



The Bullsheet

The Official News Bulletin of
The Texas DX Society
An ARRL Affiliated Club

The Texas DX Society, Houston TX K5DX@tdxs.net September 2022

The last TDXS meeting was held at Red River BBQ in Katy Texas on September 10th.

The following members attended:

Scott K5DD, Doug W9LCQ, Keith NM5G, Kim K5TU, Rick K5TIA, Robie AJ4F, Orville K5VWW and Dale KG5U

I know...we should have taken pictures...why don't I ever remember??

Editor's Note by Allen Brier N5XZ

So, here I am, late again with the Bullsheet. What can I say, I'm bad. Just been overwhelmed with work lately so I let things slip...again. I know, I know, I should be flogged...or worse...FIRED! Haha, just kidding (or am I?)

We had some nice prop with some elevated numbers this month, and perhaps things will start picking up again. Now that we are just about out of the summer doldrums, DXing and Contesting ought to get more interesting again. There have been some interesting DXpeditions going on lately so that's nice. Right now I'm calling D2UY on 20m FT8 (yeah, I know...FT8!) but for some reason, he really doesn't like me much and rarely answers my calls. Hopefully 3Y0J will be more friendly to me...I only have 3Y on 20m SSB....3Y5X never would send me cards for my 10m CW and SSB contacts, some guys just have trust issues, I don't know.. TDXS did vote to donate \$500 to the effort, and so far we have been rewarded with our logo on their website <https://www.3y0j.no/clubsandfoundations> .

Please read the article I found on Cycle 25...what do you guys think?

Thanks to Jim N5ATT for his article on his tower repair. I've been accidentally sitting on it for a few months and finally remembered to print it. Enjoy!

73, Allen N5XZ

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We are now holding my Thursday "EX-ZED SPRED" lunches on Zoom and it is every week! If you would like to be invited, send me at note at n5xz@arrl.net

The Prez Sez by ????????

We are still looking for someone to step of to be TDXS president...how about you?



TDXS Meeting Minutes by Doug Seyler WB5TKI

Date: August 18, 2022
Location: ZOOM Virtual Meeting

The August TDXS Meeting was held, as usual, via ZOOM Video conferencing. There were 10 participants: Doug W9LCQ, Allen N5XZ, Larry KB5PNU, Orville K5VWW, Dale KG5U, Howard KI5WNN, Jeff W5JEF, Robie AJ4F, Roy W5TKZ, Scott K5DD.

Agenda:

New TDXS Member in July

#248 – Chris Luppens KG5BBF, Houston, TX

Active member count – 49 members are current on 2022 dues.

Texas QSO Party

Saturday, Sept 17 1400Z – 0200Z and Sunday, Sept 18 1400Z – 2000Z

Details at “<http://txqp.net/index.php>”

September TDXS Meeting

Lunch social meeting - Saturday, Sept. 10 at 11:30 a.m.

Red River BBQ & Grill, 1711 S. Mason Rd, Katy, TX

Scheduled in-person meetings at Tracy Gee – October, December. Would you attend?

Program – Allen Brier N5XZ presented a very interesting account of his travels in Russia, Chad and other countries and encounters with local hams, plus whatever else he found of interest on his laptop.

The video is available on Youtube at [TDXS August 2022 Monthly Meeting](#).

Submitted September 5, 2022

Doug Seyler W9LCQ

TDXS Secretary/Treasurer



DX Chairman's Report—OPEN

Looking for a new DX Chairman, any volunteers?



Contest Chairman Report—by Jim Burrough N5DTT

As usual, we will start with a summary of major contests coming up in the next two months.

September

- 3 Colorado QSO Party
Tennessee QSO Party
- 10 WAE DX Contest, SSB
ARRL September VHF Contest
Alabama QSO Party
- 17 Iowa QSO Party
Texas QSO Party
Washington State Salmon Run (QSO Party)
New Jersey QSO Party
New Hampshire QSO Party
- 24 Maine QSO Party

October

- 1 Worked All Provinces of China DX Contest
Oceania DX Contest, SSB
California QSO Party
Russian World Wide Digital Contest
- 8 Oceania DX Contest, CW
Nevada QSO Party
Arizona QSO Party
Pennsylvania QSO Party
South Dakota QSO Party
- 15 10-10 International Fall CW Contest
New York QSO Party
Worked ALL Germany Contest
- 22 UK/EI DX Contest, SSB
- 29 CQ WW DX Contest, SSB



Contest Chairman Report—by Jim Burrough N5DTT

TDXS members participated in several contests in August. Here is their score information as reported in the 3830scores.com website.

North American QSO Party, CW 2022 August 6

Single Op HP

Call	Remote	QSOs	Mults	Op Time	Score	Team
N5XZ		239	48	2	11,472	TDXS

Single Op LP

Call	Remote	QSOs	Mults	Op Time	Score	Team
K5GN	2BSIQ	1469	253	12:00	371,657	TDXS
KG5U		631	165	09:41	104,115	TDXS
AJ4F		625	164	8:56	102,500	TDXS2
KØNM		480	124	10	59,520	TDXS
K5GQ		365	123	7:44	44,895	TDXS2
K5IZO		251	106	9.5	26,606	TDXS2
K5TU		51	31	1.2	1,581	TDXS2

Single Op Assisted HP

Call	Remote	QSOs	Mults	Op Time	Score	Team
K5TIA		379	150	6:30	56,850	TDXS

Maryland/DC QSO Party 2022 Aug 13

Amplified HP

Call	Remote	CW Qs	Ph Qs	Dig Qs	Mults	Op Time	Score	Club
K5TIA		5	0	0	2	6	30	TDXS
AF5J		2	0	0	2	1	12	TDXS

WAE DX Contest, CW 2022 Aug 13

Single Op HP

Call	Remote	QSOs	QTCs	Mults	Op Time	Score	Club
N5XZ		338	331	141	5:51	94,329	TDXS
W5GCX		112	0	117	5.5	13,104	TDXS
AF5J		27	20	46	3:23	2,162	TDXS



Contest Chairman Report—by Jim Burrough N5DTT

50 MHz Fall Sprint 2022 Aug 13

Single Op HP

Call	Remote	QSOs	Mults	Op Time	Score	Club
W5PR		9	7	1	63	TDXS

North American QSO Party, SSB 2022 August 20

M/2 LP

Call	Remote	QSOs	Mults	Op Time	Score	Team
NU5A		1548	187	12	289,476	TDXS

Single Op HP

Call	Remote	QSOs	Mults	Op Time	Score	Team
K5TIA		275	85	10	23,375	TDXS

Single Op LP

Call	Remote	QSOs	Mults	Op Time	Score	Team
W9LCQ		132	74		9,768	TDXS
AJ4F		147	52	3	7,644	TDXS
N5DTT		81	46	6	3,726	TDXS
K5IZO		75	43	4	3,225	TDXS

Kansas QSO Party 2022 Aug 27

Single Op HP

Call	Remote	CW Qs	Ph Qs	Dig Qs	Mults	Op Time	Score	Club
AF5J		80	0	0	43	8:54	10,420	TDXS
K5TIA		59	0	0	36	10	6,372	TDXS

Single Op LP

Call	Remote	CW Qs	Ph Qs	Dig Qs	Mults	Op Time	Score	Club
W5GCX		42	9	0	29		4,176	TDXS



Contest Chairman Report—by Jim Burrough N5DTT

Hawaii QSO Party 2022 Aug 27

SOAB HP

Call	Remote	CW Qs	Ph Qs	Dig Qs	Mults	Op Time	Score	Club
AF5J		7	0	0	7	1	147	TDXS
W5GCX		4	5	0	5		110	TDXS

Worldwide Digi DX Contest 2022 Aug 27

SOAB HP

Call	Remote	QSOs	Mults	Op Time	Score	Club
W9LCQ		146	57		14,991	TDXS
K5TIA		44	42	12	6,342	TDXS

SOAB LP

Call	Remote	QSOs	Mults	Op Time	Score	Club
N5DTT		69	30	12	2,520	TDXS

Ohio QSO Party 2022 Aug 27

Single Op HP

Call	Remote	CW Qs	Ph Qs	CW Mults	Ph Mults	Op Time	Score	Club
AF5J		57	0	29	0	5:14	3,306	TDXS
K5TIA		50	0	30	0	10	3,000	TDXS

It was another good month of contesting. We have a dependable group of consistent testers, and they seem to really enjoy their participation. Several members have been working the State QSO Party Challenge and seem to be having a lot of fun with it. They have accumulated some very impressive scores. If you have not yet investigated this annual and year-long contest, you might go to their website and begin to prepare for the 2023 contest. <http://stateqsoparty.com/>

By the way, the Texas QSO Party is coming up on September 17-18. It is not too early to start to make some plans for that weekend. <https://www.txqp.net/>

Jim, N5DTT



Where in the World—By Ron Litt K5HM

A small, volcanic, equatorial Island located in the South Atlantic, about halfway between South America and Africa. It was discovered twice. Once by a Spaniard, who apparently thought it of no importance. It was found again by the Portuguese explorer Alfonso de Albuquerque who named it for the day he sighted it, Ascension Day in the church calendar.



Dry and barren, it remained uninhabited except for numerous seabirds and native green turtles. Goats were later introduced as well. In 1815, the British claimed the island and garrisoned it as a precaution after imprisoning Napoleon on Saint Helena island to the southeast.

Historically, it has played a role as an important safe haven and coaling station to mariners. During the 1930's and 40's it was a stopover for commercial airliners during the days of international air travel by flying boats. In World War II, Ascension was an important naval and air station. The island was used extensively by the British

military during the Falklands War.

Today, the island population of about 800 is made up of government and military personnel. The Royal Air Force and the USAF maintain a presence. There is a European Space Agency rocket tracking station, an Anglo-American signals intelligence facility and the BBC World Service Atlantic Relay Station. Ascension Island hosts one of five ground antennas that assist in the operation of the Global Positioning System (GPS) navigational system.

QRZ.com lists six hams who actually reside on the island. Other hams have operated from ZD8 as DXpeditions' or have passed through as a result of business visits. It is listed 238th on the list of most wanted DXCC entities.

St. Helena (ZD7)
IOTA AF-022

Another island of volcanic origin, St. Helena was also discovered by Portuguese explorers around 1500. It lies approximately 800 miles Southeast of its neighbor, Ascension Island. Saint Helena is one of the most remote places in the world. The nearest port is Namibe in Southern Angola.



Where in the World—By Ron Litt K5HM

Both islands along with Tristan de Cunha are governed as part of the British Overseas Territory of St Helena, Ascension and Tristan da Cunha.

In 1815, the British government selected Saint Helena as the place of detention of Napoleon Bonaparte. He was brought to the island in October 1815; where he died on 5 May 1821.

Today's island population is about 4,200. St Helena's economy is weak, and is almost entirely sustained by aid from the British government. The public sector dominates the economy, accounting for about 50% of gross domestic product.

According to QRZ.com, twenty-eight hams live on the island, mostly in Jamestown the capital city. St. Helena is listed as the 158th most wanted DXCC entity.

Reporting from The Dark Side,
Ron, K5HM



N5DTT Fayette County QTH Tower Repair and Upgrade

I got serious about contesting in 2002. At that time, I had a Diamond Antenna CP-6A vertical on a 28-foot Rohn tower and an Icom 746 at home. I also had some land in Fayette County that would be a good location for a tower and triband beam. So, as time and finances permitted, I began planning and constructing a small contesting QTH.

I erected a 60-foot Universal Tower and fitted it with a Mosely TA-33-JR-N triband beam and a Yaesu G-450 rotor. I had attached an Alpha-Delta 40/80-meter dipole at the 45 feet level. I also have a 40-meter NVIS dipole nearby and 30-foot Universal Tower near the ham shack that will eventually have a 6-meter beam and a 2M/440 vertical. The ham shack is an 8x10 foot portable building with aluminum siding on a wooden frame. I insulated the ceiling with fiberglass batts and the walls with recycled Styrofoam. Cedar fence boards cover the insulated interior walls. I brought in AC power to the ham shack with plugs for a portable air conditioner and radio equipment. The wiring is heavy enough to support the addition of an amplifier in the future. I have an Icom-746 as my primary radio with a Pelican cased Icom-706 for a backup radio.

Since the tower was up and the ham shack was usable over the last few years, I have operated from my Fayette County location in most major international contests and the IARU, NAQPs, 7th Area, and New England and Texas and California QSO Parties. In May of 2021, SE Fayette County had at least one tornado that affected my place in the Colorado River Valley. The week after the tornado, I surveyed and found that the ham shack, towers, and beam looked like they got through the storm alright. At the beginning of June, I climbed the big tower to install a 40/80 dipole. On the way down the tower, I found that one leg of the tower had a vertical rupture, about 2 inches long. I looked at the other legs and found similar damage. I quickly finished my descent of the tower.

The tower was usable, but it was clear that I needed to replace the section with the ruptured legs. Fortunately, I had another straight section already available on site. So, I decided to use the tower, as is, for the remainder of the Summer, Fall and Spring contests. Then, when the contest season ended, I would make the tower repair.

I am not an engineer, but my Emergency Management training and experience proved to me that good and accurate planning is key to success in correcting a process or physical issue. So, I set out to create a spreadsheet workplan that detailed every step in repairing the tower. With that in place, the organizing of the repair would be both clear and comprehensive. The spreadsheet started with the temporary repair to the damaged section to allow for the safe lowering of the damaged tower. There is a lot of physical stress on the tower when it pivots down. The last thing I needed was to destroy the tri-bander, rotor, and the functional portions of the tower with a poorly planned or executed operation.

Once I completed the temporary repair plan, I began concentrating on planning the actual repair. I am very familiar with the tower, its parts and the processes involved in its assembly. This knowledge was critical in breaking down the steps necessary to take the tower apart safely and efficiently, make the required exchange of tower sections and then put it all back together. The final spreadsheet had 128 steps in the order



N5DTT Fayette County QTH Tower Repair and Upgrade

of performance. A second spreadsheet page described every tool and product needed.

The Spring contest season ended for me on March 27, after completing the CQ WW WPX SSB contest. The next contest on my plan was the IARU Contest on July 9, which gave me about three months for my tower repair project. It was now time to execute the first steps of my workplan, the temporary repair to allow for the safe lowering of the tower. I have known Rick Hall, K5GZR, for many years and often have lunch with him and a group of fellow Hams. He has helped me before with work on my Fayette County tower. Over lunch one day, I asked him if he could help with the first part of my plan. He was glad to help, and we arranged the work for April 8.

The temporary repair consisted of my climbing the tower to the level of the defects and re-enforcing the legs. The process involved installing 3-foot sections of one-inch aluminum angle sections backed by 3/4 inch stainless steel strips secured top and bottom with "U-bolts" and 1/2-inch stainless hose clamps around the leg and supporting strips above and below the fractures. I own an excellent climbing harness and the necessary fall protection belts. Rick operated as my ground man. After about two hours on the tower, I completed the temporary repairs. Rick and I felt that we could safely lower the tower with no further damage.

A week later, I scheduled a wrecker with an extendable boom to safely lower the tower. The wrecker driver and I have worked together twice before, so he was familiar with the process and quite willing to help with stubborn base bolt removal and final tipping of the tower. I climbed the tower with the lifting strap and his cable hook. We lowered the tower when I completed the connection and final safety checks. I had sawhorses and timbers available and, as we lowered the tower to its resting position, I put all the support structures into place and secured the tower. Easter was coming up, so it would be a couple of weeks before I could assemble the team for the permanent repairs.

Easter weekend was also the weekend for the BVARC Greater Houston Tailgate event. I had nothing to sell but needed a couple of items I knew ABR Industries would have at their table. After getting what I needed from ABR, I had plenty of time to get together with Ham friends also attending. I met up with Robie Elms, AJ4F, and I told him about my tower project. I asked if he could help and he said, "Sure. When?". I had already gotten the dates Rick would be available, so I asked if he could join us on April 29. He emailed a couple of days later and said he was on board. Rick suggested that he contact Robie and work out a ride-share so both of them did not have to drive to La Grange. I sent both a copy of the workplan.

I had the tools and necessary equipment together on Thursday, the tower was already lowered and was ready to go early Friday morning. I planned to arrive earlier than Robie and Rick to get everything set up at the worksite. I also planned to swap out six old bolts for new ones on the section not involved in the section replacement. I wanted to be sure I had tested the technique and the tools. Then spent some time putting penetrating oil on all the bolts involved in the rest of the work.

When Robie and Rick arrived, we had a short meeting to discuss any questions about the workplan; we decided to leave the antenna, rotor and two top sections together and analyze my rotor issue. Because all the cables were inside the tower, the next step involved disconnecting all cables from the top coax grounding bracket and rotor and moving them down to the tower section at 20 feet.



N5DTT Fayette County QTH Tower Repair and Upgrade

We secured the cables and got to work on the section removals. Using a scissor jack and wood blocks to apply the needed force, we separated the top sections from the damaged section and secured them. The three of us worked to get the damaged section out and then moved on to the next section. That process went well. That was the insertion point for the new section. Rick took measurements of the spacing between the legs of the bottom of the new section and the top of the old section. He wanted to find the optimum match to simplify the joining the sections. He found the "perfect" configuration and we quickly got the sections mated and new bolts in place. We treated each bolt with anti-seize to prevent future problems with the bolts.

We had two more matings to go. We used the same techniques and got good results with only a small amount of hassle getting the top sections mated to the sections below. While one person re-cabled the upper tower, the others worked on the issue with the rotor. The rotor problem was that nuts had loosened. Everything else was fine. Robie loosened the nuts further to allow free turning of the rotor. Rick and I teamed up to "calibrate" the rotor and then set it, so the beam direction and the rotor control in the ham shack matched. Robie then retightened the rotor nuts, but the one tool not anticipated in the planning was a set of metric deep-sockets. We did have a suitable crescent wrench, so the work got done, just not as efficiently as possible. The rotor cable connection was checked and weatherproofed. I placed heat shrink tubing on the coax cables to protect the coax connections at the top of the tower. We connected the two coax cables to the top tower grounding bracket and moved the heat shrink tube into place. We applied heat to the tubing to make an excellent weatherproof seal. We had reassembled the tower and corrected the loose mast to rotor issues. I removed a 2M/440 antenna from the top of the mast and the coax going to it was now available for the 40/80 M dipole. We repositioned the bracket, inserted a section of heat shrink tubing and connected the coax to the 40/80 dipole on the bracket.

While we broke for a well-deserved lunch and a lot of iced tea at Orsak's in Fayetteville, I called the wrecker service and arranged for the tower raising after lunch.

After eating, we returned to the site and taped down all the cables, starting with electrical tape, then Nylon cable ties and then covered with electrical tape for UV protection. Finally, the wrecker driver and truck arrived. The driver is quite familiar with the process, so he got into position as we finished the cable taping. I spoke with the driver and reviewed the raising plan. We then placed the lifting strap in place and attached the wrecker cable. It was time to raise the tower. We all moved back a safe distance and watched as the tower went up. It was such a beautiful sight to see the tower going back up. As it reached the final position, we secured the new bolts at the bottom of the tower. Robie put second bolts at the pivot point of the tower base as I got into my climbing harness. I knew I was tired, so I slowly climbed the tower, ensuring I kept two points of contact with the tower, the work position belt and the fall prevention lanyard. Finally, I reached the connection point, unhooked the cable, and dropped it. Then I removed the lifting strap and dropped it. After returning to the ground and removing the climbing harness, I paid the wrecker driver and got him on his way. Rick, Robie and I packed up all the tools and equipment and secured the site. They headed home with my great thanks. I got a few last things done and locked the gate, satisfied that effective planning and good friends' help had led to a great outcome.

N5DTT Fayette County QTH Tower Repair and Upgrade

Rick, Robie and I packed up all the tools and equipment and secured the site. They headed home with my great thanks. I got a few last things done and locked the gate, satisfied that effective planning and good friends' help had led to a great outcome.



Tower on ground



N5DTT Fayette County QTH Tower Repair and Upgrade



Secured beam, rotor and top two sections.



Tower back up, me on tower and wrecker with extended boom

N5DTT Fayette County QTH Tower Repair and Upgrade

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NEW SUNSPOT CYCLE COULD BE ONE OF THE STRONGEST ON RECORD

Scientists use an extended, 22-year solar cycle to make the forecast

DEC 7, 2020 - BY LAURA SNIDER



NCAR & UCAR News

In direct contradiction to the official forecast, a team of scientists led by the National Center for Atmospheric Research (NCAR) is predicting that the Sunspot Cycle that started this fall could be one of the strongest since record-keeping began.

In a new article published in [Solar Physics](#), the research team predicts that Sunspot Cycle 25 will peak with a maximum sunspot number somewhere between approximately 210 and 260, which would put the new cycle in the company of the top few ever observed.

The cycle that just ended, Sunspot Cycle 24, peaked with a sunspot number of 116, and the consensus forecast from a panel of experts convened by the National Aeronautics and Space Administration (NASA) and the National Oceanic and Atmospheric Administration (NOAA) is predicting that Sunspot Cycle 25 will be similarly weak. The panel predicts a peak sunspot number of 115.

If the new NCAR-led forecast is borne out, it would lend support to the research team’s unorthodox theory – detailed in a series of papers published over the last decade – that the Sun has overlapping 22-year magnetic cycles that interact to produce the well-known, approximately 11-year sunspot cycle as a byproduct. The 22-year cycles repeat like clockwork and could be a key to finally making accurate predictions of the timing and nature of sunspot cycles, as well as many of the effects they produce, according to the study’s authors.

“Scientists have struggled to predict both the length and the strength of sunspot cycles because we lack a fundamental understanding of the mechanism that drives the cycle,” said NCAR Deputy Director Scott McIntosh, a solar physicist who led the study. “If our forecast proves correct, we will have evidence that our framework for understanding the Sun’s internal magnetic machine is on the right path.”

The new research was supported by the National Science Foundation, which is NCAR’s sponsor, and NASA’s Living With a Star Program.

SUNSPOT CYCLE 25 STARTS WITH A BANG; WHAT WILL FOLLOW?

In McIntosh’s previous work, he and his colleagues sketched the outline of a 22-year extended solar cycle using observations of coronal bright points, ephemeral flickers of extreme ultraviolet light in the solar atmosphere. These bright points can be seen marching from the Sun’s high latitudes to the equator over about 20 years. As they cross the mid-latitudes, the bright points coincide with the emergence of sunspot activity.

McIntosh believes the bright points mark the travel of magnetic field bands, which wrap around the Sun. When the bands from the northern and southern hemispheres – which have oppositely charged magnetic fields – meet at the equator, they mutually annihilate one another leading to a “terminator” event. These terminators are crucial markers on the Sun’s 22-year clock, McIntosh says, because they flag the end of a magnetic cycle, along with its corresponding sunspot cycle, — and act as a trigger for the following magnetic cycle to begin.



NEW SUNSPOT CYCLE COULD BE ONE OF THE STRONGEST ON RECORD

While one set of oppositely charged bands is about halfway through its migration toward the equatorial meetup, a second set appears at high latitudes and begins its own migration. While these bands appear at high latitudes at a relatively consistent rate — every 11 years — they sometimes slow as they cross the mid-latitudes, which appears to weaken the strength of the upcoming solar cycle.

This happens because the slowdown acts to increase the amount of time that the oppositely charged sets of bands overlap and interfere with one another inside the Sun. The slow-down extends the current solar cycle by pushing the terminator event out in time. Shifting the terminator out in time has the effect of eating away at the spot productivity of the next cycle.

“When we look back over the 270-year long observational record of terminator events, we see that the longer the time between terminators, the weaker the next cycle,” said study co-author Bob Leamon, a researcher at the University of Maryland Baltimore County. “And, conversely, the shorter the time between terminators, the stronger the next solar cycle is.”

This correlation has been difficult for scientists to see in the past because they have traditionally measured the length of a sunspot cycle from solar minimum to solar minimum, which is defined using an average rather than a precise event. In the new study, the researchers measured from terminator to terminator, which allows for much greater precision.

While terminator events occur approximately every 11 years and mark the beginning and end of the sunspot cycle, the time between terminators can vary by years. For example, Sunspot Cycle 4 began with a terminator in 1786 and ended with a terminator in 1801, an unprecedented 15 years later. The following cycle, 5, was incredibly weak with a peak amplitude of just 82 sunspots. That cycle would become known as the beginning of the “Dalton” Grand Minimum.

Similarly, Sunspot Cycle 23 began in 1998 and did not end until 2011, 13 years later. Sunspot Cycle 24, which is just ending, was quite weak as well, but it was also quite short — just shy of 10 years long – and that’s the basis for the new study’s bullish prediction that Sunspot Cycle 25 will be strong.

“Once you identify the terminators in the historical records, the pattern becomes obvious,” said McIntosh. “A weak Sunspot Cycle 25, as the community is predicting, would be a complete departure from everything that the data has shown us up to this point.”

ABOUT THE ARTICLE

Title: [Overlapping magnetic activity cycles and the sunspot number: Forecasting Sunspot Cycle 25 amplitude](#)

Authors: Scott W. McIntosh, Sandra Chapman, Robert J. Leamon, Ricky Egeland, and Nicholas W. Watkins

Journal: *Solar Physics*



Texas DX Society Board members

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Webmaster	Scott Patout, K5DD	k5dd at arrl.net
Bullsheets Editor	Allen Brier, N5XZ	n5xz at arrl.net

DXCC/WAZ/WAS QSL Card Checker	Bob Walworth, N5ET	rwalworth at charter.net
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How to reach US

On the World Wide Web <http://www.tdxx.net> email address: k5dx@tdxx.net

On 2 Meters: 147.96/36 MHz (100 Hz) On 70cm: 447.00/442.00 MHz (103.5 Hz)

DX Cluster—On Packet: Connect to **K5DX** on 145.71 MHz or telnet via IP address 75.148.198.113

Facebook: <https://www.facebook.com/groups/TexasDXSociety/> (new)

TDXS says "HAPPY BIRTHDAY" to these members with birthdays in September:

**Please notify the Editor if I have missed any-
one or of any updates:**

Dave Evans - K5SOR
 Tom Taormina - K5RC
 Jay Temple - W5JQ
 Lance Rumfield - WD5X
 Steve Nace - AA7V
 Bob King, Jr. - NM5L
 Dave Sarkozi - WB5N
 Bill Schmidt - K9HZ/J68HZ