



Association of Certified Meteorologists

Newsletter
December 2022

President's Message

Alicia Wasula, PhD, CCM

It is hard to believe it is nearly the end of 2022, but here we are! This has been a year of exciting growth for ACM. As you will see in Jim's admissions committee update below, we have added new members in all categories this year. If you are a new member who joined after our mid-year meeting in July, stay tuned and check your email as we will continue to provide opportunities to network with and get to know fellow ACM members. Specifically, our final Small Business forum of 2022 will be held on **December 12**, and our Annual Meeting will be held on **February 5, 2023 (virtual)**. I would like to personally extend a welcome to all of our new members this year, and encourage you to get involved in some of our many activities and committees. To all members, feel free to reach out to me or anyone else in this newsletter who is providing a committee update- we would be happy to talk with you about some of the ways you can be involved!



I will keep the remainder of this update quite brief, as there is a great deal of information contained in the newsletter below. Some highlights from 2022:

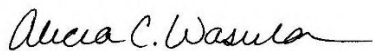
- ACM was represented at two in-person conferences this year. Thank you to Mark and the marketing committee for researching and making arrangements for these events!
- We honored one long-standing member (Dick Westergard) with the Retired Emeritus award; member Jan Null was also selected by AMS to receive the Henry T. Harrison Award. Congratulations to you both!
- We continue to remain in good financial health; we will discuss some specific plans for 2023 at our upcoming Annual Meeting in February.
- We have analyzed the results of our member survey on NCEI usage and issues. We are in the process of developing a plan which will seek to engage NCEI in a positive, collaborative way while at the same time addressing some of the concerns and issues of our membership.
- Our Small Business Forum events continue to be well attended, thanks to both opportunities to network and invited speakers speaking on a wide range of topics of interest to our members who are small business owners or employees.

President's Message (Continued)

- We look forward to the AMS short course, entitled 'Meteorological Tools, Processes, and Techniques Used in Private Business', where once again ACM will be sponsoring lunch. If you plan to be at AMS on Sunday January 8 and can spare a bit of time, please reach out to me as we need volunteers to help the course run efficiently. Additionally, please see the information below about our in-person gathering to follow that evening!

Lastly, we have two candidates running for open board and officer positions this year. In this newsletter you will find information about each candidate, as well as a link to vote. Please note you must be a consulting or retired member to vote! Results will be announced at the ACM Annual Meeting.

I would like to thank all of you- it is a privilege to serve in and be a part of a healthy, growing organization such as ACM. I look forward with anticipation to 2023 and all that it will bring. I wish you all a joyous holiday season and a happy, healthy 2023!



Alicia C. Wasula, PhD, CCM
President, ACM

ACM 2023 Board Member Election



Meet the Candidates

There are currently 2 open board positions for 2023-2025 terms that will be filled during the 2023 annual election. The open board positions are Director and Secretary. The election will be conducted electronically in January in advance of the ACM Annual Meeting. Please see page 4 of this newsletter for the link to the Google form for voting and instructions for casting your vote. Each candidate has provided a statement of interest for all members to review. A special thank you to the candidates for their interest in serving the ACM organization as board members.

ACM 2023 Board Member Election (Continued)



Howard Altschule, CCM – Candidate for Secretary

Dear ACM Members,

I am writing to express my interest in becoming ACM's Secretary for the next term and I hope that you'll support me. I was honored to be asked to run for a position on the Board of Directors. I've been a CCM since 2014 and a member of the ACM since 2018. I started my company Forensic Weather Consultants in September 1999 and currently have a team of 5 meteorologists working with me. Since starting FWC in 1999 I've worked many long hours, spoken with many professionals, and have learned a lot about the meteorological community and the insurance and legal industry. ACM is already a great organization thanks to excellent leadership and vision, and I hope to continue to help grow and develop this organization. I hope to use what I've learned over the years to help the ACM and its membership grow and develop into an even more premiere organization.



Thank you for your consideration,

Howard Altschule

Douglas C. Stolz, PhD, CCM – Candidate for Director

To whom it may concern,

I am writing to express my interest in serving as a Director on the ACM Executive Board. After five years in consulting, I earned the AMS CCM designation in early 2021 and officially joined ACM in that same year. With ACM, I have been a liaison to the AMS Board of Best Practices, and I am the current chair of the ACM Ethics & Standards committee.

ACM has been a vital part of my development as a professional meteorologist. I look forward to the opportunity to help sustain the organization and support the interests of the private meteorological community. Please let me know if I can answer any questions. Thank you for your consideration.



Sincerely,

Douglas C. Stolz, Ph.D., CCM

Announcements



➤ 2023 ACM Board Election

It's time to vote for your new ACM Board Members!

It is time to elect new members to the ACM Board! On the ballot, we have 2 fantastic candidates running for 2 open positions. Your vote is an important way to continue supporting the organization to ensure we remain a healthy, growing community for professional certified meteorologists. However, please note that only Consulting and Retired Members are allowed to vote.

For the 2023-2025 term, we have the following candidates up for election:

Secretary: Howard Altschule

Director: Douglas Stolz

[Members may vote anytime using the electronic link provided here.](#) As part of the ballot, your email address will be collected by the Google form. This is only for the purpose of allowing Google to remember that you have cast your vote, to ensure that no one accidentally fills out the form twice. ***Your vote will remain confidential.***

The deadline to cast your vote is **6 pm ET on January 20th**, so that we will be ready to announce the results at the ACM Annual Meeting.

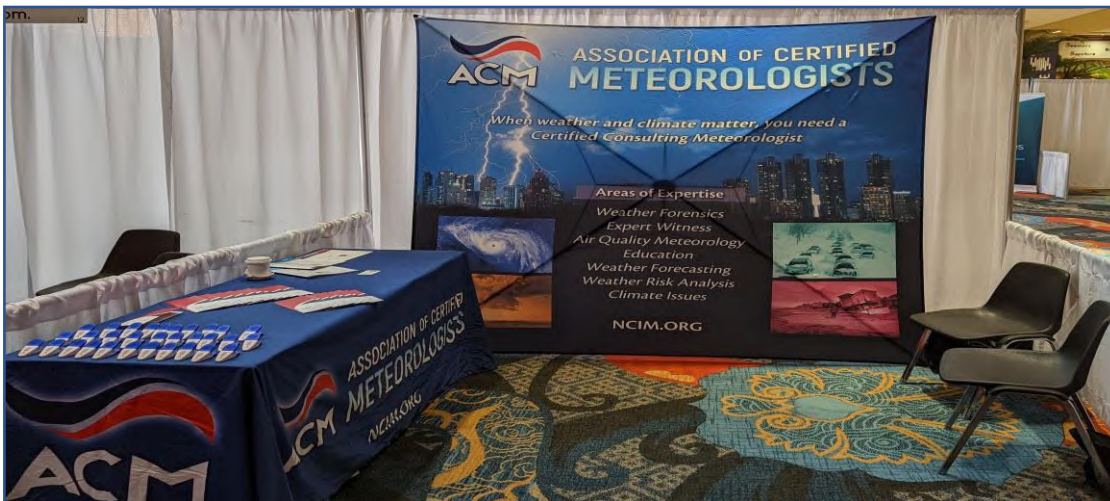
Please refer to the candidate's letters of interest on the previous page of this newsletter. Thank you for casting your vote!

Announcements (Continued)



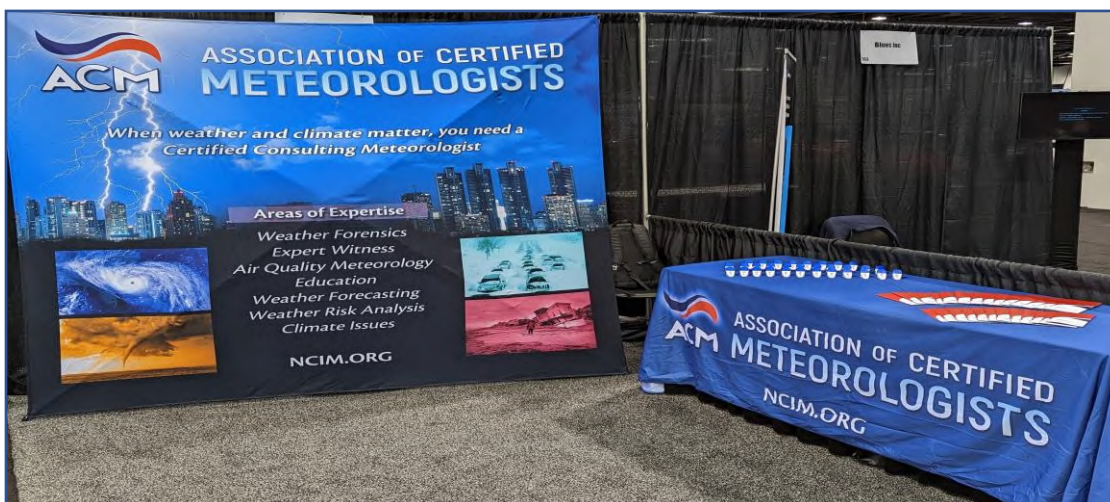
➤ ACM Represented at the American Property Casualty Insurance Association Conference in Dallas and the Natural Disasters Expo in Anaheim

The Marketing Committee of ACM has been busy since our September quarterly meeting. In early October, Jim Bria and Mark McGinnis traveled to Dallas, Texas to exhibit on behalf of ACM at the American Property Casualty Insurance Association (APCIA) annual conference. The two-day conference hosted companies that represent nearly 60% of the U.S. property casualty insurance market. ACM interacted with dozens of new contacts to make them aware of the capabilities of ACM members.



ACM Exhibit Booth at the 2022 APCIA Annual Meeting in Dallas, TX October 2-4, 2022

On November 9th and 10th, 2022, ACM exhibited at the Natural Disaster Expo in Anaheim, California. Brandt Maxwell and Mark McGinnis interacted with private and government representatives focused on learning preventative measures for heat, fire, flood and storms.



ACM Exhibit Booth at the 2022 Natural Disaster Expo in Anaheim, CA November 9 & 10, 2022

Calendar of Events



➤ **Quarterly Small Business Forum**

When: December 12, 2022

Time: 7:00-8:30pm

Where: Remote

Details: The guest presenter will be Dan Brown, Senior Hurricane Specialist and Warning Coordinating Meteorologist with the National Hurricane Center

For more information: Reach out to Mark McGinnis at mmcginnis@fairskiesconsulting.com

➤ **103rd AMS Annual Meeting**

When: January 8-12, 2023

Where: Denver, CO

For more information visit: [Weblink to Conference Details](#)

➤ **AMS Short Course - Meteorological Tools, Processes, and Techniques Used in Private Business**

When: January 8, 2023

Time: 9:00am-3:45pm

Where: Denver, CO at the 103rd AMS Annual Meeting

For more information: [Weblink to Course Details and Registration](#)

➤ **AMS Annual Meeting – ACM Gathering**

When: January 8, 2023

Time: 8:00pm-10:00pm

Where: Rock Bottom Restaurant and Brewery

Address: 1001 16th St Mall A-100, Denver, CO 80265

Website: <https://rockbottom.com/>

For more information: RSVP to Alicia Wasula at alicia@stmweather.com

➤ **ACM Annual Meeting**

When: February 5, 2023

Time: Evening (TBD)

Where: Remote

Details: Keep an eye on your email for details as we move closer to the date

For more information: Reach out to Alicia Wasula at alicia@stmweather.com

Committee Updates



Marketing Committee

Mark McGinnis, CCM

The 2023 AMS Annual Conference is a little more than a month away. The Marketing Committee wants to hear from our membership that plans to attend and present at the conference. If you are presenting or receiving an award, please email Mark McGinnis at mmcginnis@fairskiesconsulting.com with your session title, abstract, date, time and room number. We want to publicize all of the activities of our membership at the annual conference.



Publicizing our activities as a group and as individual members on the ACM website and LinkedIn creates more traffic for our website. This is a strategic plan to create a more valuable website for our membership. If you have visited our website, you will notice we have increased our publications over the last 3 months. In order to maintain this, we need content. And that content comes from you. If you have professional news or recognition to share, please contact one of the marketing committee members.

ACM members make up a large percentage of CCMs hosting the ACM/CCM short course Sunday January 8, 2023, at the AMS Annual Conference. The page to register is available [here](#). Feel free to share this link with friends. Registration is a reasonable \$185/AMS member.

Megan Walker and Brock Burghardt are joining the ACM Marketing Committee. Our next meeting is at 1pm central on December 5, 2022.

Newsletter Editor

Steve Roberts, CCM

Thank you to everyone who made contributions to this edition of the ACM Newsletter. There are a lot of events and announcements for the group and the Newsletter is a great way to provide them to the membership. If you ever have an announcement that you would like included in the Newsletter, please contact Alicia Wasula (acm.wxexperts@gmail.com). Special thanks to Craig Setzer for providing his article, The Hurricane Cone of Confusion, which can be found at the end of the Newsletter.



I am currently seeking ACM member profile write ups for upcoming Newsletter editions. This is a great way for members of the organization to learn more about you. Please reach out to me if you are interested in sharing your story in an upcoming edition of the newsletter or if you would like to provide additional content for inclusion. Wishing you and yours a very happy holiday season!

Committee Updates (Continued)



Awards and Recognition Committee

Randall Bass, CCM

As we move towards the holiday season it's also time to start thinking about nominees for our various weather awards. I'm happy to announce we have received a nomination for the ACM Retired Emeritus Award. I can't divulge who it is yet, but suffice to say this person is extremely deserving and culminates a very successful career.

On the other hand, we are still looking for nominations for the Harrison Award and AMS Fellows. Nominations aren't due until May 2023, but the earlier we receive nominations the easier it is to decide who to select (if we get more than one) and write the nomination packages. As always, please contact me at bassweather@gmail.com if you have someone in mind for any award. The Awards Committee will assist with filling out the application and collecting the required information for submissions so the person nominating someone doesn't have to do all the work.

Finally, we continue to build up our database for future award considerations by accepting CVs from all members. Please send your CV to me or the ACM Secretary, Morgan Yarker. Thanks to those who have already submitted theirs.



Ethics and Standards Committee

Douglas C. Stolz, PhD, CCM

The E&S committee is in the process of scoping out a program for consulting-meteorologists-in-training (CMIT). We have developed an initial program outline and have received thorough feedback from the ACM president, Dr. Alicia Wasula. The committee held its 2022Q4 meeting on Tuesday 11/29. Therein, we incorporated recent suggestions for development and refined an objective for the program overall; this process will likely continue into the new year. We hope to present our program outline to the Executive Board for initial review sometime in mid-2023.



Committee Updates (Continued)



Admissions Committee

James Bria, CCM

The total ACM membership is currently 60 members. The membership consists of 39 Consulting members, 13 Associate members, 3 Affiliate members and 5 Retired members. There have been 13 new members since I took over the admissions process in February 2022, with 1 new consulting member joining since our last newsletter in September. Of the new members since I took over the process there are 4 new consulting members, 7 new associate members, and 2 new affiliate members. The process from first contact of an interested party until acceptance into the ACM is now about 1-2 weeks.



For those who may not be aware there are different levels of membership to ACM that allow for a more diverse membership than just CCM's. There are currently 4 levels of membership. Consulting members, Associate members, Affiliate members, and Retired members. Explanations of the different levels of membership can be found on the ACM website at: [ACM Membership Levels](#). The process to join is easy. A candidate starts by filling out the form on the ACM website (also found at the aforementioned weblink), and then someone from the Admissions Committee will contact them to assist with determining their status and onboarding them as a member. So, if you know anyone you think would be interested in joining the organization, please pass the link to the form along to them to fill out and the admissions committee will reach out to them.

Meet ACM Member Steve Roberts, CCM

My name is Steve Roberts, and some of you may know me as the most recent Newsletter Editor. My journey in weather started at a very young age, although I really didn't know I wanted to be a professional meteorologist until my first year in college. In that respect, I didn't take the traditional path to becoming a meteorologist that many in the field have. Since childhood, I have always had a curiosity for science and weather. My first love in the sciences was astronomy, but as I grew older it shifted to meteorology.



Growing up in Upstate New York, and spending a lot of time in the vast countryside, I got to experience lots of different weather. One of my most memorable weather experiences as a kid was wintertime Lake Effect snow squalls; although, where I lived was outside of the traditional lake effect snowbelts, so I didn't experience persistent Lake Effect snow. However, I vividly recall walking to and from school (uphill both ways of course) and watching the sky go from crystal blue to dark as night, and then seeing the hillside shrouded in white as a squall approached. Shortly after, we would be in complete whiteout for 30 minutes or so, before the sun would come back out. Sometimes we would pick up an inch or two of snow in 30 minutes which I always found fascinating. On the other side of the calendar, I remember experiencing many strong to severe thunderstorms, including one that blew over a large maple tree that landed on the front porch of my childhood home! As a weather enthusiast, I am not sure I could think of a better place to grow up to experience all types of weather from heat waves and severe thunderstorm/tornado outbreaks to blizzards, bitter cold, and major icing events (my least favorite). At 7 years old, the Weather Channel came on the air and that changed my TV watching experience from cartoons to the Weather Channel. Yes, my friends and family thought it was a bit strange that I could watch surface maps, satellite and radar images for hours and hours, but some of them soon found it interesting themselves.

I began my collegiate journey in 1994, going to SUNY Plattsburgh. While taking an intro to meteorology course there, and speaking with some professors, I quickly realized that I wanted to become a professional meteorologist. With SUNY Plattsburgh not having a degreed program for Meteorology, I went back home to search for schools where I could earn a degree in Meteorology. I quickly chose SUNY Oneonta, which is where I graduated from in 1998. SUNY Oneonta, like so many SUNY universities, provided me with a more involved experience where I became close with my meteorology professors and was able to maximize my educational opportunities.

Member Profile (Continued)



After graduating in 1998, I began working for a very small private forecasting company where I gained experience in forecasting, and also began doing some forensic work. In 2000, I moved on to FleetWeather/CompuWeather in hopes of expanding my exposure to opportunities in the field. In my early years at FleetWeather/CompuWeather, I gained experience as an operational forecaster and radio broadcaster. One of my more notable forecasting experiences was as an onsite forecaster for the US Open (Tennis) in Flushing Queens for a 10-year period. I worked my way up through the company ranks fairly quickly from Assistant Director of Operations to Director of Operations, to President of the company, which is my current role. In 2002, I began to do some behind the scenes forensic work gathering past weather data and analyzing weather conditions for insurance claims and legal cases. I quickly realized I had a passion for an area of meteorology that I never knew existed just a few years prior. In the years since, I have worked on thousands of weather reconstructions as both a forensic weather consultant and forensic weather expert, and have testified at trial in several states across the country. What I find most fascinating and challenging about forensic meteorology is how it brings the certainties of science into the more interpretive world of litigation.

In the late 2000's as I began to do more forensic work, I discovered the Certified Consulting Meteorologist program. After speaking with other CCM's about the program, I realized this was something I wanted to achieve. Fast forwarding to 2012, I earned my CCM. Although I had earned awards and accolades in college, along with my degree, I can honestly say that this is the achievement that I am most proud of. It was not easy, but that is what made it so rewarding. It has also opened up my eligibility to be a full member of the ACM. I am honored to be part of such a decorated group of professionals. The organization has become one of the most collaborative and professionally practical organizations I have been a part of through the efforts of the many leaders in the organization.

Weather has also been instrumental in my personal life. I met my high school sweetheart during the Blizzard/Superstorm of '93 and married her 9 years later. We have now been married for 20 years, have 3 beautiful children and have settled down in the middle Hudson Valley area of New York. In my spare time, I enjoy watching and playing sports, as well as coaching some of my son's sports teams.

I would like to thank all of you for blessing us with your membership to the ACM, and I look forward to collaborating with all of you in the many years to come!

The Hurricane Cone of Confusion
By Craig Setzer, ACM Associate Member
October 27, 2022

Why is the National Hurricane Center's (NHC) forecast cone so confusing?

A recent study, <https://journals.ametsoc.org/view/journals/bams/aop/BAMS-D-21-0250.1/BAMS-D-21-0250.1.xml> published in the Bulletin of the American Meteorological Society in August before Ian struck southwest Florida, indicated that in a survey of over 2,800 residents, almost half thought the NHC forecast cone represented the extent of a storm. And while many of those interviewed are new residents of Florida and have not been through a hurricane threat, many others are lifelong residents who have undoubtedly been exposed to the NHC cone over its 20-year history.

According to the National Hurricane Center, *"The cone represents the probable track of the center of a tropical cyclone, and is formed by enclosing the area swept out by a set of circles along the forecast track (at 12, 24, 36 hours, etc). The size of each circle is set so that two-thirds (67%) of historical official forecast errors over a 5-year sample fall within the circle."* In other words, the cone represents where the forecast center point of a storm is expected to be two thirds of the time based on the NHC previous five-year forecast skill. The cone does not change size based on forecast confidence. The cone does not change size based on forecast storm size or intensity. The cone does not show the extent of the storm or any of its potential impacts. The cone does not represent anything other than future points on a map within a probabilistic interval.

Social science research indicates the public relies heavily on the cone to plan and prepare for a storm¹. The public believes the cone "is" the storm². The public believes the cone represents the storm size³. The public believes the cone represents the storm's intensity. And the public believes the edges of the cone represent the extent of the storm⁴.

¹ Morss, R. E., J. L. Demuth, J. K. Lazo, K. Dickinson, H. Lazrus, and B. H. Morrow, 2016: Understanding public hurricane evacuation decisions and responses to forecast warning messages. *Wea. Forecasting*, 31, 395–417.

² Broad, K., A. Leiserowitz, J. Weinkle, and M. Steketee, 2007: Misinterpretations of the "cone of uncertainty" in Florida during the 2004 hurricane season. *Bull. Amer. Meteor. Soc.*, 88, 651–667.

³ Eosco, G., 2008: A study of visual communication: Cyclones, cones, and confusion. M.S. thesis, Dept. of Communication, Cornell University, 153 pp.
<https://ecommons.cornell.edu/handle/1813/11170>

⁴ Meyer, R., K. Broad, B. Orlove, N. Petrovic. 2013: Dynamic Simulation as an Approach to Understanding Hurricane Risk Response: Insights from the Stormview Lab. *Risk Analysis*. Vol. (33), 1532-1552.

Confusion with the cone begins because a storm's wind swath, the area produced by tropical storm or hurricane conditions, often looks like a cone. This is because strong hurricanes often grow in size and intensity as they evolve and mature. In this case, being in the wind swath likely resulted in you experiencing impacts from Ian.

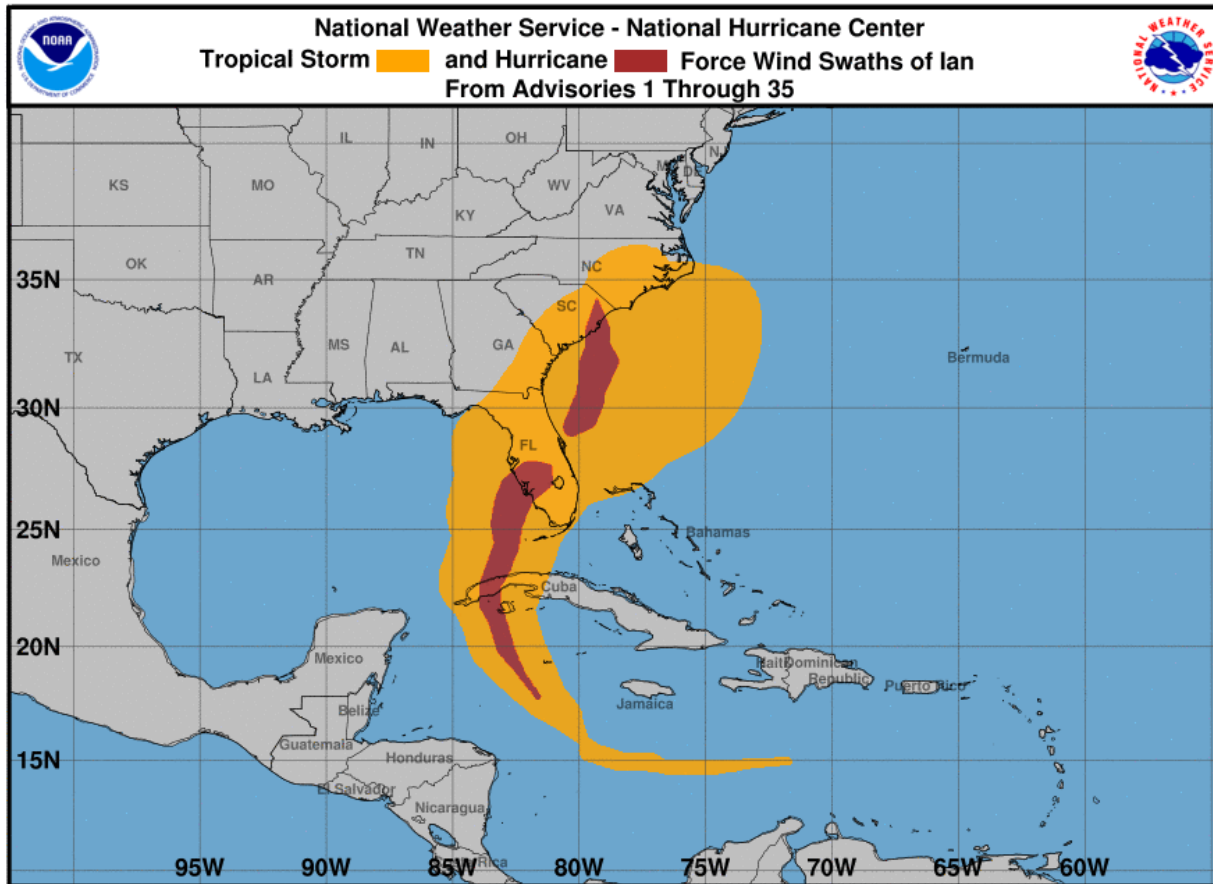


Figure 1: Hurricane Ian Historical Wind Swath

If you lived in the orange area and said you experienced some of Ian's impacts, you would be correct. Outside of the orange area the impacts are likely less noticeable.

But if you planned for tropical storm (or hurricane) conditions based on being in or out of the forecast cone, you would potentially be making life-threatening mistakes because the forecast cone only addresses a series of forecast points, not any of the storm's impacts. It says nothing about storm size, intensity, extent of tropical storm or hurricane force winds, storm surge, flooding rainfall, or tornado threat.

This was especially apparent with Hurricane Ian and the fact that Fort Myers (near the landfall point) remained in the cone, if only on the edge of it, for every advisory. Early indications are that people perceived being on the edge of the cone lowered their risk, and thus they may have delayed or postponed evacuating for storm surge. And while it's true the landfall point of Ian near Fort Myers was

in the forecast cone for each six hourly advisory cycle up to the day before landfall, so was Cedar Key Florida, a point nearly 200 miles away which saw few impacts from Ian.

The NHC cone, when relied upon by the public, often amplifies incorrect storm information within the three-day landfall timeframe, working against preparedness messaging. By its design, the cone gets smaller as you get closer to the storm initialization point. That’s because the odds of a storm wildly deviating from the forecast track is less likely nearer the starting point. By 120 hours (5 days), the storm center point could be up to 200 miles from the forecast track two thirds of the time. But in the first 12 hours, a storm’s center point will stay within 26 miles of the track two-thirds of the time. As a storm center gets closer to a coastal location, the cone has the appearance it is “shrinking” resulting in a public perception of moving “out” of the cone, as a storm approaches. In other words, while a storm’s forecast track may be shifting toward your location, the narrowing of the cone would appear as the risk to your location not increasing, the opposite of what is actually happening.

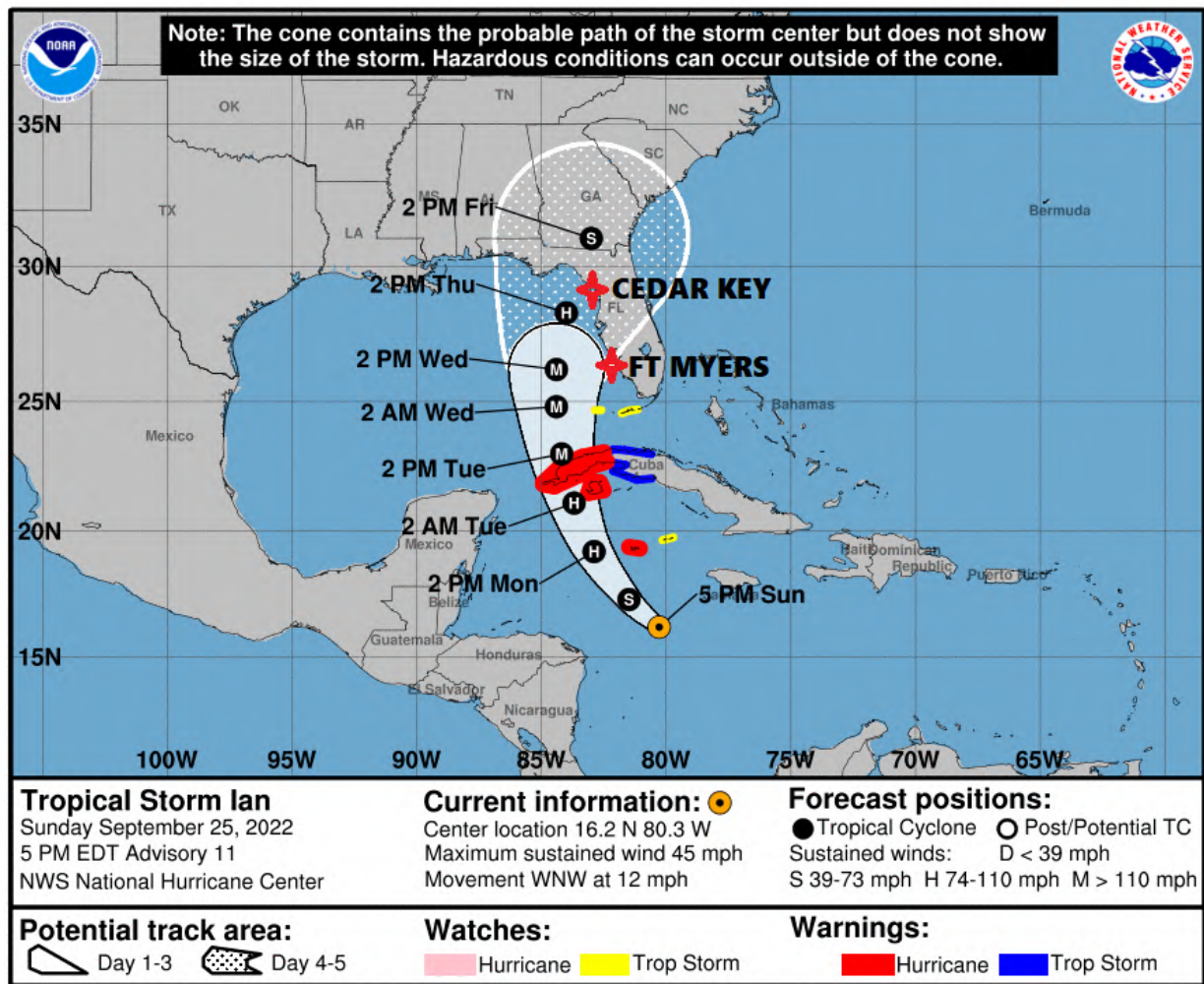


Figure 2: Tropical Storm Ian Forecast Cone based on the 5:00 PM EDT, Sept 25th, 2022, Advisory #11. Location annotations added.

An alternative (below) to the current NHC cone of uncertainty is proposed to include the extent of tropical storm and hurricane conditions. This “threat cone” would be based on the NHC Wind Speed Probabilities product issued each advisory cycle. One advantage is a wind speed probability-based cone would dynamically size based on each forecast advisory, not previous five-year average skill. The size and extent of tropical storm/hurricane conditions would be reflected with each NHC forecast advisory and change when the forecast changed. Additionally, those in the initial tropical storm or hurricane “threat” colored areas would likely investigate the other wind and water hazards as opposed to the legacy NHC cone which breeds “in or out” of the cone thinking and responses.

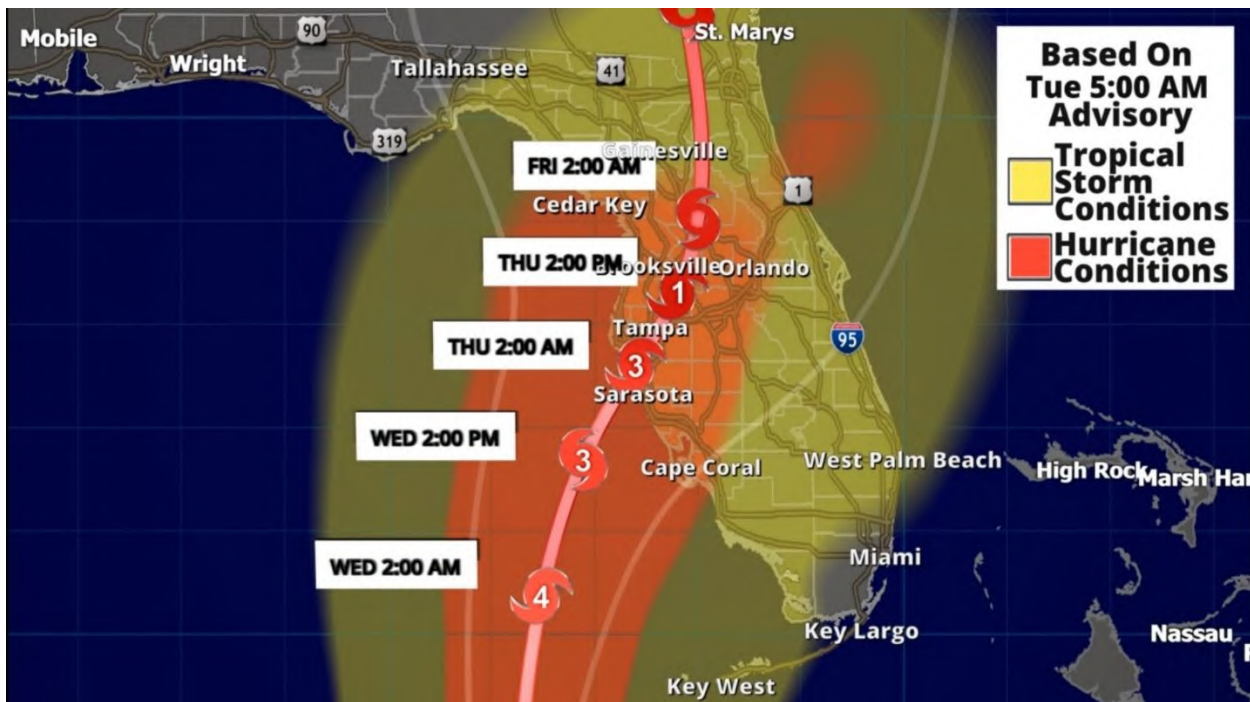


Figure 3: Proposed “Threat Cone” in yellow/red with outline of legacy NHC cone displayed for Hurricane Ian.

We’ve had 20 years of testing the NHC forecast cone, and still the public largely misses the message from that graphical tool. The cone is doing what the cone is supposed to do. It is tracking where a point on a map is expected to be two thirds of the time. But a tropical storm or hurricane is much bigger than a one-dimensional point on a map, and the graphical tools we use to warn people should indicate it as such.