

# SUNCOAST OBSERVER

A quarterly newsletter brought to you by the National Weather Service Tampa Bay Area, FL

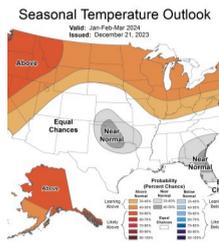
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## Meet TBW's Science and Operations Officer



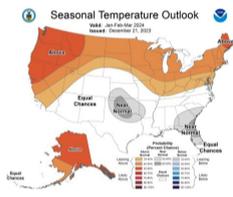
By: Matt Anderson

My name is Matt Anderson and I'm the Science and Operations Officer here at the NWS in Tampa, FL. I've been at the office just over a year but have worked in numerous offices and capacities throughout my 13 year career within the NWS.

My passion for weather, like most meteorologists, started at a young age. I grew up in the Birmingham, AL area where numerous weather events occurred throughout my childhood that peaked my interest in weather. The Blizzard of 1993 occurred while I was in the 2nd grade. Birmingham averages just around 2 inches of snow a year and received 15 inches of snow with thunder snow during the event. In October of 1995, Hurricane Opal made landfall along the Alabama coast and raced northeastward across Alabama with Tropical Storm force winds across the Birmingham areas causing numerous trees to fall and power outages during the storm. In April 1998, a deadly F5 tornado tracked a few miles from my home in Jefferson County killing dozens and injuring hundreds. Overall, seeing the societal impacts from these storm systems sparked my interest in weather.

I went to the University of South Alabama in Mobile and received my Bachelors degree in Meteorology. I continued my education at the University of Alabama in Huntsville and received a Masters degree in Atmosphere Science. My first position in the NWS was an Intern in Topeka, KS. From there, I got a promotion to a General Forecast at the NWS in Birmingham, AL. A few years later, I got another promotion to Lead Forecast at the NWS in Morristown, TN. I then transferred as a Lead Forecast to the NWS in Huntsville, AL. I was then fortunate to get another promotion to the Science and Operations Officer (SOO) position at the NWS in Tampa. I've enjoyed this past year working with everyone at the office and all of our external partners as well. I look forward to continuing in the role and enhancing the office's operations and decision support.

## El Niño Winters and Severe Weather



By: Jen Hubbard and Paul Close

El Niño conditions occur when above average sea surface temperatures are observed in the eastern and central tropical Pacific Ocean. This warming affects weather patterns across the U.S. and beyond. The subtropical jet stream is shifted further south and becomes stronger in El Niño, bringing storm tracks across the southern U.S. and Gulf of Mexico. Locally, El Niño conditions during the wintertime will typically bring above normal rainfall and near to slightly below normal temperatures. In addition, there is typically a greater amount of severe weather seen with that higher rainfall.

During El Niño there tends to be more stormy conditions across the Florida peninsula during the winter and early spring. Cold fronts will move across the region and with the jet stream further south and stronger, rainfall is more widespread and therefore usually above average. It is more common in this scenario for low pressure areas to develop in the Gulf of Mexico and track across Florida and the southeast U.S., as we've seen a few times already this autumn. The dynamics that tend to be in place when this happen tend to support the development of tornadoes and/or damaging wind events. And when we look at the data since the winter of 1969-70, we see that Strong El Niño events have more than double the number of severe weather events (tornadoes, severe wind, and severe hail) than the other ENSO categories across our forecast area. Bottom line, be sure to stay weather aware as storm systems move into the area through the winter and early spring and have multiple ways of receiving warnings in place, especially one that will alert and wake you up in the middle of the night should a warning be issued.

El Niño's influence on temperatures is minimal across the local area, with the Arctic Oscillation (AO) having a much greater impact. Regardless, the effect isn't zero, and for the months of January and February, there tends to be a below normal trend during moderate to strong El Niños. The overall winter impact is near normal temperatures. Freezing temperatures are possible into Central and South Florida during any winter no matter what the ENSO phase is that year. During El Niño conditions the likely cause of freezing temperatures is advection of cold air dragged southward behind low pressure systems that pass across the state. This is unlike La Niña conditions where the main cause is radiational cooling under clear skies and calm winds.

## 2023 Hurricane Season Summary



By: Jen Hubbard

The 2023 Hurricane Season ended up ranking 4th for most named storms in a year since 1950, with 20 named storms, seven of which were hurricanes and three becoming major hurricanes. The big question leading into this hurricane season was how the El Niño influence, which usually allows for fewer storms to develop, would combine with the record-warm sea surface temperatures, which act to help fuel storm development. The result was an above normal season, with an average season having 14 named storms, with seven hurricanes and three major hurricanes.

Hurricane Idalia was the only U.S. landfalling hurricane in 2023. It made landfall as a category 3 major hurricane on August 30th near Keaton Beach, FL, just to the north of the NWS Tampa Bay forecast area. With the storm motion paralleling the western Florida coastline, storm surge impacts were felt all along the coast from Bonita Beach, where surge was over 3 feet, to Cedar Key, where almost 7 feet of surge occurred. Winds along the coast were 60 to 70 mph despite the storm remaining 100 to 150 miles offshore until it turned near the Nature Coast. Idalia caused 7 deaths and \$2.4B in damages. It was the only billion dollar Atlantic storm this season. A story map with all of the local details can be found at: <https://storymaps.arcgis.com/stories/f9c257c0b83e45b78e4289432ee7f86a>

Other storms impacting the U.S. were Tropical Storm Ophelia, making landfall in North Carolina on September 23rd, Hurricane Lee (the only Cat. 5 Atlantic hurricane of 2023) bringing marine impacts along much of the eastern seaboard with dangerous surf and rip currents as well as strong winds and hurricane-force gusts in Maine, despite landfall being in Nova Scotia, Canada as a post-tropical cyclone with 60 mph winds, and in the Pacific basin, Hilary impacting southern California in late August as a tropical storm.

## NWS Tampa Bay Winter Training Day



By: Matt Anderson

Training is critical because it equips individuals with the knowledge, skills, and expertise needed to excel. It fosters personal and professional growth while enhancing overall competence. The NWS Tampa Bay participated in their Winter Training Day on December 6th. The agenda revolved around a wide array of topics and touched on some very critical aspects of the upcoming El Niño winter.

The NWS discussed the potential weather patterns anticipated throughout the winter with the upcoming El Niño. El Niño winters often bring an increase in storm systems to the region. Due to this, forecasters trained on the three ingredients method. A proven strategy to identify tornado development and detection. Representatives from the Port of Tampa attended the training day as well. Interactions with the Port of Tampa are impactful to commerce into the region as weather plays a major role in the Ports operations from marine fog to hurricanes. The last item on the agenda focused on how to communicate complex probabilistic information to enhance decision support. The forecast can be perfect but a good forecast is one that is communicated well and appropriate actions are taken to mitigate the potential impacts.