphic files called ER Viewer.

<u>http://terrasrver.com</u> Go here to download free aerial photo images that can be plotted under your digital land and well data. Images down to 1 meter resolution, searchable by Lat Long coordinate. Useful for resolving well location questions.

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Midway, North

McCampbell Deep/Aransas Pass

El Bano

Tom Lyne

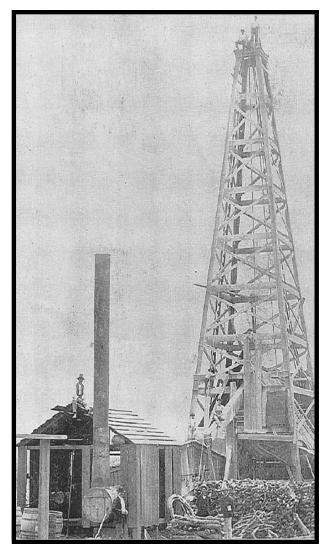
White Creek

White Creek, East

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