

**NATIONAL
WEATHER SERVICE**

**2023
STAKEHOLDERS
REPORT**

TOPEKA, KANSAS

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WELCOME

KRIS CRAVEN, METEOROLOGIST IN CHARGE

Greetings and welcome to our new stakeholders report! My name is Kris Craven, and I'm the Meteorologist in Charge (MIC) of the National Weather Service (NWS) forecast office here in Topeka, Kansas. Our staff here is composed of a talented group of meteorologists, technicians, and support staff, all of whom work hard to go about our mission of protecting lives and property. We are a 24/7, 365-day operation, and these folks dedicate their lives to providing the information you need to keep you and your families safe during impactful weather. Inside this report, I hope you'll get a better picture of your local NWS office!

For those of you who were readers of our biannual newsletter *The Topeka Tiller*, this format will look a little different. We hope that by expanding to a larger annual summary, we will be able to capture a better year in review – a one stop shop where you can read more about the highlights of the year for our area. We will share information from all aspects of what we do here – not just the forecasts and the warnings, but also our interactions outside the office, showcasing some of our dedicated observers and spotters who help sustain the national climate data record and improve our warning process through ground truth, and give you some insight on what we do when the weather is “quiet”! (One of our bigger pastimes is training and preparing for when it isn't!) When we do get out and about, some of the things we do include interacting with our partners in the weather and media industry, attending conferences and training to stay up to date on the fast-paced advancements in our field, strengthening relationships with our sister offices, participating in outreach with students, and building the next generation of not just budding meteorologists and scientists, but hopefully sparking curiosity in students for learning about the world around them.

I hope you enjoy reading a little more about who we are and what we do – and taking a look back on 2023! Special thanks to our lead editor meteorologist Chelsea Picha for putting together the contributions from throughout the office.

TOPEKA AREA TOP 10 EVENTS OF 2023

DANIEL REESE, METEOROLOGIST



HEAVY SNOW IN TOPEKA AT A HIGH SCHOOL STATE FOOTBALL PLAYOFF GAME ON NOVEMBER 25. PHOTO COURTESY OF JENNIFER SMITH.



EF-2 TORNADO NORTH OF HAMLIN, KS ON MAY 12. IMAGE COURTESY OF WAYNE SCLESKY.

In 2023 we saw a number of impactful weather events across northeast Kansas - from extreme heat to heavy snow to severe weather. This is a subjective list of our top 10 most memorable events. What weather events do you most remember from 2023?

1. August 19-25 heat wave

Seven straight days of triple digit heat. At times temperatures hit 110+ degrees, and heat indices hit 120+ degrees.

2. March through November drought

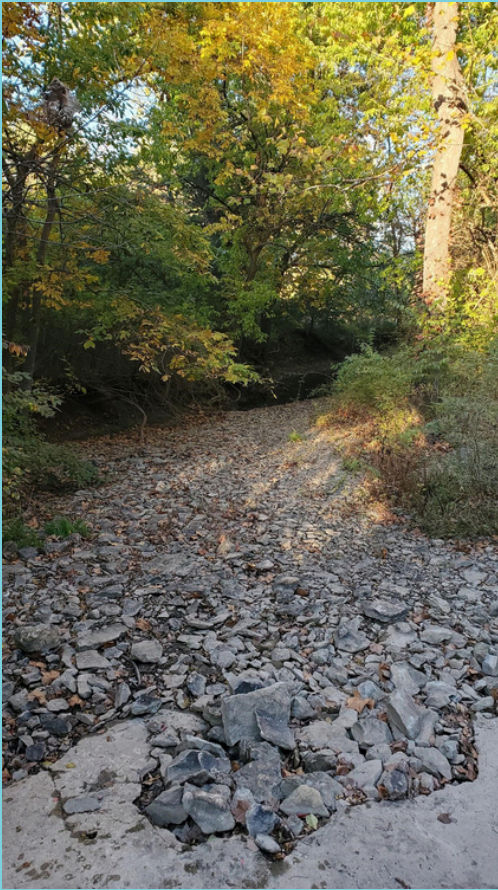
Widespread drought developed across much of the area. Many places saw total rainfall 5 to 12 inches below average.

3. November 25 snow

Early season snowstorm, with amounts of 6 to 10 inches common from Topeka to Emporia to Abilene. The heavy snow significantly impacted Thanksgiving weekend travel.

4. May 12 tornadoes

Large hail and five tornadoes across northeast Kansas, including an EF-2 tornado in Brown County.



DRY CREEK BED IN MID-OCTOBER NEAR LAWRENCE, KS.



STORM MOVING OVER THE FLINT HILLS SOUTH OF MANHATTAN ON MAY 9.

5. April 19 tornadoes/severe weather

Widespread severe weather, including a microburst with 90 mph winds in Clay County and an EF-2 tornado that moved into Morris County.

6. July 14 severe weather

A bowing line of severe thunderstorms brought 65 to 80 mph winds along I-70 in east-central Kansas. This resulted in many downed trees and power outages, particularly in Topeka and Lawrence, as well as some localized flash flooding.

7. May 9 severe weather

Fast-moving line of severe thunderstorms moved through north-central and east-central Kansas, producing 65 to 75 mph winds and two brief tornadoes.

8. June 30 severe weather

A severe thunderstorm produced hail as large as 4" in diameter along I-70 from Manhattan to Topeka. The storm then moved northeast into Jefferson County, producing 65 to 85 mph winds and plenty of wind damage from Topeka through points northeast.

9. October 24-25 heavy rain

Despite the dry summer, flooding occurred across east-central Kansas as a result of a stationary frontal boundary and persistent moisture-rich southerly flow. The worst flash flooding occurred across portions of Lyon, Osage, and Franklin Counties, where 5 to 9 inches of rain fell.

10. July 4 severe weather

A line of thunderstorms moved southeast across the entire area during the late evening on July 4th. Widespread 60 to 70 mph wind gusts and wind damage were reported, with isolated gusts as high as 85 mph in northeast Kansas.

2023 BY THE NUMBERS

KYLE POAGE, LEAD METEOROLOGIST

	<i>Topeka</i>	<i>Concordia</i>	<i>Manhattan</i>	<i>Emporia</i>
<i>Hottest Temperature</i>	111° Aug 19	109° Jul 28 & Aug 19	115° Aug 19	112° Aug 19
<i>Highest Heat Index</i>	123° Aug 20 & 21	116° Aug 20	121° Aug 20	114° Aug 20 & 22
<i>100°+ Days</i>	15	18	18	17
<i>Coldest Temperature</i>	8° Jan 31, Feb 1, & Feb 3	4° Feb 23	3° Feb 1	8° Jan 31
<i>Lowest Wind Chill</i>	-3° Feb 24	-17° Feb 23	-7° Jan 29 & Feb 24	-4° Feb 23
<i>32° or Lower Days</i>	7	12	7	7
<i>Annual Precipitation</i>	27.33"	24.62"	23.93"	31.66"
<i>Highest Calendar Day Precipitation</i>	2.56" Jul 14	2.20" May 9	2.23" May 9	4.13" Oct 24
<i>Annual Snowfall</i>	12.5"	N/A	N/A	N/A
<i>Highest Calendar Day Snowfall</i>	6.3" Nov 25	N/A	N/A	N/A

EQUIPMENT STAFF'S ROLE IN OPERATIONS

NATHAN RAMBO, ELECTRONICS SYSTEMS ANALYST

The Topeka weather forecast office electronics and information technology staff is made up of four unique positions: an Information and Technology Officer (ITO), Electronics Systems Analyst (ESA), Regional Maintenance Specialist (RMS), and an Electronics Technician (ET). All have different roles, but together they are the ones who keep the lights on and all equipment running. Together they maintain six Automated Surface Observation Systems (ASOS), five NOAA Weather Radios (NWR), one Doppler radar, one upper air system, multiple servers that make up our Advanced Weather Interactive Processing System (AWIPS), and everything that goes into maintaining our office and facilities. Other than just maintaining the equipment and facilities, they also perform major upgrades to the equipment to further the lifespan of it. One of the major upgrades they undertook over the past year was transitioning from desktop computers to laptops. With that and the push for teleworking options, this has allowed for better shift flexibility for operations and a more seamless approach in working the forecasts for the meteorologists. With the laptops, they now have more access to their software and other tools to help forecast when they are able to telework. One other major project for the ET staff is the Service Life Extension Program for the ASOS 2.0. The ASOS is well overdue for a major upgrade, and starting later this year it will begin to receive that upgrade. In order to prep for it the ET staff are removing and replacing the majority of the old wires, conduit, and other electronics to prep for the new hardware. This upgrade will provide another 20 years of operation for the ASOS. The ET and IT staff continue to work tirelessly to maintain seamless operations in an outdated building and with outdated equipment. We are maintainers, repairers, programmers, plumbers, electricians... We are the Jacks of all trades.

OUTREACH & DECISION SUPPORT SERVICES PROVIDED BY NWS TOPEKA

SARAH TEEFEY, METEOROLOGIST



IWT MEETING IN FEBRUARY OF 2023

At NWS Topeka, we strive to constantly connect with and support our partners, including emergency management agencies, law enforcement, media, and DOTs. We also work very hard to connect with the people in the communities we serve. Work accomplished in 2023 was no exception to this. Last February, NWS Topeka hosted an Integrated Warning Team (IWT) meeting, open to all partners in northeast Kansas. The purpose of the IWT meeting is to gather NWS employees together with various partners from across the area to discuss any upcoming new or modified NWS services, discuss event successes, and find areas for improvement regarding the partnership we have in keeping the public safe and informed. The meeting was a success with over 60 attendees present.



SPOTTER SHOW IN DOUGLAS COUNTY

Another important way in which we worked to serve partners last year was by providing what is termed Decision Support Services (DSS) for large outdoor events. Emergency managers have the ability to request event support preceding a large event, which then allows us to provide lightning watch services, estimated arrival time of threatening weather, and updated forecasts during the event.

A prime example of this service was during the 4th of July when tens of thousands of people were outside enjoying festivities, including evening fireworks displays. Unfortunately, the forecast called for the possibility of severe thunderstorms in the evening. Our office officially supported four large events that day, with a few other last minute requests as storms developed. The tailored information we were able to provide allowed emergency managers and event organizers to alter the timing of fireworks and other festivities in order to keep attendees safe. After the severe weather event, we received positive feedback from partners on the support we provided.

As mentioned, in addition to connecting with partners, we also strive to connect with the people and the communities we serve. Each year in late winter and early spring, we present severe weather spotter shows that are open to the public. NWS staff travel to various locations across east-central and northeast Kansas to give hour and a half long presentations that include severe weather safety information, radar interpretation, and review of cloud features associated with severe weather. We post the schedule of shows on our website and host a few virtual shows for those who cannot attend in person.

At the NWS, we are also devoted to better serving communities who may face obstacles preventing them from receiving and acting on weather information, and to communities who are especially vulnerable to weather extremes. This is a national initiative, but our office has already begun working on formal plans to engage such communities locally. This work will continue through the upcoming year.

These are just a few examples of how we serve partners and the public, and we greatly enjoy each of these opportunities. As always, weather information and other information about our office can be found at weather.gov/top.

WOMEN IN SCIENCE DAY 2023

JENIFER PRIETO, LEAD METEOROLOGIST

On October 16, 2023 scientists and teachers from around the Topeka area celebrated the fifteenth annual Women in Science Day event at Washburn University. Each year a group of mostly women volunteer scientists and educators from the U.S. Geological Survey, Washburn University, University of Kansas, the Kansas Geological Survey, Kansas Department of Health and Environment, and the National Weather Service organize at least 20 STEM-related labs for local 7th grade girls. The goal is to introduce young women to STEM labs and future career opportunities prior to entering high school. Historically, women have been well underrepresented in the STEM workforce, comprising only 29.2% of the population as of 2023 (according to the Global Gender Gap report). By introducing the possibility of STEM-based learning and opportunities prior to high school, the odds increase for women to take science, math, and computer science courses. The girls attend two labs of their choosing, having opportunities to interact with and ask questions to the female scientists, in addition to a quiz bowl and provided lunch. Meteorologists with the National Weather Service have volunteered the last several years in creating weather-based labs, including creating a tornado in a bottle, making hail, and forming fog in a jar. Feedback is overwhelmingly positive with most students enjoying their labs, making new friends, and discovering the possibilities of a future career.



CHELSEA PICHA (ABOVE) AND JENIFER PRIETO
(RIGHT) LEAD WEATHER LABS.

STUDENT VOLUNTEERS

JENIFER PRIETO, LEAD METEOROLOGIST

Throughout 2023, we welcomed three student volunteers to the office. All three students were senior undergrads at the University of Kansas who expressed their interest in working with the National Weather Service upon graduation. The process of volunteering for the National Weather Service begins with interested individuals sending in an application along with their resume and transcript. All students are given a formal interview by WFO Topeka staff with questions ranging from their career ambitions to how they have handled difficult situations in previous work experiences. This opportunity gives students a glimpse into the formal interview process that the NWS conducts when they apply for intern or entry-level meteorologist positions. Once they complete the required paperwork and security clearance, the lead for the volunteer program, Jenifer Prieto, creates a work schedule for the volunteer, incorporating all local office programs and the upper air balloon launch. Volunteers receive the full experience upon arrival, being given supervised access to viewing model and forecast data. Working on a practice workstation, they are able to create local forecasts as well as sit with meteorologists while they work with simulations of past severe weather events and practice issuing severe weather warnings. During real-time severe weather events in the area, volunteers can shadow a forecaster or assist in answering phones and relaying severe weather reports to the warning operator. Depending upon their interests, volunteers are offered familiarization visits and networking opportunities at nearby centers in Kansas City, such as the Aviation Weather Center and River Forecast Center. Not only does the experience provide a general understanding of the NWS operations, but also offers valuable insight into the vision and goals of the National Weather Service, ensuring they are competitive in the operations field if they choose to pursue this career path. In the end, it is most rewarding for the meteorologists to see volunteers achieve their goals and receive job offers into the NWS. To date, the Topeka office has had 21 past volunteers enter the National Weather Service upon graduation.

NWS TOPEKA TRAINING

**JENNI PITTMAN, SCIENCE AND OPERATIONS OFFICER
(PROMOTED TO CENTRAL REGION HEADQUARTERS AS OF FEBRUARY 2024)**

Each year, NWS meteorologists complete approximately 60 hours of continuing education. This training is generally categorized into: 1) operations training, which includes forecasting techniques, tools, and processes, interpretation and communication of probabilistic forecast information, and climate; 2) winter weather training, which includes precipitation type forecasting, pattern recognition and predictability expectations, and communication strategies; and 3) severe convective weather training, which includes mesoanalysis, radar analysis, storm surveying, and flood forecasting/nowcasting. Other topics such as decision making, risk analysis, policies and procedures, collaboration, and effective verbal, written, and graphical communication are interwoven through all of these categories. In addition, all staff complete required training on topics that are probably familiar from your workplace: IT security, workplace safety, human resources/culture, and emergency/evacuation procedures.

Methods for training delivery include local seminars, job sheets, online modules from subject matter experts, lab-based hands-on training, and displaced real-time exercises that simulate both the pace and flow of operations. This includes annual exercises on the Weather Event Simulator (WES), and two all-day weather workshops – one in late winter to prepare for severe weather season, and one in the fall to prepare for winter. During the workshops, mutual aid is provided by a neighboring office, to free up our meteorologists and allow as many of them to participate as possible. Below is an example of one of the lab exercises from the spring 2023 workshop, where forecasters were asked to draw a convective outlook for an unfamiliar severe weather event.



Additionally, many NWS meteorologists conduct their own case studies and research to help analyze past performance and identify best practices, areas for improvement, and any future actions that may need to be taken. The results of these studies are shared with the rest of the operational staff, neighboring offices, and occasionally at regional and national conferences. This review process, while not part of the annual required training, is a key part of our meteorologists' continuing education and improvement efforts. In 2023, NWS Topeka meteorologists attended and presented at 3 regional and national conferences, including the National Weather Association Annual Meeting, which was held in nearby Kansas City, MO. Seven staff members (pictured below) were able to present their work, learn from others' presentations, and help to implement lessons learned into operations for 2024 and beyond.



**BACK L TO R: KRIS CRAVEN, ADAM JONES, JENNI PITTMAN, DANIEL REESE.
FRONT L TO R: JENIFER PRIETO, CHELSEA PICHA, MATT FLANAGAN.**

DEVELOPING NOAA'S LEADERS, ONE LEARNING EXPERIENCE AT A TIME

CHELSEA PICHA, METEOROLOGIST

In addition to the different forms of training completed regularly each year by all NWS forecasters to hone their technical skills, the agency offers a variety of programs for all staff to help them develop their leadership and people skills. Each program is usually targeted to a group of employees at a specific stage of their careers and is available via an application process. Programs vary in their size and scope, but regardless, applicants who are selected are able to not only grow as professionals, but also set themselves apart for future career opportunities.

I had a unique opportunity to participate in a new program such as this during the majority of 2023. NOAA put out its first call for applicants in its Mid-Career Leadership Development Program (MCLDP) in the early fall of 2022, with the first iteration lasting from the late fall of that year until late August of 2023. There were many facets of the 100% virtual program, including half-day class sessions twice a month covering a variety of leadership topics (conflict management, effective team building, strategic thinking, and adaptability and resilience just to name a few), monthly meetings with assigned mentors and coaches, and other assigned work. The first iteration of the program had 60 participants from employees across different line offices within NOAA (including the NWS), which was evenly split into a morning and afternoon class session to accommodate different time zones. During these classes, both large and small group discussions gave everyone the opportunity to ask questions and share a little bit of their own experiences while also learning valuable insights from others' experiences. Some work outside of class time was required such as interviewing a leader, shadowing a leader, and completing a capstone project. Other tasks were recommended but optional. While time management was not explicitly taught during the program, each participant would have needed to use this skill effectively to manage this workload on top of regular work duties and office team projects. What this looked like for me was learning how and what to prioritize through the duration of the program. Over time, my mentor helped me learn that it is okay and sometimes necessary to eliminate low-priority tasks in order to focus on the important things, and that some things don't need to be as high of a priority as I may think.

Amid the abundance of information throughout the 9-month program, it became important to latch onto a few key takeaways that resonated with me most in order to make the best of the program. One of the biggest was the importance of being flexible, and I learned this in at least three different ways: 1) my capstone project, 2) my experience interviewing my mentor, and 3) needing to adjust my expectations of what I would ultimately get out of the program mid-way through it. As for the capstone project, I had certain expectations going into it which were challenged throughout that process, so I had to decide how to respond when things didn't go according to plan. Part of that was needing to be able to recognize what was and wasn't within my control in order to adjust my approach in an effective manner to complete the project. While interviewing my mentor (to satisfy the interview requirement), I ended up needing to be pushed to move forward with it before I felt ready to do it. Successful completion of the interview while being pushed out of my comfort zone showed me I am more capable of being adaptable than I sometimes think. This resonated with me more than the actual answers to the questions I had asked during the interview, although there was value in that information as well. While reflecting on my program experience around its halfway point, I also realized I had initially envisioned coming out of the program as a type of person that does not align with my natural personality. It became clear to me this was an unrealistic expectation. I could not expect to suddenly become someone I'm not, which meant my growth might be more nuanced than I originally thought, but that's okay.

Leading up to the start of the MCLDP, I had already begun an important process of learning about myself more deeply on my own time. That process continued through this program, including in all of the examples above. Through all aspects of the program, I developed a greater awareness and understanding of how my strengths and weaknesses show up not only in the workplace, but also in everyday life. Managing those weaknesses is often much easier said than done, as I see more and more how often I can get in my own way. However, getting better at recognizing it and understanding how my strengths and weaknesses impact me both in the workplace and in my personal life is a step in the right direction. At the very least, that awareness means I can attempt to do something about it whenever I notice obstacles holding me back from being the employee and person I was meant to be, rather than letting those obstacles control me. Unfortunately I am not perfect in this, but slowly over time I am trying to learn to be okay with progress instead of perfection.

To put it simply, those nine months in the MCLDP are only a small part of my professional and personal growth journey. I learned many lessons that are applicable to any job or part of life, beyond what could be covered in this article, and I believe this program was nine months well spent. I look forward to wherever the NWS, or life, takes me from here!

BEYOND THE WEATHER

MATT FLANAGAN, METEOROLOGIST

Maintaining a positive office culture continues to be a top priority at NWS Topeka. Positive office culture fosters innovation and success by creating an environment in which people feel valued and cared for. Our culture team works hard to organize events that keep us engaged with each other so that the office culture remains strong, which transitions to more effective and efficient operations when the weather becomes hazardous. In the past year, the culture team planned office hikes at nearby parks, a welcome dinner for our newest staff member, and the creation of an office book club!

The Wooden Nickel Award is our quarterly peer award presented within the office to recognize the efforts of employees going above and beyond. This award made its rounds to all parts of the office this year including meteorologists, electronics technicians, and the Administrative Support Assistant! We also have a Kudos Board which provides another avenue for staff to acknowledge the good work of others in the office.

Our yearly winter weather seminar fell on Halloween this year and many dressed for the occasion! A chili cookoff and culture team activity helped give everyone's brains a break in between the learning and refreshers on winter weather. The winner of the chili cookoff was Nathan Rambo, our Electronic Systems Analyst, and he won a medal for his amazing chili! Additionally, the culture team invited Scott Tessmer from Central Region Headquarters to be a part of the seminar, and he led an office-wide discussion about accountability and what it means for us in our current operations model and work environment.



BACK L TO R: SCOTT TESSMER, KYLE POAGE, NATHAN GRIESEMER, KRIS CRAVEN, JENNI PITTMAN. FRONT L TO R: SARA MCCLURE, DANIEL REESE, JOHN WOYNICK, CHELSEA PICHA, SARAH TEEFEY, JENIFER PRIETO.

The office bowling team, the Lightning Strikes, is in its second year and has been a successful endeavor! Team members rotate in as their schedule allows, and while the pins don't always fall as planned, it's been a ton of fun getting together and competing for the league title!

Our office seeks out opportunities to give back to the community we serve. We were able to participate in the annual National Weather Service Autumn of Service by collecting items for the Harvesters Food Network. In total, our office provided 205 meals for those in need in the local area. The office also participated in the KVC Holiday Heroes program by providing gifts during the holidays to four local kids in foster care who would not have had gifts otherwise.

2023 rounded out with the office holiday party including good food and good company! Staff and their families attended the event which included a holiday music trivia contest and a gift exchange.

All of these activities give us the chance to connect outside of work, helping to build camaraderie and create a more positive and productive NWS office!



L TO R: NATHAN GRIESEMER, MATT FLANAGAN, SARAH TEEFEY, MATT WOLTERS.



BACK L TO R: BILL GARGAN, SHAWN BYRNE, JENNI PITTMAN, NATHAN GRIESEMER, ADAM JONES, DANIEL REESE. FRONT L TO R: MATT FLANAGAN, CHELSEA PICHA, JENIFER PRIETO, SARAH TEEFEY, KRISTIAN PRIETO, SARA MCCLURE, KRIS CRAVEN.

COOP & AWARDS 2023

SHAWN BYRNE, OBSERVING PROGRAM LEADER

2023 has come to a close. It was a very hot year with the average temperature tying the fourth hottest on record, and the second highest average temperature on record. June was the 16th driest on record. As of this article's writing, northeast and central Kansas remain in D1 (moderate drought) or D0 (abnormally dry). As a result, your precipitation and temperature readings really matter! Any questions with how to measure snow, or equipment problems, please let us know! As a reminder, you may want to place your inner measuring tubes in the rain gauges beginning April 1, 2024 unless we have snow in the forecast!

WFO Topeka would like to mention the passing of one of our longtime observers in November 2023. Dr. Claude Harwood served as a faithful Cooperative Observer measuring rainfall, snow, and river readings. Claude took over as primary observer for his wife Marilyn in 2009. For 35 years Claude and his wife Marilyn served as observers for the Glasco area. Claude will be missed and we thank you for your service!



SHAWN BYRNE (OPL) AND KRIS CRAVEN (MIC) PRESENT DR. CLAUDE HARWOOD WITH HIS 35 YEAR LENGTH OF SERVICE AWARD IN THE SUMMER OF 2021.

2023 Length of Service Awards were presented to:

Alan Winkler	McFarland, KS	50 Years
Scott Seifert	Clyde, KS	35 Years
Bernard Vandorn	Frankfort, KS	30 Years
Larry & Sally Hess	Sharpe, KS	20 Years
Terry Tietjens	Abilene, KS	20 Years
Thomas Moravek	Belleville, KS	10 Years
Melvern Lake USACE	Melvern, KS	50 Years
Winkler Family	McFarland, KS	50 Year Family Heritage

If you have any questions at all regarding snow measurements, or any other questions, please contact me via email at shawn.byrne@noaa.gov. Thank you all for your service! It is valued and very much appreciated!

**NATIONAL WEATHER SERVICE
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2023 STAKEHOLDERS REPORT

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